

# Connectivity to be trusted.

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Annual Report 2016



**Bittium**



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# Bittium in 2016

## Financial Performance

Bittium's net sales during in 2016 increased by 13.0 percent year-on-year to EUR 64.2 million (EUR 56.8 million in 2015).

The share of the product-based net sales was EUR 11.9 million (EUR 13.1 million in 2015), which resulted mainly from the product deliveries of the tactical communication system, product deliveries of Bittium Tough Mobile LTE smartphones and related security software, the deliveries of other terminal products for authorities' use, and deliveries of products for measuring and monitoring biosignals. The decrease in the product-based net sales year-on-year was mainly caused by the ending of product deliveries of a special terminal project for a US-based customer during the corresponding period.

The share of the services-based net sales was EUR 51.8 million (EUR 43.4 million in 2015). Despite the decrease in the demand for the services business in the network equipment market, the services-based net sales increased year-on-year due to the increased demand for the R&D services related to the special terminal products.

Operating result was EUR 2.5 million (EUR 2.3 million in 2015).

Cash flow from operating activities was EUR -1.7 million (EUR 2.1 million in 2015, including both continuing and discontinuing operations). Net cash flow was EUR -27.9 million, including the dividend payment in April, the investments made into the company's new office building in Oulu, Finland, and the acquisition made in No-

vember (EUR 79.5 million in 2015 including the cash flow resulted from the sale of the Automotive business and the cash flow of the cancelled demerger process and the cash flows of the voluntary public tender offer of own shares). Equity ratio was 87.0 percent (90.5 percent on December 31, 2015) and net gearing was -70.3 percent (-88.2 percent on December 31, 2015).

## Significant Events

### Changes in the Company's Management and Organizational Structure

On April 27, 2016 Bittium announced following appointments in the company's management group:

M.Sc. Sami Kotkajuuri (b. 1967) was appointed as Vice President, Business Development as of May 1, 2016. Kotkajuuri has been working at Bittium since 2009. As his latest task, he was responsible for the IoT (Internet of Things) Solutions product and service area, where Bittium offers R&D services and customized solutions for companies needing wireless connectivity for their devices. Kotkajuuri continued as a member of the company's management group reporting to Hannu Huttunen, CEO.

M.Sc. Klaus Mäntysaari (b. 1966) was appointed as Vice President, Connectivity Solutions as of May 1, 2016. Mäntysaari has been working at Bittium since 2004. Previously he was responsible for Telecom product and service area, where Bittium offers R&D services for wireless telecommu-

nication market. Mäntysaari continued as a member of the company's management group reporting to Hannu Huttunen, CEO.

The Board of Directors of Bittium Corporation decided on changes in the company's organizational structure and management group to support the company's updated strategy that was announced on November 24, 2016. According to its strategy Bittium's business focuses on three product and service areas: Defense & Security, Connectivity Solutions and Medical Technologies.

Mr. Jari Sankala (M.Sc. Electrical Engineering, Digital Communications) was appointed as Senior Vice President, Defense & Security product and service area. Mr. Sankala has been working at Bittium since 2011 and transfers to his new position from the head of sales. In Bittium's new organizational structure, the sales operations are managed by the product and service areas. Mr. Klaus Mäntysaari (M.Sc.) continued as Vice President, Connectivity Solutions product and service area. He has been working at Bittium since 2004. Mr. Arto Pietilä M.Sc. (Applied Electronics) was appointed as Senior Vice President, Medical Technologies product and service area. Mr. Pietilä has been working at Bittium since 2001, among others as head of operations, head of Contract R&D business and as head of Wireless Solutions business. Prior to Bittium, Mr. Pietilä acted as the Managing Director of Polar Electro Oy.

Mr. Sami Kotkajuuri, head of business development, decided to move on to new challenges outside of Bittium and resigned from the company's service. Mr. Kotkajuuri continued his duties until the end of the year 2016.

As of December 1, 2016 Bittium management group consists of following persons: Mr. Hannu Huttunen, CEO (chairman); Mr. Pekka Kunnari, CFO; Mr. Kari Jokela, CLO; Ms. Karoliina Fyrstén, Director, Corporate Communications and Marketing, heads of product and service areas: Mr. Jari Sankala, Mr. Klaus Mäntysaari, and Mr. Arto Pietilä; and Mr. Jari-Pekka Innanen, Vice President, Engineering.

### Directed Share Issue without Consideration 2016

The Board of Directors of Bittium Corporation decided on March 22, 2016 on a directed share issue without consideration as reward payments to the key persons of the company. In the share issue a maximum of 58,000 new shares was issued without consideration to the key persons entitled to share rewards according to the terms and conditions relating to the share rewards. A total of 9 people belonging to the management and personnel of the company were in the target group of the payment. Of the maximum of 58,000 shares offered in the share issue, 37,500 shares were subscribed. The 37,500 shares issued in the share issue were registered with the Trade Register and registered on the book-entry accounts of the recipients of the shares on March 24, 2016 and became subject to trading on the trading list of Nasdaq Helsinki on March 29, 2016. After the registration of the new shares, the number of shares in Bittium Corporation totaled to 35,693,166.

### Stock Options

A total of 55,498 new shares in Bittium Corporation were subscribed for between December 1, 2015 and March 31, 2016 by virtue of the option rights 2008C. The share subscription price, EUR 30,523.90 was recorded in the company's invested non-restricted equity fund. The corresponding increases in the number of the company's shares were entered into the Finnish Trade Register on February 10, 2016 and April 14, 2016. Shareholder rights by virtue of the new shares commenced as of the above-mentioned registration entry date. Trading

with the newly registered shares started on February 11, 2016 and April 15, 2016 as an additional lot of Bittium Corporation's shares in Nasdaq Helsinki Ltd. The share subscription period for stock options 2008C ended on March 31, 2016.

### Reduction of Significant Customer Relationship

On October 5, 2016 Bittium announced to have received information according to which significant customer cooperation with a global network equipment manufacturer will reduce during 2017. According to the information received, if the planned actions of the customer will materialize in full, these actions might have a negative effect to Bittium's net sales and operating result in 2017. The reduction of the cooperation had no effect on the Bittium's outlook for the year 2016.

### Acquisition

In November 2016, Bittium acquired the ownership in Mega Electronics Ltd and MegaKoto Ltd specialized in healthcare technology. Mega Electronics Ltd was acquired by purchasing 100 percent of the shares in Remega Ltd. Mega Electronics Ltd was a fully owned subsidiary of Remega Ltd. Mega Electronics Ltd owned 28.2 percent of the shares in MegaKoto Ltd, a company specialized in healthcare services, and had signed binding share purchase agreements to acquire 100 percent of the shares in MegaKoto Ltd. The acquisition of the shares in MegaKoto Ltd was completed as planned.

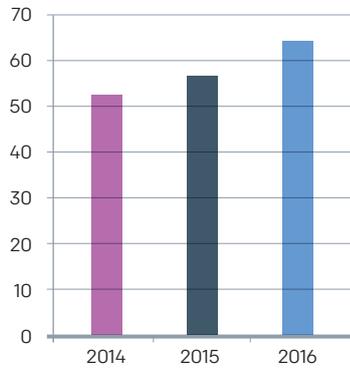
Mega Electronics Ltd (now Bittium Biosignals Ltd), founded in 1983, is a Finnish ISO13485 certified medical device manufacturing company. The company is specialized in biosignal measuring for cardiology, neurology, rehabilitation, occupational health and sports medicine. MegaKoto Ltd (now Bittium Medanalytics Ltd) provides comprehensive arrhythmia monitoring services for its customers such as primary care centers, private clinics and hospitals.

The pro forma net sales of Remega group and MegaKoto Ltd was approximately EUR 3.1 million in 2015 and pro forma operating profit was approximately EUR 0.2 million. According to the preliminary and unaudited accounts, the pro forma net sales of the acquired companies in January-October 2016 was EUR 3.0 million and pro forma operating profit EUR 0.4 million. The net sales in January-October 2016 grew by 58 percent compared to corresponding period in 2015. The companies employ altogether 28 persons and are located in Kuopio, Finland.

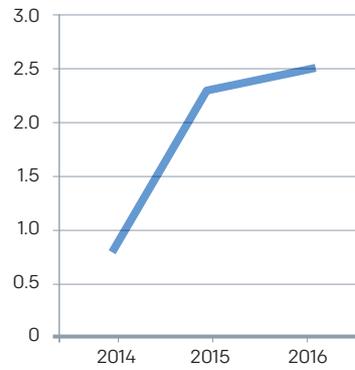
The debt free cash purchase price of the share acquisition, including the purchase price of MegaKoto shares, was EUR 8.0 million, which was adjusted based on the level of cash, debt and networking capital of the acquired companies as of completion of the acquisition. In addition to the aforementioned purchase price, an additional purchase price, capped at EUR 1.0 million, is payable upon the achievement of certain financial performance targets for the acquired business between January 1, 2017 and December 31, 2018. The potential additional purchase price will be paid in cash after achieving the goals. The acquisition had no significant impact on Bittium's balance sheet, operating result and financial position, and it didn't have an effect on Bittium's financial outlook for the year 2016 published on November 3, 2016 in the Interim Report January-September 2016. Remega group and MegaKoto Ltd has been reported as part of Bittium Corporation from the time of acquisition onwards.

With this acquisition Bittium got the ownership of Faros product family, focused on remote heart monitoring, NeurOne product focusing on measuring the electrical activity of brain, and BrainStatus, a disposable quick analysis headband used in emergency and intensive primary care to diagnose for example epileptic seizures and brain stroke, and other healthcare technology products. Faros devices are EU medical device directive class CE class IIa and USA FDA 510(k) registered medical devices. MegaKoto Ltd is a private provider of health-

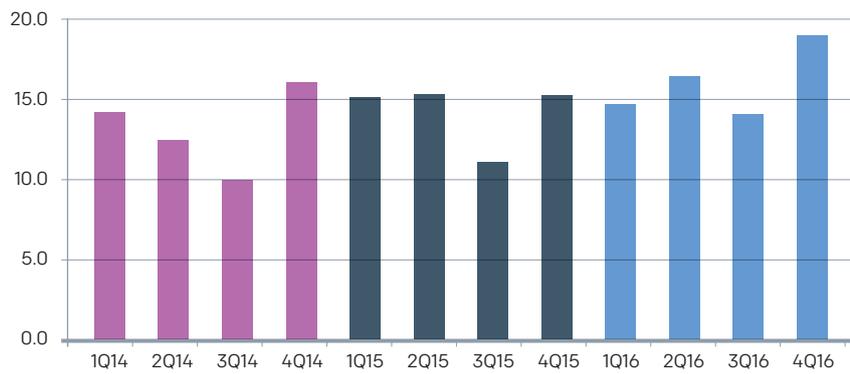
Net sales 2014–2016 (MEUR)



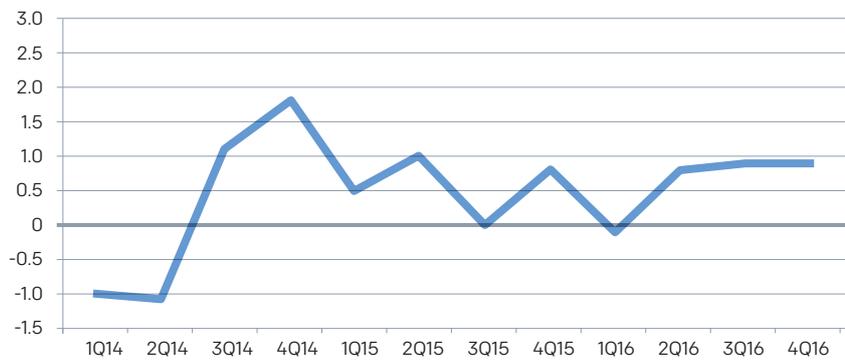
Operating result 2014–2016 (MEUR)



Net sales quarterly 2014–2016 (MEUR)



Operating result quarterly 2014–2016 (MEUR)



care services approved by the Finnish National Supervisory Authority for Welfare and Health having more than 70 health centers and private clinics using its heart monitoring Kardiolog.fi service.

Bittium has over 30 years of experience in mobile radio technology and the acquisition today expands its technology competence to healthcare technology, where mobile solutions are being increasingly used in patient monitoring. The products and services of Mega Electronics and MegaKoto and their strong experience in biosignal measurement technology strengthens Bittium's offering for these markets. Bittium is now able to provide for the healthcare market global leading advanced solutions for patient care both in the hospitals as well as in home care.

## Purpose

We adapt our deep knowledge to deliver superior innovations and reliable, secure communications and connectivity solutions.

## Vision

Bittium's vision is to become a global enabler of secure and reliable connectivity for people and things.

## Strategic Guidelines

On November 24, 2016 Bittium Corporation updated its strategy to strengthen its position in the global markets and to speed up its growth. The company plans to make significant investments in the future by increasing significantly the R&D investments in its own products and solutions in the year 2017. In line with the nature of the defense and public safety markets, the investments will pay back in a longer time period and therefore Bittium plans to activate the most of the R&D investments to its balance sheet. The company has a strong balance sheet and financial position.

Bittium decided to establish a new product and service area around healthcare technology. Combining healthcare technolo-

gies with Bittium's long-term experience and knowhow in wireless and security technologies give the company good conditions to serve its customers in healthcare sector by offering them new kinds of products and services. As the first step to build the competencies in healthcare technology on November 10, 2016 Bittium acquired Mega Electronics Ltd, a company specialized in measuring and monitoring biosignals.

Bittium continues to search for inorganic growth opportunities in all its product and service areas and is prepared to invest in acquisitions that strengthen the company's growth strategy.

According to its updated strategy the company's business is divided into three product and service areas effective as of December 1, 2016: Defense & Security, Connectivity Solutions and Medical Technologies.

### Defense & Security

In the Defense & Security product and service area Bittium offers globally leading products and services for its customers in the defense, security and public safety markets. Bittium aims to significantly increase investments in various authority and special terminals as well as in related software development and extend its tactical communication product portfolio for defense industry. Growth in the net sales is sought especially from own products and product platforms that Bittium offers for international defense and public safety markets.

Bittium's competitiveness in these markets is based on trust and reliability, hi-quality of the products and services, as well as on advanced technology and security knowhow developed within the company during the last 30 years. Bittium offers its customers in the defense market new kind of efficiency for their management systems with products that enable faster data transfer, better mobility, and superior compatibility with other communication systems.

In the public safety markets the transition towards LTE-based technology is expected

to accelerate in the next few years. As the security threats are growing increasingly more security demands are set for the communication systems. Bittium increases investments in developing its product offering further for these markets. The company also continues offering public safety markets R&D services to develop special terminals and related systems that use both terrestrial and satellite networks.

In the defense, security and public safety markets, there are signs of unification regarding technologies as well as in security demands. Also many customers, partners and supply chains are mostly the same and the trend towards this is strengthening. Bittium merged two separate product and service areas into one and with that synergy Bittium is able to better serve the customers in defense and security technology.

The defense, security and public safety markets are slowly evolving markets by their nature. They are characterized by long sales cycles driven by the national governments' long preparation periods of projects and purchase programs. The purchases of the selected products are typically executed over several years.

### Connectivity Solutions

The development of wireless technology continues and digitalization creates growing need for wireless connections. Bittium offers R&D services and wireless connectivity solutions for its customers, and the demand is expected to increase within the next few years. The competitiveness of the company in these markets is based on the strong technology and security competence, as well as on trust, reliability and quality. The more critical the system is, the more significant role Bittium's strengths have.

The demand for developing 4G technology-based network equipment is decreasing as the technology and market reach their maturity. However, Bittium is already strongly involved in the development of 5G technology which in a long run gives the company a good position to offer even more advanced

connectivity solutions also for customers in other markets.

### Medical Technologies

In the healthcare sector, remote monitoring and home care markets are growing strongly. Patient monitoring in the hospital environment is also changing into wireless. These trends create demand for the digitalization of services, wireless capability and secure connections. For these markets Bittium decided to establish a new product and service area around healthcare technology. As the first step to build the competencies in healthcare technology, on November 10, 2016 Bittium acquired Mega Electronics Ltd, a company specialized in measuring and monitoring biosignals.

Combining healthcare technologies with Bittium's long-term experience and competence in wireless and security technologies give Bittium good conditions to serve its customers in healthcare sector by offering them new kinds of products and services.

Bittium plans to strengthen its product and service offering for these markets also by searching for acquisition targets that complements the whole.

## Financial Targets

Bittium has announced earlier that it targets 10 percent annual growth in net sales and to reach EBIT level 10 percent of net sales in the year 2017 at the latest. The company believes that in the coming years it is able to grow its net sales even more than the earlier announced target, and therefore sets up a target to exceed the annual 10 percent growth target of the net sales.

However, Bittium believes, that during the year 2017 it is not yet able to reach the targets set for the growth in the net sales and EBIT level. The reason for this is the termination of significant customer cooperation with a global network equipment manufacturer, of which Bittium announced earlier in October, that is expected to materialize

faster and more extensively than the company estimated earlier. According to the information received by Bittium, the net sales from this customer cooperation will end completely in the beginning of the second quarter of the year 2017. To this extend this kind of extensive and rapid decrease in the services business net sales is most likely difficult to be replaced in a short term. In addition, the operating profit level of the year 2017 is also affected by the planned investments to enable the future growth.

Bittium targets further to increase the share of net sales generated from own products and product platforms. According to the targets Bittium announced earlier, in the year 2017 the share of net sales generated from own products and product platforms is clearly higher than in the year 2014, when the product based net sales was 26.7 percent of the net sales.

## Consolidated Financial Statements

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME, MEUR	2016 12 months	2015 12 months
Net sales	64.2	56.8
Operating profit / loss	2.5	2.3
Financial income and expenses	0.6	-0.2
Result before tax	3.1	2.1
Result for the period from continuing operations	3.5	2.3
Result for the period from discontinuing operations		539.0
<b>Result for the period</b>	<b>3.5</b>	<b>541.3</b>
<b>Total comprehensive income for the period</b>	<b>3.5</b>	<b>541.5</b>
Result for the period attributable to:		
Equity holders of the parent	3.5	541.3
Total comprehensive income for the period attributable to:		
Equity holders of the parent	3.5	541.5
Earnings per share from continuing operations, EUR	0.098	0.020

# CEO's Review

Bittium's main focus areas in 2016 were internationalization and enabling growth. We succeeded well in reaching the growth target and the net sales grew by 13.0 percent from previous year and was EUR 64.2 million. Especially service business developed positively, thanks to the demand for R&D services related to special terminal products. In the product business we made lots of efforts to enter the international markets, which have created a good base to grow the product business in the coming years. Due to the market nature and slow development pace we were not able to reach our product business growth targets.

The share of the product-based net sales was EUR 11.9 million which is EUR 1.2 million less than in the corresponding period last year. The decline in the product-based net sales was mainly caused by the ending of product deliveries of a special terminal project for a US-based customer during the corresponding period. The share of the services-based net sales was EUR 51.8 million which was EUR 8.4 million more than in the corresponding period last year. The services-based net sales developed positively thanks to the increased demand for R&D services related to special terminal products. The operating profit slightly grew and was EUR 2.5 million.

We continued the R&D investments in our products and product platforms aiming for growth especially in the international defense and public safety, and mobile security markets. The R&D investments were 10.8 percent of net sales and focused mainly on products targeted for mobile security and

public safety markets, such as further development of Bittium Tough Mobile secure LTE smartphone. R&D investments were also continued in the Bittium SafeMove product family.

Bittium Tough Mobile and device management and encryption software Bittium Secure Suite have created lots of interest in the mobile security and public safety markets, and we delivered many systems for several customer trials for several countries during the last year. We also closed many distributorship contracts and got good partners that have taken Bittium Tough Mobile as part of their own product portfolio and solutions for their customers. Despite the increased awareness of the information security threats and existence of secure mobile devices, the development of the mobile security and public safety markets has been slightly slower than estimated.

The development of the tactical communication system Bittium Tactical Wireless IP Network (TAC WIN), used by the Finnish Defence Forces, continued and we made product deliveries related to that system. We also continued our efforts to bring our product portfolio targeted for defense market to the international markets. We received a small order for TAC WIN system to Asia and an order for TAC WIN system and related integration work to be delivered to the Estonian Defence Forces. We extended our tactical communication product portfolio and brought a new software product, Bittium Tough VoIP Service (Voice over Internet Protocol) to the markets. The new software significantly improves the capability to lead

troops and maintain situational awareness in the quickly changing conditions of the battlefield.

Bittium has been part of the development of the European ESSOR wave form (European Secure Software defined Radio) since it started in 2009. In 2016, the communication of land forces of different European countries enabled by ESSOR wave form was demonstrated both during the Eurosatory exhibition in Paris as well as in battlefield conditions in Finland organized by the Finnish Defence Forces. The demonstrations were carried out jointly with Leonardo from Italy and Thales from France. These demonstrations showcased how the land forces of different European countries can communicate seamlessly with each other in joint operations, linking up via a common waveform regardless of the radio platforms they use.

The product development project for the Mexican Ministry of Communication and Transportation, started in May 2015, has continued according to plans. Bittium develops Android-based mobile devices that use both terrestrial and satellite connection for their MEXSAT system.

The demand for Bittium's R&D services developed positively during 2016. In the beginning of October we received information according to which significant customer cooperation with a global network equipment manufacturer will reduce during 2017. According to the current information the cooperation with the aforementioned customer will end completely during the sec-

ond quarter of 2017. This kind of decrease in the service-based net sales that happens this fast and in this extent, is impossible to be replaced with other projects in a short term. Ending of this cooperation affects significantly Bittium's net sales and operating result in 2017.

In November, we expanded our technology competence to medical technology, where the solutions for patient monitoring are using wireless technologies increasingly. We acquired companies specialized in medical technology and services and our product portfolio expanded to measuring and monitoring of biosignals for cardiology, neurology, rehabilitation, occupational health and sports medicine. Together we are able to provide for the healthcare market global leading advanced solutions for patient care both in the hospitals as well as in home care.

In November, we updated our strategy and financial targets. We plan to make significant investments in our future by increasing the R&D investments remarkably for own products and solutions. In line with the nature of the defense and public safety markets, the investments will pay back in a longer time period and therefore most of the R&D investments are being planned to be capitalized to the balance sheet. The company has a strong balance sheet and financial position. We decided to establish a new product and service area around medical technology. Combining medical technologies with our long-term experience and know-how in wireless and security technologies gives us good conditions to serve our cus-

tomers in healthcare sector by offering them new kinds of products and services. The first step to build the competencies around medical technology was the acquisition made in November.

The year 2016 has been an interesting year of growth. We have built our company for enabling long term growth and internationalization. I want to thank our personnel and partners for the remarkable investments and numerous great achievements during 2016. I want to express my thanks to our customers for their loyalty and trust, as well as our shareholders for supporting the company's long term growth.



**Hannu Huttunen**  
CEO

# Business Operations in 2016

## Bittium's Products and Services

Bittium is specialized in the development of reliable and secure connectivity and communication solutions and mobile information security solutions leveraging its 30 years legacy of expertise in advanced radio communication technologies. Bittium also offers its customers also healthcare technology products and services in bio-signal measuring in the areas of cardiology, neurology, rehabilitation, occupational health and sports medicine based on its over 30 years of expertise in measuring technologies.

Bittium's business operations are divided into three product and service areas: Defense & Security, Connectivity Solutions ja Medical Technologies.



## Defense & Security

In the Defense & Security product and service area Bittium offers globally leading products and services for its customers in the defense, security and public safety markets. Bittium's competitiveness in these markets is based on trust and reliability, hi-quality of the products and services, as well as on advanced technology and security knowhow developed within the company during the last 30 years.

**Bittium Tough Mobile™** is a secure and durable Android-based LTE smartphone combining the latest information security and commercial device technologies. Bittium Tough Mobile incorporates a hardware-based security platform, which enables strong device security as well as deep integration of both customers' own and third-party software security solutions. This dedicated hardware is essential for building layered mobile security solutions. In addition, Bittium Tough Mobile's features include for example a programmable Push-to-Talk button (PTT), glove-usable 5" full HD display, IP67 level water and dust protection, and MIL-STD-810G level shock resistance. Bittium Tough Mobile and related management system and VPN encryption solution have received official encryption product classification in Finland from the Finnish Communications Regulatory Authority where material can be transferred between a smartphone and connected back end solutions on top of creating and processing of classified information.

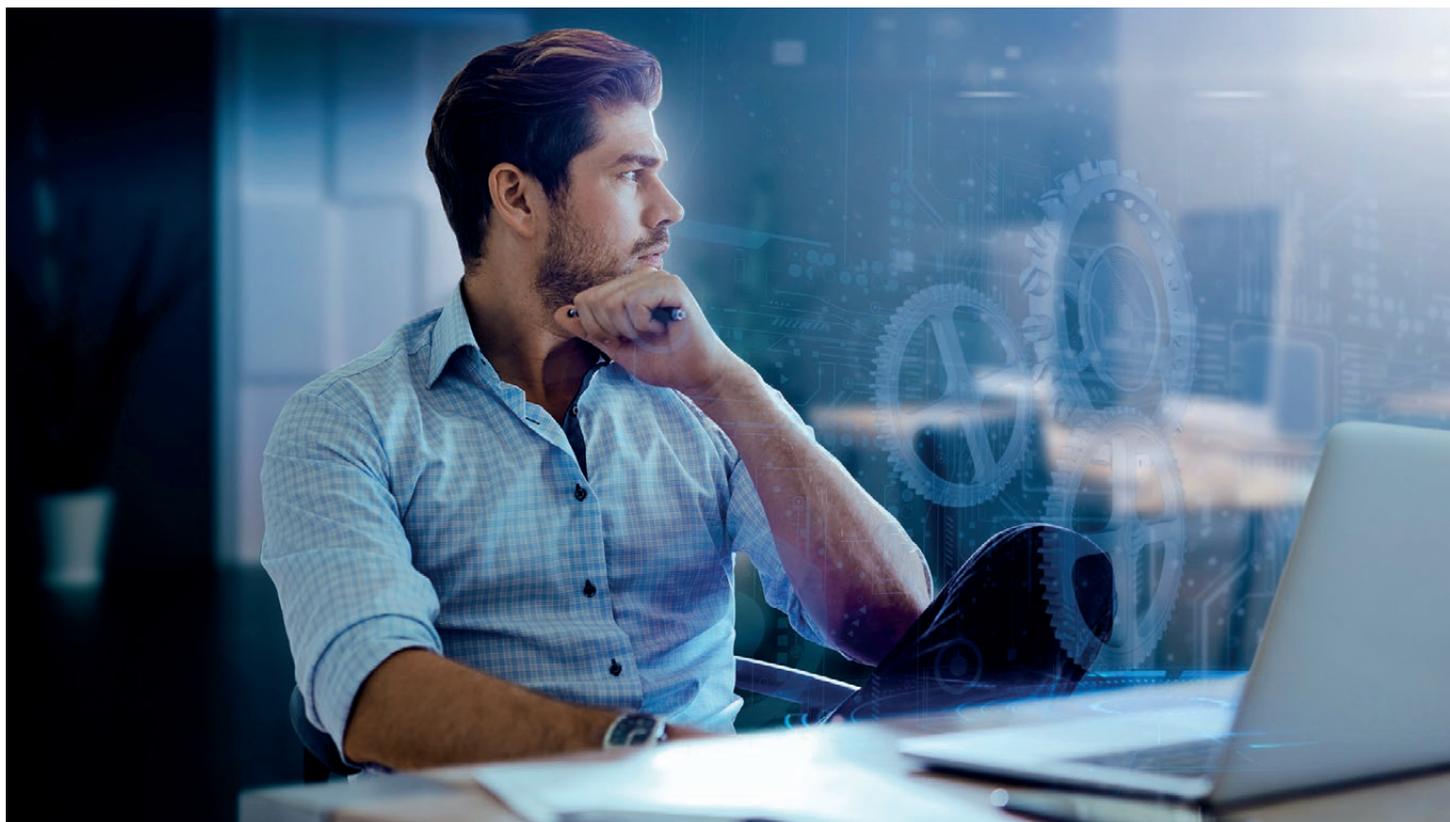
**Bittium Secure Suite™** is a device management and encryption software product that complements Bittium Tough Mobile smartphone with a scalable set of new software services for remote management, remote

attestation and securing the network connections of the device. Bittium Tough Mobile smartphone and Bittium Secure Suite form a unique, complete, reliable system for processing and transferring sensitive and classified material and securing critical communication.

**Bittium Specialized Device Platform™** is a versatile device platform leveraging latest mass market mobile device hardware and software technologies. The platform enables companies to roll-out fully customized mobile devices in various form factors (incl. module, smartphone, tablet and smart watch) faster and with lower development risks. The platform has been productized to public safety, security, industrial and smart watch markets. One of the major products based on this platform is the Bittium Tough Mobile, secure smartphone.

**Bittium SafeMove® Mobile VPN** software enables the utilization of all IP based applications and networks by securing the connections between the work station and corporate services before Windows logon. With Bittium SafeMove, for instance home care workers are allowed to have full access to the same systems and applications they would have on a hospital desktop, enabling real-time access to patient records.

**Bittium SafeMove® Analytics** is an advanced monitoring and reporting module that helps organizations to monitor network connectivity and performance to improve productivity and user experience. The Analytics tool continuously gathers connectivity data such as connectivity status, speed, throughput and bytes transferred, network type and Wi-Fi network information. It is also easy to enhance the tool with positioning information if GPS data is available.



**Bittium Tactical Wireless IP Network™ (TAC WIN)** is a Software Defined Radio based wireless broadband network system intended for military and public safety use. With the system MANET (mobile ad hoc network), link, and connection networks can be formed into one logical IP network quickly, no matter what the location is. Bittium TAC WIN is compatible with existing fixed and wireless network infrastructures. The core of the system is a tactical router that enables users to freely form both wired and wireless broadband data transfer IP connections. Tactical router enables also connections to different types of terminals and other communication systems connecting them into one communication network. In addition to the router, the system comprises three types of radio heads, and each radio head covers its own frequency band area and can be used for flexible formation of optimized network topologies for different communication needs. All the products of the system are designed for harsh conditions, and thanks to the system's automated functions the implementation of the system can be done quickly. Due to the software-based functionality of the Bittium TAC WIN system, it can be easily updated with additional performance cost-efficiently during the whole lifespan of the system.

**Bittium Tough VoIP™** product family's products enable tactical IP calls and broadband data transfer even in demanding conditions. Products are easily integrated to existing IP infrastructure. The product family consists of a range of tactical IP-based communication products, including distributed VoIP service network for tactical environment, Bittium Tough VoIP Service; Voice over IP clients, Bittium Tough VoIP Field Phone and Bittium Tough VoIP Terminal; and network extension unit, Bittium Tough VoIP Network Extender.

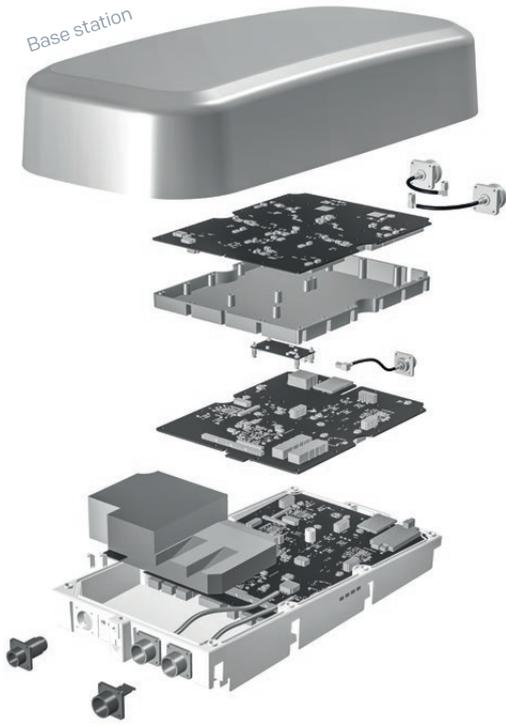
**Bittium Tough VoIP Field Phone™** is a SIP (Session Initiation Protocol) compliant client that provides interoperability with other SIP clients and server implementations available in the market, and incorporates functionality that enables introduction of VoIP services in dynamic self-forming networks independent from server.

**Bittium Tough VoIP Terminal™** is a wireline VoIP phone that can be operated either as a part of Bittium Tough VoIP solution or as a IP terminal together with a third-party equipment.

With the **Bittium Tough VoIP Network Extender™**'s SHDSL (Symmetric-High-Speed Digital Subscriber Line) connectivity, an IP network can be extended over long distances using conventional field wire. The Network Extender also features Ethernet and SHDSL connections to external networks and devices. With these products it is possible to provide wired connectivity and enhanced reliability of VoIP services regardless of availability of network services. Products are also easily integrated to existing IP infrastructure and are fully interoperable with commercial equipment.

The Bittium Tough VoIP product family was extended in April with **Bittium Tough VoIP Service™** software product, which can be used to connect both fixed data network users and wireless tactical data network users to the same voice service network.

**Bittium Tactical LTE Access Point™** is a solution providing LTE access to the Bittium TAC WIN network. With the solution, different troops can benefit from cost-efficient and high-speed multimedia data and VoIP services by using commercial smartphones as well as special terminals intended for authority use.



## Connectivity Solutions

In the Connectivity Solutions product and services area Bittium provides innovative design and development services to customers who demand the development of customized, purpose-built IoT devices according to industry-specific requirements. Bittium has strong expertise on system design, technology integration, wireless radio and antenna technologies, and power optimized, small form-factor device development. Bittium's competitiveness on these markets is based on strong technology and data security expertise, and on an established reputation for reliability and quality.

**Bittium wearable platform for health monitoring** is a wearable device platform integrated with four sensors: 3-axis accelerometer, Optical Heart Rate (OHR), skin temperature and EmoGraphy skin conductance sensor. These sensors allow the measurement of person's stress level, fatigue and sleeping quality. The wearable platform provides an easy way to develop and test new healthcare specific products and services such as remote patient monitoring or professional driving applications.

## Medical Technologies

Bittium offers its customers healthcare technology products and services in bio-signal measuring in the areas of cardiology, neurology, rehabilitation, occupational health and sports medicine. Combining healthcare technologies with Bittium's long-term experience and competence in wireless and security technologies gives Bittium good conditions to serve its customers in healthcare sector by offering them new kinds of products and services.

**Faros ECG Event and Faros ECG Mobile** are software solutions for remote heart monitoring, where the cardiac arrhythmia identified by the detection algorithms embedded in the Faros device is quickly passed to professionals for examination. The solutions enable patients' earlier repatriation and even better ability to react to potentially emerging arrhythmias faster.

**Faros Cardiac Rehab** is a solution for Cardiac rehabilitation real-time monitoring for up to 16 patients simultaneously. The solution enables more effective rehabilitation of the patients and increases their safety during training.

**NeurOne** is one of the most accurate and quickest EEG measuring devices in the world designed for research and clinical use. NeurOne system enables fully synchronized group measuring of up to 30 persons simultaneously for example in different types of psychological studies. The solution is optimized for use with transcranial magnetic stimulators (TMS-EEG), with optional possibility to use it during magnetic resonance imaging procedures (fMRI-EEG).



Faros

**BrainStatus** is a wireless compact EEG amplifier, which is used together with a disposable easy and quick to wear BrainStatus electrode headband for example to diagnose epileptic seizures and brain stroke. BrainStatus enables quick measurement in field conditions as well as in hospitals, thus making the treatment process of the patient faster.

## Business Development in 2016

Despite the decrease in the demand for R&D services for the mobile network manufacturers, the demand for Bittium's R&D services developed positively during 2016. Also, the demand for R&D services in the IoT markets developed positively. The product development project for the Mexican Ministry of Communication and Transportation, started in May 2015, has continued according to plans. Bittium develops Android-based mobile devices that use both terrestrial and satellite connection for their MEXSAT system.

In October, Bittium announced to have received information according to which significant customer cooperation with a global network equipment manufacturer will reduce during 2017. At that time, according to the information received, if the planned actions of the customer will materialize in full, Bittium estimated that these actions might have a negative effect to Bittium's net sales and operating result in 2017.

During 2016 Bittium continued the R&D investments in its own products and product platforms aiming for growth especially in the international mobile security, defense and public safety markets. The investments focused mainly in the further development of the Bittium Tough Mobile™ secure LTE smartphone targeted for the mobile security and public safety markets.



## Bittium Tough Mobile

Bittium Tough Mobile and related management system and VPN encryption Bittium Secure Suite™ have generated lots of interest in the information security and public safety markets. Bittium has been actively seeking for, and has found a few suitable partners and resellers who have taken Bittium Tough Mobile as part of their own product portfolio and/or solution for their customers. The product deliveries of Bittium Tough Mobile continued during the whole year. The awareness of information security risks is growing and the interest towards secure mobile devices is increasing, however, the development of the public safety and information security markets in 2016 was somewhat slower than expected.

In the turn of May-June at Critical Communications World exhibition in Amsterdam, Bittium launched a new Bittium Tough Mobile B28 frequency variant, which is targeted for public safety networks requiring this band 28. In addition, Bittium and Air-Lynx demonstrated the first public safety LTE evolved Multimedia Broadcast Multicast Solution (eMBMS) that enables efficient use of the whole LTE radio spectrum, delivering huge amounts of data even in a congested network environment. This is particularly important in public safety, security and other mission-critical communications, which require fast data speeds, low latencies and reliable connections.

In October, the company announced to have conducted the first ever Voice over LTE (VoLTE) call with Bittium Tough Mobile on the Public Safety Band 14 LTE Network in the United States.

### Bittium SafeMove Product Family

Bittium continued R&D investments in Bittium SafeMove product family and announced Bittium SafeMove Analytics software as a standalone software product for enterprises for monitoring and analyzing the performance of wireless networks and

mobile devices. Organizations that use Analytics will get real-time and historical data on the location of mobile devices and the performance of wireless networks and thus are able to enhance the efficiency and user experience of mobile workers.

In May, Bittium released a new software version of Bittium SafeMove Mobile VPN remote access solution. The new software version enhances the information security of mobile workers by supporting performance-improving encryption methods. Moreover, the new management user interface and support for mobile Android devices make the work of IT departments significantly easier.

In May, Bittium established a partnership with Getac to improve the productivity, security and user experience for field workers in challenging conditions. Bittium offers its SafeMove Mobile VPN and Analytics software to all Getac's rugged tablets and notebooks as an option across Europe from May 2016 onwards.

### Bittium Tough VoIP Product Family and Bittium TAC WIN System

The development of the tactical communication system Bittium Tactical Wireless IP Network (TAC WIN), used by the Finnish Defence Forces, continued during the year. The product deliveries for the communication system were continued during the whole year. Bittium received a new order for a new software package for the system. The main objective for the development work of the new software package is to continue enhancing the performance, data transfer capacity and survivability of the software and the related radio platform.

Bittium also continued efforts to bring its products and services, targeted to defense industry, to the international defense markets and received a small order of TAC WIN system in Asia. In November, the company announced to have received a purchase or-

der for a tactical communications system and related integration work to be delivered to the Estonian Defence Forces.

Bittium expanded its product portfolio in tactical communications by introducing Bittium Tough VoIP Service (Voice over Internet Protocol) software product. With the product both fixed data network users and wireless tactical data network users can be connected to the same voice service network. This significantly improves the capability to lead troops and maintain situational awareness in the quickly changing conditions of the battlefield.

### ESSOR (European Secure Software defined Radio) Cooperation Continued

Bittium has been part of the European ESSOR programme since it started in 2009. The aim of the program is to develop the European Software Defined Radio technology in order to improve the capabilities for cooperation in coalition operations.

In June, Bittium demonstrated together with both Italian company Leonardo and French company Thales how the land forces of different European countries will be able to communicate with each other in joint operations, linking up via a common waveform regardless of the actual radio platforms they use.

In December, Bittium demonstrated together with Leonardo, Thales and Finnish Defence Forces the capabilities and functionalities of the High Data Rate Waveform (HDRWF) developed in the European ESSOR programme in battlefield conditions.

### The Acquisition of Mega Electronics

In November, Bittium acquired Mega Electronics Ltd and MegaKoto Ltd, companies specialized in healthcare technology and services.

Mega Electronics Ltd (now: Bittium Biosignals Ltd), founded in 1983, is a Finnish ISO 13485 certified medical device manufacturing company.

The Company is specialized in biosignal measuring for cardiology, neurology, rehabilitation, occupational health and sports medicine. MegaKoto Ltd. (now Bittium Medanalytics Ltd.) provides comprehensive arrhythmia monitoring services for its customers such as primary care centers, private clinics and hospitals.

With this acquisition Bittium got the ownership of Faros product family, focused on heart remote monitoring, NeurOne product focusing on measuring the electrical activity of brain, and BrainStatus, a disposable quick analysis headband used in emergency and intensive primary care to diagnose for example epileptic seizures and brain stroke, and other healthcare technology products. Faros devices are EU medical device directive class CE class IIa and USA FDA 510(k) registered medical devices. Bittium Medanalytics Ltd is a private provider of healthcare services approved by the Finnish National Supervisory Authority for Welfare and Health having more than 70 health centers and private clinics using its heart monitoring Kardiolog.fi service. This acquisition was part of Bittium's strategy announced later in November.

## Market Outlook

Bittium's customers operate in various industries, each of them having their own industry specific factors driving the demand. A common factor creating demand among the whole customer base is the growing need for higher quality and secure data transfer. Due to the technology and measuring competences accrued over time and long history in developing mobile communication solutions, Bittium is in a good position to offer customized solutions for its customers.

The following factors are expected to create demand for Bittium's products and services in 2017 and beyond:

- In the mobile telecommunications, the 4G technology development work has decreased significantly affecting declining to the mobile network markets in the near

future. The development of 5G technology has started very well creating demand for Bittium's R&D services increasingly. However, the development of 5G technology has just begun, and it will not replace the amount of the 4G development work within the next few years. Therefore in the future the demand for R&D service for the network equipment manufacturers is expected to be significantly lower than in the previous years.

- As the digitalization evolves, the secure IoT (Internet of Things) has become a significant development area in many industries. The increasing need of companies to digitalize their operations, collect data wirelessly and transfer it to the internet and cloud services generate need for Bittium's services and customized solutions. For this there is a need for connected devices for consumers and demanding industrial usage that collect information through their sensors and connect the devices securely to the internet and cloud services. Also the integration of different systems and technologies play an important role in enabling the complete digitalization service. To ease and speed up the processing of large data amounts there are different kinds of learning systems and devices under development that use different kinds of artificial intelligence (AI) technologies.
- The use of LTE technology, smartphones and applications is expected to continue increasing in special verticals such as public safety creating demand for Bittium Tough Mobile secure LTE smartphone and other customized special terminals based on Bittium's own product platform. The awareness of mobile security risks is growing and the interest towards secure mobile devices is increasing. Also the interest towards LTE-SAT-hybrid devices with terrestrial and satellite connections has grown to further improve the functionality of authorities' critical connections. The sale of the secure terminal products is expected to develop moderately according to the nature of public safety markets.
- Using public network connections in portable devices is increasing also in demanding professional use, such as in the public sector. This creates requirements for network connections to be easy to use and secure. The products in the Bittium

SafeMove product family enable the ease of use of the devices and security in demanding use.

- In the defense sector's tactical communication market the governments' defense forces and other authorities need networks that troops, who are increasingly constantly on the move, can use for transferring growing amounts of data securely. This creates demand for Bittium Tactical Wireless IP Network (TACWIN) broadband network and for other Bittium's IP-based (Internet Protocol) tactical communications solutions. Bittium continues its efforts to bring its defense market targeted products and services also to the international defense markets and aims to get new international customers for its tactical communication system in 2017. Due to the long sales cycles driven by purchasing programs of national governments, it takes years to receive significant purchase orders.
- Heart problems and brain strokes are among the most frequent causes of death. Recognizing the symptoms early on, based on information gathered by measuring, enables the start of the effective treatment fast. Also the prevention of diseases and health problems are being increasingly invested in. The healthcare technology market is ongoing a significant change in the patient care both inside the hospitals as well as in homecare. The repatriation of patients is being pursued earlier than before which may enable significant cost savings in the healthcare. One of the growing application areas in the IoT segment is healthcare technology that enables implementing these changes for its part. A prerequisite for early repatriation is the enabling of accurate and precise follow-up and measurement in home conditions through remote monitoring. For this purpose Bittium offers its Faros product family for remote heart monitoring and NeurOne product family for measuring the electrical activity of brain.

## Press Releases in 2016

### **22nd of December**

Bittium, Leonardo, Thales and the Finnish Defence Forces demonstrate ESSOR High Data Rate Waveform for joint operations in battlefield conditions

### **15th of November**

Bittium's subsidiary Mega Electronics Ltd. exhibits its latest innovative products and solutions for cardiology and neurology at Medica 2016 exhibition

### **3rd of November**

Bittium received a purchase order for a tactical communications system and related integration work to be delivered to the Estonian Defence Forces

### **3rd of November**

Bittium exhibits its products and solutions for tactical communications at Indo Defence 2016 exhibition

### **12th of October**

Bittium conducts the first VoLTE call in Public Safety LTE band 14 environment

### **12th of October**

Bittium exhibits its new wearable device platform at IoT Solutions World Congress 2016 in Barcelona

### **26th of September**

Bittium exhibits its secure and easy-to-use Bittium SafeMove remote access solutions at HETT Show 2016 in London

### **13th of June**

Bittium and Leonardo-Finmeccanica to demonstrate the first European cross-platform military radio technology for effective joint operations

### **13th of June**

Bittium exhibits its products and solutions for tactical communications at Eurosatory defense exhibition

### **31st of May**

Bittium and Air-Lynx launch world's first public safety LTE evolved Multimedia Broadcast Multicast Solution (eMBMS) solution

### **31st of May**

Bittium exhibits the Bittium Tough Mobile smartphone and announces its Band 28 variant for public safety at Critical Communications World 2016

### **24th of May**

Bittium and Getac partnered to improve productivity, security and user experience for field workers

### **24th of May**

Bittium exhibits its secure and easy-to-use Bittium SafeMove remote access solutions at Healthcare ICT conference 2016

### **23th of May**

Bittium releases new software version of Bittium SafeMove Mobile VPN remote access solution

### **20th of May**

Bittium SafeMove Analytics software is now also available for enterprises as a standalone software product

### **5th of April**

Bittium expands its product family in tactical communications with Bittium Tough VoIP Service™ software product

### **5th of April**

Bittium exhibits its customized, secure IoT solutions and engineering services at Hannover Messe 2016 industrial fair

### **22nd of March**

Digia Salpa mobile communications solution receives national information security classification in the Bittium Tough Mobile™ smartphone

### **14th of March**

Bittium exhibits its customized, secure IoT solutions and engineering services at Wearable Technology Show 2016

### **24th of February**

Bittium received a purchase order from the Finnish Defence Forces for a software upgrade for the Bittium TAC WIN system used in tactical communication

### **27th of January**

Bittium exhibits Bittium Tough Mobile smartphone, its device management and encryption software and IoT solutions at Mobile World Congress 2016

### **20th of January**

Bittium exhibits its secure and easy-to-use Bittium SafeMove remote access solutions at Long-Term Conditions Conference 2016

# Personnel

At the end of the year 2016 altogether 623 employees worked in Bittium in Finland, USA, Great Britain and Singapore. The amount of personnel increased by 106 from last year in Finland. Part of the increase in headcount was due to the business acquisition, when Bittium acquired the ownerships of Mega Electronics Ltd. and MegaKoto Ltd in November 2016. The average age of the personnel in Bittium was 41 years. R&D engineers and specialists constituted clearly the largest proportion of the personnel.

Bittium's core competences are strong and extensive know-how of radio technology, embedded software, electronics, and product integration. At Bittium the way of working is based on the implementation of Lean and Agile methods. The development of engineering competences has been further supported by virtual competence teams and trainings that are based on the current needs.

In 2016 the main focus of Bittium's personnel's competence development has been in developing the software design process in all software levels and in utilizing the Open Source methods more efficiently. A new focus area has been the implementation of the DevOps operation models, where the aim is to improve the dialogue between R&D operations and to facilitate agile changes in the production phase of the software development. In relation to the digitalization, DevOps is a growing product development model. The development of the model also supports strongly the development of our own personnel's competences and the adoption of new, fast and agile working methods. During fall 2016 we arranged own Hackathon events where the development of competence and productization were combined in a natural, inspiring way that facilitates innovation. Other im-

portant competence development areas were development of information security, especially in software development, utilization of 5G technology, and back- and front-end development.

During 2016 Bittium continued to participate in the DIMECC N4S (Need for Speed) program. In this program, the focus is on more rapid and regular version releases, continuous integration and development of test automation chains, as well as increasing transparency, real time feedback and collecting quality data throughout the whole chain from suppliers to customers. The program is widely utilized in product development and in managing the production chain, which increases productivity and fluency of the work. The results of our employee and customer satisfaction surveys have furthermore improved, which reflects the achievements of the program.

Accelerate, a program where the aim is at creating and maintaining a growth basis for innovations, also continued as a development model in 2016. In the program, the working models and tools for Bittium's innovation work were furthermore developed. Through the tool the personnel can share ideas in a transparent easy-to-use forum that enables discussion and co-develop-

ment. The results of this program received good feedback e.g. at the EU EUREKA cluster's ITEA Digital Masterclass benchmark forum.

In 2016 we continued to improve leadership skills and wellbeing also through the processes of supervisor work. A new Quarter Chat process was implemented to facilitate good coaching leadership. In this new model of supervisory work the supervisor meets the subordinates more frequently and informally. The enhanced interaction helps in building mutual trust, which enables better and more real time support to work fluency, competence development and wellbeing. The previously used more formal development discussion was removed from the annual clock, but employees can still reserve time for a development discussion with their supervisors whenever it is needed and topical from the competence development point of view. This reform was received well; in a survey carried out in early fall 2016, the general opinion of the persons who had "Quarter Chatted" with their supervisors, was that these discussion had been very useful.

Also the BES 2016 (Bittium Employee survey) result showed, that employees are more satisfied than before with the supervisor work and the company's operations in general. The results of the annual employee survey improved significantly already in 2015, and the increase in the scores of all parts of the survey continued moderately also in 2016. Especially the employees felt, that they were better informed of the operations and strategy of the company than before. The survey carried out in October set an all-time record in response rate, 77 percent.



# Shares and Shareholders

## Shares

The shares of Bittium Corporation are quoted on the Nasdaq Helsinki. The company has one series of shares. All shares entitle their holders to dividends of equal value. Each share has one vote. The share does not have a nominal value. The company's shares have been entered into the Euroclear Finland Ltd.'s book entry system.

At the end of the financial period, the fully paid share capital of the company entered into the Finnish Trade Register was EUR 12,941,269 and the total number of the shares was 35,693,166. The accounting par value of the company's share is EUR 0.10. The company does not have its own shares in its possession.

## Option Rights

The Annual General Meeting of March 14, 2008, decided to issue stock options to Bittium group's (former Elektrobitt group) key personnel. The maximum number of stock options was 4,200,000, of which 1,400,000 were marked with the symbol 2008A, 1,400,000 were marked with the symbol 2008B and 1,400,000 were marked with the symbol 2008C. The stock options entitled to subscription of a maximum total of 4,200,000 new shares of the company or treasury shares.

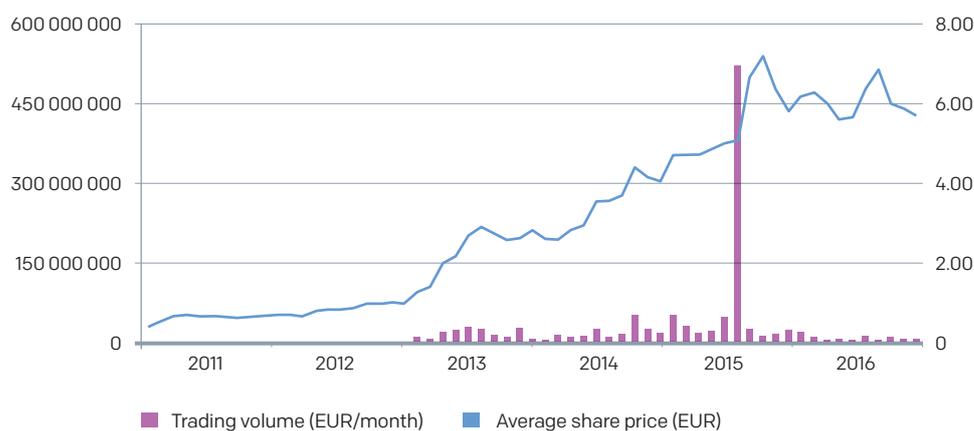
The proportion of the shares that were to be subscribed using the stock options to be issued was a maximum total of 3.1 percent of the company's shares and associated voting rights after a possible share subscription, if new shares were to be issued in the subscription. The subscription price for the shares to be subscribed based on the stock options was based on the prevailing market value of the Bittium Corporation share at Nasdaq Helsinki in January 2009, January 2010 and January 2011. The subscription price was to be recorded in the fund for invested unrestricted equity. The share subscription period for stock options 2008A was 1 April 2012–31 March 2014, for stock options 2008B 1 April 2013–31 March 2015, and for stock options 2008C 1 April 2014–31 March 2016.

The Board of Directors of Bittium Corporation decided on June 5, 2013 on the transfer of stock options 2008A and 2008B to the Finnish book-entry system and to apply for listing of 1,400,000 stock options 2008A and of 1,400,000 stock options 2008B on the official list of Nasdaq Helsinki. The trading with the stock options started on June 17, 2013. The share subscription period for stock options 2008A ended on March 31, 2014 and the share subscription period for stock options 2008B ended on March 31, 2015.

The Board of Directors of Bittium Corporation decided on the transfer of series 2008C stock options to the Finnish book-entry system on December 20, 2013 and applied for listing of 1,400,000 stock options 2008C on the official list of Nasdaq Helsinki. Application was made for the listing to commence on April 1, 2014. The share subscription period for series 2008C stock options commenced on April 1, 2014 and ended on March 31, 2016.

A total of 55,498 new shares in Bittium Corporation were subscribed for between December 1, 2015 and March 31, 2016 by virtue of the option rights 2008C. The share subscription price, EUR 30,523.90 was recorded in the company's invested non-restricted equity fund. The corresponding increases in the number of the company's shares were entered into the Finnish Trade Register on February 10, 2016 and April 14, 2016 as an additional lot of Bittium Corporation's shares in Nasdaq Helsinki Ltd. The share subscription period for stock options 2008C ended on March 31, 2016. More information and terms and conditions of stock options 2008 are available in the Company's web pages at [www.bittium.com/investor\\_relations](http://www.bittium.com/investor_relations).

Trading volume and average share price 2011–2016



## Share Price and Trading Volumes in 2016

The closing price of Bittium Corporation's share was EUR 5.67 at the end of 2016; the share reached a high of EUR 7.40 and a low of EUR 5.15. During the year, a total of 20.9 million shares with the value of EUR 126.4 million changed hands on the Nasdaq Helsinki. This is 58.6 percent of the share capital. Bittium Corporation's market capitalization on December 31, 2016 was EUR 202.4 million.

## Dividend and Dividend Policy

Bittium Corporation follows a dividend policy that takes into account the group's net income, financial situation, need for capital and financing of growth.

In 2016 Bittium Corporation paid EUR 0.05 per share as dividend based on the adopted balance sheet for the financial period January 1, 2015–December 31, 2015 and EUR 0.25 per share as additional dividend. The dividend was paid to the shareholders who were registered as shareholders in the company's register of shareholders as maintained by Euroclear Finland Ltd. on the dividend record date, April 21, 2016. The dividend was paid on April 28, 2016.

The Board of Directors proposes that the Annual General Meeting to be held on April 12, 2017 resolve to pay EUR 0.05 per share as dividend from the profit of the financial period based on the adopted balance sheet for the financial period of January 1, 2016–December 31, 2016 and EUR 0.25 per

share as additional dividend. The dividend will be paid to the shareholders who are registered as shareholders in the company's register of shareholders as maintained by Euroclear Finland Ltd on the dividend record date, April 18, 2017. The Board of Directors proposes that the dividend be paid on April 25, 2017.

## Trading Codes

Bittium Corporation has been listed on Nasdaq Helsinki (previously Helsinki Stock Exchange) since 1998. Bittium Corporation's company code and trading code in the Nasdaq Helsinki INET system is BITTI and the trading code BITTI.

### Trading codes are:

Nasdaq Helsinki	BITTI
Reuters	BITTI.HE
Bloomberg	BITTIFH

## Shareholders

At the end of 2016 Bittium Corporation had 21,424 shareholders. The ten largest shareholders owned 29.2 percent of the shares. Private ownership was 78.4 percent. The percentage of foreign and nominee-registered shareholders was 3.4 percent at the end of 2016.

## Shareholding of the Board of Directors and CEO

At the end of 2016, the shareholding of the Board of Directors, CEO and the companies controlled by them was 1,578,631 shares, corresponding to 4.4 percent of all shares.

## Information to Shareholders

Press releases, reports, earnings estimates, share price ticker, contact details of analysts and other current investor material can be found on the company's website at [www.bittium.com](http://www.bittium.com). An email-based subscription service for press releases and publications can be found from the company's website as well.

## Financial Reports in 2017

Bittium has reported its financial development quarterly. On November 23, Bittium announced a change to its financial reporting practice and will publish half year and annual financial reports and no longer interim reports for the first three and nine months of the year. In 2017, Bittium will publish financial reports as follows:

### February 20, 2017

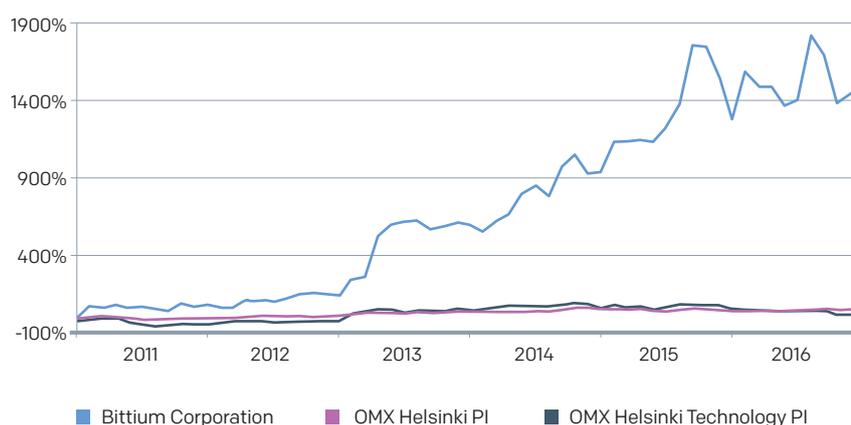
Financial Statement Bulletin 2016

### August 9, 2017

Half Year Financial Report, Jan.–Jun. 2017

Financial reports will be published simultaneously in Finnish and in English at 8.00 a.m. (CET+1) on Bittium's web pages at [www.bittium.com/investors](http://www.bittium.com/investors). The company will hold press conference regarding the reports on dates to be specified later.

## Share price development in Nasdaq Helsinki 2011–2016



## Silent Periods in 2017

Bittium will observe a Silent Period prior to announcing its results. The Silent Periods in 2017 are as follows:

January 30–February 20, 2017

July 19–August 9, 2017

## The Annual General Meeting 2017 of Bittium Corporation

The Annual General Meeting of Bittium Corporation will be held on Wednesday, April 12, 2017 at 1.00 p.m. in University of Oulu at the address Saalastinsali, Pentti Kaiteran katu 1, 90590 Oulu.

### Shareholders Registered in the Shareholders' Register

Each shareholder, who is registered on Friday, March 31, 2017 in the shareholders' register of the company held by Euroclear Finland Ltd., has the right to participate in the General Meeting. A shareholder, whose shares are registered on his/her personal Finnish book-entry account, is registered in the shareholders' register of the company.

A shareholder, who is registered in the shareholders' register of the company and who wants to participate in the General Meeting, shall register for the meeting no later than on Friday, April 7, 2017 by 10.00 a.m. by giving a prior notice of participation.

The notice has to be received by the company before the end of the registration period. The notice has to be received by the company before the end of the registration period. Such notice can be given:

- a) on the company's website at [www.bittium.com](http://www.bittium.com), as from March 2, 2017 at 10.00 a.m.
- b) by telephone +358 40 344 3322 or +358 40 344 5425 on weekdays between 9.00 a.m. and 3.00 p.m.
- c) by telefax; +358 8 343 032; or
- d) by regular mail to the address Bittium Corporation, General Meeting, Tutkijantie 8, 90590 Oulu, Finland.

In connection with the registration, a shareholder shall notify his/her name, personal identification number or business identity

code, address, telephone number and the name of a possible assistant or proxy representative and the personal identification number of a proxy representative. The personal data given to Bittium Corporation is used only in connection with the General Meeting and with the processing of related registrations.

The shareholder, his/her authorized representative or proxy representative shall, where necessary, be able to prove his/her identity and/or right of representation at the General Meeting.

### Holders of Nominee Registered Shares

A holder of nominee registered shares has the right to participate in the General Meeting by virtue of such shares, based on which he/she on Friday, March 31, 2017 would be entitled to be registered in the shareholders' register of the company held by Euroclear Finland Ltd. The right to participate in the General Meeting requires, in addition, that the shareholder on the basis of such shares has been registered into the temporary shareholders' register held by Euroclear Finland Ltd. at the latest on Friday, April 7, 2017 by 10.00 a.m. As regards nominee registered shares this constitutes due registration for the General Meeting.

A holder of nominee registered shares is advised to request without delay the necessary instructions regarding registration in the temporary shareholder's register, the issuing of proxy documents and registration for the General Meeting from his/her custodian bank. The account management organization of the custodian bank has to register a holder of nominee registered shares, who wants to participate in the General Meeting, into the temporary shareholders' register of the company at the latest by the time stated above.

Further information on the General Meeting and participation in the General Meeting is available on the company's website [www.bittium.com](http://www.bittium.com).

### Proxy Representative and Powers of Attorney

A shareholder may participate in the General Meeting and exercise his/her rights at

the meeting by way of proxy representation. A proxy representative shall produce a dated proxy document or otherwise in a reliable manner demonstrate his/her right to represent the shareholder. If a shareholder participates in the General Meeting by means of several proxy representatives representing the shareholder with shares at different securities accounts, the shares by which each proxy representative represents the shareholder shall be identified in connection with the registration for the General Meeting.

Possible proxy documents should be delivered in originals to the address Bittium Corporation, General Meeting, Tutkijantie 8, 90590 Oulu, Finland, before the end of the registration period.

### Other Information

Pursuant to chapter 5, section 25 of the Companies Act, a shareholder who is present at the General Meeting has the right to request information with respect to the matters to be considered at the meeting. On the date of this notice to the General Meeting March 2, 2017, the total number of shares and votes in Bittium Corporation is 35,693,166.

### Documents of the General Meeting

The above-mentioned proposals for the decisions on the matters on the agenda of the General Meeting as well as this notice are available on Bittium Corporation's website at [www.bittium.com](http://www.bittium.com).

The annual report of Bittium Corporation, which includes the company's annual accounts, the report of the board of directors and the auditor's report, as well as the company's corporate governance statement, is available on said website no later than on Wednesday March 22, 2017. The proposals for decisions and other documents mentioned above are also available at the General Meeting. Copies of these documents and of this notice will be sent to shareholders upon request. The minutes of the General Meeting will be available on the above-mentioned website as from Wednesday April 26, 2017, at the latest.





# Corporate Governance

The governance of Bittium Corporation (hereinafter "Company") is determined by the Company's Articles of Association, the laws of Finland (such as the Finnish Companies Act and Securities Market Act) and the Company's Corporate Governance Code. The Company follows with some exceptions the Finnish Corporate Governance Code 2015 prepared by the Finnish Securities Market Association. The Governance Code may be viewed, inter alia, at the Finnish Securities Market Association website at [www.cgfinland.fi](http://www.cgfinland.fi).

In the assembly meeting held on April 19, 2016, the new Board of Directors elected on the same day considered the continuation of the Audit and Financial Committee and concluded that the extent of the Company's business still requires that a group with a more compact composition

than the Board of Directors deals with the preparation of matters pertaining to financial reporting and control. The Governance Code recommends that a committee shall have at least three members. In the assembly meeting held on April 19, 2016, the new Board of Directors resolved to re-elect Staffan Simberg (Chairman of the committee) and Kirsi Komi as members of the Audit and Financial Committee and to invite authorized public accountant Seppo Laine external advisor of the Board of Directors. The composition of two members and an external advisor was considered to be in compliance with purpose of the recommendation as authorized public accountant Seppo Laine brings continuity and expertise needed in the committee. Later in 2016, the Audit and Financial Committee was renamed as Audit Committee.

This Statement is made separately from the Report by the Board. The Board's Audit Committee and the Company's auditor have reviewed this Statement.

The statutory governing bodies of the Company are the Shareholders' meeting, Board of Directors, Chief Executive Officer and the Auditor. The Management Group supports the statutory governing bodies of the Company. The Company's domicile is Oulu.

This Statement may be viewed at the Company's website at [www.bittium.com](http://www.bittium.com).

In 2016, the Board convened 17 times.  
The Board members attended to the meetings as follows:

January 1–December 31, 2016	Board	Audit Committee
Staffan Simberg	16/17	5/6
Erkki Veikkolainen	17/17	
Kirsi Komi	16/17	6/6
Juha Putkiranta	16/17	
Seppo Mäkinen	17/17	
Seppo Laine (external advisor of the Board)		6/6

## The Board of Directors

The Board of Directors is responsible for the Company's governance and proper organization of the operations. The Board of Directors comprises three to seven (3–7) members and in addition it may have one to three (1–3) deputy members. The Annual General Meeting shall elect the members of the Board of Directors for a term which expires at the end of the following Annual General Meeting. The number of terms for the members of the Board of Directors is not limited. The Board of Directors selects a Chairman among its members.

The Board conducts an annual evaluation of the independence of its members in accordance with recommendation 10. A member of the Board is required to submit to the Company the information necessary to conduct the evaluation of independence. A Board member is also required to notify the Company of any changes in information relating to independence.

The Annual General Meeting held on April 19, 2016 decided that the Board of Directors shall comprise five (5) members. Ms. Kirsi Komi, Mr. Seppo Mäkinen, Mr. Juha Putkiranta, Mr. Staffan Simberg and Mr. Erkki Veikkolainen were elected members of the Board of Directors. The members of the Board of Directors were considered inde-

pendent members of the Board as regards both the Company and its significant shareholders. In the assembly meeting held on April 19, 2016 the Board of Directors elected Erkki Veikkolainen as the Chairman of the Board. Further, the Board of Directors resolved to keep the Audit and Financial Committee, and elected Mr. Staffan Simberg (Chairman of the committee) and Ms. Kirsi Komi as members of the Audit and Financial Committee and authorized public accountant Seppo Laine was invited to the Audit and Financial Committee as external advisor of the Board of Directors. Later in 2016, the Audit and Financial Committee was renamed as Audit Committee.

## Description of Activities

The Board of Directors has defined a working order and evaluates its performance annually. The Board of Directors shall implement the decisions of the General Meeting. The Board of Directors supervises the operations and management. The Board of Directors makes decisions on the Company's guiding principles for operation, strategy and budget. The Board of Directors decides on mergers and acquisitions and other strategic alliances as well as significant investments and significant matters regarding

organization and finance. The Board of Directors supervises that the group companies' accounting and financial management is duly organized. The Board of Directors appoints the CEO and possible Deputy for him or her as well as approves the Company's organization structure.

The CEO, CFO and Chief Legal Officer (who acts as secretary of the Board of Directors) attend the meetings of the Board of Directors. Other management attends the meetings when necessary or upon invitation by the Board of Directors. The Chairman of the Board approves the agendas of the meetings of the Board of Directors. The agendas are prepared by the CEO and the Chief Legal Officer.

An annual clock, according to which the regular subjects to be handled are determined, is applied in the Board's work. In addition to the regular subjects of the annual clock, the most important subjects of the Board during the year were seeking for both organic and inorganic growth, focusing R&D costs, and re-evaluation of business portfolio.

The Annual General Meeting decides on the compensation of the members of the Board of Directors and the compensations can be publicly reviewed in the Company's website at [www.bittium.com](http://www.bittium.com).

## Diversity Principles

In the Company, diversity is seen as an essential part of corporate responsibility and as a factor in success, that enables achievement of strategic targets and continuous improvement of customer intimacy.

In planning the composition of the Board of Directors, the requirements of the Company's business operations, the phase of development and the competence requirements of the Board committees are taken into account. In appointing members of the Board the target is to ensure that the Board as a whole supports the development of the Company's current and future business operations. Diversity plays a part in supporting this goal.

Diversity is considered from different perspectives. From the Company's point of

view it is important to have Board members with diverse backgrounds in terms of competence, training, and experience of differing business operations, of varying stages of business development, and of leadership as well as diverse personal characteristics. Experience of international business environments and different cultures in addition to consideration of age and gender will support the diversity of the Board. The objective is that both genders are represented in the Board and the Company aims to good and balanced distribution of genders.

To fulfill the diversity principles, the principles are taken into account in the process to find and assess member candidates and representatives of both genders are looked for to the process. The status of diversity and progress of the goal mentioned above is monitored in the self-assessment discussions of the Board.

A person elected as a Board member of the Company must have the competence required for the position and be able to devote a sufficient amount of time for the duties required. In forming the composition of the Board long-term needs and successor planning will be taken into account.

According to the Articles of Association, the Board of Directors comprises three to seven (3–7) members and in addition it may have one to three (1–3) deputy members. The composition of the Board and the number of members shall be such that they enable the Board to perform its duties efficiently. The members of the Board are appointed annually at the Company's Annual General Meeting.

# Annual Clock FY2016

## Board of Directors' Schedule and Agenda Items

**DECEMBER (3 HOURS)**

- CEO target setting for the next year
- Next year plan and budget approval

**NOVEMBER (2 HOURS)**

- Budget snapshot for comments

**OCTOBER (1 DAY)**

- Q3 Interim Report approval
- Management successor plans review
- Compensation policy and structure review
- Budget target setting

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**SEPTEMBER (2 HOURS)**

- Business review

**AUGUST II MEETING (1 DAY)**

- Portfolio review
- New business opportunities
- Investor relations strategy review
- Next year annual calendar & clock approval
- Bittium values review

**AUGUST I MEETING (2 HOURS)**

- Q2 Interim Report approval



**JANUARY (1 DAY)**

- Meeting with auditors
- Q4 and Financial Statement review
- CEO's performance review from the past year
- Strategy health check, vision, strategy and LRP guidance
- Portfolio review
- Corporate Governance Statement review
- Risk management policy review
- Board self-assessment reporting and action plan
- Proposals to General Meeting

**FEBRUARY (2 HOURS)**

- Q4 and financial statement approval
- Salary increase budget for information

**MARCH I (1 DAY)**

- Customer satisfaction survey results and actions brief
- Personnel survey results and actions brief

**MARCH II (2 HOURS)**

- Board of Directors' assembly meeting

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**APRIL (1 DAY)**

- Q1 Interim Report approval
- Business & group level support function strategies and LRP approval

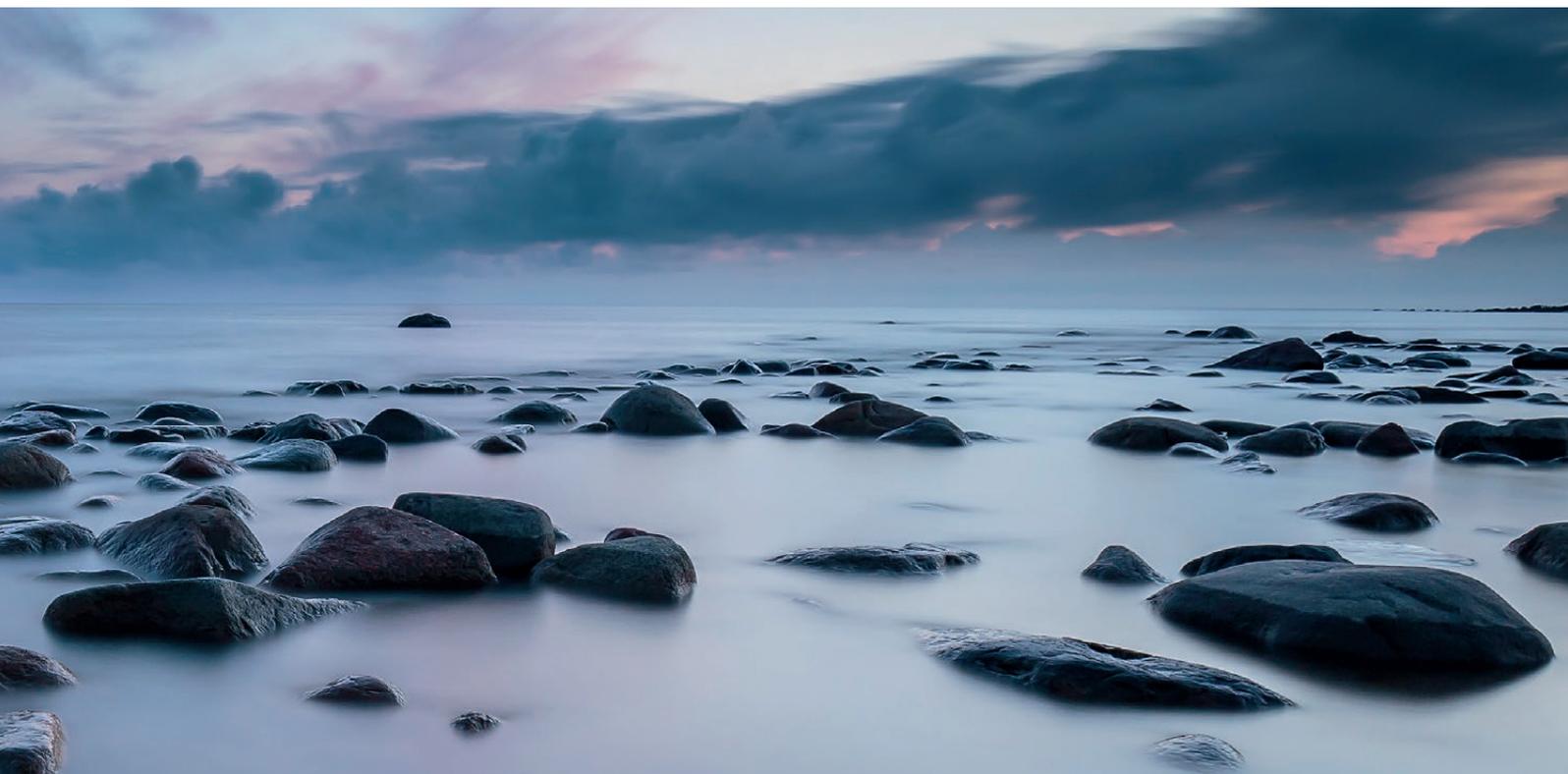
**MAY (2 HOURS)**

- Business review

**JUNE (2 HOURS)**

- Business review

QR: Quarterly Report



# Bittium Corporation

## The Board of Directors

### Erkki Veikkolainen

b. 1952, M.Sc. (EE), eMBA  
Full-time occupation: Mevita Invest Oy, CEO

#### Positions of trust:

- Bittium Corporation (prev. Elektrobit Corporation), Member of the Board 2008–2015, Chairman of the Board 2015–.
- Elcoflex (Suzhou) Co. Ltd, Member of the Board 2007–.
- Elcoflex Oy, Member of the Board 2015–, Chairman of the Board 2006–2015.
- Maustaja Oy, Member of the Board 2006–.
- Aplicom Oy, Member of the Board 2005–.
- Mecanova Oy, Member of the Board 2005–.

#### Previous work history:

- Bittium Technologies Ltd. (prev. Elektrobit Technologies Ltd.), Member of the Board 2011–2015.
- Elektrobit Corporation, Executive Vice President, Contract R&D and Test Business Units 2002–2003.
- Elektrobit Technologies Ltd., Managing Director 2001–2003.
- Elektrobit Ltd., Vice President, Business Development 1998–2001.
- Nokia Mobile Phones, various positions 1985–1998, latest Vice President.

#### Holdings Dec. 31, 2016:

Holds 1,502,400 shares in Bittium Corporation.

Independent as regards both the Company and its significant shareholders.

### Kirsi Komi

b. 1963, LL.M. Master of Laws  
Full-time occupation: Professional Board Member

#### Positions of trust:

- Bittium Oyj, Member of the Board, Member of the Audit and Financial Committee 2015–.
- Citycon Oyj, Member of the Board, Member of the Audit & Governance Committee and the Nomination & Remuneration Committee 2011–.
- Directors' Institute of Finland, Member of the Board 2015–.
- Docrates Oy, Chairman of the Board, 2011–.
- Finnvera Oyj, Member of the Board, Chairman of the Audit Committee 2013–.
- Martela Oyj, Member of the Board, Member of the Remuneration Committee 2013–.
- Metsä Board Oyj, Member of the Board, Member of the Audit Committee 2010–.
- Finnish Red Cross, Blood Service, Chairman of the Board 2011–, Member of the Board 2010–2011.

#### Previous work history:

- Veikkaus Oy, Chairman of the Board 2016.
- Patria Oyj, Vice Chairman of the Board, Chairman of the Audit Committee 2011–2016.
- Nokia Siemens Networks, General Counsel, Member of the Executive Board 2007–2010.
- Nokia Corporation, Networks Business Group, Vice President (legal), Member of NET Leadership Team and other NET/nokia senior management forums 1997–2007.
- Nokia Corporation, Networks Business Group, Senior Legal Counsel & Head of European Practise Group 1998.
- Nokia Corporation, Networks Business Group, Vice President, Contracts 1995–1996.
- Nokia Corporation, Networks Business Group, Legal Counsel 1992–1995, 1997.

#### Holdings Dec. 31, 2016:

Holds 2,118 shares in Bittium Corporation. Independent as regards both the Company and its significant shareholders.

### Seppo Mäkinen

b. 1952, M.Sc. Physical Chemistry  
Full-time occupation: Professional Board Member

#### Positions of trust:

- Bittium Corporation, Member of the Board 2015–
- Evondos Oy, Member of the Board 2016–.
- CBRA Genomics S.A., Member of the Board 2016–.
- Neurotar Oy, Member of the Board 2015–.
- MedGroup Oy, Member of the Board 2013–.
- Valirx Plc, Member of the Board 2013–.
- Ginolis Oy, Member of the Board 2011–, Chairman of the Board 2011–2014.

#### Previous work history:

- Taikon Advisor, Managing Partner 2010–2016.
- Merieux Développement, Regional Partner, Nordics 2010–2016.
- Ventac Partners, Partner 2012–2016.
- Magnasense Technologies Oy, Member of the Board 2011–2015.
- Arcdia International Oy, Member of the Board 2011–2014.
- Balonco, Senior Advisor, owner 2012–2013.
- Mediracer Ltd., Chairman of the Board 2010–2013.
- RSP Systems, Member of the Board 2010–2011.
- Bio Fund Management Oy, Founding/ Managing Partner 1997–2010.
- Sitra, Director in Life Science 1987–1997.
- Millipore/ Waters, Sales & Marketing 1983–1987.
- State Institute of Agricultural Chemistry, Chemist 1980–1983.
- Served as a Chairman or Member of the Board in Egalet A/S, SpinX Inc., Chempaq, Profos AG, Ilochip A/S, Exiqon A/S, KSH-Productor Oy, Merlin Diagnostika GmbH, Primex ASA, Rumen Oy, Millimed Inc., BioPorto A/S, Wallac, Kone Instruments, Rados Technologies, MAP Medical Technologies, Pharming NV, Bio-Orbit, Lab-master Oy, Viable Bioproducts and Fluilogic Oy.

#### Holdings Dec. 31, 2016:

Holds 1,371 shares in Bittium Corporation. Independent as regards both the Company and its significant shareholders.



## Juha Putkiranta

b. 1957, M.Sc. Engineering  
Full-time occupation: Saafricon Oy, CEO

### Positions of trust:

- Bittium Corporation, Member of the Board 2015–.
- Variantum Oy, Chairman of the Board 2016–.
- Nordcloud Oy, Member of the Board 2015–.
- Aspocomp Oyj, Member of the Board 2016–.

### Previous work history:

- Saafricon Oy, CEO and owner 2015–.
- Microsoft Corporation, Corporate Vice President, Company Integration, 2014.
- Nokia Oyj, Executive Vice President, Operations 2013–2014.
- Nokia Oyj, Senior Vice President, Head of Nokia Supply Chain 2008–2012.
- Nokia Oyj, Senior Vice President, Head of Multimedia Product marketing and R&D 2006–2007.
- Nokia Oyj, Senior Vice President, Head of Imaging Business Unit 2003–2005.
- Nokia Oyj, Senior Vice President, Head of Cellular Telephones Unit 2000–2003.
- Symbian Ltd, Member of the Board 1998–2001.
- Nokia Oyj, Vice President, Corporate Planning and Business Development 1997–2000.
- Hewlett-Packard Corporation, Director of Marketing Europe and Africa, electronic measurement solutions 1992–1997.
- Siar Oy, consultant 1986–1987.
- Nokia Oyj, various project, sales and marketing management positions, information solutions unit 1979–1986.

### Holdings Dec. 31, 2016:

Holds 11,371 shares in Bittium Corporation. Independent as regards both the Company and its significant shareholders.

## Staffan Simberg

b. 1949, MBA  
Full-time occupation: Professional Board Member, Management Consultant

### Positions of trust:

- Bittium Corporation (prev. Elektrobit Corporation), Member of the Board 2008– and Chairman of the Audit and Financial Committee 2010–.
- Oriola-KD Corporation, Member of the Board and Audit Committee 2015–.
- Endomines AB (publ), Member of the Board and Audit Committee 2011–, Chairman of the Board 2012–.
- Simberg & Partners Oy, Chairman of the Board 1994–.
- NEZ-Invest AB, Chairman of the Board 1994–.

### Previous work history:

- Bittium Technologies Ltd. (prev. Elektrobit Technologies Ltd.), Member of the Board 2011–2015.
- Nordic Vehicle Conversion AB, Member of the Board 2011–2015.
- Silva Group AB, Member of the Board 2011–2015.
- Valmet Automotive Group, Advisor of the Board of Directors 2014.
- Metso Group, Industrial Advisor 2011.
- Cargotec Oyj, Industrial Advisor 2009, 2012.
- Metso Panelboard, Chairman 2008–2009.
- Landis & Gyr AG, Member of the Advisory Board 2007–2013.
- Enermet Group, Managing Director 2005–2007.
- Siar-Bossard, Associated Partner 1992–1994.
- Leading positions at Nokia 1978–1991.

### Holdings Dec. 31, 2016:

Holds 1,371 shares in Bittium Corporation, Corporation controlled by Simberg holds 50,000 shares in Bittium Corporation. Independent as regards both the Company and its significant shareholders.

From left to right:  
Staffan Simberg,  
Juha Putkiranta,  
Kirsi Komi,  
Seppo Mäkinen and  
Erkki Veikkolainen.

## The Board Committees

The proper function of the corporate governance of a company requires that Board work is organized as efficiently as possible. For this reason, the Company established an Audit and Financial Committee that was renamed as Audit Committee later in 2016.

The Directors on the committee can concentrate on the matters delegated to the committee more extensively than the entire Board of Directors. The purpose of the committee is to enhance the efficient preparation of matters within the competence of the Board, increase transparency and ensure the quality and efficiency of the decision making of the Board.

The committee assists the Board by preparing matters falling within the competence of the Board. The Board remains responsible for the duties assigned to the committee. The committee has no autonomous decisionmaking power, and thus the Board makes the decisions within its competence collectively.

A committee shall regularly report on its work to the Board. The reports shall include at least a summary of the matters, addresses and measures taken by the committee.

The central duties and operating principles of the Audit Committee are described below. The Annual General Meeting decides on the compensation of the members of the Board committee and such compensations can be publicly viewed at the Company's website at [www.bittium.com](http://www.bittium.com).

## Audit Committee

The Audit Committee has the following duties:

- to monitor the reporting process of financial statements;
- to supervise the financial reporting process;
- to monitor the efficiency of the Company's internal control, internal audit, if applicable, and risk management systems;
- to review the description of the main features of the internal control and risk management systems pertaining to the financial reporting process, which is included in the Company's corporate governance statement;
- to monitor the statutory audit of the financial statements and consolidated financial statements;
- to evaluate the independence of the statutory auditor or audit firm and particularly the provision of related services; and
- to prepare the proposal for resolution on the election of the auditor.

The Chairman and the members of the Audit Committee are appointed by the Board of Directors of the Company. At least one committee member must be a financial expert who has significant knowledge and experience in accounting and accounting principles applicable to the Company. The Board of Directors elected in the Annual General Meeting held on April 19, 2016 decided in its assembly meeting held on the same day to elect Mr. Staffan Simberg (Chairman of the Committee) and Ms. Kirsi Komi as members of the Audit Committee. All members of the committee are independent from immediate interest of both the Company and its significant shareholders and they have long term experience in business management. The Board of Directors decided further in its same meeting to invite authorized public accountant Seppo Laine as external advisor of the Board of Directors.

In addition to committee members, other regular participants to the committee meetings are CEO and CFO of the Company and optionally external auditors. Further, the committee members may meet the external auditors without the operative management being present in such meetings. In 2016, the Audit Committee convened six (6) times to ordinary meetings. The Committee has evaluated, prepared and reviewed, inter alia, the following subject matters during the financial period of January 1, 2016–December 31, 2016:

- Financial Statements of 2015;
- Interim Reports of 2016;
- Annual audit plan for 2016;
- Observations based on auditing during the financial period;
- Observation by the internal control;
- Cash flow monitoring and evaluation of sufficiency of financing;
- Budget target setting and budgeting process;
- Dividend payment;
- M&A related issues and their effects on the result, balance sheet and financing status of the Group;
- Group legal structure related questions; and
- Impairment testing of the subsidiary shares and goodwill.

During 2017 the Committee's focus areas are:

- Follow up of introducing IFRS 15;
- Auditing the sales offer and agreement processes;
- Practices related to the handling of the Company's purchase invoices and to the formation of payment materials;
- Control of foreign affiliates; and
- Follow up of capitalized R&D costs.



## Hannu Huttunen

Chief Executive Officer, 2015–  
b. 1966, M.Sc. (Econ.)

### Previous work history:

- Elektrobit Technologies Ltd., President, Wireless Business Segment 2010–2015.
- Tekniseri Oy, Member of the Board 2012–2016.
- EXFO Inc., Vice President, Wireless Division (previously NetHawk Oyj) 2010.
- NetHawk Oyj, CEO 2003–2010, Executive Vice President 2002–2003.
- Nokia Mobile Phones Oy, Vice President, IP Convergence 2002, Vice President Special Products Business 1998–2002, NMT450 Business unit leader 1995–1998.

### Holdings Dec. 31, 2016:

Holds 10,000 shares in Bittium Corporation.

## Chief Executive Officer (CEO)

The CEO is in charge of the operative management of the Company in accordance with the Finnish Companies Act, the Articles of Association as well as the instructions and orders given by the Board of Directors. The CEO is responsible for the preparation of the Board meetings and implementation of any decisions made therein. Further, the CEO is responsible for ensuring that the Company's accounting methods comply with the applicable law and that the financial matters are being handled in a reliable manner. The CEO prepares strategy, long-term planning, investments, mergers and acquisitions, financing

and makes decisions thereof to the extent that such decisions are not tasks of the Board of the Directors. The CEO is responsible for financial planning, the Company's communications and investor relations.

The Board of Directors defines and approves the essential terms of the service of the CEO, including the CEO's remuneration, in the form of a written agreement. The CEO's service contract is effective until further notice and can be terminated by the Company with twelve (12) and the CEO with six (6) months' written notice.

The CEO is entitled to a work pension under the Contracts of Employment Act and other legislation pertaining to pensions and he

does not have supplementary pension. The Finnish employee pension system (TyEL) entitles to work pension that is based on such income during the career that entitles to work pension. During 2016, the old age pension can be taken out at one's own discretion between the ages of 63–68 (flexible retirement age).

## Management Group

The management group supports the CEO in his tasks and consists of the CEO as the chairman, CFO, Chief Legal Officer, Director Corporate Communications and Marketing, Directors responsible for product and service areas and Vice President responsible for Engineering. The management group supports the CEO in operative management, implementation and follow-up of the CEO's competence area, in particular as regards the operative business, the management and development of the business portfolio, asset management and taxation, internal audit, Corporate Governance of the Company, investor and marketing communications and risk management.

The Company told about its updated strategy in the end of November 2016. Until December 1, 2016, the Company's management group included also Senior Vice President, Sales; Vice President, Defense; Vice President, Business Development; and Senior Vice President, Operations. The tasks belonging to Senior Vice President, Sales and to Vice President, Business Development belonged from December 1, 2016 to the tasks of Vice Presidents responsible for product and service areas, the tasks of Vice President, Defense to the tasks of Senior Vice President responsible for Defense & Security product and service area, and the Operations tasks to the tasks of Vice President, Engineering.



## Karoliina Fyrstén

Director, Corporate Communications and Marketing, 2015–  
b. 1977, M.A. International Business Communications

### Previous work history:

- Elektrobit Automotive GmbH, Corporate Communications Manager, 2013–2015.
- Elektrobit Corporation, Corporate Communications Manager, 2009–2013.
- Elektrobit Corporation, Internal Communications, 2006–2008.
- Elektrobit Group Plc, Communications, 2002–2006.
- JOT Automation Group Plc, Investor Relations and Communications, 2001–2002.

### Holdings Dec. 31, 2016:

Holds 1,600 shares in Bittium Corporation.

## Jari-Pekka Innanen

Vice President, Engineering, 2015–  
b. 1968, M.Sc. (ME)

### Previous work history:

- Elektrobit Wireless Communications Ltd., Vice President, Engineering, Wireless Business Segment, 2011–2015.
- Elektrobit, Senior Manager, WS Global Resourcing, 2007–2010.
- Elektrobit, Manager, Head of Global HW, 2006–2007.
- Elektrobit, Manager, Mobile Terminal Solutions, Head of HW Competence areas, 2006.
- Elektrobit, Manager, Mechanical Competence Center, 2003–2005.
- Elektrobit, Project Manager, BTS project, 1999–2003.
- Elektrobit, Mechanical Designer, 1998–1999.
- Outokumpu Stainless Steel, Supervisor Cold Rolling Mills, 1994–1997.

### Holdings Dec. 31, 2016:

Holds 7,000 shares in Bittium Corporation.

## Kari Jokela

Chief Legal Officer, 2014–  
b. 1969, LL.M., trained on the bench, Mag.Jur. (Saarbrücken)

### Previous work history:

- Elektrobit Technologies Ltd., Senior Legal Counsel, 2012–2014.
- Elektrobit Corporation, Senior Legal Counsel, 2010–2012.
- Elektrobit Automotive GmbH, Senior Legal Counsel, 2008–2010.
- Elektrobit Corporation, Senior Legal Counsel, 2008.
- Polar Electro Ltd., Group Legal Counsel, 2000–2007.
- Asianajotoimisto Gilbert, Segall and Young Oy, Attorneys at Law Helsinki, Attorney, 1998–2000.

### Holdings Dec. 31, 2016:

Holds 1,100 shares in Bittium Corporation.



## Pekka Kunnari

Chief Financial Officer, 2015–  
b. 1967, M.Sc. (Econ.), LL.M.

### Previous work history:

- Elektrobit Technologies Ltd., Vice President, Finance 2011–2015.
- Elektrobit Corporation, Director, Finance 2005–2011.
- Elektrobit Inc, Group Controller 2004–2005.
- Elektrobit Group Corporation, Group Controller 2003–2004.
- Elektrobit Ltd., Business Controller 2001–2003.
- RPC Rapid Prototyping Center Oy, Finance Manager 2000–2001.
- Tilintarkastajien Ltd. - Ernst & Young, Auditor 1998–2000.
- Tuottotieto Ltd., Business Consultant 1994–1998.

### Holdings Dec. 31, 2016:

Holds 3,000 shares in Bittium Corporation.



## Klaus Mäntysaari

Senior Vice President, Connectivity Solutions, 2016–, Head of Technology Development 2016–  
b. 1966, M.Sc.

### Positions of trust:

- Health Innovation Academy Oy, Deputy Member of the Board, 2014–.

### Previous work history:

- Bittium Wireless Oy, Vice President, Telecom, 2015–2016.
- Elektrobit Wireless Communications Ltd., Vice President, Telecom, Wireless Business Segment, 2014–2015.
- Elektrobit, Vice President, Service Business Area, Wireless Segment, 2011–2014.
- Elektrobit, Director, Sales & Marketing Development, Wireless Solutions Business Unit, 2008–2011.
- Elektrobit, Director, Sales & Account Management & Marketing, Mobile Terminal Solutions Business Unit, 2008.
- Elektrobit, Director, Sales & Account Management, Mobile Terminal Solutions Business Unit, 2007–2008.
- Elektrobit, Head of Customer Operations, Contract R&D Business Unit, 2006–2007.
- Elektrobit, Director, Global Nokia Key Account Management, Contract R&D Business Unit, 2005–2006.
- Elektrobit, Key Account Manager, Nokia Terminals, Contract R&D Business Unit, 2004–2005.
- Nokia, Senior Manager, Vodafone Account, Nokia Multimedia, IP Convergence Business Program, 2004.
- Nokia, Senior Marketing Manager, Nokia Multimedia, IP Convergence Business Program, 2002–2004.
- Nokia, General Manager, Nokia Mobile Phones, Special Products, 2000–2002.
- Nokia, Marketing Manager, Nokia Mobile Phones, Special Products, 1998–2000.

### Holdings Dec. 31, 2016:

Holds 2,000 shares in Bittium Corporation.



## Arto Pietilä

Senior Vice President, Medical Technologies, 2016–  
b. 1958, M.Sc. (Applied Electronics)

### Previous work history:

- Bittium Wireless Oy, Senior Vice President, Operations, 2015–2016.
- Elektrobit Wireless Communications Ltd., Senior Vice President, Operations, Wireless Business Segment, 2010–2015.
- Elektrobit Wireless Communications Ltd., Senior Vice President, Wireless Solutions Business Unit, 2008–2010.
- Elektrobit Wireless Communications Ltd., Executive Vice President, Mobile Terminal Solutions Business Unit, 2006–2008.
- Elektrobit Wireless Communications Ltd., Executive Vice President, Contract R&D Business Unit, 2004–2006.
- Elektrobit Technologies Ltd., Managing Director, 2004–2006.
- Elektrobit Ltd., Managing Director, 2002–2004.
- Elektrobit Ltd., Vice President, Contract R&D, 2001–2002.
- Polar Electro Oy, President & CEO, 1999–2001.
- Polar Electro Oy, Executive Vice President, 1996–1999.
- Polar Electro Oy, Technical Director, 1992–1996.
- Polar Electro Oy, Product Development Manager, 1986–1992.
- Polar Electro Oy, SW/HW Design Engineer, 1980–1986.

### Holdings Dec. 31, 2016:

Holds 80,000 shares in Bittium Corporation.



## Jari Sankala

Senior Vice President,  
Defense & Security, 2016–  
b. 1966, M.Sc. (Electrical Engineering,  
Digital Communications)

### Previous work history:

- Bittium Corporation, Senior Vice President, Sales, 2015–2016.
- Elektrobit Wireless Communications Ltd, Senior Vice President, Sales & Marketing, Wireless Business Segment, 2014–2015.
- Elektrobit Wireless Communications Ltd, Executive Vice President, Defence and Security, 2011–2014.
- NetHawk Group, Executive Vice President of Sales & Marketing, 2005–2011.
- NetHawk Germany, Managing Director, 2001–2005.
- Siemens AG, Sales Director Northern Europe, Mobile Networks, Germany, 1996–2001.

### Holdings Dec. 31, 2016:

Holds 27,500 shares in Bittium Corporation.



## Sami Kotkajuuri

Vice President, Business Development,  
2016–2017, Member of the Management  
Group until December 1, 2016.  
b. 1967, M.Sc. (Computer Technologies)

### Previous work history:

- Elektrobit Wireless Communications Ltd., Vice President, Connectivity Solutions, Wireless Business Segment, 2014–2016.
- Elektrobit Wireless Communications Ltd., Director, Product Management and R&D, Services and Special Terminals Product, 2013–2014.
- Elektrobit Wireless Communications Ltd., R&D Director, Service Business Area, 2010–2013.
- Elektrobit Wireless Communications Ltd., Director, Terminal Service Business Line, 2006–2009.
- Nokia Mobile Phones, Director, Operational Development, 2005–2006.
- Nokia Mobile Phones, Director, Program Portfolio Management, 2001–2005.
- Nokia Mobile Phones, Head of Mobile Messaging Technology, 2000.
- Nokia Telecommunications, Head of Product Management, Mobile Switching, 1998–1999.
- Nokia Telecommunications, Head of Operation & Maintenance R&D, 1997–1998.

**Holdings Dec. 31, 2016:** –



## Harri Romppainen

Vice President, Defense, 2015–, Member of the  
Management Group until December 1, 2016.  
b. 1972, M.Sc. (Eng.), eMBA

### Positions of trust:

- Association of Finnish Defence and Aerospace Industries (AFDA), Member of the Board, 2016–.

### Previous work history:

- Elektrobit Wireless Communications Ltd., Vice President, Defense, Wireless Business Segment, 2014–2015.
- Elektrobit Wireless Communications Ltd., Senior Product Manager, 2011–2014.
- Elektrobit Wireless Communications Ltd., Sales Manager, 2009–2010.
- Elektrobit Wireless Communications Ltd., Product Manager, 2007–2008.
- Elektrobit, Site Manager, 2005–2007.
- Elektrobit, Project Manager, 2002–2005.
- Elektrobit, R&D Engineering, 1998–2001.
- Valmet Automation, Research Engineer, 1997–1998.

### Holdings Dec. 31, 2016:

Holds 4,000 shares in Bittium Corporation.

## Election and Remuneration of the Auditor

The Company shall have one (1) auditor that has qualified as Certified Public Accountant and if the auditor is not an auditing company as defined by the law, one (1) deputy auditor shall be elected. The term of office of the auditor expires at the end of the following Annual General Meeting.

The General Meeting 2016 re-elected Ernst & Young Oy, authorized public accountant firm, auditor of the company. Ernst & Young Oy has notified that Mr. Juhani Rönkkö, CPA, will act as the responsible auditor. The remuneration to the auditor shall be paid against the auditor's reasonable invoice.

The auditor's fees in 2016 amounted to EUR 206,000 (EUR 438,000 in 2015. Of these, EUR 83,000 was attributable to continuing operations and 355,000 to discontinuing operations). Of the aggregate fees, EUR 55,000 was attributable to auditing (EUR 96,000 in 2015), EUR 40,000 to tax advice (EUR 73,000 in 2015) and EUR 110,000 to other services (EUR 268,000 in 2015).

## Main Features of Internal Control and Risk Management Processes Related to Financial Reporting Processes

### Risk Management

The purpose of risk management is to secure positive development of earnings of the Company and the continuation of the business by implementing risk management cost-effectively and systematically throughout the different businesses.

Risk management is part of the Company's strategic and operative planning, daily decision making process and internal con-

trol system. Business objectives, risks and risk management operations are combined through risk management as one chain of events.

### Main Principles of Organizing Risk Management

Company adheres to the risk management policy approved by the Board.

Risk management contains all actions, which are connected to setting up targets, identification of risks, measurement, review, handling, reporting, follow-up, monitoring and reacting to risks.

#### The aim of risk management of the Company is to:

- systematically and thoroughly identify and assess all major risks, which threaten the achievement of objectives, including risks related to business operations, property, agreements, competence, currencies, financing and strategy;
- optimize business opportunities and secure continuation of business;
- recognize and identify uncertainties and subsequently develop the prediction of risks and measures needed to manage risks;
- take only calculated and assessed risks with respect to e.g. expanding the business, increasing market share and creating new businesses;
- avoid or minimize liability risks;
- ensure the safety of products, solutions and services;
- establish a safe working environment for the employees;
- minimize possibilities for unhealthy occurrences, crimes or misconduct by operating procedures, control and supervision;
- inform interest groups of risks and risk management; and
- be cost-effective in risk management.

#### The aim of risk management is not to:

- exclude all risks at their entirety;
- adopt unnecessary control and management procedures; or
- take bureaucratic processes and procedures into use.

## Main Principles of the Risk Management Process

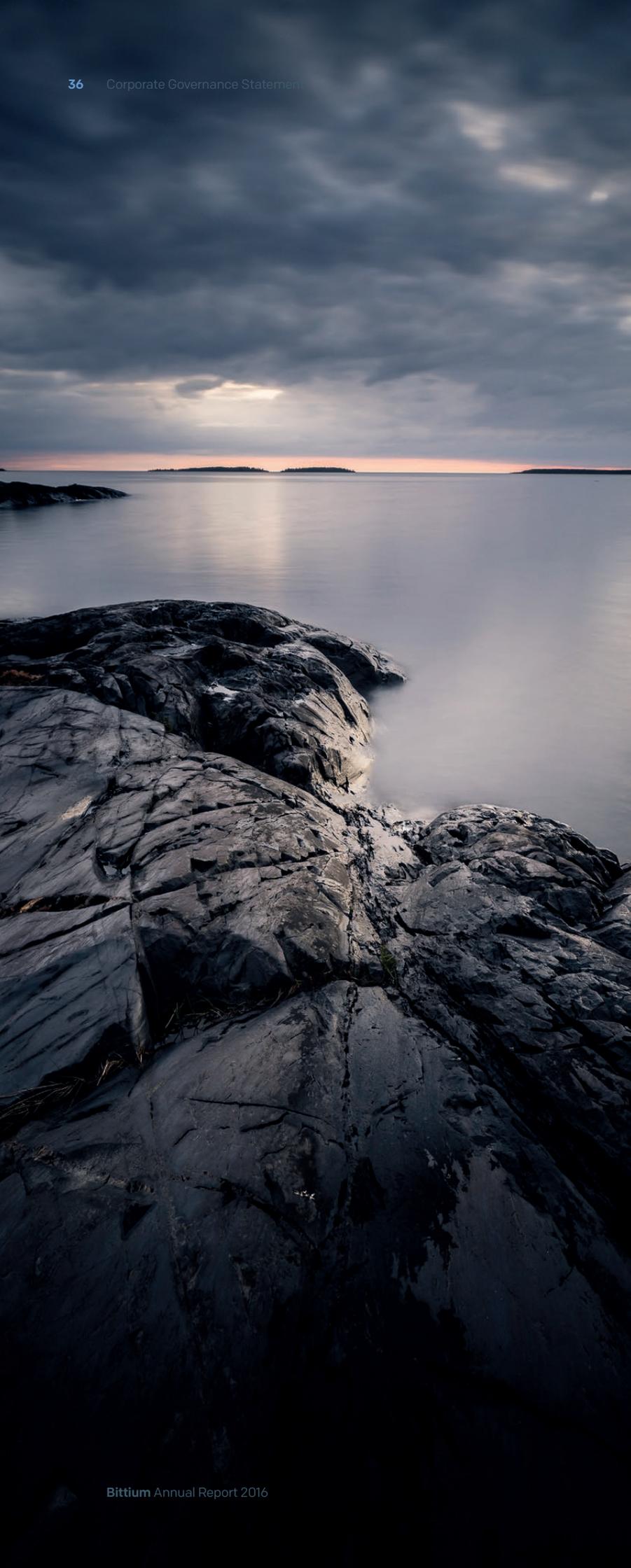
In connection with the strategy process and annual planning the CEO reviews business risks which could endanger the achievement of strategic or profit targets. Risk assessment reports are produced to support the strategy process. Strategic and operative risks are monitored through monthly reporting by businesses in the Board of the Company. Businesses must produce assessments of risks in their designated areas of responsibilities and provide action plans to manage risks as well as to report on measures taken including the stage and effectiveness of such measures.

## General Description of Internal Control and Operational Procedures

Internal control is a process applied by the Board of Directors, management and all levels of personnel in the Company to ensure that management has reasonable assurance that:

1. operations are effective, efficient and aligned with strategy;
2. financial reporting and management information is reliable, complete and timely made; and
3. the Company is in compliance with applicable laws and regulations, as well as the Company's internal policies and ethical values including sustainability.

The first category addresses the basic business objectives, including performance and profitability goals, strategy, implementation of objectives and actions and safeguarding resources. The second category relates to the preparation of reliable published financial statements, including interim reports (from Jan. 1, 2017 onwards half year financial reports) and condensed financial statements and selected financial data derived from such statements, such as earnings releases, reported publicly. The third deals with complying with those laws and regulations to which the Company is subject to.



## Internal Control Framework of the Company

Bittium's internal control framework consists of:

- the internal control, risk management and corporate governance policies and principles set by the Company's Board of Directors;
- management overseeing the implementation and application of the policies and principles;
- finance function and business controllers monitoring the efficiency and effectiveness of the operations and reliability of the financial and management reporting;
- enterprise risk management process identifying, assessing and mitigating risks threatening the realization of the Company's objectives;
- compliance procedures making sure that all applicable laws, regulations, internal policies and ethical values (including sustainability) are adhered to;
- effective control environment at all organizational levels including control activities tailored for defined processes and creating group minimum requirements for product and service areas as well as for geographical areas;
- shared ethical values and strong internal control culture among all employees; and
- internal audit assignments reviewing the effectiveness of the internal controls as needed.

## Risks and Controls in Core Business Processes

Risk management procedures are in place for business processes in the form of defined control points:

- relevant process risks are identified;
- common control points/Company's minimum requirement control points are identified;
- common control points are implemented in business processes; and
- additional control points can be determined as needed at business or functional levels.

Control activities are the policies and procedures that help ensure that management directives are carried out. They help ensure that necessary actions are taken to address risks to achievement of the Company's objectives. Control activities are set throughout the organization, at all levels and in all functions. They include various range of activities including but not limited to approvals, authorizations, verifications, reviews of operating performance, security of assets and segregation of duties.

## Internal Controls over Financial Reporting

The Company's external financial reporting process, internal control and risk management systems are briefly described in this section. The main focus is on financial accounting and related controls.

### Financial reporting organization

The financial management of the Company is responsible for organizing the accounting, money transactions and other daily financial operations of the companies belonging to it as well as organizing the internal reporting that supports the business.

The tasks of the Company's financial administration consist of, inter alia, monthly consolidation of the Group entity, preparation of interim reports (Jan. 1, 2017 onwards half-year financial reports) and consolidated financial statements, management and investment of monetary assets of the Group, management of liabilities, protection against exchange risk, and transfer pricing. The finance function of the Company implements operative supervision under the CFO who reports any supervisory findings to the Audit Committee. The tasks and responsibilities of the accounting function of the parent company and each subsidiary are included in the job descriptions of the teams and employees.

### Financial reporting systems

Consolidated financial statements are prepared by using the chosen consolidation tool. The accounting of the Group's subsidiaries is done by using the local accounting

systems from which the actual figures are reported either manually or by automatic transfer to the group consolidation system. The accounting system in use includes general ledger accounting, accounts payables and accounts receivables. Current assets and payroll accounting is organized through various programs or purchased as an outsourced service. Purchase invoices are circulated through electronic invoice processing system.

Global forecasts and budgets are prepared by using the forecast and reporting program.

### Internal controls

The Company's internal control mechanisms are based on policies, instructions, limited process descriptions, authorization matrix, financial reporting review meetings, and segregation of key accounting duties.

### Compliance procedures

Compliance procedures are in place at all levels of the organization to ensure that that all applicable laws, regulations, internal policies and ethical values including sustainability are adhered to. The management and businesses are responsible for following up developments in legislation and regulations in their respective areas and communicating them to the organization. The members of the Management Group are responsible for setting up adequate compliance controls and compliance related training in their units.

## Roles and Responsibilities Regarding Risk Management and Internal Control

The key roles and responsibilities regarding the Company's internal control and risk management are defined as follows:

### Board of Directors

The Board of Directors is ultimately responsible for the administration and the proper organization of the operations of the company. According to good corporate governance, the Board also ensures that the company has duly endorsed the corporate

values applied to its operations. The Board approves the internal control, risk management and corporate governance policies. The Board establishes the risk-taking level and risk bearing capacity of the Company and re-evaluates them on a regular basis as part of the strategy and goal setting of the Company. The Board reports to the shareholders of the Company.

### Audit Committee

Audit Committee is responsible for the following internal control related duties:

- to monitor the reporting process of financial statements;
- to supervise the financial reporting process;
- to monitor the efficiency of the company's internal control, internal audit, if applicable, and risk management systems;
- to review the description of the main features of the internal control and risk management systems pertaining to the financial reporting process, which is included in the company's corporate governance statement; and
- to monitor the statutory audit of the financial statements and consolidated financial statements.

More detailed descriptions how Audit Committee is fulfilling its monitoring role are defined in Committee's annual plan. The Audit Committee reports to the Board of Directors of the Company.

**Chief Executive Officer**

CEO is in charge of the day-to-day management of the Company in accordance with the instructions and orders given by the Board. CEO sets the ground of the internal control environment by providing leadership and direction to senior managers and reviewing the way they are controlling the business. CEO is in charge of the risk management process of the Company and its continuous development, allocation of resources to the work, review of risk management policies as well as defining the principles of operation and overall process. CEO reports to the Board on risk management as part of the monthly reporting. The CEO and the Management Group, which operates under CEO, are responsible for the management of risks endangering the fulfillment of objectives set to the Company.

**Management Group**

The members of the Management Group are responsible for internal control implementation in their responsibility areas. More specific internal control policies and procedures are established within the principles set by the Board and CEO. Additionally, the management of the subgroup and the Group Management are responsible for implementing risk management practices in planning cycle and daily operations, and ensure the adherence of

- laws;
- regulations;
- internal policies; and
- ethical values

in their designated responsibility areas.

The CFO:

- ensures a setup of adequate control activities for product and service areas in cooperation with the business management;
- follows the adequacy and effectiveness of control activities; and
- ensures that external reporting is correct, timely and in compliance with regulations.

Finance function does not have a separate internal control function. CFO reports any supervisory findings to the Audit Committee.

Chief Legal Officer ensures that the Group's corporate governance practices comply with the law and that legal matters of the Group are handled appropriately, in particular the contractual risks relating to business operations.

**Internal Audit**

The Company has no specific internal audit organization. This is taken into account in the content and scope of the annual audit plan. On the one hand, external auditing focuses on specific areas in turn to be audited, and on the other hand, on separately agreed priority areas.

## Insider Guidelines

The Company adheres to the Insider Guidelines for Listed Companies prepared by Nasdaq Helsinki Ltd (previously NASDAQ OMX Helsinki Ltd, OMX Nordic Exchange Helsinki Ltd and Helsinki Stock Exchange), the Central Chamber of Commerce and the Confederation of Finnish Industries. The Company has complemented the Guidelines by its internal insider guidelines. The insider and trading guidelines approved by the Company include regulations on insiders, publication and postponement of publication of inside information, prohibited use of inside information, insider registers, duty of notification of managers' and their closely associated persons' transactions, and personnel's own trading with specific financial instruments. The purpose of the guideline is to explain the content of the guideline published by Nasdaq Helsinki Ltd and other regulations and restrictions relating to the matter, and to unify and coordinate the processing of insider and trading matters within Bittium.

The managers of the Company must comply with the EU Market Abuse Regulation's prohibition on dealing in the Company's financial instruments (closed period). In accordance with the Company's Board of Directors' decision, the Company has in addition determined certain time periods during which persons taking part in the preparations of the Company's financial reporting, and other persons who have access to information pertaining to the Company's financial status, are prohibited to trade the Company's financial instruments. The purpose of the trade restrictions is to control trading of the Company's financial instruments, and thereby increase trust to the Company and the operation of the securities market. Trading with the Company's financial instruments is completely prohibited for the aforementioned persons for a period of 30 days before the publication of earnings information of the Company. The most common publications are the release of interim reports and release of the Company's financial statements. The restriction is applicable also to any possible preliminary information regarding the financial statements and interim report.

Persons included in a project-specific insider register are prohibited from all trading and business transactions until the project has expired or has been publicly announced. If the project falls upon another listed company or may affect the price of the financial instruments of another listed company, the project-specific insiders have no right to trade with such company's financial instruments.

The Company voluntarily maintains on its website a list of the financial instruments owned by the Company's managers or by the institutions operating under the authority of the managers. The list is updated on the last day of each month.



# Report by the Board of Directors 2016

## The Year 2016 in Brief

### Net Sales in 2016 Grew by 13% Year-on-year and Operating Result Improved Slightly

Bittium's net sales during January-December 2016 increased by 13.0 percent year-on-year to EUR 64.2 million (EUR 56.8 million in 1–12 2015).

The share of the product-based net sales was EUR 11.9 million (EUR 13.1 million in 1–12 2015), which resulted mainly from the product deliveries of the tactical communication system, product deliveries of Bittium Tough Mobile LTE smartphones and related security software, the deliveries of other terminal products for authorities use, and deliveries of products for measuring and monitoring biosignals. The decrease in the product-based net sales year-on-year was mainly caused by the ending of product deliveries of a special terminal project for a US-based customer during the corresponding period.

The share of the services-based net sales was EUR 51.8 million (EUR 43.4 million in 1–12 2015). Despite the decrease in the demand for the services business in the network equipment market, the services-based net sales increased year-on-year due to the increased demand for the R&D services related to the special terminal products.

Operating result was EUR 2.5 million (EUR 2.3 million in 1–12 2015).

### Significant Events During the Reporting Period

A total of 55,498 new shares in Bittium Corporation were subscribed for between De-

cember 1, 2015 and March 31, 2016 by virtue of the option rights 2008C. The share subscription price, EUR 30,523.90 was recorded in the company's invested non-restricted equity fund. The corresponding increases in the number of the company's shares were entered into the Finnish Trade Register on February 10, 2016 and April 14, 2016. Shareholder rights by virtue of the new shares commenced as of the above-mentioned registration entry date. Trading with the newly registered shares started on February 11, 2016 and April 15, 2016 as an additional lot of Bittium Corporation's shares in Nasdaq Helsinki Ltd. The share subscription period for stock options 2008C ended on March 31, 2016.

The Board of Directors of Bittium Corporation decided on March 22, on a directed share issue without consideration as reward payments to the key persons of the company. In the share issue a maximum of 58,000 new shares was issued without consideration to the key persons entitled to share rewards according to the terms and conditions relating to the share rewards. A total of 9 people belonging to the management and personnel of the company were in the target group of the payment. Of the maximum of 58,000 shares offered in the share issue, 37,500 shares were subscribed. The 37,500 shares issued in the share issue were registered with the Trade Register and registered on the book-entry accounts of the recipients of the shares on March 24, 2016 and became subject to trading on the trading list of Nasdaq Helsinki on March 29, 2016. After the registration of the new shares, the number of shares in Bittium Corporation totaled to 35,693,166.

On April 27, Bittium appointed M.Sc. Sami Kotkajuuri (b. 1967) as Vice President, Business Development as of May 1, 2016. Mr. Kotkajuuri has been working for Bittium since

2009. M.Sc. Klaus Mäntysaari (b. 1966) was appointed as Vice President, Connectivity Solutions as of May 1, 2016. Mr. Mäntysaari has been working for Bittium since 2004. In the Connectivity Solutions product and service area Bittium offers R&D services and customized solutions for the wireless communications market as well as for other companies needing wireless connectivity in their devices.

On October 5, Bittium announced to have received information according to which significant customer cooperation with a global network equipment manufacturer will reduce during 2017. According to the information received, if the planned actions of the customer will materialize in full, these actions might have a negative effect to Bittium's net sales and operating result in 2017. The reduction of the cooperation did not have an effect on Bittium's outlook for the year 2016.

Bittium told that as part of the strategy work, it will evaluate the effects of the reduction of the cooperation on the financial targets given on July 1, 2015 in connection with company's strategic guidelines. These financial targets published were as follows: The target during 2015–2017 is to grow the net sales at least 10 percent annually and reach EBIT level 10 percent of net sales at the latest in 2017. Bittium targets, by the year 2017, to clearly increase the share of net sales generated from own products and product platforms, from the 26.7 percent level of net sales in 2014.

On November 10, 2016 Bittium announced to expand its technology competence by acquiring Mega Electronics Ltd and Mega-Koto Ltd specialized in healthcare technology and services by purchasing 100 percent of the shares in Remega Ltd. Mega Electronics Ltd was a fully owned subsidiary of

Remega Ltd. Mega Electronics Ltd owned 28.2 percent of the shares in MegaKoto Ltd, a company specialized in healthcare services, and had signed a binding share purchase agreements to acquire 100 percent of the shares in MegaKoto Ltd. The acquisition of the shares in MegaKoto Ltd was completed as planned.

Mega Electronics Ltd (now Bittium Biosignals Ltd), founded in 1983, is a Finnish ISO13485 certified medical device manufacturing company. The company is specialized in biosignal measuring for cardiology, neurology, rehabilitation, occupational health and sports medicine. MegaKoto Ltd (now Bittium Medanalytics Ltd) provides comprehensive arrhythmia monitoring services for its customers such as primary care centers, private clinics and hospitals.

The pro forma net sales of Remega group and MegaKoto Ltd was approximately EUR 3.1 million in 2015 and pro forma operating profit was approximately EUR 0.2 million. The companies employ altogether 28 persons and are located in Kuopio, Finland.

The debt free cash purchase price of the share acquisition, including the purchase price of MegaKoto shares, was EUR 8.0 million, which was adjusted based on the level of cash, debt and networking capital of the acquired companies as of completion of the acquisition. In addition to the aforementioned purchase price, an additional purchase price, capped at EUR 1.0 million, is payable upon the achievement of certain financial performance targets for the acquired business between January 1, 2017 and December 31, 2018. The potential additional purchase price will be paid in cash after achieving the goals.

On November 23, Bittium announced a change in its financial reporting practice and will publish half year and annual financial reports and will no longer publish interim reports for the first three and nine months of the year.

On November 24, Bittium updated its strategy and financial targets. The strategy was updated to strengthen company's position in the global markets and to speed up its growth. The company plans to make significant investments in the future by increasing significantly the R&D investments in its own

products and solutions in the year 2017. In line with the nature of the defense and public safety markets, the investments will pay back in a longer time period and therefore Bittium plans to capitalize the most of the R&D investments to its balance sheet. The company has a strong balance sheet and financial position.

Bittium also told to have decided to establish a new product and service area around healthcare technology. Combining healthcare technologies with Bittium's long-term experience and knowhow in wireless and security technologies gives the company good conditions to serve its customers in healthcare sector by offering them new kinds of products and services. As the first step to build the competencies in healthcare technology, Bittium acquired Mega Electronics Ltd, a company specialized in measuring and monitoring biosignals on November 10, 2016. According to the updated strategy Bittium has three product and service areas supporting each other: Defense & Security, Connectivity Solutions and Medical Technologies.

Bittium also told about continued search for inorganic growth opportunities in all its product and service areas and is prepared to invest in acquisitions that strengthen the company's growth strategy.

About the financial targets Bittium announced on November 24 as follows: Bittium has announced earlier that it targets 10 percent annual growth in net sales and to reach EBIT level 10 percent of net sales in the year 2017 at the latest. The company believes that in the coming years it is able to grow its net sales even more than the earlier announced target, and therefore sets up a target to exceed the annual 10 percent growth target of the net sales.

However, Bittium does not believe, that during the year 2017 it is yet able reach the targets set for the growth in the net sales and EBIT level. The reason for this is that the termination of significant customer cooperation with a global network equipment manufacturer, of which Bittium announced earlier, is expected to materialize faster and more extensively than the company estimated earlier. According to the information received by Bittium, the net sales from this customer cooperation will end completely

in the beginning of the second quarter of the year 2017. To this extent this kind of extensive and rapid decrease in the services business net sales is most likely difficult to be replaced in a short term. In addition, the operating profit level of the year 2017 is also affected by the planned investments to enable the future growth.

Bittium targets further to increase the share of net sales generated from own products and product platforms. According to the targets Bittium announced earlier, in the year 2017 the share of net sales generated from own products and product platforms is clearly higher than in the year 2014, when the product based net sales was 26.7 percent of the net sales.

On November 24, Bittium announced changes in the management group and in its organizational structure. These changes support the updated strategy that was announced on the same day. According to its strategy Bittium's business will focus on three product and service areas: Defense & Security, Connectivity Solutions and Medical Technologies. Mr. Jari Sankala (M.Sc. Electrical Engineering, Digital Communications) was appointed as Senior Vice President, Defense & Security product and service area. Mr. Klaus Mäntysaari (M.Sc.) continued as Vice President, Connectivity Solutions product and service area. Mr. Arto Pietilä M.Sc. (Applied Electronics) was appointed as Senior Vice President, Medical Technologies product and service area.

Mr. Sami Kotkajuuri, head of business development, decided to move on to new challenges outside of Bittium and resigned from the company's service. Mr. Kotkajuuri continued his duties until the end of the year 2016.

As of December 1, Bittium management group consisted of following persons: Mr. Hannu Huttunen, CEO (chairman); Mr. Pekka Kunnari, CFO; Mr. Kari Jokela, CLO; Ms. Karoliina Fyrstén, Director, Corporate Communications and Marketing, and heads of product and service areas: Mr. Jari Sankala, Senior Vice President, Defense & Security; Mr. Klaus Mäntysaari, Vice President, Connectivity Solutions; and Mr. Arto Pietilä, Senior Vice President, Medical Technologies; and Mr. Jari-Pekka Innanen, Vice President, Engineering.

## Financial Performance in January–December 2016

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME, MEUR	2016 12 months	2015 12 months
Net sales	64.2	56.8
Operating profit/loss	2.5	2.3
Financial income and expenses	0.6	-0.2
Result before tax	3.1	2.1
Result for the period from continuing operations	3.5	2.3
Result for the period from discontinuing operations		539.0
<b>Result for the period</b>	<b>3.5</b>	<b>541.3</b>
<b>Total comprehensive income for the period</b>	<b>3.5</b>	<b>541.5</b>
Result for the period attributable to:		
Equity holders of the parent	3.5	541.3
Total comprehensive income for the period attributable to:		
Equity holders of the parent	3.5	541.5
Earnings per share from continuing operations, EUR	0.098	0.020

- Cash flow from operating activities was EUR -1.7 million (EUR 2.1 million, in 1–12 2015, including both continuing and discontinuing operations).
- Net cash flow was EUR -27.9 million, including the dividend payment in April, the investments made into the company's new office building in Oulu, Finland, and the acquisition made in November (EUR 79.5 million, in 1–12 2015, including the cash flow resulted from the sale of the Automotive business and the cash flow of the cancelled demerger process and the cash flows of the voluntary public tender offer of own shares).
- Equity ratio was 87.0 percent (90.5 percent, December 31, 2015).
- Net gearing was -70.3 percent (-88.2 percent, December 31, 2015).

## Quarterly Figures

<b>GROUP'S NET SALES AND OPERATING RESULT, MEUR</b>	<b>4Q/16</b>	<b>3Q/16</b>	<b>2Q/16</b>	<b>1Q/16</b>	<b>4Q/15</b>
Net sales	19.0	14.1	16.4	14.7	15.2
Operating profit (loss)	0.9	0.9	0.8	-0.1	0.8
Result before taxes	1.1	1.1	1.0	-0.1	0.9
Result for the period	1.4	1.1	1.0	-0.1	1.1

<b>DISTRIBUTION OF NET SALES BY MARKET AREAS, MEUR AND %</b>	<b>4Q/16</b>	<b>3Q/16</b>	<b>2Q/16</b>	<b>1Q/16</b>	<b>4Q/15</b>
Asia	0.2 1.1%	0.0 0.1%	0.4 2.7%	0.0 0.2%	0.0 0.0%
Americas	3.8 19.9%	2.9 20.7%	3.2 19.8%	2.3 15.3%	2.9 19.2%
Europe	15.0 79.0%	11.2 79.3%	12.7 77.5%	12.5 84.5%	12.3 80.7%

## Statement of Financial Position and Financing

The figures presented in the statement of financial position of December 31, 2016, are compared with the statement of the financial position of December 31, 2015 (MEUR).

	Dec. 31, 2016	Dec. 31, 2015
Non-current assets	30.3	14.4
Current assets	123.0	145.0
Total assets	153.3	159.4
Share capital	12.9	12.9
Other capital	117.7	124.6
Total equity	130.6	137.6
Non-current liabilities	3.1	2.0
Current liabilities	19.6	19.8
Total equity and liabilities	153.3	159.4
	<b>Jan.–Dec. 2016</b>	<b>Jan.–Dec. 2015</b>
<b>CASH FLOW OF THE REVIEW PERIOD:</b>		
+ Profit of the period +/- Adjustment of accrual basis items	5.0	12.2
+/- Change in net working capital	-7.6	-6.2
- Interest, taxes and dividends	0.9	-3.9
= Net cash from operating activities	-1.7	2.1
- Net cash from investing activities	-14.5	579.6
- Net cash from financing activities	-11.6	-502.2
= Net change in cash and cash equivalents	-27.9	79.5

Net cash from operating activities in 2015 includes operative cash flows from both continuing and discontinuing operations.

The amount of gross investments in the period under review was EUR 18.5 million. Net investments for the review period totaled to EUR 18.4 million. The total amount of depreciation during the period under review was EUR 3.3 million. The amount of interest-bearing debt, including finance lease liabilities, was at the end of the reporting period EUR 3.2 million (EUR 1.4 million on December 31, 2015). Bittium's equity ratio at the end of the period was 87.0 percent (90.5 percent on December 31, 2015).

Cash and other liquid assets at the end of the reporting period were EUR 94.9 million (EUR 122.8 million on December 31, 2015). Bittium has a total of EUR 20.2 million credit facility agreements from which EUR 20 million are valid until June 30, 2017 and EUR 0.2 million until September 29, 2017. At the end of the review period, EUR 0.1 million of these facilities were in use.

Bittium follows a hedging strategy that has an objective to ensure the business margins in changing market circumstances by minimizing the influence of exchange rates. According to the hedging strategy principles, the net position in the curren-

cy is hedged when it exceeds the euro limit defined in the hedging strategy. The net position is determined on the basis of accounts receivable, accounts payable, order book and budgeted net currency cash flow.

## Research and Development

Bittium continued its R&D investments in products and product platforms targeted for the mobile security, defense and public safety markets. R&D investments mainly focused on developing the Bittium Tough Mobile secure LTE smartphone targeted mainly for the demanding mobile security and public safety use. A significant part of these capitalized R&D investments is related to the further development of the Bittium Tough Mobile and the related security software.

<b>R&amp;D INVESTMENTS, MEUR</b>	<b>2016</b> <b>12 months</b>	<b>2015</b> <b>12 months</b>
Total R&D investments	6.9	7.3
Capitalized R&D investments	-0.9	-3.4
Depreciations and impairment of R&D investments	0.3	0.2
Cost impact on income statement	6.3	4.2
R&D investments, % of net sales	10.8%	12.9%

<b>CAPITALIZED R&amp;D INVESTMENTS IN BALANCE SHEET, MEUR</b>	<b>2016</b> <b>12 months</b>	<b>2015</b> <b>12 months</b>
Balance sheet value in the beginning of the period	5.6	2.2
Additions during the period	0.9	3.4
Acquisitions of the business	0.2	0.3
Depreciations and impairment of R&D investments	-0.3	-0.2
Balance sheet value at the end of the period	6.4	5.6

## Business Development in 2016

### January–March 2016

The demand for Bittium's R&D services developed positively during the first quarter. The product development project for the Mexican Ministry of Communication and Transportation, started in May 2015, has continued according to plans during the first quarter. Bittium develops Android-based mobile devices that use both terrestrial and satellite connection for their MEXSAT system.

Bittium continued the R&D investments in its own products and product platforms aiming for growth especially in the international defense, information security and public safety markets. In February the company presented its Bittium Tough Mobile LTE smartphone and related management and VPN encryption software at the Mobile World Congress 2016 exhibition in Barcelona. Bittium Tough Mobile and related management system and VPN encryption Bittium Secure Suite generated lots of interest in the information security and public safety markets. The pilot deliveries of the product were continued during the first quarter. Bittium has been actively seeking for, and found a few suitable partners and resellers who took Bittium Tough Mobile as part of their own product portfolio and/or solution for their customers. The sale of Bittium Tough Mobile is expected to develop moderately according to the pace of the authorities markets.

In January, Bittium exhibited its secure and easy-to-use Bittium SafeMove remote access solutions for managers working in the healthcare sector at Long-Term Conditions Conference 2016 that was held in QUEII Centre, London. SafeMove VPN encryption software is also been used to secure connections in Bittium's IoT (Internet of Things) services and solutions. Bittium presented its IoT solutions and services at Wearable Technology Show 2016 in ExCeL, London in March.

The development of the tactical communication system Bittium Tactical Wireless IP Network (TAC WIN), used by the Finnish Defence Forces, continued. The product deliveries for the communication system were continued during the first quarter. Bittium received a new order for a new software package for the system. The main objective for the development work of the new software package was to continue enhancing the performance, data transfer capacity and survivability of the software and the related radio platform. The value of the received purchase order was EUR 2.8 million (excl. VAT) and it did not have significant impact on Bittium's net sales, operating result or financial standing, or on Bittium's financial outlook for the year 2016. The company continued its efforts to bring its defense market targeted product portfolio to the international defense markets, and received the first small order for its TAC WIN system from a customer in Asia.

### April–June 2016

Despite of the decrease in the demand for R&D services for the mobile network manufacturers, the demand for Bittium's R&D services developed positively during the second quarter of 2016. The product development project for the Mexican Ministry of Communication and Transportation, started in May 2015, has continued according to plans. Bittium develops Android-based mobile devices that use both terrestrial and satellite connection for their MEXSAT system.

Bittium continued the R&D investments in its own products and product platforms aiming for growth especially in the international defense, information security and public safety markets. The investments focused mainly in the further development of the Bittium Tough Mobile secure LTE smartphone targeted for the mobile security and public safety markets. The smartphone was presented at the Critical Communications World event in Amsterdam, where Bittium launched a new Bittium Tough Mobile B28 frequency variant, which is targeted for public safety networks requiring this band 28. In addition, Bittium and Air-Lynx demon-

strated the first public safety LTE evolved Multimedia Broadcast Multicast Solution (eMBMS) that enables efficient use of the whole LTE radio spectrum, delivering significant amounts of data even in a congested network environment. This is particularly important in public safety, security and other mission-critical communications, which require fast data speeds, low latencies and reliable connections.

The awareness of information security risks grew and the interest towards secure mobile devices increased. Bittium continued pilot deliveries of Bittium Tough Mobile during the second quarter. However, the development of the public safety and information security markets was somewhat slower than expected.

In April, Bittium participated in the Hannover Messe industrial fair in Germany and presented its customized, secure IoT solutions and engineering services. At display were Bittium Smart Watch and IoT gateway reference designs, which can be easily customized according to customer needs and industry specific requirements.

Bittium continued R&D investments also in Bittium SafeMove product family and announced Bittium SafeMove Analytics software as a standalone software product for enterprises for monitoring and analyzing the performance of wireless networks and mobile devices. Organizations that use Analytics will get real-time and historical data on the location of mobile devices and the performance of wireless networks and thus are able to enhance the efficiency and user experience of mobile workers.

In May, Bittium released a new software version of Bittium SafeMove Mobile VPN remote access solution. The new software version enhances the information security of mobile workers by supporting performance-improving encryption methods. Moreover, the new management user interface and support for mobile Android devices make the work of IT departments significantly easier.

In May, Bittium established a partnership with Getac to improve the productivity, se-

curity and user experience for field workers in challenging conditions. Bittium offers its SafeMove Mobile VPN and Analytics software to all Getac's rugged tablets and notebooks as an option across Europe from May 2016 onwards. Bittium exhibited its secure and easy-to-use Bittium SafeMove remote access solutions at Terveystuottolun ATK-päivät (information technology days for healthcare industry) in Lahti, Finland.

The development of the tactical communication system Bittium Tactical Wireless IP Network (TAC WIN), used by the Finnish Defence Forces was continued. The product deliveries for the communication system were continued during the second quarter.

In April, Bittium expanded its product portfolio in tactical communications by introducing Bittium Tough VoIP Service (Voice over Internet Protocol) software product. With the product both fixed data network users and wireless tactical data network users can be connected to the same voice service network. This significantly improves the capability to lead troops and maintain situational awareness in the quickly changing conditions of the battlefield.

In June, Bittium participated in the Eurosat exhibition in Paris targeted for defense markets and presented its tactical communication products and solutions. In addition, Bittium presented together with both Italian company Leonardo and French company Thales how the land forces of different European countries will be able to communicate with each other in joint operations, linking up via a common waveform regardless of the actual radio platforms they use. This waveform has been developed in the European ESSOR program (European Secure Software defined Radio), where Bittium has been part of since it started in 2009.

## July–September 2016

Despite the decrease in the demand for R&D services for the mobile network manufacturers, the demand for Bittium's R&D services developed positively during the third quarter of 2016. The product development project for the Mexican Ministry of Commu-

nication and Transportation, started in May 2015, continued according to plans. Bittium develops Android-based mobile devices that use both terrestrial and satellite connection for their MEXSAT system. Also the demand for R&D services in the IoT markets developed positively.

During the third quarter Bittium continued the R&D investments in its own products and product platforms aiming for growth especially in the international defense, mobile security and public safety markets. The investments focused mainly in the products for the mobile security and public safety markets. The development of the Bittium Tough Mobile secure LTE smartphone was continued as well as the pilot deliveries of the product during the third quarter.

Bittium continued R&D investments also in Bittium SafeMove product family and presented these remote access solutions at a healthcare HETT Show in London.

The development of the tactical communication system Bittium Tactical Wireless IP Network (TAC WIN), used by the Finnish Defence Forces, continued and the product deliveries for this communication system were also continued during the third quarter. The development of the public safety and mobile security markets has been somewhat slower than expected.

## October–December 2016

Despite the decrease in the demand for R&D services for the mobile network manufacturers, the demand for Bittium's R&D services developed positively during the fourth quarter. Also the demand for R&D services in the IoT markets developed positively. The product development project for the Mexican Ministry of Communication and Transportation, started in May 2015, has continued according to plans. Bittium develops Android-based mobile devices that use both terrestrial and satellite connection for their MEXSAT system.

During the fourth quarter Bittium continued the R&D investments in its own products and product platforms aiming for growth

especially in the international mobile security, defense and public safety markets. The investments focused mainly in the products for the mobile security and public safety markets. The development of the public safety and mobile security markets was somewhat slower than expected.

In October, Bittium announced to have received information, according to which, a significant customer cooperation with a global network equipment manufacturer will reduce during 2017. At that time, according to the information received, if the planned actions of the customer will materialize in full, Bittium estimated that these actions might have a negative effect to Bittium's net sales and operating result in 2017.

The development of the Bittium Tough Mobile secure LTE smartphone was continued and the product deliveries were carried on during the fourth quarter. In October the company announced to have conducted the first ever Voice over LTE (VoLTE) call with Bittium Tough Mobile on the Public Safety Band 14 LTE Network in the United States.

The development of the tactical communication system Bittium Tactical Wireless IP Network (TAC WIN), used by the Finnish Defence Forces, continued and the product deliveries for this communication system were continued also during the fourth quarter. Bittium continued efforts to bring its products and services, targeted to defense industry, to the international defense markets. In November, the company announced to have received a purchase order for a tactical communications system and related integration work to be delivered to the Estonian Defence Forces.

In November, Bittium presented its tactical communication products and solutions at the Indo Defence 2016 exhibition in Jakarta, Indonesia. In December, the company announced to have demonstrated with Leonardo, Thales and the Finnish Defence Forces the capabilities and functionalities of the High Data Rate Waveform (HDRWF) developed in the European ESSOR programme (European Secure Software defined Radio) in battlefield conditions. The demonstration

showcased how the land forces of different European countries can communicate seamlessly with each other in joint operations, linking up via a common waveform regardless of the radio platforms they use.

In November, Bittium announced to have acquired Mega Electronics Ltd and MegaKoto Ltd, companies specialized in healthcare technology and services. Mega Electronics Ltd (now Bittium Biosignals Ltd.), founded in 1983, is a Finnish ISO 13485 certified medical device manufacturing company. The company is specialized in biosignal measuring for cardiology, neurology, rehabilitation, occupational health and sports medicine. MegaKoto Ltd (now Bittium Medanalytics Ltd) provides comprehensive arrhythmia monitoring services for its customers such as primary care centers, private clinics and hospitals.

With this acquisition Bittium got the ownership of Faros product family, focused on remote heart monitoring, NeurOne product focusing on measuring the electrical activity of brain, and BrainStatus, a disposable quick analysis headband used in emergency and intensive primary care to diagnose for example epileptic seizures and brain stroke, and other healthcare technology products. Faros devices are EU medical device directive class CE class IIa and USA FDA 510(k) registered medical devices. Bittium Medanalytics Ltd is a private provider of healthcare services approved by the Finnish National Supervisory Authority for Welfare and Health having more than 70 health centers and private clinics using its heart monitoring Kardiolog.fi service. This acquisition was part of Bittium's strategy announced later in November.

On November 24, Bittium announced its updated strategy and financial targets. According to the updated strategy Bittium established a new product and service area around healthcare technology. By combining healthcare technologies with Bittium's long-term experience and knowhow in wireless and security technologies give the company good conditions to serve its customers in healthcare sector by offering them new kinds of products and services. Bittium has now three product and service areas supporting each other: Defense & Security, Connectivity Solutions and Medical

Technologies. In addition Bittium also announced investments to strengthen company's position in the global markets and to speed up its growth.

In November, Bittium exhibited its latest innovative products and solutions for cardiology and neurology at Medica 2016 exhibition on in Dusseldorf, Germany. The products and solutions exhibited were Faros ECG Event and Faros ECG Mobile software solutions focused on remote heart monitoring, Faros Cardiac Rehab monitoring solution, BrainStatus module and the full Faros ECG product line.

## Significant Events after the Reporting Period

The company has no significant events after the reporting period.

## Outlook for 2017

Bittium will continue to look for inorganic growth opportunities in all its product and service areas and is prepared to invest in acquisitions that support its growth strategy. The growing need for wireless connectivity, increasingly growing amount of data transfer and the need for secure data transfer create demand for Bittium's competence, products and product platforms. In a long term Bittium still has good conditions to grow profitably. Bittium aims further at growing net sales based on its products and product platforms.

Bittium has announced earlier that it targets 10 percent annual growth in net sales and to reach EBIT level 10 percent of net sales in the year 2017 at the latest. The company believes that in the coming years it is able to grow its net sales even more than the earlier announced target, and therefore sets up a target to exceed the annual 10 percent growth target of the net sales. However, Bittium believes, that during the year 2017 it is not yet able reach the targets set for the growth in the net sales and EBIT level. The reason for this is the termination of a significant customer cooperation with a global network equipment manufacturer. According to the information received by Bittium,

the net sales from this customer cooperation will end completely during the second quarter of the year 2017. To this extent this kind of extensive and rapid decrease in the services business net sales is impossible to be replaced with other projects in a short term, which effects directly the development of net sales and operating result in 2017. In addition, the operating profit level of the year 2017 is also affected by the planned investments to enable the future growth.

Bittium expects that the net sales in 2017 will be at the same level than in previous year (EUR 64.2 million, in 2016). The operating result is expected to be negative (EUR 2.5 million, in 2016).

More information about Bittium's market outlook is presented in the section "Market outlook" in this report.

More information about other uncertainties regarding the outlook is presented in this report in the section "Risks and uncertainties" and on the company's internet pages at [www.bittium.com](http://www.bittium.com).

## Market Outlook

Bittium's customers operate in various industries, each of them having their own industry specific factors driving the demand. A common factor creating demand among the whole customer base is the growing need for higher quality and secure data transfer. Due to the technology and measuring competences accrued over time and long history in developing mobile communication solutions, Bittium is in a good position to offer customized solutions for its customers.

The following factors are expected to create demand for Bittium's products and services in 2017 and beyond:

- In the mobile telecommunications, the 4G technology development work has decreased significantly affecting declining to the mobile network markets in the near future. The development of 5G technology has started very well creating demand for Bittium's R&D services increasing. However, the development of 5G technology has just begun, and it will not replace the

amount of the 4G development work within the next few years. Therefore in the future the demand for R&D service for the network equipment manufacturers is expected to be significantly lower than in the previous years.

- As the digitalization evolves, the secure IoT (Internet of Things) has become a significant development area in many industries. The increasing need of companies to digitalize their operations, collect data wirelessly and transfer it to the internet and cloud services generate need for Bittium's services and customized solutions. For this there is a need for connected devices for consumers and demanding industrial usage that collect information through their sensors and connect the devices securely to the internet and cloud services. Also the integration of different systems and technologies play an important role in enabling the complete digitalization service. To ease and speed up the processing of large data amounts there are different kinds of learning systems and devices under development that use different artificial intelligence (AI) technologies.
- The use of LTE technology, smartphones and applications is expected to increase in special verticals such as public safety creating demand for Bittium Tough Mobile secure LTE smartphone and other customized special terminals based on Bittium's own product platform. The awareness of mobile security risks is growing and the interest towards secure mobile devices is increasing. Also the interest towards LTE-SAT-hybrid devices with terrestrial and satellite connections has grown to further improve the functionality of authorities' critical connections. The sale of the secure terminal products is expected to develop moderately according to the nature of public safety markets.
- Using public network connections in portable devices is increasing also in demanding professional use, such as in the public sector. This creates requirements for network connections to be easy to use and secure. The products in the Bittium SafeMove product family enable the ease of use of the devices and security in demanding use.
- In the defense sector's tactical communication market the governments' defense forces and other authorities need net-

works that troops, who are increasingly constantly on the move, can use for transferring growing amounts of data securely. This creates demand for Bittium Tactical Wireless IP Network (TAC WIN) broadband network and for other Bittium's IP-based (Internet Protocol) tactical communications solutions. Bittium continues its efforts to bring its defense market targeted products and services also to the international defense markets and aims to get new international customers for its tactical communication system in 2017. Due to the long sales cycles driven by purchasing programs of national governments, it takes years to receive significant purchase orders.

- Heart problems and brain strokes are among the most frequent causes of death. Recognizing the symptoms early on, based on information gathered by measuring, enable starting of effective treatment fast. Also the prevention of diseases and health problems are being increasingly invested in. In the healthcare technology market there is ongoing a significant change in the patient care both inside the hospitals as well as in homecare. The repatriation of patients is being pursued earlier than before which may enable significant cost savings in the healthcare. One of the growing application areas in the IoT segment is healthcare technology that enables implementing these changes for its part. A prerequisite for early repatriation is the enabling of accurate and precise follow-up and measurement in home conditions through remote monitoring. For this purpose Bittium offers its Faros product family for remote heart monitoring and NeurOne product family for measuring the electrical activity of brain.

## Risks and Uncertainties

Bittium has identified a number of business, market and finance related risk factors and uncertainties that can affect the level of sales and profits.

### Market Risks

In the ongoing financial period, global economic uncertainty may affect the demand for Bittium's services, solutions and products and provide pressure on e.g. pricing. In

the short term such uncertainty may affect, in particular, the utilization and chargeability levels and average hourly prices of R&D services. Growing political uncertainty may also affect the demand for Bittium's services, solutions and products and the price competitiveness in the different geographical areas.

Bittium's customer base includes, among others, companies operating in the field of telecommunication, defense and other authorities, as well as companies delivering products to them, the company is exposed to market changes in these industries.

In October 2016, Bittium received information according to which a significant customer cooperation with a global mobile network equipment manufacturer will reduce during the year 2017. A significant part of Bittium's net sales has accumulated from selling R&D services to this mobile communications equipment manufacturer. The reduction of the cooperation did not have an effect on Bittium's outlook for the year 2016, but if the planned actions of the customer will materialize in full, these actions might have a negative effect on Bittium's net sales and operating result in 2017. A significant part of Bittium's net sales still accumulates from selling products and R&D services to defense and other authorities, as well as companies delivering products to them. Deviation in anticipated business development with such customer concentrations may translate as a significant deviation in the Bittium's outlook, both in terms of net sales and operating result, during the ongoing financial period and thereafter.

Bittium seeks to expand its customer base on a longer term and reduce dependence on individual companies and hence the company would thereby be mainly affected by the general business climate in the industries of the companies belonging to Bittium's customer base instead of the development of individual customer relationships. The more specific market outlook has been presented in this report in the "Market outlook" section.

**Business related risks**

Bittium's operative business risks are mainly related to following items: uncertainties and short visibility on customers' product program decisions, their make or buy decisions and on the other hand, their decisions to continue, downsize or terminate current product programs, execution and management of large customer projects, ramping up and down project resources, availability of personnel in labor markets, accessibility on commercially acceptable terms and on the other hand successful utilization of the most important technologies and components, competitive situation and potential delays in the markets, timely closing of customer and supplier contracts with reasonable commercial terms, delays in R&D projects, realization of expected return on capitalized R&D investments, obsolescence of inventories and technology risks in product development causing higher than planned R&D costs, and risks related to the ramp-up of product manufacturing. Revenues expected to come from either existing or new products and customers include normal timing risks. Bittium has certain significant customer projects and deviation in their expected continuation could result also significant deviations in the company's outlook. The information received by Bittium about the reduction of significant customer cooperation with a global mobile network equipment manufacturer during 2017 may have a negative effect on Bittium's net sales and operating result in 2017, but it did not have an effect on Bittium's outlook for the year 2016. In addition, there are typical industry warranty and liability risks involved in selling Bittium's services, solutions and products.

Bittium's product delivery business model faces such risks as high dependency on actual product volumes, timing risks and potential delays in the markets. The above-mentioned risks may manifest themselves as lower amounts of products delivered or higher costs of production, and ultimately, as lower profit. Bringing Bittium's products to international defense and other authorities markets may take longer than anticipated because the projects are typically long and the purchasing programs are prepared in the lead of national govern-

ments and within the available financing. Once a supplier has been selected, product deliveries are typically executed over several years.

Some of Bittium's businesses operate in industries that are heavily reliant on patent protection and therefore face risks related to management of intellectual property rights, on the one hand related to accessibility on commercially acceptable terms of certain technologies in the Bittium's products and services, and on the other hand related to the ability to protect technologies that Bittium develops or licenses from others from claims that third parties' intellectual property rights are infringed. Additionally, parties outside of the industries operate actively in order to protect and commercialize their patents and therefore in their part increase the risks related to the management of intellectual property rights. At worst, claims that third parties' intellectual property rights are infringed, could lead to substantial liabilities for damages. In addition, the progress of the customer projects and delivery capability may be also affected by potential challenges in global accessibility of key technologies and components on commercially acceptable terms, as well as by the acceptance of the necessary export licenses. The company changed its name to Bittium Corporation as of July 1, 2015 and started using the new trademark. The registration and the use of the new trademark can include customary risks involved in taking in use a new trademark.

**Financing risks**

Global economic uncertainty may lead to payment delays, increase the risk for credit losses and weaken the availability and terms of financing. To fund its operations, Bittium relies mainly on income from its operative business and may from time to time seek additional financing from selected financial institutions. Currently Bittium has a committed overdraft credit facility agreement of EUR 10.2 million with Nordea Bank Finland Plc and a committed overdraft credit facility agreement of EUR 10.0 million with Pohjola Bank Plc. From these agreements intended for general financing purposes, EUR 20.0 million are valid until June 30, 2017 and EUR 0.2 million until September 29, 2017. These

agreements include customary covenants related to, among other things, equity ratio, transferring property and pledging. There is no assurance that additional financing will not be needed in case of clearly weaker than expected development of Bittium's businesses. Customer dependency in some parts of Bittium's business may translate as an accumulation of risk with respect to outstanding receivables and ultimately with respect to credit losses.

## Environmental Factors

Bittium's business operations focus mostly on the design, assembly provided by the manufacturing partners and marketing of products. This represents only a minor part of the environmental impacts over the entire life cycle of the products. Products manufactured by the Company have only minor general environmental impacts.

Bittium Corporation renewed its global environmental management system certification according to ISO 14001:2015 standard in June 2016. Company is monitoring globally the environmental requirements for products and derived national regulations to the extent that they are related to the company operations. Bittium has also observed and applied the requirements of the ROHS (use of hazardous substances) and WEEE (recycling of electrical and electronic equipment) directives in design since 2002.

The applied environmental standards and regulations in company operations have been consolidated as uniform Bittium substance list, applicable also to Bittium's significant suppliers. The biannually updated substance list includes, in addition to the compliance of ROHS and REACH directives, the substance requirements applicable in different market areas against which identification of materials is made if needed. Further, materials declaration list observes certain customer specific requirements.

Company has further updated the requirements on a biannual basis and applied the proper environmental requirements to the products or solutions, in which Bittium has partial or total responsibility depending

on the application scope during 2016. The imposed requirements will be observed in business operations on a country-specific basis.

Bittium has continuously further developed company environmental reporting, based on which the 2016 environmental objectives have been followed. Company finalized its Energy Efficiency System implementation according to EES+ (ETJ+) standard to complement certified ISO 14001 system. Bittium received certification for Energy Efficiency System (EES+) in June 2016. During 2017, Bittium will develop further environmental reporting related to sustainability reporting requirements. In addition, company is seeking for opportunities to improve energy efficiency of the new Oulu site, which is under construction.

## Personnel

The Bittium group employed an average of 569 people in between January and December 2016. At the end of December, the company had 623 employees (517 employees at the end of 2015). A significant part of Bittium's personnel are R&D engineers.

## Changes in the Company's Management

### Appointments in the Company's Management

On April 27, 2016 Bittium announced following appointments in the company's management group:

M.Sc. Sami Kotkajuuri (b. 1967) was appointed as Vice President, Business Development as of May 1, 2016. Kotkajuuri had been working at Bittium since 2009. As his latest task, he was responsible for the IoT (Internet of Things) Solutions product and service area, where Bittium offers R&D services and customized solutions for companies needing wireless connectivity for their devices. Kotkajuuri continued as a member of the

company's management group reporting to Hannu Huttunen, CEO.

M.Sc. Klaus Mäntysaari (b. 1966) was appointed as Vice President, Connectivity Solutions as of May 1, 2016. Mäntysaari has been working at Bittium since 2004. Previously he was responsible for Telecom product and service area, where Bittium offers R&D services for wireless telecommunication market. Mäntysaari continued as a member of the company's management group reporting to Hannu Huttunen, CEO.

### Changes in Bittium Corporation's Organizational Structure and Management Group

The Board of Directors of Bittium Corporation decided on changes in the company's organizational structure and management group to support the company's updated strategy that was announced on November 24, 2016. According to its strategy, Bittium's business focuses on three product and service areas: Defense & Security, Connectivity Solutions and Medical Technologies.

Mr. Jari Sankala (M.Sc. Electrical Engineering, Digital Communications) was appointed as Senior Vice President, Defense & Security product and service area. Mr. Sankala has been working at Bittium since 2011 and transfers to his new position from the head of sales. In Bittium's new organizational structure, the sales operations are managed by the product and service areas. Mr. Klaus Mäntysaari (M.Sc.) continued as Vice President, Connectivity Solutions product and service area. He has been working at Bittium since 2004. Mr. Arto Pietilä M.Sc. (Applied Electronics) was appointed as Senior Vice President, Medical Technologies product and service area. Mr. Pietilä has been working at Bittium since 2001, among others as head of operations, head of Contract R&D business and as head of Wireless Solutions business. Prior to Bittium, Mr. Pietilä acted as the Managing Director of Polar Electro Oy. Mr. Sami Kotkajuuri, head of business development, decided to move on to new challenges outside of Bittium and resigned from the company's service. Mr. Kotkajuuri continued his duties until the end of the year 2016.

As of December 1, 2016 Bittium management group consisted of following persons: Mr. Hannu Huttunen, CEO (chairman); Mr. Pekka Kunnari, CFO; Mr. Kari Jokela, CLO; Ms. Karoliina Fyrstén, Director, Corporate Communications and Marketing; heads of product and service areas: Mr. Jari Sankala, Mr. Klaus Mäntysaari, and Mr. Arto Pietilä; and Mr. Jari-Pekka Innanen, Vice President, Engineering.

## Incentive Systems

### Stock Option Program 2008A-C

The Annual General Meeting decided on March 14, 2008 that there is a weighty financial reason for the company to issue stock options since the stock options are intended for use as part of the incentive and commitment program for key personnel.

The maximum total number of stock options was 4,200,000, of which 1,400,000 were marked with the symbol 2008A, 1,400,000 with the symbol 2008B, and 1,400,000 with the symbol 2008C. The stock options entitled to subscription of a maximum total of 4,200,000 new shares of the company or treasury shares.

The subscription price for the shares to be subscribed based on the stock options was based on the prevailing market value of the Bittium Corporation share at Nasdaq Helsinki in January 2009, January 2010 and January 2011.

At the end of the year 2015, 1,292,322 stock options with symbol 2008A, 1,089,000 stock options with symbol 2008B, and 1,385,000 stock options with symbol 2008C were distributed to the key employees of Bittium Corporation.

A total of 55,498 new shares in Bittium Corporation were subscribed for between December 1, 2015 and March 31, 2016 by virtue of the option rights 2008C. The share subscription period for stock options 2008C ended on March 31, 2016.

## Variable Pay System

A limited amount of Bittium's employees are participating into Variable Pay (VP) program. The criteria for the short-term merit pay are the financial strategic targets of the company. In addition, part of the targets may be other company's objectives or personal targets. Personal targets vary between duties. In 2016, the operating profit formed the financial targets.

In 2016, the earning period for the Variable Pay was the calendar year. The targets are determined separately for each earnings period. The setting of targets and the review of their achievement is decided on one-over-one basis.

## Directed Share Issue without Consideration

Based on the authorization granted by Bittium Corporation's Annual General Meeting of Shareholders held on April 15, 2015, the Board of Directors of Bittium Corporation decided on March 22, 2016 on a directed share issue without consideration as reward payments to the key persons of the company and its subsidiaries. In the share issue, 37,500 new shares were issued without consideration to the key persons entitled to the share bonus. The share bonus was issued to 8 key persons of the company defined by the Board of Directors, with the condition that they must be employed by Bittium Corporation or its subsidiaries at the time of payment of the share bonus. The shares issued in the directed share issue without consideration are subject to restrictions on the right of disposal until December 31, 2018. However, the Board of Directors may grant permission to dispose or use the shares prior to the given date. The shares were registered to the trade register and on the book-entry accounts of the recipients on March 24, 2016, and became subjects to trading on the trading list of Nasdaq Helsinki on March 29, 2016. The CEO received 10,000 shares of Bittium Corporation, and the rest of the members of the Management Group received in total 27,500 shares of Bittium Corporation.

## Option Rights

The Annual General Meeting of March 14, 2008, decided to issue stock options to Bittium group's (former Elektrobit group) key personnel. The maximum number of stock options was 4,200,000, of which 1,400,000 were marked with the symbol 2008A, 1,400,000 shall be marked with the symbol 2008B and 1,400,000 were marked with the symbol 2008C. The stock options entitled to subscription of a maximum total of 4,200,000 new shares of the company or treasury shares. The proportion of the shares that were to be subscribed using the stock options to be issued was a maximum total of 3.1 percent of the company's shares and associated voting rights after a possible share subscription, were new shares to be issued in the subscription. The subscription price for the shares to be subscribed based on the stock options was based on the prevailing market value of the Bittium Corporation share at Nasdaq Helsinki in January 2009, January 2010 and January 2011. The subscription price was to be recorded in the fund for invested unrestricted equity. The share subscription period for stock options 2008A is 1 April 2012–31 March 2014, for stock options 2008B 1 April 2013–31 March 2015, and for stock options 2008C 1 April 2014–31 March 2016.

The Board of Directors of Bittium Corporation decided on June 5, 2013 on the transfer of stock options 2008A and 2008B to the Finnish book-entry system and to apply for listing of 1,400,000 stock options 2008A and of 1,400,000 stock options 2008B on the official list of Nasdaq Helsinki. The trading with the stock options started on June 17, 2013. The share subscription period for stock options 2008A ended on March 31, 2014 and the share subscription period for stock options 2008B ended on March 31, 2015.

The Board of Directors of Bittium Corporation decided on the transfer of series 2008C stock options to the Finnish book-entry system on December 20, 2013 and applied for listing of 1,400,000 stock options 2008C on the official list of Nasdaq Helsinki. Application was made for the listing to com-

mence on April 1, 2014. The share subscription period for series 2008C stock options commenced on April 1, 2014 and ended on March 31, 2016.

A total of 55,498 new shares in Bittium Corporation were subscribed for between December 1, 2015 and March 31, 2016 by virtue of the option rights 2008C. The share subscription price, EUR 30,523.90 was recorded in the company's invested non-restricted equity fund. The corresponding increases in the number of the company's shares were entered into the Finnish Trade Register on February 10, 2016 and April 14, 2016. Shareholder rights by virtue of the new shares commenced as of the abovementioned registration entry date. Trading with the newly registered shares started on February 11, 2016 and April 15, 2016 as an additional lot of Bittium Corporation's shares in Nasdaq Helsinki Ltd. More information and terms and conditions of stock options 2008 are available in the Company's web pages at [www.bittium.com/investor\\_relations](http://www.bittium.com/investor_relations).

## Authorizations of the Board of Directors at the End of the Reporting Period

### Authorizing the Board of Directors to Decide on the Repurchase of the Company's Own Shares

The Annual General Meeting held on April 19, 2016 authorized the Board of Directors to decide on the repurchase of the company's own shares as follows.

The amount of own shares to be repurchased shall not exceed 3,500,000 shares, which corresponds to approximately 9.83 percent of all of the shares in the company.

Only the unrestricted equity of the company can be used to repurchase own shares on the basis of the authorization. Own shares can be repurchased at a price formed in public trading on the date of the repurchase or otherwise at a price formed on the market. The Board of Directors decides how own shares will be repurchased. Own shares can be repurchased using, inter alia, derivatives.

Own shares can be repurchased otherwise than in proportion to the shareholdings of the shareholders (directed repurchase).

The authorization cancelled the authorization given by the General Meeting on April 15, 2015 to decide on the repurchase of the company's own shares. The authorization is effective until June 30, 2017.

#### **Authorizing the Board of Directors to Decide on the Issuance of Shares as well as the Issuance of Special Rights Entitling to Shares**

The Annual General Meeting held on April 19, 2016 authorized the Board of Directors to decide on the issuance of shares and special rights entitling to shares referred to in chapter 10 section 1 of the Companies Act as follows.

The amount of shares to be issued shall not exceed 7,000,000 shares, which corresponds to approximately 19.66 percent of all of the shares in the company. The Board of Directors decides on all the conditions of the issuance of shares and of special rights entitling to shares. The authorization concerns both the issuance of new shares as well as the transfer of treasury shares. The issuance of shares and of special rights entitling to shares may be carried out in deviation from the shareholders' pre-emptive rights (directed issue).

The authorization cancelled the authorization given by the General Meeting on April 15, 2015 to decide on the issuance of shares as well as the issuance of special rights entitling to shares referred to in Chapter 10 Section 1 of the Companies Act. The authorization is effective until June 30, 2017.

## Shares and Shareholders

The shares of Bittium Corporation are quoted on Nasdaq Helsinki. The company has one series of shares. All shares entitle their holders to dividends of equal value. Each share has one vote. The share does not have a nominal value. The company's shares

have been entered into the Euroclear Finland Ltd.'s book-entry securities system.

At the end of the financial period, the fully paid share capital of the company entered into the Finnish Trade Register was EUR 12,941,269.00 and the total number of the shares was 35,693,166. The accounting par value of the company's share is EUR 0.10. The company does not have its own shares in its possession.

Shareholding and control related information is presented in section 34 of the notes to the Financial Statement.

## Flagging Notifications

There were no changes in the ownership during the period under review that would have caused flagging notifications which are obligations for disclosure in accordance with Chapter 2, section 9 of the Securities Market Act.

## Notifications of Managers' Transactions

August 11, 2016: Name of the person subject to the notification requirement: Seppe Laine, other senior manager. Notification type: Initial notification. Nature of transaction: Disposal. Executed under portfolio or asset management. Transaction date: August 8, 2016. Aggregated transactions: volume 20,000 shares, volume weighted average price: EUR 5.90100.

August 22, 2016: Name of the person subject to the notification requirement: Jari Sankala, other senior manager. Notification type: Initial notification. Nature of transaction: Acquisition. Executed under portfolio or asset management. Transaction date: August 17, 2016. Aggregated transactions: volume 2,408 shares, volume weighted average price: EUR 5.90000.

August 22, 2016: Name of the person subject to the notification requirement: Jari Sankala, other senior manager. Notification type: Initial notification. Nature of transaction: Acquisition. Executed under portfolio or asset management. Transaction date: August 19, 2016. Aggregated transactions: volume 15,092 shares, volume weighted average price: EUR 6.020000.

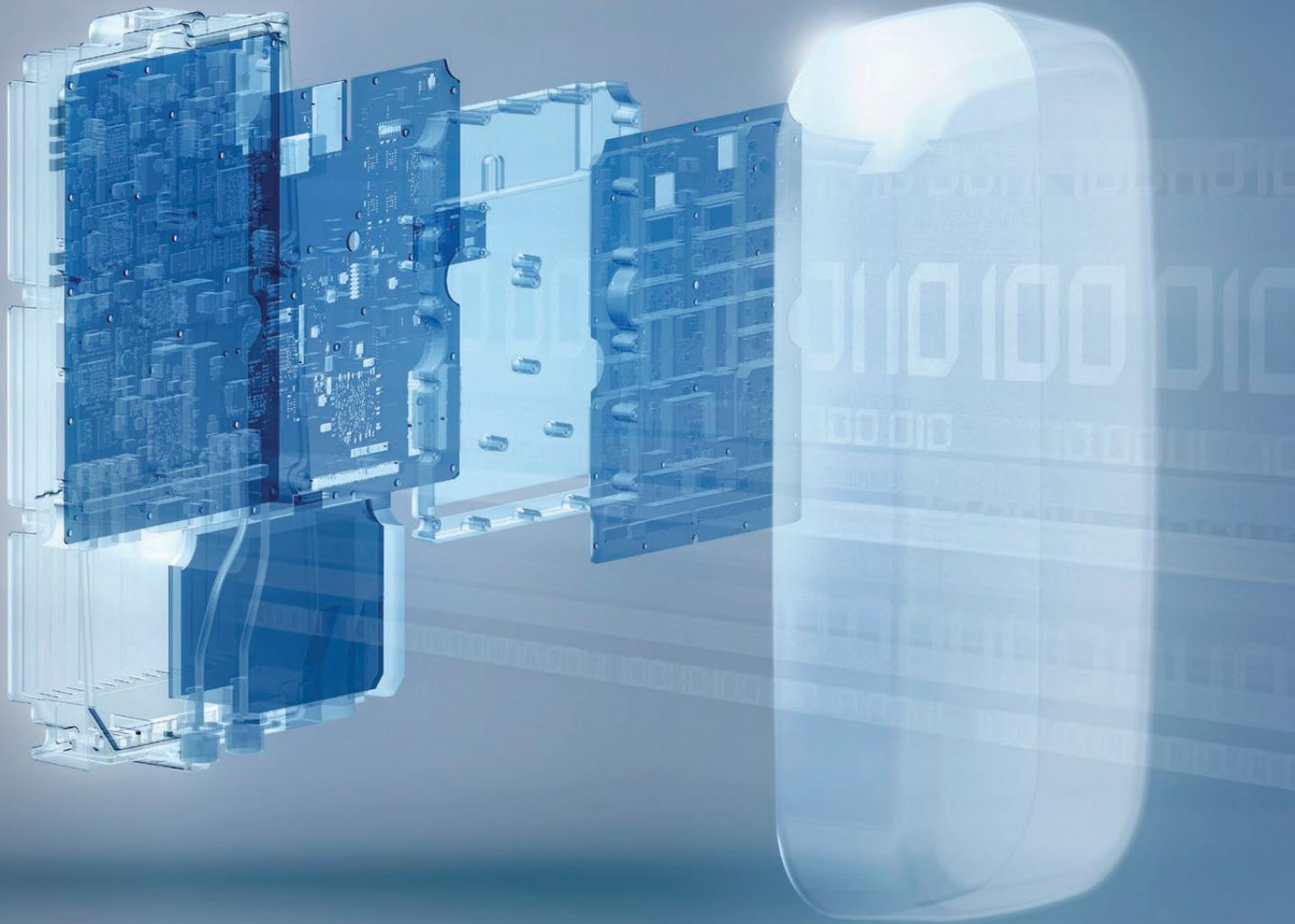
September 22, 2016: Name of the person subject to the notification requirement: Erkki Veikkolainen, member of the Board of Directors. Notification type: Initial notification. Nature of transaction: Receipt of a Share-Based Incentive. Transaction date: September 19, 2016. Aggregated transactions: volume 2,400 shares, volume weighted average price: EUR 6.79253.

September 22, 2016: Name of the person subject to the notification requirement: Staffan Simberg, member of the Board of Directors. Notification type: Initial notification. Nature of transaction: Receipt of a Share-Based Incentive. Transaction date: September 19, 2016. Aggregated transactions: volume 1,71 shares, volume weighted average price: EUR 6.79248.

September 22, 2016: Name of the person subject to the notification requirement: Seppo Mäkinen, member of the Board of Directors. Notification type: Initial notification. Nature of transaction: Receipt of a Share-Based Incentive. Transaction date: September 19, 2016. Aggregated transactions: volume 1,371 shares, volume weighted average price: EUR 6.79247.

September 22, 2016: Name of the person subject to the notification requirement: Juha Putkiranta, member of the Board of Directors. Notification type: Initial notification. Nature of transaction: Receipt of a Share-Based Incentive. Transaction date: September 19, 2016. Aggregated transactions: volume 1,371 shares, volume weighted average price: EUR 6.79243.

September 22, 2016: Name of the person subject to the notification requirement: Kirsi Komi, member of the Board of Directors. Notification type: Initial notification. Nature



of transaction: Receipt of a Share-Based Incentive. Transaction date: September 19, 2016. Aggregated transactions: volume 1,371 shares, volume weighted average price: EUR 6.79238.

## Board of Directors, Board Committees and Auditor

The Annual General Meeting held on April 19, 2016 decided that the Board of Directors shall comprise five (5) members. Ms. Kirsi Komi, Mr. Seppo Mäkinen, Mr. Juha Putkiranta, Mr. Staffan Simberg and Mr. Erkki Veikko-

lainen were elected members of the Board of Directors for a term of office expiring at the end of the next Annual General Meeting.

In the assembly meeting held on April 19, 2016 the Board of Directors elected Erkki Veikkolainen as the Chairman of the Board. Further, the Board resolved to keep the Audit and Financial Committee. Staffan Simberg (Chairman of the committee) and Kirsi Komi were elected as members of the Audit and Financial Committee and Seppo Laine, Authorized Public Accountant was invited to the Audit and Financial Committee as external advisor of the Board of Directors. Later in 2016 the Audit and Financial Committee was renamed as Audit Committee.

The Annual General Meeting held on April 19, 2016 re-elected Ernst & Young Oy, authorized public accountants, as the auditor of the company for a term of office ending at the end of the next Annual General Meeting. Ernst & Young Oy notified that Mr. Juhani Rönkkö, authorized public accountant, will act as responsible auditor.

## Corporate Governance Statement

The Board of Directors has issued the corporate governance statement separate from this report.

## Dividend from 2015

The Annual General Meeting held on April 19, 2016 decided in accordance with the proposal of the Board of Directors to pay EUR 0.05 per share as dividend based on the adopted balance sheet for the financial period January 1, 2015–December 31, 2015 and EUR 0.25 per share as additional dividend. The dividend was paid to the shareholders who are registered as shareholders in the company's register of shareholders as maintained by Euroclear Finland Ltd on the dividend record date Thursday, April 21, 2016. The dividend was paid on Thursday, April 28, 2016.

# Consolidated Statement of Comprehensive Income

CONTINUING OPERATIONS, 1000 EUR	Notes	Jan. 1– Dec. 31, 2016	Jan. 1– Dec. 31, 2015
<b>NET SALES</b>	1, 3	<b>64 192</b>	<b>56 813</b>
Other operating income	4	1 891	1 394
Change in work in progress and finished goods			
Work performed by the undertaking for its own purpose and capitalized		381	166
Raw materials		-5 057	-5 504
Personnel expenses	7	-35 492	-30 265
Depreciation	6	-3 263	-2 512
Other operating expenses	5	-20 110	-17 784
<b>OPERATING PROFIT</b>		<b>2 541</b>	<b>2 308</b>
Financial income and expenses	9	604	-196
<b>PROFIT BEFORE TAX</b>		<b>3 146</b>	<b>2 112</b>
Income tax	10	359	229
<b>PROFIT FOR THE YEAR FROM CONTINUING OPERATIONS</b>		<b>3 505</b>	<b>2 341</b>
Profit for the year from discontinued operations	2		538 983
<b>PROFIT FOR THE YEAR</b>		<b>3 505</b>	<b>541 323</b>
<b>Other comprehensive income:</b>			
Items that may be reclassified subsequently to the statement of income			
Exchange differences on translating foreign operations		-34	144
<b>TOTAL COMPREHENSIVE INCOME FOR THE YEAR</b>		<b>3 471</b>	<b>541 467</b>
<b>Profit for the year attributable to</b>			
Equity holders of the parent		3 505	541 323
<b>Total</b>		<b>3 505</b>	<b>541 323</b>
<b>Total comprehensive income for the year attributable to</b>			
Equity holders of the parent		3 471	541 467
<b>Total</b>		<b>3 471</b>	<b>541 467</b>
<b>Earnings per share for profit attributable to the shareholders of the parent company:</b>	11		
<b>Earnings per share from continuing operations, EUR</b>			
Basic earnings per share		0.098	0.020
Diluted earnings per share		0.098	0.020
<b>Earnings per share from discontinued operations, EUR</b>			
Basic earnings per share			4.687
Diluted earnings per share			4.685
<b>Earnings per share from continuing and discontinued operations, EUR</b>			
Basic earnings per share		0.098	4.708
Diluted earnings per share		0.098	4.706
Average number of shares, 1000 pcs		35 670	114 983
Average number of shares, diluted, 1000 pcs		35 670	115 037

# Consolidated Statement of Financial Position

1000 EUR	Notes	Dec. 31, 2016	Dec. 31, 2015
<b>Assets</b>			
<b>Non-current assets</b>			
Property, plant and equipment	12	12 591	4 111
Goodwill	13	6 737	1 440
Intangible assets	13	9 278	7 553
Other financial assets	15	132	122
Deferred tax assets	16	1 516	1 156
<b>Total</b>		<b>30 254</b>	<b>14 382</b>
<b>Current assets</b>			
Inventories	17	4 097	2 190
Trade and other receivables	18	24 018	19 956
Financial assets at fair value through profit or loss	19	66 935	66 100
Cash and short-term deposits	20	27 987	56 751
<b>Total</b>		<b>123 038</b>	<b>144 996</b>
<b>Total assets</b>		<b>153 292</b>	<b>159 378</b>
<b>Equity and liabilities</b>			
Equity attributable to equity holders of the parent	21		
Share capital		12 941	12 941
Translation differences		1 158	1 192
Invested non-restricted equity fund		25 953	25 923
Retained earnings		90 562	97 526
<b>Total</b>		<b>130 615</b>	<b>137 582</b>
Non-controlling interests			
<b>Total equity</b>		<b>130 615</b>	<b>137 582</b>
<b>Non-current liabilities</b>			
Deferred tax liabilities	16	461	90
Interest-bearing loans and borrowings (non-current)	24	1 956	745
Other non-current liabilities, non-interest bearing	25	602	
Provisions	23	48	1 146
<b>Total</b>		<b>3 067</b>	<b>1 982</b>
<b>Current liabilities</b>			
Trade and other payables	25	16 176	17 948
Financial liabilities at fair value through profit or loss	25	6	0
Provisions	23	2 230	1 207
Interest-bearing loans and borrowings (current)	24	1 198	658
<b>Total</b>		<b>19 610</b>	<b>19 814</b>
<b>Total liabilities</b>		<b>22 677</b>	<b>21 796</b>
<b>Total equity and liabilities</b>		<b>153 292</b>	<b>159 378</b>

# Consolidated Statement of Cash Flows

1000 EUR	Notes	Jan. 1– Dec. 31, 2016	Jan. 1– Dec. 31, 2015
<b>Cash flow from operating activities</b>			
<b>Profit for the year from continuing operations</b>		<b>3 505</b>	<b>2 341</b>
<b>Profit for the year from discontinued operations</b>			<b>538 983</b>
Adjustments			
Effects of non-cash business activities	27	2 434	6 419
Conveyance profits of shares in subsidiaries	27		-538 144
Finance costs	9	300	1 265
Finance income	9	-904	-673
Income tax	10	-359	2 034
Change in net working capital			
Change in short-term receivables	18	-3 276	-5 895
Change in inventories	17	-827	-284
Change in interest-free short-term liabilities	25	-3 515	-32
Interest paid on operating activities		-370	-1 588
Interest and dividend received from operating activities		903	918
Income taxes paid		411	-3 237
<b>Net cash from operating activities</b>		<b>-1 698</b>	<b>2 107</b>
<b>Cash flow from investing activities</b>			
Disposal of business unit, net of cash acquired	2		588 226
Acquisition of business unit, net cash acquired	14	-6 354	-1 801
Purchase of property, plant and equipment	12	-7 032	-2 505
Purchase of intangible assets	13	-1 169	-4 349
Sale of property, plant and equipment	12	31	1
Sale of intangible assets	13		59
Proceeds from sale of other investments			
<b>Net cash from investing activities</b>		<b>-14 524</b>	<b>579 631</b>
<b>Cash flows from financing activities</b>			
Share option plans exercised	22	30	820
Proceeds from borrowing	24		14 592
Repayment of borrowing	24	-86	-17 544
Payment of finance lease liabilities	24	-874	-1 281
Dividend paid and capital repayment		-10 708	-5 290
Purchase of own shares			-493 527
<b>Net cash from financing activities</b>		<b>-11 638</b>	<b>-502 231</b>
<b>Net change in cash and cash equivalents</b>	20	<b>-27 861</b>	<b>79 508</b>
Cash and cash equivalents at 1 January		122 783	43 275
Change in fair value of investments			
<b>Cash and cash equivalents at the end of the year</b>		<b>94 922</b>	<b>122 783</b>

Cash and cash equivalents include liquid and low risk financing securities.

# Consolidated Statement of Changes in Equity

<b>Equity attributable to equity holders of the parent</b>						
<b>1000 EUR</b>	<b>Share capital</b>	<b>Invested non-restricted equity fund</b>	<b>Translation difference</b>	<b>Retained earnings</b>	<b>Non-controlling interests</b>	<b>Total</b>
<b>Shareholders equity 1.1.2016</b>	<b>12 941</b>	<b>25 923</b>	<b>1192</b>	<b>97 526</b>	<b>0</b>	<b>137 582</b>
<b>Comprehensive income for the period</b>						
Profit for the period				3 505		3 505
Exchange differences on translating foreign operations			-34			-34
<b>Total comprehensive income for the period</b>	<b>0</b>	<b>0</b>	<b>-34</b>	<b>3 505</b>	<b>0</b>	<b>3 471</b>
<b>Transactions between the shareholders</b>						
Share issue		31				31
Share-related compensation				246		246
Dividend distribution				-10 708		-10 708
<b>Other changes</b>				<b>-6</b>		<b>-6</b>
<b>Shareholders equity 31.12.2016</b>	<b>12 941</b>	<b>25 953</b>	<b>1158</b>	<b>90 562</b>	<b>0</b>	<b>130 615</b>
<b>Shareholders equity 1.1.2015</b>	<b>12 941</b>	<b>25 103</b>	<b>1513</b>	<b>53 850</b>	<b>0</b>	<b>93 407</b>
<b>Comprehensive income for the period</b>						
Profit for the period				541 323		541 323
Exchange differences on translating foreign operations			144			144
<b>Total comprehensive income for the period</b>	<b>0</b>	<b>0</b>	<b>144</b>	<b>541 323</b>	<b>0</b>	<b>541 467</b>
<b>Transactions between the shareholders</b>						
Share issue		820				820
Share-related compensation				63		63
Dividend distribution				-5 290		-5 290
Purchase of own shares incl. transaction costs				-493 527		-493 527
<b>Other changes</b>			<b>-465</b>	<b>1107</b>		<b>642</b>
<b>Shareholders equity 31.12.2015</b>	<b>12 941</b>	<b>25 923</b>	<b>1192</b>	<b>97 526</b>	<b>0</b>	<b>137 582</b>

# Notes to the Consolidated Financial Statements

## Corporate Information

The company's field of activities is the development, production and selling of software, equipment and other products for the automotive and electronics industry, the production of R&D services and other services as well as other industrial operations. The company may administer product and other rights and conduct research and development operations, hold and trade securities and real estate and conduct other investment activities.

The parent company of the Group is Bittium Corporation, which is a Finnish public company. The parent company is domiciled in Oulu and its registered address is Tutkijantie 8, 90590 Oulu.

## Accounting Principles for the Consolidated Accounts

### Basis of Preparation

The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as well as the SIC and IFRIC interpretations in force at December 31, 2016. The financial statements are presented in thousands of euro. The consolidated financial statements have been prepared on a historical cost basis unless otherwise indicated.

## Consolidation Principles

The consolidated financial statements of Bittium include the financial statements of the parent company Bittium Corporation and its subsidiaries.

## Subsidiaries

The consolidated financial statements include Bittium Corporation and its subsidiaries financial statements. Subsidiaries are companies in which the Bittium Corporation has a controlling interest. A controlling interest arises when the Group holds more than half of the voting rights or it otherwise has the power to govern the financial and operating policies of the entity. The existence of potential voting rights is taken into account in assessing the conditions under which control arises whenever instruments conferring potential voting rights can be exercised at the review date.

## Joint Arrangements

A joint arrangement is an arrangement of which two or more parties, bound by a contractual agreement, have joint control. Joint arrangements are classified, as either joint operations or joint ventures, dependent on the controlling parties' rights and obligations. Bittium does not have joint arrangements at the end of the period.

## Elimination of Intra-group Transactions

Intra-group share ownership has been eliminated by means of the purchase method. Acquired subsidiaries are included in the consolidated financial statements from the time when the Group has obtained control, and divested subsidiaries up to the time when control ceases. The excess of the acquisition cost of the subsidiary shares over fair value of the net assets acquired is allocated partly to the identifiable assets and liabilities. Any excess is recorded as goodwill. Business combinations that occurred before the implementation of IFRS, in 2004, the carrying amount of the goodwill has been treated according to the Finnish GAAP in ac-

cordance with the exemption under IFRS 1. According to IFRS goodwill is not amortized but tested annually for impairment.

Intra-group transactions, receivables, liabilities and margins are eliminated in preparation of the consolidated financial statements.

## Foreign Currency Transactions

Figures relating to the financial statements of Group entities are measured in the currency that is the currency of each entity's main operating environment ("functional currency"). The consolidated financial statements are presented in euros, which is the functional currency of the Group's parent company.

Transactions denominated in foreign currency are recorded in euros using the exchange rate on the date of the transaction. Monetary items denominated in foreign currency are translated to euros using the European Central Bank exchange rates at the balance sheet date. Gains and losses arising from transactions denominated in foreign currency and the translation of monetary items are recorded in the income statement.

Income statements and cash flows of subsidiaries, whose functional and reporting currency is not the euro, are translated into euros at the average exchange rates during the financial period. Their balance sheets are translated at the exchange rates prevailing at the balance sheet date. Translating the profit for the period using different rates in the income statement and the balance sheet leads to a translation difference that is recorded in equity. The translation differences arising from the elimination of the cost of foreign subsidiaries are recorded in equity. When a subsidiary is sold, the cumulative translation differences are en-

tered in the income statement as part of the capital gain or loss.

Cumulative exchange differences arising from the translation of internal long term loans, which are in actual terms net investments in foreign operations, are taken directly to a separate component of equity.

The goodwill arising from the acquisition of foreign operations as well as fair value adjustments made to the carrying amounts of the assets and liabilities of said foreign operations in connection with an acquisition are treated as the assets and liabilities of said foreign operations and translated to euros using the exchange rates at the balance sheet date.

## Property, Plant and Equipment

Property, plant and equipment are measured at historical cost less depreciation and impairment losses. Assets of acquired companies are stated at their fair values at the date of acquisition.

Assets are depreciated using the straight-line or reducing balance method over their useful life.

The residual value of assets and their useful life are reviewed periodically in connection with each set of financial statements and the interim report and, if necessary, they are adjusted to reflect changes that have occurred in the expectations for the asset's useful life. Ordinary repair and maintenance costs are charged to the income statement during the financial year in which they incurred. Gains and losses on sales and disposals are determined by comparing the received proceeds with the carrying amount and are included in operating profit.

## Intangible Assets

### Goodwill

After January 1, 2004 the cost of goodwill is the excess of the cost of the business combination over the acquirer's interest in the net fair value of the identifiable assets. The goodwill arising from the business combinations prior to this represents the amount recorded under previous GAAP, which has been used as the deemed cost. The classification and accounting treatment of these business combinations has not been adjusted when the Group's opening IFRS balance sheet has been prepared.

Goodwill is tested annually or, if necessary, more frequently to determine any impairment. For this purpose, goodwill has been allocated to cash-generating units. The recoverable amount of a cash generating unit is compared to its carrying amount and an impairment loss is recognized if the carrying amount of the assets exceeds the recoverable amount. An impairment loss is recognized in the income statement.

### Research and Development Expenditure

Research expenditures are recorded as an expense as they are incurred. Expenditure on development activities is capitalized if they meet the criteria defined in IAS 38 Intangible Asset. Capitalized development expenses include mainly materials, supplies and direct labor costs. They are amortized on a systematic basis over their expected useful lives.

Capitalized development expenses are reviewed for potential impairment regularly by comparing the carrying amount to their recoverable amount. Significant changes in the technological environment are taken

into account. If the carrying amount of the development expenses is greater than the recoverable amount, an impairment loss is recognized immediately.

### Other Intangible Assets

Patents, trademarks, licenses and other intangible assets having a finite useful life are entered in the balance sheet and the amortized expense is recorded in the income statement over their useful life. If indications on possible impairment exist, the recoverable amount is determined and an impairment loss is recognized if necessary. Intangible assets with an indefinite useful life are not amortized but tested annually or, if necessary, more frequently to determine any impairment.

### Inventories

Inventories are stated at the lower of initial cost or net realizable value. Net realizable value is the estimated selling price in the normal course of business less the estimated costs of sale. The value of raw material inventory is determined using a weighted average cost formula. The initial cost of finished and semi-finished products comprises of raw material, direct labor and other direct expenses as well as an appropriate share of fixed and variable production overheads, based on the normal capacity of the production facilities.

### Borrowing Costs

Borrowing costs are recognized in the income statement as they accrue.

### Government Grants

Government grants are recognized when there is reasonable assurance that Group will comply with the conditions attaching to

them and the grant will be received. Government grants received from public corporations are presented as other income in the income statement.

## Leases

When the Group is a lessee, all lease contracts of property, plant and equipment, in which the Group has substantially all the risks and rewards of ownership, are classified as finance leases. A finance lease agreement is recognized in the balance sheet at an amount equal at the inception of the lease to the fair value of the leased property or, if lower, at the present value of the minimum lease payments. An asset obtained on a finance lease is depreciated over the useful life of the asset or, if shorter, the lease term. Lease obligations are included in interest-bearing liabilities.

Lease agreements in which the risks and benefits attached to ownership remain with the lessor are classified as operating leases. Lease payments under an operating lease are recognized as an expense in the income statement on a straight line basis over the lease term.

## Impairment of Assets

At each balance sheet date (including interim reports) the Group estimates whether there is any indication that an asset may be impaired. If any such indication exists, the recoverable amount of the asset is estimated. The recoverable amount is estimated annually regardless of any indication of impairment to the following assets: goodwill, intangible assets with an indefinite useful life and for intangible assets which are not yet ready for use. The recoverable amount is based on the future discounted net cash flows, which are equivalent with the expected cash flows generated by the asset.

An impairment loss is recognized whenever the carrying amount of an asset exceeds its recoverable value. The loss is booked to the income statement. A previously recognized impairment loss is reversed only if there has been a change in the estimates used to determine the recoverable amount. However, the reversal must not cause that the adjusted value is higher than the carrying amount that would have been determined if no impairment loss had been recognized in prior years. Impairment losses recognized for goodwill will under no circumstances be reversed.

## Employee Benefits

### Pension Liabilities

Group companies in different countries have pension plans in accordance with local conditions and practices. The plans are classified as either defined contribution plans or defined benefit plans.

In Finland, the Group has organized pension coverage for its staff through independent pension insurance companies.

The Finnish system under the Employees' Pensions Act and the disability portion are treated as a defined contribution plan. The contributions to defined contribution plans are charged to the income statement in the year to which they relate. After this, the Group has no other obligations for additional payment. Also the pension arrangements of the foreign subsidiaries are classified as defined contribution plans.

### Share-Based Payment

The Group has applied IFRS 2 Share-Based Payment standard. The Group has incentive plans which include equity-settled or

cash-settled share-based payment transactions. The fair value of equity-settled share-based payments granted is recognized as an employee expense with a corresponding increase in equity. The fair value of cash-settled share-based payments is valued at each reporting period closing date and the changes in fair value of liability are recognized as expense when incurred. The fair value is measured at grant date and spread over the vesting period during which the employees become unconditionally entitled to the awards.

Option rights and shares granted are measured at fair value at the time they are granted and entered as an expense in the income statement in even installments during the vesting period. The expense determined is based on the defined fair value of the stock options and shares as well as on management's estimate of the amount of options or shares to which the employee will be entitled at the end of the vesting period. The fair value of the options is determined on the basis of the Black-Scholes pricing model. The Group updates the assumption concerning the final amount of stock options and shares at each balance sheet date. Changes in the estimates are recorded in the income statement. When options are exercised, the cash payments received on the basis of share subscriptions (adjusted for any transaction expenses) are entered in the share capital (at nominal value) and in the share premium reserve.

Share-based incentives are measured at fair value at the time they are granted and entered as an expense in the income statement when right is granted.

### Provisions

A provision is recognized when the Group has a legal or constructive obligation as a

result of a past event, it is probable that a payment obligation will be realized or cause a financial loss and the amount of the obligation can be estimated reliably. Provisions can arise from restructuring plans, onerous contracts, warranty repairs and allowances and from environmental, litigation or tax risks.

The amount recognized as a provision is the best estimate of the expenditure required to settle the present obligation at the balance sheet date. If the time value of money is material, provisions will be discounted.

If a reimbursement can be obtained from a third party for part of the obligation, the reimbursement is treated as a separate asset when it is virtually certain that the reimbursement will be received.

## Taxes

Tax expense in the Group's income statement comprises the current tax and change in deferred taxes of each group company. Current tax is calculated based on the taxable income using the tax rate that is enacted in each country at the balance sheet date.

Deferred tax liability is calculated on the temporary differences between the carrying amounts and the amounts used for taxation purposes. Deferred tax assets are recognized for deductible temporary differences and tax losses to the extent that it is probable that taxable profit will be available against which tax credits and deductible temporary differences can be utilized. In calculating deferred tax liabilities and assets, the tax base which is in force at the time of preparing the financial statements or which has been enacted by the balance sheet date for the following period, has been applied.

## Revenue Recognition

Sales of goods are recognized after the significant risks and rewards that are connected with ownership have been transferred to the buyer. Neither the Group retains a continuing managerial involvement to the degree usually associated with ownership, nor effective control of those goods. Revenues from services are recorded when the service has been performed. Sales are presented net of indirect sales taxes and discounts.

Revenue from long-term construction contracts is recognized based on the stage of completion when the outcome of the project can be reliably measured. The stage of completion is measured by using the cost-to-cost method under which the percentage of completion is defined as the ratio of costs incurred to total estimated costs.

## Assets Held for Sale and Discontinued Operations

The Group classifies a non-current asset or disposal as held for sale if its carrying amount will be recovered principally through a sale transaction rather than through continuing use. Non-current assets and asset items related to discontinued operations, which are classified as held for sale, are measured at the lower of their carrying amount and fair value less costs to sell. Depreciation and amortization on these asset items is discontinued at the time of classification. Profit after tax and gain on sale of discontinued operation is presented as a separate line item in the consolidated income statement.

Profit for the year from discontinued operations is presented separately in Consolidated Statement of Comprehensive Income. Discontinued operations are disclosed in note 2.

## Financial Assets, Financial Liabilities and Derivative Contracts

### Financial Assets

The Group's financial assets are classified in accordance with IAS 39 Financial Instruments: Recognition and Measurement in the following categories: financial assets at fair value through profit or loss, held-to-maturity investments, loans and receivables and financial assets held for sale. The classification is based on the purpose for which the assets have been acquired and they are classified upon acquisition.

A financial asset is classified at fair value through profit or loss, when it has been acquired for trading purposes. The category comprises the Group's investment portfolio and all derivative contracts. The consolidated balance sheet does not contain assets that would be classified in this category upon initial recognition as allowed under the fair value option of IAS 39. Realized and unrealized gains and losses from changes in fair values are recognized in profit or loss in the financial year they are incurred. The assets are in accordance with their nature included in the non-current and current assets of the balance sheet.

Loans and receivables are assets other than derivative contracts with related payments that are fixed or determinable. They are not quoted on efficient markets and they are not held by the Group for trading purposes. They are valued at amortized cost. They are in accordance with their nature included in the current or long-term assets of the balance sheet: long-term if they fall due after more than 12 months.

The Group has not had held-to-maturity investments during the financial or the prior financial year. In case of occurrence they are valued at amortized cost.

Financial assets held for sale are assets other than derivative contracts that have particularly been classified into this category or have not been classified into any other category. They are included in the balance sheet on the basis of their estimated date of sale. Assets to be sold within 12 months are included in current assets. Such financial assets are disclosed separately in the consolidated balance sheet if their carrying amount is significant. The change in fair value of the financial assets held for sale is recognised net of tax in the revaluation fund in equity. The cumulative change in fair value recognized in equity is recognized in profit or loss when the asset is sold or the asset has been impaired and an impairment loss has to be recognized. Investments, whose fair value may not be reliably established, are valued at cost or cost adjusted for a permanent impairment loss.

Cash comprises cash on hand, bank deposits and other highly liquid investments. Assets classified as financial assets have a maximum maturity of three months from the date of acquisition.

Transaction costs are included in the cost of financial assets that are not valued at fair value through profit or loss. The purchases and sales of financial assets are recognised at the trade date.

## Financial Liabilities

Financial liabilities are initially recognized at fair value. Transaction costs are included in the initial carrying amount of financial liabilities. All financial liabilities are subsequently measured at amortised cost. Financial liabilities are included in current and non-cur-

rent liabilities and may be interest-bearing or interest-free.

The bases for determining the fair value of all financial assets and liabilities have been disclosed in notes 19, 24 and 26.

## The Impairment of Financial Assets

The Group assesses whether objective indications of the impairment of any financial assets exist at each balance sheet date. A loss is recognized in profit or loss as a recognized or probable credit loss, when there are indications that trade or loan receivables may not be collected in full. Impairment losses on trade receivables are included in other operating expenses and on loan receivables in financial expenses.

Impairment losses on financial assets recognized in the financial year are disclosed in notes 19 and 20.

## Derivative Contracts and Hedge Accounting

Derivative contracts are recognized at their fair value. Hedge accounting in accordance with IAS 39 Financial Instruments: Recognition and measurement is not applied. The change in fair value of hedging instruments is recognized in finance items in profit or loss.

The fair values of derivative contracts and the valuation methods used are disclosed in note 26.

## Significant Accounting Estimates and Judgments

The preparation of financial statements requires management to make estimates and assumptions about the future that affects the reported amounts. Used estimates

and assumptions are based on prior experience and presumptions, which reflect the circumstances and expectations prevailing at the time of the preparation of the financial statements. Materiality and judgment in assessing the effect of uncertainties and the application of accounting principles have been observed in the preparation of the financial statements.

The management has exercised judgment during the financial year in applying e.g. in assessing the future cost forecasts in the percentage of completion projects, assessing the value of intangible assets in business acquisitions and when assessing the future prospects of Group companies in conjunction with standards IAS 12 Income Taxes and IAS 36 Impairment of Assets. Based on the management judgment, the majority of the capitalized R & D investments are depreciated based on the production amounts of the goods.

Financial statements may include non-recurring income or expenses that are not related to normal operative business or that occur only infrequently. Such items are among other sales profits or losses, substantial changes in asset values, like impairment or reversal of impairment, substantial restructuring costs or other substantial items that are considered as non-recurring by the management. Substantiality of the item is based on the item's euro amount and the relative share of total value of the asset.

## The Application of New and Revised IFRS regulations

The consolidated financial statements are prepared in accordance with International Financial Reporting Standards (IFRS) effective at the end of the period. The new, revised or amended IFRS regulations did not have significant impact on the consolidated financial statements during the period.



The forthcoming revisions or amendments of the standards are not expected to have significant impact on the consolidated financial statements in the future.

IFRS 15 Revenue from Contracts with Customers, coming in force on 1st of January 2018, will provide the frame for revenue recognition. IFRS 15 will cover IAS 18 Revenue and IAS 11 Construction contracts standards. Bittium Group has started work to estimate impacts of the new standard during the financial year 2015. The new standard provides more focus especially on those contracts which include the various elements of revenue. The revenue of the different elements is recognized over a long-term

period and possibly by element basis. The Bittium Group has already noticed multi-element principles of the new standard. According to the preliminary understanding, the new standard does not make any substantial impact to the timing principles of the revenue recognition at Bittium. During the financial year 2017, the Bittium Group will specify more closely impacts to the revenue recognition, the revenue recognition process and estimate impact to the notes of the financial statement.

# Notes to the Consolidated Financial Statements

## 1. OPERATING SEGMENTS

Bittium has one reporting business segment, the Wireless business, that includes three product and service areas supporting each other. As of December 1, 2016 these areas are as follows: Defence & Security, Connectivity Solutions and Medical Technologies. (Between January 1 and November 30, 2016 these product and service areas were as follows: Defense, Special Devices, IoT Solutions and Telecom.)

Wireless business is focused on creating reliable and secure communication and connectivity solutions, as well as on developing healthcare technology solutions for biosignal measuring. For its customers Bittium offers innovative products and solutions based on its product platforms, and R&D services. Bittium also offers high quality information security solutions for mobile devices and portable computers. For customers in biosignal measuring in the areas of cardiology, neurology, rehabilitation, occupational health and sports med-

icine Bittium offers healthcare technology products and services.

The highest operative decision-making body of the company is the Board of Directors of Bittium which is responsible for allocating resources to and evaluating the results of Bittium's operating segment. Income statement and balance sheet information of the Wireless business are equivalent to corresponding information of the Bittium group.

**Wireless****Geographical areas**

Bittium operates in three geographical areas which are Europe, Americas and Asia. In presenting the geographical information, the revenue is based on the geographical location of customers. Geographical assets are based on the geographical location of the assets.

**Geographical areas****Jan. 1–Dec. 31, 2016**

1000 EUR	Finland	Other Europe	Americas	Asia	Eliminations	Group total
<b>Net sales</b>						
Sales to external customers	47 923	3 392	12 177	700		64 192
Non-current assets	28 515		223			28 738
<b>Total non-current assets *)</b>						<b>28 738</b>
*) does not include deferred tax assets						
Capital expenditure, continuing operations						
Tangible assets	8 480					8 480
Intangible assets	1 725					1 725
Goodwill	5 290		7			5 297

**Geographical areas****Jan. 1–Dec. 31, 2015**

1000 EUR	Finland	Other Europe	Americas	Asia	Eliminations	Group total
<b>Net sales</b>						
Sales to external customers	43 924	4 387	8 319	183		56 813
Non-current assets	13 005		221			13 226
<b>Total non-current assets *)</b>						<b>13 226</b>
*) does not include deferred tax assets						
Capital expenditure, continuing operations						
Tangible assets	2 341					2 341
Intangible assets	3 850					3 850
Goodwill	1 224					1 224
Capital expenditure, discontinued operations						
Tangible assets	122	1 132	126	30		1 411
Intangible assets	7	624		27		658

**Information of primary customers**

Group's revenues from the 10 largest customers in period Jan. 1–Dec. 31, 2016 were EUR 56.2 million (EUR 50.9 million in 2015) representing 87.6 percent of the net sales (89.4 percent in 2015).

# Notes to the Consolidated Financial Statements

## 2. DISCONTINUED OPERATIONS

1000 EUR	2016	2015
<b>Automotive business</b>		
Net sales		102 030
Expenses		-95 966
Profit before tax		6 064
Income tax		-2 262
Profit after tax		3 802
Profit for the sale of Automotive business		534 844
Income tax		
Profit for the sale of Automotive business after tax		534 844
<b>Profit for the year from discontinued operations (ASW)</b>	<b>0</b>	<b>538 647</b>
<b>Impact of the sale Automotive business</b>		
Property, plant and equipment		7 131
Goodwill		19 149
Other intangible assets		12 697
Receivables		58 045
Inventories		269
Cash and short-term deposits		19 969
Trade and other payables		-55 403
<b>Assets and liabilities total</b>	<b>0</b>	<b>61 856</b>
Cash received		600 000
Cash of Automotive business		-11 774
Expenses related to transaction		-3 066
<b>Cash flow impact</b>	<b>0</b>	<b>585 160</b>

1000 EUR	2016	2015
<b>Test Tools product business</b>		
Expenses		336
Profit before tax		336
Profit after tax		336
<b>Profit for the year from discontinued operations</b>	<b>0</b>	<b>336</b>

The profit for the year in Test Tools product business did not have effect on cash flow. The profit consists of reversal of provision.

**3. NET SALES**

1000 EUR	2016	2015
Income recognized from construction contracts	23 190	13 857
Net sales other	41 003	42 956
<b>Total</b>	<b>64 192</b>	<b>56 813</b>

**Construction contracts**

The contract revenue is recognized in the income statement in proportion to the stage of completion of the contract. The stage of completion is defined as the ratio of costs incurred to total estimated costs.

Income recognized as sales based on the stage of completion of long-term construction contracts	23 190	13 857
Revenue recognized from long-term construction contracts in progress amounted to	21 146	11 784
Advances received from long-term construction contracts recognized in the balance sheet amounted to	895	6 530
Receivables recognized from long-term construction contracts amounted to	2 803	1 708

**4. OTHER OPERATING INCOME**

Government grants	1 766	1 150
Other income	125	244
<b>Total</b>	<b>1 891</b>	<b>1 394</b>

**5. OTHER OPERATING EXPENSES**

External services	6 002	6 216
Voluntary staff expenses	880	844
Premises expenses	2 701	2 633
Travel expenses	1 796	1 371
IT expenses	2 434	2 306
Other expenses	6 297	4 414
<b>Total</b>	<b>20 110</b>	<b>17 784</b>

The grouping principles of comparative period numbers have changed.

**Auditors' charges**

<b>Ernst &amp; Young</b>		
Auditing	34	31
Tax advice	31	13
Other services	109	6
<b>Total</b>	<b>174</b>	<b>50</b>
<b>Others</b>		
Auditing	21	21
Tax advice	9	9
Other services	1	3
<b>Total</b>	<b>31</b>	<b>33</b>

# Notes to the Consolidated Financial Statements

1000 EUR	2016	2015
<b>6. DEPRECIATIONS AND IMPAIRMENTS</b>		
<b>Depreciations</b>		
Intangible assets		
Capitalized development expenditure	283	235
Intangible rights	744	424
Other intangible assets	73	66
Tangible assets		
Machinery and equipment	2 163	1 787
<b>Total</b>	<b>3 263</b>	<b>2 512</b>
<b>7. EMPLOYEE BENEFIT EXPENSES AND NUMBER OF PERSONNEL</b>		
<b>Number of personnel</b>		
Average number of personnel during the fiscal period		
Continuing operations	569	511
<b>Personnel expenses 1000 EUR</b>		
Personnel expenses		
Managing directors salaries	280	552
Board of directors	162	164
Expense of share-based payments		25
Other salaries and wages	28 137	23 470
<b>Total</b>	<b>28 578</b>	<b>24 211</b>
Pension expenses, defined contribution plans	5 201	4 721
Other personnel expenses	1 713	1 332
<b>Total</b>	<b>35 492</b>	<b>30 265*</b>

\* The personnel expenses are adjusted by the amount that has been activated as R&D investments into the balance sheet.

1000 EUR	2016	2015
<b>8. RESEARCH AND DEVELOPMENT EXPENSES</b>		
The research and development expenses total	6 912	7 330
Capitalized to the balance sheet	-932	-3 371
Recognition as an asset	283	235
The expensed research and development expenses recognized in the income statement amounted to	6 263	4 195
<b>9. FINANCIAL EXPENSES (NET)</b>		
Interest expenses	-89	-93
Interest income	1	90
Dividend income	0	1
Exchange gains and losses	-63	-769
Change of financial assets and liabilities at fair value through profit or loss	829	657
Other financial expenses	-75	-187
Other financial income	1	104
<b>Total</b>	<b>604</b>	<b>-196</b>
<b>10. INCOME TAXES</b>		
Income taxes, current year	-28	
Other taxes	-78	-8
Income taxes, previous years	-2	-5
Deferred taxes	467	242
<b>Total</b>	<b>359</b>	<b>229</b>
A reconciliation between the effective tax rate and domestic tax rate (20.0%) of the Group:		
<b>Profit before taxes</b>	<b>3 146</b>	<b>2 112</b>
Tax at the domestic tax rate	-629	-422
Effect of tax rates of foreign subsidiaries	2	-9
Taxes for prior years	-2	-5
Tax free income	220	979
Non-deductible expenses	-1 403	-627
Utilization of deferred tax assets from previous years	2 043	772
Reassessment of deferred tax assets	467	242
The deferred tax assets from tax losses	-265	-658
Others	-73	-43
<b>Income taxes in the consolidated income statement</b>	<b>359</b>	<b>229</b>

# Notes to the Consolidated Financial Statements

	2016	2015
<b>11. EARNINGS PER SHARE</b>		
<b>Basic</b>		
Basic earnings per share amounts are calculated by dividing net profit for the year attributable to ordinary equity holders of the parent by the weighted average number of ordinary shares outstanding during the year.		
Profit attributable to the equity holders of the parent, continuing operations (1000 €)	3 505	2 341
Profit attributable to the equity holders of the parent, discontinued operations (1000 €)		538 983
Profit attributable to the equity holders of the parent, continuing and discontinued operations (1000 €)	3 505	541 323
Weighted average number of ordinary shares during the financial year (1000 PCS)	35 670	114 983
<b>Basic earnings per share, continuing operations, €</b>	<b>0.098</b>	<b>0.020</b>
<b>Basic earnings per share, discontinued operations, €</b>	<b>0.000</b>	<b>4.687</b>
<b>Basic earnings per share, continuing and discontinued operations, €</b>	<b>0.098</b>	<b>4.708</b>
<b>Diluted</b>		
Diluted earnings per share is calculated by dividing the net profit attributable to ordinary equity holders of the parent by the weighted average number of ordinary shares outstanding during the year plus the weighted average number of ordinary shares that would be issued on the conversion of all the dilutive potential ordinary shares into ordinary shares. In 2016, the Group has no share-based payment schemes which would have a diluting effect, when the exercise price is lower than the closing share price. In 2015 the Group had the share-option plan 2008C ongoing.		
Profit attributable to the equity holders of the parent, continuing operations (1000 €)	3 505	2 341
Profit attributable to the equity holders of the parent, discontinued operations (1000 €)	0	538 983
Profit attributable to the equity holders of the parent, continuing and discontinued operations (1000 €)	3 505	541 323
Weighted average number of ordinary shares during the financial year (1000 PCS)	35 670	114 983
Effect of dilution (1000 PCS)		54
Weighted average number of ordinary shares during the financial year (1000 PCS)	35 670	115 037
<b>Diluted earnings per share, continuing operations, EUR</b>	<b>0.098</b>	<b>0.020</b>
<b>Diluted earnings per share, discontinued operations, EUR</b>	<b>0.000</b>	<b>4.685</b>
<b>Diluted earnings per share, continuing and discontinued operations, EUR</b>	<b>0.098</b>	<b>4.706</b>

## 12. PROPERTY, PLANT AND EQUIPMENT

The Group has not revalued property, plant and equipment, hence the Group has not recognized any impairment losses directly to equity or recorded any reversals of those.

1000 EUR	Dec. 31, 2016	Dec. 31, 2015
<b>Land and water</b>		
Acquisition cost Jan. 1	0	0
Additions during the period	1 091	
Acquisition cost at the end of the period	1 091	0
Carrying amount at the end of the period	1 091	0
<b>Buildings and constructsures</b>		
Acquisition cost Jan. 1	2 804	2 911
Translation differences		-18
Additions during the period	5 948	186
Acquisition of business unit	1 394	
Sale of the Automotive business		-457
Acquisition cost at the end of the period	10 145	2 623
Accumulated depreciations Jan. 1	-2 267	-1 985
Translation differences		23
Depreciation for the period	-284	-282
Depreciation for the period Automotive business		-57
Sale of the Automotive business		215
Carrying amount at the end of the period	7 595	537
No revaluations or capitalizations of interest costs have been done.		
<b>Machinery and equipment</b>		
Acquisition cost Jan. 1	42 720	59 461
Translation differences	-9	-77
Additions during the period	2 010	3 446
Acquisition of business unit	211	7
Disposals during the period	-18	-1
Sale of the Automotive business		-20 114
Transfer to assets	7	-2
Acquisition cost at the end of the period	44 921	42 720
Accumulated depreciations Jan. 1	-39 234	-49 759
Translation differences	9	120
Depreciation for the period	-1 867	-1 505
Depreciation for the period Automotive business		-1 445
Sale of the Automotive business		13 355
Depreciations on disposals	-13	-1
Carrying amount at the end of the period	3 817	3 486
<b>Advance payments</b>		
Acquisition cost Jan. 1		
Additions during the period		129
Disposals during the period		
Sale of the Automotive business		-129
Acquisition cost at the end of the period	0	0

# Notes to the Consolidated Financial Statements

1000 EUR	Dec. 31, 2016	Dec. 31, 2015
<b>Other tangible assets</b>		
Acquisition cost Jan. 1	88	88
Additions during the period		
Disposals during the period		
Acquisition cost at the end of the period	88	88
Translation differences	0	0
Carrying amount at the end of the period	88	88
<b>Property, plant and equipment total</b>		
Acquisition cost Jan. 1	45 432	62 460
Translation differences	-9	-95
Additions during the period	9 049	3 762
Acquisition of business unit	1 605	7
Disposals during the period	-18	-1
Sale of the Automotive business	0	-20 700
Transfer to assets	7	-2
Acquisition cost at the end of the period	56 066	45 432
Accumulated depreciations Jan. 1	-41 321	-51 744
Translation differences	9	143
Depreciation for the period	-2 150	-1 787
Depreciation for the period Automotive business	0	-1 502
Sale of the Automotive business	0	13 570
Depreciations on disposals	-13	-1
Carrying amount at the end of the period	12 591	4 111
<b>Finance leases</b>		
The Group had the following amounts of property, plant and equipment acquired by finance leases:		
<b>Machinery and equipment</b>		
Acquisition cost	5 793	4 860
Accumulated depreciations	-4 373	-3 495
Carrying amount at the end of the period	1 420	1 365

Additions of property, plant and equipment include assets acquired by finance leases of EUR 0.9 million in 1.1.–31.12.2016 (EU 1.1 million in 2015).

## 13. INTANGIBLE ASSETS

1000 EUR	Dec. 31, 2016	Dec. 31, 2015
<b>Capitalized development expenses</b>		
Acquisition cost Jan. 1	9 763	17 657
Additions during the period	932	3 371
Acquisition of business unit	161	275
Sale of the Automotive business		-11 539
Acquisition cost at the end of the period	10 855	9 763
Accumulated depreciations Jan. 1	-4 129	-5 417
Depreciation for the period	-283	-235
Depreciation for the period Automotive business		-759
Sale of the Automotive business		2 281
Carrying amount at the end of the period	6 443	5 634
<b>Intangible rights</b>		
Acquisition cost Jan. 1	3 769	3 679
Additions during the period	47	374
Disposals during the period		-56
Acquisition of business unit	73	
Sale of the Automotive business		-779
Transfer to assets		550
Acquisition cost at the end of the period	3 889	3 769
Accumulated depreciations Jan. 1	-2 319	-1 790
Depreciation for the period	-334	-359
Depreciation for the period Automotive business		-243
Carrying amount at the end of the period	1 237	1 377
<b>Customer relations and technology</b>		
Acquisition cost Jan. 1	524	
Acquisition of business unit	1 164	524
Acquisition cost at the end of the period	1 688	524
Accumulated depreciations Jan. 1	-73	
Depreciation for the period	-101	-73
Carrying amount at the end of the period	1 515	451

# Notes to the Consolidated Financial Statements

1000 EUR	Dec. 31, 2016	Dec. 31, 2015
<b>Other intangible assets</b>		
Acquisition cost Jan. 1	3 336	7 908
Translation differences	3	-47
Additions during the period	66	513
Disposals during the period		-3
Sale of the Automotive business		-4 482
Transfer to assets		-554
Acquisition cost at the end of the period	3 406	3 336
Accumulated depreciations Jan. 1	-3 246	-5 106
Translation differences	-3	43
Depreciation for the period	-73	-66
Depreciation for the period Automotive business		-671
Sale of the Automotive business		2 553
Carrying amount at the end of the period	84	91
<b>Advanced payments</b>		
Acquisition cost Jan. 1		69
Disposals during the period		-69
Acquisition cost at the end of the period	0	0
<b>Intangible assets total</b>		
Acquisition cost Jan. 1	17 392	29 313
Translation differences	3	-47
Additions during the period	1 045	4 258
Acquisition of business unit	1 398	799
Disposals during the period	0	-128
Sale of the Automotive business	0	-16 800
Transfer to assets	0	-3
Acquisition cost at the end of the period	19 838	17 392
Accumulated depreciations Jan. 1	-9 766	-12 312
Translation differences	-3	43
Depreciation for the period	-791	-732
Depreciation for the period Automotive business	0	-1 672
Sale of the Automotive business	0	4 834
Carrying amount at the end of the period	9 278	7 553
<b>Goodwill</b>		
Acquisition cost Jan. 1	1 440	19 343
Translation differences	7	22
Sale of the Automotive business		-19 149
Additions during the period	5 290	1 224
Carrying amount at the end of the period	6 737	1 440

**Impairment test**

The cash flow forecasts employed in impairment test calculations are based on the budgets for 2017 and the Long Range Plans (LRP) for 2018–2020 approved by management for the strategical period and management estimations for 2021. Cash flows beyond five-year period are calculated by using the terminal value method. Future cash flows are exposed to the risks that are discussed in section “Risks and uncertainties” in the Report by the Board of Directors.

The used discount rate in impairment testing is Weighted Average Cost of Capital (WACC) before tax defined for Bittium. WACC defines average costs of equity and debt by noticing the risks belonging to the each component. The components of WACC are risk-free interest rate, market risk premium, beta, cost of debt, corporate income tax rate and target capital structure. WACC calculated according to these parameters ended up to 9.8% (11.8% in 2015).

In 2016 Wireless business did not reach the cash flow forecasted in the impairment test calculation in 2015. This was mainly because of increased net working capital, investments to the business acquisition and especially investments to the construction of the new headquarter building. There were no fundamental changes in the business environment that would make an impact to the cash flow expectations compared to the previous financial year.

The impairment test is done when needed, but at least once a year. Impairment tests made in December 2016 did not indicate need for impairment bookings. Recoverable amounts exceed significantly the book value of goodwill and other assets. The terminal value represents 95% of business value. Investments to the development of a new products and the construction to the new headquarter building move focus of forecasted net present value based cash flows from the near future to further in the future.

Sensitivity analysis was also carried out during the impairment test. Cash flow forecast was either decreased by 20% or the discount factor was increased by 5%. It was noticed that cash flows are relatively sensitive to increase in discount factor. However, there are no expectations for impairment losses in the future.

# Notes to the Consolidated Financial Statements

## 14. ACQUISITIONS

November 10, 2016 Bittium Technologies Ltd, a subsidiary of Bittium Corporation acquired the ownership in Mega Electronics Ltd, specialized in healthcare technology, by purchasing 100 percent of the shares in Remega Ltd. Mega Electronics Ltd is a fully owned subsidiary of Remega Ltd. Mega Electronics Ltd owned 28.2 percent of the shares in MegaKoto Ltd, a company specialized in healthcare services, and was signed binding share purchase agreements to acquire 100 percent of the shares in MegaKoto Ltd. The acquisition of the rest of the shares in MegaKoto Ltd was completed as planned.

Their consolidated proforma net sales was approximately EUR 3.1 million in 2015 and pro forma operating profit was approximately EUR 0.2 million. The companies employ altogether 28 persons and are located in Kuopio, Finland.

The debt free cash purchase price of the share acquisition, including the purchase price of MegaKoto shares, was EUR 8.0 million, which was adjusted based on the level of cash, debt and networking capital of the acquired companies as of completion of the acquisition. In addition to the aforementioned purchase price, an additional

purchase price, capped at EUR 1.0 million, is payable upon the achievement of certain financial performance targets for the acquired business between January 1, 2017 and December 31, 2018. The potential additional purchase price will be paid in cash after achieving the goals.

The net assets of the company on the acquisition date were:

1000 EUR	2016
Assets	
Intangible assets	1 398
Tangible assets	1 605
Investments	10
Inventories	1 379
Receivables	649
Cash	106
<b>Assets total</b>	<b>5 148</b>
Provisions	
Non-current loan	1 575
Other liabilities	1 396
<b>Liabilities total</b>	<b>2 972</b>
<b>Net assets</b>	<b>2 176</b>
Goodwill	5 290
<b>Purchase price</b>	<b>7 466</b>

On January 2, 2015 Bittium Technologies Ltd, a subsidiary of Bittium Corporation acquired 100 percent of the shares of Birdstep Technology Oy, which was a fully owned Finnish subsidiary of Birdstep Technology ASA, based in Norway. The acquired com-

pany's SafeMove business provides its customers high quality information security solutions for mobile devices and portable computers. The acquisition strengthened the competitiveness of Bittium as a provider of secure communication solutions for

defence, safety and other authorities markets. The company employs 19 persons located in Espoo, Finland. The debt free cash purchase price was EUR 1.8 million.

The net assets of the company on the acquisition date were:

1000 EUR	2015
Assets	
Intangible assets	799
Tangible assets	7
Receivables	466
Cash	19
<b>Assets total</b>	<b>1 291</b>
Provisions	27
Non-current loan	76
Other liabilities	591
<b>Liabilities total</b>	<b>695</b>
<b>Net assets</b>	<b>596</b>
Goodwill	1 224
<b>Purchase price</b>	<b>1 820</b>

# Notes to the Consolidated Financial Statements

## 15. OTHER FINANCIAL ASSETS

1000 EUR	2016	2015
At 1 January	122	123
Additions	10	
Disposals related to discontinued operations		-2
At the closing date	132	122

## 16. DEFERRED TAX LIABILITIES AND ASSETS

1000 EUR	Jan. 1, 2016	Recognized in the income statement	Recognized in equity	Translation difference	Acquisitions and disposals of subsidiaries	Dec. 31, 2016
<b>Deferred tax assets</b>						
Unutilized losses in taxation	0	360				360
Other items	1156					1156
<b>Total</b>	<b>1156</b>	<b>360</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1516</b>

On December 31, 2016 the Group had 79.5 million euros tax losses and non-depreciated depreciations of from which it had not booked deferred tax receivables due to the uncertainty of the future profits, their timing, taxation or location. The amount of these non booked deferred tax receivables is approximately 16.4 million euros. The aging of these tax losses begins from year 2017.

1000 EUR	Jan. 1, 2016	Recognized in the income statement	Recognized in equity	Translation difference	Acquisitions and disposals of subsidiaries	Dec. 31, 2016
<b>Deferred tax liabilities</b>						
Customer and technology assets	90	-83			454	461
<b>Total</b>	<b>90</b>	<b>-83</b>	<b>0</b>	<b>0</b>	<b>454</b>	<b>461</b>

1000 EUR	Jan. 1, 2015	Recognized in the income statement	Recognized in equity	Translation difference	Acquisitions and disposals of subsidiaries	Dec. 31, 2015
<b>Deferred tax assets</b>						
Unutilized losses in taxation	322				-322	0
Other items	1 343	227			-414	1 156
<b>Total</b>	<b>1 665</b>	<b>227</b>	<b>0</b>	<b>0</b>	<b>-735</b>	<b>1 156</b>

On December 31, 2015 the Group had 78.9 million euros tax losses and non-depreciated depreciations of from which it had not booked deferred tax receivables due to the uncertainty of the future profits, their timing, taxation or location. The amount of these non booked deferred tax receivables is approximately 16.2 million euros. The aging of these tax losses begins from year 2017.

1000 EUR	Jan. 1, 2015	Recognized in the income statement	Recognized in equity	Translation difference	Acquisitions and disposals of subsidiaries	Dec. 31, 2015
<b>Deferred tax liabilities</b>						
Deferred tax liabilities, temporary differences	549				-549	0
Customer and technology assets		-15			105	90
<b>Total</b>	<b>549</b>	<b>-15</b>	<b>0</b>	<b>0</b>	<b>-444</b>	<b>90</b>

# Notes to the Consolidated Financial Statements

## 17. INVENTORIES

1000 EUR	Dec. 31, 2016	Dec. 31, 2015
Raw materials and supplies	2 179	1 137
Work in progress	790	190
Finished products	1 089	862
Other inventories	39	
<b>Total</b>	<b>4 097</b>	<b>2 190</b>

## 18. TRADE AND OTHER RECEIVABLES (CURRENT)

1000 EUR	Dec. 31, 2016	Dec. 31, 2015
Trade receivables	18 285	16 590
Receivables from construction contracts	2 803	1 708
Prepaid expenses and accrued income	2 327	1 520
Other receivables	603	137
<b>Total</b>	<b>24 018</b>	<b>19 956</b>

Receivables are valued at nominal value or probable current value, whichever is lower.

During the financial year group has booked impairment losses from accounts receivable EUR 0.0 million (EUR 0.1 million 2015).

Age distribution of accounts receivable		
Current	14 572	11 295
Aged Overdue Amounts		
0–3 months	3 703	5 283
4–6 months		0
7–12 months	10	13
> 12 months		
<b>Total</b>	<b>18 285</b>	<b>16 590</b>

**19. FINANCIAL ASSETS AT FAIR VALUE THROUGH PROFIT OR LOSS**

1000 EUR	Dec. 31, 2016	Dec. 31, 2015
<b>Currency derivatives</b>		
Balance sheet value on Jan. 1	67	0
Additions		67
Changes in fair-value	-67	
Balance sheet value at the end of the period	0	67
<b>Interest rate funds</b>		
Balance sheet value on Jan. 1	66 032	20 991
Additions		50 000
Disposals		-5 300
Changes in fair-value	903	342
Balance sheet value at the end of the period	66 935	66 032
<b>Financial assets at fair value through profit or loss total</b>		
Balance sheet value on Jan. 1	66 100	20 991
Additions	0	50 067
Disposals	0	-5 300
Changes in fair-value	836	342
Balance sheet value at the end of the period	66 935	66 100
<b>20. CASH AND SHORT-TERM DEPOSITS</b>		
Cash and short-term deposits	27 987	56 751
<b>Total</b>	<b>27 987</b>	<b>56 751</b>
<b>Cash and cash equivalents at consolidated cash flow statement consist of:</b>		
Interest rate funds	66 935	66 032
Cash and short-term deposits	27 987	56 751
<b>Total</b>	<b>94 922</b>	<b>122 783</b>

Fair value of cash and cash equivalents does not significantly differ from the carrying amount.

# Notes to the Consolidated Financial Statements

## 21. ISSUED CAPITAL AND RESERVES

	Shares 1000 PCS	Share premium 1000 EUR	Premium fund 1000 EUR	Invested non-restricted equity fund 1000 EUR	Total 1000 EUR
On December 31, 2015	35 600	12 941	0	25 923	38 864
Share subscriptions pursuant Directed share issue without consideration	55 38			31	31
On December 31, 2016	35 693	12 941	0	25 953	38 894

### Shares and the Share Capital

The shares of Bittium Corporation are listed on the Nasdaq Helsinki Ltd. The Corporation has one series of shares. All the shares entitle their holders to dividends of equal value. Each share has one vote. The share does not have a nominal value. The company's shares have been entered into the Finnish Central Securities Depository Ltd's book-entry securities system.

At the end of the financial period, the fully paid share capital of the company entered into the Finnish Trade Register was EUR 12,941,269.00 and the total number of the shares was 35 693 166. The accounting per value of the company's share is EUR 0.10. The company is not in the possession of its own shares.

### Translation differences

The translation reserve comprises all foreign exchange differences arising from the transition of the financial statements of foreign subsidiaries.

### Dividends

The Board of Directors proposes that the Annual General Meeting resolve to pay EUR 0.05 per share as dividend and EUR 0.25 of additional dividend per share based on the adopted balance sheet for the financial period of January 1, 2016–December 31, 2016.

## 22. SHARE-BASED PAYMENT PLANS

### Stock Options

The Annual General Meeting of March 14, 2008, decided to issue stock options to Bittium (former Elektrobit) key personnel. The maximum number of stock options was 4,200,000, of which 1,400,000 was marked with the symbol 2008A, 1,400,000 was marked with the symbol 2008B and 1,400,000 was marked with the symbol 2008C. The stock options entitled to subscription of a maximum total of 4,200,000 new shares of the company or treasury

shares. The proportion of the shares that could be subscribed using the stock options to be issued was a maximum total of 3.1 percent of the company's shares and associated voting rights after a possible share subscription, were new shares to be issued in the subscription. The subscription price for the shares to be subscribed based on the stock options was based on the prevailing market value of the Bittium Corporation share at Nasdaq Helsinki. in Janu-

ary 2009, January 2010 and January 2011. The subscription price was recorded in the fund for invested unrestricted equity. The share subscription period for stock options 2008A ended in 2014. The share subscription period for stock options 2008B 1 April 2013–31 March 2015, and for stock options 2008C 1 April 2014–31 March 2016 ended during the financial years 2015 and 2016.

### Share-option plan 2008B

Share-based options, granted for key personnel

Nature of arrangement	Granted share-options
Grant date	May 31, 2010
Number of instruments granted 1000 PCS	1134
Exercise price, EUR	0.73
Share price at the grant date, EUR	1.05
Contractual life of the options (years)	4.9
Vesting conditions	
Settlement method	Shares
Expected volatility (%)	44%
Expected contractual life of the options (years)	4.9
Risk-free interest rate (%)	2.65%
Dividend yield (%)	0
Expected early exercise (at grant date)	0
Market conditions (at grant date)	
Fair-value of the options at the grant date	
Option pricing model	Black-Scholes

	Number of options Dec. 31, 2015
<b>1000 pcs</b>	
Outstanding at the beginning of the period	518
Granted during the period	
Forfeited during the period	
Exercised during the period	-411
Expired during the period	-107
Outstanding at the end of the period	0
Exercisable at the end of the period	0

# Notes to the Consolidated Financial Statements

## Share-option plan 2008C

Share-based options, granted for key personnel

Nature of arrangement	Granted share-options
Grant date	Aug. 19, 2011
Number of instruments granted 1000 PCS	740
Exercise price, EUR	0.61
Share price at the grant date, EUR	0.56
Contractual life of the options (years)	4.7
Vesting conditions	
Settlement method	Shares
Expected volatility (%)	45%
Expected contractual life of the options (years)	4.7
Risk-free interest rate (%)	2.07%
Dividend yield (%)	0
Expected early exercise (at grant date)	0
Market conditions (at grant date)	
Fair-value of the options at the grant date	
Option pricing model	Black-Scholes

1000 pcs	Number of options	Number of options
	Dec. 31, 2016	Dec. 31, 2015
Outstanding at the beginning of the period	61	868
Granted during the period		300
Forfeited during the period		
Exercised during the period	-55	-941
Expired/void during the period	-5	-167
Outstanding at the end of the period	0	61
Exercisable at the end of the period	0	61

## Shares

During the financial year Bittium group had a share-based incentive arrangement which was targeted to the key employees of the group. According to the rules of the incentive program the parent company has given the new shares by the directed share issue without consideration. The main terms of the incentive arrangement are presented in the table below.

### Share-based incentive of the key employees

Form of the reward	Shares
Grant date	March 22, 2016
Total amount of the executed shares	37 500
Share price at the grant date, EUR	6.45
Total expenses of the reward, EUR million	0.3
Vesting conditions	Ownership of the shares was transferred to the recipients at once but the recipients have agreed the lock-up undertaking until the end of 2018
Execution	In shares

During the financial year the group paid 40% of total remuneration of the Board of Directors of Bittium Corporation by the shares of Bittium Corporation. The shares were acquired from the stock exchange. The main terms of the remuneration arrangement are presented in the table below.

### Share-based remuneration of the board of directors

Form of the reward	Shares
Grant date	Sept. 21, 2016
Total amount of the executed shares	7 884
Share price at the grant date, EUR	6.79
Total expenses of the reward, EUR million	0.1
Vesting conditions	Ownership of the shares was transferred to the recipients at once but the recipients have agreed the lock-up undertaking until the membership in the board have ceased.
Execution	In shares

## 23. PROVISIONS

1000 EUR	Unprofitable			Total
	Guarantee provisions	rental agreements	Others	
December 31, 2015	760	257	1 337	2 354
Increase in provisions	286		144	431
Utilized provisions	-13	-4	-236	-253
Reversal of unutilized provisions		-253		-253
<b>Dec. 31, 2016</b>	<b>1 033</b>	<b>0</b>	<b>1 245</b>	<b>2 278</b>
Non-current provisions			39	39
Current provisions	1 033		1 206	2 239
<b>Total</b>	<b>1 033</b>	<b>0</b>	<b>1 245</b>	<b>2 278</b>

# Notes to the Consolidated Financial Statements

## 24. FINANCIAL LIABILITIES

1000 EUR	Dec. 31, 2016	Dec. 31, 2015
<b>Non-current loans</b>		
Bank loans	1 325	
Finance lease liabilities	631	745
<b>Total</b>	<b>1 956</b>	<b>745</b>
<b>Current loans</b>		
Bank loans		
Finance lease liabilities	825	658
Repayments of non-current bank loans	372	
<b>Total</b>	<b>1 198</b>	<b>658</b>
Repayment schedule of long-term loans:		
2017		500
2018	743	167
2019	411	59
2020	327	
Later	475	19
<b>Total</b>	<b>1 956</b>	<b>745</b>

The interest on loans fall due every quarter.

Their impact on the cash flow of the Group is not material.

The interest-bearing non-current loans are distributed by currency as follows:

1000 EUR	Dec. 31, 2016	Dec. 31, 2015
EUR	1 956	745
<b>Total</b>	<b>1 956</b>	<b>745</b>

The interest-bearing current loans are distributed by currency as follows:

1000 EUR	Dec. 31, 2016	Dec. 31, 2015
EUR	1 198	658
<b>Total</b>	<b>1 198</b>	<b>658</b>

Maturities of the finance lease liabilities:

1000 EUR	Dec. 31, 2016	Dec. 31, 2015
Finance lease liabilities - minimum lease payments	1 501	1 460
Within one year	857	694
After one year but no more than five years	645	766
After five years	0	0
Finance lease liabilities - Present value of minimum lease payments	1 456	1 403
Within one year	825	658
After one year but no more than five years	631	745
After five years	0	0
Future finance charges	46	57
Total amount of finance lease liabilities	1 501	1 460

## 25. TRADE AND OTHER PAYABLES

1000 EUR	Dec. 31, 2016	Dec. 31, 2015
<b>Non-current liabilities</b>		
<b>Other non-current liabilities, non-interest bearing</b>		
Non-current advances received	102	
Other non-current liabilities, non-interest bearing	500	
<b>Total</b>	<b>602</b>	<b>0</b>
<b>Current liabilities</b>		
<b>Trade and other payables</b>		
Trade liabilities	3 711	3 714
Accrued liabilities, deferred income	6 643	5 417
Other liabilities	5 822	8 818
<b>Total</b>	<b>16 176</b>	<b>17 948</b>
Material of accrued expenses and deferred income consist of personnel expenses and other accruals.		
Fair value of the other liabilities than derivatives doesn't significantly differ from the initial carrying value, because the impact on discounting is not significant when taking into account the maturities of the loans.		
<b>Financial liabilities at fair value through profit or loss</b>		
Liabilities based on derivatives		
Balance sheet value on Jan. 1	0	248
<b>Changes in fair-value</b>	<b>6</b>	<b>-248</b>
<b>Balance sheet value at the end of the period</b>	<b>6</b>	<b>0</b>

# Notes to the Consolidated Financial Statements

## 26. FINANCIAL RISK MANAGEMENT

Under its normal business activities, Bittium Corporation is exposed to several financial risks. The primary financial risks are foreign exchange rate risk, interest rate risk, investment risk and default risk. The goal of the Group's financial risk management function is to reduce adverse effects of price fluctuations and other uncertainties on earnings, balance sheet and cash flows as well as to ensure sufficient liquidity. In its risk management, the Group uses financial instruments such as forward exchange agreements, currency options and interest rate swaps. External professional portfolio managers are employed for investing activities.

The Group's general risk management principles are approved by the Board of Directors. The responsibility for their implementation lies with the parent company together with operational units. The parent company identifies and assesses risks and obtains relevant financial instruments for hedging them in close cooperation with the operative units. Management evaluates risk concentrations from the viewpoint of business activities, taking into consideration shared factors between underlying variables such as those arising from changes in economic conditions or other variables. Operations and funding programs executed in the financial markets are mainly concentrated into the parent company. Subsidiaries are mainly funded through intra-company loans and group account overdraft credit limits.

The Group's financial risks are divided into market, default and liquidity risk.

### Market risks

Market risks are caused by changes in foreign exchange rates, interest rates and the price of securities. Fluctuations in these may have an impact on the Group's income statement, cash flow or balance sheet.

### Foreign exchange rate risk

The Group operates globally and is exposed to transaction risk from foreign exchange positions as well as to risks due to the translation of investments in different currencies to the functional currency of the parent company. The most relevant currencies for the Group are the Euro and the US dollar. Foreign exchange rate risk is caused by commercial activities, monetary items on the balance sheet and net investments in foreign subsidiaries. A business unit's functional currency or generally used currencies (EUR, USD) are used as invoicing currency. Additional information on functional currency and foreign currency conversion is available in the accounting principles section of the consolidated financial statements.

The Group follows a currency strategy that aims at securing the margin of business activities in changing market conditions by minimizing the effect of fluctuations in foreign exchange rates. According to the principles of the currency strategy, surely considered and the most probable net cash flow in particular currency is hedged. The cash flow is defined based on the net position of the trade receivables, trade payables, order intake and forecasted net currency cash flow. The Group does not apply hedge accounting as defined in the IAS 39 standard. According to the currency strategy the degree of hedging can vary from

approximately 25% to 125% of the forecasted net position. At the end of the financial period, the counter value of the hedged net position was EUR 5.0 million. During the financial year the amount of the hedged position has been changing between EUR 0.0–5.0 million.

The Group has hedged the transaction risk related to its income statement and as a principal rule has not hedged the translation risk related to equity on the balance sheet. Foreign currencies denominated equities of foreign subsidiaries on December 31, 2016 was EUR 3.2 million (EUR 3.2 million in 2015) from which dollar denominated equities of foreign subsidiaries was EUR 1.8 million (EUR 1.8 million in 2015).

On the closing date, the Group had the following foreign exchange derivative contract nominal amounts outstanding (the nominal amounts do not represent the amounts exchanged by the parties):

1000 EUR	2016	2015
Forward contracts		
Market value	-6	67
Nominal value	5 000	2 500

Dollar denominated assets and liabilities translated to euros using the closing date's value:

1000 EUR	2016	2015
Long-term assets	1	5
Long-term liabilities	759	735
Current assets	2 676	2 964
Current liabilities	111	392

The table below describes the 10% appreciation or depreciation of the Euro against the US dollar, other variables remaining constant. The sensitivity analysis is based on foreign currency denominated assets and liabilities as of the closing date. The change in dollar denominated trade receivables and debt would primarily have been due to fluctuations in the foreign exchange rate.

1000 EUR	Changes in income statement before tax		Changes in equity before tax	
	2016	2015	2016	2015
EUR appreciates	-200	-200	-200	-200
EUR depreciates	200	200	200	200

# Notes to the Consolidated Financial Statements

## Interest rate risk

Part of the Group's debt is tied to fixed interest rates. At the closing date, the Group had the following fixed interest rate debts outstanding:

1000 EUR	2016	2015
Fixed interest rate debts	2 063	1 403

The table below describes the interest rate risk of debts if there has been  $\pm 1\%$  change in interest rates of short term reference interest rate debts, other variables remaining constant. The figures presented indicate the change in yearly interest expense calculated using the average amount of debt during the financial period.

1000 EUR	Changes in income statement before tax		Changes in equity before tax	
	2016	2015	2016	2015
Loan stock January, 1	1 400	8 300		
Loan stock December, 31	3 200	1 400		
Average loan stock	2 300	4 900		
Change in interest	+/- 0	+/- 0	+/- 0	+/- 0

## Market risk of investment activities

The Group's interest investments result in interest rate exposure, but their effect is not considered significant. The Group's revenue and operative cash flows are mainly independent of market rate fluctuations.

The Group invests in low-risk interest rate funds and therefore it has not been exposed to security price risk of fluctuations in the stock markets. According to the Group's principles, investments related to cash management are made in liquid and low-

risk money market or bond instruments and thus have not been hedged using derivatives.

The table below describes the distribution of investments in securities on the closing date.

	2016	2015
Stock shares	0.0%	0.0%
Bonds	65.2%	68.3%
Money market investments	34.8%	31.7%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>

The combined value of the above instruments during the financial period has ranged from approximately EUR 66.0 to EUR 66.9 million. On closing date their value was approximately EUR 66.9 million. This risk concentration has been managed by investing in well spread and low-risk money market funds.

The table below describes the price risk of the investments if they had exhibited a  $\pm 1\%$  change in a market rate of interest, other variables remaining constant. Financial assets that are recognized at market value in the income statement affect net income. Changes in the value of for-sale financial assets affect equity. In the calculations it

is presumed that the Group's investments change with the interest rate level in question. The sensitivity analysis describes the total market risk of investment activity because all investments are in the interest rate instruments.

1000 EUR	Changes in income statement before tax		Changes in equity before tax	
	2016	2015	2016	2015
Interest investments	+/- 400	+/- 400	+/- 400	+/- 400

#### Default risk

Group's credit risks are mainly related to accounts receivable, cash, financial investments and derivatives used in hedging. In its deposit, financial investment and hedging activities Bittium operates only with well-known partners who have good credit rating.

About 87% of the Group's trade receivables are from ten customers. The other trade receivables are distributed among a wide customer base and across several geographical areas. Credit risk is mitigated for example by documentary credits or bank guarantees when needed. Default risk concentration is mainly assessed as a single customer's share of total trade receivables but also according to the receivables' date of maturity.

Group's significant default risk concentration is EUR 0.0 million which represents approximately 0.0% of the total accounts receivable.

During the past financial year, the amount of recognized credit losses was approximately EUR 0.0 million (EUR 0.1 million in 2015). Group did not have capital loans granted to outside Group at the end of 2016 (EUR 0.0 million in 2015).

The amount of the Group's counterparty default risk is consistent with the book value of financial assets at the closing date. For the maturity distribution of trade receivables, see note 18.

#### Liquidity risk

The Group and business segments strive to continuously evaluate and monitor the amount of liquid funds needed for business operations and loan repayments. The Group strives to guarantee the availability and flexibility of financing by its strong financial position and liquid investments. The Group has also EUR 10.2 million credit facility agreement with Nordea Bank Finland Plc and EUR 10.0 million credit facility agreement with Pohjola Bank Plc. From these agreements, intended for general financing purposes, EUR 20.0 million are valid until June 30, 2017 and EUR 0.2 million until September 29, 2017. The agreements include conventional covenants that are, among others, related to equity ratio, transfer and pledge of the assets. These credit facilities were in use EUR 0.1 million at the end of the reporting period. For the maturity distribution of the Group's debt, see note 24.

#### Capital structure management

The Group strives to optimize its capital structure and thus support business activities by ensuring normal operating conditions under all circumstances. An optimal capital structure also ensures that the cost of capital is minimized.

The capital structure is affected by dividend policy and share issuance. The Group can alter and adjust dividends paid to shareholders as well as share repurchases. The Group can also alter and adjust the amount of shares issued, or make decisions on the sale of assets.

The management has continuously monitored the development of the Group's net gearing and solvency ratio. The Group's interest bearing net debt at the end of 2016 was EUR -91.8 million (EUR -121.4 million in 2015) and net gearing was -70.3% (-88.2% in 2015). The Group's solvency ratio at the end of 2016 was 87.0% (90.5% in 2015).

# Notes to the Consolidated Financial Statements

## Fair values of financial assets and liabilities

This section presents the Group's fair valuing principles for all financial instruments. The table below presents book values for each item in detail. Their fair values are not considered to materially differ from the book values presented in the consolidated balance sheets.

1000 EUR	Note	Book value 2016	Fair value 2016	Book value 2015	Fair value 2015
<b>Financial assets</b>					
Other financial assets	15	132	132	122	122
Trade receivables and other receivables	18	24 018	24 018	19 956	19 956
Financial assets at fair value through profit or loss	19	66 935	66 935	66 032	66 032
Cash and cash equivalents	20	27 987	27 987	56 751	56 751
Currency forwards and options	19			67	67
<b>Financial liabilities</b>					
Bank loans	24	1 698	1 698		
Finance lease liabilities	24	1 456	1 456	1 403	1 403
Trade payables and other debts	16, 23, 25	19 518	19 518	20 392	20 392
Currency forwards and options	26	6	6		

### Investments in shares and funds and other investments

For-sale financial assets consist mainly of money market investments that fair values are based on the quotes of the closing day (IFRS 7 fair value hierarchy level 1; quoted prices (unadjusted) in active markets for identical assets or liabilities).

### Derivatives

The fair values of forward exchange and option contracts are defined based on publicly quoted currency and interest rate information and using commonly accepted valuation methods (IFRS 7 fair value hierarchy level 2; instruments whose fair value is observable either directly (i.e. as prices) or indirectly (i.e. derived from prices)). These calculations have been carried out by an outside professional party.

### Bank loans

Book values are considered to closely approximate fair values.

### Finance lease liabilities

Book values are considered to closely approximate fair values.

### Trade receivables and other receivables

The original book value of receivables is considered to equal their fair values, since the effect of discounting is non-significant considering the maturities of the receivables.

### Trade payables and other debts

The original book value of payables and other debts is considered to equal their fair values, since the effect of discounting is non-significant considering the maturities of the receivables.

**27. ADJUSTMENTS TO NET CASH FROM OPERATING ACTIVITIES**

1000 EUR	Dec. 31, 2016	Dec. 31, 2015
Business transactions without payments		
Depreciations	3 263	5 686
Employee benefits	246	63
Shares in subsidiaries		-538 144
Other adjustments	-1 076	670
<b>Total</b>	<b>2 434</b>	<b>-531 725</b>

**28. OPERATING LEASE AGREEMENTS****The Group as lessee**

The total of future minimum lease payments under non-cancellable operating leases for each of the following periods:

1000 EUR	Dec. 31, 2016	Dec. 31, 2015
Not later than one year	2 169	2 267
Later than one year and not later than five years	222	2 303

The Group has rented nearly all of its facilities. In average the maturities of the lease agreements are from 1 month to 3 years and normally they include an option to extend the rental period from originally agreed end date.

**The Group as lessor**

The Group has leased the excess office and production facilities with lease agreements valid until further notice.

# Notes to the Consolidated Financial Statements

## 29. SECURITIES AND CONTINGENT LIABILITIES

1000 EUR	Dec. 31, 2016	Dec. 31, 2015
Against own liabilities		
Floating charges	3 607	1 500
Guarantees	2 281	5 649
Rental liabilities		
Falling due in the next year	2 169	2 267
Falling due after one year	222	2 303
Other contractual liabilities		
Falling due in the next year	2 078	2 157
Falling due after one year	33	409
Mortgages are pledged for liabilities totaled		
Loans from financial institutions	3 216	2 009
Material purchase commitments	3 603	1 443

## 30. RELATED PARTY DISCLOSURES

The Group has the following structure:

	Country of incorporation	Owned by Parent %	Owned by Group %
<b>Parent</b>			
Bittium Corporation	Finland		
<b>Subsidiaries</b>			
Bittium Technologies Ltd.	Finland	100.00	100.00
Bittium Wireless Ltd.	Finland	0.00	100.00
Bittium Safemove Ltd.	Finland	0.00	100.00
Bittium Remega Ltd.	Finland	0.00	100.00
Bittium Biosignals Ltd.	Finland	0.00	100.00
Bittium Medanalytics Ltd.	Finland	0.00	100.00
Kiinteistöosakeyhtiö Oulun Ritaharjuntie 1	Finland	0.00	100.00
Bittium Mexico S.A. de C.V.	Mexico	0.00	100.00
Bittium USA, Inc.	USA	0.00	100.00
Bittium Technology (Beijing) Co. Ltd.	China	0.00	100.00
Bittium Singapore Pte. Ltd.	Singapore	0.00	100.00

1000 EUR	2016	2015
<b>Employee benefits for key management</b>		
Salaries and remuneration		
Managing director of the parent		
Hannu Huttunen 7.8.–31.12.2015, 1.1.–31.12.2016	214	82
Jukka Harju 1.1.–6.8.2015		470
<b>Total</b>	<b>214</b>	<b>552</b>
Remuneration of the members of the board of the parent, the financial committee and the managing directors of the business segments		
Jorma Halonen 1.1.–4.11.2015		20
Matti Lainema 1.1.–4.11.2015		5
Juha Hulkko 1.1.–4.11.2015		20
Seppo Laine 1.1.–4.11.2015		37
Staffan Simberg 1.1.–31.12.2015, 1.1.–31.12.2016	21	34
Erkki Veikkolainen 1.1.–31.12.2015, 1.1.–31.12.2016	31	36
Kirsi Komi 5.11.–31.12.2015, 1.1.–31.12.2016	20	4
Juha Putkiranta 5.11.–31.12.2015, 1.1.–31.12.2016	18	4
Seppo Mäkinen 5.11.–31.12.2015, 1.1.–31.12.2016	18	4
<b>Total</b>	<b>107</b>	<b>164</b>
<b>Share-based incentives</b>	<b>300</b>	
<b>Total</b>	<b>300</b>	
The share-based incentives include the total amount of share-based incentive payments for the managing director, members of the board and members of the group executive board.		
There have not been any business transactions or open balances between the related parties.		
<b>Members of the group executive board</b>	<b>929</b>	<b>852</b>
<b>Loans and guarantees to related party</b>		
There are no loans or guarantees granted between the related parties		
<b>Stock option expenses</b>		<b>17</b>

# Notes to the Consolidated Financial Statements

## 31. SIGNIFICANT EVENTS DURING THE REPORTING PERIOD

A total of 55,498 new shares in Bittium Corporation were subscribed for between December 1, 2015 and March 31, 2016 by virtue of the option rights 2008C. The share subscription price, EUR 30,523.90 was recorded in the company's invested non-restricted equity fund. The corresponding increases in the number of the company's shares were entered into the Finnish Trade Register on February 10, 2016 and April 14, 2016. Shareholder rights by virtue of the new shares commenced as of the above-mentioned registration entry date. Trading with the newly registered shares started on February 11, 2016 and April 15, 2016 as an additional lot of Bittium Corporation's shares in Nasdaq Helsinki Ltd. The share subscription period for stock options 2008C ended on March 31, 2016.

The Board of Directors of Bittium Corporation decided on March 22, 2016 on a directed share issue without consideration as reward payments to the key persons of the company. In the share issue a maximum of 58,000 new shares was issued without consideration to the key persons entitled to share rewards according to the terms and conditions relating to the share rewards. A total of 9 people belonging to the management and personnel of the company were in the target group of the payment. Of the maximum of 58,000 shares offered in the share issue, 37,500 shares were subscribed. The 37,500 shares issued in the share issue were registered with the Trade Register and registered on the book-entry accounts of the recipients of the shares on March 24, 2016 and became subject to trading on the trading list of Nasdaq Helsinki on March 29, 2016. After the registration of the new shares, the number of shares in Bittium Corporation's totaled to 35,693,166.

On April 27, 2016 Bittium appointed M.Sc. Sami Kotkajuuri (b. 1967) as Vice President, Business Development as of May 1, 2016. Mr. Kotkajuuri has been working for Bittium

since 2009. M.Sc. Klaus Mäntysaari (b. 1966) was appointed as Vice President, Connectivity Solutions as of May 1, 2016. Mr. Mäntysaari has been working for Bittium since 2004. In the Connectivity Solutions product and service area Bittium offers R&D services and customized solutions for the wireless communications market as well as for other companies needing wireless connectivity in their devices.

On October 5, Bittium announced to have received information, according to which, a significant customer cooperation with a global network equipment manufacturer will reduce during 2017. According to the information received, if the planned actions of the customer will materialize in full, these actions might have a negative effect on Bittium's net sales and operating result in 2017. The reduction of the cooperation did not have an effect on Bittium's outlook for the year 2016.

Bittium told that as part of the strategy work, it will evaluate the effects of the reduction of the cooperation on the financial targets given on July 1, 2015 in connection with company's strategic guidelines. These financial targets published were as follows: The target during 2015–2017 is to grow the net sales at least 10 percent annually and reach EBIT level 10 percent of net sales at the latest in 2017. Bittium targets, by the year 2017, to clearly increase the share of net sales generated from own products and product platforms, from the 26.7 percent level of net sales in 2014.

On November 10, 2016 Bittium announced to expand its technology competence by acquiring Mega Electronics Ltd and MegaKoto Ltd specialized in healthcare technology and services by purchasing 100 percent of the shares in Remega Ltd. Mega Electronics Ltd was a fully owned subsidiary of Remega Ltd. Mega Electronics Ltd owned 28.2 percent of the shares in MegaKoto Ltd,

a company specialized in healthcare services, and had signed a binding share purchase agreements to acquire 100 percent of the shares in MegaKoto Ltd. The acquisition of the shares in MegaKoto Ltd was completed as planned.

Mega Electronics Ltd (now Bittium Biosignals Ltd), founded in 1983, is a Finnish ISO13485 certified medical device manufacturing company. The company is specialized in biosignal measuring for cardiology, neurology, rehabilitation, occupational health and sports medicine. MegaKoto Ltd (now Bittium Medanalytics Ltd) provides comprehensive arrhythmia monitoring services for its customers such as primary care centers, private clinics and hospitals.

The pro forma net sales of Remega group and MegaKoto Ltd was approximately EUR 3.1 million in 2015 and pro forma operating profit was approximately EUR 0.2 million. The companies employ altogether 28 persons and are located in Kuopio, Finland.

The debt free cash purchase price of the share acquisition, including the purchase price of MegaKoto shares, was EUR 8.0 million, which was adjusted based on the level of cash, debt and networking capital of the acquired companies as of completion of the acquisition. In addition to the aforementioned purchase price, an additional purchase price, capped at EUR 1.0 million, is payable upon the achievement of certain financial performance targets for the acquired business between January 1, 2017 and December 31, 2018. The potential additional purchase price will be paid in cash after achieving the goals.

On November 23, Bittium announced to a change to its financial reporting practice and will publish half year and annual financial reports and will no longer publish interim reports for the first three and nine months of the year.

On November 24, Bittium updated its strategy and financial targets. The strategy was updated to strengthen company's position in the global markets and to speed up its growth. The company plans to make significant investments in the future by increasing the R&D investments in its own products and solutions significantly in the year 2017. In line with the nature of the defense and public safety markets, the investments will pay back in a longer time period and therefore Bittium plans to capitalize the most of the R&D investments to its balance sheet. The company has a strong balance sheet and financial position.

Bittium also told to have decided to establish a new product and service area around healthcare technology. Combining healthcare technologies with Bittium's long-term experience and knowhow in wireless and security technologies give the company good conditions to serve its customers in healthcare sector by offering them new kinds of products and services. As the first step to build the competencies in healthcare technology on November 10, 2016 Bittium acquired Mega Electronics Ltd, a company specialized in measuring and monitoring biosignals. According to the updated strategy Bittium has three product and service areas supporting each other: Defense & Security, Connectivity Solutions and Medical Technologies. Bittium also told to continue to search for inorganic growth opportunities in all its product and service areas and is prepared to invest in acquisitions that strengthen the company's growth strategy.

About the financial targets Bittium announced on November 24 as follows: Bittium has announced earlier that it targets 10 percent annual growth in net sales and to reach EBIT level 10 percent of net sales in the year 2017 at the latest. The company believes that in the coming years it is

able to grow its net sales even more than the earlier announced target, and therefore sets up a target to exceed the annual 10 percent growth target of the net sales. However, Bittium believed, that during the year 2017 it is not yet able to reach the targets set for the growth in the net sales and EBIT level. The reason for this is the termination of a significant customer cooperation with a global network equipment manufacturer, of which Bittium announced earlier, that is expected to materialize faster and more extensively than the company estimated earlier. According to the information received by Bittium, the net sales from this customer cooperation will end completely in the beginning of the second quarter of the year 2017. To this extent this kind of extensive and rapid decrease in the services business net sales is most likely difficult to be replaced in a short term. In addition, the operating profit level of the year 2017 is also affected by the planned investments to enable the future growth.

Bittium targets further to increase the share of net sales generated from own products and product platforms. According to the targets Bittium announced earlier, in the year 2017 the share of net sales generated from own products and product platforms is clearly higher than in the year 2014, when the product based net sales was 26.7 percent of the net sales.

On November 24, Bittium announced changes in the management group and in its organizational structure. These changes support the updated strategy that was announced on the same day. According to its strategy, Bittium's business will focus on three product and service areas: Defense & Security, Connectivity Solutions and Medical Technologies. Mr. Jari Sankala (M.Sc. Electrical Engineering, Digital Communications) was appointed as Senior Vice President, Defense & Security product and

service area. Mr. Klaus Mäntysaari (M.Sc.) continued as Vice President, Connectivity Solutions product and service area. Mr. Arto Pietilä M.Sc. (Applied Electronics) was appointed as Senior Vice President, Medical Technologies product and service area.

Mr. Sami Kotkajuuri, head of business development, decided to move on to new challenges outside of Bittium and resigned from the company's service. Mr. Kotkajuuri continued in his duties until the end of the year 2016.

As of December 1, 2016 Bittium management group consists of following persons: Mr. Hannu Huttunen, CEO (chairman); Mr. Pekka Kunnari, CFO; Mr. Kari Jokela, CLO; Ms. Karoliina Fyrstén, Director, Corporate Communications and Marketing; heads of product and service areas: Mr. Jari Sankala, Senior Vice President, Defense & Security; Mr. Klaus Mäntysaari, Vice President, Connectivity Solutions; and Mr. Arto Pietilä, Senior Vice President, Medical Technologies; and Mr. Jari-Pekka Innanen, Vice President, Engineering.

# Notes to the Consolidated Financial Statements

## 32. SUBSEQUENT EVENTS

The Group management is not aware of any significant events after balance sheet date, that would have had impact on the consolidated financial statements.

33. KEY RATIOS	IFRS	IFRS	IFRS	IFRS	IFRS
	2016	2015	2014	2013	2012
	Continuing operations	Continuing operations	Continuing operations		
<b>INCOME STATEMENT, MEUR</b>					
Net sales, MEUR *)	64.2	56.8	52.7	199.3	173.9
Net sales change, %	13.0	7.8		14.6	17.5
Operating profit/loss, MEUR *)	2.5	2.3	0.8	8.1	1.1
% of net sales	4.0	4.1	1.5	4.1	0.6
Profit/loss for continuing operations before taxes, MEUR	3.1	2.1	0.6	7.2	1.1
% of net sales	4.9	3.7	1.2	3.6	0.6
Profit for the year from continuing operations, MEUR	3.5	2.3	1.3	6.7	1.1
% of net sales	5.5	4.1	2.4	3.3	0.6
Profit after tax for the year from discontinued operations, MEUR	0.0	539.0	11.2	24.3	1.2
% of net sales	0.0	948.7	21.3	12.2	0.7
Profit for the year attributable to equity holders of the parent, MEUR	3.5	541.3	12.5	30.9	2.3
% of net sales	5.5	952.8	23.7	15.5	1.3
<b>BALANCE SHEET, MEUR</b>					
Non-current assets	30.3	14.4	48.8	46.1	46.8
Inventories	4.1	2.2	2.2	0.8	0.4
Current assets	118.9	142.8	115.8	97.4	77.3
Assets classified as held for sale					7.7
Shareholders' equity	130.6	137.6	93.4	81.7	66.0
Non-current liabilities	3.1	2.0	7.6	6.1	8.5
Current liabilities	19.6	19.8	65.8	56.5	53.2
Liabilities classified as held for sale					4.5
Balance sheet total	153.3	159.4	166.8	144.4	132.2
<b>PROFITABILITY AND OTHER KEY FIGURES</b>					
Return on equity % (ROE) *)	2.6	2.0		9.0	1.6
Return on investment % (ROI) *)	2.6	2.5		9.2	1.7
Interest-bearing net liabilities, (MEUR)	-91.8	-121.4	-35.0	-37.7	4.0
Net gearing, %	-70.3	-88.2	-37.4	-46.1	6.1
Equity ratio, %	87.0	90.5	62.3	65.1	54.5
Gross investments, (MEUR) *)	18.5	7.4	4.5	7.9	11.4
Gross investments, % of net sales	28.8	13.1	8.5	4.0	6.5
R&D costs, (MEUR) *)	6.9	7.3	6.9	18.5	22.0
R&D costs, % of net sales	10.8	12.9	13.0	9.3	12.6
Average personnel during the period, parent and subsidiaries *)	569	511	486	1 627	1 528
Average personnel during the period, jointly owned company				300	132

\*) Continuing operations. Excluding Automotive business income statements from periods Jan. 1–July 1, 2015 and 2014.

\*\*) Comparable key figures for 2014 N/A.

	IFRS 2016	IFRS 2015	IFRS 2014	IFRS 2013	IFRS 2012
<b>STOCK-RELATED FINANCIAL RATIOS</b>					
Earnings per share from continuing operations, EUR					
Basic earnings per share	0.098	0.020	0.010	0.051	0.008
Diluted earnings per share	0.098	0.020	0.010	0.051	0.008
Earnings per share from discontinued operations, EUR					
Basic earnings per share	0.000	4.687	0.086	0.188	0.009
Diluted earnings per share	0.000	4.685	0.085	0.187	0.009
Earnings per share from continuing and discontinued operations, EUR					
Basic earnings per share	0.098	4.708	0.096	0.239	0.018
Diluted earnings per share	0.098	4.706	0.095	0.238	0.017
Equity per share, EUR	3.66	3.86	0.71	0.63	0.51
Dividend per share EUR *)	0.3	0.3	0.04	0.02	0.01
Dividend per earnings, %	305.3	6.4	42.7	38.9	119.7
P/E ratio	57.7	344.3	35.9	51.8	77.8
Effective dividend yield, %	5.3	4.3	1.2	0.8	1.5
Market values of shares (EUR)					
Highest	7.40	7.80	3.83	2.90	0.79
Lowest	5.15	3.27	2.30	0.64	0.38
Average	6.05	4.92	2.85	1.55	0.64
At the end of period	5.67	7.01	3.36	2.66	0.65
Market value of the stock, (MEUR)	202.4	249.6	441.8	346.1	84.1
Trading value of shares					
MEUR	126.4	837.1	188.0	72.0	6.9
1000 PCS	20 888	169 993	66 019	46 483	10 750
Related to average number of shares %	58.6	147.8	50.4	35.9	8.3
Adjusted number of the shares at the end of the period (1000 PCS)					
	35 693	35 600	131 493	130 101	129 413
Adjusted number of the shares average for the period (1000 PCS)					
	35 670	114 983	130 975	129 528	129 413
Adjusted number of the shares average for the period diluted with stock options (1000 PCS)					
	35 670	115 037	131 663	130 092	130 238

\*) Proposal of the BoD for 2016.

# Notes to the Consolidated Financial Statements

## CALCULATION OF KEY RATIOS

<b>Return on equity % (ROE)</b>	=	$\frac{\text{Profit for the year} \times 100}{\text{Total equity (average for the accounting period)}}$
<b>Return on investment % (ROI)</b>	=	$\frac{\text{Profit before tax} + \text{interest and other financial expenses} \times 100}{\text{Balance sheet total} - \text{interest-free liabilities (average for the accounting period)}}$
<b>Net gearing, %</b>	=	$\frac{\text{Interest-bearing liabilities} - \text{cash and deposits and short-term investments} \times 100}{\text{Total equity}}$
<b>Equity ratio, %</b>	=	$\frac{\text{Total equity} \times 100}{\text{Balance sheet total} - \text{advances received}}$
<b>Earnings per share</b>	=	$\frac{\text{Profit attributable to equity holders of the parent}}{\text{Share issue adjusted number of the shares average for the period}}$
<b>Equity per share</b>	=	$\frac{\text{Equity attributable to equity holders of the parent}}{\text{Share issue adjusted number of the shares at the end of the period}}$
<b>Dividend per share</b>	=	$\frac{\text{Dividend for the period (Board's proposal) per share}}{\text{Adjustment coefficient of post-fiscal share issues}}$
<b>Dividend per earnings, %</b>	=	$\frac{\text{Dividend per share} \times 100}{\text{Earnings per share}}$
<b>P/E ratio</b>	=	$\frac{\text{Share issue adjusted share price at the end of the period}}{\text{Earnings per share}}$
<b>Effective dividend yield, %</b>	=	$\frac{\text{Dividend per share} \times 100}{\text{Share issue adjusted share price at the end of the period}}$

### 34. SHAREHOLDINGS AND SHARES

#### Breakdown of Shares by Shareholding, December 31, 2016

Number of shares	Number of shareholders	Percentage of shareholders	Number of shares	Percentage of shares and votes
1 - 100	8 844	41.3%	426 870	1.2%
101 - 500	6 844	31.9%	1 840 696	5.2%
501 - 1000	2 412	11.3%	1 913 082	5.4%
1001 - 5000	2 539	11.9%	5 795 887	16.2%
5001 - 10000	422	2.0%	3 068 513	8.6%
10001 - 50000	303	1.4%	6 040 736	16.9%
50001 - 100000	30	0.1%	2 083 973	5.8%
100001 - 500000	21	0.1%	4 594 923	12.9%
500001 - 999999999999	9	0.0%	9 928 486	27.8%
<b>Total</b>	<b>21 424</b>	<b>100.0%</b>	<b>35 693 166</b>	<b>100.0%</b>
nominee-registered	10		2 543 953	7.1%

#### Breakdown of Shareholders by Shareholder Type, December 31, 2016

Shareholders by shareholder type	Number of shareholders	Percentage of shareholders	Number of shares	Percentage of shares and votes
Corporations	552	2.6%	1 581 333	4.4%
Financial sector	15	0.1%	1 441 723	4.0%
Public sector	5	0.0%	3 292 237	9.2%
Non-profit organizations	32	0.1%	166 221	0.5%
Households	20 728	96.8%	27 985 660	78.4%
Foreign owners	83	0.4%	194 618	0.5%
Nominee-registered shares	9	0.0%	1 031 374	2.9%
<b>Total</b>	<b>21 424</b>	<b>100.0%</b>	<b>35 693 166</b>	<b>100.0%</b>

# Notes to the Consolidated Financial Statements

## Largest Shareholders, December 31, 2016

	Number of shares	Percentage of shares and votes
<b>Number of shares total</b>	<b>35 693 166</b>	<b>100%</b>
1. Harju Jukka	1 695 429	4.8%
2. Hulkko Juha	1 506 955	4.2%
3. Veikkolainen Erkki, Chairman of the Board	1 502 400	4.2%
4. Varma Mutual Pension Insurance Company	1 365 934	3.8%
5. Ilmarinen Mutual Pension Insurance Company	1 296 529	3.6%
6. Nordea Bank AB (PUBL), Finnish Branch	820 283	2.3%
7. Hilden Kai	658 000	1.8%
8. Fondita Nordic Micro Cap Placeringsfund	567 000	1.6%
9. EVLI Finnish Small Cap (fund)	515 956	1.4%
10. ELO Mutual Pension Insurance Company	500 000	1.4%
<b>Total</b>	<b>10 428 486</b>	<b>29.2%</b>
Others (including nominee-registered)	25 264 680	70.8%

## The Board and CEO

Veikkolainen Erkki, Chairman of the Board	1 502 400	4.2%
Komi Kirsi, Member of the Board	2 118	0.0%
Putkiranta Juha, Member of the Board	11 371	0.0%
Mäkinen Seppo, Member of the Board	1 371	0.0%
Simberg Staffan, Member of the Board*	51 371	0.1%
Huttunen Hannu, CEO	10 000	0.0%
<b>Total</b>	<b>1 578 631</b>	<b>4.4%</b>

\* Including the shareholdings of a company controlled by Staffan Simberg.

## Income statement, Parent

1000 EUR	Notes	2016	2015
<b>NET SALES</b>	1, 2	<b>974</b>	<b>892</b>
Other operating income	3	1	547 911
Personnel expenses	4	-1 193	-1 310
Depreciation and reduction in value	5	-3	-15
Other operating expenses	6	-1 222	-1 461
<b>OPERATING PROFIT</b>		<b>-1443</b>	<b>546 018</b>
Financial income and expenses	7	904	-414
<b>PROFIT (LOSS) BEFORE APPROPRIATIONS AND TAXES</b>		<b>-539</b>	<b>545 604</b>
<b>Appropriations</b>	8	<b>4 000</b>	<b>0</b>
<b>NET PROFIT FOR THE FINANCIAL YEAR</b>		<b>3 461</b>	<b>545 604</b>

## Balance Sheet, Parent

1000 EUR	Notes	Dec. 31, 2016	Dec. 31, 2015
<b>ASSETS</b>			
Non-current assets			
Intangible assets	9	48	0
Tangible assets	10	73	73
Investments	11	39 750	39 750
Non-current assets total		39 870	39 823
Current assets			
Receivables			
Current receivables	12	19 042	526
Receivables total		19 042	526
Financing securities	13	66 935	66 032
Cash and bank deposits		20 834	53 515
Current assets total		106 811	120 074
<b>TOTAL ASSETS</b>		<b>146 681</b>	<b>159 896</b>
<b>SHAREHOLDERS' EQUITY AND LIABILITIES</b>			
Shareholder's equity			
Share capital	14	12 941	12 941
Invested non-restricted equity fund		25 953	25 923
Retained earnings *		101 484	-433 412
Net profit/loss for the year		3 461	545 604
Shareholders' equity total		143 840	151 056
Provisions			
Provisions, non-current	15	0	1 000
Provisions, current		1 056	288
Liabilities			
Non-current liabilities	16		
Current liabilities		1 786	7 552
Liabilities total		1 786	7 552
<b>SHAREHOLDERS' EQUITY AND LIABILITIES TOTAL</b>		<b>146 681</b>	<b>159 896</b>

\*) 2015 Retained earnings includes the purchase of own shares, which was executed after the interim financial statements for the period of Jan. 1–July 1, 2015.

# Cash Flow, Parent

1000 EUR	2016	2015
<b>CASH FLOW FROM OPERATING ACTIVITIES</b>		
Profit before taxes	3 461	-2 305
Adjustments:		
Depreciation according to plan	3	15
Effects of non-cash business activities	-4 232	302
Financial income and expenses	-904	414
Cash flow before change in net working capital	-1 672	-1 575
Change in net working capital		
Change in interest-free short-term receivables	-85	159
Change in interest-free short-term payables	-81	-644
Cash flow before financing activities	-1 838	-2 060
Interest paid	-278	-2 088
Dividends received	0	1
Interest received	1 250	1 606
Income taxes paid	0	0
<b>Net cash from operating activities</b>	<b>-867</b>	<b>-2 541</b>
<b>CASH FLOW FROM INVESTING ACTIVITIES</b>		
Purchase of tangible and intangible assets	-51	-1
Sale of property, plant and equipment and sale of intangible assets		
Purchase of investments		
Proceeds from repayments of loans		
Proceeds from sale of other investments		
Proceeds from sale of subsidiaries		595 764
<b>Net cash used in investing activities</b>	<b>-51</b>	<b>595 763</b>
<b>CASH FLOW FROM FINANCIAL ACTIVITIES</b>		
Share option plans exercised	31	820
Repayment of borrowing	0	-3 000
Change in interest-free short-term receivables in Group	-14 102	1 862
Change in interest-free short-term payables in Group	-6 080	2 814
Purchases of own shares		-492 810
Dividend paid and capital repayment	-10 708	-5 290
<b>Net cash used in financial activities</b>	<b>-30 860</b>	<b>-495 605</b>
<b>NET CHANGE IN CASH AND CASH EQUIVALENTS</b>	<b>-31 778</b>	<b>97 617</b>
Cash and cash equivalents at beginning of period	119 547	21 930
Cash and cash equivalents at end of period	87 769	119 547
Change in cash and cash equivalents in balance sheet	-31 778	97 617

Cash and cash equivalents include liquid and low risk financing securities.

# Accounting Principles for the Preparation of Financial Statements

The financial statements have been prepared in accordance with the Finnish Accounting Act.

## Valuation Principles

### Valuation of Non-current Assets

Non-current assets are capitalized in the balance sheet at the original acquisition cost deducted by accumulated depreciation. Depreciations according to the plan is calculated either using the straight-line method or the reducing balance method, taking into consideration of the useful life of assets.

The depreciation periods are:

Intangible assets	3–10 years
Tangible assets	3–5 years

### Valuation of Financial Securities

Financial securities are valued at fair value. The fair value of forward exchange are defined based on forward exchange prices on balance sheet date and option contracts are defined based on market prices on balance sheet date.

### Pensions

The Company has organized pension coverage for its personnel through independent pension insurance companies. The pension insurance expenditures are included into personnel expenses.

### Leasing Agreements

Leasing agreements and fixed-term rental agreements are reported as contingent liabilities off the balance sheet.

### Income Tax

Taxes of the financial year have been reported in the income statement as income taxes. Deferred tax or liabilities or receivables has not been recorded on the financial statement.

### Foreign Currency Items

The transactions in the income statement have been converted into euro using the exchange rate of the transaction date. Receivables and payables denominated in foreign currency have been converted into euro by using the exchange rate of the European Central Bank at the balance sheet date.

### Net Sales

Sales of goods is recorded when goods have been handed over to the customer or the services have been rendered. Sales are shown net of indirect sales taxes and discounts.

# Notes to the Financial Statements of the Parent Company

1000 EUR	2016	2015
<b>1. NET SALES BY SEGMENTS</b>		
Support functions	974	892
<b>Total</b>	<b>974</b>	<b>892</b>
<b>2. NET SALES BY MARKET AREAS</b>		
Europe	965	851
America	9	35
Asia	0	6
<b>Total</b>	<b>974</b>	<b>892</b>
<b>3. OTHER OPERATING INCOME</b>		
Profit of sales of subsidiaries		547 909
Other operating income	1	3
<b>Total</b>	<b>1</b>	<b>547 911</b>
The other operating income includes the profit of the sale of the Automotive-segment in 2015.		
<b>4. NUMBER OF PERSONNEL AND PERSONNEL EXPENSES</b>		
Average number of personnel during the fiscal period		
Common functions	8	7
<b>Total</b>	<b>8</b>	<b>7</b>
Number of personnel at year end		
	8	6
Personnel expenses *		
Management salaries	214	552
Board of Directors	107	76
Other salaries and wages	720	530
<b>Total</b>	<b>1 041</b>	<b>1 158</b>
Pension expenses	133	133
Other social expenses	19	19
<b>Total</b>	<b>1 193</b>	<b>1 310</b>
* The amount does not include the calculatory costs of share-based compensation. This cost is shown in the consolidated financial statements according to IFRS.		
<b>5. DEPRECIATION AND REDUCTION IN VALUE</b>		
Intangible rights	2	15
Other capitalized long-term expenditures	1	
Machinery and equipment	1	0
<b>Total</b>	<b>3</b>	<b>15</b>

# Notes to the Financial Statements of the Parent Company

1000 EUR	2016	2015
<b>6. OTHER OPERATING CHARGES</b>		
IT equipment and SW expenses	-76	-68
Premises expenses	-42	-58
Administrative services	-683	-448
Travel expenses	-84	-89
Voluntary staff expenses	-39	-21
Other business expenses	-297	-778
<b>Total</b>	<b>-1 222</b>	<b>-1 461</b>
Auditors charges		
Auditing	13	17
Tax advice	31	13
Other services	108	6
<b>Total</b>	<b>151</b>	<b>36</b>
<b>7. FINANCIAL INCOME AND EXPENSES</b>		
Income from investments		
From Group companies		
From others	903	507
<b>Total</b>	<b>903</b>	<b>507</b>
Other interest and financial income		
From Group companies	75	117
From others	212	1 298
<b>Total</b>	<b>286</b>	<b>1 415</b>
Other interest and financial expenses		
To Group companies	0	0
To others	-285	-2 336
<b>Total</b>	<b>-285</b>	<b>-2 336</b>
Reduction in value of investment	0	0
Net financial income and expenses	904	-414
Net financial income and expenses includes exchange gains and losses	-8	-930
<b>8. APPROPRIATIONS</b>		
Received group contributions	4 000	

1000 EUR	Dec. 31, 2016	Dec. 31, 2015
<b>9. INTANGIBLE ASSETS</b>		
<b>Intangible rights</b>		
Acquisition cost Jan. 1	203	289
Investments during the period	44	
Disposals during the period		-87
Acquisition cost at the end of the period	246	203
Accumulated depreciations Jan. 1	-203	-188
Depreciation for the period	-2	-14
Book value at the end of the period	42	0
<b>Other capitalized long-term expenditures</b>		
Acquisition cost Jan. 1		
Investments during the period	6	
Disposals during the period		
Acquisition cost at the end of the period	6	
Accumulated depreciations Jan. 1		
Depreciation for the period	-1	
Book value at the end of the period	6	
<b>Intangible assets total</b>		
Acquisition cost Jan. 1	203	289
Investments during the period	50	
Disposals during the period		-87
Acquisition cost at the end of the period	253	203
Accumulated depreciations Jan. 1	-203	-188
Depreciation for the period	-2	-14
Book value at the end of the period	48	0

# Notes to the Financial Statements of the Parent Company

1000 EUR	Dec. 31, 2016	Dec. 31, 2015
<b>10. TANGIBLE ASSETS</b>		
<b>Machinery and equipment</b>		
Acquisition cost Jan. 1	3	2
Investments during the period	1	1
Acquisition cost at the end of the period	4	3
Accumulated depreciations Jan. 1	-2	-1
Depreciation for the period	-1	0
Book value at the end of the period	2	2
<b>Other tangible assets</b>		
Acquisition cost Jan. 1	71	71
Acquisition cost Dec. 31	71	71
Book value at the end of the period	71	71
<b>Tangible assets total</b>		
Acquisition cost Jan. 1	74	73
Investments during the period	1	1
Acquisition cost at the end of the period	75	74
Accumulated depreciations Jan. 1	-2	-1
Depreciation for the period	-1	0
Book value at the end of the period	73	73
<b>11. INVESTMENTS</b>		
<b>Investments in subsidiaries</b>		
Acquisition cost Jan. 1	39 749	86 470
Disposals during the period		-46 721
Book value at the end of the period	39 749	39 749
<b>Investments in other shares</b>		
Acquisition cost Jan. 1	1	1
Book value at the end of the period	1	1
<b>Investments total</b>		
Acquisition cost Jan. 1	39 750	86 471
Disposals during the period		-46 721
Book value at the end of the period	39 750	39 750

1000 EUR	Dec. 31, 2016	Dec. 31, 2015
<b>12. CURRENT RECEIVABLES</b>		
Accounts receivable		
From Group companies	89	375
<b>Total</b>	<b>89</b>	<b>375</b>
Other receivables		
From Group companies	18 783	0
From others	162	76
<b>Total</b>	<b>18 946</b>	<b>76</b>
Prepaid expenses and accrued income		
From Group companies	0	
From others	7	76
<b>Total</b>	<b>7</b>	<b>76</b>
<b>Current receivables total</b>	<b>19 042</b>	<b>526</b>
<b>13. FINANCING SECURITIES</b>		
Cash and cash equivalents include liquid and low risk financing securities.		
Financial assets at fair value through profit or loss.	66 935	66 032
<b>14. SHAREHOLDERS' EQUITY</b>		
Share capital at the beginning of the period	12 941	12 941
<b>Share capital at the end of the period</b>	<b>12 941</b>	<b>12 941</b>
Invested unrestricted equity fund at the beginning of the period	25 923	25 103
Share issue	31	820
<b>Invested unrestricted equity fund at the end of the period</b>	<b>25 953</b>	<b>25 923</b>
Retained earnings at the beginning of period	112 192	64 688
Dividend distribution	-10 708	-5 290
Purchase of own shares		-492 810
Net profit for the period	3 461	545 604
<b>Retained earnings at the end of period</b>	<b>104 945</b>	<b>112 192</b>
Distributable earnings at the end of the period	130 898	138 114
<b>Shareholders' equity total</b>	<b>143 840</b>	<b>151 056</b>

# Notes to the Financial Statements of the Parent Company

1000 EUR	Dec. 31, 2016	Dec. 31, 2015
<b>15. PROVISIONS</b>		
Provisions		
Provisions, non-current		1 000
Provisions, current	1 056	288
<b>Total</b>	<b>1 056</b>	<b>1 288</b>
<b>16. LIABILITIES</b>		
<b>Current liabilities</b>		
Accounts payable		
To Group companies	61	50
To others	35	190
<b>Total</b>	<b>96</b>	<b>240</b>
Other short-term liabilities		
To Group companies	1 357	7 043
To others	34	52
<b>Total</b>	<b>1 391</b>	<b>7 095</b>
Accrued expenses and deferred income		
To others	299	218
<b>Total</b>	<b>299</b>	<b>218</b>
<b>Current liabilities total</b>	<b>1 786</b>	<b>7 552</b>

1000 EUR	Dec. 31, 2016	Dec. 31, 2015
<b>17. SECURITIES AND CONTINGENT LIABILITIES</b>		
On behalf of Group companies		
Guarantees	1 726	3 453
Leasing liabilities		
Falling due in the next year	1 230	1 064
Falling due after one year	1 141	1 396
Rental liabilities		
Falling due in the next year	13	24
Contractual liabilities		
Falling due in the next year	78	140
<b>18. NOMINAL VALUE OF CURRENCY DERIVATES</b>		
Foreign exchange forwards		
Market value	-6	67
Nominal value	5 000	2 500

	Owned by Parent %	Owned by Group %	Book value 1000 EUR
<b>19. SHARES AND HOLDINGS</b>			
Subsidiaries			
Bittium Technologies Oy	100.00%	100.00%	39 749
Other holdings by Parent			
Partnera Oy			1

# Proposal by the Board of Directors on the Use of the Profit Shown on the Balance Sheet and the Payment of the Dividend

According to the parent company's balance sheet at December 31, 2016, the distributable assets of the parent company are EUR 130,898,268.85 of which the profit of the financial year is EUR 3,461,321.81.

The Board of Directors proposes that the Annual General Meeting to be held on April 12, 2017 resolve to pay EUR 0.05 per share as dividend from the profit of the financial period based on the adopted balance

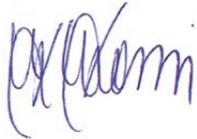
sheet for the financial period of January 1, 2016–December 31, 2016 and EUR 0.25 per share as additional dividend. The dividend will be paid to the shareholders who are registered as shareholders in the company's register of shareholders as maintained by Euroclear Finland Ltd on the dividend record date, April 18, 2017. The Board of Directors proposes that the dividend be paid on April 25, 2017.

There have not been any substantial changes in the company's financial position after the financial year. Company has good liquidity and according to the Board of Directors, the proposed distribution of profits does not danger company's solvency.

In Oulu, Finland, 19th of February 2017



Erkki Veikkolainen



Kirsi Komi



Juha Putkiranta



Staffan Simberg



Seppo Mäkinen



Hannu Huttunen

## Auditor's Note

Our Auditor's Report has been issued today.

In Oulu, February 19, 2017

Ernst & Young Oy  
Authorized Public Accountant firm



Juhani Rönkkö, Authorized Public Accountant

# Auditor's Report

(Translation of the Finnish original)

## To the Annual General Meeting of Bittium Oyj

### Report on the Audit of Financial Statements

#### Opinion

We have audited the financial statements of Bittium Oyj (business identity code 1004129-5) for the year ended 31 December, 2016. The financial statements comprise the consolidated balance sheet, income statement, statement of comprehensive income, statement of changes in equity, statement of cash flows and notes, including a summary of significant accounting policies, as well as the parent company's balance sheet, income statement, statement of cash flows and notes.

In our opinion

- the consolidated financial statements give a true and fair view of the group's financial position as well as its financial performance and its cash flows in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU.
- the financial statements give a true and fair view of the parent company's financial performance and financial position in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements.

#### Basis for Opinion

We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the Auditor's Responsibilities for the Audit of Financial Statements section of our report.

We are independent of the parent company and of the group companies in accordance with the ethical requirements that are applicable in Finland and are relevant

to our audit, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

#### Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

We have fulfilled the responsibilities described in the Auditor's responsibilities for the audit of the financial statements section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the accompanying financial statements.

We have also addressed the risk of management override of internal controls. This includes consideration of whether there was evidence of management bias that represented a risk of material misstatement due to fraud.

#### Revenue recognition of construction contracts

Reference: Accounting principles and note 3

Fixed price contracts in long-term construction contracts are part of the Group's busi-

ness practice. These projects constitute a significant portion of the consolidated net sales. In the financial statements for 2016 the revenue recognized from these projects was 23.2 million euro, which is 36 percentage of the total net sales.

The group applies the percentage of completion method for recognizing revenue from long-term construction contracts, which involves the use of significant management estimates. E.g. the following estimates include significant management judgement for each project: stage of completion, total contract costs and the project margin. The financial outcome of a project is based on the estimates made by the management and will come more accurate when the project advances.

We tested the revenue recognition of long-term contracts on a transaction level. The testing included the examination of the financial contract terms and the calculations and estimates used in the revenue recognition. We also discussed with the representatives of the company to get an understanding of the financial contents of the projects. Further, we compared the information in the notes with the calculations prepared by the management and with the IFRS standards applied by the group.

#### Development expenses

Reference: Accounting principles and notes 6, 8 and 13

Development projects with significant size are constantly ongoing in the group. As part of the accounting process for the R&D expenses the management makes assumptions and estimates that has an effect on the carrying values and depreciation methods of R&D expenses. As of 31.12.2016 the carrying value of the development expenses was 6.4 million euro, which is 4 percentage of the total assets and 5 percentage of the equity.

Our audit procedures included the testing of costs capitalized and assessing the asset lives in calculation of depreciation. We also discussed with representatives of the company, those responsible for the development projects, to get information of the product's stage of completion and its contents and ability to generate financial benefits to the group and of the internal process used by the group to monitor development projects and their accounting. We paid attention e.g. to those development projects in which the depreciation method is based on the estimated quantities in the production phase of the project. We also examined the minutes of the board of directors including further information of the management's financial expectation on these R&D investments. We assessed the notes related to development expenses.

#### Business acquisitions

Reference: Accounting principles and note 14

In November 2016 Bittium Group acquired the shares of Remega Oy. The acquisition price involved the cash consideration and the management's estimate for the additional purchase price that shall be paid upon achievement of certain financial performance targets in 2017-2018. Determination of additional purchase price and the allocation of total acquisition price to acquired net assets are a key audit matter because the accounting process was complex and because the calculations included assumptions on sales revenue, margins and asset lives of the acquired intangible assets. Due to the acquisition the group's goodwill increased by 5.3 million euro.

Our audit procedures in respect to the acquisition included the examination of the interim financial balance sheets of the target entities and share purchase agreement

as well as the calculations and estimations prepared in the company and the decisions made by the board of directors on the acquisition. Further, we discussed with the management of the parent company how the purchase price was determined and the reasons for the acquisition to understand the background of the assumptions used in the calculations. We assessed the allocation calculations included in the financial statements and compared them to the calculations which were made by an external investment bank to support the decision making process of the Board of Directors. In addition, we assessed the notes related to business acquisition.

#### Responsibilities of the Board of Directors and the Managing Director for the Financial Statements

The Board of Directors and the Managing Director are responsible for the preparation of consolidated financial statements that give a true and fair view in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU, and of financial statements that give a true and fair view in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements. The Board of Directors and the Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors and the Managing Director are responsible for assessing the parent company's and the group's ability to continue as going concern, disclosing, as applicable, matters relating to going concern and

using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate the parent company or the group or cease operations, or there is no realistic alternative but to do so.

#### Auditor's Responsibilities for the Audit of Financial Statements

Our objectives are to obtain reasonable assurance on whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with good auditing practice will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with good auditing practice, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the parent company's or the group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of the Board of Directors' and the Managing Director's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the parent company's or the group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events so that the financial statements give a true and fair view.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

## Other Reporting Requirements

### Other information

The Board of Directors and the Managing Director are responsible for the other information. The other information comprises information included in the report of the Board of Directors and in the Annual Report, but does not include the financial statements and our report thereon. We obtained the report

of the Board of Directors prior to the date of the auditor's report, and the Annual Report is expected to be made available to us after the date of the auditor's report.

Our opinion on the financial statements does not cover the other information.

In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. With respect to report of the Board of Directors, our responsibility also includes considering whether the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

In our opinion, the information in the report of the Board of Directors is consistent with the information in the financial statements and the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

If, based on the work we have performed, we conclude that there is a material misstatement in the information included in the report of the Board of Directors, we are required to report this fact. We have nothing to report in this regard.

Oulu, February 19, 2017

Ernst & Young Oy  
Authorized Public Accountant Firm

  
Juhani Rönkkö  
Authorized Public Accountant

# Bittium

Connectivity to be trusted.  
[www.bittium.com](http://www.bittium.com)

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