

JOIN THE SMART  
REVOLUTION



2016



## RAUTE OFFERS SOLUTIONS FOR PROFITABLE AND SUSTAINABLE PLYWOOD AND LVL PRODUCTION

Raute is a technology and services company that serves the wood products sector worldwide. Raute is a part of the wood-processing value network by providing the wood products industry with veneer, plywood and LVL (Laminated Veneer Lumber) production processes and the services required for using and maintaining them.

The company is the global market leader in its largest customer sector, the plywood industry. Raute's position in the LVL industry is particularly strong: more than half of the LVL manufactured in the world is produced on machines supplied by Raute.

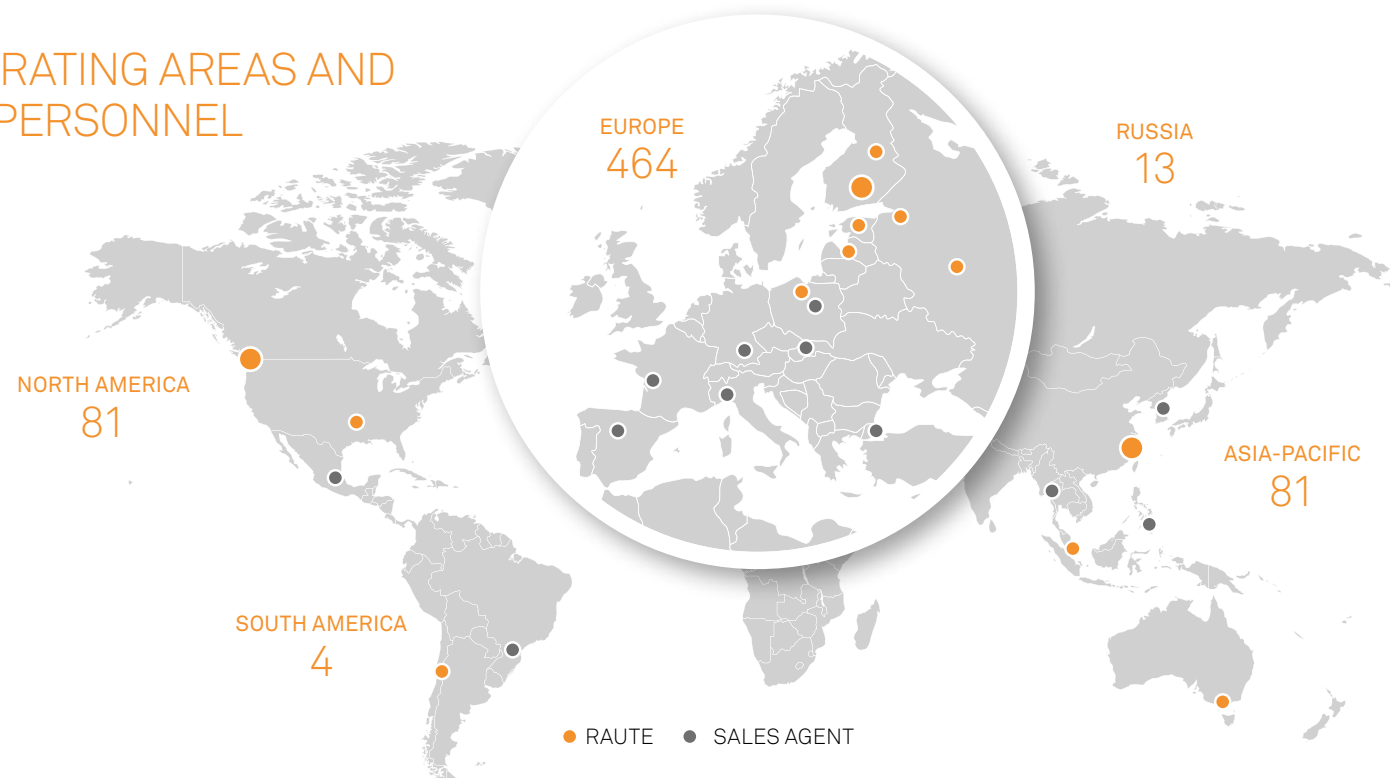
Our customers are served by close to 650 Raute professionals around the world in ten countries. Raute's production plants are located in Finland, Canada and China. The company's sales and services network has a global reach.

Raute is a financially sound Small Cap company with a strong family background. The company's series A shares are listed on Nasdaq Helsinki Ltd.

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## RAUTE'S OPERATING AREAS AND NUMBER OF PERSONNEL





NET SALES

MEUR 113.1

2015: MEUR 127.3

OPERATING PROFIT

MEUR 8.6

2015: MEUR 8.1

ORDER INTAKE

MEUR 162

2015: MEUR 145

ORDER BOOK

MEUR 106

2015: MEUR 60

REVIEW BY THE PRESIDENT AND CEO

# WE BROKE LAST YEAR'S ORDER INTAKE RECORD



Following the record-breaking year 2015, some expected that 2016 would mark a lull for Raute. To the contrary. During the past year, we achieved a new order intake record.

Due to the relatively low order intake beginning in summer 2015 and lasting approximately one year our order book fell, momentarily, in summer 2016 to a fairly low level. The situation changed entirely in the summer, however, when three major orders proceeded to the order phase and raised our order book to record levels. Despite this, we were not quite able to reach our targets in terms of net sales. We are, nevertheless, happy with 2016 as a whole and were able to start with a record-high order book for a second year running.

Economic development in our main market areas was still not favorable. The worst of the crisis has passed in Europe but uncertainty, in particular in Europe's banking sector, continues, impacting other areas as well. In North America, construction has begun to recover but still at a slower rate than expected. In South America, our key customers' previous investments have now found their place on the markets and, although the focus is on the future, the weak demand in the domestic markets is slowing new investment plans. The uncertainty around the path taken by China's economy and political tensions are resulting in concern in many market areas.

In 2016, a few large, capacity-generating mill-scale projects took off in the plywood and LVL industry. We succeeded in winning the tenders in all of these. Each of the projects is being implemented by a familiar, long-term customer. We have our long-running cooperation with our customers, their

success in business and confidence in the future to thank for these victories.

Over the past year, we made significant investments in new development projects. In terms of product development, the most vital role was held by digital services, which help boost our customers' operations and deepen our cooperation further. We also invested in improving our operations in production, information systems and office work.

We improved the capacity and service ability of our technology services by, for example, starting up two new service centers in connection with our customer mills. Our key personnel and competence development projects were the improvement of occupational safety and the setting in motion of a systematic mentoring program and business sustainability work.

The advancement of the previous year's major mill projects and being awarded more of these types of orders were our most important achievements in 2016. The positive development of our North American business and success of our machine vision technology with its new product launches were also particular causes for celebration. We succeeded in expanding our overall service concept by integrating services into our investment commodity deliveries. The above-mentioned examples are an indication that we have made advances in achieving many of our strategic targets. We have developed new methods

// In 2016, a few large, capacity-generating mill-scale projects took off in the plywood and LVL industry. We succeeded in winning the tenders in all of these.

for reaching these targets, in order to meet the needs of the emerging markets.

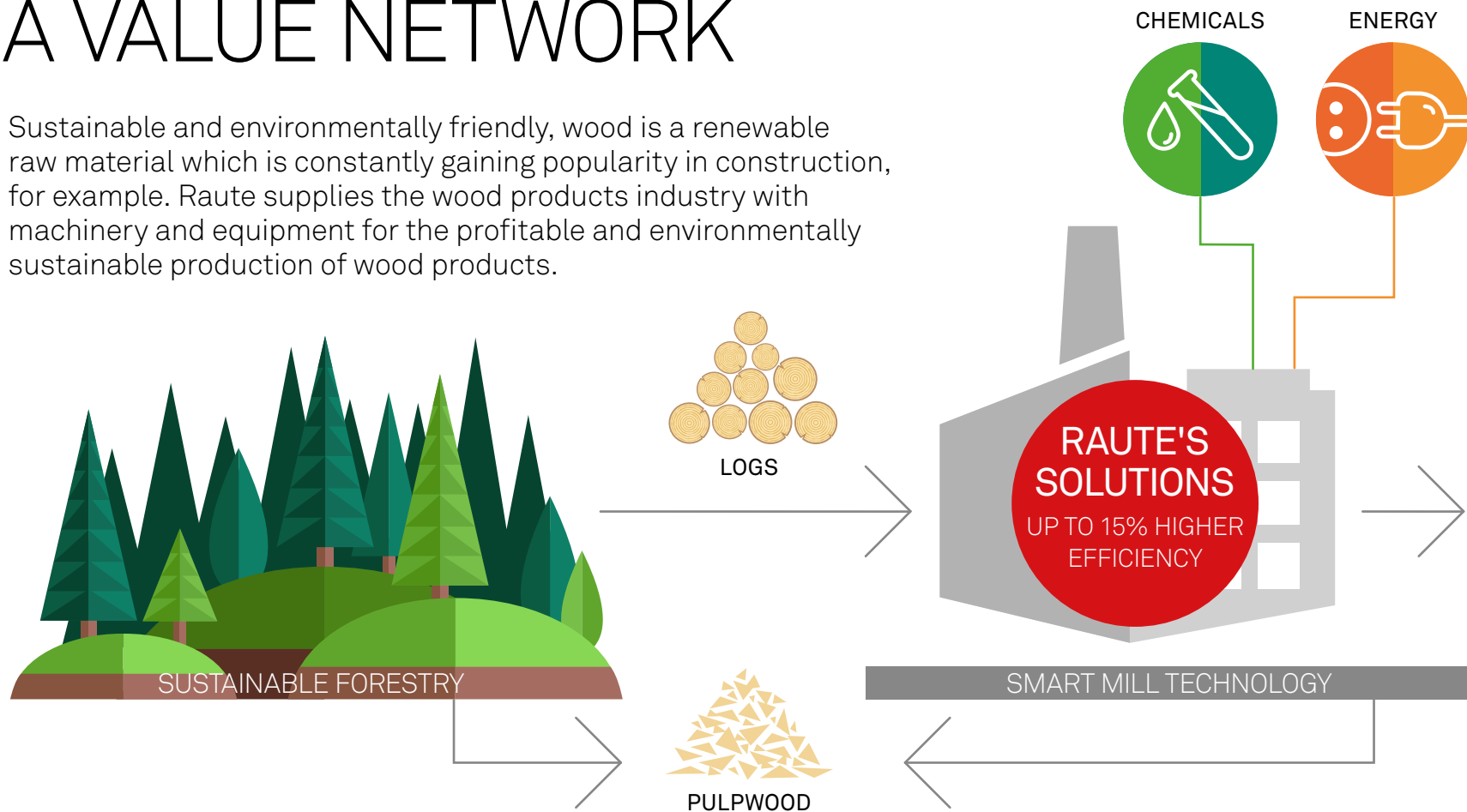
It is already clear that our business will take a positive trend in 2017 and we will achieve increased net sales and improve our operating profit. Our development projects to implement our strategy are moving forward and improving our operations even further. Demand is at a normal level, which is a good basis for growth in the current year. Our all-time highest order book provides us with the boost needed for a spectacular take-off. We have knowingly planned our work to ensure that we can provide our customers competitive delivery times also in 2017, both in terms of services and investments of various sizes. Our efforts are focused on strengthening our position particularly in projects involving individual production lines and machines and modernizations.

I would like to send out a heartfelt thank you for the past year: to Raute's customers for their invaluable cooperation and trust, to our personnel for their outstanding work and flexibility under the strongly fluctuating workload, to our shareholders for their continued confidence in us, and to all our other partners for their participation in furthering Raute's development and success.

**Tapani Kiiski**  
President and CEO

# RAUTE IS PART OF A VALUE NETWORK

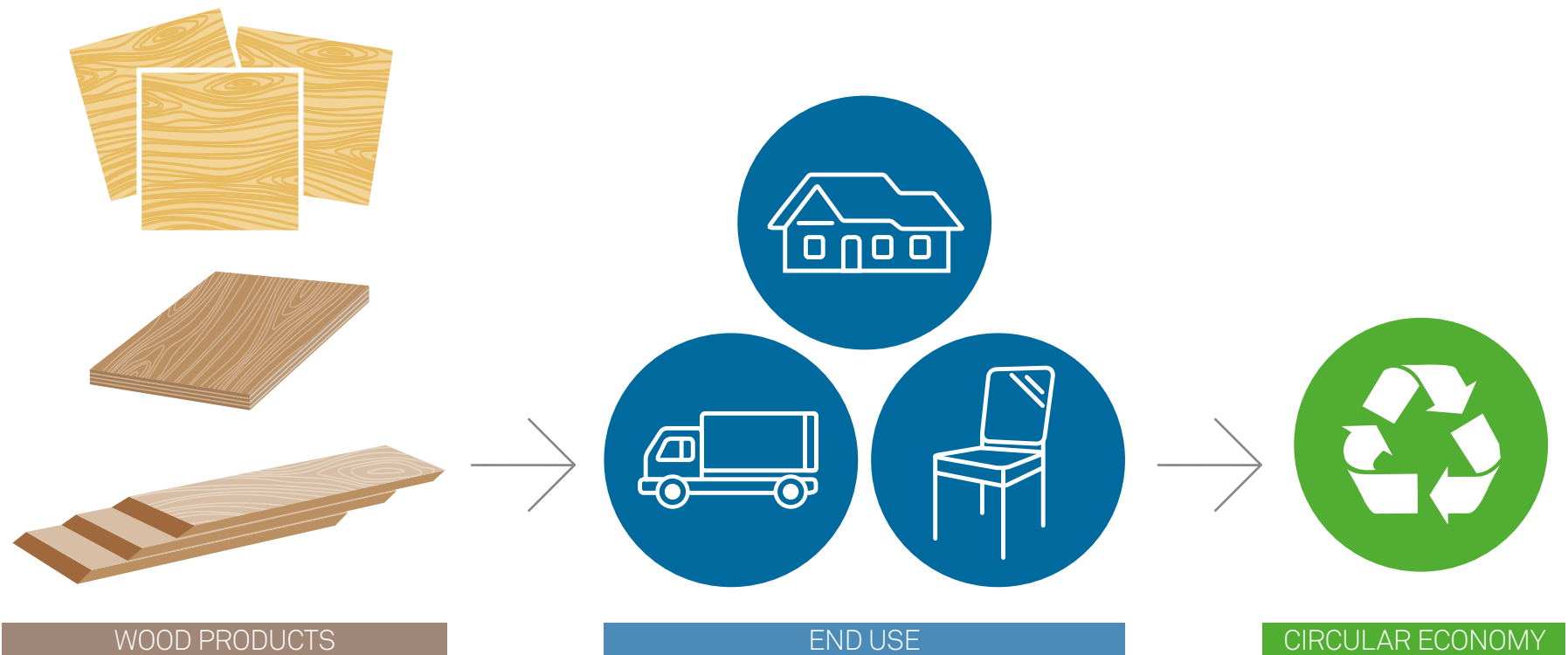
Sustainable and environmentally friendly, wood is a renewable raw material which is constantly gaining popularity in construction, for example. Raute supplies the wood products industry with machinery and equipment for the profitable and environmentally sustainable production of wood products.



**Raute's** customers produce veneer, plywood and LVL (Laminated Veneer Lumber), which are used mainly in construction, the manufacture of furniture and in the transport vehicle and packaging industries. By investing in Raute's production technology, wood products industry operators can boost their production, reduce

their consumption of energy and chemicals and improve the quality of their end products. Raute's solutions cover the entire production process for plywood and LVL: log handling, peeling, drying, pressing, lay-up, veneer handling and panel and billet handling. After their useful life is over, wood products can be recycled or used as raw material

in energy production. The value of the global wood products industry market is approximately EUR 150 billion. Demand and profitability are influenced by the general increase in the standard of living, construction regulations, availability and price of wood and economic cycles. Investment activity is at its highest level at the end of a business cycle.



**veneER** is a thin wood ribbon manufactured by peeling or slicing from a log.

**PLYWOOD** is a panel made of glued veneers, laid-up cross-wise and hot pressed.

**LVL** is a wood product made of veneers glued with their grains parallel and then hot pressed, used in load-bearing structures.

- Construction
- Furniture
- Transport vehicle and packaging industry
- Special uses

# RAUTE SMART MILL



## RAUTE SMART MILL

Raute Smart Mill is a concept that enables mills to achieve maximum output, in which smart measuring equipment and digital services help to achieve a significantly improved raw material utilization ratio and production line usability.

## COLLECTION OF DATA

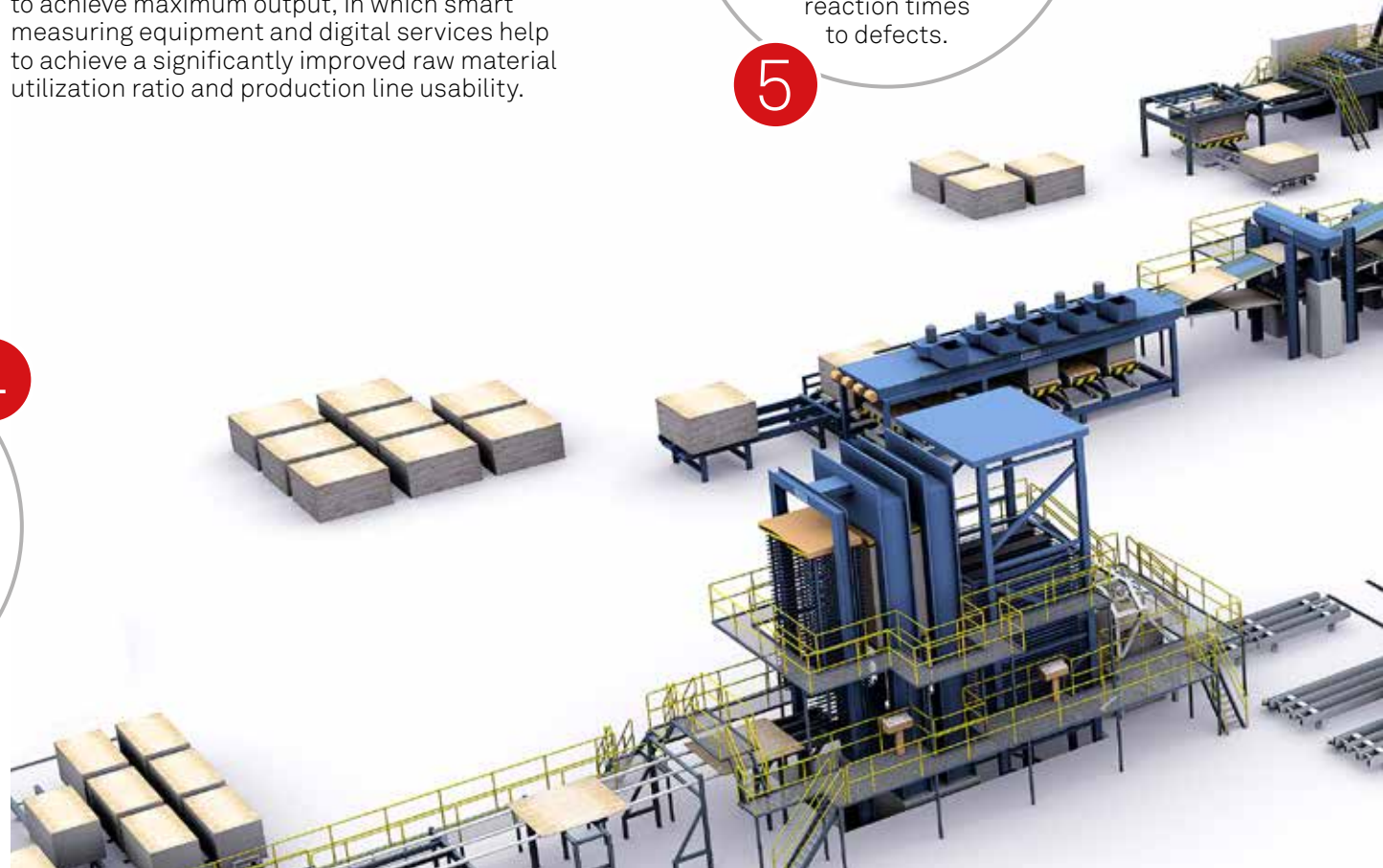
A real-time data collection system saves and analyses all of the production data. It enables a higher degree of optimization for individual machines and faster reaction times to defects.

5

4

## DIGITAL SERVICES

Digital tools and services ensure that the productivity of customers' production processes corresponds with the set targets.



1

## MAXIMIZED VENEER PRODUCTION

The largest possible amount of high-quality veneer ribbon is peeled from round wood. Automatic calibration takes care of the precision of the optimization.

2

## G5 MEASURING EQUIPMENT

New-generation machine vision and moisture analyzers measure the materials' surface quality, moisture, roughness, knots, holes, splits and thin spots.

3

## GRADING

Analyzers control the clipping of the sheet and the quality grading based on the most sensible option for continuing the processing.

This makes it possible to manufacture as much usable sheet of the desired quality as possible from raw material of various grades.

# MEGATRENDS

## CLIMATE CHANGE

## ECONOMIC TRENDS

### IMPACT ON RAUTE'S SECTOR

- Increasing popularity of renewable raw materials and products
- Environmental awareness increasing
- More focus on energy efficiency and emissions
- Demands on processes' environmental friendliness are growing

- Urbanization increases construction in growth centers
- Focus of overall demand shifting towards the emerging markets
- Rise in general standard of living increases consumption on housing
- Quality, ergonomic and OHS demands and an increase in costs enhance the significance of automation
- Increasing willingness to invest in more efficient and higher-capacity production processes

### RAUTE'S SOLUTIONS

- End products made with Raute's machines store the carbon dioxide captured by trees from the atmosphere for decades to come
- High levels of automation minimize raw material waste and energy consumption in the customer's production process
- Modernization of old production lines with electric, silent and energy-efficient solutions

- We offer solutions that suit the different needs of customers at different stages of development – globally
- Dragon/Lite products increase automation and quality in emerging market production
- Raute's solutions focus especially on occupational safety and ergonomics

## AVAILABILITY OF NATURAL RESOURCES

- Development of a circular economy offers opportunities for improved utilization of side streams
- The competitiveness of construction materials based on renewable natural resources, such as wood-based materials, is improving
- Use of plantation wood as raw material on the rise
- Demands on increasing the efficiency of raw materials and additives use
- Increasing requirements for improved utilization of by-products

## TECHNOLOGICAL DEVELOPMENT


- Digitalization enables new kinds of services and business models
- More efficient use of raw material and other production factors
- Demand for expert services grows as automation and digitalization increase
- Increasing use of highly processed wood products
- Standardization and quality requirements for products increasing

// QUALITY, ERGONOMIC AND OHS DEMANDS AND AN INCREASE IN COSTS ENHANCE THE SIGNIFICANCE OF AUTOMATION.

- Characteristics of new plantation wood species are studied and solutions developed for their processing
- Maximization of the quality and strength of wood products using advanced grading technologies
- Plywood and LVL lay-up and gluing solutions economize glue use

- Comprehensive control and highly automated subprocesses ensure a consistent product quality and overall production process efficiency
- Economic useful life of customers' production processes extended using life-cycle technology services enabled by digitalization
- Highly developed measurement solutions and the measurement of the wood's shape, visual quality, moisture and density enable the optimization of the customer's raw material use

// DIGITALIZATION ENABLES NEW KINDS OF SERVICES AND BUSINESS MODELS.



## BUSINESS ENVIRONMENT

# INVESTMENTS IN INCREASING PRODUCTION CAPACITY CONTINUED

Raute serves the veneer, plywood, and LVL industries worldwide. We estimate the total value of new equipment investments in these industries at approximately EUR 600 million a year in a normal economic situation. According to our estimates, new equipment investments in 2016 were at this level. Raute's market share is around 15 to 20 percent of all of the investments in production process machinery in the industry.

## MAJOR INVESTMENTS CONTINUED IN EUROPE



2016 was the third consecutive exceptional year in which several major investment decisions were made in Europe to increase production capacity. In Poland, an investment in an LVL mill's new line started up. An LVL line modernization started up in Finland and investments in birch veneer and plywood production lines started up in both Finland and Estonia.

The popularity of wood construction is driven by growing ecological demands, increasing demand for LVL in particular. New opportunities also spring from structural change in the mechanical forest industry and a shift towards higher-value-added products.

Raute is the biggest supplier of technology to its customer industries in Europe. The company's strengths include expertise in production technology as well as its recognizability and good reputation. Despite the years-long investment boom, we estimate that very little new capacity will be built in the long term. The service business offers Raute growth opportunities. We seek growth by strengthening our customer relationships, adding to the scope of our technology services and helping our customers to capitalize on the growth in wood construction.

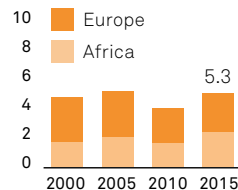
SHARE OF RAUTE'S  
NEW ORDERS  
2014–2016

63%



PLYWOOD PRODUCTION  
MILLION M<sup>3</sup>

NINE NEW MAJOR CAPACITY-GENERATING PROJECTS HAVE STARTED UP SINCE 2012.



## RUSSIA' ECONOMIC SITUATION SLOWING INVESTMENTS



During 2016, the Russian economy took a turn for the better but remained weak all the same. Following several slow years, a new significant birch plywood mill project took off. Also the preparation of many other investments continued to be active. We do not, however, believe in a rapid normalization of the market situation. The low rouble supported the price competitiveness of local plywood manufacturers.

Raute is the leading supplier of plywood industry machinery, equipment and services in the Russian market. We are the only operator capable of delivering complete production facilities on our own. Raute's technology services have continued to grow in spite of the country's weak economic development, and thanks to a large installed machine base, Raute's technology services still have growth potential. At the end of 2016, our St. Petersburg unit moved to new premises, further improving our customer service ability and speed.

SHARE OF RAUTE'S  
NEW ORDERS  
2014–2016

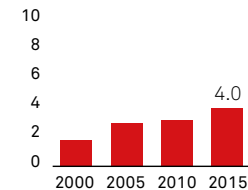
17%



PLYWOOD PRODUCTION  
MILLION M<sup>3</sup>

+6%

COMPOUND ANNUAL  
GROWTH RATE (CAGR) 2000–2015





## GROWTH IN CHINA'S PLYWOOD PRODUCTION LEVELLING OUT

China is the world's largest producer of plywood. Production has grown approximately six-fold during the past 15 years. According to the statistics for 2015, growth continued. However, the recent levelling out of growth in production volumes shows a deceleration of growth to a more sustainable level. In 2016, a slowing down of investment decision-making in several on-going projects was perceptible.

Raute was the first western company to develop modern plywood manufacturing in China. Technological development has not, however, been as fast as we earlier predicted and, as a result, Raute's entry into the Chinese market has been slower than hoped for. In spite of this, investments in solutions targeted at the Chinese market and a local presence provide Raute with an excellent starting point, with development already taking place in other sectors.

SHARE OF RAUTE'S  
NEW ORDERS  
2014-2016

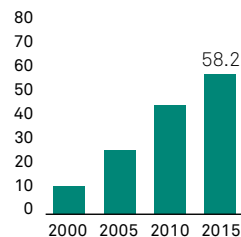
0%



PLYWOOD PRODUCTION  
MILLION M<sup>3</sup>

+12%

COMPOUND ANNUAL  
GROWTH RATE (CAGR) 2000-2015



## DECREASED ORDERS IN ASIA-PACIFIC AREA

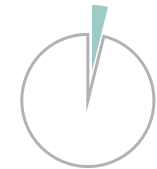
The economies of the key plywood manufacturing countries in Southeast Asia, Indonesia and Malaysia, are currently weak. With the proportion of domestic production in our key export market, Japan, simultaneously growing, 2016 was a tough year for Raute's customers. Also raw material availability, the harvesting limitations on natural forests and problems linked to the quality of plantation wood limited the development of production.

Raute received few orders in Southeast Asia in 2016. In the future, we believe that the growth of plantation forests and the resulting improvement in quality will open up new opportunities for Raute.

In Australia and New Zealand, the plywood and LVL industry was successful in 2016, driven by the improvement in the local economy, construction markets and exports. No new major investments were started up but Raute managed to gain a few modernization orders.

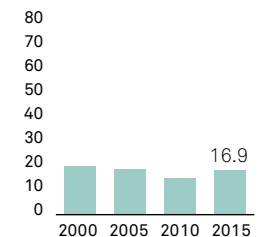
SHARE OF RAUTE'S  
NEW ORDERS  
2014-2016

4%



PLYWOOD PRODUCTION  
MILLION M<sup>3</sup>

PROBLEMS LINKED TO  
RAW MATERIAL SUPPLY AND  
DEMAND RESTRICTED PLYWOOD  
PRODUCTION DEVELOPMENT.





## DECLINE IN NORTH AMERICAN PLYWOOD PRODUCTION

In North America, investments in plywood production have been minimal in recent years, and mainly targeted at modernization projects. Economic recovery, which continued in 2016, has not impacted housing construction on the same scale either.

Local equipment manufacturers have a strong foothold on their domestic markets. Competition with the small and specialized local operators for the limited number of investments is also tough.

Raute's growth opportunities lie in the modernization of the existing machine base and in its automation expertise.

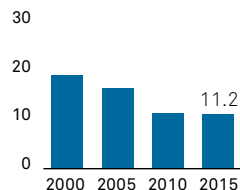
SHARE OF RAUTE'S  
NEW ORDERS  
2014–2016

12%



PLYWOOD PRODUCTION  
MILLION M<sup>3</sup>

THE VOLUME OF PLYWOOD PRODUCTION HAS FALLEN DUE TO AN INCREASE IN SUBSTITUTE PRODUCTS AND A DECREASE IN HOUSING CONSTRUCTION.



## GROWTH OPPORTUNITIES IN SOUTH AMERICA

In 2016, South America's local economy continued to be weak. The largest plywood producers are Chile and Brazil. In Chile, major mill-scale projects from a few years back achieved full operational capacity. The next major projects are expected to be launched in 2018, depending on demand. Meanwhile, production is being developed through modernizations. Raute is a major technology supplier in Chile.

In Brazil, domestic demand for plywood is soft. Industry development and an increase in quality requirements create new potential. Europe and North America are important export destinations for Brazilian plywood.

Raute intends to maintain its leading position in building new capacity and to acquire new customers in modernizations and development.

SHARE OF RAUTE'S  
NEW ORDERS  
2014–2016

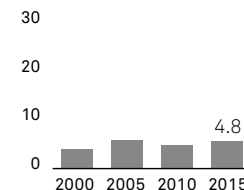
4%



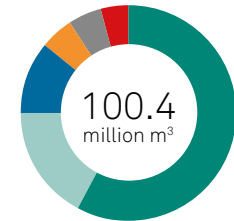
PLYWOOD PRODUCTION  
MILLION M<sup>3</sup>

+3%

COMPOUND ANNUAL  
GROWTH RATE (CAGR) 2000-2015

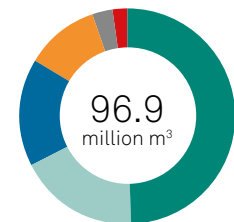


PLYWOOD PRODUCTION  
BY MARKET AREA 2015



China	58%
APAC	17%
NAM	11%
EMEA	5%
LAM	5%
CIS	4%

PLYWOOD CONSUMPTION  
BY MARKET AREA 2015



China	49%
APAC	18%
NAM	16%
EMEA	11%
LAM	3%
CIS	2%

Read more about the business environment on Raute's website at [www.raute.com](http://www.raute.com).

Information on plywood production and consumption: Indufor



BUSINESS, TECHNOLOGY AND PRODUCT DEVELOPMENT

# RAUTE OFFERS TECHNOLOGY AND SERVICES FOR THE MANUFACTURE OF WOOD PRODUCTS

Raute's core competence lies in selected wood products manufacturing processes. Using digitalization, Raute's technology services can be scaled to meet every need from basic maintenance services all the way to full control of line productivity.

**Our technology** offering covers the customer's entire production process. Project deliveries include the production processes of complete mills, including all of the production machinery, separate subprocess production lines and individual machines.

Our service offering covers the entire lifecycle of the customer's production process, including machines and equipment. Technology services include basic services from spare parts deliveries to regular maintenance and modernizations. We also modernize our competitors' machines using Raute's most up-to-date technology. Our expert services support the customer both in investment decisions and production development.

Our customers include veneer, plywood and LVL mills, of which the majority are relatively small private family companies. Some of our customers are part of major consolidated forest groups that manufacture not only plywood and LVL, but also products such as pulp, paper and sawn timber.

### Digitalization enables change

Raute's new digital product family, Raute Insights, reached pilot production in 2016. The first products were released on the markets in early 2017. Digital service products complement the existing service offering and form an important part of Raute's Smart Mill concept.

The goal of Raute's technology services is to optimize the customer's production at every stage of its lifecycle. For this purpose, it is possible to add various digital components to Raute's service packages. Raute has created a strong in-house digital service offering and a cooperation network needed for developing it, which guarantees that the main-

tenance and development of digital services can continue also in the future.

The cloud-based and location-independent solutions enabled by digitalization are also used in Raute's customer training services. The information and skills required for safely operating production lines can also be learned online.

### Smart Mill concept saves up to 15% in raw materials

Raute is a technology leader in its industry's machine vision and moisture measurement systems. In 2016, Raute brought to the market the new G5 generation of veneer and sheet analyzers. In addition to greater speed and improved accuracy, the analyzers' new architecture, combined with our digital service products, allows the efficiency and quality of wood product mill production to be ramped up to a whole new level. Digital services support the Smart Mill concept by producing information on several inter-connected process stages. Using this information, customers can monitor and ensure that the plywood and LVL production corresponds with their targets and react to defects in time.

The architecture and performance of the G5 generation analyzers enable the combination of a larger number of measurement variables than before and simultaneous analysis. The analyzer's memory contains data on the veneer sheet – which the human eye can only see as an image – for example on the sheet's moisture, density and roughness. The analyzers can also be digitally linked to one another so that they have data concerning the previous and next production stages and so that the analysis and grading take these into account. In several cases we can even improve a mill's raw material utilization ratio by as much as 15 percent.

### Development of machine base together with customer

One of the opportunities offered in the future, and one of our investment targets, is the systematic development of the production processes of mills together with the customer. Several new modernization projects were introduced to the markets in 2016 to meet this customer need and a service concept was developed for boosting Raute's leading position as a full-scope supplier.

We offer our customers process efficiency based on comprehensive auditing of the production process and modernization solutions for significantly improving the ability to produce quality. In these solutions we also apply the new functionalities offered by the Internet of Things to machinery that has been in use for a long time.

## RAUTE IN A STRONG COMPETITIVE POSITION

Raute's competitive position has remained good thanks to competitive advantages, such as overall expertise in production processes and a broad and diverse technology offering.

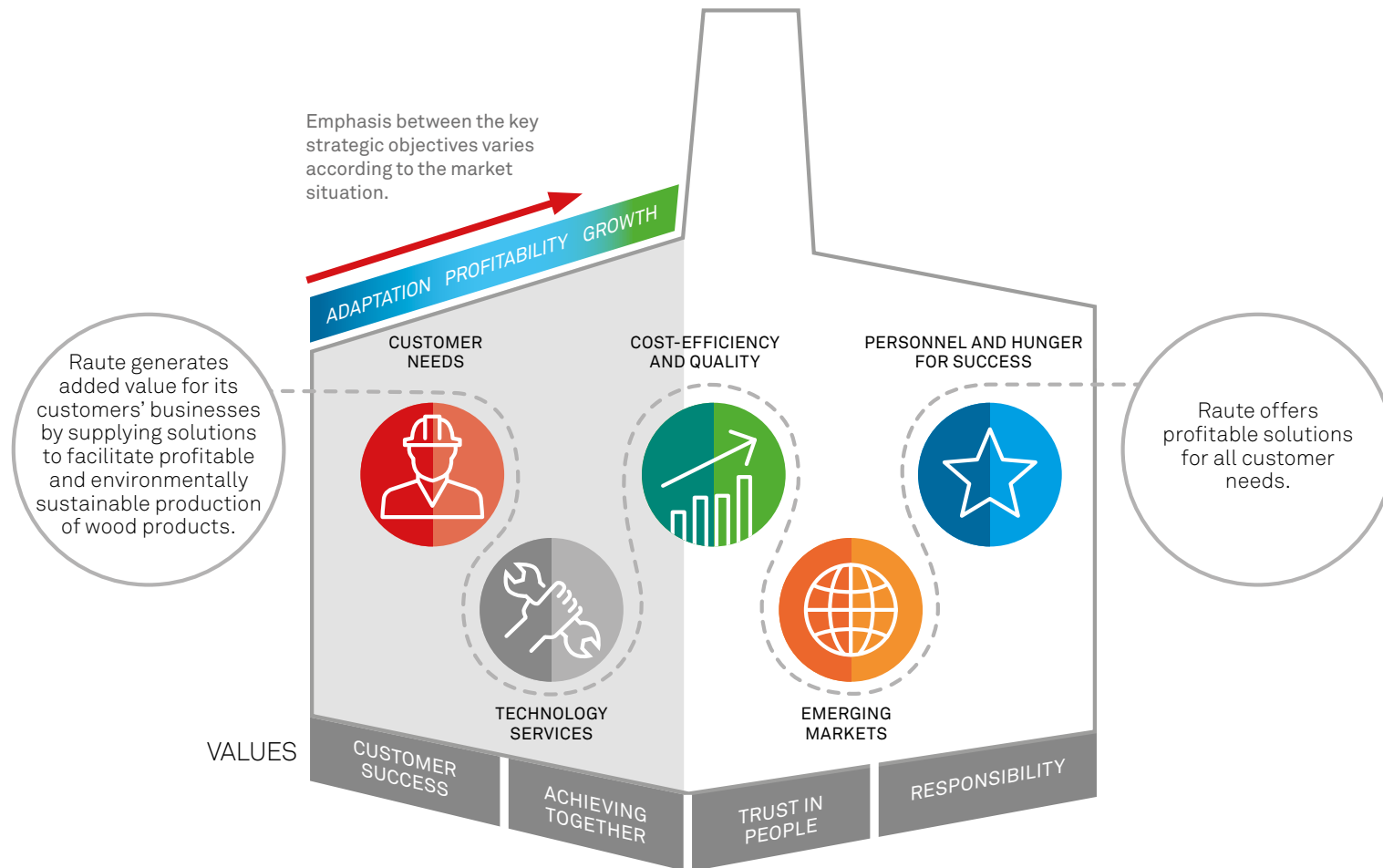
Raute's strong financial position and long-term dedication to serving selected customer industries also enhance its credibility and improve its competitive position as a company that carries out long-term investment projects.

A photograph of three business professionals (two men and one woman) sitting around a table, engaged in a discussion. The man on the left is wearing a dark blue shirt and holding a blue mug. The man in the middle is wearing a striped shirt and glasses. The woman on the right is wearing a grey sweater and glasses. They are all looking at each other and appear to be in a collaborative meeting. The background is a blurred indoor setting with greenery.

STRATEGY

# PROFITABLE SOLUTIONS FOR ALL CUSTOMER NEEDS

Raute's strategy boils down to its vision: Raute offers profitable solutions and services for all customer needs. Profitability is key for the continuation and development of operations. Raute offers its customers technology and services for using the technology, as well as production process development and optimization.



**Improving profitability**, the ability to adjust to economic cycle variations and controlled growth are Raute's strategic goals. The financial goal is to grow faster than the markets, to remain financially sound and to offer investors competitive returns. As the actualization of the company's goals is strongly tied to the development of the global economy as well as the timing of customers' individual investments, no time-bound target values are disclosed for the financial goals.

### **We aim to be the preferred supplier and life-cycle partner of customers**

The unique needs of customers form the core of our operations. We need to have an excellent understanding of production bottlenecks and investment criteria. We know how to transform this understanding into solutions that will make us the preferred supplier for a growing number of customers in more market areas. This position requires a product offering that meets customers' needs and helps them succeed and develop their operations.

Cooperation and mutual understanding evolve into a long-term partnership in which challenges are solved together. As the markets evolve and technology moves forward, the share and importance of services grow. Technological development enables the extension of equipment life cycles through machine base modernizations. Raute is the trusted partner of its customers throughout the investments' life cycle and also applies its technology to the modernization of competitors' equipment. Digitalization brings with it new opportunities to further develop Raute's service offering.

STRATEGY

# IMPLEMENTING THE STRATEGY IN 2016

In 2016, the focus of strategic development projects was on improving sales. The goal was to increase the market share and service business. In 2017, the focus will shift to improving the competitiveness of the product and service offering.

Customer needs, growing technology services, operating on the emerging markets, cost-efficient and high-quality operations and a personnel driven by a hunger for success are Raute's strategic cornerstones. The strategic choices are reviewed annually and the management sets the goals and the main themes for strategic development work. HR management ensures that the entire personnel understands the strategy and implements it in their work.



## CUSTOMER NEEDS

We grew our contractual maintenance services and established two new local maintenance centers in the immediate vicinity of our customer mills in Estonia and Poland. In addition we strengthened our local resources in other maintenance centers.



## TECHNOLOGY SERVICES

In the fall of 2016, we brought to the markets our Smart Mill concept based on the latest G5 machine vision and moisture analysis technology. The overall optimization of the customer's production process that it enables allows us to raise the efficiency and quality of the customer's veneer, plywood and LVL production to a whole new level. We expanded our service offering to also include digital remote services that support the customer's daily production.



## COST-EFFICIENCY AND QUALITY

In 2016, we improved, in particular, the production taking place at our main production facility in Nastola, Finland; we enhanced production management through a new information system, started up the introduction of LEAN methods and commissioned our largest machine investment in more than a decade. We also continued the implementation of a process for boosting reuse rates for solutions tried and tested in planning.



## EMERGING MARKETS

We continued our work to tap into the Chinese markets and initiated new measures. In Southeast Asia we increased our local resources in technology services. We started up a systematic process for gaining a foothold in the African markets which includes defining the product and service offering to suit the needs of this market and taking stock of parties interested in developing the plywood industry.



## PERSONNEL AND HUNGER FOR SUCCESS

We implemented an extensive mentoring program inside the company, which we will continue. We were also successful in strengthening our automation and engineering expertise. The development of our personnel focused on the advancement of a quality-oriented mindset.

We modernized the office facilities at our main unit. We also started up a development project for managing business sustainability. Our first steps were to describe our company values in more detail, bring our Code of Conduct up to date and start up a project to improve health and safety.

# RESPONSIBILITY MANAGEMENT IS BASED ON VALUES AND STRATEGY

### Developing responsibility management

In 2016, Raute initiated its responsibility management development program. The methods and tools created as a result both ensure and develop business responsibility and responsibility reporting. In addition the program controls misconduct risks impacting the company.

The responsibility management development program was started up in the spring in connection with the strategy work through discussions on Raute's values and their importance to the staff. These values are: the success of the customer, achieving together, trust in people and responsibility. A team of new, young Raute employees discovered a deeper meaning to the values by discussing their content, interpretation and application to the work community. As a result, Raute's renewed values were confirmed at the end of the year, but the work will continue during the first part of 2017. In addition to the Nastola unit, the work involves both the Shanghai and Vancouver units.

### Raute's Code of Conduct

During 2016, the company's ethical principles were collected together, updated to correspond with the values and approved as Raute's Code of Conduct. The purpose of the Code of Conduct is to tell our personnel, partners and other stakeholders about Raute's requirements and expectations concerning responsible and ethical operations. In 2017, briefings will be held for the entire personnel on the contents of the Code of Conduct.

### Responsibility reporting

In summer 2016, we also began developing Raute's responsibility reporting. Responsibility reporting for the year 2016 has been integrated into this Annual Report, and environmental and occupational safety key figures are reported from the Finnish operations. We will increase the scope of the reporting over the next few years.

### Key responsibility topics

The process to define Raute's key responsibility topics was started with the management's evaluation of the most important responsibility topics. In 2017, we will continue the materiality assessment together with our key stakeholders.

### RAUTE'S KEY RESPONSIBILITY TOPICS:

1. Life-cycle partnership with customers
2. Health and safety
3. Sustainable product and service solutions
4. Competence development
5. Sustainable supply chain
6. Business ethics
7. Environmentally efficient production
8. Stakeholder engagement
9. Local communities



## CUSTOMER SUCCESS

We help our customers succeed through our smart products and services. We are a reliable partner and we aim for longstanding business relations.



## ACHIEVING TOGETHER

We are ambitious, innovative and share information and expertise actively. We achieve our goals together through close cooperation with our customers and other stakeholders.



## TRUST IN PEOPLE

We are experts in our own work. By meeting expectations, we achieve mutual trust. We do our best to achieve shared success and act responsibly by following common rules.



## RESPONSIBILITY

We highlight the eco-friendliness of wood products. We develop and offer technologies that help reverse the direction of the environmental impacts of human activities. Responsibility is under-scored in all our choices and tasks.



**ROOPE ESKOLA**  
Technology  
At Raute since 2015

“Our most important goal should always be serving customers well and helping them success because it is also the foundation for Raute’s entire operations and existence. In the future, our success lies in how well we manage to embed intelligence in our products and services. However, what matters most is ensuring genuine encounters, interaction and communication between people.”



**ANTTI KOMULAINEN**  
Technology Services  
At Raute since 2015

“Achieving results in any matter requires hard work. New innovations are vital but the more traditional and competitive the sector, the rarer major upheavals are. More importance should be placed on actual work and its finalization than on individual ideas and initial impulses. The final result is what matters in the end and enables success.”



**LAURA SALMINEN**  
HR  
At Raute since 2016

“Trust is comprehensive and should make itself felt in all of our operations – both in working life and outside it. Trust creates a foundation for innovation, working together and improved work capacity. Each of us should remember to be worthy of trust so that our colleagues, customers and stakeholders can rely on us. Our value ‘Trust in people’ has endured, which illustrates the importance of trust in everything we do.”



**DEVON BARKWAY**  
Technology  
At Raute since 2013

“Let’s make the benefits of technologies visible to customers. In addition we should increase awareness of wood products as storers of carbon dioxide and thus mitigators of human-caused environmental impacts. Responsibility must extend to all operations and choices throughout the organization.”

## RESPONSIBILITY

# RAUTE'S VALUE CREATION

### INPUT

#### Financial/Financing

- Shareholders equity: EUR 34.2 mill.
- Loans: EUR 3.1 mill.
- Cash and cash equivalents: EUR 23.8 mill.

#### Natural resources

- Energy consumption
- Water consumption
- Purchased raw materials and components (mainly metal-based)

#### People

- In-house personnel: 643
- Subcontractors and temporary workers
- Investments in competence
- Investments in occupational health and safety

#### Infrastructure

- Local business in 10 countries
- 4 production plants and 8 sales and service units
- R&D center
- Audited supplier network

#### Intellectual capital

- Raute brand
- Reference deliveries
- Competence in technologies and customers' businesses
- Product portfolio
- Research and development costs EUR 2.9 mill.
- 26 patented inventions

#### External relations

- Customer events and surveys, meetings with investors, supplier events
- Cooperation with schools, universities and research institutions
- 20 memberships in associations and organizations
- Partnerships with customers, suppliers and subcontractors
- Cooperation with local communities

### BUSINESS/STRATEGY



Customer needs



Technology services



Cost-efficiency and quality



Emerging markets



Quality and environmental management system



LEAN methods

### OUTPUT

#### Products

- Machinery, equipment
- Production lines
- Mill-scale production processes

#### Services

- Spare and wear parts
- Servicing and maintenance
- Production support services
- Modernizations

#### By-products

- Recyclable metal
- Other materials for re-use

#### Emissions and waste

- Direct and indirect CO<sub>2</sub> emissions
- Volatile organic compounds (VOC)
- Landfill waste

### IMPACT



#### Financial impacts on stakeholders

- Payments from customers: EUR 124 mill.
- Salaries, wages and employee benefits with associated costs: EUR 37 mill.
- Payments to suppliers: EUR 55 mill.
- Paid taxes: EUR 0.4 mill.
- Payments to shareholders and financiers: EUR 3.4 mill.



#### Social

- Direct and indirect employment
- Development of employees' competence
- Direct and indirect health and safety impacts
- Lost time incidents in Finland: 9
- LTIF\* in Finland: 11.6
- Customer loyalty
- Reliability and reputation



#### Environment

- Wood products manufactured with Raute machines store carbon and help mitigate climate change.
- Thanks to Raute's technology and services, customers' manufacturing processes consume less wood, other raw materials and energy.
- Through modernizations based on the latest technology and life-cycle technology services the financial useful life of the installed machine base can be extended.
- In Raute's operations, the improvement of process efficiency and utilization of the IoT reduce natural resource consumption and carbon dioxide emissions.

\* Lost time incident frequency: Incidents leading to absences lasting at least 1 day for every million working hours.

# SUSTAINABLE WOOD PRODUCTS TECHNOLOGY

## Wood products have positive climate impacts

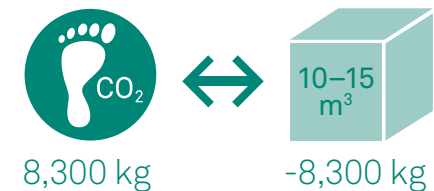
From an environmental viewpoint, the attractiveness of wood products with a long lifetime arises from the renewability of the raw material and the fact that wood products continue to store the carbon dioxide captured by trees. The useful life of plywood and LVL can be as long as a hundred years. When the principles of sustainable forestry are applied, new forests grow in place of the harvested trees. This causes the volume of carbon dioxide in the atmosphere to decrease and the carbon storage enabled by a specified area of forest to grow.

One cubic meter of plywood or LVL contains an amount of carbon corresponding to approximately 950 kilograms of CO<sub>2</sub> captured by trees, depending on tree species and quality. In practice, this amount always exceeds the amount of fossil carbon dioxide emissions resulting from production. When forests are managed sustainably, plywood and LVL use results in increasing carbon storage instead of CO<sub>2</sub> emissions, and helps to mitigate climate change.

## Profitability and environmental benefits through technology

One of the key goals in Raute's product development has been the reduction in customers' raw material waste and need for additives. Raute also actively develops solutions that can help to enhance the energy efficiency of customers' production processes and improve the utilization of by-products. The financial useful life of the installed machine base is extended through technology services that cover its entire life cycle and through modernizations based on the latest technology. Products based on the Internet of Things speed up service and can, in the future, significantly reduce the need for travel. In all of these cases, the same measures can achieve both environmental benefits and financial savings.

Many customers stress the importance of occupational safety. Raute impacts the safety of its products through its product development, in addition to which special attention is paid to line solutions at the planning stage. Automation also improves occupational safety and ergonomics.



## COMPARISON TO CARBON FOOTPRINT OF EUROPEANS

The average carbon footprint of a European in an OECD country was around 8,300 kg of CO<sub>2</sub> per person in 2014. If we conservatively assume that the fossil emissions from the supply chain are 380 kg/m<sup>3</sup>, one cubic meter of plywood would capture, during its useful life, around 570 kg of carbon dioxide (carbon dioxide stored by trees minus fossil emissions from production). In other words, 15 cubic meters of plywood or LVL would cover the carbon footprint of one European for one year. In an eco-efficient supply chain, fossil emissions can be even lower than in this calculation, and 10 m<sup>3</sup> of plywood or LVL would cover the carbon footprint of one European.

**Wood products return to the natural cycle**  
Plywood and LVL can be recycled and used as energy at the end of their life cycle. The end-of-life-cycle solutions impact the product's life-cycle emissions as does the final length of the product's life cycle. Eventually, the carbon stored in the wood product is released in combustion or due to some other form of decomposition into the atmosphere and back into the natural cycle.



## RESPONSIBILITY

# FOCUS ON HEALTH AND SAFETY

**Health and safety** at our units and at customer premises when performing installation and commissioning work is one of Raute's key responsibility topics. Our goal is to ensure a continuously improving, productive and safe working environment. Our strategic goal is an accident free work environment.

In Finland, Raute has a joint employer-worker health and safety committee, which is based on legislation. Responsibilities and goals for the period 2016-2017 have been defined in our occupational health and safety programme.

Organization and tidiness was improved at our Nastola main production facility, based on the Lean 5S principles. A project to improve the safety of working at height was implemented and new high altitude safety gear and work platforms were procured. The equipment was tested and found to function satisfactorily.

During 2016, nine lost time incidents occurred among Raute's own staff in its Finnish operations. The number of lost time incidents decreased from the previous year, but was still too high compared to our goal. There were no fatal accidents in Raute's operations.

Incidents and near-miss situations are investigated every time they occur and appropriate actions are taken to prevent similar situations in the future. The same approach is followed when machine and equipment failures have safety implications. When new equipment or machinery is procured, the suppliers are required to pay attention to safety features, and the possible safety impacts are examined in advance. The orientation period of new employees always includes safety training.

In daily operations work safety is improved by making safety observations and by taking corrective actions. In Finland Raute has a digital platform for making safety observations and they can also be made with a mobile device. Safety observations made in 2016 provided important information for improving Raute's daily occupational safety in the future.

RAUTE FINLAND	2016	2015
Accidents leading to absences (number)	9	12
LTIF*	11.6	16.4

\* Lost time incident frequency:  
Incidents leading to absences lasting at least 1 day  
for every million working hours.

## PERSONNEL IN 2016

- The Group employed an average of 642 people.
- Total employee turnover was 17.4%.
- 62% of employees worked in tasks related to project deliveries, 18% in technology services, 11% in sales and marketing, and 9% in management and administration.

**Personnel** creates the prerequisites for success. Competent personnel that are success-oriented and committed to the company's targets enable Raute to implement its strategy. This is why we have made an effort to ensure that our personnel have the right job in terms of competence and motivation and that their competence is developed systematically. Our HR management is based on Raute's values and responsible ways of operating.

Raute's product and service solutions as well as global project activities offer a variety of tasks for experts in both Finland and abroad. In order to secure its future competitiveness, Raute will require both new experts and experienced wood product and wood technology professionals with an understanding of the needs of our customers and their businesses.



We assess the implementation of the personnel strategy regularly through performance and development discussions and personnel surveys.

### Nastola unit became smoke-free

Our customers' needs determine the direction and priorities of personnel development throughout our organization. We wish to offer our employees an equal work community, motivating and meaningful work and a safe work environment. Together with occupational health care services, we have identified the key work capacity risks and are focusing on work capacity management in these areas.

The modernization and new look for Nastola's office premises was completed at the end of 2016. As of summer 2016, Raute's Nastola unit became a smoke-free workplace.

### Mentoring creates new experts

In 2016, the focal point of personnel development was an extensive mentoring program where more experienced Raute employees passed on their

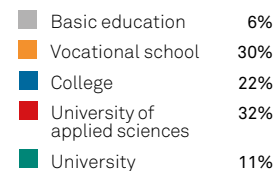
tacit knowledge and accumulated competence to the younger employees in a systematic manner. Altogether 32 mentoring pairs took part in the program over altogether 6,295 working hours. Our goal is to strengthen our local customer

service capability at our various units close to the customer. In Europe, North America and Asia, we increased the personnel resources of our service business. In our Chinese unit we developed local expertise in the areas of sales and production.

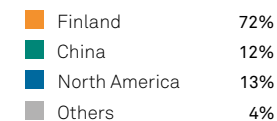
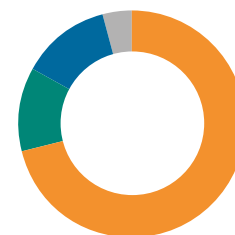
AGE OF PERSONNEL



EDUCATION OF PERSONNEL



PERSONNEL GEOGRAPHICALLY



## RESPONSIBILITY

# ENVIRONMENTAL IMPACT OF OUR OPERATIONS

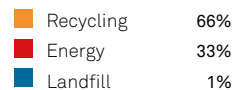
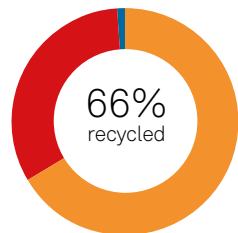
**Raute's** own operations have environmental implications mainly through energy use, factory waste management and safe management of chemicals. The goal is to continuously reduce energy and water consumption and the accumulation of waste.

Raute manages the environmental risks linked to its operations through its quality and environmental management systems. Raute's main production unit in Nastola is certified according to the ISO 9001 quality management system and the ISO 14001 environmental management system. Other Raute units abide by the same key principles.

In Finland, energy efficiency measures have kept Raute's electricity consumption at the same level during recent years despite the growing production levels. Decline in CO<sub>2</sub> emissions during the five year period is mainly caused by changes in emission factors of local energy production and the warm weather during winters 2014 and 2015. The amount of

TOTAL WEIGHT OF WASTE BY CLASSIFICATION AND DISPOSAL METHOD, TONNES	2016	2015
<b>HAZARDOUS</b>		
Recycling	0.4	0.6
Regeneration and recovery	0.0	4.0
Waste to energy	51.8	47.2
Landfill	–	–
<b>Total hazardous</b>	<b>52.2</b>	<b>51.9</b>
<b>NON-HAZARDOUS</b>		
Recycling	754.0	525.4
Composting	0.3	0.0
Waste to energy	319.2	269.5
Landfill	10.7	24.4
<b>Total non-hazardous</b>	<b>1,084.2</b>	<b>819.4</b>

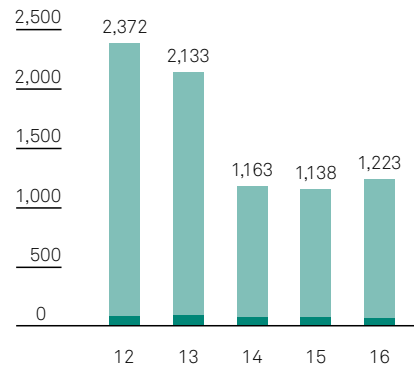
WASTE DISPOSAL METHODS



waste increased in 2016 due to cleanups at the factory and renovation at the office building. The majority of the non-hazardous waste is recyclable metal scrap and chip. The amount of landfill waste decreased significantly as mixed waste sorting was introduced in the waste management chain.

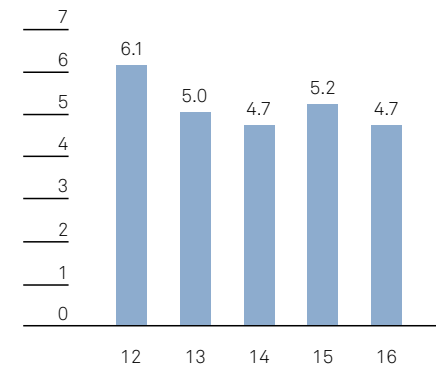
The environmental indicators reported on this page concern Raute's Finnish operations.

CO<sub>2</sub> EMISSIONS  
tonnes



Indirect CO<sub>2</sub> emissions (Scope 2)  
Direct CO<sub>2</sub> emissions (Scope 1)

VOC EMISSIONS  
(non-methane), tonnes



ENERGY CONSUMPTION, TJ	2016	2015	2014	2013	2012
Electricity	11.8	12.1	11.8	11.9	12.5
District heat	12.0	9.9	10.8	14.5	16.2
Fuel oil	0.8	0.9	0.8	1.1	1.0

WATER USE, M <sup>3</sup>	2016	2015	2014	2013	2012
Municipal water	3,470	3,921	5,168	2,833	3,700

# FINANCIAL REVIEW 2016

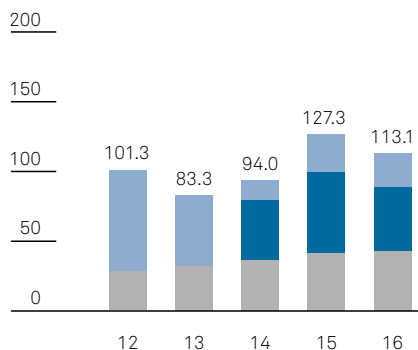
## Business environment

- The utilization rates of the plywood and LVL industry are good, although order books are short.
- Few machine, line and modernization projects started up.
- Demand for maintenance and spare parts remained good.
- In spite of the general market situation, strategic investment decisions were made in plywood and LVL capacity in Europe and Russia.

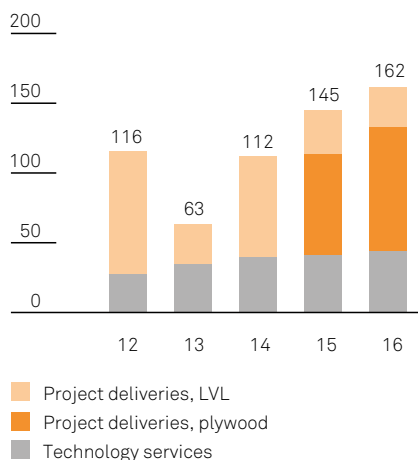
## Raute

- The order intake was a record EUR 162 million.
- Raute won all of the tenders for capacity-generating projects that were started up.
- Order intake in technology services up 8%.
- Net sales fell by 11% due to the focus of the order intake on the late summer and autumn.
- Operating profit improved to 7.6% of net sales.
- The year-end order book amounted to a record-high EUR 106 million. An unusually large proportion of the order book was thus scheduled for 2018.
- Products enabled by the new Raute Smart Mill concept on the markets:
  - new G5 generation of veneer and sheet analyzers
  - digital product family, Raute Insights, pilot deliveries.
- The largest investment made was the commissioning of an NC boring machine at the main unit in Nastola.
- The focal point of developing competence was on an extensive mentoring program.

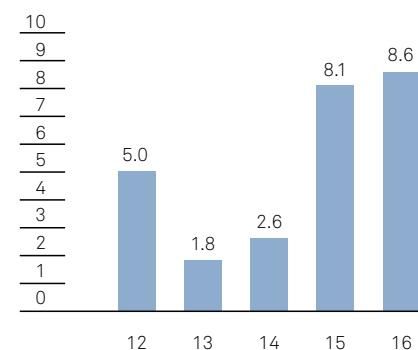
NET SALES BY PRODUCT AREA  
EUR million



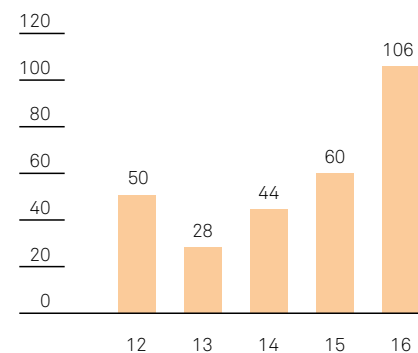
ORDER INTAKE BY PRODUCT AREA  
EUR million



OPERATING PROFIT  
EUR million



ORDER BOOK  
EUR million

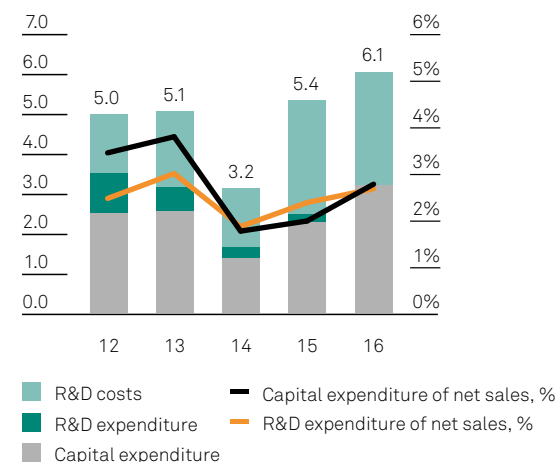


# SUMMARY OF FINANCIAL STATEMENTS

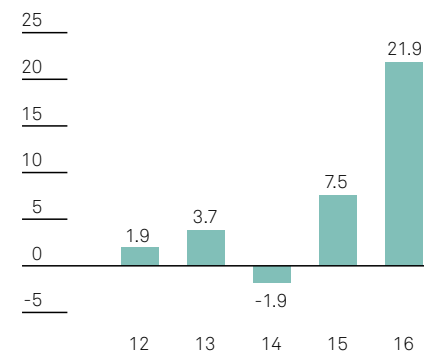
EUR 1,000	GROUP (IFRS)		PARENT COMPANY (FAS)	
INCOME STATEMENT	1.1.–31.12.2016	1.1.–31.12.2015	1.1.–31.12.2016	1.1.–31.12.2015
<b>Net sales</b>	<b>113,130</b>	<b>127,278</b>	<b>97,714</b>	<b>112,450</b>
Change in inventories of finished goods and work in progress	150	-313	464	-653
Other operating income	1,103	393	1,393	1,365
Total operating expenses	-105,825	-119,238	-90,725	-104,903
<b>Operating profit</b>	<b>8,558</b>	<b>8,120</b>	<b>8,846</b>	<b>8,258</b>
Financial income and expenses	-338	-1	1,355	888
<b>Profit before tax</b>	<b>8,220</b>	<b>8,118</b>	<b>10,201</b>	<b>9,147</b>
Appropriations (FAS)	-	-	-	36
Income taxes	-1,536	-1,435	-1,500	-1,457
<b>Profit for the financial year</b>	<b>6,684</b>	<b>6,684</b>	<b>8,702</b>	<b>7,725</b>
<b>BALANCE SHEET</b>	<b>31.12.2016</b>	<b>31.12.2015</b>	<b>31.12.2016</b>	<b>31.12.2015</b>
<b>Assets</b>				
Non-current assets	11,848	10,799	9,158	9,278
Current assets	57,918	50,960	54,059	47,602
<b>Total assets</b>	<b>69,767</b>	<b>61,760</b>	<b>63,217</b>	<b>56,879</b>
<b>Shareholders' equity and liabilities</b>				
Total shareholders' equity	34,217	29,700	32,632	26,705
Total liabilities	35,549	32,059	30,585	30,174
<b>Total shareholders' equity and liabilities</b>	<b>69,767</b>	<b>61,760</b>	<b>63,217</b>	<b>56,879</b>
<b>CASH FLOW STATEMENT</b>	<b>1.1.–31.12.2016</b>	<b>1.1.–31.12.2015</b>	<b>1.1.–31.12.2016</b>	<b>1.1.–31.12.2015</b>
Operating activities	21,237	7,477	19,778	5,602
Investing activities	-2,925	-2,329	250	-69
Financing activities	-1,158	-3,052	-4,025	-3,052
<b>Net change in cash and cash equivalents</b>	<b>17,154</b>	<b>2,096</b>	<b>16,003</b>	<b>2,481</b>

The complete consolidated statement of comprehensive income and balance sheet are presented in the financial statements which have been published as a separate electronic publication on the company's website at [www.raute.com](http://www.raute.com).

INVESTING IN THE FUTURE  
EUR million



OPERATING CASH FLOW  
EUR million

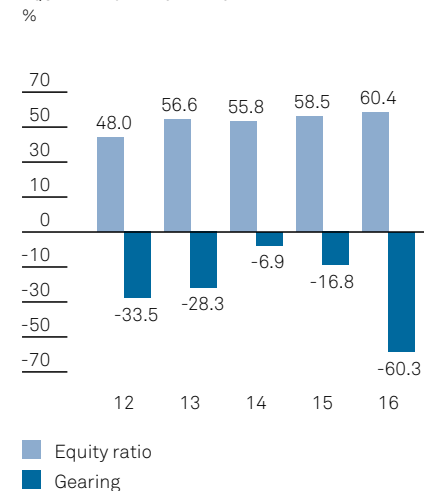


# FINANCIAL DEVELOPMENT

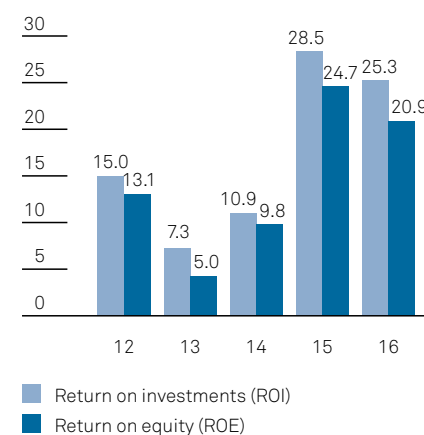
EUR 1,000	2016	2015	2014	2013	2012
Net sales	<b>113,130</b>	127,278	94,021	83,274	101,273
Change in net sales, %	<b>-11.1</b>	35.4	12.9	-17.8	36.3
Exported portion of net sales	<b>88,612</b>	97,113	88,696	78,436	95,099
% of net sales	<b>78.3</b>	76.3	94.3	94.2	93.9
Operating profit	<b>8,558</b>	8,120	2,605	1,828	5,022
% of net sales	<b>7.6</b>	6.4	2.8	2.2	5.0
Profit before tax	<b>8,220</b>	8,118	2,810	1,589	4,766
% of net sales	<b>7.3</b>	6.4	3.0	1.9	4.7
Profit for the financial year	<b>6,684</b>	6,684	2,361	1,196	2,985
% of net sales	<b>5.9</b>	5.3	2.5	1.4	3.0
Return on investment (ROI), %	<b>25.3</b>	28.5	10.9	7.3	15.0
Return on equity (ROE), %	<b>20.9</b>	24.7	9.8	5.0	13.1
Balance sheet total	<b>69,767</b>	61,760	52,646	48,783	63,076
Interest-bearing net liabilities	<b>-20,633</b>	-5,003	-1,669	-6,677	-8,087
% of net sales	<b>-18.2</b>	-3.9	-1.8	-8.0	-8.0
Non-interest-bearing liabilities	<b>31,760</b>	28,421	22,795	18,302	27,235
Equity ratio, %	<b>60.4</b>	58.5	55.8	56.6	48.0
Gearing, %	<b>-60.3</b>	-16.8	-6.9	-28.3	-33.5
Gross capital expenditure	<b>3,224</b>	2,506	1,675	3,189	3,529
% of net sales	<b>2.8</b>	2.0	1.8	3.8	3.5
Research and development costs	<b>2,863</b>	3,092	1,767	2,523	2,516
% of net sales	<b>2.5</b>	2.4	1.9	3.0	2.5
Order book, EUR million	<b>106</b>	60	44	28	50
Order intake, EUR million	<b>162</b>	145	112	63	116
Personnel at Dec. 31	<b>643</b>	646	587	534	503
Personnel effective, on average	<b>631</b>	614	530	515	480
Personnel, average	<b>642</b>	624	545	522	488
Dividend	<b>4,206 *</b>	3,303	1,606	801	2,002
Repayment of equity	<b>- *</b>	-	803	1,201	-

\* The Board of Directors' proposal to the Annual General Meeting.

EQUITY RATIO AND GEARING



RETURN ON INVESTMENT (ROI) AND RETURN ON EQUITY (ROE)



# SHARE-RELATED KEY FIGURES

	2016	2015	2014	2013	2012
Earnings per share (EPS), undiluted, EUR	<b>1.60</b>	1.65	0.59	0.30	0.75
Earnings per share (EPS), diluted, EUR	<b>1.59</b>	1.64	0.59	0.30	0.75
Equity to share, EUR	<b>8.13</b>	7.26	6.06	5.90	6.03
Dividend per series A share, EUR	<b>1.00 *</b>	0.80	0.40	0.20	0.50
Dividend per series K share, EUR	<b>1.00 *</b>	0.80	0.40	0.20	0.50
Dividend per profit, %	<b>62.5 *</b>	48.4	68.0	66.7	66.4
Effective dividend return, %	<b>6.0 *</b>	5.7	5.5	2.9	5.6
Price/earnings ratio (P/E ratio)	<b>10.41</b>	8.55	12.42	23.28	11.95
Repayment of equity from invested non-restricted equity reserve, EUR	<b>- *</b>	-	0.20	0.30	-

## Development in share price (series A shares)

Lowest share price for the financial year, EUR	<b>12.06</b>	7.17	6.90	6.88	6.18
Highest share price for the financial year, EUR	<b>17.98</b>	14.25	8.60	9.33	9.24
Average share price for the financial year, EUR	<b>14.50</b>	11.95	7.69	8.49	8.22
Share price at Dec. 31, EUR	<b>16.70</b>	14.12	7.30	6.95	9.00
Market value of capital stock at Dec. 31, EUR 1,000 **	<b>70,248</b>	58,057	29,311	27,833	36,043

## Trading in the company's shares (series A shares)

Shares traded during the financial year, 1,000 shares	<b>988</b>	1,095	594	514	302
% of the number of series A shares	<b>30.7</b>	35.1	20.0	17.0	10.0

## Total number of shares (undiluted)

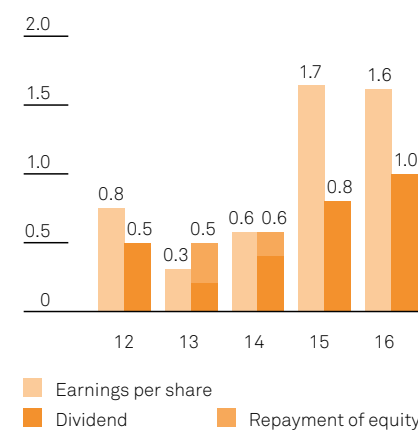
Issue-adjusted weighted average number of shares	<b>4,166,966</b>	4,051,034	4,009,777	4,004,758	4,004,758
Issue-adjusted number of shares at the end of the financial year	<b>4,206,462</b>	4,111,708	4,015,228	4,004,758	4,004,758

The deferred tax liabilities have been included in the calculation of the key ratios.

\* Board of Directors' proposal to the Annual General Meeting.

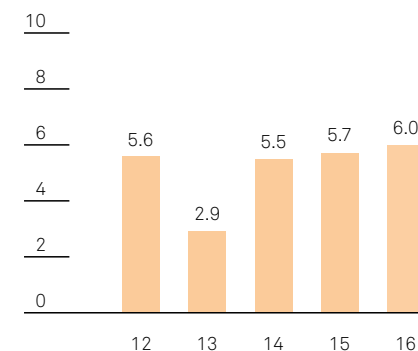
\*\* Series K shares valued at the value of series A shares.

## EARNINGS/SHARE AND DIVIDEND EUR



\* Board of Directors' proposal to the AGM

## EFFECTIVE DIVIDEND RETURN %



\* Board of Directors' proposal to the AGM

# BOARD OF DIRECTORS

- No fewer than five and no more than seven members.
- The term of office begins at the Annual General Meeting and ends at the following Annual General Meeting.
- Majority of Board members independent of the company, of which members at least two must be independent of the company's major shareholders.
- Convenes, on average, ten times during the term of office.
- In addition to statutory tasks and those defined in the Articles of Association, the Board approves the company strategy and budget annually, and, based on management reports, regularly monitors the Group's financial status and draws up interim reports.
- Carries out an annual self-evaluation.
- Handles the Audit Committee's tasks.
- The activities of the Board of Directors are supported on a case-by-case basis by a project-specific Working Committee.

## Auditor

The authorized public accountants PricewaterhouseCoopers with Authorized Public Accountant Markku Launis as the principal auditor.



## Erkki Pehu-Lehtonen

b. 1950, M.Sc. (Eng.)  
Chairman of the Board 2009–

Member of the Board 2009–

Chairman of the Board's Working Committee and Appointments Committee

Independent of the company and of major shareholders

Erkki Pehu-Lehtonen was Senior Adviser to the Board of Pöyry Plc in 2008–2010 and Pöyry Plc's President and CEO in 1999–2008. He was President of Jaakko Pöyry Oy, a subsidiary of Pöyry Plc in 1996–1999 and Executive Vice President of the company in 1994–1996. Before joining the Pöyry Group, Erkki Pehu-Lehtonen held top management positions at, among others, Neles-Jamesbury, Inc. and Valmet Paper Machinery Inc.

**Simultaneous positions of trust:**  
None

**Raute shares on December 31, 2016:**  
1,000 pcs series A shares



## Mika Mustakallio

b. 1964, M.Sc. (Econ.), CEFA  
Member of the Board 2004–

Vice Chairman of the Board 2012–

Member of the Board's Working Committee and Appointments Committee

Dependent on the company, dependent on major shareholders

Mika Mustakallio has been President of MORS Software Oy since 2006 and a bank risk management specialist since 2001. Prior to this, in 1995–2000, he worked at Svenska Handelsbanken as the Head of Risk Control and in 1991–1995 at Price Waterhouse as a consultant.

**Simultaneous positions of trust:**  
None

**Raute shares on December 31, 2016:**  
57,580 pcs series K shares  
26,270 pcs series A shares



## Pekka Suominen

b. 1976, M.Sc. (Econ.)  
Member of the Board 2010–

Member of the Board's Appointments Committee

Independent of the company, dependent on major shareholders

Pekka Suominen was Business Manager of Talentum Events Oy in 2007–2012.

**Simultaneous positions of trust:**  
FBN Perheyrityspalvelut Oy, member of the Board 2014–

Family business delegation of the Finnish Family Firms Association, member 2015–

Finnish Family Firms Association, Interest representation working group, member 2015–

Next Level successor activity working group, Chairman 2016–

**Raute shares on December 31, 2016:**  
48,000 pcs series K shares  
62,429 pcs series A shares



### Joni Bask

b. 1975, M.Sc. (Eng.)  
Member of the Board 2012–

Independent of the company,  
dependent on major shareholders

Joni Bask has worked for Varian Medical Systems Finland Oy in product development and managerial roles as of 2003. Current main position: Systems Engineering Manager, Varian Medical Systems Finland Oy 2013–.

**Simultaneous positions of trust:**  
None

**Raute shares on December 31, 2016:**  
17,250 pcs series K shares  
4,450 pcs series A shares



### Päivi Leiwo

b. 1964, LL.M., MBA  
Member of the Board 2014–

Independent of the company and  
of major shareholders

Päivi Leiwo has held the position of Chairman of the Board of Directors for her family company Oilon Oy since 2009. Previously, she worked as Oilon Oy's lawyer from 1989 through 2009.

**Simultaneous positions of trust:**  
Federation of Finnish Technology Industries, member of the Board 2012–

Finpro Oy, Chairman of the Board 2016–  
Central Chamber of Commerce,  
Vice Chairman 2016–

**Raute shares December 31, 2016:**  
No shares



### Patrick von Essen

b. 1963, M.Sc. (Eng.)  
Member of the Board 2016–

Independent of the company and  
of major shareholders

Patrick von Essen has held the position of Dovre Group Oyj's President and CEO as of 2014. He has previously held senior business development and project management positions at Fiskars Corporation (2012–2014), Neste Jacobs Oy (2011–2012), Pöyry Group Oyj (1999–2011) and ABB Service Oy (1998–1999).

**Simultaneous positions of trust:**  
Etteplan Oyj,  
member of the Board 2014–

**Raute shares December 31, 2016:**  
100 pcs series A shares

## ELECTION OF BOARD MEMBERS

Board members are elected annually at the Annual General Meeting. The Annual General Meeting elects the Chairman of the Board of Directors, the Vice Chairman and the members of the Board. The Board members do not have a special order of appointment.

The Appointments Committee prepares and makes a proposal concerning the number of Board members and the composition of the Board of Directors.

The Appointments Committee strives to achieve a diverse Board composition that supports the achievement of strategic targets and development of the business. Diversity is examined through a variety of factors that include the Board's age and gender distribution, the educational and professional backgrounds of the members, experience that is significant in terms of the position and personal characteristics. The purpose of the principles concerning diversity is to contribute to ensuring that the competence and experience of the Board, as a whole, and the diversity of its composition are sufficient to meet the needs of Raute's business model and ownership structure. In terms of the gender distribution, the goal is for at least one member of each gender to be represented.

The Board of Directors assesses the achievement of diversity in its self-evaluation.

The Charter and tasks of the Board of Directors are described in more detail in the Administrative Instructions and Corporate Governance Statement available on the company's website.

# EXECUTIVE BOARD

## PRESIDENT AND CEO

Is responsible for the management of Raute's business according to the Finnish Companies Act and the decisions and instructions of the Board of Directors.

Reports to the Board of Directors on the business environment, such as on customers, the competitive and market situation as well as Raute's financial standing and other important issues.

Functions as the Chairman of the Group's Executive Board and represents the Group at the shareholders' meetings of subsidiaries and associates, and acts as Chairman of the subsidiaries' Boards of Directors, unless the Board decides otherwise in individual cases. The Board evaluates the President and CEO's work annually.

## GROUP'S EXECUTIVE BOARD

Consists of the President and CEO, who acts as the Chairman, and of a variable number of members whose appointments are confirmed by Raute Corporation's Board of Directors.

Prepares the Group's business strategy and is in charge of its implementation.

Deals with all major operational issues, and its decisions are confirmed by the President and CEO.



**Tapani Kiiski**

b. 1962, Licentiate in Technology, M.Sc. (Eng.)  
President and CEO, March 16, 2004–

**With the company since:** 2002–

**Member of the Executive Board since:**  
March 16, 2004

**Employment history:**  
Raute Corporation 2002–2004: various positions such as Technology Director, Sales Director; KCI Konecranes International Plc 1994–2002: various positions, such as CIO; KONE Corporation, Kone Cranes 1985–1994: various positions, such as R&D Manager, R&D Director

**Simultaneous positions of trust:**  
Helkama Bica Oy, member of the Board 2014–; Häme Chamber of Commerce, Chairman of the Board 2014–; Federation of Finnish Technology Industries, member of the Board 2016–; Technology Academy Finland, member of the Board 2016–

**Raute shares and stock options on December 31, 2016:**  
18,000 pcs series A shares  
10,000 pcs stock options 2010 C



**Arja Hakala**

b. 1957, M.Sc. (Econ.), MBA  
Group Vice President, Finance, Chief Financial Officer, October 8, 2003–  
Deputy to President and CEO, October 16, 2004–

**With the company since:** 1990–

**Member of the Executive Board since:**  
January 1, 2001

**Employment history:**  
Raute Corporation 1990–2003; Administrative Director; Luhta Oy 1985–1990: Controller

**Raute shares and stock options on December 31, 2016:**  
1,750 pcs series A shares



**Petri Strengell**

b. 1962, M.Sc. (Eng.)  
Group Vice President, Supply Chain, October 1, 2013–

**With the company since:** 1987–

**Member of the Executive Board since:**  
June 1, 2004

**Employment history:**  
Raute Corporation 1987–2013: various positions, such as Group Vice President, Technology and Operations; Engineering Manager, Production Director

**Raute shares and stock options on December 31, 2016:**  
5,250 pcs series A shares



## Timo Kangas

b. 1965, Engineer  
Group Vice President,  
Market area EMEA, October 1, 2013–

**With the company since:** 2004–

**Member of the Executive Board since:**  
October 1, 2004

**Employment history:**  
Raute Corporation 2004–2013: various positions, such as Group Vice President, Customer Care; Group Vice President, Technology Services; Maintenance Service Manager; YIT Corporation 1999–2004: various positions in maintenance and equipment sales in forest, paper and food industry projects

**Raute shares and stock options on December 31, 2016:**  
No shares or stock options



## Mika Hyysti

b. 1965, B.Sc. (Eng.)  
Group Vice President, Technology,  
October 1, 2013

**With the company since:** 1990–

**Member of the Executive Board since:**  
October 1, 2013

**Employment history:**  
Raute Corporation 1990–2013: various positions, such as Automation Engineering Manager, R&D Manager and Technology Manager

**Raute shares and stock options on December 31, 2016:**  
3,700 pcs series A shares  
1,000 pcs stock options 2010 C



## Marko Hjelt

b. 1969, M.Ed.  
Group Vice President,  
Human Resources, October 1, 2013–

**With the company since:** 2013–

**Member of the Executive Board since:**  
October 1, 2013

**Employment history:**  
Raute Corporation 2013: Group HR Manager; Go On Yhtiöt 2010–2012: Head of the unit in Lahti and Hämeenlinna, Finland; Mercuri Urval 1999–2009: Senior Consultant.

**Raute shares and stock options on December 31, 2016:**  
200 pcs series A shares  
2,500 pcs stock options 2010 B  
2,500 pcs stock options 2010 C



## Antti Laulainen

b. 1967, M.Sc. (Eng.)  
Group Vice President,  
Technology Services and  
Sales Management, March 14, 2016–

**With the company since:** 2016–

**Member of the Executive Board since:**  
March 14, 2016

**Employment history:**  
Independent consultant 2014–2016; Outotec Oyj 2010–2013: Vice President, Market Operations; NSN/Nokia Networks 1997–2009: different executive roles, for example, in service business, management of operations and customer operations.

**Raute shares and stock options on December 31, 2016:**  
No share or stock options

# INFORMATION FOR SHAREHOLDERS

**Raute** is a financially sound Small Cap company with a family background. Raute operates globally and is the leader in its field.

## Corporate governance

The Parent company, Raute Corporation, is a Finnish public limited liability company which abides by the Finnish Companies Act, the Securities Markets Act, Nasdaq Helsinki Ltd's rules, other regulations concerning publicly listed companies and Raute Corporation's Articles of Association in its decision-making and corporate governance. The company's Board of Directors has also issued Administrative Instructions for the company and approved the Code of Conduct.

Raute Corporation's Articles of Association, Administrative Instructions, Corporate Governance Statement and other information related to the company's governance and investor relations are available on Raute's website, [www.raute.com](http://www.raute.com). Information concerning the Group's administration and risk management is also included in the Report of the Board of Directors and Financial Statements.

## Dividend policy

Raute exercises an active dividend policy. Its aim is to ensure competitive returns for its investors. Dividend payment takes into account future investment needs and the goal of maintaining a solid equity ratio. Due to the nature of the project business, the dividend is not directly tied to the annual result.

## Publishing of financial information

In all of its communications, Raute abides by the requirements of the Finnish Securities Markets Act and Nasdaq Helsinki Ltd's rules and requirements targeting listed companies concerning accurate and simultaneous disclosure of information.

As the achievement of strategic targets and annual forecasts is strongly dependent on the performance of the global economy, the timing of customers' individual investment projects and the precision of percentage of completion predictability, Raute does not publish time-bound numeric key figures for financial goals and earnings guidance.

Raute publishes financial information (Annual Report, Financial Statements and Interim Reports) and stock exchange releases and notifications in both Finnish and English. Read more about Raute's investor communications policy on the company's website at [www.raute.com](http://www.raute.com).

## Persons responsible for investor relations:

Tapani Kiiski, President and CEO  
Arja Hakala, CFO  
tel. +358 3 829 11  
email: [ir@raute.com](mailto:ir@raute.com)

## Analysts monitoring Raute:

Inderes Oy  
In addition, other analysis companies occasionally draw up reports on the company.  
Raute is not liable for the estimates presented in the analyses.

## Risks and risk management

The Group's identified key risk areas relate to the nature of the business, the business environment, financing, and damage or loss. The fluctuation in demand resulting from economic cycles and delivery and technology risks have been identified as the Group's most significant business risks.

Raute's risk management policy is approved by the Board of Directors. The Board is responsible for organizing internal control and risk management, and for monitoring their efficiency.

Raute has no separate internal auditing organization. The Controller function oversees the annual internal control plan approved by the Board, develops internal control and risk management procedures together with the operative leadership, and monitors compliance with risk management principles, operational policies and powers.

## Raute shares and stock options

### Series of shares

Raute Corporation has two series of shares. Series A shares have been quoted on the Nasdaq Helsinki Ltd since 1994.

SHARE	NUMBER DEC. 31, 2016	VOTES/ SHARE	TOTAL VOTES
A share RAUTE	3,215,301	1	3,215,301
K share RAUTEK	991,161	20	19,823,220
Total	4,206,462		23,038,521

Share quotations can be followed online at [www.raute.com](http://www.raute.com).

## 2010 stock options

Raute's 2010 stock options began trading on Nasdaq Helsinki Ltd on April 27, 2015.

STOCK OPTIONS	SHARE SUBSCRIPTION PERIOD ENDS	ORIGINAL EXERCISE PRICE	EXERCISE PRICE DECEMBER 31, 2016	UNSUBSCRIBED STOCK OPTIONS DECEMBER 31, 2016
2010 B RAUTEW210	Mar 31, 2017	EUR 9.83	EUR 7.13	16,449
2010 C RAUTEW310	Mar 31, 2018	EUR 8.40	EUR 6.00	31,370

From the share subscription price shall be deducted the amount of the dividend or distribution of funds from the distributable equity fund decided after the beginning of the period for determination of the subscription price but before share subscription.

## LARGEST SHAREHOLDERS AT DECEMBER 31, 2016

BY NUMBER OF SHARES	NUMBER OF SERIES K SHARES	NUMBER OF SERIES A SHARES	TOTAL NUMBER OF SHARES	% OF TOTAL SHARES	TOTAL NUMBER OF VOTES	% OF VOTING RIGHTS
Sundholm Göran	–	622,942	622,942	14.8	622,942	2.7
Mandatum Life Unit-Linked	–	131,196	131,196	3.1	131,196	0.6
Laakkonen Mikko	–	119,919	119,919	2.9	119,919	0.5
Suominen Pekka	48,000	62,429	110,429	2.6	1,022,429	4.4
Siivonen Osku Pekka	50,640	53,539	104,179	2.5	1,066,339	4.6
Kirimo Kaisa Marketta	55,680	48,341	104,021	2.5	1,161,941	5.0
Suominen Tiina Sini-Maria	48,000	53,816	101,816	2.4	1,013,816	4.4
Relander Harald, estate	–	85,000	85,000	2.0	85,000	0.4
Keskiaho Kaija Leena	33,600	51,116	84,716	2.0	723,116	3.1
Mustakallio Mika Tapani	57,580	26,270	83,850	2.0	1,177,870	5.1
Särkijärvi Anna Riitta	60,480	22,009	82,489	2.0	1,231,609	5.3
Mustakallio Marja Helena	46,740	16,047	62,787	1.5	950,847	4.1
Mustakallio Kari Pauli	60,480	500	60,980	1.4	1,210,100	5.3
Särkijärvi Timo Juha	12,000	43,256	55,256	1.3	283,256	1.2
Särkijärvi-Martinez Anu Riitta	12,000	43,256	55,256	1.3	283,256	1.2
Suominen Jukka Matias	24,960	27,964	52,924	1.3	527,164	2.3
Keskinäinen työeläkevakuutusyhtiö Varma	–	51,950	51,950	1.2	51,950	0.2
Mustakallio Ulla Sinikka	49,740	–	49,740	1.2	994,800	4.3
Suominen Jussi Matias	48,000	–	48,000	1.1	960,000	4.2
Keskiaho Ilta Marjaana	24,780	19,094	43,874	1.0	514,694	2.2
<b>Total</b>	<b>632,680</b>	<b>1,478,644</b>	<b>2,111,324</b>	<b>50.2</b>	<b>14,132,244</b>	<b>61.3</b>

## Board of Directors' proposal for the distribution of profit

The Board of Directors will propose to Raute Corporation's Annual General Meeting for 2017, to be held on March 28, 2017, that a dividend of EUR 1.00 per share be paid for the financial year 2016, and that the remainder of distributable assets be transferred to equity.

Shareholders who are registered in the shareholders' register maintained by Euroclear Finland Ltd on the record date for dividend payment, March 30, 2017, are entitled to dividends. The dividend payment date is April 6, 2017.

## Annual General Meeting

Raute Corporation's Annual General Meeting will be held on Tuesday, March 28, 2017 at 6 p.m. at Sibelius Hall, Ankkurikatu 7, Lahti, Finland.

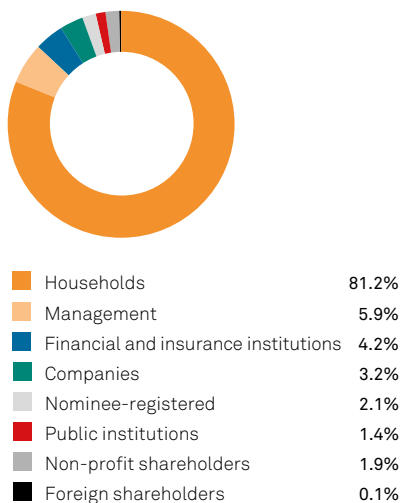
In 2017 Raute Corporation will publish a half-year report and two interim reports as follows:

- January–March on Friday, April 28, 2017
- January–June on Tuesday, August 1, 2017
- January–September on Tuesday, October 31, 2017.

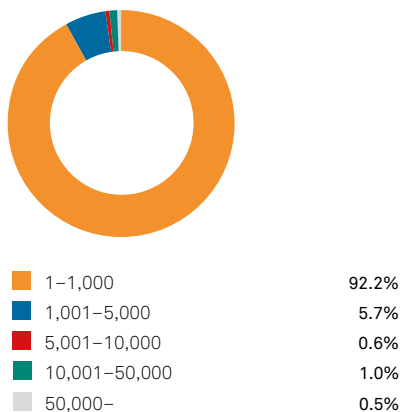
The printed Annual Report will be mailed to the 200 largest shareholders and to others by request. Financial publications can also be ordered in print or as printouts by phone from +358 3 829 11 or by email from ir@raute.com.

# OWNERSHIP AND SHARES

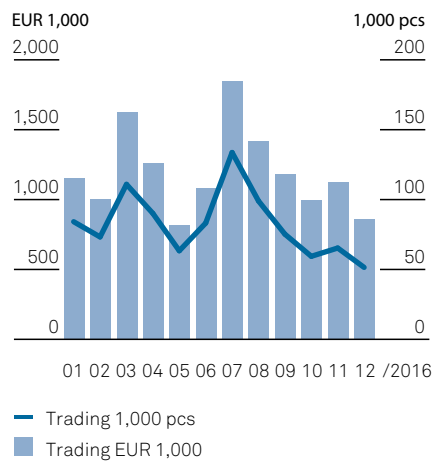
SHARE OWNERSHIP BY SHAREHOLDER CATEGORY AT DEC. 31, 2016



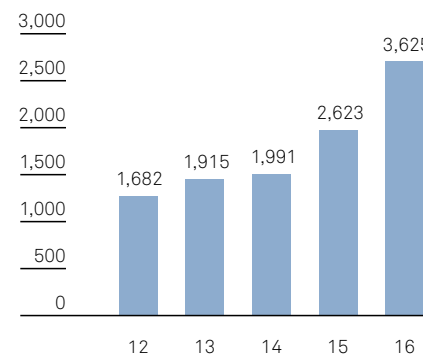
SHARE OWNERSHIP BY NUMBER OF SHARES AT DEC. 31, 2016  
Shareholders, %



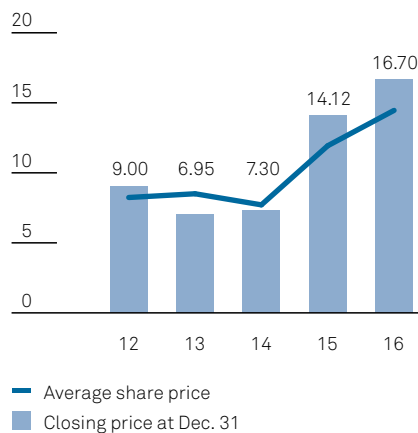
TRADING IN SERIES A SHARES 2016



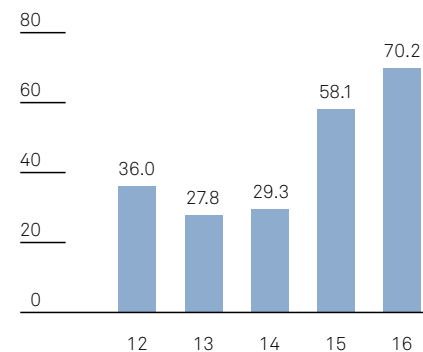
NUMBER OF SHAREHOLDERS AT DEC. 31



DEVELOPMENT OF SHARE PRICE  
EUR



MARKET VALUE OF CAPITAL STOCK AT DEC. 31  
EUR million



*Series K shares appreciated to the value of series A shares.*

Annual Report 2016  
Content: Raute Corporation and Pohjoisranta Burson-Marsteller Oy  
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WOOD PRODUCTS MADE  
WITH RAUTE'S MACHINES  
WILL STORE THE CARBON  
DIOXIDE ABSORBED BY  
TREES FOR DECADES.