Annual Report 2014






LIEBHERR

Annual Report 2014

Introductory Remarks by the Family Shareholders

The 2014 Business Year

Dear readers,

Last year our family-owned group of companies recorded a turnover of more than 8.8 billion euros. Dedicated effort by our employees, who now number approximately 41,000, made it possible to achieve our joint business targets. Although remarkable dynamism was evident in certain business sectors, such as in maritime cargo handling, the market confronted us at least in part with some major challenges. For example, the mining industry remained weak and political tension rendered the situation uncertain in various regions of the world.

Even in periods when general conditions are far less than ideal, continued investment remains an integral element in our corporate strategy. In 2014 we again invested considerable sums in our international production network and in sales and service, but above all in research and development. Our powers of innovation safeguard our ability to compete and ensure our Group's future success. Last but not least, our products promote progress in many other, often widely different, business sectors.

This annual report, now in a restructured format, contains several examples of Liebherr's technological competence. Our strength derives from our mastery of key technologies, for instance in the driveline and control systems areas. Some of the varied research and development activities associated with the Group's components division are described here. They are part of our response to challenges that will determine the path that machinery construction takes in the future.

From the very start our family-owned company has stood for progress and an inventive spirit. With will-power and determination our father and grandfather Hans Liebherr developed pioneering inventions and exhibited his innate awareness of products with a future. The founder of our company would have been 100 years old this year. We have therefore taken this opportunity of paying tribute to him in a portrait.

The family shareholders active in the Group (from left to right): Patricia Ruef, Stéfanie Wohlfarth, Jan Liebherr, Sophie Albrecht, Isolde Liebherr and Willi Liebherr

Refrigerators and freezers joined our product programme many years ago – by no means an insignificant decision. The first Liebherr refrigerator was developed in 1954, and in many countries of Western Europe at that time, not even one household in ten owned a refrigerator. Today there are hardly any households without one, and it is becoming a visually important element in the home. This justifies a closer look in this annual report at the design process that creates and defines our domestic appliances.

We have also included the career descriptions of three of our employees, that are representative of what quality, reliability and innovative strength mean in the Liebherr Group. Although their job descriptions may well be quite different, the Group's employees are united by the spirit of enthusiasm they bring to their day-to-day work, and we extend our most sincere thanks to all of them for their contribution to the Group's success in 2014.

In thanking our customers and associates for their loyalty we confirm our determination to remain a responsive, trustworthy partner in the years ahead. Evidence of this can be seen for example in our new logistics centre in South Germany, which will supply the needs of our earthmoving division's customers even more rapidly and efficiently. Another article in the report describes how Liebherr machinery is operating reliably in widely differing conditions.

In the current year the signals are set for growth. We expect all our product areas to match last year's turnover or in some cases to exceed it quite clearly. Our workforce will probably continue to grow, and we shall add a further chapter to our Group's history of success.

Dr. h.c. Dipl.-Kfm.
Isolde Liebherr

Dr. h.c. Dipl.-Ing. (ETH)
Willi Liebherr

Presiding Committee of the administrative board of Liebherr-International AG

Brief Portrait of the Group

Brief Portrait

The Liebherr Group

Hans Liebherr established the company that bears his name in 1949. Since then it has grown into a group of more than 130 companies on all continents, employing 40,839 people at the latest count.

Today, Liebherr is not only among the world's largest manufacturers of construction machinery, but is an acknowledged supplier of technically advanced, user-oriented products and services in many other fields of activity as well. The Group's holding company Liebherr-International AG, which is based in Bulle, Switzerland, is wholly owned by members of the Liebherr family. The Liebherr Group's corporate culture has been determined from its earliest days by its family ownership. For more than 60 years, Liebherr has demonstrated what this means in terms of stability and trustworthiness, and has striven for a close long-term relationship with its customers and business associates.

Liebherr shapes technological progress and aims to retain its position at the leading edge of future technology. All its activities have top quality as their central element. This principle is upheld by all the Group's employees in their day-to-day work. Liebherr's products are the outcome of its passion and dedication: tailormade solutions that take the customer's needs and wishes as their starting point.

Principal locations of Liebherr companies

40,839
employees

> 130
companies

11
divisions

40
production companies

8,823
million € turnover

816
million € investments

The Group's divisions

- Earthmoving
- Mining
- Mobile cranes
- Tower cranes
- Concrete technology
- Maritime cranes
- Aerospace and transportation systems
- Machine tools and automation systems
- Domestic appliances
- Components
- Hotels

Self-conception

The Liebherr Group is wholly owned by members of the Liebherr family, and this situation is not about to change. The Group and the family are inseparable. Value-oriented corporate culture ensures close links among the employees, and inspires confidence among customers and business associates.

Hans Liebherr established the original company, and his ideas and untiring personal effort were the elements that led to its successful growth and sound structural basis. Liebherr has demonstrated its stability and trustworthiness for more than 60 years, and these vital factors derive from the personal efforts of its proprietors and the corporate character of a family-owned business enterprise, the independence of which gives Liebherr ample freedom in all its actions and the decisions it takes.

The shareholders in the family-owned group are Hans Liebherr's children and grandchildren, who play an active part in the management of various Group divisions. They uphold his tradition and ensure security and continuity. The family, as the Group shareholders, is conscious of its business responsibility and pursues a clear, well-structured path that points the way toward sound ongoing development. Job security for the workforce and consistent integrity in business activity are elements of major importance in corporate management.

Company data

Liebherr-International AG

Head-office	CH-1630 Bulle / FR
Share capital	CHF 100,000,000
Shareholders	Liebherr family (100 %)
Administrative board	Dr. h.c. Willi Liebherr, Chairman Dr. h.c. Isolde Liebherr, Vice-Chairman Hubert Liebherr Sophie Albrecht Jan Liebherr Patricia Ruef Stéfanie Wohlfarth
Managing directors	Andreas Boehm Stefan Heissler Uwe Rechtsteiner Denis Zosso
Auditors	Ernst & Young AG, Berne

From generation to generation

Liebherr is thus an independent family-owned business enterprise that is now managed jointly by members of the second and third generations. This continuity is a characteristic of the Group and a firm foundation for its success.

The highest level of decision-taking and management within the Group is a committee of partners made up entirely of members of the Liebherr family. All fundamental questions of corporate procedure and development, product, financial and investment policy come before this body.

In addition to Dr. h.c. Willi Liebherr and his sister Dr. h.c. Isolde Liebherr, members of this policy-making body are Jan Liebherr, Stéfanie Wohlfarth, Sophie Albrecht and Patricia Ruef, all representing the third Liebherr family generation. The active part played by the children and grandchildren of company founder Dr.-Ing. E.h. Hans Liebherr guarantees management continuity and will ensure in future that the Group remains insolubly linked with the Liebherr family.

The family shareholders active in the Liebherr Group

Dr. h.c.
Willi Liebherr

Chairman of the administrative board of Liebherr-International AG

Dr. h.c.
Isolde Liebherr

Vice-Chairman of the administrative board of Liebherr-International AG

Jan Liebherr

Member of the administrative board of Liebherr-International AG

Stéfanie Wohlfarth

Member of the administrative board of Liebherr-International AG

Sophie Albrecht

Member of the administrative board of Liebherr-International AG

Patricia Ruef

Member of the administrative board of Liebherr-International AG

The Group's business model

User value

For more than 60 years Liebherr, as an independent family-owned group of companies, has stood for a high standard of user-oriented products and services in many technical areas. The Group offers customers all over the world and in many different business sectors, access to leading-edge, innovative technologies, with all the benefits of tailormade solutions and genuine user benefits in the product and service areas.

Products and customer segments

For the construction and commodity extraction industries all over the world the Liebherr Group builds and sells tower cranes, mobile and crawler cranes, hydraulic excavators, material handling machines, duty-cycle crawler cranes, wheel loaders, crawler tractors and loaders, pipelayers, telescopic-boom loaders, dumper trucks, concrete mixing plant, concrete pumps and truck mixers. In addition Liebherr develops, builds and maintains worldwide ship, pontoon, offshore, container and mobile harbour cranes designed to handle cargoes of the most varied nature. In the plant and machinery area its activities include machine tools, automation systems and engineering projects. For the aerospace industry it supplies undercarriages, flight control, actuating and air management systems. Its transportation systems business area produces equipment for rail vehicles. Liebherr's large, varied range of domestic and commercial refrigerators and freezers provides high levels of user benefit. In the components area, the Group specialises in the design, development and manufacture of technical products for mechanical, hydraulic and electric driveline and control systems. Last but not least, the Group operates six hotels in Ireland, Austria and Germany.

Distribution channels

Products and services are supplied by way of a widespread network of Group-owned sales and service companies, and also through reputable partners with which Liebherr has enjoyed many years of loyal cooperation.

Customer relations

Liebherr aims to build up and maintain close cooperation with its customers and business associates over a period of years or decades. Its aim is to respond quickly, flexibly and reliably to their needs and satisfy them by supplying top-quality technologies. This close relationship with customers and the high value that Liebherr attaches to user benefit are keys to the Liebherr Group's success and a firm element in its corporate tradition as a family-owned business.

Key activities

The Liebherr Group develops, produces and sells innovative, user-oriented products and services.

Key resources / added value chain and key partnerships

Liebherr invests unceasingly in research and development, and can therefore call upon considerable powers of innovation. To develop its capabilities, the Group undertakes partnerships with universities of applied science and similar institutions all over the world. Liebherr's international activities are backed by the skills and qualifications of approximately 41,000 employees.

A network of more than 40 ultramodern production plants in 17 countries and many years of cooperation with suppliers within and outside the Liebherr Group have put it in a position to offer innovative products of impressive quality at competitive prices. Well-planned parts supply logistics and high standards of after-sales service are the final decisive links in the Liebherr business model.

Liebherr dedicates itself to mastery of key technologies down to the smallest detail, and can therefore claim a high degree of independence in technological areas.

Thanks to a high equity ratio Liebherr is in a position to grow organically and rely on its internal strength.

Earnings and cost structure

Liebherr generates its earnings from product sales and rentals and from the supply of services.

Certain divisions within the Liebherr Group profit from economies of scale as their production volume rises. Others are more closely focused on the development of tailormade solutions for individual customers. In such cases Liebherr concentrates on the creation of additional premium value for its customers and supplies services with a high degree of specific client relevance. The Liebherr Group benefits from synergies that derive from its broad product portfolio, its mastery of key technologies and other factors. In many cases the supply chain is global in character.

With its eleven divisions the Group pursues a policy of diversification that makes it independent of economic fluctuations in individual business sectors or markets. The profits earned by the Group are re-invested internally with the aim of achieving long-term success in line with its management perspective.

Organisational structure

The Group's holding company is Liebherr-International AG, with its registered office in Bulle, Switzerland. The corporate structure ensures a unified approach to questions of central importance and permits a rapid response to market requirements at divisional level. The Group's decentralised structure offers a number of advantages. Besides customer proximity, the ability to adapt quickly to changes is made possible, since a minimum of hierarchical levels encourages the implementation of new ideas with no loss of time. Divisional management companies are responsible for overall operative management in the various product areas.

Expansion of production site for diesel and gas engines in Bulle, Switzerland

Magazine

2014 – The Business Year

Highlights

In 2014 Liebherr's product divisions and companies at home and abroad were active in a variety of different areas.

January

Praise for the T 264

The 240-tonne T 264 mining truck receives the Mining Magazine Award for outstanding new technologies in opencast mining. This new model is designed for maximum efficiency when working with hydraulic and electric excavators or wheel loaders in the ultra performance category.

February

Extensions in Bulle

The production plant in Bulle, Switzerland, is being enlarged. The buildings, which include a new logistics and training centre and extensions to the development centre and production facilities, are scheduled for completion by 2020.

March

"Conexpo" in Las Vegas

At the "Conexpo" trade fair in Las Vegas, NV/USA, visited by over 125,000 people, Liebherr displays more than 20 construction machines on its stand, which has an area of 4,600 m².

March

iF Design Prize for LH 60 material handler

The LH 60 Litronic gains an iF design award in the product design category of the 2014 competition.

April

2014 world table tennis championship held in Tokyo

The Liebherr Group acts as sponsor for the world table tennis tournament in Japan and has for many years sponsored the German and Austrian national table tennis teams.

May

Liebherr at the 2014 “ILA”

During the 2014 “International Aerospace Exhibition” (ILA) in Berlin, Germany, Chancellor Angela Merkel visits the Liebherr stand.

May

New training centre in Kirchdorf

Liebherr opens its new initial and advanced training facility in Kirchdorf an der Iller, Germany. With a floor area of 5,700 m², it is being used by about 170 apprentices from the Group’s companies based in Kirchdorf.

May

40th anniversary in Brazil

The Liebherr Group celebrates 40 years of activity in Brazil. Liebherr Brasil Ltda. in Guaratinguetá currently builds tower cranes, wheel loaders, offshore cranes and truck mixers, and also performs national sales and service functions for the Group.

June

New premises in the Berlin-Brandenburg region

At the end of June Liebherr opens its new sales, rental and service centre in Kleinmachnow, Germany, for earthmoving and material handling machinery. The new subsidiary has more than 11,000 m² of circulation and showroom space.

June

30,000th mobile crane delivered

Liebherr-Werk Ehingen GmbH hands over its 30,000th mobile crane, an LTM 1500-8.1, to the customer. The 20,000th mobile crane was delivered in 2006.

July

Design prizes for domestic appliances

Liebherr receives Red Dot Design Awards in the product design category for the CBNPbs 3756 BlackSteel combined refrigerator-freezer and for the SBS 70I4 side-by-side combination with provision for integration.

July

25th anniversary of Liebherr Sunderland Works Ltd.

Some 400 invited guests celebrate the 25th anniversary of Liebherr Sunderland Works Ltd. in Sunderland, Great Britain. Between 1989 and 2014 more than 2,000 offshore and ship cranes were built.

August

15-millionth refrigerator built in Lienz

At the end of August the 15-millionth appliance leaves the production plant in Lienz, Austria. Established in 1980, Liebherr-Hausgeräte Lienz GmbH now employs about 1,320 people. The main production emphasis is on refrigerators and freezers for commercial users.

September

New headquarters opened in Sweden

Liebherr-Sverige AB officially opens its new site in Västerås, Sweden, from which it sells and services the Liebherr earthmoving and special civil engineering machinery operated by Swedish customers.

September

Liebherr-Verzahntechnik at the “AMB”

At the “AMB” international metalworking trade fair in Stuttgart, Germany, the machine tools and automation systems division exhibits a large number of new products, including the new SKE 120 shaping head intended for jobbing companies in the gear cutting trade.

October
New Reman-Centre in Adelaide

In Adelaide, Australia, Liebherr built a new centre for the reconditioning of mining components. With a floor area of 16,000 m², the building is completed in the autumn of 2014.

November
Awareness of disability

During the national week devoted to increased awareness of disabilities in France, Liebherr-Aerospace Toulouse SAS holds several events involving employees with disabilities.

November
Asian premieres at the 2014 "Bauma China"

At the seventh "Bauma China" trade fair held in Shanghai, several Liebherr products have their Asian premieres: the R 966 crawler excavator, the R 9100 mining excavator and the LTM 1300-6.2 mobile crane.

November
40 years of mobile harbour crane production

More than 1,200 cranes at work in almost 100 countries: Liebherr has built these cranes for the past 40 years and introduced many technological innovations during that time.

December
Awards for the R 956

The new R 956 crawler excavator gains a place on the winner's podium not once but twice: "Construction Equipment" includes it on its list of "100 Best New Products" and for the Magazine "Aggregates Manager" it is among the best products new to the market in 2014.

December
"Helping Hand" promotional prize

The German Ministry of Internal Affairs presents its "Helping Hand" prize to Liebherr-MCCtec Rostock GmbH – an accolade awarded to companies providing exceptional support for employees who undertake voluntary welfare work.

Interview

“For Us, the Long View Is Important, Not Short-Term Success”

Questions to Dr. h.c. Dipl.-Kfm. Isolde Liebherr, Vice-Chairman of the administrative board of Liebherr-International AG, and Dr. h.c. Dipl.-Ing. (ETH) Willi Liebherr, Chairman of the administrative board of Liebherr-International AG.

"We're working on tomorrow's technology"

Are you satisfied with the pattern of business in 2014?

Dr. W. Liebherr: I would say that we made the best of the overall business situation. The Liebherr Group's turnover of approximately 8.8 billion € was at the same level as in the previous year. Our divisions developed in different ways: there was an upturn in the construction machinery area, but in the mining industry weakness persisted all over the world. Taken together, the maritime cranes, aerospace and transportation systems, machine tools and automation systems, domestic appliances, components and hotels divisions progressed positively. Although business levels sales regions varied considerably, we were able to compensate for this with an extensive product programme and our global business activities. This principle proved its worth again last year.

What were the main challenges you had to face?

Dr. I. Liebherr: They certainly included the weak demand in the mining industry that my brother just mentioned, and also the political tension in Eastern Europe. Business from the mining industry has declined since 2013. Last year the large mining companies continued to apply a cost-cutting policy, and this will probably persist in 2015, though there are initial signs that a recovery is taking place.

The situation in Eastern Europe was also challenging, and this will not change during the current year. Turnover dropped in Russia, our largest market in this region.

What were the highlights of the past year for you?

Dr. W. Liebherr: The large number of innovations, across all divisions, which we introduced during the year were genuine highlights. Let me just mention our aerospace business area, where we succeeded in adapting our aircraft air conditioning technology to make it suitable for use in the automobile industry. Manufacturers in this industry are currently working on the next generation of power units that use the fuel cell principle. The air supplied to the fuel cell must not contain any oil. This is not possible with a conventional turbocharger, which is where the solution we developed for the aircraft industry comes in. We have already applied this principle successfully on air-conditioned rail vehicles.

Another highlight was an order we received from Boeing. The Boeing B777X long-distance jet airliner will be the first civil aircraft with wingtips that can be folded up. This is necessary because of the much larger wingspan it needs in order to increase its range. But so that it can be parked at as many airport terminals as possible, it needs these folding wingtips, and we will be supplying the system that operates them.

And in the other product areas?

Dr. I. Liebherr: We reached some very gratifying milestones there too. For example, the mobile cranes division delivered its 30,000th crane. We are the world market leader for mobile cranes, and also for mobile harbour cranes, a product that celebrated its 40th anniversary last year. A technological highlight was the supply of the first three Type RL-K 7500 deep-sea cranes to South Korea. This is the largest deep-sea crane that Liebherr has ever built. Turning to the refrigerator and freezer product area, our factory in Lienz built its 15-millionth appliance last year, and there were several other notable anniversaries at a number of our companies as well as opening ceremonies at new sales and service centres. In other words, a long list of highlights.

"We're confident about business prospects in the current year"

What strategic investments did you make last year?

Dr. W. Liebherr: We invested more than 800 million € during the year. One of the main items concerned the components division. In Bulle, where diesel and gas engines as well as other products are developed and built, we are increasing our production capacity and optimising the factory structure. We have also stepped up our investments in after-sales service and logistics. Our aim as in the past is to offer our customers the best possible complete package: leading-edge technological products and high-quality after-sales service worldwide for many years to come. I have just returned from a visit to Australia, a country where we have made massive investments recently, including in sales and service branches and a centre for remanufacturing mining components. Another significant investment is our new logistics centre in Kirchdorf an der Iller, which went into operation this year.

What is the Group's current development situation?

Dr. I. Liebherr: We take a confident view of business in 2015. The latest estimates suggest that our turnover will rise again. We expect turnover from all our divisions to reach at least the previous year's level, or to be higher. We look forward to dynamic growth in the earthmoving, tower crane, machine tool and automation systems divisions, but also in the miscellaneous products and services area that includes components.

Where are Liebherr's main opportunities to be found?

Dr. W. Liebherr: I can see opportunities for all our divisions, and we can take a confident view of the coming years. It isn't easy to make a list, but for example our components business area has a number of major projects lined up. I regard the fact that we now offer our driveline and control technology on the open market as well, as an immense opportunity, which is borne out by the distinct rise in turnover from this area.

"Good companies need strong partners and this won't change in the future"

Concrete technology also exhibits considerable potential. We have been a complete systems supplier since we included concrete pumps in our product programme. We expect stronger demand to come from the earthmoving area, and also from the tower crane division, which has undergone strategic realignment. Mining business will also pick up again in the long term. New sales opportunities in this area will come from an additional dump truck that we have added to our product programme.

Dr. I. Liebherr: Business volume from refrigerators and freezers will continue to increase. In the maritime cranes area too, we took a major step forward by developing the Rostock production facility to be the centre of our maritime activities. In Nenzing, Liebherr can now concentrate on the development and production of deep-foundation construction machines, duty-cycle crawler cranes and crawler cranes of up to 300 tonnes. This reorganisation provides both locations with space for further growth, and continues a policy that has proved correct repeatedly in our corporate history.

Which are the Group's growth markets?

Dr. W. Liebherr: In the near future we expect sales in North America in particular to increase more strongly again. Currently the USA are our second largest market. The current dollar exchange rate is having an additional positive effect on our exports to this region. Growth prospects in the Far East / Australia region are also good, especially if commodity prices recover again. We can also see strong potential for growth in Western European markets. In Eastern Europe it will be necessary to await political developments.

The Group's operative result went down in 2014. What action are you taking to safeguard your future earning power?

Dr. I. Liebherr: For us, the long-term view is what matters, not short-term success. Last year we could have reduced our research and development budget or cut back our investments in order to improve the overall result. But this would not have been according to our declared policy. We know the reasons for the shortfall, but we keep to the long-term view. We will continue to invest above-average sums each year regardless of the current economic climate. This will strengthen our earning power. Our motto is "Safeguard the future now, not later." Successful companies need trustworthy business associates, and this situation is not about to change.

What makes Liebherr a soundly based partner?

Dr. I. Liebherr: First and foremost, because Liebherr is a family-owned company. We are the children of the company's founder, and my own and my brother's children are now helping to maintain the tradition that he established. For our customers and business partners this means continuity and confidence – and for our employees too.

In your opinion, what are the main characteristics of a family-owned company?

Dr. W. Liebherr: Companies run by the family that owns them can plan farther ahead and also undertake long-term investments. This is in contrast to companies quoted on the stock exchange. The proprietors of a family firm are clearly interested in safeguarding its future, and we are no exception to this rule. We remain true to the "family firm" concept because it has made our Group successful.

Can you define Liebherr's success in more detail, apart from the fact that it is family-owned?

Dr. W. Liebherr: It is the starting point: we are a family-owned group with a sound financial basis – and therefore entirely independent. As the proprietors, we have ample scope for action. If we are convinced that a decision is right, we don't have to convince anybody else. We can develop our company by following a clearly structured path. A further success factor, as I already implied, is that we plough profits back into the company so that it can continue to grow organically.

Dr. I. Liebherr: Another relevant fact is our decentralised organisational structure that allows us to take decisions quickly and stay in close contact with our customers. As far as the products are concerned, quality, innovation and diversification are the keywords. Our progress is driven by the know-how that we have acquired in past years. Diversification is a success factor that applies to markets as well as products. And we should never forget that we have competent employees we can rely on, and let them have the scope they need to make decisions and accept responsibility for their actions. In this way, every individual can sense that he or she makes a contribution to the company's success. This is the secret of our strength.

Your father would have been 100 years old in April this year. What does this date mean to you?

Dr. W. Liebherr: I'm sure that my sister and I are of one mind in this respect. We're always aware of our father's presence even though it's twenty years since he died. With this date in mind, we're even closer to him in our thoughts. The basic principles we have mentioned are those he formulated for the Group. His success model was so effective that we have never felt any need to modify its fundamental structure. Evidence that it was correct can be seen in our impressive growth in the past twenty years. If our father could see the splendid way his company has grown larger, he would surely have been content.

Four of your own and your brother's children now hold management positions within the Group. When will this third Liebherr generation take over the helm completely?

Dr. I. Liebherr: The process of handing over responsibility from us to our children is already in full swing. It's not a sudden break but a process that extends over a number of years. For that reason we can't quote a single, firm date. We have already assigned shares we held in Liebherr-International AG to our children – that was in 2012. We did this to prepare the way thoroughly and in good time for responsibility to be passed on to the third Liebherr generation. The message is clear: we are able to let go and we can put our trust in the next generation. Nothing could be more important than that.

Dr. Isolde Liebherr, Dr. Willi Liebherr,
thank you for this informative interview.

"We can put our trust in the next generation – what could be more important than that"

Technology Concepts

Toward the Intelligent Machine

Construction machines weighing many tonnes, cranes soaring high into the sky – but also electronic components only a few millimetres long. The contrast is startling, but these are all Liebherr products with one thing in common: they define the leading edge of modern technology in a variety of business areas. They come from a group of companies that concentrates all its innovative powers on developing the technological solutions that tomorrow's world will need. Let's look at just a few examples.

Safe machine operation
is vital on urban sites

"Intelligent construction machinery is what we're aiming for," says Christian Zelger, Development Manager at Liebherr-Elektronik GmbH. A major step forward on the way to develop a machine that follows the chosen route automatically is, for instance, active identification of the surrounding area. City construction sites where there is very little space to spare are a real challenge to the machine's driver. These vehicles are not as compact as the average passenger car, and blind spots are a constant risk. Liebherr has developed a camera that considerably improves this situation. But the demand for construction machines that achieve even greater levels of safety makes it necessary to look well ahead. Zelger explains: "Modern cameras give the driver a far better general view, but our current projects go a whole lot further than this. We want cameras that identify obstacles and apply the vehicle's brakes actively." Increasing automation is a megatrend that will also have its effect on machine safety.

This is also true in the tower crane area, where crane control systems have been further developed to satisfy high construction-site safety standards even more effectively. All the principal functions of Liebherr top-slewing cranes are monitored, regulated and coordinated by the control system. Those supplied as standard equipment are load moment and operating range limiting, machine data recording with a web-based link to the LiDAT portal and an interface for an anti-collision system.

Hand in hand toward automatic solutions

Automation naturally means more than just optimum operational safety: it can also boost efficiency, another challenging task on which companies in the Liebherr Group are working closely together. A good example is "LINHC", a development project for the automation of excavator hydraulics that is being supported by the Bavarian Trade Ministry. Whereas today the operator controls the vehicle by means of levers, the aim in future is for intelligent hydraulic rams to detect the machine's position and for a central computer to evaluate the data and initiate the movements accordingly. By optimising movements, energy consumption can be reduced, and efficiently planned work cycles can be performed more rapidly. To develop solutions of this kind calls for the skilled knowledge that can be obtained from widely differing business areas. LINHC, for instance, depends on know-how from the electronics supplier and the excavator manufacturer – two areas of activity that are available within the Liebherr Group. Close contacts between the production plants permit development work to go ahead at a pace that would scarcely be possible if external partners were involved.

City construction sites are a real challenge to the machine's driver

The T 284 mining truck has a
gross weight of up to 600 tonnes

Diversity as the motor of innovation

Forward-looking ideas arise from a combination of factors typical of the Liebherr Group: the individual companies' above-average production depth, and the wide variety of product areas within the Group. One of the components division's specialist areas is driveline and control technology. The division designs and manufactures, for example, electric drivelines for Liebherr opencast mining trucks weighing up to 600 tonnes. In the words of Dr. Oliver Fenker, a member of the executive management of Liebherr-Components Biberach GmbH: "Originating in the mining area, we can see enormous potential for electric traction on construction machinery currently equipped with a hydraulic or mechanical driveline. It sounds quite simple to interpret the traction principle used on the big trucks and apply it to smaller ones that weigh under 150 tonnes, but the development work involved in such a project is very

Switchgear cabinet for
a mining dump truck

complex." The reason for this: Liebherr measures the success of any innovation according to its benefit for the user. Technical questions naturally have to be addressed, but always against the background of how the customer views the situation. Oliver Fenker: "Mining companies employ trained electricians who are capable of repairing the switchgear on mining trucks. Construction machinery, on the other hand, is serviced by mechanics. To allow for this the electrical systems have to be different from those on mining vehicles." For example, a new frequency converter has been developed and the original switchgear cabinet divided up and accommodated in three boxes. Thanks to a patented solution, even personnel without electrical skills can replace a box without risk if it has a defect. In other words, in future even companies without their own trained electricians will be able to reap the benefits of electrically driven construction machines.

Transfer of technological solutions from one product area to another is a feature of other Liebherr projects, too. In mining trucks the frequency converters are exposed to severe loads when a vehicle with full payload has to be started on a hill. A method of handling this peak load has been developed: it protects the components and therefore prolongs their useful life. It proved possible to adopt the same method on maritime cranes. If these pick up a heavy container, the peak load that occurs is the same as when a dumper truck is driven away on a steep gradient.

Concentrated competence in electronics

Liebherr has always developed its technical innovations to market readiness in the shortest possible time. Electronics are taking over more and more important functions in the machine concepts. For this reason, Liebherr concentrated its electronics expertise some years ago in a competence centre. Working together with other Group business areas, innovative, well-coordinated solutions have been worked out, with the emphasis always on user safety, improved ease of control and more efficient use of energy.

Freight handling will be automated in the docks of the future

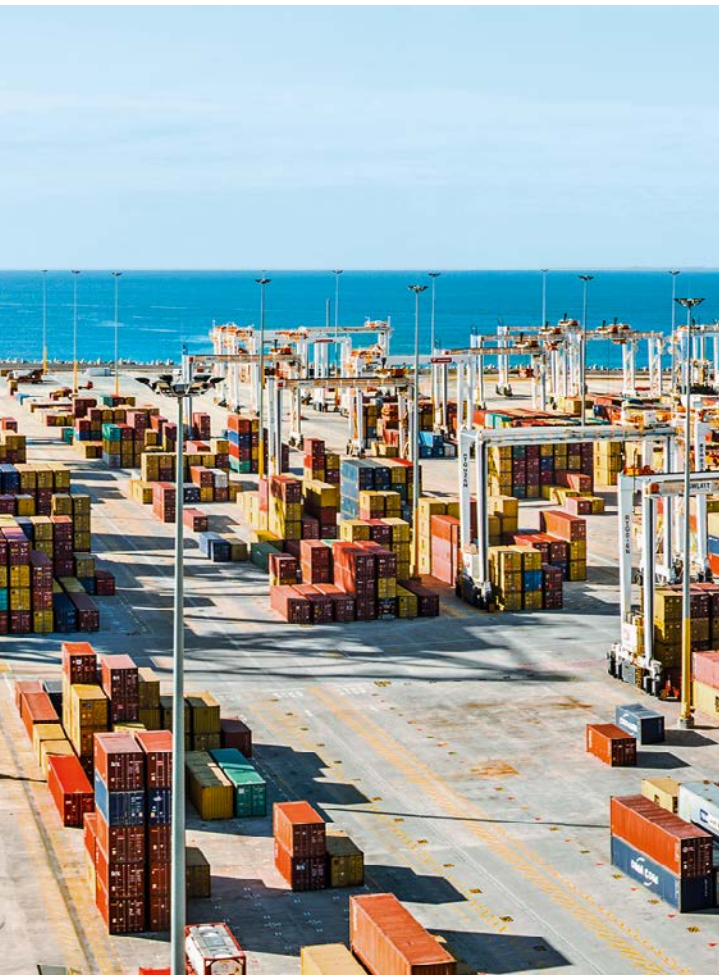
Pinpointing container positions – component development for maritime cranes

Michael Palberg, development engineer for software, control and automation technology at Liebherr-Components Biberach GmbH, on components for goods handling of the future.

Industry 4.0 is the code for the intelligent industrial plant. Is there anything comparable in the maritime area that could make freight handling more efficient?
A large number of developments in part-areas are still needed at the dockside. One of them that we are developing right now in cooperation with the maritime cranes division is a measuring system that can detect the precise positions of containers. At the moment, containers are located by range-finding scanners, but can only be approached accurately to within about 30 cm. The crane operator has to bridge the remaining gap by careful use of the controls. The sensor technology that we currently have under development will automatically reduce misalignment to a minimum.

What exactly are the advantages?
Operating a crane is demanding work. If concentration flags and the controls are moved incorrectly, a container may make violent contact with the ship and cause a lot of damage. Our system provides assistance so that errors and accidents are avoided. Another advantage is that the procedure takes place independently of the crane operator to a much greater extent. This makes container throughput more uniform and easier for the dock operator to calculate.

Component identification sensors are already used on industrial assembly lines. Can't this technique be adopted?
A production building is quite different from a dockside location, where the surrounding area can vary widely. Temperatures and daylight intensity may fluctuate severely and vibration is a common problem. Containers don't all look alike, and other vehicles are frequently driven close to where the crane is operating. For image processing we need constant values that the system can detect and interpret reliably. That calls for specially developed software, high-performance computing and sensors capable of withstanding severe loads.
To make matters worse, we carry out individual customer-specific projects almost exclusively in the maritime business area. To automate such special installations in part-areas is a highly complex task. But our experts can do just that while remaining loyal to Liebherr's original principles: we have in-house access to all the necessary key competences, and have mastered them down to the smallest detail.



Michael Palberg, Dr. Oliver Fenker and Daniel Ried developing components

New Global Distribution Centre in South Germany

Precision Timing for Parts Supply

In future, Liebherr will be grouping its logistics services even more closely together. The first evidence of this realignment is the new spare parts logistics centre for Liebherr construction machinery in Oberopfingen, South Germany.

47,000 m² of floor area
for optimal parts supply

Logistics Manager Kilian Ribhegge and General Manager Martin Barth in the high-bay parts store

Visitors to the new logistics centre in Oberopfingen may feel that they have strayed on to the central reserve of a busy main road. Fork lift trucks scurry to and fro laden with wooden crates in one direction and stacks of cartons in the other. It seldom takes more than half an hour before the tarpaulin at the back of a truck is locked down or its load-area doors are closed. Day after day, 6,000 orders are shipped from the new global parts distribution centre in Oberopfingen, near Kirchdorf an der Iller. Where the River Iller opens out into a broad valley, a new central parts warehouse has been built in only eighteen months, and now supplies Liebherr customers all over the world with spare parts, quickly and reliably. Since April 2015 this new building has taken over parts logistics for the Group's mobile and crawler excavators, wheel loaders, crawler tractors and other Liebherr earthmoving machines.

High-speed parts handling

By the time the new logistics centre began to operate in April 2015, it already contained more than 100,000 different spare and replacement parts for the Liebherr Group's earthmoving division's products. The large industrial building erected in the first construction stage has a floor area of some 47,000 m², and contains an automatic high-bay stacker with more than 60,000 pallet bays. The server units make highly efficient use of energy and can pick and place parts on shelves up to 36 m high. In addition to 29,380 manually operated pallet bays, an innovative store for small parts with 122,000 bin spaces forms the key internal logistics element. During the start-up phase, 1,200 bins per hour can already be supplied to the relevant order make-up areas, and when the depot reaches its full capacity it will be possible to access more than 3,500 items within 60 minutes.

In the long term, Liebherr intends to concentrate spare parts logistics for all its construction machinery divisions in Oberopfingen. Kilian Ribhegge, Logistics Manager of Liebherr-Logistics GmbH, explains: “Investment in this central logistics depot is a strategic move with significant advantages for us and above all for our customers.” Until now, parts supply has been decentralised, and in most cases coupled to the individual production plants. But as the product portfolio has increased, material flows have become more and more complex. Furthermore, there are influencing factors which apply in the after-sales area, such as severely limited sales forecasting ability and spontaneous demand patterns. Kilian Ribhegge: “The new logistics centre is Liebherr’s response to these requirements. Customers will get their spare parts faster than ever before. We are reorganising our logistics to be even more efficient and flexible. The new central depot logistics will guarantee our ability to compete in the future.”

Rapid handling cycles, fastest possible delivery

To tour the new global distribution centre is to be immediately aware of its performance potential. In order to handle parts effectively and accurately, highly automated roller conveyor techniques and radio-controlled fork lift trucks are constantly on the move. Liebherr-Logistics GmbH understands the importance of keeping process times to a minimum. Even when last-minute orders are received from the sales organisation, parts can be despatched to many European countries on the same day, thanks to modern storage and retrieval techniques and optimised pick lists, which locate and pick items without the risk of batches being confused.

When making up orders from the bin store, packaging is taken care of by the “Pick and Pack” process. Specific customer orders are assembled at ergonomically efficient workplaces, and orders from several different storage areas are collected together at a specially equipped make-up zone. The building is of course laid out with sufficient storage space for even large, heavy parts.

Secure supplies for Liebherr customers worldwide

Preventative maintenance work on the storage system, or repairs in the event of an individual control unit developing a fault, can be carried out without interrupting the operation of the system. For additional security, the logistics centre uses redundant IT systems. To protect the value of the stored items and avoid the risk of a complete shutdown, the global distribution centre is equipped with the very latest fire protection technology. “All these measures are designed to ensure maximum supply reliability,” says Martin Barth, General Manager of Liebherr-Logistics GmbH. “They are essential for top-quality parts supply.”

Packing spare parts ready for delivery

Before deciding in favour of Oberopfingen, Liebherr looked at a number of logistics path intersections as possible sites for the new central warehouse, in some cases unrelated to the existing production plants. Sites in Belgium, Germany, France and the Netherlands were investigated, and even existing logistics centres operated by competitors or companies supplying products similar to Liebherr’s were considered. Kilian Ribhegge comments on the result: “When we analysed customer and supplier

structures and the flow of goods, we found that there was much to be said for a site close to one of our larger production plants, not far from others in the Liebherr Group and with a good transport infrastructure. Kirchdorf-Oberopfingen satisfied all these requirements." The depot is directly linked to Germany's A7 "Autobahn", with good access to the area in which various Liebherr construction machinery and component manufacturing plants are concentrated, including those in France, Austria and Switzerland.

After completion of the final construction stage on this site, which has a total area of 360,000 m², the warehouse buildings will occupy about 170,000 m², and an administrative office block will also be available. An area of 47,000 m² has been reserved adjacent to the centre for a spare parts building similar to the existing one; this will give Liebherr an ideal opportunity to scale up its logistics procedures in Oberopfingen in the coming years.

A Liebherr package on its way to the customer

The global distribution centre in figures

Site area:
360,000 m²

Logistics building: app.
47,000 m²

High bay part store:
60,390
automated pallet bays

Manually handled pallet bays:
29,380

Small parts store: space for
122,000
bins

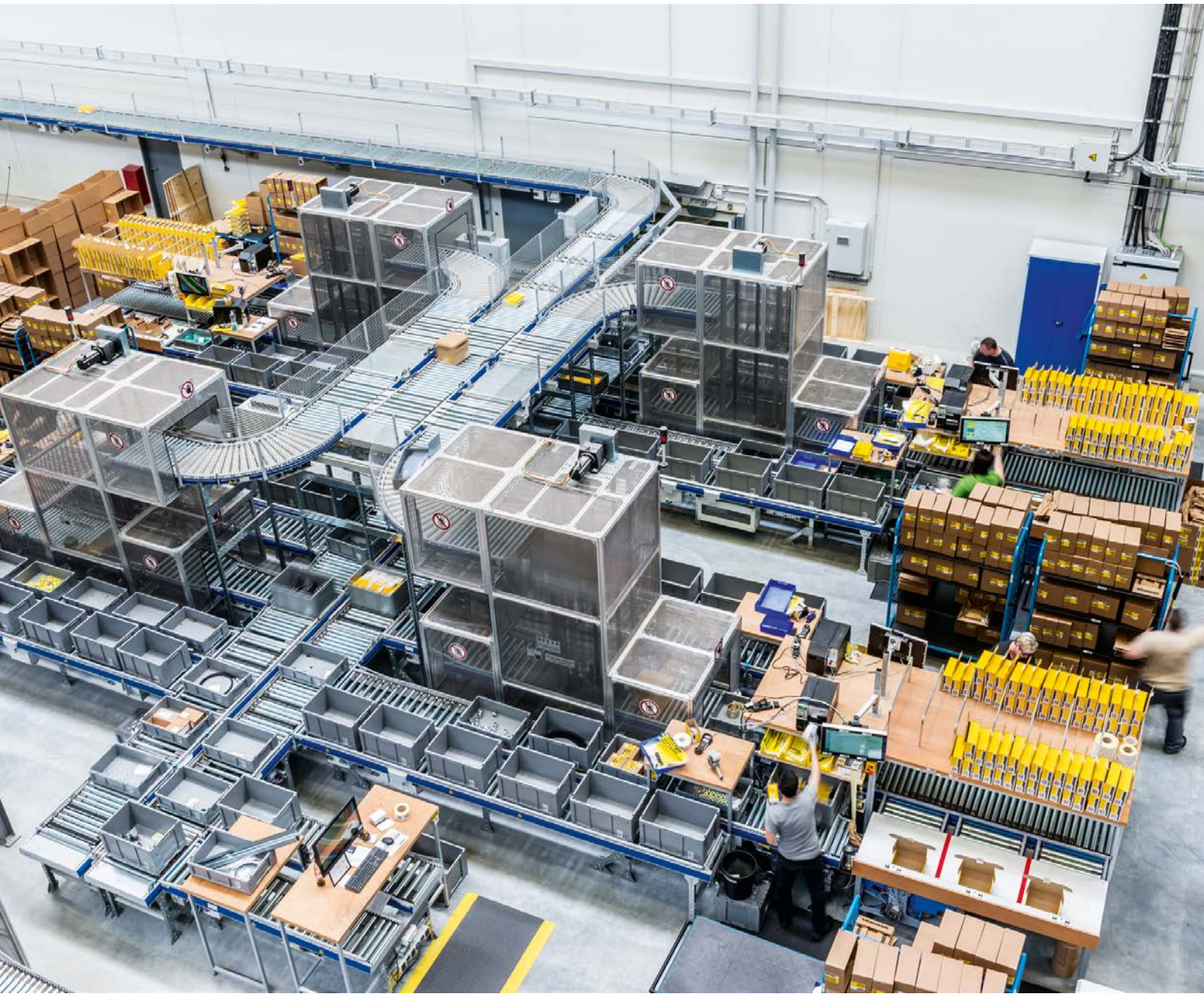
Depot handling capacity:
1,200
bins/hour (can be increased to 3,500)

Order make-up work areas:
8
can be extended to 24

Daily throughput:
1,600
spare part orders, 6,000 order items

Overhead loading gantries:
22

The spare parts move along
highly automated roller conveyors



Career Portraits

Shared Effort Shapes Technology

The employees are a key element in any company's success. The following article describes three people – representing the 41,000 Liebherr employees – whose work could hardly be more different. But they have one thing in common: they tackle the task with enthusiasm.

At home in the mines of the world

The R 9100 mining excavator works in a copper mine in Panama – 24 hours a day! Its backhoe bucket holds 7 m³ and certainly speeds up the copper extraction process. Juan Francisco Mascarell is visiting his customer today, to plan routine servicing of the machines. “My aim in life is to keep my customers happy by giving them the service support they want. Wherever in the world they happen to be.”

Juan Mascarell, now 37, has worked for the Liebherr Group for the past eleven years. He began his career as a mechanic in Argentina. His servicing work now takes him to mines all over the world. We find him today at a copper mine in Panama, making sure that a fleet of 16 crawler tractors and eight R 9100 mining excavators, each with a power output of 757 horsepower, is operating smoothly. One of the most important aspects of his task is to find answers if any technical operating and maintenance problems should occur, and get the machines moving again in double-quick time.

Liebherr was Juan Mascarell’s first employer – and he wouldn’t wish for any other. He came to Liebherr because he could see all kinds of opportunities opening up. “And working for Liebherr is like belonging to one big family!” he says.

The first big task that came his way was at a mine in Mongolia, where not one but two R 996 machines had to be assembled. In order to communicate with the staff of the mine, almost insuperable language barriers had to be overcome. He succeeded with the aid of sign language that mainly consisted of waving his arms in the air, and within the appointed time the two excavators were ready to run safely and the customer was satisfied.

Juan Mascarell is seen with three of the eight mining excavators that he looks after in Panama

Juan Mascarell aims first and foremost to keep the machines he services in good working order and performing well. He is a visible sign of Liebherr’s presence in the mining world: “However gigantic these machines may be and however remote from civilisation, the satisfying thing about my work is still personal contact with the customer.”

Measuring valve pressure on a new machine

After several periods of research work, Nathalie Duquesne joined Liebherr 15 years ago

Looking ahead at the future of aviation

Some of the next generation of aircraft may no longer have bleed air systems fed from the engines. Instead, electrical energy will be used for the air conditioning and de-icing systems. A number of companies and research organisations involved in the Aerospace Valley cluster in the south-west of France are working hard to make this next step into technology possible in the near future. One of the protagonists is Nathalie Duquesne, Director of the Research Department at Liebherr-Aerospace Toulouse SAS.

46-year-old Nathalie Duquesne has been working on research and innovation for a considerable time. After her Ph. D. obtained in France, one year at the École Polytechnique Fédérale de Lausanne in Switzerland, followed by four years at the KTH Royal Institute of Technology and a period of research at the Langley Research Center operated by the American space travel authority NASA, she joined Liebherr 15 years ago. Why did she take this step? "You shouldn't ask me why I applied for the job, but why I like it so much that I have willingly stayed! At Liebherr, you don't work alone but always as a team member. For the company, it's very important for results to be achieved jointly. You can feel the positive flow of energy when everyone pulls together." In charge of a team of 45, she works with almost all departments, playing a transversal role that links vision, product strategy and technologies, but that's not all: on behalf of the company she maintains partnerships with universities both nationally and elsewhere in Europe, and also advises the European Commission regularly.

When it comes to the strategic vision of Liebherr-Aerospace, Nathalie Duquesne sees crucial challenges on the horizon. "We have to determine which technologies will be important for our customers in the future in the aircraft industry. We must be aware of what they will need and identify other business sectors that could also benefit from the technologies we supply to aerospace customers." With this in mind, Liebherr cooperates with other manufacturers and public research laboratories. It was for instance a founder member of IRT Saint Exupéry, the technological research institute for Aeronautics, Space and Embedded Systems based on a collaborative public-private partnership, which develops technological breakthrough for the future, for instance for the "More Electric Aircraft".

Even if some of these technologies still exist only in the minds of researchers, one specific consequence can already be seen in Toulouse: a test rig occupying 200 m^2, capable of subjecting aircraft equipment and systems to operating conditions close to those expected on future aircraft. Nathalie Duquesne: "Here in Toulouse we are very proud of this test rig. It's the result of development work on an all-embracing energy management concept involving the principal consumers of electrical and thermal energy. It enables us to convince customers of our intention to play an active part in shaping the future of aviation."

Quality as a shared achievement

Seen on the acceptance test pad at Liebherr-Werk Ehingen GmbH: the LR 13000, the world's most powerful crawler crane. At the moment it is being called upon to lift not only its nominal maximum load of 3,000 tonnes, but 25 % more. Only when this task has been completed reliably, Axel Harter is satisfied: "This load test confirms that the preceding production and assembly procedures were complied with. It is essential to make sure that the customer gets a one hundred percent safe product."

Axel Harter has worked at Liebherr-Werk-Ehingen GmbH in Germany for the past 35 years. On the mobile and crawler cranes developed there, the production depth for the Liebherr Group's own products is relatively low, which makes it all the more important to confirm the quality of items from outside suppliers. Axel Harter's Quality Assurance department has other tasks associated with operative performance to perform as well as these random checks and the status of suppliers' qualifications.

Together with 68 colleagues, he is responsible for application, maintenance and improvements in the strategic quality management area too, as laid down in the ISO 9001 industrial standard. This involves cooperation with various other departments, suppliers and official approval authorities. "It's perfectly acceptable for different opinions to be put forward, but we always manage to agree on a solution in the end." says Axel Harter.

A final close look at a component after laboratory testing

Such a large number of components and the potential volume of defects that could occur are a major challenge in Axel Harter's work. He is convinced: "To work regularly with these complex components is the only way to assess their functional efficiency. My colleagues in the production and assembly areas have the necessary know-how and experience. But of course we're not the only people whose job it is to ensure top quality. Ehingen has a workforce of three thousand, and they're all well aware of the importance of supplying safe products and maintaining a high standard of performance."

The current Liebherr workforce in Ehingen is more than three times higher than when Axel Harter started to work for the company in 1980. He is impressed: "Despite growth and many changes, the company has never lost sight of its basic principles. Every day I'm fascinated by our high-tech products and Liebherr's farsighted approach as a family-owned company."

Load testing the LR 13000

Liebherr Machines at Work

Powerful, Durable and Precise

At dizzying altitudes, under enormous time pressure, and when exceptional loads have to be handled: machines from Liebherr prove their worth day after day, all over the world and on the most unusual and arduous tasks.

171

m high: Tour D2 in Paris

In the La Défense business area of Paris, France, an office building 171 m high recently took shape. To construct the domed roof, two Liebherr 355 HC-L 16 Litronic tower cranes were brought into action. The building has 37 storeys and a total floor area of about 50,000 m².

335

tonne steel cylinders

An LR 11000 crawler crane was used for the first time at a refinery in Bucharest, Romania. Its task: to lift and move into position columns that weigh up to 335 tonnes – without interrupting the refinery's work and despite the very limited space available.
In a supporting role: an LR 1750 crawler crane.

100

tonnes – one rotor's weight

For the Global Tech 1 wind park in the North Sea, the CAL 45000-1200 Litronic heavy duty crane was used to install a rotor weighing 100 tonnes. This crane features the special "Crane-Around-the-Leg" design concept, which enables it to turn through 360 degrees around one of the special ship's four extending support legs. The advantage is that positioning occupies very little space. With a load capacity of 1,200 tonnes and a working height of 120 m, the crane is ideal for rotor installation. This wind park is planned to have 80 wind-driven generators.

16

Liebherr machines, 1 demolition task

Sections of the German A3 “Autobahn” highway between Aschaffenburg and Würzburg had to be demolished. A fleet of 16 Liebherr construction machines took on the task. Working through the night, two bridges also had to be cleared away, and many other pedestrian and road bridges had to go because they were not wide enough for the new six-lane highway.


LIEBHERR
934
LIEBHERR TA 230
LIEBHERR
566
LIEBHERR

384

wheels for a mining excavator

To move an R 996 B mining excavator weighing 675 tonnes to its new operating site 230 km away, six road tractors were needed. The excavator was not dismantled, but travelled on 24 twin-axle platforms (384 wheels in all!). It was towed 12 hours a day for six days at a speed of 4 km/h before reaching the Solomon mine in Australia. It has gained a place in the records of Australian transport as the most monumental load ever carried by road.


LIEBHERR

Focus on Product Design

Making Inner Values Visible

Product designers, product managers and engineers work closely together from the outset when new Liebherr refrigerators and freezers are being developed. Visible design aspects hint at the technical features concealed within, and make quality something that can be experienced as a whole.

Modern domestic appliances are integrated specifically into the kitchen and living areas

Liebherr has been manufacturing domestic appliances since 1954 – modest heroes of day-to-day life that go about their task reliably. But customers' attention is now being focused more and more on refrigerators, freezers, wine cabinets and similar appliances. Romy Bloch, Design Manager at Liebherr-Hausgeräte Ochsenhausen GmbH, sums up the new situation: "In many modern houses and apartments the kitchen is an extension of the living area – which also applies to the domestic appliances it contains." In classic stainless steel, elegant BlackSteel or with fine glass fronts, the appliances have acquired new status as a design highlight that is quite deliberately integrated into the kitchen and living-area environment.

Liebherr's aim is to offer this timeless design to private homes and commercial areas, combined with intelligent cooling technology, intuitive ease of operation and high-grade materials. The Liebherr Group's "Quality, Design and Innovation" guiding principle expresses the desire to combine these features effectively. Innovative technology is essential for high quality, but it must have a complementary attractive appearance. All Liebherr's domestic appliances are developed and manufactured according to this principle. Every day more than 7,000 units leave the production plants in Ochsenhausen (Germany), Kluang (Malaysia), Lienz (Austria) and Radinovo (Bulgaria).

The customer develops, too

Whenever Liebherr draws up a product concept, the customer's needs are in the forefront. Before development work starts, feasibility studies are carried out and checked against the results of customer surveys. Only then can engineers and product designers get together and plan the new product. Regular "technology scouting" and long-term trends in the relevant business sector are also part of the development process. Design aspects are considered at the very start of initial development and product functions interpreted at an early stage in accordance with the visual image of the brand.

Genuine innovation also results from readiness to examine the various product elements from new perspectives. Liebherr has understood this, and develops ideas and design studies that are shown to business associates and end users at trade fairs. The feedback obtained in this way is used for ongoing product development and to prepare for volume production. As another source of feedback on technology and design quality, Liebherr enters international design competitions. In 2014 for example, the CBNPbs 3756 BlackSteel combined refrigerator and freezer and the SBS 70I4 Side-by-Side combination with provision for integration, received the prestigious Red Dot Design Award.

From the sketch to the final product

Inner and outer values

"Design Follows Function" is still an important maxim, but "Design is never an aim in itself", says Jan Ctvrtnik, Product Designer at Liebherr-Hausgeräte Ochsenhausen GmbH. "Design gives products their identity and thus makes them unique. But specific product functions can also be supported by design elements. The product's design quality makes itself evident in many details, for example flawless processing of stainless steel. As a manufacturer of commercial appliances, that for hygiene and cleaning reasons call for the use of stainless steel in many areas, Liebherr has acquired the know-how that ensures perfection in the processing of this material. Almost all stainless steel doors, for example, have a SmartSteel surface finish that resists scratches and does not show fingermarks. Liebherr's BioFresh technology is also evidence of its technological innovation. By maintaining the compartment at a constant temperature just above 0° Celsius, and with variable atmospheric humidity, Liebherr BioFresh "safes" are ideal for the storage of easily perishable foodstuffs. For reasons of hygiene, the

inner product containers have no joint lines. In the area of temperature regulation, Liebherr attaches great importance to intuitive use of the controls. All symbols on both classic pushbutton and touch controls are easy to see, and pictograms are used to simplify adjustment of relevant functions.

A feature of all the brand's 800 designs in the domestic appliance programme is the SwingLine door with its slightly domed surface and bold positioning of the logo. The handles are an ergonomically perfectly shaped, and contain an integrated opening mechanism for convenient use. Liebherr was the first manufacturer to install LED light columns that illuminate the interior in a pleasant, uniform way and are also economical and long-lasting. A slight tinge of blue is a visible sign of quality refrigeration in these models. The user, after all, expects an appliance that performs its task efficiently, but has something more besides. If the product designer can succeed in giving this practical, everyday article a degree of visual appeal as well, it will create associations that combine with functionality to strengthen the overall impression of high quality.

"A refrigerator is good-looking if you're not even conscious of its purpose"

Liebherr Product Designer Jan Ctvrtnik talks about inspiration, trends and the value that attaches to beauty on the domestic appliance scene.

Where does the designer of refrigerators and freezers find inspiration?
In a company such as Liebherr, technology and the determination to achieve a consistently high level of performance are part of corporate philosophy. They also inspire us as product designers. We deliberately refrain from following visual trends; our aim instead is for the consistently high value of our company's products to reveal itself through their design. One must remember that the solutions we put forward are intended to serve our customers well and give them pleasure for many years. Our task is therefore to take high-quality materials, innovative technology – and the often hidden benefits that they imply – and shape them into designs that are timeless and elegant.

For you, when is a refrigerator or freezer "good-looking"?
If its design is minimalist but convincing; if it has presence. If its exterior is simple and implies high quality in a way that is confirmed the moment you open its door. If it is perhaps an appliance that doesn't immediately suggest its purpose. The SBSbs 7263 BlackSteel Side-by-Side, for instance, recently gained the 2015 Interior Innovation Award, which is regarded as one of the most prestigious prizes in the furniture industry.

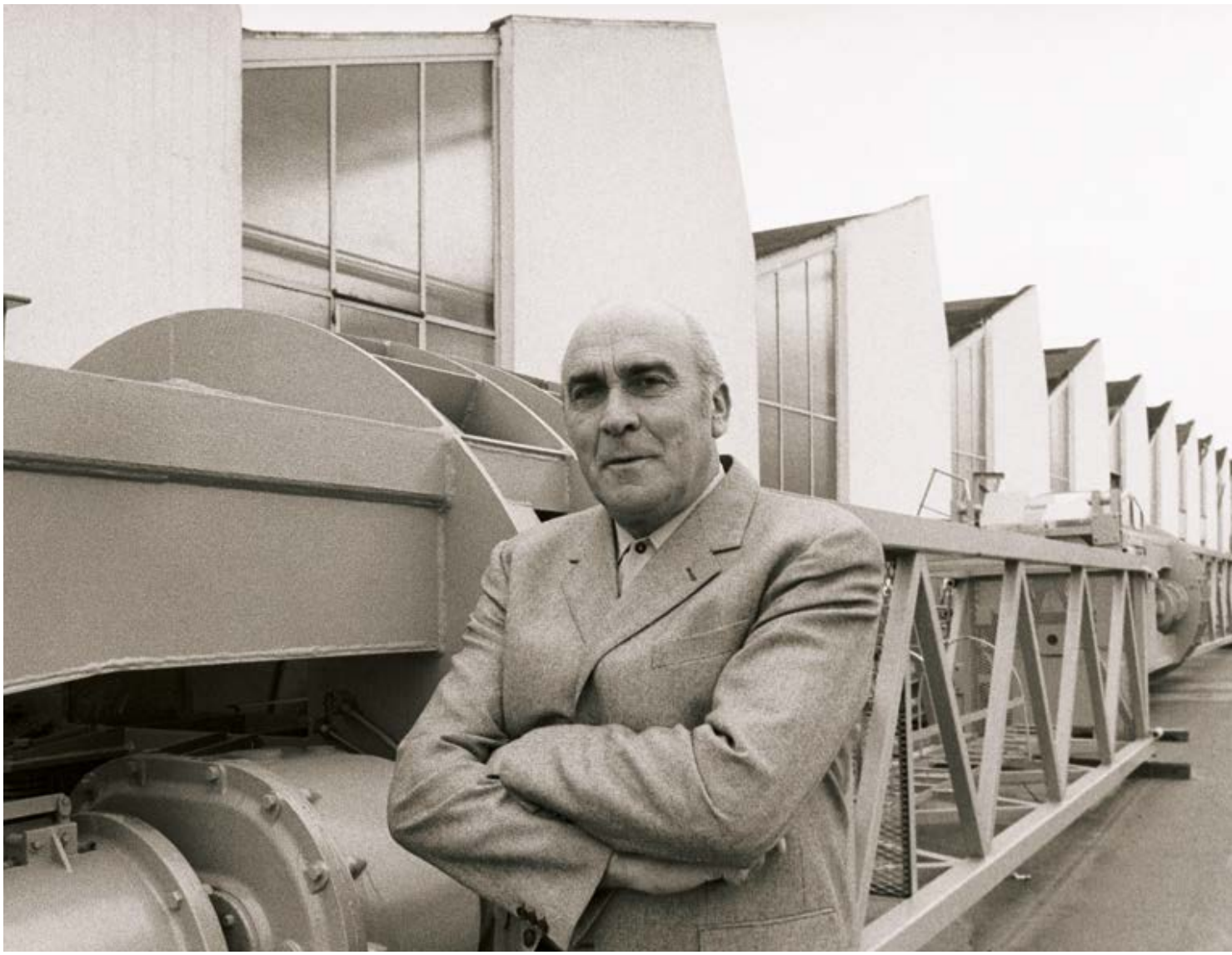
What trends do you see for the future?
In many countries there are signs of a "back to basics" movement, with regional foods and meals prepared at home in one's own kitchen. But for good foodstuffs, in particular to retain their quality for as long as possible, they must be stored correctly. Efficient cold storage is important too. Simple storage procedures and well laid-out appliances are important as well. We work intensively on these tasks and develop advanced methods of solving them.

Hans Liebherr – the Centenary

The Family Firm and Its Proprietor

To have the right idea and put it into effect at the right time – that was the secret of Hans Liebherr's success. His pioneering inventions were the product of will-power, determination and an infallible, instinctive awareness of what the future needed. Starting with a small family firm, Hans Liebherr built up an international group of companies based on clearly defined principles that even today reflect his fundamental approach to business.

At the tower crane production facility
in Biberach an der Riss, Germany



Nobody could anticipate that Hans Liebherr would one day preside over the largest construction machinery company in German-speaking Europe. He was born in the South German town of Kaufbeuren on April 1, 1915, the son of a miller. A year later his father died, a victim of the First World War. Hans Liebherr spent his childhood and youth in Kirchdorf, a small town on the River Iller, where his stepfather owned a small building company. After seven years at school Hans Liebherr began to work for the company, initially as an apprentice, then as an journeyman. He passed the master craftsman's examination at the age of 23 and began to manage the company. Shortly after this, the Second World War broke out and he was called up for military service. He was not to return home until the end of 1945.

Ambitious, fascinated by technology, persistent and determined

Rebuilding Germany after the wartime air raids was a back-breaking task. Bricks and mortar had to be carried up ladders and flights of stairs on the workers' shoulders, sacks of cement and tiles were unloaded from trucks by hand. What was lacking was a high-performance crane that could easily be moved from place to place. Hans Liebherr identified this need, produced the necessary drawings and built the first Liebherr tower crane. Transport from one construction site to the next was quick and trouble-free. The crane was exhibited at the Frankfurt Autumn Fair in 1949, but potential buyers were uninterested. Hans Liebherr recalled later: "After the trade fair I might just as well have given up the whole idea of producing a crane." This is where sheer determination took over: He worked hard on perfecting his plans, the first orders were received and production began successfully. A year later there were 110 employees and 160 cranes had been built. A transformation was taking place, from building company owner to mechanical engineer. The first tower crane was a truly epoch-making development, the first of so many with which the Liebherr Group has enriched the annals of technology and continues to do so. "Never give up when setbacks arise. Confidence can move mountains." In the post-war years this was the approach that led to Hans Liebherr starting up his building company once again and pursuing his chosen course with persistence and determination.

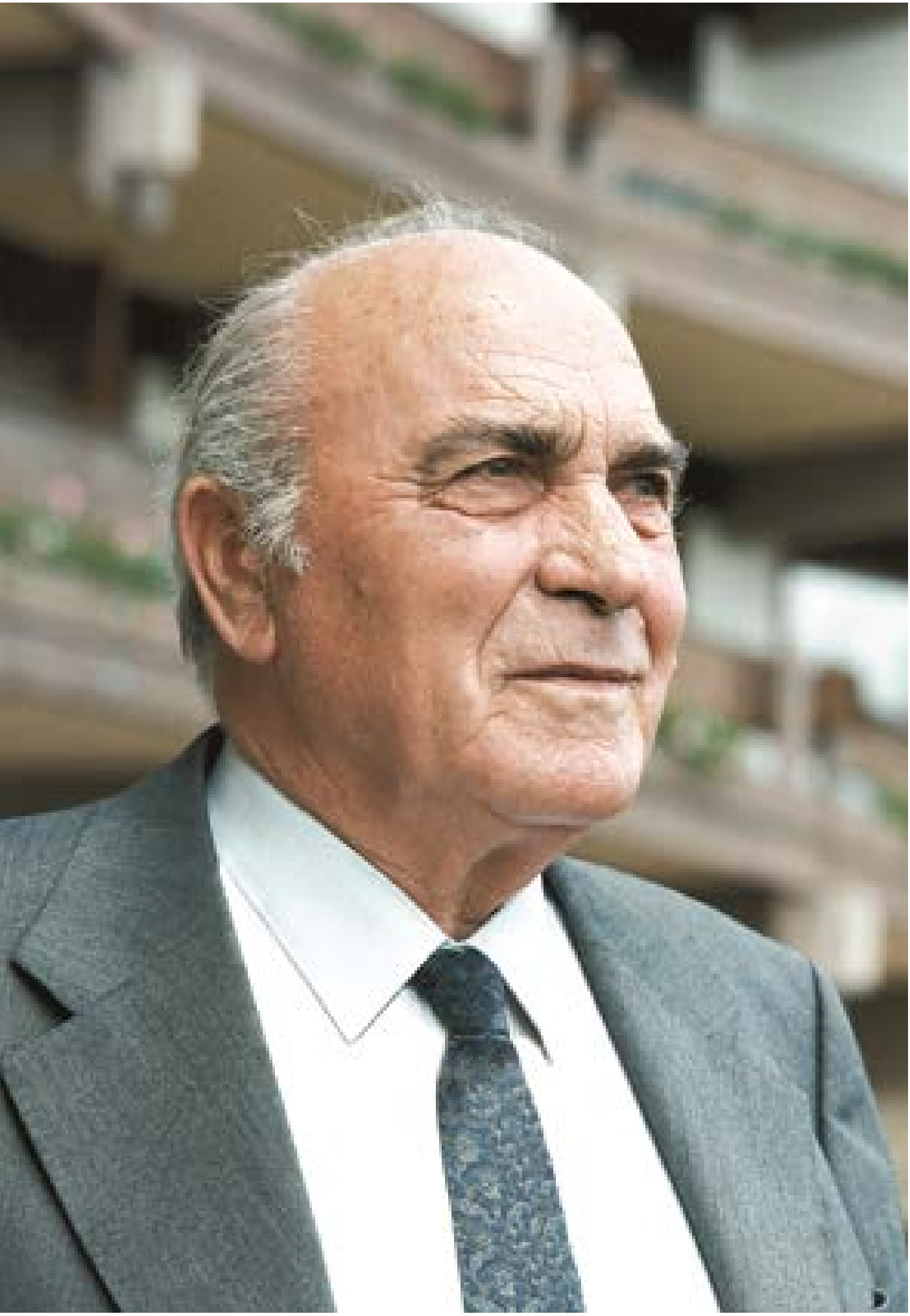
"Think for yourself, do it yourself, finance it yourself!" These were Hans Liebherr's maxims from the very outset. In the early 1950s, he proved them right in every way. As a crucial element in his crane transmissions he needed gearwheels, but they were in short supply in Germany at that time. Hans Liebherr demonstrated his instinct for a promising future market: in 1951 he began to supply machine tools, developed a gear cutting machine and opened up a whole new field of business activity. As well as selling the machines, he was able to satisfy his own company's demand for gearwheels.

Hans Liebherr was inventive and successful. Within ten years he was supplying an extensive programme of cranes and many new products such as hydraulic excavators, concrete mixers and even refrigerators. In 1958 he laid the foundation for the Liebherr Group's international structure by establishing Liebherr (Ireland) Ltd. in Killarney, Ireland, and Liebherr-Africa (Pty.) Ltd. in Springs, South Africa, his first overseas companies.

Talking to one of the employees

Leading-edge technology and high quality

Hans Liebherr in the last interview he gave: "Looking back on my life has convinced me more and more strongly that with the unshakable will to produce good work and by doing one's utmost to satisfy customers' wishes one can achieve targets that at first seemed almost impossible." Since the company's earliest days, its designers have striven to incorporate customers' needs into their development work. The strong reputation gained by the cranes and later by all the company's many and varied products was, and continues to be, dependent on the latest technological research and development, and on high standards of quality and economic efficiency. Liebherr's continued growth and success are based on a hard and fast principle: "Expansion, but only to arm's reach." Hans Liebherr ploughed profits back into his company and financed growth from his own



Pioneering businessman and visionary

earnings. Liebherr has remained independent to this very day: the shareholders of Liebherr-International AG are all members of the Liebherr family. In almost every situation growth has meant establishing the Group's own companies and production plants; only in isolated cases have other companies been purchased, on a sound basis and without abandoning their existing locations.

By the 1960s the Liebherr Group was decentral in its organisation and active internationally, with each business unit trading efficiently under the responsibility of its own general management. Hans Liebherr: "I don't want my factories to be managed from the top down." He had a strong dislike of superfluous hierarchies and preferred direct discussion. At regular intervals he would visit the Group companies for an exchange of views, and allowed his staff considerable scope for taking action as they thought fit. "I spent a lot of time and trouble looking for good staff and I was lucky to find the right people for the important jobs. They are quite simply the key to success."

Scientific and business success

Hans Liebherr's pioneering innovations earned him recognition from the scientific world. The Rhine-Westphalian Technical University in Aachen granted him an honorary doctorate in engineering. For his leading-edge technical activity he was appointed an honorary senator of Karlsruhe University. These accolades were followed by many others and by the honorary citizenship of Kirchdorf an der Iller, where he had made his home, and Biberach, the nearby large town and regional administrative centre. Despite all these tributes, Hans Liebherr remained a modest individual: "Ladies and gentlemen, you may be surprised to see me in a light-colored suit. Well, this is my working suit – remember, I started adult life as a master builder!"

When he reached the age of 61, Hans Liebherr ceased to play an active part in management of the Group's companies but continued to direct corporate policy from his seat on the supervisory and administrative board. However, his restless, creative spirit and dedication to the task in hand prevented him from enjoying anything akin to genuine rest and recuperation. At the very end of his life, he commented "Now the long holiday is about to start." This charismatic businessman and head of the Liebherr Group died on October 7, 1993, aged 78. He was laid to rest in Kirchdorf an der Iller, where his historic success story began with the construction of the very first Liebherr crane.

Hans Liebherr's family is continuing his life's work in the spirit of which he would have approved. His children Dr. h.c. Isolde Liebherr and Dr. h.c. Willi Liebherr form the Presiding Committee of the Group's administrative board, and in 2012 the first members of the third generation began to play an active part in Group management.

Hans Liebherr talks to the next generation

Progress and Outlook

Business Progress

The Group in 2014

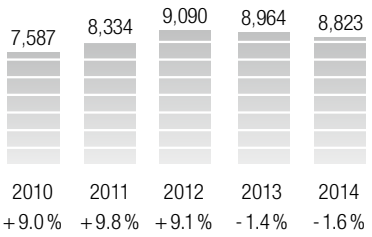
Against a background of moderate international economic development, Liebherr recorded a slight change in turnover for the 2014 business year, with a total of 8,823 million €, 1.6 % (141 million €) below the previous year's figure.

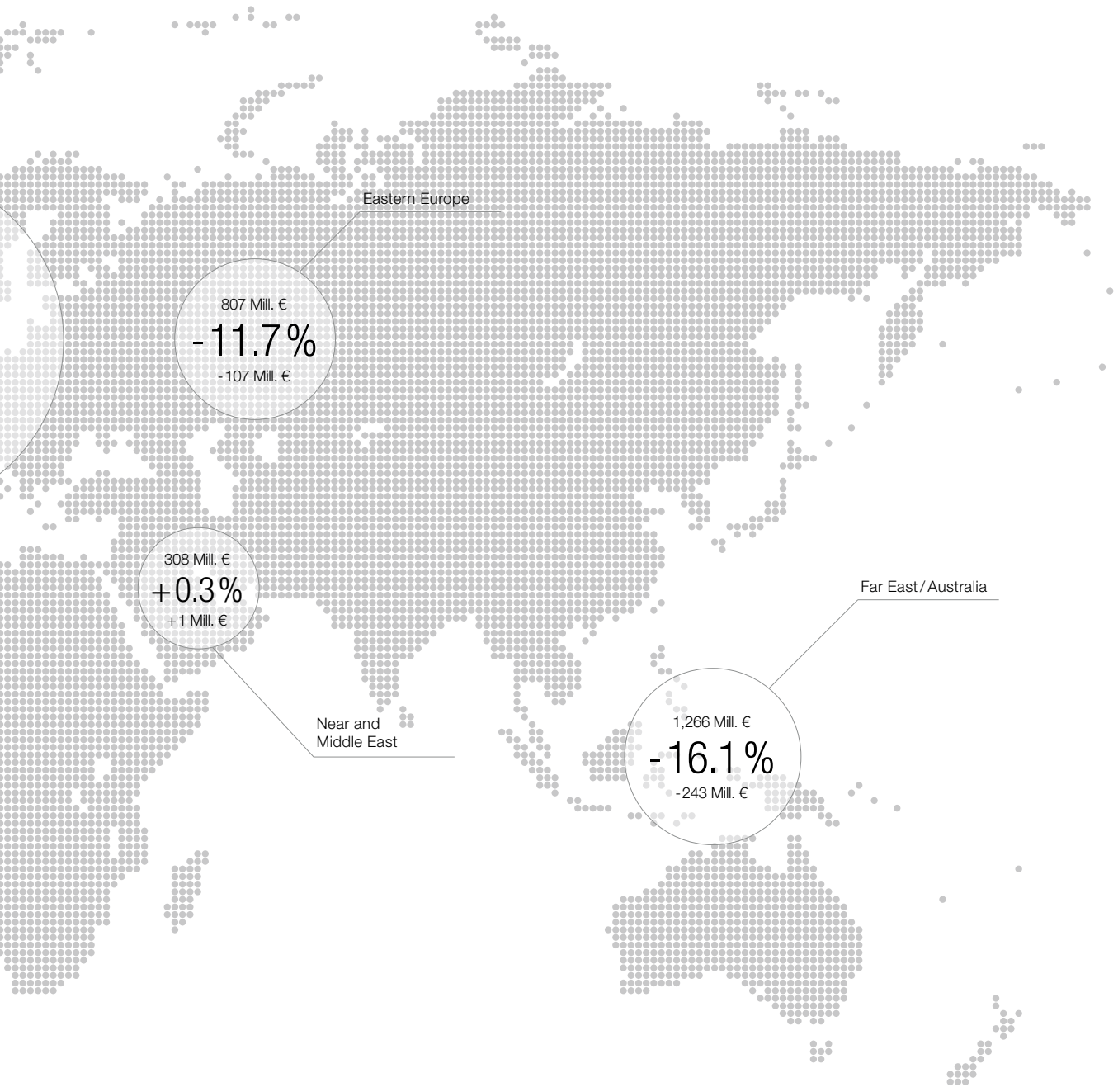
-1.6%

8,823 Mill. €

-141 Mill. €

Turnover worldwide Mill. €





Global economic growth

The international economic situation continued to recover in 2014, though to different extents from one country to another. Global economic growth for the year was 3.4 % and therefore the same as in the previous year.

At +1.8 % compared with the previous year, the dynamism of the developed national economies slightly increased. Economic growth dropped slightly in emerging markets, with growth of 4.6 % in the past year compared with 5.0 % in 2013. The Russian economy in particular exhibited only slight growth (+0.6 % following +1.3 % in the previous year) on account of the uncertain political situation.

Developments in turnover according to region

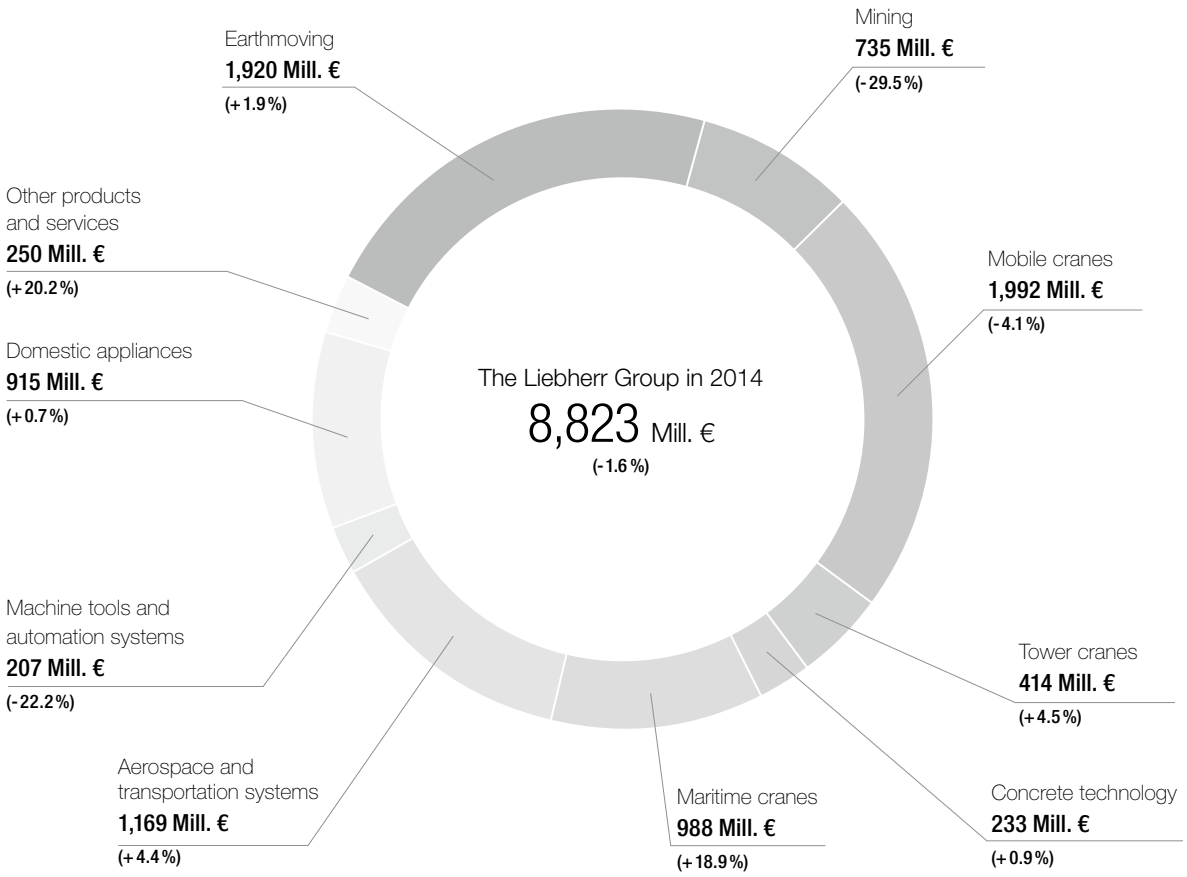
The business year in Western Europe progressed satisfactorily for the Liebherr Group. In Germany, the Group's largest market, turnover exceeded the previous year's figure. The pattern of business was also positive in America, with a satisfying increase in the USA in particular.

Turnover dropped in the Far East / Australia region. Very weak dynamic growth in Russia, the Group's largest Eastern European market, had a distinct effect on the region's overall turnover. Sales revenue also fell on the African continent, though opposite trends were recorded on the two most significant markets there, Algeria and South Africa. In the Near and Middle East the Group achieved turnover slightly above the previous year's level.

Rubber tyre gantry cranes at the port of Dublin, Ireland

Turnover by product groups

(Change over the previous year in %)



Developments in turnover by divisions

Liebherr's construction machinery and mining division achieved a turnover of 5,294 million €, 336 million € or 6.0 % below the previous year's figure. The result was positive, however, in the area represented by the maritime cranes, aerospace and transportation systems, machine tools and automation systems, domestic appliances, components and hotels divisions, with an increase in turnover of 195 million € or 5.8 % to 3,529 million €.

Annual result

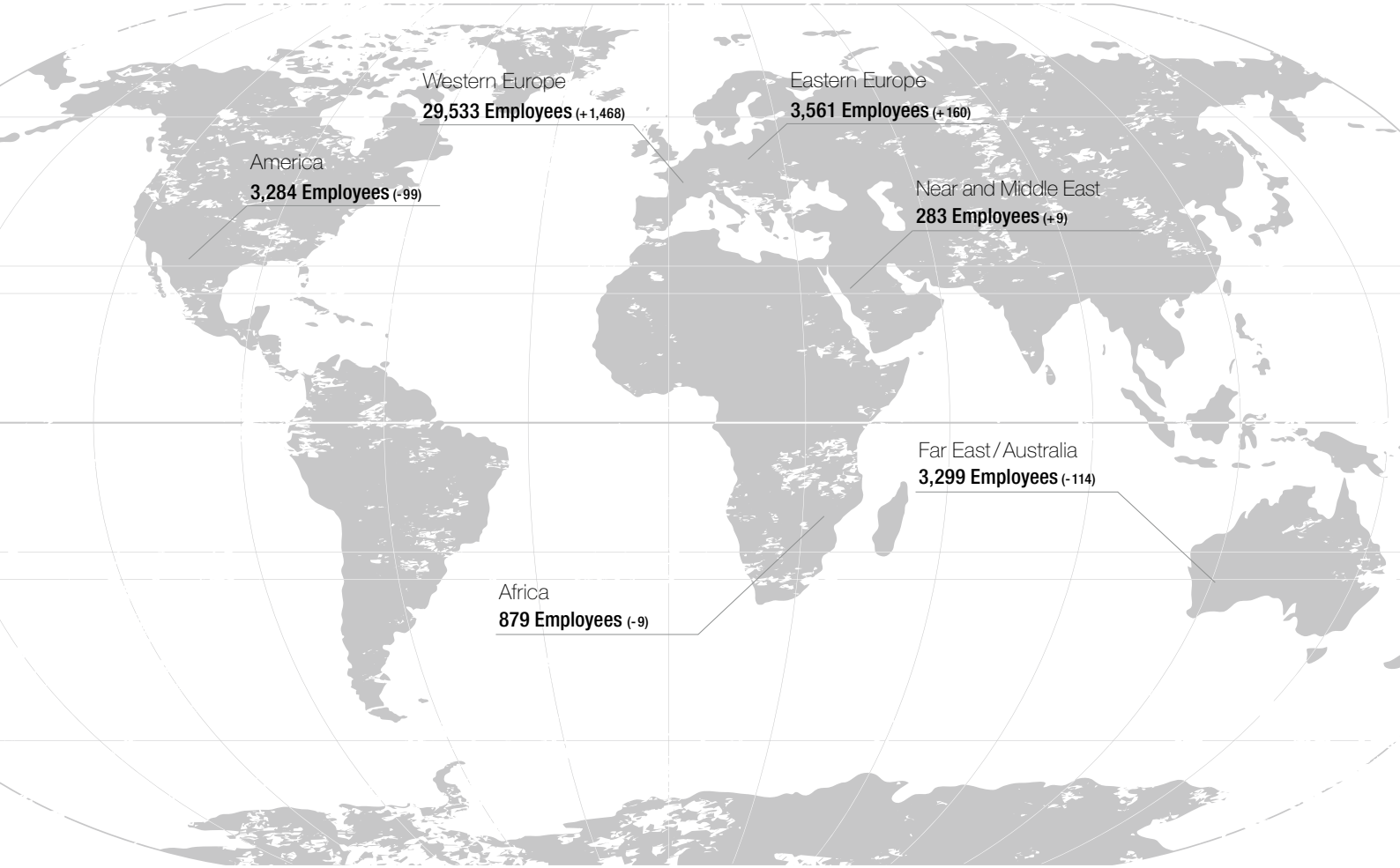
The profit for the reporting period was 316 million €, equivalent to a drop of 48 million € compared with the previous year. Although the operative result was lower, the financial result improved significantly.

Employees

The number of people employed by Liebherr Group companies rose again last year. At the end of 2014 the worldwide total was 40,839, this was 1,415 employees or 3.6 % more than in the previous year.

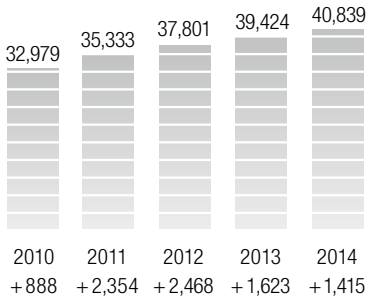
The workforce is one of the key factors in the Liebherr Group's progress: the employees' qualifications, enthusiasm and commitment contribute to the Group's commercial success. Long-term undertakings to the employees are in accordance with the Liebherr tradition as a family-owned company. In 2014 Liebherr was included in the "Top Employer" rankings issued by the "trendence" research institute in Germany, Austria and elsewhere.

Employees by regions compared with previous year



Production planners keep watch over the manufacture of Liebherr domestic appliances

Employees worldwide



40,839

+1,415

Sustainability

Liebherr is aware of its responsibility for coming generations and, as an independent family-owned company, is able to pursue a policy of long-term orientation, which includes awareness of and responsibility for the use of natural resources. As a high-technology group, Liebherr endeavours to develop products, processes and infrastructures that lead to minimum consumption of available resources. Attention is paid to safety, efficiency and environmental compatibility in every area. During the past year many Liebherr companies worked actively on sustainability projects.

Research and development

The Liebherr Group aims to exert a significant influence on technological progress in the business sectors in which it is active. For a high level of innovative power it is essential to invest considerable funds continually in research and development work. In the past year the Group allocated 446 million € for this purpose, with a high proportion of the total devoted to product development in its various divisions.

Liebherr companies cooperate with many universities, advanced educational establishments and research institutes in the development and fundamental research fields. In some cases, several of the Group's divisions have pursued these projects jointly. Among the principal topics were more efficient use of energy, the use of electrical energy to drive machines and methods of improving industrial safety in machine operation. Research also continued on the automation of machine and component processes.

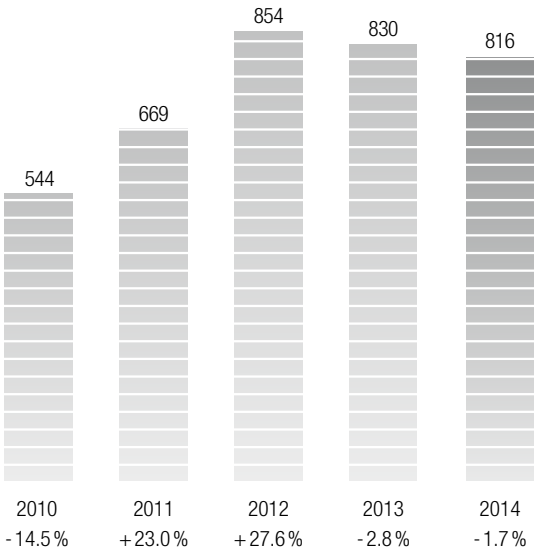
Investments

The Liebherr Group attaches great importance to investment in production and in worldwide sales and service, in order to pave the way for continued successful development. The level of investment has been consistently high: last year the Group invested a total of 816 million € in the expansion and modernisation of its worldwide production network and in strengthening its sales and service organisation. Offset against these investments were depreciation totalling 427 million €.

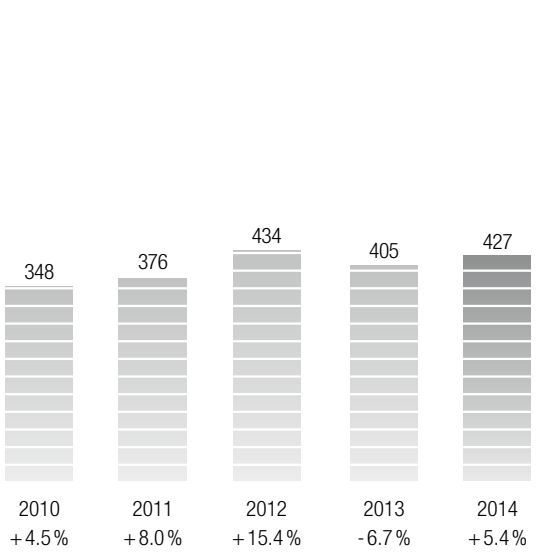
Major investment projects included extension of the diesel and gas engine manufacturing plant in Bulle, Switzerland, and the construction of a branch production facility in Biberach an der Riss, Germany, for driveline and technical control system components. In addition the first construction stage for a new logistics centre to supply spare parts for Liebherr earthmoving machines worldwide was completed early in 2015 in Kirchdorf an der Iller, Germany.

The construction and mining machinery sales and service company based in Adelaide, Australia, completed its extension project, which included building a component reconditioning centre and a new storage and logistics centre with floor areas of 16,000 m² and 12,000 m² respectively.

Investments Mill. €



Depreciation Mill. €



Risk management and internal monitoring systems

To ensure the consistent success of the Liebherr Group, opportunities and risks are identified, evaluated and monitored at an early stage.

Liebherr complies with operative, market-related and statutory requirements in this respect with the aid of a risk management system at Group level and an internal monitoring system that is continually optimised by systematic improvement processes.

For the complete recording, analysis and evaluation of risks, all executives with this responsibility are included in the individual Group companies' risk management and internal monitoring systems. Risks are identified and assessed decentrally in the various companies, whilst counter-measures to limit their effects are initiated, and the consequences evaluated.

This decentralised approach also makes it possible to identify and assess opportunity areas efficiently. Information on market-related and technological developments is included in the context of opportunity management as a decision factor when determining future business activity areas and production processes.

At Group level, the current risk situation is examined regularly, and the efficacy of the systems and processes currently employed is evaluated.

The internal auditing department confirms that worldwide statutory requirements and Group directives are complied with and risk management and internal monitoring systems are implemented.

Supplementary report

Events of notable importance that occurred after the balance sheet date were not evident at Liebherr. Since most of the Group's transactions are processed in Euros, even a significant upward revaluation of the Swiss franc in January 2015 has no significant effects on the Liebherr Group's consolidated financial statements.

New assembly facility at Liebherr-Aerospace in Lindenberg, Germany

Outlook

The 2015 Business Year

Worldwide economic growth of 3.5 % is expected in the current business year. The Liebherr Group will probably benefit from this rather more dynamic growth.

Global economic growth in the current year could be adversely affected by uncertainty in Russia and the Eurozone, and also slower growth of the Chinese economy. Falling commodity prices will have a negative effect on raw-material-exporting countries.

The German economy is forecasted to grow by 1.6 %, whereas the US economy is expected to do better than this, with growth of 3.1 %. The developed national economies are expected to achieve overall growth of 2.4 %, and current forecasts suggest that the emerging markets economies will grow by 4.3 %. The Russian economy will probably suffer a significant downturn.

According to the World Trade Organisation (WTO), the volume of world trade will increase by 3.3 % in the current year. It is also probable that worldwide production will grow more dynamically than in 2014.

In many European countries the construction industry will exhibit a higher rate of growth than in the previous year. A positive trend is also forecasted for the US construction industry.

No significant recovery can yet be expected in the mining industry. Basically speaking, companies in this industry are still focusing on cost reduction programmes, though there are signs that, on the whole, the slump has at least bottomed out.

Worldwide air freight volume is expected to develop as satisfactorily as it did in 2014, and there will also be growth in passenger air transport.

Opportunities and risks

Global economic opportunities are in particular likely to arise from positive indications of US economic growth and slight increases in the growth rates of important emerging markets. Geopolitical uncertainties in the Middle East and those of an economic nature in Russia could give rise to risks.

Risks affecting the Liebherr Group's performance could necessitate specific cost increases due to volatile commodity prices that cannot be passed on as index-linked contractual price indices.

In the operative business area, market price risks may arise in particular from exchange and interest rate fluctuations. Liebherr monitors these risks continually and protects selected transactions by means of suitable financial instruments. The Liebherr Group only undertakes financial transactions associated with its operative business activity and for hedging purposes. In no circumstances does it engage in transactions with a speculative background.

The Liebherr stand at the “Conexpo” in Las Vegas, NV / USA

Positive turnover trend expected

Global alignment of business activities, broad product diversification and the risk management system anchored at Group level, together ensure that the relevant risks can be managed successfully. Based on currently available information, no further risks can be identified that could significantly affect the asset, financial or earnings situation and threaten the survival of the Group as a whole.

Against this backdrop the Liebherr Group views the current year with optimism. Total turnover is expected to rise. All Group divisions are expected to develop positively or at least to equal last year’s turnover. Divisions that will probably exhibit especially dynamic growth are earthmoving, tower cranes, machine tools and automation systems and the other products and services area.

The Liebherr Group’s investments in product development, production and the sales and service network on all continents will again easily exceed depreciation. This will be accompanied by a further increase in the size of the workforce.

Reports on the Divisions

Earthmoving

The earthmoving division's turnover in 2014 was 1,920 million €, higher than in the previous year (+ 36 million € or + 1.9 %).

Last year the world market for earthmoving machinery developed in differing ways. There was an increase in demand for wheel loaders and crawler tractors, whereas demand for crawler and mobile excavators fell.

The division enjoyed a successful business year in America, Africa and Western Europe, and in particular in the Near and Middle East. However, in Eastern Europe and the Far East/Australia region, turnover dropped noticeably.

2014 was the year following the introduction of the Stage IIIB/Tier 4i exhaust emission limits and the year preceding the enforcement of Stage IV/Tier 4f. Considerable development effort was needed to implement new exhaust emission control technologies while continuing work on new product concepts and ongoing improvements to existing products.

A significant new development was the enlargement of the Generation 6 crawler tractor programme. The PR 746 Litronic and PR 756 Litronic models were added to this programme of machines developed and built in Telfs, Austria. Together with the PR 736 introduced in 2013, Liebherr now supplies three crawler tractors that comply with the official Stage IV/Tier 4f exhaust emission limits.

Three new telescopic boom loader models with a lifting height of 7 m were also developed and produced in Telfs. With load capacities between 3.2 and 4.1 tonnes, they are supplied with two different Stage IIIB/Tier 4i engines.

Another new product launched in the review year was the R 926 Compact, which supersedes the previous R 924 Compact model. It is a 25-tonne crawler excavator designed for increased productivity and with a convincing new maintenance concept. Other products that reached the market were the new R 966 and R 976 crawler excavators, with service weights from 66.0 to 76.3 and from 85.3 to 95.5 tonnes, and also the R 918, R 920 and R 922 models, the smallest Liebherr crawler excavators.

In the wheel loader product area, work went ahead in particular on completing and consolidating the product portfolio for customers in emerging markets, with the focus on developing a modular platform concept.

A milestone in the duty-cycle crawler crane product area was initial operation of an HS 8300 HD, the largest duty-cycle crawler crane that Liebherr has so far developed. The Pactronic hybrid driveline is a notable feature making its appearance for the first time in the construction machinery area.

The Liebherr LiSIM simulator was another new development that enables operators of special civil engineering machinery and crawler cranes to be trained efficiently.

In the research and development area, the division cooperated with several Fraunhofer Institutes and various colleges of advanced technology and other research establishments. Among projects undertaken were models to simulate the interaction of tool and soil, the aim being to improve backhoe geometry and record the forces that act on the machine while excavating.

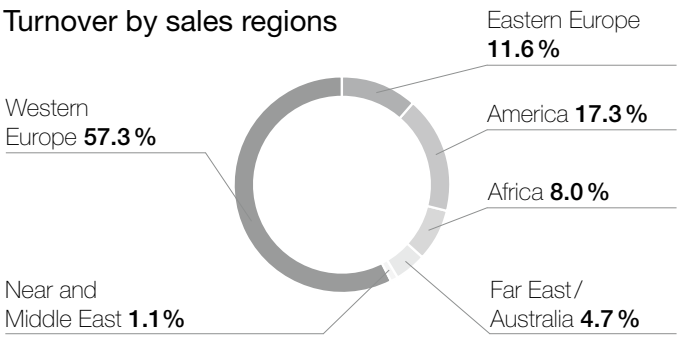
Work also went ahead on new technology for electrically driven crawler excavators and various energy recuperation concepts. In Colmar, France, work on a prototype hydraulic hybrid excavator continued and a new hydraulic system was developed for excavators with a service weight above 40 tonnes.

The division also carried out extensive investment projects in 2014. Several major construction projects were either continued or completed successfully in Kirchdorf an der Iller, Germany. They included a training centre for initial and follow-up training, which opened in May and construction of the logistics centre in Oberopfingen near Kirchdorf. The Liebherr company in Bischofshofen, Austria, extended both its production and its training facilities. In Klagenfurt, Austria, a building for use as a sales and service subsidiary was acquired. The production company in Telfs invested in a new building for experimental testing work.

In Västerås, Sweden, Liebherr-Sverige AB moved to its new site. In June, a new sales and service centre for the Berlin-Brandenburg region was officially opened.

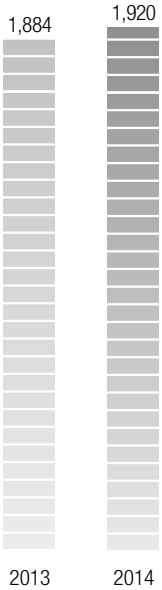
In 2015 the European construction industry is expected to exhibit greater dynamism than in the past year. Liebherr anticipates an overall increase in turnover, and the division also expects to benefit from the forecasted continued recovery of the US economy.

Turnover by sales regions



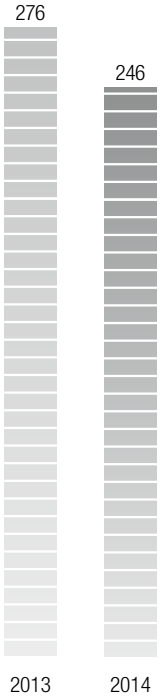
Turnover Mill. €

+1.9 %



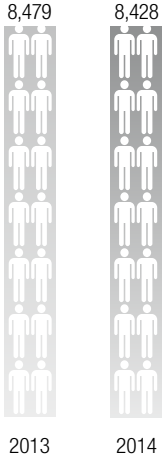
Investments Mill. €

-10.9 %



Employees

-0.6 %



Mining

Due to persistent worldwide weakness in the extraction industries, the mining division's turnover dropped further in the year under review, by 307 million € or 29.5 % to 735 million €.

The downturn that began in 2013 in the mining industry continued in 2014. The drop in the price of coal and iron ore also persisted. Mining companies postponed investments in their machine fleets and pursued programmes aimed at reducing costs and achieving greater efficiency.

In 2013 the world market for mining excavators already halved in volume compared with the previous year. In the review year the market shrank by a further 30 %. The downturn in the market for large dumper trucks with payloads of 300 tonnes or higher was even more noticeable.

The division's turnover from both large hydraulic excavators and large dumper trucks for opencast mining reduced considerably. Like the next-larger R 9150, the R 9100 large hydraulic excavator reached the market in 2014. The driveline, which is equipped with the latest engine management system, is rated for longer life, and fuel consumption is lower than from other engines in this category. Together with their efficient hydraulic system, these machines achieve the high crowding and breakout forces called for in day-to-day operation. The new machines have met with great success, particularly in South Africa but also on many other markets.

Liebherr received a major order from Panama for eight Type R 9100 excavators in addition to 15 crawler tractors of Types PR 744 and PR 754. An R 9150 with low-temperature protection kit was delivered to a company in the Russian region of Yakutia. This special equipment enables the excavator to operate at temperatures as low as 40 degrees Celsius below zero.

The T 264 mining truck also reached the market, after four prototypes had been tested successfully for 20,000 hours of operation. Liebherr also began to assemble a prototype of the T 234, a truck in the midsize category with a payload of 100 tonnes. In addition, development work started on a mining truck with a payload of 290 tonnes.

Further principal development topics were more efficient use of energy, machine and operation monitoring projects, driver assistance systems and automated work cycles.

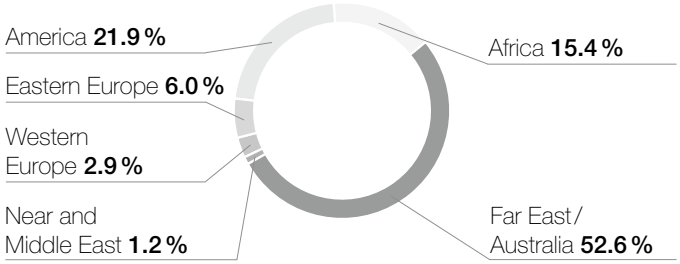
The division strengthened its international sales and service organisation. In Lusaka, Zambia, it established a new company, Liebherr Zambia Ltd., to carry out these tasks. In May 2014 Liebherr-Russland OOO opened a service branch in Mirny, Russia, to

provide support for machines working in the Russian region of Yakutia. New subsidiaries were also opened in Adelaide, Australia, and Springs, South Africa, for the reconditioning of mining components.

Two of this year's market launches hold a particular promise of success. Since January the new R 9200 large hydraulic excavator has been on test at a South African iron ore mine. With a grab capacity of up to 12.5 m³, it is especially suitable for use with mining trucks in the 100-tonne class. Also on test is the T 284, a large mining truck in what is known as the "ultra" class. It supersedes the T 282, and its payload of up to 400 tonnes is currently the highest available anywhere in the world.

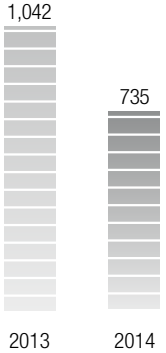
The difficult situation in the extraction industry will probably continue in 2015. Mining companies are still implementing their economy programmes and postponing the purchase of new machines. Against this background, Liebherr expects turnover to remain at approximately the previous year's level.

Turnover by sales regions



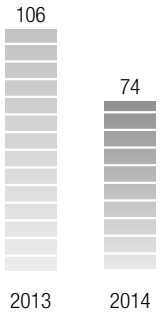
Turnover Mill. €

- 29.5 %



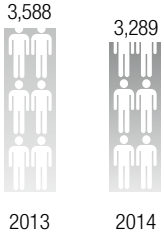
Investments Mill. €

- 30.2 %



Employees

- 8.3 %



Mobile Cranes

Turnover from the mobile cranes division in 2014 was 1,992 million €, a drop of 85 million € or 4.1 % compared with the previous year. In a difficult situation, however, the division was able to increase its market shares.

In the year just completed there was a further 3 % downturn in the world market volume for all-terrain cranes. Despite this, Liebherr was able to maintain its position as market leader and increase its share of the market to more than 50 %. In the area of lattice/boom crawler cranes, the number has increased around the world by approximately 10 %. The division was able to achieve a market share of more than 40 % here, as with the previous year.

In the last business year, Liebherr supplied more than 1,500 new mobile and crawler cranes. Sales revenue in total dropped slightly, as there was considerably greater demand for cranes in the medium and smaller load capacity categories, and the number of large cranes delivered was distinctly lower.

Compared to the previous year, deliveries of second-hand cranes rose in volume, totalling 177 units.

In the year under review Liebherr delivered mobile cranes to more than 80 countries. Turnover in Germany, the division's largest market, was at the same level as in the previous year. Among the largest other markets were various Western European countries, including Great Britain, where progress was exceptionally favourable. After exercising caution for a number of years, customers there once again increased their level of investment, especially in the modernisation of their crane fleets. North America was also a highly significant sales region, in particular for crawler cranes with load capacities up to 300 tonnes. Approximately 50 Type LR 1300 cranes were, for example, sold to customers in the USA. Liebherr recorded distinct sales progress in Japan, which is one of its ten largest markets. In Russia, another top ten market, turnover dropped considerably.

The division pursued a variety of development projects relating to all of its crane designs and types. Liebherr also continued work on further exhaust emission reductions and on development of the single-engine concept for mobile cranes with more than four axles.

The "VarioBase" mobile crane support system was awarded the innovation prize by the Austrian construction-industry publication "Baublatt Österreich", and also received an Award of Excellence from the European Heavy Transport and Mobile Crane Association ESTA. VarioBase ensures safe operation regardless of the support base width, and thus enables the mobile cranes' operating scope to be increased.

In 2014 the division revealed the first prototype of an armoured mobile recovery crane. It is intended to recover and tow away various German Army vehicles.

At the "Conexpo" in Las Vegas, NV/USA, Liebherr presented its LTM 1160-5.2. Compared with the previous model, this mobile crane has up to 25 % higher load capacities at the same telescopic boom length of 62 m. The overall width has been reduced, which offers benefits on both public roads and construction sites. A new superstructure drive concept has been developed for this model: instead of the two engines customarily installed on mobile cranes

in this size category, the LTM 1160-5.2 has only one engine with mechanical shaft drive.

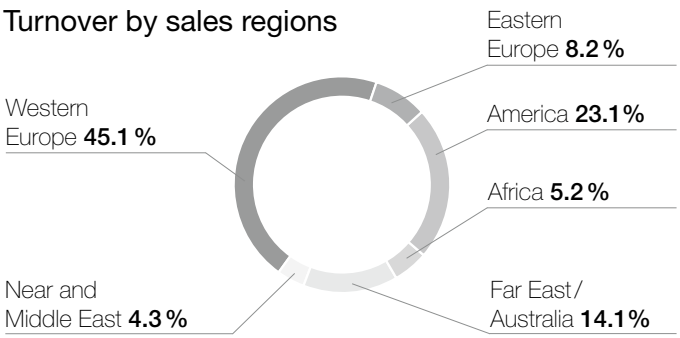
At the end of June 2014 the division reached a significant landmark: the 30,000th mobile crane – an LTM 1500-8.1 – was delivered to the customer. Since delivery of the 20,000th crane in 2006, fewer than eight years had therefore been needed to supply 10,000 Liebherr mobile cranes to customers all over the world.

At the “Bauma China” trade fair held in Shanghai, the division received the 2014 Best Innovation Award for the LTM 1300-6.2 mobile crane, which also uses the single-engine concept and the VarioBase support system.

Investments in 2014 at the production company in Ehingen, Germany, concentrated in particular on optimising logistics and maintenance of stocks. To strengthen the worldwide sales and service organisation, a new branch was opened in Lima, Peru.

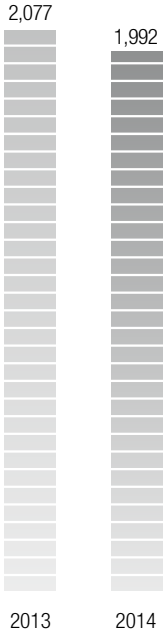
In 2015 the division expects stable business development with turnover slightly higher than in the review year. It will continue work on a large number of development projects, notably engine modifications for series supply of production vehicles complying with Stage IV/Tier 4f exhaust emission limits.

Turnover by sales regions



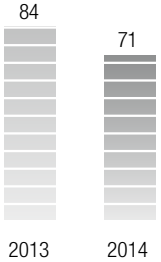
Turnover Mill. €

-4.1 %



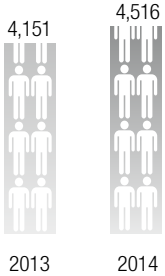
Investments Mill. €

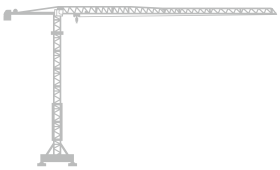
-15.5 %



Employees

+8.8 %





Tower Cranes

In 2014 the tower cranes division was able to continue the previous year's positive turnover trend. Turnover was 414 million €, equivalent to an increase of 18 million € or 4.5 %.

This business sector was exposed to strong competition and pressure on price during 2014. At the same time there was a continuation of the general trend away from crane purchase and toward the rental market. Whereas the demand for new cranes fell back slightly, there was an increase in demand for second-hand cranes.

Although the division incurred a drop in turnover in Eastern Europe, the effect was rendered less severe by increases in the USA and in the Near and Middle East.

In relation to the five largest European competitors, Liebherr secured a 20 % share of the market for top-slewing cranes. The division delivered a total of 880 tower cranes and 37 mobile construction cranes. Liebherr received an especially large number of orders for its Type 542 HC-L, 81 K and 280 EC-H models.

The Type HC-L fly jib cranes are designed to work on extremely high buildings or where space is very limited. Liebherr's EC-H cranes are cost-effective in terms of transport, quick and easy to erect and equipped with innovative drivelines. The power category they occupy makes them suitable for construction tasks of moderate size or larger. Fast-erecting cranes can travel on public roads in a complete, ready to operate condition and require very little erecting space. A considerable number of Type 81 K and 120 K.1 cranes were sold to customers in Europe and in Algeria. Several Type 1000 EC-H cranes were supplied to customers e.g. in Europe and Central and South America.

During the year under review, Liebherr tower cranes were used on construction of what is to be the world's tallest building, the Kingdom Tower in Jeddah, Saudi Arabia.

In the past year the division undertook numerous research projects. Among the bodies with which Liebherr cooperated in Germany were the RWTH Aachen, the University of Applied Sciences in Munich and FOSTA, a steel users' research association. Among the areas investigated by Liebherr were improved tower element connections designed to ensure higher load capacity, and optimised structural steelwork design. These projects are aimed at reducing the weight of transport crates and simplifying the construction of tower elements.

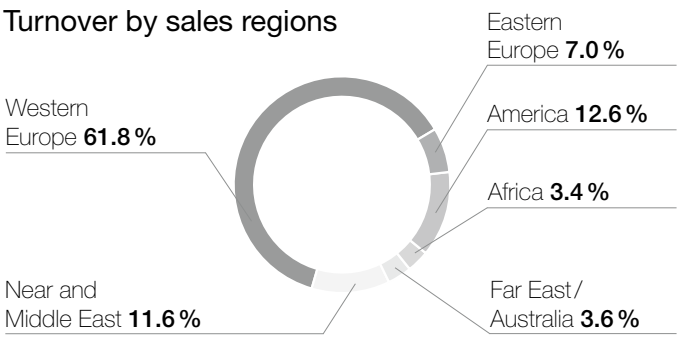
Additions to the product programme were the 53 K fast-erecting crane, the 172 EC-B 8 Litronic flat-top crane and the 710 HC-L luffing jib crane. The 53 K was exhibited for the first time at the 2014 Swiss Construction Machinery trade fair in Berne. In 2015 the 710 HC-L reached the market and has already proved extremely popular: this new Liebherr luffing-jib crane in the 700 mt class was first seen in March 2014 by visitors to the "Conexpo" in Las Vegas, NV/USA.

Among the division's principal investments was the erection of a pilot powder-coating plant in Biberach an der Riss, Germany. This was the first step toward a highly automated coating plant for large structural steel elements. In Pamplona, Spain, Liebherr invested in optimisation of the production processes.

The year under review was the first in which tower cranes were built by Liebherr Brasil Ltda. in Guaratinguetá, Brazil, and delivered to customers. In Hong Kong, Liebherr took over sales activities from a partner for many years. The division also moved into various new premises in Germany: in Biberach for the "Tower Crane Solutions" department, which provides support for large-scale projects, and in Bad Waldsee for the "Tower Crane Center", which is concerned with used machinery merchandising and hire. A new branch was also opened in Munich.

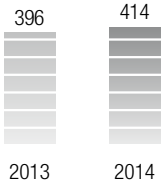
For 2015 the division expects to increase its turnover. The principal drivers for growth are expected from new developments. These include the MK 140 mobile construction crane, the 710 HC-L luffing jib crane and the 172 EC-B 8 flat top crane, but also the LiUP 200 crane operator's lift, which was exhibited and gained an innovation prize at the 2015 "Intermat" in Paris, France. A new hydraulic fast-erecting crane is scheduled to reach production readiness at Liebherr Industrias Metálicas, S.A. in Pamplona. New growth opportunities for the division should also arise as a result of the Tower Crane Solutions department's activities as a complete systems supplier for large-scale projects.

Turnover by sales regions



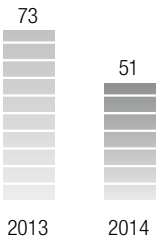
Turnover Mill. €

+4.5 %



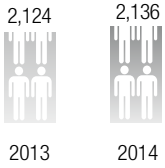
Investments Mill. €

-30.1 %



Employees

+0.6 %



Concrete Technology

The concrete technology division's turnover in the 2014 business year was 233 million € and therefore slightly above the previous year's figure (+ 2 million €/+ 0.9 %). Increases in the concrete mixing plant and concrete pump areas more than compensated for the drop in turnover from truck mixers.

In 2014, progress on the worldwide market for premixed concrete was no more than moderate, with continued severe competition on price.

Whereas the division's turnover was lower in the Far East/Australia region and in America, development in the Near and Middle East was extremely positive. In Western Europe, Liebherr's most important sales region, sales revenue was slightly higher than in the previous year. This also applied to Germany, the division's largest market.

Considerable pressure from competition was encountered, especially on the truck mixer market. Against this backdrop, turnover went down in Brazil, Germany, China and Russia. However, Liebherr was still able to deliver a total of 3,474 truck mixers to customers last year.

The trend in the concrete mixing plant area, on the other hand, was positive, and Liebherr recorded significant increases in its business volume, especially in the Near and Middle East. 143 Liebherr concrete mixing plants and 74 Liebherr concrete recycling plants were delivered to customers worldwide.

The concrete pump product area also developed in a highly satisfactory manner. Demand for these products increased, particularly in Germany, Russia and Austria.

In its research and development work, Liebherr intensified its cooperation with the German Construction Industry and Machinery Research Association (FVB) by participating in various research projects. The aims of this joint research activity are to concentrate the participants' innovative potential and promote dialogue with science.

In the control technology area the division explored methods of improving the use of energy by hydraulic truck mixer driveline components, and the adoption of electrical energy storage systems for mixing plant.

In the measurement technology area a new sensor for determining the water content of diesel and other oils was developed and coordinated with the requirements of the DIN ISO/TS 16332 industrial standard. The sensor permits the performance of diesel oil water trap filters to be measured and will mainly be used in liquid filter testing and measuring systems in the motor vehicle and machinery industries.

Development of the twin-shaft mixer product programme continued, with complete design revision of all size categories from 1.25 m^3 to 6.0 m^3. The mixers can now be operated from one side – a major advantage in view of the limited space available in mixing plant. The new design also permits space-saving installation, especially in mobile plant.

The latest generation of stationary concrete pumps was also revised, with design modifications aimed at simplifying the replacement of parts subject to wear and making cleaning easier.

The 60th anniversary of Liebherr-Mischtechnik GmbH in Bad Schussenried, Germany, was a landmark in the history of this product area. Another highlight in the business year under review was the announcement of the 37 Z4 XXT truck-mounted concrete pump, in a revised design; it was presented to the trade in November 2014 at a joint event with Mercedes-Benz in Wörth, Germany, which was attended by approximately 250 concrete industry representatives.

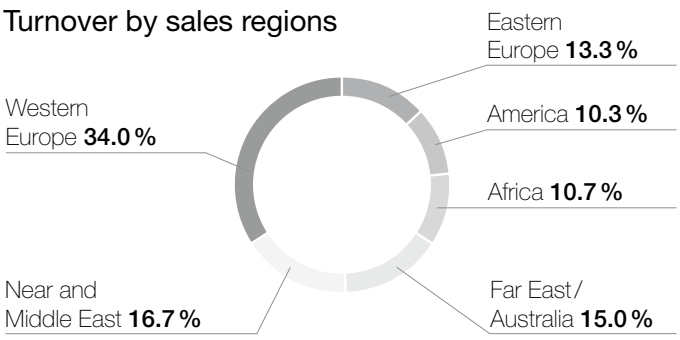
The most important investment was an extension to the production building in Bad Schussenried, which will be used for plant assembly in the future.

Last year the division also devoted much effort to integrating the sales and service network for the concrete pump product area into existing structures, and also to its further expansion.

The concrete pump area is expected to exhibit strong potential in coming years; this will in turn open up opportunities for the division.

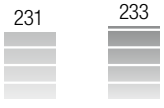
In 2015 various challenges confront the concrete technology area as a result of the persistently difficult situation in Eastern Europe and the downturn in Brazil. At the same time it is probable that competition and price pressure will again become more severe.

Turnover by sales regions



Turnover Mill. €

+0.9 %

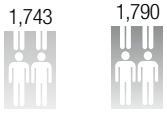


Investments Mill. €

- 23.1 %

Employees

+2.7 %



Maritime Cranes

The past business year was highly successful for the maritime cranes division. With a product programme that includes mobile harbour, offshore and ship-to-shore container cranes, the division achieved a turnover of 988 million €, an increase of 157 million € or 18.9 %.

While the area of maritime goods handling has developed around the world with a high dynamic, the situation with shipping this last year was still onerous. Owing to the development of the oil price, the framework conditions in the offshore industry have become noticeably difficult in recent times.

Mobile harbour crane sales volume was already very high in previous years. In 2014 this product area of the division achieved new record figures in both turnover and the number of units sold: 112 cranes of this type were delivered, the highest figure ever attained by a manufacturer within a single year. This result gave Liebherr a market share of approximately 70 %. The most important sales regions were Western and Eastern Europe, followed by the African continent, where the number of cranes delivered was three times the previous year's figure.

The division received a major order from Algeria, where the port operators' collective purchased 20 mobile harbour cranes and began to use them at seven of the country's ports.

Excellent progress was also made in the offshore crane area: altogether 87 of these cranes were delivered in the 2014 business year, and sales revenue more than doubled within only two years. Far East/Australia was the main sales region for both offshore and ship cranes.

Overcapacity, however, continued to affect the ship crane market, in particular the bulk and container segments. Despite this, Liebherr managed to secure a number of major orders, including 40 Type CBW-S 2100 ship cranes for a South Korean company. Of the new CBB 3800 heavy duty crane with a load capacity of 250 tonnes, 24 units were sold during its first year on the market. This crane was exhibited for the first time in September 2014 at the SMM Hamburg trade fair in Hamburg, Germany.

The division also achieved record results with its ship-to-shore container cranes and its rubber tyre gantry cranes: 28 of the former and 45 of the latter were delivered. In these two product areas Liebherr was able to open up several new markets, including orders from Guatemala, Chile and Kenya.

From Saudi Arabia Liebherr received a major order for the country's King Abdullah Port: ten ship-to-shore container cranes in addition to those already supplied and 48 rubber tyre gantry cranes. With an outreach of 70 m and a lifting height of 52 m, the container cranes are among the largest in the world. In addition Liebherr supplied the first three Type RL-K 7500 deep sea cranes to a customer in South Korea. This model is the largest deep sea crane that Liebherr has so far built.

The self-learning SmartGrip system, which is now available for all mobile harbour cranes, is a new technological development that optimises grab filling level and boosts handling capacity and operating convenience. At the same time, it prevents overloads.

Liebherr configured special container handling gantries for a customer in Australia. In order to comply with height restrictions imposed by the nearby Sydney airport, three container cranes were equipped with articulated booms.

The division invested approximately 10.2 million € in Rostock, Germany, during 2014. A proportion of this total was devoted to the build-up of a maritime crane staff training centre.

A new branch office joined the sales and service organisation at the port of Atyrau, Kazakhstan, on the Caspian Sea.

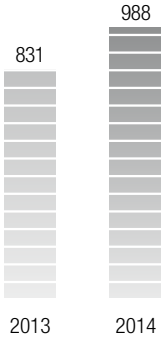
A landmark in 2015 was the opening of a new sales and service subsidiary in Durban, South Africa. A further highlight was the presentation of the LHM 800 in March 2015: with a maximum lifting capacity of 308 tonnes and a working radius of 64 m, it is the world's largest mobile harbour crane.

For the current year the division expects the level of orders for mobile harbour cranes to remain high, and for its other product areas to develop positively as well.

Turnover by sales regions

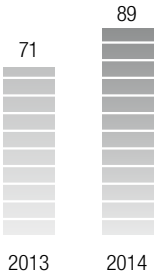
Turnover Mill. €

+18.9 %



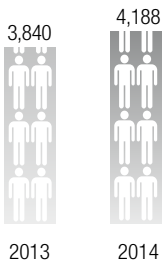
Investments Mill. €

+25.4 %



Employees

+9.1 %



Aerospace and Transportation Systems

With an increase of 49 million € or 4.4 %, the aerospace and transportation systems division boosted its turnover to 1,169 million € in the 2014 business year.

In the aviation industry, the positive development seen in previous years continued. According to the International Air Transport Association (IATA), domestic flights around the world increased as too did international air freight operations. The global rail traffic market is on course for moderate growth.

In Western Europe and America, the division's most important sales regions, turnover was slightly higher than in the previous year. Liebherr recorded a significant increase in Eastern Europe. The main factors contributing to the higher turnover were the larger number of aircraft being built, new aircraft programmes entering production and greater activity on Liebherr's part in the after-sales service area.

In addition, the division was able to secure new long-term orders in both the aerospace and the transportation systems product areas. A strategically important programme for the division in the aerospace area concerned the Boeing B777X, for which Liebherr received an order to develop and supply the wing tip folding system. Another order placed with Liebherr was for delivery of the bleed air system for the A330neo Airbus programme.

The division received two orders from airlines in Poland and Ecuador for overhaul of landing gears on E-Jets built by the Brazilian Embraer company. Liebherr is accordingly the first company in Europe to undertake maintenance work on E-Jet landing gears. Dassault Aviation placed an order with Liebherr for the development, production and maintenance of a new cabin air humidifying system to be integrated into the air management system for the Falcon 5X business aircraft.

Another important project in 2014 was the European "Clean Sky 2" research programme, in which Liebherr is an active partner. Scheduled to run until 2024, the programme aims to further reduce the influence of air traffic on the environment and make European aviation more competitive. One of the division's principal research areas continues to be technology for the next generation of passenger aircraft with 150 to 200 seats.

Among the major development projects were the nose landing gear and slat actuation systems for the Airbus A350 XWB and the landing gear systems for the Bombardier CSeries, the COMAC C919 and the AgustaWestland AW139 and AW189 helicopters. For Embraer, Liebherr develops the E-Jet E2 high lift system and also supplied the air management system for the KC-390 transport aircraft. The COMAC ARJ21, for which Liebherr supplied the landing gear and integrated air management systems and other items, received its certification.

In the transportation systems area the division received an order from German Rail (DB) to equip a multiple unit from the first ICE 3 fleet build with new air cycle air conditioning systems. Liebherr's cold-air systems have already proven successful for many years in the second batch of ICE 3 trains.

The Chinese rail vehicle manufacturer Zhuzhou Electric Locomotive Co., Ltd. commissioned the division to supply anti-buckling systems. A prototype vehicle equipped with the system has already undergone trials. In addition, Liebherr supplied the

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"Primove" cooling system for lithium ion batteries to Bombardier. It is planned to install this system on trams in Nanjing, China.

The division's largest investment project remains the extension of the Lindenberg site. Also in the aerospace area, a new logistics centre was opened in Toulouse and the new service subsidiary in Shanghai, China, was enlarged. The transportation systems product area opened a new maintenance facility in London, Great Britain.

Liebherr-Aerospace Lindenberg GmbH of Lindenberg, Germany, was selected by Embraer as Best Supplier of the Year in the mechanical systems category. The city of Toulouse awarded the 2014 Tisséo Ecomobility Trophy to Liebherr-Aerospace Toulouse SAS, France, for its mobility plan, which forms part of the company's sustainability activities. Liebherr-Transportation Systems Marica EOOD, Bulgaria, and Zhejiang Liebherr Zhongche Transportation Systems Co., Ltd., China, were granted International Railway Industry Standard (IRIS) certification.

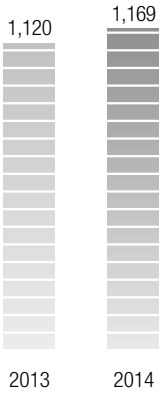
Important events at the beginning of 2015 were the maiden flights of the KC-390 and the Dassault Aviation Falcon F8X. During the year it is planned to put various aircraft programmes into operation, and tests for the ICE 3 fleet will begin.

The division expects business development to be positive in 2015. As new aircraft programmes are started up, additional models incorporating Liebherr systems will reach the market.

Turnover by sales regions

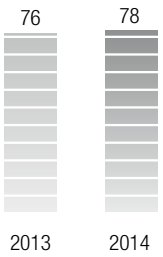
Turnover Mill. €

+4.4 %



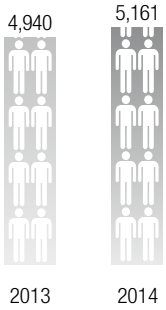
Investments Mill. €

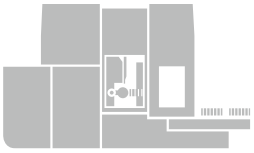
+2.6 %



Employees

+4.5 %





Machine Tools and Automation Systems

Turnover from the machine tools and automation systems division totalled 207 million € in 2014. Sales revenue declined noticeably, and was 59 million € or 22.2 % below the previous year's figure.

After three years the German machine tool industry took a downturn for the first time in 2014. According to statistics issued by the German Machine Tool Builders' Association (VDW), exports dropped by 3 %. Orders in hand and utilisation of available capacity in this business sector were therefore also below the previous year's values.

Liebherr's sales revenues dropped in both the machine tool and automation system areas. In some of the division's major markets, including the USA, turnover was lower. The level of business in the various sales regions was strongly influenced by the local motor vehicle industry's investment policy. Competition on price within the automobile and truck industries in particular was very severe in the past year.

The market gave an excellent reception to the LC 180 ChamferCut hobbing machine, introduced by Liebherr in 2013, on account of its profitability and high machining quality. The division recorded gratifying sales successes in this area. In 2014 the larger LC 300 ChamferCut and the LCD 300 deburring machine were added to this series of machines.

At the "AMB" 2014 trade fair in Stuttgart, Germany, the division exhibited the LSE 200 gear shaping machine with electronic angle feed. It joins the LSE 300, LSE 380 and LSE 500 series and is intended for workpieces up to 200 mm in diameter.

Since vehicle gearboxes are expected to comply with increasingly stringent power density and noise emission requirements, the division is developing new gear cutting geometries with regard to both tooth forms and flank shaping. Asymmetric tooth profiles increase load capacity: for this purpose Liebherr has developed a software that eliminates component problems during hobbing and grinding. This software has already been applied successfully in high-volume production.

To ensure higher gearbox operating efficiency, tooth flank surfaces must satisfy increasingly demanding requirements. The design of the machining head in the grinding machine makes a combined process possible: grinding and tooth flank polishing. As a result, the vehicle's consumption is reduced.

To reduce noise emissions still further, tooth flanks with vectored periodic structures in the sub-µ range are needed. Liebherr has developed grinding methods that permit economic series production of gear teeth of this type. Also important in this respect, is the development of grinding technology for use with innovative grinding materials. The division has applied for several patents as a result of this work.

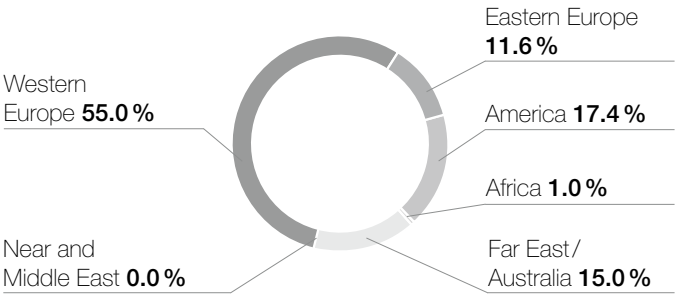
During the review year Liebherr completed further development projects on the removal of metal by peeling and scraping methods. The two processes employ almost identical kinematics but use different cutting materials.

The principal activity in the automation systems area was ongoing development of robot integration in the automated removal of randomly arranged components from transport receptacles (“bin picking”). The division also extended its pallet handling systems by introducing the PHS 13000 in a new size category. It automates the production of large workpieces with a weight of up to 6,500 kg per item and a maximum transport weight of 13,000 kg with pallets and fixtures.

Specific investments by the division in the past year included technical equipment for its training workshop in Ettlingen, Germany. There was also investment in new production machinery at the plant in Collegno, Italy.

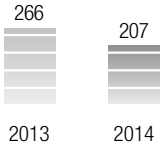
In 2015 the German machine tool industry expects a 3 % increase in production. The Group’s machine tool and automation systems division also expects the trend in the current year to be positive.

Turnover by sales regions



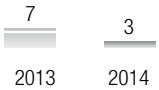
Turnover Mill. €

-22.2 %



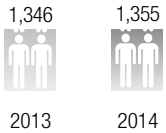
Investments Mill. €

-57.1 %



Employees

+0.7 %



Domestic Appliances

In the past year the domestic appliances division achieved a turnover of 915 million €. This slightly exceeded the previous year's figure (+ 6 million € / + 0.7 %).

According to the GfK market research institute, worldwide market volume for refrigerators rose by about 0.5 % and for freezers by 2.5 %. In Western Europe, total refrigerator sales volume went up by 4.8 % to 12.8 million appliances, and in Eastern Europe rose even more steeply, by 7.8 % to 2.4 million appliances.

All the division's various product groups increased their turnover in Western Europe, and in particular in America. In Eastern Europe and in the Near and Middle East, however, the pattern of business was negative.

With the exception of combined refrigerator-freezers, Liebherr was able to maintain and in some cases slightly improve its share of the market in all product segments. The growth recorded by built-in appliances in the previous year continued. Combined refrigerator-freezers were subject to further price erosion. In order to maintain growth in this high-volume market segment in the future, Liebherr initiated suitable development projects with high innovation potential.

The freezer market progressed satisfactorily: total sales of 3.4 million appliances in 14 Western European countries represented growth of 3.2 %. According to the GfK market research institute, Liebherr was the clear market leader in these countries in terms of sales volume, with a share of 11.1 %.

At the beginning of 2014 Liebherr introduced a new generation of built-in appliances with significantly reduced energy consumption. With these, the division was able to increase its existing lead still further as a supplier of appliances in efficiency class A+++.

With the IKBP 3550 BioFresh refrigerator, a model for integrated installation and with a consumption of only 89 kW / h, Liebherr once again added a product with a leading energy efficiency rating to its product programme.

In 2014 the division's research and development departments devoted their efforts primarily to even more efficient use of energy and to reduced noise emissions from domestic appliances. In this area Liebherr cooperates with Graz Technical University, Karlsruhe University and other bodies. In October 2014 the supermarket chest freezers, which are manufactured by a newly developed, highly flexible PU spray moulding process, were awarded the Tyrolean Innovation Prize. Using this method, which is so far unrivalled anywhere else in the world, the complete outer body is moulded by a polyethylene spray process. By spraying liquid synthetic material into a negative mould, new complex designs can be produced.

Three Liebherr appliances, the SBS 70I4 Side-by-Side combination with provision for integration, the CBNPbs 3756 BlackSteel combination and the UWT 1682 under-worktop controlled-temperature wine cabinet, received the Plus-X award for outstanding design, high quality, ease of operation, functional efficiency and ecology. As a further accolade, these three appliances were declared "Best Product of the Year 2014". For practical value, degree of innovation and durability, together with the product's visual appeal and its marketing concept, the SBSbs 7263 BlackSteel Side-by-Side combination secured the German Design Council's Interior Innovation Award.

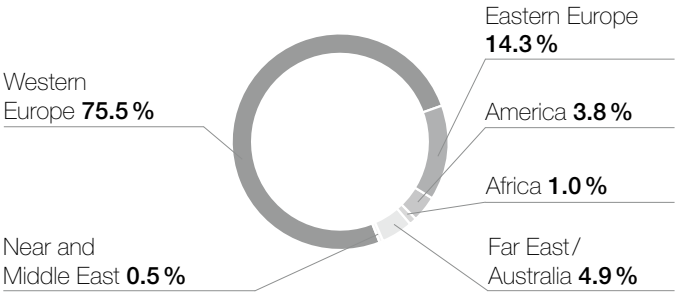
At the 2014 “IFA” trade fair in Berlin, Germany, the division exhibited about 150 appliances from its complete programme. Topics of special interest were the efficient use of energy, the BioFresh technology integrated into many models and appliance networking. Liebherr exhibited 54 appliances at the international “Eurocucina” kitchen furniture trade fair in Milan, Italy. The new Liebherr supermarket chest freezers were shown to trade visitors for the first time at the 2014 “Euroshop” in Düsseldorf, Germany, the world’s largest trade fair for shop design and interior outfitting.

Liebherr-Hausgeräte Lienz GmbH, Austria, celebrated the production of its 15-millionth refrigerator. The Lienz plant mainly develops and builds refrigerators for commercial users and freezer chests for both domestic and commercial purposes.

In 2014 the division undertook investment in various areas. In Lienz, the production facility for the new supermarket chest freezers range was built up. The production company in Radinovo, Bulgaria, will start construction of a new logistics building during the current year.

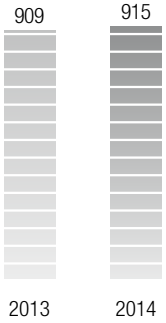
The division expects to increase its turnover slightly in 2015; Liebherr takes a cautiously optimistic view of sales prospects for domestic appliances in Europe, and assumes that in the commercial business area demand for supermarket chest freezers will increase. The new standard programme of combined standalone refrigerators and freezers offers business opportunities, as do the single-door appliances currently being prepared for market launch.

Turnover by sales regions



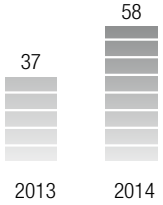
Turnover Mill. €

+0.7 %



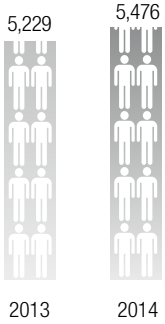
Investments Mill. €

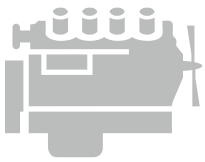
+56.8 %



Employees

+4.7 %





Components

For the components division, the most significant aspects of the review year were expansion of the product programme, sales activity directed at customers outside the Liebherr Group and ongoing investment at several locations.

The division's progress in the gas engine business area was particularly positive. The start of series production of the new fully equipped generation of engines noticeably increased sales volume in the review year and was equivalent to a market share of approximately 7 % in Europe. With the fully equipped gas engines, manufacturers of combined heating and power supply installations and biogas plant are supplied with a "plug and play" solution consisting of a complete, ready to run engine including sensors, ignition system, knock control, safety functions and engine management system.

Wind energy also deserves special mention: a distinct increase in turnover was achieved in this area. Following the acquisition of a further major customer, Liebherr now supplies almost all the large manufacturers of wind energy plant.

Diesel engines complying with the Stage IV/Tier 4f exhaust emission limits went into production during 2014. A key component of these Liebherr engines is the 11.2 common rail fuel injection system, developed inhouse for diesel engines with a displacement of up to two litres per cylinder.

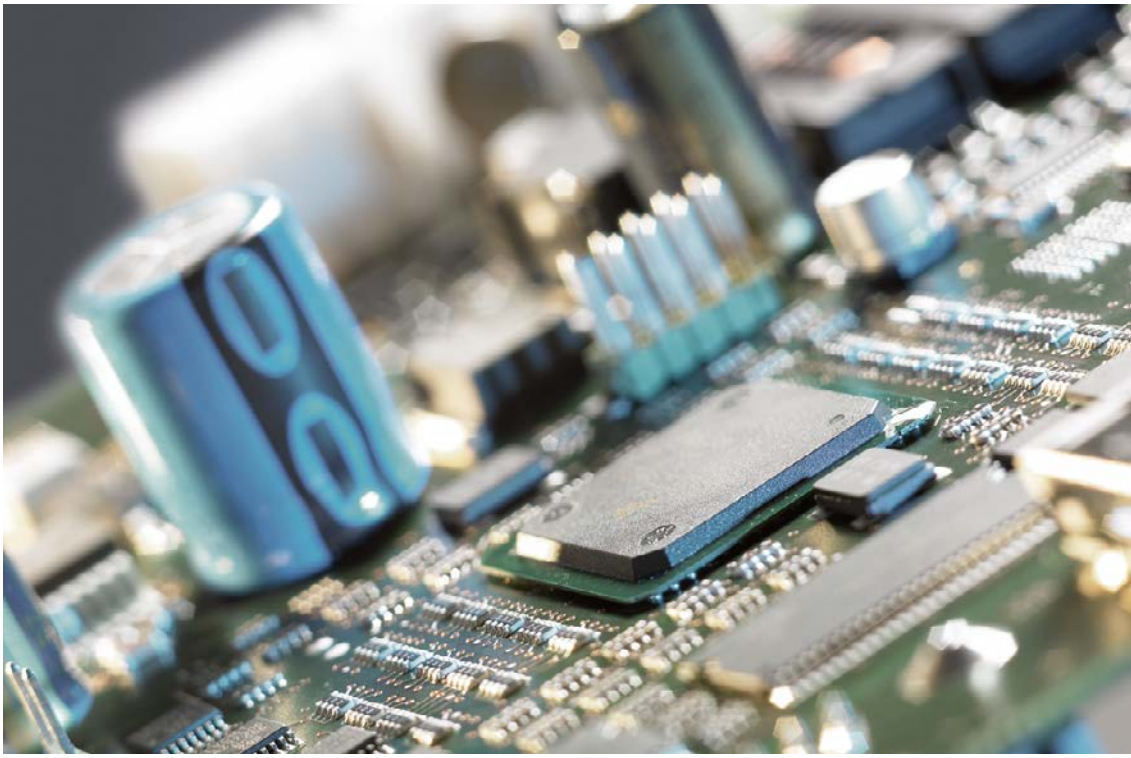
At the 2014 "CTT" trade fair in Moscow, Russia, the new 11.5 common rail system was exhibited for the first time in a version for large diesel engines with a displacement of up to five litres per cylinder. From 2016 it will be available in series production for engines of up to 100 litres total displacement. Like the 11.2 system, the 11.5 fuel injection has been optimised for long life in off-highway operation and for low fuel consumption and emissions.

In the past business year the division invested a total of 121 million € in the development of various locations.

In June 2014 Liebherr Machines Bulle SA began construction work on a new development centre for diesel and gas engines. Additional test rigs for development work, series production engines and complete systems are an important precondition for further enlargement of the product programme. At the same time construction work on a new logistics centre began at this site. Both construction measures are part of a comprehensive enlargement of the plant due to be completed in 2020; this will significantly increase production capacity for diesel engines and fuel injection systems. Inauguration of a new training centre will benefit all the business areas at this location.

In Colmar, France, work on a further development and production facility for diesel engines was completed and the test centre put into operation.

In Biberach, Germany, construction work continued on the new branch production facility: two production buildings each with a floor area of more than 10,000 m^2 were completed. Transfer to the new premises began in December 2014. With these extended production facilities Liebherr will be able to satisfy continuously growing demand for switchgear, electric motors and generators.



In the past year Liebherr-Components Kirchdorf GmbH put new production facilities into operation and was thus able to expand its product programme in the hydraulic ram and cylinder area. The new machinery is capable of manufacturing cylinders with a piston diameter of up to 800 mm and a maximum stroke of 10,000 mm.

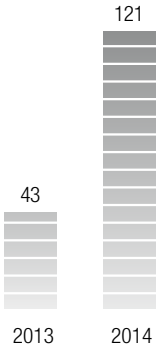
In Burlington, Canada, a new location for component reconditioning went into operation, and makes the Liebherr "Reman" programme available in North America.

The increasing importance for the division of component supply to customers outside the Liebherr Group led in the review year to a corresponding emphasis on sales and marketing activities. In response to the growing importance of the North America and China sales regions, the division exhibited at the "Conexpo" trade fair in Las Vegas, NV/USA, and at "Bauma China" in Shanghai. Supervision of sales activities in China was transferred at the beginning of March 2014 from Dalian to Shanghai and integrated into Liebherr Machinery Service (Shanghai) Co., Ltd.

Development of the Group's construction machinery and mining business areas continues to influence the components division in the current year, with satisfactory utilisation of available capacity. Large diameter bearings, gas engines, driveline technology and component remanufacturing will again be among the principal business areas contributing to growth.

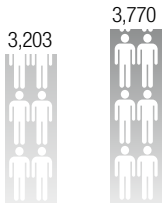
Investments Mill. €

+181.4%



Employees

+17.7%



Group Companies

Summary of Group Companies

Western Europe

Austria
- Hotel Löwen Schruns GmbH
  Schruns
- Interalpen-Hotel Tyrol GmbH
  Telfs
- Liebherr-Hausgeräte Lienz GmbH
  Lienz
- Liebherr-International Austria GmbH
  Bischofshofen
- Liebherr-MCCtec GmbH
  Nenzing
- Liebherr-Transportation Systems GmbH & Co KG
  Korneuburg
- Liebherr-Werk Bischofshofen GmbH
  Bischofshofen
- Liebherr-Werk Nenzing GmbH
  Nenzing
- Liebherr-Werk Telfs GmbH
  Telfs

Denmark
- Liebherr-Danmark ApS
  Hedensted

Finland
- Liebherr-Finland Oy Ab
  Helsinki

France
- Liebherr-Aerospace Toulouse SAS
  Toulouse
- Liebherr-Aerospace & Transportation SAS
  Toulouse
- Liebherr-Components Colmar SAS
  Colmar
- Liebherr-France SAS
  Colmar
- Liebherr-Grues à Tour SAS
  Niederhergheim
- Liebherr-Grues Mobiles SAS
  Niederhergheim
- Liebherr-Location France SAS
  Niederhergheim
- Liebherr-Malaxage & Techniques SAS
  Niederhergheim
- Liebherr-Mining Equipment Colmar SAS
  Colmar
- Liebherr-Mining Equipment SAS
  Colmar
- Liebherr-Nenzing Equipements SAS
  Niederhergheim

Germany
- Liebherr-Aerospace Lindenberg GmbH
  Lindenberg
- Liebherr-Baumaschinen Vertriebs- und Service GmbH
  Kirchdorf an der Iller
- Liebherr-Betonpumpen GmbH
  Neu-Ulm
- Liebherr-Components Biberach GmbH
  Biberach an der Riss
- Liebherr-Components Deggendorf GmbH
  Deggendorf
- Liebherr-Components Kirchdorf GmbH
  Kirchdorf an der Iller
- Liebherr-Elektronik GmbH
  Lindau
- Liebherr-EMtec GmbH
  Kirchdorf an der Iller
- Liebherr-Ettlingen GmbH
  Ettlingen
- Liebherr-Hausgeräte GmbH
  Ochsenhausen
- Liebherr-Hausgeräte Ochsenhausen GmbH
  Ochsenhausen
- Liebherr-Hydraulikbagger GmbH
  Kirchdorf an der Iller
- Liebherr-International Deutschland GmbH
  Biberach an der Riss
- Liebherr-IT Services GmbH
  Kirchdorf an der Iller
- Liebherr-Logistics GmbH
  Kirchdorf an der Iller
- Liebherr-MCCtec Rostock GmbH
  Rostock
- Liebherr-Mietpartner GmbH
  Ludwigshafen am Rhein
- Liebherr-Mischtechnik GmbH
  Bad Schussenried
- Liebherr-Nenzing Service GmbH
  Hamburg

Liebherr-Purchasing Services GmbH
Kirchdorf an der Iller
Liebherr-Transportation Systems Mannheim GmbH
Mannheim
Liebherr-Verzahntechnik GmbH
Kempten
Liebherr-Werk Biberach GmbH
Biberach an der Riss
Liebherr-Werk Ehingen GmbH
Ehingen / Donau
Liebherr-Wohnungsbau GmbH
Kirchdorf an der Iller

Ireland
Killarney Hotels Ltd.
Killarney
Liebherr-Construction Equipment Ireland Limited
Rathcoole
Liebherr Container Cranes Ltd.
Killarney

Italy
Liebherr-EMtec Italia S.p.A.
Lallio
Liebherr-Italia S.p.A.
Monfalcone
Liebherr-Utensili s.r.l.
Collegno

Netherlands
Liebherr-Maritime Benelux B.V.
Amersfoort
Liebherr-Nederland B.V.
Amersfoort

Portugal
Liebherr-Máquinas de Construção Portugal, Lda.
Benavente

Spain
Liebherr Iberica, S.L.
Azuqueca de Henares
Liebherr Industrias Metálicas, S.A.
Pamplona

Sweden
Liebherr-Sverige AB
Västerås

Switzerland
Liebherr-Baumaschinen AG
Reiden
Liebherr-Components AG
Nussbaumen
Liebherr-Component Technologies AG
Bulle
Liebherr-Export AG
Nussbaumen
Liebherr-Hotels AG
Bulle
Liebherr-Industrieanlagen AG
Bulle
Liebherr-International AG
Bulle
Liebherr-Intertrading AG
Bulle
Liebherr Machines Bulle SA
Bulle
Liebherr-Service AG
Nussbaumen

United Kingdom
Liebherr-Great Britain Ltd.
Biggleswade
Liebherr-Rental Ltd.
Biggleswade
Liebherr Sunderland Works Ltd.
Sunderland

Eastern Europe

Azerbaijan
Liebherr-Azeri LLC
Baku City

Bulgaria
Liebherr-Hausgeräte Marica EOOD
Radinovo
Liebherr-Transportation Systems Marica EOOD
Radinovo

Czech Republic
Liebherr-Stavební stroje CZ s.r.o.
Brno
Hungary
Liebherr-Építöipari Gépek Magyarország Kft.
Györ
Kazakhstan
Liebherr Kasachstan TOO
Almaty
Poland
Liebherr-Polska sp. z o.o.
Ruda Śląska
Romania
Liebherr-Romania S.R.L.
Bucharest
Russia
Liebherr-Aerospace Nizhny Novgorod OOO
Nizhny Novgorod (75.1 %)
Liebherr-Nizhny Novgorod OOO
Nizhny Novgorod
Liebherr-Russland OOO
Moscow
Turkey
Liebherr Makine Ticaret Servis Limited Şirketi
Istanbul

Near and Middle East

Saudi Arabia
Saudi Liebherr Company Ltd.
Jeddah (60 %)
United Arab Emirates
Liebherr Middle East FZE
Dubai

America

Argentina
Liebherr-Argentina S.A.
Buenos Aires
Brazil
Liebherr Aerospace Brasil Ltda.
Guaratinguetá
Liebherr Brasil Ltda.
Guaratinguetá
Canada
Liebherr-Canada Ltd.
Burlington, ON
Chile
Liebherr Chile SpA
Santiago de Chile
Colombia
Liebherr Colombia SAS
Bogotá D.C.
Mexico
Liebherr Mexico, S. de R.L. de C.V.
Mexico City
Liebherr Monterrey, S. de R.L. de C.V.
Monterrey
Liebherr Servicios Monterrey, S. de R.L. de C.V.
Monterrey
USA
HL Farm, LLC
Newport News, VA
Liebherr Aerospace Saline, Inc.
Saline, MI
Liebherr-America, Inc.
Newport News, VA
Liebherr Automation Systems Co.
Saline, MI
Liebherr Components North America Co.
Saline, MI
Liebherr Concrete Technology Co.
Newport News, VA
Liebherr Construction Equipment Co.
Newport News, VA
Liebherr Cranes, Inc.
Newport News, VA
Liebherr Gear Technology, Inc.
Saline, MI
Liebherr Mining Equipment Newport News Co.
Newport News, VA
Liebherr Nenzing Crane Co.
Medley, FL, and Houston, TX

Africa

Algeria
Liebherr Algérie, EURL
Algier
Ghana
Liebherr-Ghana Ltd.
Accra
Morocco
Liebherr-Maroc SARL
Casablanca
Mozambique
Liebherr-Mozambique, Lda.
Maputo
Nigeria
Liebherr-Nigeria Ltd.
Abuja (90 %)
South Africa
Liebherr-Africa (Pty) Ltd
Springs
Zambia
Liebherr Zambia Ltd.
Lusaka

Far East / Australia

Australia
Liebherr-Australia Pty. Ltd.
Adelaide
India
Liebherr Appliances India Private Limited
Mumbai
Liebherr CMCtec India
Private Limited
Pune
Liebherr India Private Limited
Mumbai
Liebherr Machine Tools India
Private Limited
Bangalore (60 %)
Indonesia
PT. Liebherr Indonesia Perkasa
Balikpapan
Japan
Liebherr Japan Co., Ltd.
Yokohama
Malaysia
Liebherr Appliances Kluang SDN. BHD.
Kluang
Liebherr Sales Kluang SDN. BHD.
Kluang
New Caledonia
Liebherr-Nouvelle-Calédonie SAS
Nouméa
PR China
Liebherr (HKG) Limited
Hongkong SAR
Liebherr LAMC Aviation
(Changsha) Co., Ltd.
Changsha (50 %)
Liebherr Machinery
(Dalian) Co., Ltd.
Dalian
Liebherr Machinery (Xuzhou) Co., Ltd.
Xuzhou
Liebherr Machinery Service
(Shanghai) Co., Ltd.
Shanghai
Liebherr Purchasing (Dalian) Co., Ltd.
Dalian
Xuzhou Liebherr Concrete
Machinery Co., Ltd.
Xuzhou (50 %)
Zhejiang Liebherr Zhongche
Transportation Systems Co., Ltd.
Zhuji (70 %)
Singapore
Liebherr-Singapore Pte Ltd
Singapore
South Korea
Liebherr Mobile Cranes Korea Ltd.
Seoul
Thailand
Liebherr (Thailand) Co., Ltd.
Rayong

Consolidated Financial Statements

Consolidated Balance Sheet

Assets in Mill. €	Notes	Dec. 31, 2014	%	Dec. 31, 2013	%
Intangible assets	3.1	46	0.4	41	0.4
Tangible assets	3.2	3,384	28.6	3,226	28.0
Shares joint ventures and associated companies	3.5	12	0.1	11	0.1
Non-current financial assets	3.5	96	0.8	111	0.9
Deferred tax assets	7	199	1.7	132	1.1
Non-current assets		**3,737**	**31.6**	**3,521**	**30.5**
Inventories	4.1	3,563	30.1	3,543	30.9
Receivables	4.2/4.3/4.5	1,842	15.5	1,928	16.7
Income tax paid in advance	7	61	0.5	67	0.6
Current financial assets	4.4	1,212	10.2	1,027	8.9
Liquid funds	4.6	1,433	12.1	1,433	12.4
Current assets		**8,111**	**68.4**	**7,998**	**69.5**
Total assets		**11,848**	**100.0**	**11,519**	**100.0**
Equity and liabilities in Mill. €					
Subscribed capital		62	0.5	62	0.5
Revenue reserves	2.3/5	6,449	54.5	6,370	55.3
Equity of Liebherr-International AG shareholders		**6,511**	**55.0**	**6,432**	**55.8**
Non-controlling interests		14	0.1	10	0.1
Equity		**6,525**	**55.1**	**6,442**	**55.9**
Non-current financial liabilities	6	1,471	12.4	1,403	12.3
Post-employment benefits	8	590	5.0	427	3.7
Deferred tax liabilities	7	68	0.6	92	0.8
Non-current provisions	9	45	0.4	48	0.4
Other non-current liabilities	6	127	1.1	130	1.1
Non-current liabilities		**2,301**	**19.5**	**2,100**	**18.3**
Current financial liabilities	6	833	7.0	838	7.3
Payments received in advance		373	3.1	370	3.2
Income tax liabilities	7	52	0.4	54	0.5
Current provisions	9	546	4.6	570	4.8
Other current liabilities	4.5/6	1,218	10.3	1,145	10.0
Current liabilities		**3,022**	**25.4**	**2,977**	**25.8**
Total equity and liabilities		**11,848**	**100.0**	**11,519**	**100.0**

Consolidated Income Statement

in Mill. €	Notes	Dec. 31, 2014	%	Dec. 31, 2013	%
Sales revenue	10	8,823	94.2	8,964	95.7
Increase or decrease of work in progress and finished goods		-17	-0.2	-123	-1.3
Other own work capitalised		276	2.9	246	2.7
Other operating income		286	3.1	276	2.9
Operating income		**9,368**	**100.0**	**9,363**	**100.0**
Cost of materials		-4,487	-47.9	-4,465	-47.7
Personnel expenses		-2,181	-23.3	-2,100	-22.4
Depreciation on non-current assets	3	-427	-4.6	-405	-4.3
Other operating expenses		-1,754	-18.7	-1,742	-18.6
Operating expenses		**-8,849**	**-94.5**	**-8,712**	**-93.0**
Operating result		**519**	**5.5**	**651**	**7.0**
Finance income		557	5.9	382	4.1
Finance cost		-576	-6.1	-462	-4.9
At equity result		1	0.0	-4	0.0
Finance result		**-18**	**-0.2**	**-84**	**-0.8**
Result before tax		**501**	**5.3**	**567**	**6.2**
Taxes on income	7	-185	-2.0	-203	-2.2
Result after tax		**316**	**3.3**	**364**	**4.0**
of which shareholders of Liebherr-International AG		312	3.3	364	4.0
of which non-controlling interests		4	0.0	0	0.0

Consolidated Statement of Comprehensive Income

in Mill. €	Dec. 31, 2014	Dec. 31, 2013
Result after tax	**316**	**364**
Post-employment benefits	-145	29
Deferred tax	38	-3
Items not recycled to profit or loss	**-107**	**26**
Foreign exchange translation differences	-47	-117
Change in fair value of cash flow hedges	-88	26
Deferred tax	31	-16
Items recycled to profit or loss	**-104**	**-107**
Other comprehensive income	**-211**	**-81**
Comprehensive income	**105**	**283**
of which shareholders of Liebherr-International AG	100	283
of which non-controlling interests	5	0

Consolidated Statement of Changes in Equity

in Mill. €	Subscribed capital	Value fluctuations on financial instruments	Foreign exchange translation differences	Other revenue reserve	Equity of Liebherr-International AG shareholders	Non-controlling interests	Group equity
Dec. 31, 2012	**62**	**31**	**220**	**5,949**	**6,262**	**12**	**6,274**
Result after tax				364	364	0	364
Other comprehensive income		11	-118	26	-81	0	-81
Comprehensive income		**11**	**-118**	**390**	**283**	**0**	**283**
Dividends				-113	-113	-2	-115
Dec. 31, 2013	**62**	**42**	**102**	**6,226**	**6,432**	**10**	**6,442**
Result after tax				312	312	4	316
Other comprehensive income		-58	-47	-107	-212	1	-211
Comprehensive Income		**-58**	**-47**	**205**	**100**	**5**	**105**
Dividends				-21	-21	-1	-22
Dec. 31, 2014	**62**	**-16**	**55**	**6,410**	**6,511**	**14**	**6,525**

Consolidated Cash Flow Statement

in Mill. €	Dec. 31, 2014	Dec. 31, 2013
Result after tax	**316**	**364**
Depreciation on non-current assets	427	405
Value fluctuations marketable securities (current assets)	-42	-31
Gain/Loss on disposal of non-current assets	-1	1
Change of provisions and post-employment benefits	-16	3
Other non-liquid expenses/income	15	95
Decrease/Increase of stock	-1	-80
Decrease/Increase of receivables and other current assets	-9	56
Change of other liabilitites	63	2
Decrease/Increase rental fleet	-115	-71
Net cash flow from operating activities	**637**	**744**
Payments for investments in intangible assets	-16	-15
Payments for investments in tangible assets	-529	-543
Payments for investments in financial assets	-5	-2
Payments for investments in marketable securities (current assets)	-634	-472
Proceeds from sales of intangible assets	0	0
Proceeds from sales of tangible assets	21	10
Proceeds from sales of financial assets	0	6
Proceeds from sales of marketable securities (current assets)	491	400
Net cash flow from investing activities	**-672**	**-616**
Dividends paid, other distributions and equity capital repaid	-22	-115
Proceeds from current or non-current financial liabilities	308	589
Repayment of current or non-current financial liabilities	-256	-415
Net cash flow from financing activities	**30**	**59**
Net increase/decrease in liquid funds	**-5**	**187**
Foreign exchange translation difference on liquid funds at beginning of period and on cash flows	5	-29
Liquid funds at beginning of period	1,433	1,275
Liquid funds at end of period	**1,433**	**1,433**
Income tax paid and reimbursed	-204	-252
Interest paid/Interest received	-9	-15
Payments for investments in leased assets	-8	-35

Notes to the Consolidated Financial Statements

1 Corporate information and business activity

The company was founded in 1949 by Dr. Hans Liebherr. Currently, the family business has around 41,000 employees working in more than 130 companies around the world. The share capital of Liebherr-International AG, Bulle, Switzerland, amounting to 62 million € (100 million CHF) is held exclusively by the Liebherr family.

For the construction sector and the mining industry, the Group develops, produces and distributes worldwide construction cranes, mobile cranes, crawler cranes, hydraulic excavators, material handlers, duty cycle crawler cranes, wheel loaders, crawler loaders and tractors, pipelayers, telescopic handlers, mining trucks as well as concrete mixing plants, concrete pumps and truck mixers. In addition, Liebherr develops, produces and distributes worldwide ship cranes, floating cranes, offshore cranes, container and mobile harbour cranes for the cargo handling industry. The activities range across machine tools, automation systems and engineering projects in the machine and plant construction industry, and landing gears, flight control and actuation systems as well as air management systems in the aerospace industry. Furthermore, Liebherr manufactures equipment for rail vehicles in the transportation systems area. For household and commercial refrigeration and freezing, Liebherr produces a variety of products with high benefits for the end users. In the component area the Group specialises in the development, design and manufacture of products in the mechanical, hydraulic and electric drive and control categories. Moreover, Liebherr operates six hotels in Ireland, Austria and Germany.

2 Accounting Policies

2.1 General principles

The Group's consolidated financial statements for the year ended December 31, 2014 are prepared following the standards of the International Accounting Standards Board (IASB) in London.

They are in accordance with all International Financial Reporting Standards (IFRS) and interpretations by the International Financial Reporting Interpretations Committee (IFRIC) applicable for annual periods beginning on or after January 1, 2014.

The accounting and reporting principles applied to these consolidated financial statements comply with Swiss Corporation Law as well as with IFRS. The prior year values are prepared in accordance with the same principles, insofar as newly applicable standards also apply to prior periods. For the first time, all amounts are disclosed in millions of euros (Mill. €) unless stated otherwise (disclosed in thousands of euros in the 2013 report).

The annual financial statements are prepared according to the historical cost principle with transactions being recognised and reported in the period when they occur. Any divergence from this principle is specifically mentioned. The reporting period of Liebherr-International AG and its subsidiaries ends on December 31. The presentation currency is the Euro, as it is the predominant currency in the Group.

To improve comprehensibility and relevance, several details required by IFRS are summarised in the notes. These details are disclosed correctly in the original group consolidated financial statements.

2.2 Basis of consolidation

The consolidated financial statements are prepared based on the individual financial statements of Liebherr-International AG and its subsidiaries, which are audited by independent auditors and prepared using consistent accounting policies. The consolidated financial statements include the annual financial statements of Liebherr-International AG as a parent company and of all subsidiaries in which Liebherr-International AG directly or indirectly holds a majority of voting rights, or otherwise controls according to IFRS 10.

The following companies have newly been established during the financial year 2014 by means of start-up, acquisition or restructuring and are included in the consolidation scope:

- Liebherr-Components Deggendorf GmbH, Deggendorf, Germany
- Liebherr-Aviation GmbH, Biberach an der Riss, Germany
- Liebherr Kasachstan TOO, Almaty, Kazakhstan
- Liebherr-Maroc SARL, Casablanca, Morocco
- Liebherr Zambia Ltd., Lusaka, Zambia

Acquired companies are fully consolidated from the time when the Group has control according to IFRS 10. They are accounted for using the purchase method under which identifiable assets, liabilities and contingent liabilities are measured at fair value on the date of acquisition. Any remaining residual value is recorded as goodwill in the respective functional currency of the company acquired. Any goodwill is not systematically amortised, but is reviewed for impairment at least on an annual basis.

Sold companies are deconsolidated at the time the Group ceases to have control and any gain or loss is recognised in the income statement.

Investments for which the Group does not exercise control but a significant influence, are classified as associates or joint ventures and accounted for using the equity method according to IFRS 11. The Group's share of net assets is presented in the balance sheet under shares joint ventures and associated companies and the share of profit of joint ventures and associates is shown in the income statement under at equity result.

The consolidated financial statements include investments in joint ventures and associate companies. Material investments are as follows:

- Eisengiesserei Dinklage GmbH, Dinklage, Germany
- Somatel-Liebherr Spa, Ain Smara, Algeria

2.3 Translation of foreign currency

Foreign currency transactions are recorded at the spot rate as of the transaction date. Monetary assets and liabilities in foreign currency are translated at the current exchange rate at balance sheet date. All gains and losses are taken to the income statement. Assets and liabilities in financial statements of subsidiaries prepared in foreign currencies are translated into Euro at the current exchange rate at balance sheet date. The translation of the income and cash flow statements is done by using the average exchange rate of the period. The exchange differences arising from the translation of the income statements are recorded in the statement of comprehensive income until the disposal of the foreign operation. Due to the fact that the vast majority of the trancations are denominated in Euro, a significant appreciation of the Swiss franc in January 2015 has no material impact on the consolidated financial statements of the group.

For the most significant currencies, the following exchange rates have been applied:

			2014		2013	
			Year End Rate in €	Average Rate in €	Year End Rate in €	Average Rate in €
Switzerland	CHF	1	0.8317	0.8233	0.8146	0.8124
USA	USD	1	0.8237	0.7537	0.7251	0.7532
Great Britain	GBP	1	1.2839	1.2405	1.1995	1.1777
Australia	AUD	1	0.6744	0.6796	0.6484	0.7294
Russia	RUB	1	0.0138	0.0199	0.0221	0.0237

2.4 Financial instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity. All purchases and sales of financial instruments are recorded on the trading date.

Financial assets and liabilities are recognised when the Liebherr Group becomes a party to the contractual obligations of the instrument. Financial assets are written off when the contractual rights to receive cash flows are fully transferred or expire. A transfer takes place when the rights to receive cash flows are transferred to a third party. If the rights to receive cash flows are neither transferred nor retained, the financial asset is written off when the Group has not retained control. If the Group retained control, a new asset is recognised to the extent of the Group's continuing involvement in the asset. A financial liability is only written off when the obligation under the liability is discharged, cancelled or expires.

The initial and subsequent measurement of the various financial instruments used by the Liebherr Group differs, depending on the classification in accordance with IAS 39.

Financial instruments at fair value through profit or loss

This category includes financial assets and liabilities designated upon initial recognition at fair value through profit or loss and financial assets inclusive of derivatives held for trading except for a derivative that is a designated and effective hedging instrument as defined by IAS 39. All financial instruments in this category are carried in the balance sheet at fair value with gains or losses arising from changes in fair value recognised in the income statement in the relevant period (finance income or finance cost). In general, the fair value of the financial instrument base on market prices (Level 1 Inputs and Level 2 Inputs of the fair value hierarchy). Valuation techniques (Level 3 Inputs) using non observable input parameter are not applied. There were no financial instruments whose fair values could not be determined with sufficient reliability.

Loans and receivables

This category represents loans granted by the Group and accounts receivable trade. Financial assets within this category are recognised at fair value plus transaction costs that are directly attributable to the acquisition or issue of the financial asset upon initial recognition and subsequently measured at amortised cost. At each balance sheet date or under certain circumstances (e.g. significant financial difficulties of the debtor), the carrying amount of the financial instruments in this category are assessed for any impairment. Any impairment losses, which are determined by comparing the carrying value of the instrument to the fair value, are recognised in the income statement. If there is objective substantial evidence in subsequent periods that the impairment of an asset is no longer applicable, the previously recorded impairment loss is to be reversed. However, the reversal of the impairment loss may not create a carrying value that exceeds what the carrying value would have been if normal amortisation charges had been considered (not considering the impairment).

Other financial liabilities

Other financial liabilities comprise of all financial liabilities other than derivatives. Financial liabilities are recognised initially at fair value including transaction costs. They are subsequently measured at amortised cost using the effective interest method. In addition to actual interest payments, finance costs include annual compound interest and pro rata transaction costs.

Financial guarantee contracts

A financial guarantee contract is a contract that requires the issuer to make specified payments to reimburse the holder for a loss. This loss incurs when a specified debtor fails to make payments in accordance with the original or modified terms of a debt instrument. In some cases, the creditworthiness of customers is guaranteed by the Liebherr Group to the financing party, i.e. a financial guarantee contract is issued in accordance with IAS 39.

3 Non-current assets

3.1 Intangible assets and land rights

Intangible assets acquired separately are measured at acquisition cost on initial recognition. Internally generated intangible assets from which the Group expects to receive a future benefit and which can be measured reliably are capitalised at production cost. The production cost includes all costs directly attributable to the production process and a proportionate share of production related overheads. Borrowing costs are not capitalised, as the definition of a qualified asset does not concern intangible assets.

Development costs for new products are not capitalised, as the future economic benefit can only be demonstrated after a regulatory approval and a successful launch of the products in the market.

All intangible assets are amortised over the lower of their expected economic useful life or the contract length using the straight-line method. Intangible assets with indefinite useful lives are not amortised, but are tested for impairment annually.

The estimated useful lives of the major classes of intangible assets are as follows:

Concessions	3 years
Industrial property rights and similar rights	3 years
Licences	3 years
Software	3 - 5 years

3.2 Tangible assets

Tangible assets are measured at purchase value less cumulative depreciation and cumulative impairment losses. Depreciation systematically takes place according to the straight line method over the useful life of the property. Land is not depreciated. Real estate not used for operational purposes is recognised as tangible asset, carried in the balance sheet and depreciated according to the same criteria as real estate used for operational purposes. Such property includes real estate (land and/or buildings or parts thereof) that is held for the purpose of generating rental income and/or for a future undefined purpose. Maintenance costs are capitalised when they extend the useful life or the production capacity of the asset. Other maintenance costs and minor repairs are recognised in the income statement as incurred.

The estimated useful lives of tangible assets are as follows:

Buildings	20 - 40 years
Machinery and equipment	5 - 21 years
Furniture	13 years
IT	3 - 5 years
Vehicles	8 - 11 years

Any gain or loss arising from the disposal of an asset is included in other operating income or expenses. The disposal of rental machines is recognised as revenue. The reversal of the related remaining book value from the disposal is treated as cost of materials. Tangible assets are derecognised upon disposal or when no future economic benefit is expected from their use.

Borrowing costs directly attributable to the purchase, construction or manufacturing of a qualified asset are capitalised during the period until the asset is brought into service and afterwards depreciated over the useful life of the asset. Other borrowing costs are treated as expenses.

Development of tangible assets as at Dec. 31, 2014:

in Mill. €	Land and buildings	Technical equip. and machinery	Other equip., factory and office equip.	Adv. paym., assets under construction	Total
Acquisition and production cost as at 1/1	2,275	2,267	1,087	355	5,984
Additions	122	315	131	232	800
Disposals	-4	-314	-48	-3	-369
Transfers	238	59	14	-311	0
Foreign exchange difference	-56	-2	2	-1	-57
Acquisition and production cost as at 31/12	**2,575**	**2,325**	**1,186**	**272**	**6,358**
Accum. depreciation and impairment as at 1/1	763	1,293	702	0	2,758
Depreciation of the year	95	206	114	0	415
Accum. depreciation on disposals	-3	-154	-41	0	-198
Impairment	0	2	0	0	2
Transfers	0	3	-3	0	0
Foreign exchange difference	-8	1	4	0	-3
Accumulated depreciation as at 31/12	**847**	**1,351**	**776**	**0**	**2,974**
Net book value 31/12	**1,728**	**974**	**410**	**272**	**3,384**

Development of tangible assets as at Dec. 31, 2013:

in Mill. €	Land and buildings	Technical equip. and machinery	Other equip., factory and office equip.	Adv. paym., assets under construction	Total
Acquisition and production cost as at 1/1	2,173	2,192	1,032	193	5,590
Additions	94	303	113	306	816
Disposals	-5	-223	-54	-4	-286
Transfers	77	34	21	-132	0
Foreign exchange difference	-64	-39	-25	-8	-136
Acquisition and production cost as at 31/12	**2,275**	**2,267**	**1,087**	**355**	**5,984**
Accum. depreciation and impairment as at 1/1	692	1,156	656	0	2,504
Depreciation of the year	83	207	104	0	394
Accum. depreciation on disposals	-2	-54	-49	0	-105
Impairment	0	1	0	0	1
Transfers	0	-2	2	0	0
Foreign exchange difference	-10	-15	-11	0	-36
Accumulated depreciation as at 31/12	**763**	**1,293**	**702**	**0**	**2,758**
Net book value 31/12	**1,512**	**974**	**385**	**355**	**3,226**

Other equipment, factory and office equipment include mainly computer equipment, furniture, vehicles, transportation equipment, tools and fixtures.

The net book value of 3,384 million € (2013: 3,226 million €) corresponds to 53.2 % (2013: 53.9 %) of the historical cost. The recognised impairment loss relates to the rental equipment. The carrying amount of tangible assets held under finance leases amounts to 67 million € (2013: 146 million €) and can basically be allocated to land and buildings as well as to technical equipment and machinery.

The carrying amount of land and buildings contains the capitalised borrowing costs amounting to 12 million € (2013: 13 million €).

3.3 Leasing

The Group primarily acts as a lessor of its self manufactured construction machinery, but is also a lessee for other tangible assets. The classification of leases adopted in IAS 17 is based on the extent to which risks and rewards incidental to ownership of a leased asset lie with the lessor or the lessee. Depending on the situation, the leased asset is classified as finance or operating lease in the closing of the lessor or the lessee.

Self constructed assets capitalised under tangible assets but leased out under an operating lease are recognised at production cost. All other leased out equipment is recognised at acquisition cost. All rental equipment is depreciated using the straight-line method over the asset's useful life to the lower of the market value or the calculated residual value of the asset. Lease income from operating leases is recognised in income on a straight-line basis over the lease term. With regards to financial leases, a receivable at an amount equal to the net investment in the lease is recognised. Lease payments are divided into interest and principal payments.

Payments for operating lease contracts where the Liebherr Group is the lessee are recognised as an expense in the income statement on a straight-line basis over the lease term. Assets acquired under a finance lease are capitalised under IAS 17 at the fair value or, if lower, at the present value of the minimum lease payments at the commencement of the lease. At the same time the liability resulting from future minimum lease payments is recognised as a financial liability. The leased asset is depreciated using the straight-line method over the estimated useful life of the asset or over the lease term, if there is no reasonable certainty that the lessee will obtain ownership by the end of the lease.

If sale and lease back transactions result in finance leases, any sales profit is deferred and amortised over the lease term. In case of operating leases, which are established at fair value, any profit or loss is recognised immediately.

3.4 Impairment of non-current assets

Impairment losses on intangible and tangible assets are recognised at each reporting date if there are indications that, following an event or due to changing circumstances, the book value is overvalued. If the carrying amount of an asset exceeds the recoverable amount (value in use or fair value less costs to sell) the asset is written down to this lower amount. If necessary, intangible and tangible assets are combined to cash generating units.

3.5 Non-current financial assets

The non-current financial assets include shares in associated companies, joint ventures, loans and non-current marketable securities. Shares in associated companies are accounted for using the equity method of accounting. Loans are carried at amortised cost. Non-current marketable securities are designated upon initial recognition at fair value through profit and loss. Management of these financial assets is in accordance with a documented investment strategy and their performance is assessed based on the change in fair value. This information is distributed internally to the key decision makers within the Group.

4 Current assets

4.1 Inventories

Inventories are recognised at acquisition / production cost. Production cost includes costs directly related to the units of production and a systematic allocation of fixed and variable production overheads. The allocation of fixed production overheads is mostly based on the normal capacity of the production facilities; otherwise it is based on the actual level of production. Selling costs, administrative overheads and borrowing costs are not capitalised. Raw materials and merchandise are generally measured at acquisition cost. For raw materials the acquisition cost is the lower of the last purchase price and the weighted average price. Sufficient allowances are recorded for risks with regard to obsolescence and surplus stock as well as for losses of pending transactions by depreciation or writing down on the net realisable value.

4.2 Construction and service contracts

Construction and service contracts are recognised using the percentage of completion method. They are recognised as revenues based on the agreed contract revenue by reference to the stage of completion and in accounts receivable, respectively accounts payable, net of prepayments received from customers. The stage of completion is determined based on the proportion of contract costs incurred for work performed as per balance sheet date to the estimated total contract costs or based on agreed milestones.

When the outcome of a construction contract cannot be estimated reliably, revenue is recognised only to the extent of incurred contract costs. The profit on such a contract is only recognised when the stage of completion allows for a reliable estimate of contract revenues and contract costs to be incurred to complete the contract.

4.3 Accounts receivable trade and other current assets

Accounts receivable trade and other current assets, if not derivatives, are classified as loans and receivables. An allowance for doubtful accounts is recognised when there is objective evidence that such receivables are not recoverable (e.g. due to bankruptcy, payment default or other financial difficulties of the debtor). The amount of the loss is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows. The allowance is based on internal group guidelines, according to which individual allowances must be deducted first. Based on the age of receivables, an additional systematic allowance between 20 % and 100 % is made on the residual balances according to the age of each receivable. The payment terms and outstanding receivables are regularly monitored locally by all subsidiaries. Security is additionally assured in the form of prepayments and down payments.

4.4 Marketable securities and other financial assets

The financial assets in these categories are classified based on an internal risk management and investment strategy as financial assets at fair value through profit and loss. The management of these assets is based on a written investment strategy and performance is measured on fair value. This information is distributed internally to the key decision makers within the Group.

in Mill. €	2014	2013
Shares	327	277
Mutual funds	75	90
Fixed income securities	753	620
Other securities	57	37
Total securities and other financial assets at fair value	**1,212**	**1,024**
Fixed deposits with a residual term more than 3 months	0	3
Total	**1,212**	**1,027**

4.5 Derivative financial instruments

Within the Liebherr Group, this position predominantly includes forward currency contracts, currency options, currency swaps, interest rate swaps and interest rate currency swaps to hedge its foreign exchange and interest rate risks. All derivatives, if they do not qualify for hedge accounting in accordance with IAS 39, are classified as financial instruments at fair value through profit or loss.

To hedge the interest and foreign currency risks resulting from its operational activities, financial transactions and investments, the Liebherr Group makes use of derivative financial instruments. The goal is to reduce volatility in the income statement. A hedging relationship must fulfill various criteria relating to the documentation, the probability of occurrence, the effectiveness of the hedging instrument and the reliability of the measurement in order to qualify for hedge accounting in accordance with IAS 39.

Under certain circumstances, a derivative financial instrument designated as a hedging instrument can be used to hedge the exposure to variability in cash flows that is attributable to a particular risk associated with a recognised asset or liability or a highly probable future transaction or the foreign currency risk in an unrecognised firm commitment. The Liebherr Group currently uses such hedging instruments classified as cash flow hedges only in the aerospace division. Thereby the exposure to variability of future cash flows in foreign currencies which could have an effect on profit and loss is hedged. The effective portion of the gain or loss on the hedging instrument is recognised directly in the comprehensive income when the criteria for hedge accounting are fulfilled. Such amounts taken to equity are simultaneously transferred to the income statement when the hedged transaction affects profit or loss respectively upon initial recognition of an asset or a liability. If the forecasted transaction is no longer expected to occur, the hedge is no longer effective and amounts previously recognised in equity are transferred to the income statement. The ineffective portion of the gain or loss on the hedging instrument is recognised directly in the finance result.

4.6 Liquid funds

In addition to cash on hand and cash in banks, short term deposits with an original maturity of three months or less are considered as liquid funds.

4.7 Non-current assets held for sale

Non-current assets are classified as held for sale if the sale of these assets is highly probable within the next twelve months. They are measured at the lower of carrying amount and fair value less cost to sell.

5 Equity – value fluctuations on financial instruments

Under this position the effective portion of the gain or loss on the hedging instrument in a cash flow hedge is recorded, in accordance with IAS 39, directly in other comprehensive income (OCI) without being recorded in the income statement.

6 Financial liabilities, other liabilities

Financial liabilities include amongst others liabilities to banks, obligations under finance leases, liabilities arising from recourse factoring and bank liabilities from discounted bills of exchange. Both financial liabilities and other liabilities are reported gross and either classified as other financial liabilities or as financial liabilities at fair value through profit and loss. Payments received from sales with repurchase obligations against end users are also recognised in other liabilities.

in Mill. €	current	non-current	Total 2014	current	non-current	Total 2013
Bank liabilities	754	1,421	2,175	733	1,349	2,082
Liabilities from finance leases	21	46	67	33	48	81
Liabilities from sale and lease back	51	0	51	48	1	49
Accounts payable from non-genuine factoring	0	4	4	1	5	6
Bank liabilities from discounted bills	7	0	7	23	0	23
Other financial liabilities	114	18	132	111	20	131
Accounts payable trade	635	0	635	634	0	634
Liabilities from repurchase obligations with end users	0	109	109	0	110	110
Derivative financial instruments	62	40	102	18	0	18
Total	**1,644**	**1,638**	**3,282**	**1,601**	**1,533**	**3,134**

7 Income taxes

Income taxes include both current and deferred taxes which are recognised to determine the result for the period. Current income taxes (income or corporation tax, business tax and corresponding foreign taxes) are the amounts resulting from taxable income or loss to be paid to or recovered from the relevant tax authority.

Current income taxes for the actual period and prior periods are recognised as a liability to the extent that they have not yet been paid. If the amount already paid in respect of current and prior periods exceeds the amount due for those periods, the excess is recognised as an asset. The benefit relating to a tax loss that can be carried back to recover current tax of a previous period is recognised as an asset.

Current tax liabilities (tax assets) for the actual and prior periods are measured at the amount expected to be paid to (recovered from) the taxation authorities, using the tax rates (and tax laws) that have been enacted at the reporting date or that will be enacted in the near future. Current income taxes are recognised in the income statement, except current income taxes relating to items priorly recognised in other comprehensive income.

Deferred tax assets and liabilities are recognised in accordance with IAS 12 for temporary differences between the carrying amount of an asset or liability in the balance sheet and its tax base. The deferred tax assets also include future tax reductions from the expected use of losses brought forward. Deferred tax assets are only recognised if there is sufficient probability that future taxable profit will allow the deferred tax asset to be recovered. Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset is realised or the liability is settled. The announcements of new tax rates (and new tax laws) by the government have been considered for the measurement of deferred tax assets and liabilities. The formal enactment is not relevant unless the temporary differences balance themselves under the old tax law.

The carrying amount of deferred tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred income tax asset to be recovered. Conversely, a previously unrecognised deferred tax asset is recognised to the extent that it has become probable that future taxable profit will allow the deferred tax asset to be recovered.

Deferred taxes are charged or credited directly to other comprehensive income if the taxes relate to items that are credited or charged directly to other comprehensive income in the same or a different period.

Deferred income tax assets and deferred income tax liabilities are offset, if a legally enforceable right exists to set off current tax assets against current income tax liabilities and the deferred income taxes relate to the same taxable entity and the same tax authority.

8 Employee benefits

Employee benefits consist of pension obligations, commitments related to anniversary bonuses and partial retirement agreements. There are various employee benefit plans in the Group, which are individually aligned with local conditions in their respective countries. They are financed either by means of contributions to legally independent pension / insurance funds, or by recognition as employee benefit liabilities in the balance sheet of the respective subsidiaries.

The net periodic costs with regards to defined contribution plans to be recognised in the income statement are the agreed contributions of the employer. In case of defined benefit plans, the period costs are determined by means of actuarial valuations by external experts using the projected unit credit method which are prepared on a regular basis.

The calculation of net periodic costs and employee benefit liabilities implies that statistical methods and variables are employed. These variables include, for example, estimations and assumptions concerning the discount rate. Furthermore, actuaries use a wide range of statistical information for actuarial calculation of employee benefit liabilities which can deviate significantly from actual results due to changes in market conditions, the economic situation as well as fluctuating rates of withdrawal and shorter or longer live expectancy of benefit plan participants.

9 Provisions

Provisions are only recognised in the balance sheet if the Liebherr Group has an obligation to a third party that resulted from a past event, and if a reliable estimate of the obligation can be made. Possible losses from future events are not recognised in the balance sheet. Restructuring provisions are only recognised if the respective costs can be reliably determined by reference to a plan and if there is a corresponding obligation resulting from a contract or notification.

Provisions 2014 in Mill. €	Warranty obligation	Compensation and product liability	Expected loss from pending transactions	Other selling provisions	Other provisions	Total
Current provisions	378	15	61	54	38	546
Non-current provisions	0	0	17	0	28	45
Total provisions	**378**	**15**	**78**	**54**	**66**	**591**
Reconciliation						
Dec. 31, 2013	386	18	96	47	71	618
Increase	128	5	26	29	26	214
Usage	-102	-4	-34	-15	-24	-179
Transfers	6	1	-6	0	-1	0
Reversal	-43	-5	-6	-8	-8	-70
Discounting	0	0	1	0	1	2
Foreign exchange differences	3	0	1	1	1	6
Dec. 31, 2014	**378**	**15**	**78**	**54**	**66**	**591**

Provisions 2013 in Mill. €	Warranty obligation	Compensation and product liability	Expected loss from pending transactions	Other selling provisions	Other provisions	Total
Current provisions	386	18	75	47	44	570
Non-current provisions	0	0	21	0	27	48
Total provisions	**386**	**18**	**96**	**47**	**71**	**618**
Reconciliation						
Dec. 31, 2012	364	20	81	87	80	632
Increase	134	10	53	22	24	243
Usage	-90	-6	-33	-17	-12	-158
Transfers	48	-1	0	-32	-15	0
Reversal	-66	-5	-5	-12	-8	-96
Discounting	0	0	1	0	1	2
Foreign exchange differences	-4	0	-1	-1	1	-5
Dec. 31, 2013	**386**	**18**	**96**	**47**	**71**	**618**

10 Revenue recognition and profit realisation

Revenue from goods and services is recognised when the related significant risks and rewards of ownership have been transferred to the buyer. Anticipated losses related to onerous contracts are provisioned. Revenue related to construction and service contracts is recognised and measured using the Percentage of Completion method.

Under financial leasing contracts where the Liebherr Group is the lessor, revenue is recognised at the lower of the regular selling price or the present value of the future minimum lease payments. Also, sales gains or losses are determined applying the same method as for direct sales transactions. The lease payments by the lessee are split into an interest and a principal portion. The interest portion is recognised based on a pattern reflecting a constant periodic return on the outstanding net investment of the lessor.

Revenue from operating leases is recognised on a straight line basis over the lease term, unless another systematic basis is more representative of the time pattern in which the user benefit derived from the leased asset is diminished. As such, income from lease payments is recognised proportionally. The difference between payments received and income recognised is deferred.

Sales proceeds from rental equipment disclosed under non-current assets are not recognised until actual transfer of risks and rewards related to the assets occur.

Report of the Statutory Auditor

To the Board of Directors of
Liebherr-International AG, Bulle
Berne, May 29, 2015

Report of the independent auditor on the summary consolidated financial statements

The summary consolidated financial statements of Liebherr-International AG, Bulle, which comprise the balance sheet as at December 31, 2014, the income statement, statement of comprehensive income, cash flow statement and statement of changes in equity for the year then ended, and related summary notes, are derived from the consolidated financial statements prepared in accordance with International Financial Reporting Standards (IFRS) and audited in accordance with International Standards on Auditing (ISA). We expressed an unmodified audit opinion on those consolidated financial statements in our report dated May 29, 2015.

The summary consolidated financial statements do not contain all the disclosures required by IFRS. Reading the summary consolidated financial statements, therefore, is not a substitute for reading the audited consolidated financial statements of Liebherr-International AG.

Board of Directors' responsibility

The Board of Directors is responsible for the preparation of a summary of the audited consolidated financial statements on the basis described in the notes to the summary consolidated financial statements.

Auditor's responsibility

Our responsibility is to express an opinion on the summary consolidated financial statements based on our procedures, which were conducted in accordance with International Standard on Auditing (ISA) 810, "Engagements to Report on Summary Financial Statements".

Opinion

In our opinion, the summary consolidated financial statements derived from the audited consolidated financial statements of Liebherr-International AG for the year ended December 31, 2014 are consistent, in all material respects, with those consolidated financial statements, on the basis described in the notes.

Ernst & Young AG

Roland Ruprecht
Licensed audit expert
(Auditor in charge)

Mathias Zeller
Licensed audit expert

Five-Year Summary

in Mill. €	2010	2011	2012	2013	2014
Sales revenue	7,587	8,334	9,090	8,964	8,823
Investments	544	669	854	830	816
Depreciation	348	376	434	405	427
Non-current assets	2,962	3,069	3,348	3,521	3,737
Current assets	6,663	7,568	7,840	7,998	8,111
Equity	5,557	5,904	6,274	6,442	6,525
Liabilities	4,069	4,733	4,914	5,077	5,323
Result after tax	494	484	552	364	316
Personnel expenses	1,582	1,777	1,986	2,100	2,181

	2010	2011	2012	2013	2014
Employees	32,979	35,333	37,801	39,424	40,839

Note: Only the 2010 and 2011 amounts are based on IAS 19 (1998).



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