

DANIELI  
YEAR 2016



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### Danieli Year 2016

Results from  
Innovation, Reliability  
and Partnership

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## Letter to the Shareholders

### Results for the fiscal year 2015 / 2016:

(millions of euro)	2015 / 16	2016 / 17	2016 / 17	2016 / 17
	Group Results	Group Forecast	Forecast Steelmaking	Forecast Plantmaking
Revenue	2,508.4	2,350 / 2,500	650 / 750	1,750 / 1,850
EBITDA	211.4	210 / 230	65 / 75	150 / 160
Order book	2,814	2,700 / 3,200	150 / 200	2,500 / 3,000

### Dear Shareholders, Customers and Colleagues

A lack of substantial investments in steel-making plants worldwide has characterised the financial years 2014/15 and 2015/16.

As a consequence we are facing a decline in sales of new plants, which has weighed down the results of this financial year and may adversely affect next year's results as well.

We believe that during this period the more developed economies have entered a "new normal" phase and the developing ones are still deterred from investing by the low per-barrel price for oil, which is limiting their financial resources.

Therefore, the trend for today's economy is likely to be similar to the one that characterized the decades from 1970 to 2000, i.e.:

— 1955: Worldwide steel consumption of around 350 Mtpy.

— 1970: Driven by the powerful increases in economic growth that followed World War II, steel consumption soared to 750 / 800 Mtpy in 15 years.

— 1970 - 2000: The economy in general, and therefore steel consumption as well, remained almost unchanged (800 / 850 Mtpy), at first because of the oil crisis (which started in 1973), and then as a result of the dissolution of the Soviet Union. In practice, it was a new normal period that lasted 30 years.

During such a period, a significant help for plant makers came from state-controlled economies that would invest regardless of market considerations (Soviet Union, China, North Africa, some countries of Latin America). Today, those countries also are subject to market principles and consequently follow the general trend.

It should be noted that from 1970 to 2000 the average oil prices remained around 20 USD per barrel.

— 2000 - 2009: The "new normal" was interrupted by the growth of the Chinese economy, which propelled world steel consumption from 800 / 850 Mtpy to 1,650 / 1,700 Mtpy in less than 10 years. At present, there is nothing comparable to the boost provided to the world economy by that explosive growth of the Chinese market. In the specific case of the steel sector, it is expected that most part of investments, even in China, will be focused on the revamping of existing plants in order to improve them in terms of OpEx, quality and environmental impact.

It is reasonable to assume that the present "new normal" period could last for at least 5 / 6 years. During this time, GDP will be probably around 1.0 / 2.5% for the more developed countries and, considering the higher figure of developing countries, the world average GDP could be between 2.8 and 3.5%.

An improvement in economic conditions could be provided by oil prices rising up to around 60 / 70 USD per barrel.

To make an already difficult market situation even worse, in addition to the "new normal", in the latest two years the world's steel makers have suffered from the fierce competition presented in their home regions by steel products exported below cost from Chinese, Russian and Ukrainian producers.

In spite of this scenario, which is objectively difficult and has had no precedent in the past 50 years, the Danieli company is rapidly gearing up to face this new trend and has been able to maintain a reasonable profit and good net financial position for the year.

And, this has been accomplished while maintaining high levels of investment for research and for the acquisition of technologically attractive companies. To be specific:



#### Plant Making

- Acquisition of FATA Hunter to solidify our aluminium technology portfolio and presence in the market, and of FATA EPC to expand our turnkey plant supply capability.
- Investments in Danieli Automation to set up a new product line - Danieli Digit Metallic (DIGIMET): Big Data, Factory 4.0 and robotics.
- Strengthening and expansion of Danieli Germany.

#### Steel Making

- Our objective of 800 M Euro sales was not reached (600 M Euro) due to the weak market (i.e., “new normal”), however EBITDA remained around 10%.
- Investments in the Rotoforge process have received a positive feedback from the market, and indicated good prospects for growth.
- Investments in metallurgical research for new products are ongoing.

As far as technologically relevant achievements are concerned:

- In China a new order was acquired to develop a new-generation thin slab rolling plant under a Danieli patent, called DUE (Danieli Universal Endless), which will result in an increase in our share of cold strip rolling and processing complexes.
- Danieli Automation: first orders received towards Factory 4.0.
- In the steel-making segment, our customers continue to qualify the Rotoforge products.

These are the facts recorded for the year 2015/16. However, the future is now and, bearing in mind that this “new normal” period could last for at least the next 5 / 6 years, we will have to improve:

- Our per capita productivity.
- Our drive for innovation, even with contributions from outside the company, e.g., start-ups, research centres, Italian and foreign universities.
- Our pursuit of acquisitions aimed to expand the Group’s technological portfolio.
- Our implementation of “lean thinking” principles, in order to act more rapidly, in a leaner and therefore more competitive way, and thus, ultimately, to improve our service to the customer.

The Board thanks the Danieli Group team for their enthusiasm, dedication and passion in their work. Their energy and positive attitudes are critical factors to maintaining our success, constant progress and expansion, and on top of this, the ability to innovate. These attributes cannot be bought or learned, but have been built into the company’s character since the beginning, and have come to be our most valuable, intangible asset. We also thank our customers whose innovative spirit makes them true partners in our quest to beat records and to do things better, in order to remain front runners.

Finally, we wish to thank our shareholders who allow us to reinvest more than 95% of our profits into the company to finance growth and innovation.

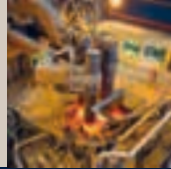
We like to believe that not only do this approach and vision stand for trust, but also for motivation in sharing with the Danieli team our pride in continued improvement, keeping us a step ahead.

*Gianpietro Benedetti*  
CHAIRMAN & CEO

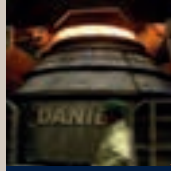
DANIELI  
TURNKEY  
PLANTS  
SUPPLIED  
WORLDWIDE



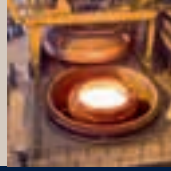
DIRECT  
REDUCTION  
PLANTS



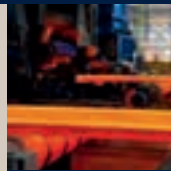
ELECTRIC  
ARC FURNACES



BLAST FURNACE  
AND CONVERTER  
PROJECTS



SECONDARY  
METALLURGY  
STATIONS



CASTING STRANDS  
FOR SLABS,  
BLOOMS,  
AND BILLETS



SLAB, BLOOM,  
AND BILLET  
GRINDING  
MACHINES



SCRAP SHEARS  
AND  
SHREDDERS

DANIELI  
PROCESS  
CONTROL  
SYSTEMS

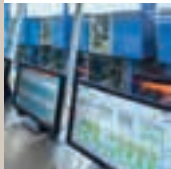
DANIELI  
ENVIRONMENTAL  
PLANTS

Thorough planning, complete systems integration and construction with our own heavy lifting equipment, provide our teams with full operational flexibility. Danieli Engineering and Danieli Construction International: your trusted partners with 37 years of experience in on-time project delivery and cost management.

## Danieli at a Glance / Processes and Technologies



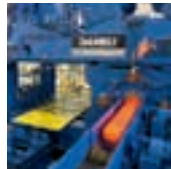
The Danieli Team is a multinational collection of companies that have helped shape the history -not to mention the progress- of metals production. The Danieli Group's know-how covers essentially all the production steps for high-quality metal products, from mining to finish processing, including blast furnaces and direct reduction plants, as well as electrical meltshops and converter shops.



HOT STRIP,  
PLATE AND COLD  
MILLS



HEAVY SECTION,  
RAIL, BAR  
AND WIREROD  
MILLS



SEAMLESS TUBE  
AND WELDED  
PIPE PLANTS



EXTRUSION  
AND FORGING  
PRESSES



ALUMINIUM  
HOT AND COLD  
MILLS



STRIP  
PROCESSING  
LINES

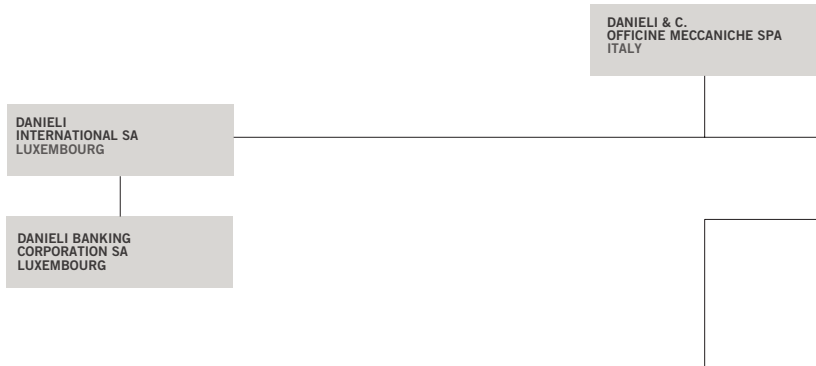


DRAWING  
AND PEELING  
MACHINES

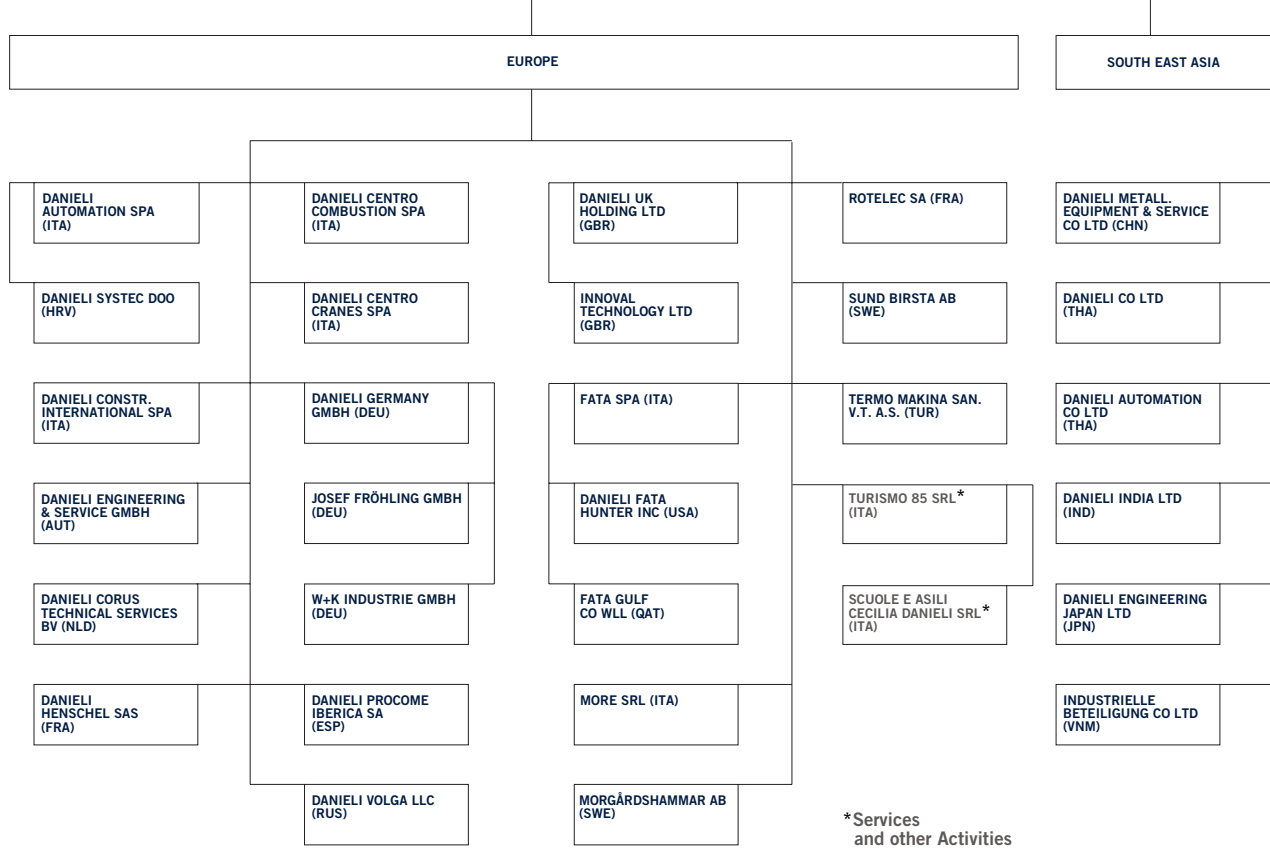
DANIELI  
HEATING  
AND HEAT  
TREATMENT  
SYSTEMS

# Danieli at a Glance / Group Structure

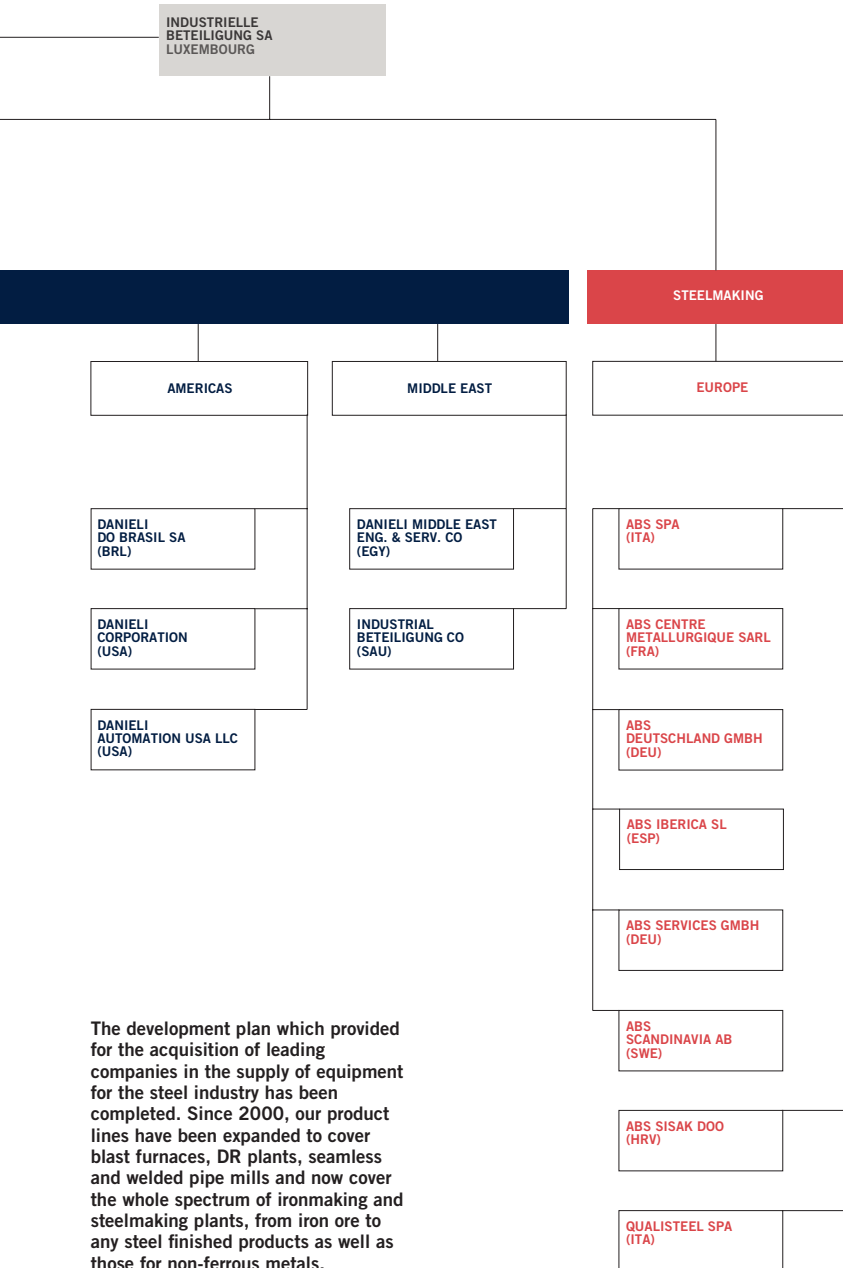
## Finance Companies



## PLANTMAKING



## Plantmaking and Steelmaking Companies



### Board of Directors

**GIANPIETRO BENEDETTI**  
Chairman and CEO

**CARLA DE COLLE**  
Deputy Chairman

**CAMILLA BENEDETTI**  
**ALESSANDRO BRUSSI**  
**AUGUSTO CLERICI BAGOZZI**  
**GIACOMO MARESCHI DANIELI**  
**CHIARA MIO**  
**ALESSANDRO TRIVILLIN**  
Directors

### Board of Statutory Auditors

**RENATO VENTURINI**  
President

**GAETANO TERRIN**  
**VINCENZA BELLETTINI**  
Auditors

**GIUSEPPE ALESSIO VERNI**  
**GIULIANO RAVASIO**  
**LAURA PIUSSI**  
Deputy Auditors

### Group Executive Board

**GIANPIETRO BENEDETTI**  
Chairman and CEO

**CARLA DE COLLE**  
Deputy Chairman,  
Chairman Steelmaking

**ALESSANDRO BRUSSI**  
Administration

**LUCA FERRARESI**  
Chief Group Contoller

**ALESSANDRO TRIVILLIN**  
MET2 / Lean Thinking

**DARIO FABRO**  
Danieli Plant Engineering,  
Danieli Construction, Advisory  
Services, Large Projects

**WERNER AUER**  
Flat Products, Danieli Germany,  
Austria, The Netherlands

**MARCO DI GIACOMO**  
Key Account Management,  
Marketing, Macroplanning

**GIACOMO MARESCHI**  
Danieli Asia, Information  
Technology

**STEFANO STAFISSO**  
Human Resources

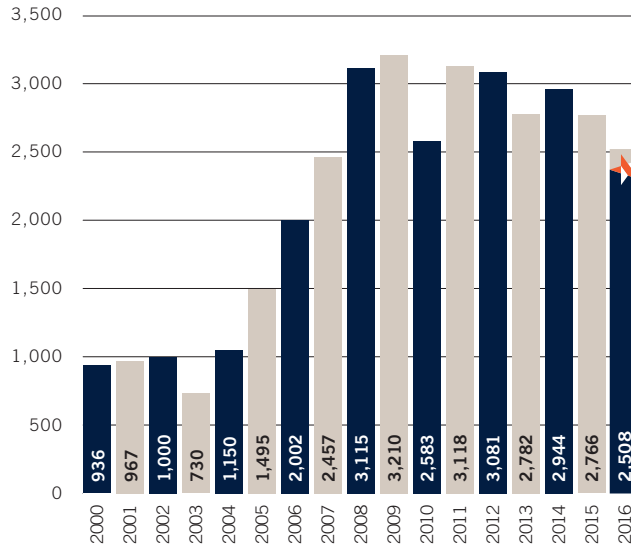


## Danieli Year 2015/16

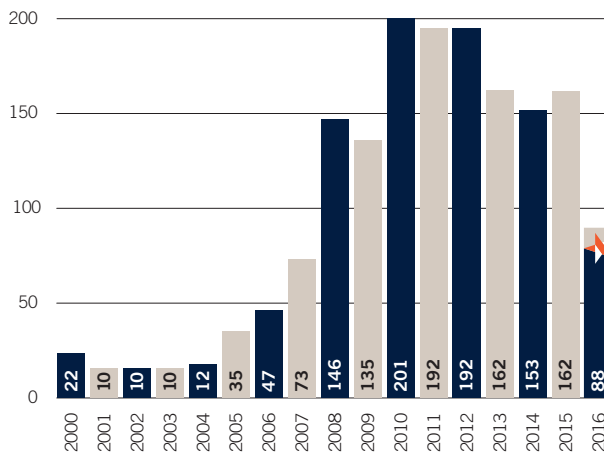
(thousands of euro)	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
Order backlog	5,071,146	3,232,000	3,682,000	3,387,000	3,225,000	3,206,000	3,079,000	3,155,000	2,814,000
Sales revenue	3,115,171	3,209,841	2,583,317	3,118,485	3,081,108	2,782,294	2,944,102	2,765,940	2,508,352
Net income	145,610	135,133	201,040	192,461	174,578	163,165	153,577	161,738	87,999
Total net worth	709,409	829,727	1,028,314	1,185,896	1,292,113	1,427,266	1,548,396	1,713,744	1,777,158
Research and development	154,000	135,000	150,000	139,000	146,000	140,000	150,000	200,000	185,000
Employees	7,748	7,974	8,663	9,392	10,037	10,944	11,424	10,954	9,419
Consolidated net income per share (euro)	1.85	1.73	2.60	2.50	2.51	2.20	2.06	2.17	1.19
No. of ordinary shares	40,879	40,879	40,879	40,879	40,879	40,879	40,879	40,879	40,879
No. of non convertible saving shares	40,425	40,425	40,425	40,425	40,425	40,425	40,425	40,425	40,425
Dividends distribution	20,298	18,109	26,202	26,193	25,002	23,075	23,075	8,195	8,195
Dividend per ordinary share (euro)	0.25	0.225	0.33	0.33	0.33	0.30	0.30	0.10	0.10
Dividend per non convertible saving share (euro)	0.2707	0.2457	0.3507	0.3507	0.3507	0.3207	0.3207	0.1207	0.1207

Thanks to prudent policies and the highly entrepreneurial spirit of our shareholders, which have always allowed us to allocate a large part of our profits to research and development, Danieli has been able to achieve positive results even in periods of economic downturn.

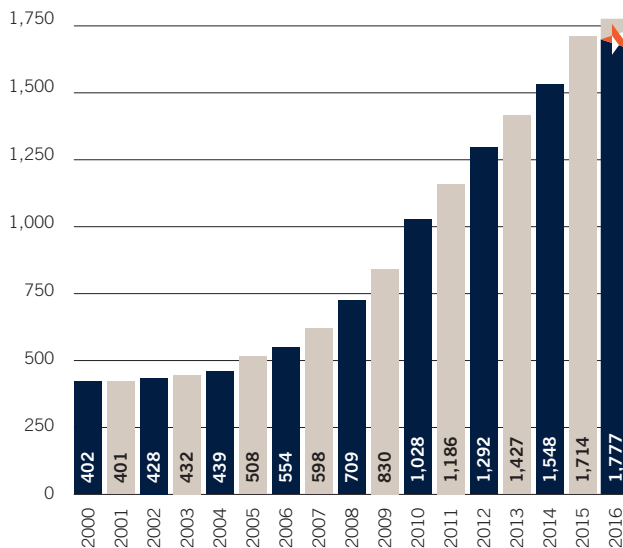
Danieli Group:  
Sales Revenue



Danieli Group:  
Net Income



Danieli Group:  
Net Worth



(millions of euro)

## Directors' Report

The year-on-year growth of the global economy for 2016 remains at 3.2%, slightly higher than 3.1% in 2015: however, growth is still differentiated between emerging countries, positive and slightly improving, and stable mature economies with stable figures thanks to the results of USA, UK and Japan. India maintains high growth, while the Chinese economy has slowed down, although its growth rate is still 6.5%. The worldwide growth outlook for 2017 is improving, with a projected GDP growth rate of 3.5%.

The low price of energy and raw materials and the re-balancing of the Chinese industry from an investment-based economy to a consumption and service-targeted one are significantly affecting (together with the effects of an accommodative monetary policy by the main central banks) the world economic growth whereas the need for a shared strategy remains especially in Europe to close development differences present in some countries and promote greater competitiveness in the weaker economies.

The manufacturing industry and the infrastructure sector increasingly need governmental support and adequate instruments to have easier access to financial resources to allow new investments, particularly in North America, Russia, Japan and Eurozone countries.

A greater promotion of applied research and advanced operator training remain the best possible response tool (together with bureaucratic simplification) to promote the re-shoring of many industrial activities migrated in past years to Low Cost countries and re-proposed now efficiently with innovative and quality products.

## The steel market

Worldwide steel production reached nearly 795 million tonnes in the first half of 2016, down by approximately 1.9% compared to the same period of 2015, which reached approximately 1,620 million tonnes over 12 months.

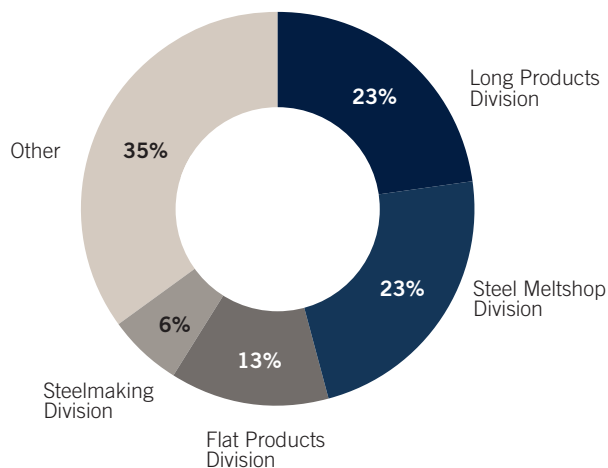
The forecasts for 2016 show an overall decline by nearly 1-1.5%, with Asia down by 1% and advanced countries, together with emerging ones, with a higher decrease, i.e. approximately 2-2.5%.

The plant utilisation average coefficient compared to the maximum theoretical level reached approximately 70% at the end of June 2016, substantially in line with 2015. Hence, the steel market is stabilising in 2016 with the expectation of resuming growth in 2017.

Producers confirmed their greater care in operating plants more efficiently by using the new technologies available and implementing the "ECO-Capacity" concept, to prevent "the marginal cost of the last tonne produced from exceeding the average cost of the production already completed".

In China, greater care in producing in a sustainable way and the search for production efficiency have already led to a reduction in volumes whereas out of China, the application of mercantilist and protectionist policies generated a new market force, also to producers of electric furnaces also favoured by the low cost of scrap. Production quality and finishing, nevertheless, remain the most important factors to obtain more remunerative prices from the market and greater continuity in the deliveries to serve customers who tend to reduce minimum stock volumes and require more and more "on time" deliveries.

A general improvement is expected starting in 2017 and 2018, with private investments and public infrastructure projects that will come into effect especially in countries with emerging economies.



**Danieli Group:  
Order backlog  
at June 30, 2016,  
per product line.  
The order backlog  
amounts to  
2,814 M Euro.**

## The market for steelmaking plants

The expectation of maintaining a high global level of steel consumption also in upcoming years, with a financial market more open to credit and with the prospect to solve in the short term many political and social problems that had limited trade in the past in some areas of the world, continues to maintain our customers' keen interest in investing in new plants that allow both increased quality but especially flexibility in the production and efficient use of available resources. The confirmation of the strategic role of the metal industry and of its multiplier effect for employment and growth in the manufacturing industry in general continues to drive this sector by supporting investments in innovative plants, both in developing countries and in those with mature economies.

Demand is maintaining appreciable growth in the BRIC countries, the Middle East and North Africa for integrated large plants whereas in the USA and EU for mid-sized plants with quality products used in mechanical engineering, car making and infrastructure. The prospect of using new technologies to improve plants' energy efficiency with an environmentally friendly production according to green-steel principles is encouraging American and European operators as well, to make fresh investments to boost plant quality and efficiency, whilst reducing emissions and pollutions to protect the environment.

Maintenance by the Group of a substantial order book confirms the solidity of demand and an inclination to invest in quality plant that affords cutting-edge production techniques.

## Danieli Group operations

The Danieli Group designs, builds and sells plants for the iron and steel industry, offering a complete range of machines from primary process management to the manufacture of finished goods (essentially from ore to finished product). It also produces and sells special steels for the long products market through its subsidiaries Acciaierie Bertoli Safau S.p.A. and ABS Sisak d.o.o.

### Construction and sale of plants for the steel industry

Thirteen design centres:

Danieli Centro Combustion SpA	Italy
Fata SpA	Italy
Danieli Germany GmbH	Germany
Danieli Corus BV	Netherlands
DWU Engineering Polska Sp Zoo	Poland
Danieli UK Holding Ltd	United Kingdom
Innoval Technology Ltd	United Kingdom
Danieli Engineering Rom Srl	Romania
Danieli Procome Iberica SA	Spain
Danieli Centro Met Swiss GmbH	Switzerland
Danieli Heavy Machinery Engineering LLC	Ukraine
Danieli Engineering Japan LTD	Japan
Industrielle Beteiligung Co Ltd	Vietnam

Twenty-one production units and design centres:

Danieli & C. SpA / Italy  
Danieli Automation SpA / Italy  
Danieli Centro Cranes SpA / Italy  
Danieli Special Cranes Srl / Italy  
More Srl / Italy  
Stem Srl / Italy  
Danieli Engineering & Services GmbH / Austria  
Rotelec SA / France  
Josef Fröhling GmbH / Germany  
Danieli Henschel Sas / Germany, France, Russia  
W+K Industrie GmbH / Germany  
Danieli Czech Engineering AS / Czech Republic  
Danieli Volga LLC / Russia  
Morgårdshammar AB / Sweden  
Sund Birsta AB / Sweden, People's Republic of China  
Termo Makina San vT AS / Turkey  
Danieli Riverside Inc / USA  
Danieli India Ltd / India  
Danieli Metallurgical Equipment (Beijing) Co Ltd / China  
Danieli Met. Equipment & Service (China) Co Ltd / China  
Danieli Co. Ltd / Thailand

The product lines are as follows:

Danieli Plant Engineering / Italy  
Turnkey plants and systems engineering  
Danieli Automation / Italy, USA  
Process control systems  
Danieli Centro Metallics / Italy  
Ore processing and direct reduction plants  
Danieli Corus IJmuiden / The Netherlands  
Integrated steelmaking plants  
Danieli Linz / Austria  
Oxygen converter steelmaking plants  
Danieli Centro Recycling / Italy, UK, France, Germany, USA  
Scrap processing plants  
Danieli Centro Met / Italy, Austria  
Electric steelmaking and long product casters  
Danieli Davy Distington / UK, Italy  
Thick and thin slab casters  
Danieli Wean United / Italy, USA, Germany  
Flat product rolling mills and strip processing lines  
Danieli Kohler / USA, Italy  
Air wiping equipment for zinc coating  
Danieli Fata Hunter / Italy, USA  
Aluminium casting, rolling, and coil coating lines  
Danieli Fröhling / Germany  
Specialty mills and strip finishing lines  
Danieli Morgårdshammar / Italy, Sweden  
Long product rolling mills  
Danieli Centro Tube / Italy  
Seamless pipe plants  
Danieli W+K / Germany, Italy  
Longitudinal and spiral welded pipe plants  
Danieli Centro Maskin / Italy, Sweden  
Conditioning, drawing and finishing plants  
Danieli Rotelec / France, Italy

EMS and induction heating systems

Danieli Breda / Italy  
Extrusion and forging plants  
Danieli Centro Combustion / Italy  
Heating systems  
Danieli Olivetto Ferrè / Italy  
Heat treatment furnaces  
Danieli Hydraulics / Italy, Thailand  
Industrial hydraulic and lubrication equipment  
Danieli Centro Cranes / Italy  
Heavy duty cranes  
Danieli Environment / Italy  
Ecological and recovery systems  
Danieli Construction / Italy, Thailand  
Turnkey construction, erection, and systems engineering  
Danieli Service / Italy, Austria, China, India, Russia, USA, Brazil, Thailand  
Technical service and original spare parts

#### *Production and sale of special steels*

These operations are carried out by the subsidiaries Acciaierie Bertoli Safau S.p.A. and ABS Sisak d.o.o., which are in a position of leadership in Europe in the special structural steels sector, with production to order of high quality products for the most demanding applications in the form of ingots up to 160 tonnes, blooms, billets, forged and rolled products with a high level of verticalisation, with diameters from 15 to 800 mm.

The structural steels family includes high carbon steels, case-hardened, hardened and tempered, and surface hardened steels, which have applications in all engineering components. Their field of use is very extensive: motor vehicles and engines in general, tractors and earthmoving machines, machine tools, the railway industry, and the energy and petrochemical industries.

## **Danieli Group structure**

*Danieli & C. Officine Meccaniche S.p.A (Parent Company)*

The company's revenues amounted to 1,029.2 million euro (1,013.6 million euro in 2015) with EBITDA of 25.7 million euro (36.4 million euro in 2015) and net profit of 3.6 million euro (139.9 million euro in 2015, also in relation to the dividends received by the subsidiaries during the period).

In this period, the company maintained a sizeable volume of revenues in line with the previous year, while the operating income was penalised by additional start-up costs on some job orders ended during the period. Research and development activities continued with the use of important corporate resources, above all to expand and complete the range of products offered, developing high-tech solutions and environmental management and energy recovery systems to be used mainly in cutting-edge facilities. The company continued to implement its investment plan by increasing the productivity and efficiency of the Buttrio plants by replacing operating machinery older than 15 years.

The financial management of the period shows an interesting result albeit there was no significant contribution during the financial year from the management of cash and cash equivalents in US Dollars that generated an important profit last year, whereas the financial position was definitely re-balanced thanks to the good management of the job orders in the portfolio.

Order acquisition, albeit not in line with the budget, assures good production planning for next year, with positive operating income expected also for the 2016/2017 financial year.

The Parent Company Danieli & C. Officine Meccaniche S.p.A. directly owns the following companies:

— Industrielle Beteiligung SA, the holding company for the Group's manufacturing firms;

— Danieli International SA, which invests liquidity in the international financial markets through the company Danieli Banking Corporation S.A.

## **Analysis of/commentary on the economic and financial position of the Danieli Group**

For the year ended June 30, 2016, in the market situation described above, the Danieli Group achieved a net profit attributable to the Group of 88.3 million euro, compared with 161.8 million euro the previous year.

As at June 30, 2016, the main economic and financial data were as follows:

- revenues: 2,508.4 million euro, a decrease of 9% compared with 2,765.9 million euro as at June 30, 2015;
- profit before tax: 105.6 million euro, down by 60% compared with 260.8 million euro as at June 30, 2015;
- consolidated shareholders' equity: 1,777.2 million euro, up by 4% compared with 1,713.7 million euro as at June 30, 2015;
- net financial position: positive by 908.2 million euro, down by 47.8 million euro from 956.0 million euro as at June 30, 2015.

The Group order book as at June 30, 2016 amounted to 2,814 million euro (of which 162 million euro in the special steel making segment), compared with 3,155 million euro as at June 30, 2015 (of which 169 million euro for special steels). New orders acquired in the period were lower than the budgeted amount but with good future prospects since some important contracts are being finalised, in a market that continues to be receptive thanks to the innovative solutions offered by our plants and to Danieli's presence across all of the metal sector's ranges.

The Group's revenue performance shows that turnover decreased in both operating sectors (machines for the production of metals and steel), but tied to contingent factors:

- Danieli Plant Making did not achieve all the set production targets due to unforeseen events occurred in the plant construction areas, which will be recovered during the next financial year;
- The turnover of ABS Steel Making was affected, volumes produced being equal (about 1 million tonnes), by selling prices lower than 2014/2015, mainly related to the decrease in raw material costs, and maintained a satisfactory level of profitability in the financial year despite the plants were used by 70% because of the European and international market, in particular for Oil & Gas.

Taking the above into account, it can be stated that the physical volume produced during the year remained substantially stable in both strategic sectors of the Group, with lower operating margins for both sectors and lower than the forecasts of the beginning of the year, also due to the effect on prices of the fluctuation of raw material costs.

The consolidated operating profit for the period was satisfactory, thanks in part to the release of some provisions made in prior years in the plant sector and with a positive contribution from the steel making sector, where ABS was still among the few companies worldwide with a positive net income and balanced financial income and charges.

Start-up work was completed during the period in the

**Summary of consolidated profit and loss for the year to June 30, 2016**

EBITDA: operating income before depreciation, amortisation, and write downs of fixed assets and receivables. Gross financial indebtedness: total financial payables to banks and other lenders.

in millions of euro	June 30, 2016	June 30, 2015	Change
Revenues	2,508.4	2,765.9	-9%
EBITDA	211.4	254.2	-17%
% revenues	8.4	9.2	
Depreciation, amortization and write-downs of fixed assets	(121.2)	(104.0)	
Operating income	90.2	150.2	-40%
% revenues	3.6	5.4	
Financial income/(charges)	16.7	109.9	
Investments accounted for with the equity method	(1.3)	0.7	
Profit before tax	105.6	260.8	-60%
Income taxes	(17.6)	(99.1)	
Net profit	88.0	161.7	-46%
% revenues	3.5	5.8	
Profit (Loss) attributable to non controlling interests	0.3	0.1	
Net profit attributable to the Group	88.3	161.8	-45%
% revenues	3.5	5.8	

**Segment performance summary**

in millions of euro	Revenues			EBITDA			Group net profit		
	June 30	June 30	Change	June 30	June 30	Change	June 30	June 30	Change
	2016	2015		2016	2015		2016	2015	
Plantmaking	1,887.1	2,039.6	-7%	149.3	183.7	-19%	76.6	145.1	-47%
Steelmaking	621.3	726.3	-14%	62.1	70.5	-12%	11.7	16.7	-30%
Total	2,508.4	2,765.9	-9%	211.4	254.2	-17%	88.3	161.8	-45%

**Summary  
of reclassified  
balance sheet  
and financial  
data**

in millions of euro	June 30, 2016	June 30, 2015
Investments	7.1	7.7
Net tangible and intangible fixed assets	971.7	955.0
Total fixed assets	978.8	962.7
Working capital	97.2	45.1
Net invested capital	1,076.0	1,007.8
Group shareholders' equity	1,776.6	1,712.8
Non controlling interests	0.6	0.9
Total shareholders' equity	1,777.2	1,713.7
Provision and post-employment benefits	207.0	250.1
Total current financial assets	(1,845.6)	(1,699.8)
Total non-current financial liabilities	410.0	314.7
Total current financial liabilities	527.4	429.1
Positive net financial position	(908.2)	(956.0)
Total coverage	1,076.0	1,007.8

**Analysis of the  
net consolidated  
financial position**

in millions of euro	June 30, 2016	June 30, 2015	change
<b>Current financial assets</b>			
- securities and other financial receivables	456.1	340.5	115.6
- cash at banks	1,389.5	1,359.3	30.2
Total current financial assets	1,845.6	1,699.8	145.8
<b>Non-current financial liabilities</b>			
- bank debts	410.0	314.7	95.3
Total non-current financial liabilities	410.0	314.7	95.3
<b>Current financial liabilities</b>			
- bank debts and other financial liabilities	527.4	429.1	98.3
Total current financial liabilities	527.4	429.1	98.3
Non-current net financial position	(410.0)	(314.7)	(95.3)
Current net financial position	1,318.2	1,270.7	47.5
Positive net financial position	908.2	956.0	(47.8)

## Sales by geographical area

in millions of euro	Year to June 30, 2016		Year to June 30, 2015		Change
		%		%	
Europe and Russia	935.6	37.3	1,108.2	40.1	-15.6%
Middle East	608.5	24.3	543.4	19.6	12%
The Americas	241.0	9.6	255.3	9.2	-5.6%
Far East	723.3	28.8	859.0	31.1	-15.8%
<b>Total</b>	<b>2,508.4</b>	<b>100.0</b>	<b>2,765.9</b>	<b>100.0</b>	<b>-9.3%</b>

## Consolidated key financial ratios

Profitability ratios	Description	June 30, 2016	June 30, 2015
ROE	<u>Group Profit for the year</u> <u>Group Shareholders' Equity</u>	5.0%	9.4%
ROI	<u>Operating Income</u> <u>Net Capital Employed</u>	8.4%	14.9%
	<u>GOM (EBITDA)</u> <u>Financial Charges</u>	14.78	13.42
	<u>Gross Financial Indebtedness</u> <u>GOM (EBITDA)</u>	2.75	1.86
ROS	<u>Operating Income</u> <u>Revenues</u>	3.6%	5.4%
GOM	<u>GOM (EBITDA)</u> <u>Revenues</u>	8.4%	9.2%
Financial Charges on Sales	<u>Financial Charges</u> <u>Revenues</u>	0.6%	0.7%
Capital ratios	Description	June 30, 2016	June 30, 2015
Debt to equity ratio	<u>Gross Financial Indebtedness</u> <u>Consolidated Shareholders' Equity</u>	52.7%	43.4%
Financial independence	<u>Consolidated Shareholders' Equity</u> <u>Total Assets</u>	33.3%	33.2%
Primary structural margin	<u>Consolidated Shareholders' Equity</u> <u>Non-current assets</u>	150.1%	147.1%
Secondary structural margin	<u>Consolidated Shareholders' Equity + non-current liabilities</u> <u>Non current assets</u>	204.8%	197.7%
Availability ratio	<u>Current Assets</u> <u>Current liabilities</u>	142.6%	139.9%
Liquidity ratio	<u>Current Assets (-Inventories)</u> <u>Current liabilities</u>	110.8%	102.7%
Profit indicators		June 30, 2016	June 30, 2015
Revenues per employee (euro/000)		266.3	252.5

EBITDA: operating income before depreciation, amortisation, and write downs of fixed assets and receivables. Gross financial indebtedness: total financial payables to banks and other lenders.

It is advised that the above performance indicators have not been prepared in conformity with the accounting standards applied to the audited financial statements and may not take into account entry, reporting and presentation obligations required by those standards.



sector of machines and plants of the new production facilities in Russia and India whilst the newly acquired company FATA S.p.A. - fully operational and integrated - will contribute to the Group with its Hunter division integrated in the Centro Alluminium product line and with its EPC division integrated in the Danieli Construction product line. In the steel sector, the ROTOFORGIA plant in ABS was successfully up and running, in Cargnacco and the investments with the new service centre continue in order to offer our customers finishing treatments appropriate also to large section products. The Sisak plants worked in the period at intervals due to an unfavourable market situation for the specific products made in Croatia. The level of demand for ABS remains in any case buoyant, with an efficient planning of production without significant fluctuation forecasts in transport and production costs.

Group EBITDA as at June 30, 2016 was 211.4 million euro, a decrease by approximately 17% on the previous year, but margins were still substantial enough, compared to revenues in the year, to cover the very high research and development costs incurred in the period.

Net financial income came to 16.7 million euro, albeit much lower than June 30, 2015 where the sudden strengthening of the US dollar compared to the euro revaluated the financial assets held by the Group. Cash management was in any case handled prudently, maintaining a high solvency profile while closing the year with a satisfactory net cash position.

Total taxes for the period amounted to 17.6 million euro and benefit for 14.3 million euro from the release of a portion of funds prudentially allocated in view of the tax risks of the Luxembourg subsidiaries and currently in excess as a result of the settlement of the previously pending dispute.

The net profit for the period amounted to 88.0 million euro, decreasing by 46% compared with 161.7 million euro as at June 30, 2015.

### **Consolidated revenues by geographical area**

In the Plant Making segment, the geographical distribution of revenues is based primarily on the volume of shipments made, as well as progress with equipment construction operations both at our factories and in terms of on-site installation and start-up throughout the world.

As for Steel Making, 24.8% of revenues were concentrated in Europe and Russia as at June 30, 2016 (compared with 37.3% of total revenues of the area), while as at June 30, 2015, that region accounted for 26.3% of steel making revenues and 40.1% of the total.

### **Reclassified consolidated balance sheet as at June 30, 2016**

The increase in Net Invested Capital was affected both by the investments completed in the financial year in both operating sectors and by the higher Working capital related to the payments of advances from



DaNews: the quarterly magazine of Danieli Group provides readers with thorough information about the activities and the technology developments carried out by Danieli Product Lines.

In 2016 a special issue was dedicated to the Danieli Aluminium Division, an innovative and single-source supplier for the Aluminium and non-ferrous metals production industry.

customers on new orders acquired during the period and by the absorption of said advances in relation to progress on the job orders.

This situation, along with expectations of continuing positive cash flows in the next few years, is expected to allow the Group quickly to repay its debt to banks, with a substantial reduction in gross financial indebtedness, increased during the period by 193.6 million euro, to assure a higher working capital necessary to complete efficiently the important job orders in the order backlog.

### **Analysis of the consolidated net financial position as at June 30, 2016**

The net financial position is still strong and was calculated by including, within "Bank debts and other financial liabilities", customer advance payments on job orders not yet in production, amounting to 357.0 million euro as at June 30, 2016 and 270.3 million euro as at June 30, 2015. These amounts are included as other current liabilities in the consolidated balance sheet.

The remaining customer advances, amounting to 480.0 million euro as at June 30, 2016 and 538.3 million euro as at June 30, 2015, are included in working capital as they are used to finance jobs in progress. The related amounts are included as trade payables in the consolidated balance sheet.

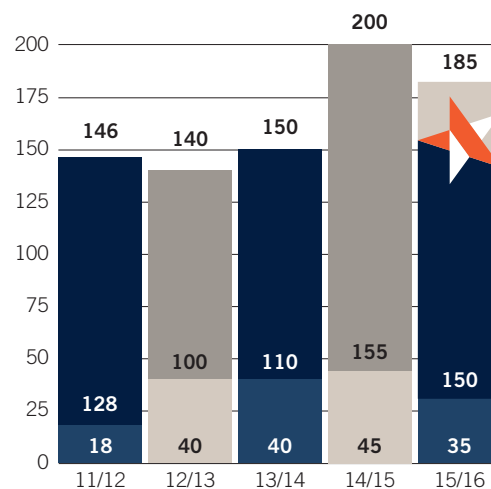
The net positive financial position as at June 30, 2016 decreased by 47.8 million euro compared to the previous year, reaching the amount of 908.2 million euro. This amount is still important, stemming partly from advances collected on current contracts and partly from a careful financial management of production on job orders, and will enable the Group to finance the important investments in research and development in the Plant Making segment as well as those made in Italy in the Steel Making segment to improve and increase productivity and efficiency in operations.

By maintaining this level of cash, the Group can meet without financial stresses the new technological challenges of building plants with high innovative content, by independently covering all extraordinary expenses that may arise from technical difficulties during their start-up.

### **Statement of changes in net financial position**

The statement of changes in net financial position highlights once again the Group's ability to generate significant positive cash flows from operations, absorbed by investment coverage, and with an increase in working capital by 97.4 million euro (decrease by 82.2 million euro in the previous year). The net cash flow from operations amounted to 53.7 million euro (252.3 million in the previous period) and it financed net operating investments, which totalled 93.5 million euro (123.8 million euro as at June 30, 2015). Hence, the residual "free cash flow" after financing operating investments amounts to a cash deficit of 39.7 million euro (whereas it amounted to a surplus of 128.5 million euro as at June 30, 2015).

**Research (lower columns) and costs incurred for new products development.**



The total negative change in the financial position, amounting to 47.8 million euro, in any case includes the outlay for the payment of dividends in November 2015, amounting to 8.2 million euro.

### **Investments and research activities**

The main investments in tangible and intangible fixed assets in the period, totalling 105.2 million euro, were as follows:

- 78.3 million euro for new plants used in the steel making segment to provide greater flexibility and efficiency in steel production, by expanding the range of products offered with improvements to their finish and quality, together with a careful environmental management of all phases of production;
- 26.9 million euro essentially for new machine tools installed both in production facilities in India and Russia, with the objective of producing more efficiently by expanding the market for sales of our plants and in Italy to assure the replacement of operating machinery in use for more than fifteen years in the Parent Company's factories.

During the period, the Group moved ahead with research programmes initiated in previous years, with a view to providing customers with new-technology plants capable of superior quality output and lower investment (CapEx) and production costs (OpEx). This process involved expenditure of approximately 50 million euro for direct and indirect research activities, with more than 300 million euro in innovative job orders managed during the year.

## Disclosure on the formation and distribution of the value added generated by the Group on human resources, safety and the environment

### Consolidated value added

The following tables show the distribution of economic value among stakeholders through the reclassification of the figures of the consolidated income statement. In particular, the determination of the generated value added shows the wealth created by the Group and its method for distributing it to the identified stakeholders.

Non recurring ancillary components derive from net financial income and expenses (excluding the expenses relating to payables to banks), gains and losses from foreign currency transactions and income and expenses on equity investments.

Net global value added is divided among the following beneficiaries: personnel (direct remuneration consisting of wages, salaries, employee severance indemnity and indirect remuneration consisting of social security contributions); Public Administration (income taxes and other taxes and duties); venture capital (dividend distribution); third parties (non-controlling interests); company remuneration (reinvested earnings); remuneration to lenders (interest on loans) and donations and sponsorships (sponsorships, donations and other forms of contribution).

The percentage assigned in the period to personnel remuneration is high, at 78.6% of global value added, as personnel maintain a central role within the Danieli Group's organisation.

### Human resources

Human resources, prime origin and driving force behind all innovation, are in Danieli the central pivot of the organisation of the work that aims to ensure excellence and quality in customer service. Consistently with this concept, they are always the subject of constant attention: from enhancing the individual employees' potential and aptitudes, to promoting the professional development of teams and individuals, with instruments and initiatives to improve and enrich managerial skills, technical and specialist competencies, ethics and dedication to perform. This continuous investment, together with the constant offer of career opportunities and prospects tied to merit, engenders a strong pride of place among our personnel, stimulating all of them to do their part in maintaining their companies' efficiency, effectiveness and competitiveness.

The number of Group employees as at June 30, 2016 was 9,419 (10,954 as at June 30, 2015).

#### / Absenteeism

Absenteeism for the period remained around 2%, basically in line with last year's figure. The graph below shows a sharp drop in hours of absenteeism due to accidents, and slight increases for the other two reasons - illness and maternity leave.

#### / Training

Investments on training (2,889 courses totalling

### Determination of global value added

in thousands of euro	June 30, 2016	June 30, 2015
A. Value of production	2,508.4	2,765.9
B. Intermediate costs of production	1,967.0	2,156.9
(A - B) Core value added	541.4	609.0
C. Non recurring ancillary components	23.0	120.8
<b>Net global value added</b>	<b>564.4</b>	<b>729.8</b>

### Distribution of global value added

in thousands of euro	June 30, 2016	%	June 30, 2015	%
A. Personnel remuneration	443.8	78.6	446.2	61.1
B. Public Administration remuneration	23.5	4.2	110.2	15.1
C. Venture capital remuneration	8.2	1.5	23.1	3.2
D. Third party remuneration	-0.3	-0.1	-0.1	0.0
E. Company remuneration	80.1	14.2	138.7	19.0
F. Lender remuneration	7.7	1.4	10.0	1.4
G. Donations and sponsorships	1.4	0.2	1.7	0.2
<b>Net global value added</b>	<b>564.4</b>	<b>100%</b>	<b>729.8</b>	<b>100%</b>

### Human Resources

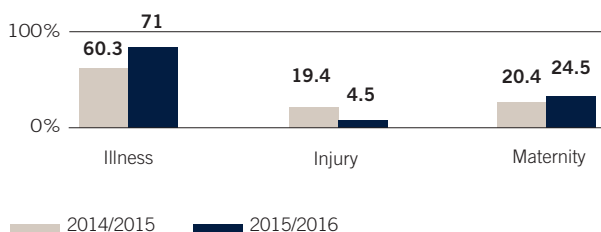
	June 30, 2016		June 30, 2015	
	Plantmaking	Steelmaking	Plantmaking	Steelmaking
Danieli & C SpA in Italy	2,210		2,363	
Italian affiliates	896	1,158	993	1,143
Foreign offices and affiliates	5,098	57	6,187	268
	<b>8,204</b>	<b>1,215</b>	<b>9,543</b>	<b>1,411</b>

### Figure by category

	June 30, 2016	June 30, 2015
Apprentices	164	192
Blue collars	2,978	3,914
White collars and Managers	6,058	6,598
Executives	219	250
Total employees	9,419	10,954

### Absenteeism

	June 30, 2016	June 30, 2015
Average per capita missed work hours	40.2	39.0
% absence	2.05	1.88



Danieli Group:  
Absenteeism.

94,845 hours) in favour of employees have multiple goals:

- sharing the basic technical and technological knowledge that constitute the company's value and uniqueness today, and will increasing do so in the future;
- development of specific technical – specialist knowledge and skills, including managerial ones, both general and running across the entire organisation, and tied to a specific role/function;
- consolidation of language skills
- training workers on rules of behaviour and company procedures related to safety.

The “Danieli Academy” is the kingpin and the organisational centre of the corporate training system and it pursues the dual objective of promoting and improving the growth and development of human resources and of fostering and consolidating corporate vision and values.

The “Danieli Academy” is a business school in the company to support both the process of change and the organisational development; a place of learning where resources are enhanced through professional consolidation and team work.

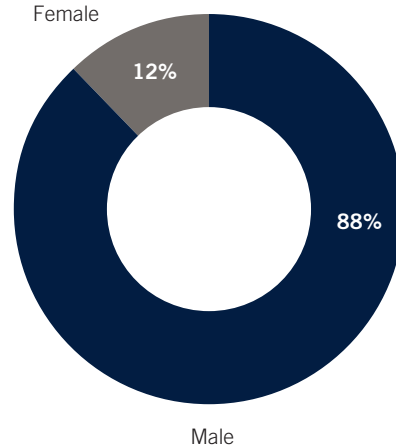
**/ Safety**

The company policy for the prevention of accidents and injuries has achieved overall positive results through the years; in particular, in the period in question, there was a significant drop both in the frequency and severity of injuries. In the three-year period, the Danieli Plant Making's average position in relation to injury frequency is 9.70, an excellent result compared to 35.9 of the 2008/2010 INAIL average (latest available figure). In the three year period, Steel Making had an average position of 11.71, an excellent result compared to the 2011 Federacciai figure, i.e. 35.1. The frequency index of Steel Making decreased compared to the trend of the last 2 years thanks to the launch of an internal audit campaign directed at involving supervisors and workers in carrying out more checks in terms of behaviours during and outside working activities, maintaining order and cleanliness, complying with procedures and using personal protection devices.

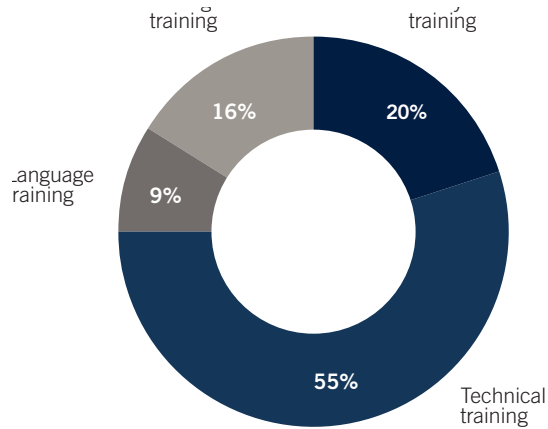
These results were achieved also thanks to the pursuit of the project entitled “Alcohol and the workplace”, directed at contrasting alcohol abuse in the company, which is often a contributing cause in unacceptable accident situations both from the viewpoint of the frequency of events, and of their severity.

In particular, the injury frequency and severity indicators show a significant reduction of the phenomenon, with the introduction of an integrated management system, in compliance with OHSAS 18001/07, through both personnel training/information initiatives, and safety-enhancing work carried out on plants and work processes.

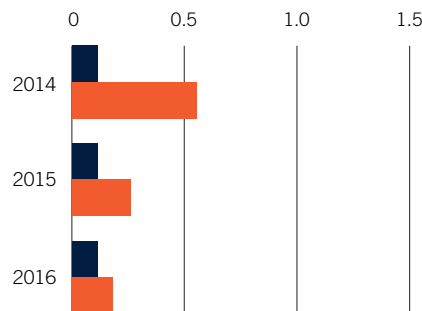
In the three-year period, the Danieli Plant Making's average position in relation to injury severity is 0.13, an excellent result compared to 2.52, the 2008/2010 INAIL average (latest available figure). In the three year period, Steel Making had an average position of 0.38, a good result compared to the 2011 Federacciai figure, i.e. 1.12.



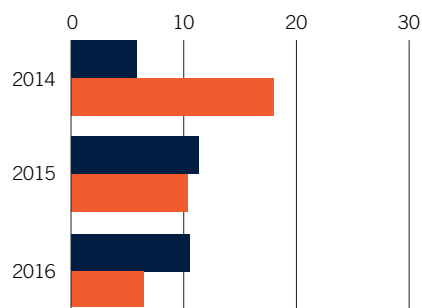
**Danieli Group:  
Employee gender**



**Danieli Group:  
Training**



**Danieli Group:  
Injury severity indicator**



**Danieli Group:  
Injury frequency indicator**

■ Plantmaking  
■ Steelmaking

Environment

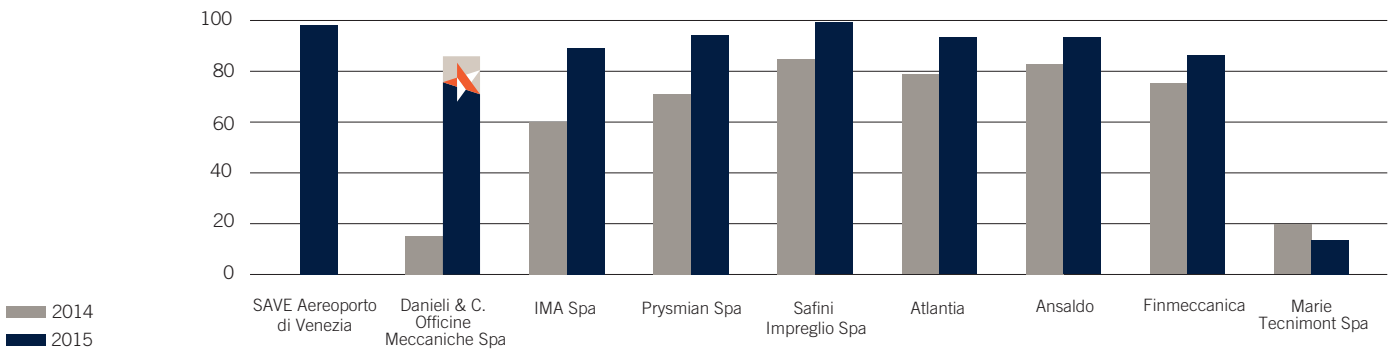
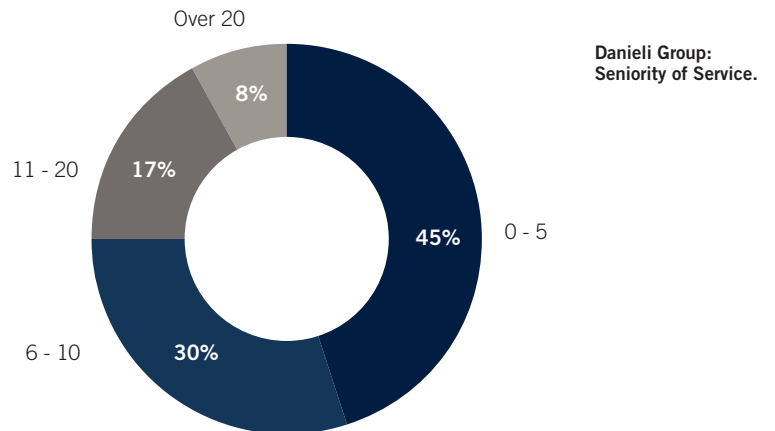
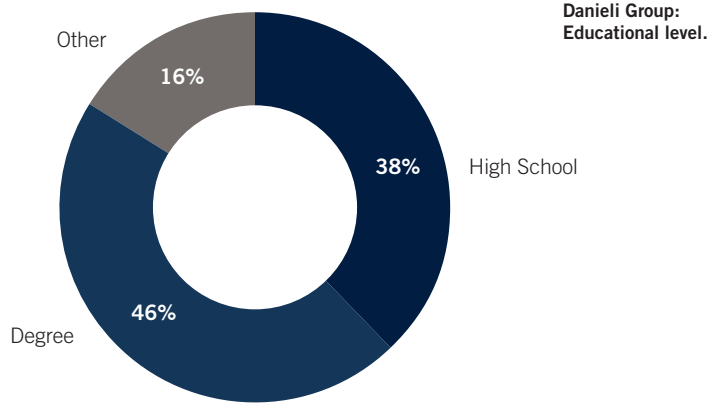
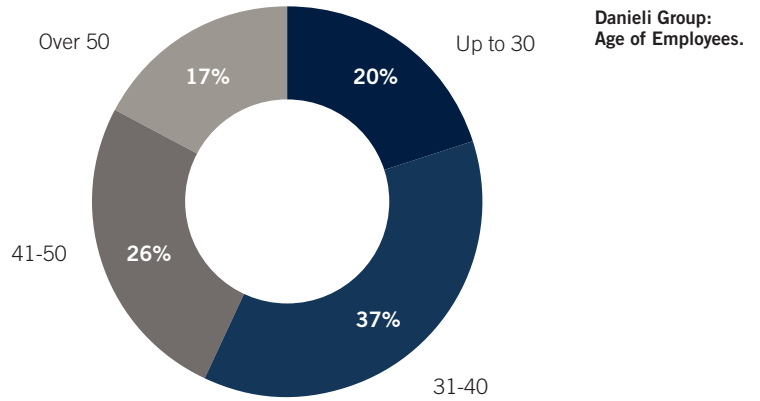
The Danieli Group has defined reference targets in order to maintain high environmental protection standards:

- promoting a culture of health and environmental protection in all workers and their families;
- designing plants with ever better performance from the viewpoint of the environment and workers' health and safety;
- constantly informing and training workers on general and specific risks, on rules of behaviour and company procedures;
- investments of economic, technical and human resources to achieve environmental protection goals;
- promoting knowledge of environmental regulations and generating widespread awareness of their importance, by example and through systematic oversight of their compliance;
- improving waste management by providing specific labelled containers and dedicated areas bearing appropriate signs, and through more accurate separation of waste for disposal;
- improving hazardous materials management by identifying and labelling all containers, providing containment basins and suitable absorbing materials in case of spills, conducting practical emergency simulation exercises.

Plantmaking

Over the years, the Danieli Group implemented a consumption reduction policy that enabled it to optimise consumption, compared to hours worked, reaching constant levels in the past three years. These results were achieved also thanks both to the favourable weather conditions and to renovations to existing plants which boosted their efficiency in terms of consumption. The positive performance in the consumption of a major resource, i.e. water, is confirmed; it was achieved through the environmental protection policies adopted by the Group, including the optimisation of discharges with their reuse and constant checks of the efficiency of the internal water pipelines.

Over the years, the Group carried out a policy of sensitising personnel on the proper differentiation of waste, which enabled to manage a high percentage of non hazardous waste and optimisation of the level of hazardous waste.



### Steelmaking

In view of the importance of energy costs in the production process, the ABS Group constantly strives to introduce innovations and technological solutions to contain energy consumption by improving savings and plant efficiency.

Water consumption demonstrates further sensitivity and propensity both to reuse and to control efficiency in preventing losses in the plants' cooling loops.

During the year 2015/2016, with the conclusion of revamping works and the construction of new buildings, non hazardous waste originating from excavations and demolition decreased considerably.

Danieli also took part in the Carbon Disclosure Survey resulting in 2015 among the most deserving subjects within the Italian and European companies with a marked improvement in the ranking thanks to the increasing commitment carried out in developing SustSeel and Green Steel solutions for our customers.

### Environment - Plantmaking

<b>Energy</b>	June 30, 2016	June 30, 2015	June 30, 2014
Direct consumption			
LPG Liquefied Petroleum Gas (MWh)	588	1,873	1,115
Methane gas (MWh)	14,726	15,555	13,198
Diesel (MWh)	806	1,346	3,179
Electricity (MWh)	45,534	58,151	58,892
Energy consumption per hours worked (MW)	0.0053	0.0055	0.0055

### Water resource consumption

Total water utilization (mc)	243,248	287,709	292,871
Consumption (mc) per hour worked	0.022	0.021	0.021

### Waste

Tonnes of waste produced	14,507	12,358	13,651
of which hazardous	1,944	1,759	1,645
of which non hazardous	12,563	10,599	12,006
Waste per hour worked	0.0013	0.0009	0.0013

### Environment - Steelmaking

<b>Energy</b>	June 30, 2016	June 30, 2015	June 30, 2014
Direct consumption			
LPG (MWh)	219	0	0
Methane gas (MWh)	272,003	278,993	309,299
Diesel (MWh)	4,039	3,924	3,963
Electricity (MWh)	845,515	802,589	785,127
Energy consumption per hours worked (MW)	0.63	0.50	0.62

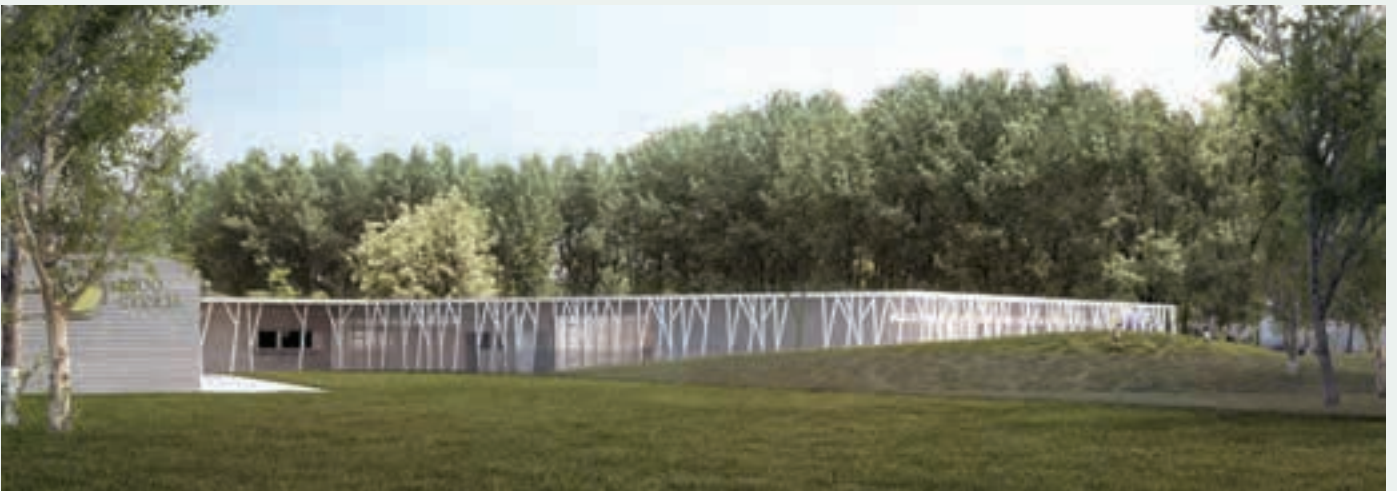
### Water

Total withdrawal water (mc)	1,563,042	1,340,760	1,494,942
Consumption (mc) per hour worked	0.879	0.614	0.847

### Waste

Tonnes of waste produced	177,260	280,300	105,475
of which hazardous	26,551	26,710	28,690
of which non hazardous	150,709	253,590	76,785
Waste per hour worked	0.0996	0.1284	0.0597

In 2015 Danieli took part in the Carbon Disclosure Survey resulting among the most deserving subjects within the Italian and European companies, with a marked improvement in the ranking thanks to the increasing commitment carried out in developing SustSeel and Green Steel solutions for our customers.





**Headquarters and laboratories of the Danieli Academy in Buttrio. The Academy is a strategic corporate tool for the systemic and systematic development of the individual and organizational skills of human resources, and their effects on the business, leading to the creation of a positive brand identity.**

**Bottom: With the 2016/2017 school year, the officially recognised primary school "Cecilia Danieli" started, open both to the families of the employees and to the families of the local community. The training offer proposed by the school enriches the traditional school education with courses dedicated to the English language, linked to a workshop approach to new information technologies.**

### Community commitment

The Danieli Group is a strong believer in its role within the complex systems where it operates worldwide; it takes an active part in the development of positive relations with local communities, defining and managing initiatives in their favour (e.g., the initiatives to restore the historical and architectural heritage on buildings of public interest in the city of Udine, the Telethon marathon in Udine, work in support of local communities, contributions to local musical events, support to schools through contributions to expand classrooms/improve learning instruments, etc.).

The Group is also determined to create new development opportunities, with particular reference to technology and employment, and it actively cooperates with major Universities and Education Institutions, sponsoring innovation projects and offering concrete suggestions to promote youth employment. During the period, Danieli continued its work to promote architectural restoration in the main sites of cultural and historical interest of Udine and took also part in tangible support actions in favour of the people damaged in summer 2016 by the earthquake in Central Italy.

Danieli provides the children of its employees and of contractor workers with the support of the company kindergarten, accommodating family needs through work schedule flexibility and opening days and providing the possibility of caring for children from 3 to 6 years of age with the same flexibility of working hours and hospitality.

With the 2016/2017 school year, the officially recognised primary school "Cecilia Danieli" started, open both to the families of the employees and to the families of the local community. The training offer proposed by the school enriches the traditional school education with courses dedicated to the English language, linked to a workshop approach to new information technologies.

The "Ideathon ABS" contest allowed university students and young graduates to contribute with an innovative idea to be applied in ABS to make the business activity "smarter" and more profitable. The goal is to contribute to build a stable education path of integration between university and companies, aiming to stimulate and develop, in the young, the culture of knowledge, entrepreneurship, innovation, the satisfaction of achieving results and teamwork, keys to future innovative development.

The Danieli Foundation assures health care for former employees and their families.

The Turismo 85 travel agency offers attractive prices to employees, proposing monthly tourist destinations at discounted prices and day trips, promoting co-worker socialisation outside working hours.

The Danieli Sports Group is an association, open to the community at large, founded to promote aggregation, physical fitness and team spirit whilst maintaining a healthy sense of sporting competition.

The last investment made by the Danieli Group is in the company Telefriuli, working in the region for more than 20 years, with the intent to support the issuer in proposing to the community a local television and news report highly dedicated and rooted to the territory.

### Atypical and unusual transactions

There were no significant atypical or unusual transactions during the year, other than those already mentioned.

### Treasury shares

As at June 30, 2016 the company held 2,961,213 ordinary shares and 3,945,363 savings shares with a par value of 1 euro each, for a total par value of 6,907 thousand euro (8.49% of the share capital). No ordinary or savings shares were purchased or sold during the year.

### Events occurring after the end of the reporting period

In a world steel market which is still strong though no longer increasing, company operations continued with no significant events occurring since June 30, 2016. Alignment of currency items to the exchange rate prevailing on September 27, 2016 did not entail significant changes in unrealised exchange differences during the period compared to the figure recorded as at June 30, 2016.

Except for what has already been discussed, no other events occurred after June 30, 2016 which could have had an impact on the economic, equity and financial position as shown in the balance sheet, the income statement and statement of comprehensive income at said date, or required further adjustments or additional notes to the consolidated financial statements and to the separate financial statements.



## Outlook

The complexity and the time required to activate suitable coordinated instruments to restart the economy by the governments of major industrialised countries is bringing about a slow but clear improvement in the economic recovery for the manufacturing, mechanical engineering and steel making industries, still burdened by a policy that is not sufficiently accommodating for credit and investments. In any case, steel consumption is expected to remain strong in 2016 and 2017 in absolute terms, staying substantially stable in ASIA and growing slightly in other countries.

Given this scenario, we expect that the Steel Making segment (ABS) will nonetheless perform satisfactorily in 2016/2017 with an efficient production mix and good production volumes.

For the Plant Making segment, revenues are expected to hold steady in 2016/2017, thanks to the order book as at June 30, 2016, and of the results thanks to its margins with careful management of operating costs and a precise planning of plant start-ups.

The close solution of the geopolitical problems that currently limit trade in some areas of the world could enable an acceleration in the economic growth process, especially for manufacturing industries.

The Group continues to pursue its efficiency objectives such as increased productivity, reduction in structural costs and innovation with the goal of improving competitiveness in the global market and ensuring an improved service especially to Southeast Asian customers where steel production is mostly concentrated.

There are no other significant unknown factors for the year ahead, barring unforeseeable events beyond our control.

## Proposals by the Board of Directors to the annual general meeting

We express our appreciation and thanks to all those whose perseverance and professionalism contribute to maintaining our strong competitive position and high technological status in world markets. We rely on their enthusiasm, as well as on our own, as we seek to progress with the serenity, confidence and strength necessary to meet future challenges.

The financial statements of Danieli & C. Officine Meccaniche S.p.A. for the financial year ended June 30, 2016, which we submit for your approval, show a profit of 3,603,792 euro which we propose to be allocated as follows:

---

Dividend payable from Nov. 9, 2016  
(distribution date Nov. 7, 2016;  
registration date Nov. 8, 2016)

---

to the 37,918,320<sup>(1)</sup>  
ordinary shares  
euro 0.100 per share                      euro    3,791,832

to the 36,479,670<sup>(2)</sup>  
savings shares  
euro 0.1207 per share                      euro    4,403,096

---

euro    **8,194,928**

---

Use of extraordinary reserve              euro    -4,591,136

---

**For a total of**                                      euro    **3,603,792**

(1) net of ordinary treasury shares held on September 27, 2016

(2) net of savings treasury shares held on September 27, 2016

The Danieli  
Scorecard

Solid  
Numbers  
Proving  
Reliability

# THE DANIELI SCORECARD

## Our Scorecard is what best sums up our reliability

**TURNKEY PLANTS  
AND MINIMILLS**

This reliability is proven not only by the excellent equipment installed worldwide, but also by process know-how, automation, assistance and turnkey supply.

**ORE PROCESSING, IRONMAKING  
AND STEELMAKING PLANTS**

**FLAT PRODUCTS**

All the mechanical and automation design activities are carried out by Danieli engineers, while the core equipment, and more, is manufactured in specialized, wholly owned workshops.

**LONG PRODUCTS**

**TUBES, FORGING, EXTRUSION,  
CONDITIONING, CRANES**

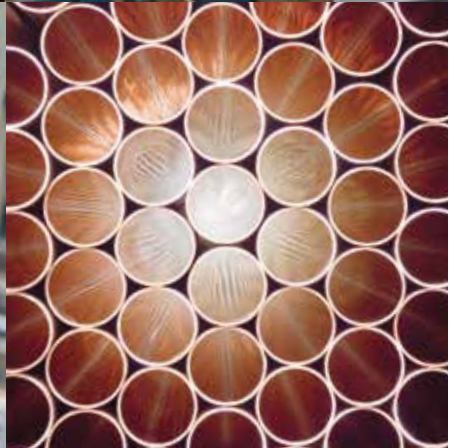
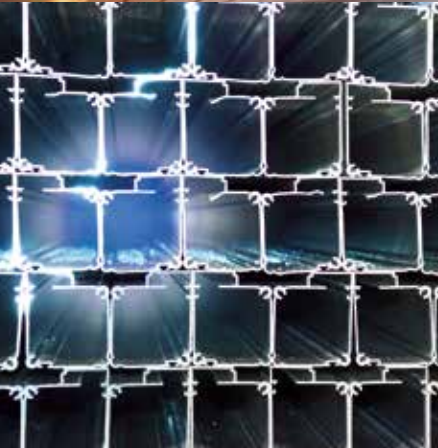
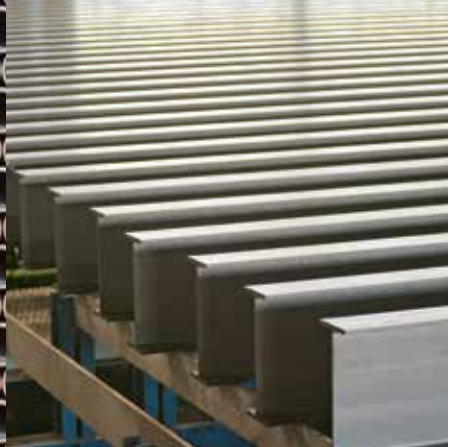
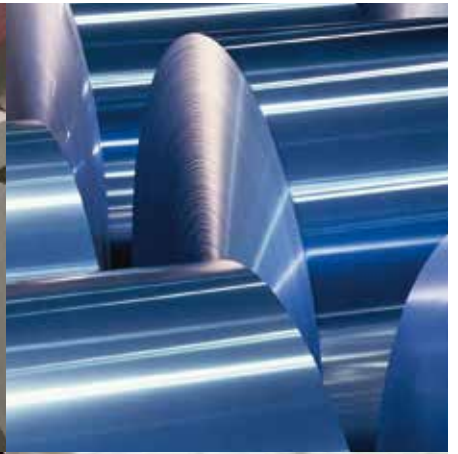
This, together with after-sales customer support and training guaranteed by Danieli Service, leads to top performances and lowest CapEx and OpEx.

**NON-FERROUS METALS**

**AUTOMATION AND PROCESS  
CONTROL SYSTEM**

**CUSTOMER SERVICE**

**ENVIRONMENTAL PLANTS**



# TURNKEY PLANTS AND MINIMILLS



**137 Complete turnkey plants,  
designed, engineered, manufactured,  
erected and commissioned  
worldwide since 1967.**

With a scorecard of 137 turnkey plants supplied of which 42 have been supplied on LSTK basis, Danieli has developed a particular skill in handling turnkey projects, and can do it almost everywhere. Project management capability assisted by the use of the latest

4D software modeling solutions for visualization of planning and scheduling linked to time lines, makes it possible to handle several of LSTK projects at the same time, giving our customers complete project control during the entire execution of their projects.



Turnkey plants and minimills







# ORE PROCESSING, IRONMAKING AND STEELMAKING PLANTS



# 153

**153 Complete electric steel meltshops with capacities ranging from 150,000 to 2,200,000 tpy.**

Danieli's exclusive know-how in steelmaking covers the whole production cycle, from ore preparation and direct reduction plants to billet, bloom, slab and thin slab casting, from AC-DC electric arc

furnaces to integrated ironmaking plants to finishing and conditioning of end products. Balanced investment costs, high productivity and greater operational flexibility are the characteristics of our expertise.



# 2

Mining and beneficiation plants



# 7

Direct Reduction plants



# 121

Scrap shredding plants



Pelletizing plants



Automatic steelmaking systems



FastArc electric arc furnaces



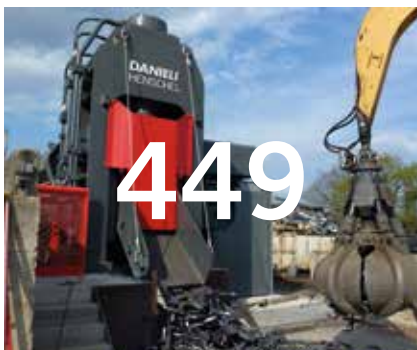
Ironmaking projects



Ladle furnace stations



VD/VOD/RH degassing stations



Scrap shears and 272 baling presses



Hot metal desulphurization systems



Sublance systems

## FLAT PRODUCTS



### 327 Hot -and cold- rolling mills and 1,357 strip-processing and finishing line

Danieli product lines involved in flat products, are leaders in this fields. This innovative team born from this combination offers the market know-how, equipment, engineering

and turnkey plants for high-tech hot-strip and plate mills, cold mills and finishing lines for strip and light-gauge strip, as well as a full range of strip processing lines.



Thick slab casters



Cold rolling mills



Color coating lines



Thin slab casters



Hot rolling mills



Plate mills and 17 Steckel mills



Pickling lines



Hot dip galvanizing lines



Electrolytic tinning lines



Continuous annealing lines  
and 5 batch annealing lines



Strip finishing lines



Recoiling and inspection lines

## LONG PRODUCTS



### 497 Complete rolling mills for long products

Danieli Morgårdshammar is the worldwide leader in supplying rolling mills for long products. High-speed wire rod rolling, in-line heat treatment facilities for bars, wire rod and coiled rounds

and high-capacity, fully automatic cold finishing services are the advantages of Danieli activity, for producing both common steels and specialty steels and superalloys.



FastCast® casting strands for blooms



Big Bar mills



Drawbenches and lines



FastCast® casting strands for billets



Heavy section mills



Rolling mills for bars and sections



Rolling mills and lines for wire rod



Spooler lines



EWR endless welding rolling lines



Peeling machines



Heat treatment furnaces



Reheating systems

# TUBES, FORGING, EXTRUSION, CONDITIONING, CRANES



Seamless pipe mills



Extrusion presses

## 18 Seamless pipe mills

In 2004, Danieli Centro Tube entered the seamless tube market with innovative technology and production processes backed by a complete supply spectrum: heating systems, mechanical equipment, electricals and automation.

This has led to an impressive score of sixteen orders for complete plants acquired, characterized by high capacity, competitive investment and production cash costs, and top-quality finished product.



Welded (SSAW) pipe plants



ERW longitudinal pipe plants



Two- and four-column forging presses  
(with capacities up to 140 MN)



Hot and cold grinding machines



High-tech cranes



Rail-bound and mobile  
forging manipulators



## NON FERROUS METALS



### 579 Hot and cold rolling mills

Danieli is a specialized, complete, and reliable team offering to the non-ferrous metals world the possibility of choosing an integrated solution, from market target definition to

project planning, to design and manufacturing, to erection and commissioning and after-sales and teleservice assistance, for flat- and long-product mills.



Aluminium melting furnaces



Aluminium plate stretchers



Specialty cold rolling mills



Aluminium heating and heat treatment furnaces



Aluminium continuous casting lines



Aluminium hot rolling mills



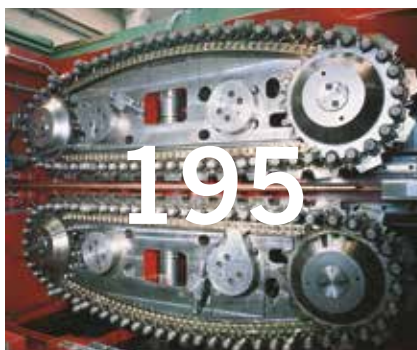
Aluminium cold and foil mills



Strip finishing lines



Aluminium rod mills



Combined drawing machines



Extrusion presses



Aluminium color coating lines

# AUTOMATION AND PROCESS CONTROL SYSTEMS



## 680 Level 3 and Level 2 automation and process control systems

Danieli Automation's success as a System Integrator in the steel industry automation market over the past 30 years is the result of several factors, such as flexible and HW-independent solutions, open systems and portable software, certified products, quality assurance

and process know-how. Danieli Automation's synergetic relationship with the entire Danieli product line provides the former with a thorough knowledge of the process and plant requirements as well as a common background with the parent company.



Level 1 automation systems



Instruments for meltshops, long and flat product mills



Level 2 automation systems



Level 3 automation systems



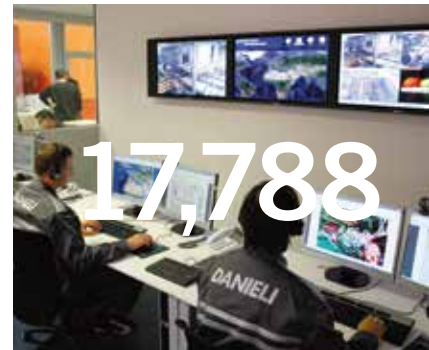
QHeat induction heating & converters



Robotic applications



MV/LV F3E/inverter QDrive converters and drives



Hours/year of technical support, of which 11,471 for advisory service

## CUSTOMER SERVICE



# 150,000

150,000 hours/year  
of technical support  
and consultancy for productivity  
and quality improvement

Always close to our partners.  
IntegrAction: customer-integrated  
and quick-reaction services through  
a reliable network of localized service  
hubs and qualified workshops.

Our mission: to become the preferred  
partner for running metals making  
plants to maximize productivity,  
quality, reliability, seeking ways to  
maintain assets and contain costs.



# 1,200,000

Spare parts/year delivered with total quality  
assurance and on-time delivery



# 150,000

Hours/year of technical support  
for productivity and quality improvement



# 3,650

DanOil oil-film bearing systems



1,500

Tele-service tickets/year successfully resolved; 92% in the first 48h



10,000

Orders/year handled with top quality and on-time delivery



200,000

Q-Roll slab caster rolls



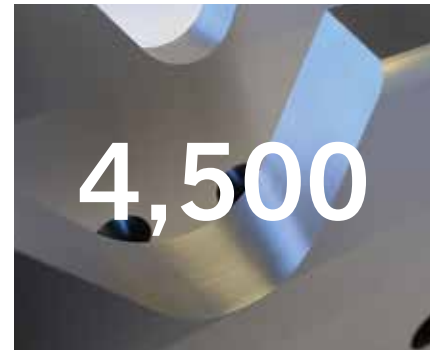
10,000

Man days/year of theoretical and practical training courses, educating 1,600+ engineers



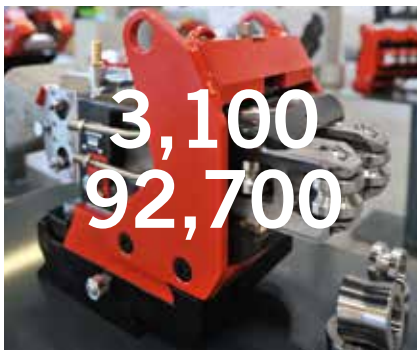
13

CMS-Condition Monitoring System projects in the past 15 months



4,500

DanCut knives/year for up to 5x longer service life



3,100  
92,700

Roller guides / Consumables per year



1,400 mm  
16,700 kNm

Diameter / torque reachable by DanJoint spindles for flat and long product mills



20,000

Heats of service life with Danieli long-life energy-saving water-cooled panels

# ENVIRONMENTAL PLANTS



## 473 Environmental plants

Cost-effective environmental solutions for a sustainable steelmaking industry. Today Danieli Environment offers a full range of proprietary technologies for air pollution control, water treatment, energy saving, solid waste recovery, and noise reduction. Danieli's goal is to reduce the

environmental impact to zero. Danieli believes that reducing the environmental impact of steel production is not necessarily in conflict with the goal of being cost-competitive, in fact many environmental technologies are cost-friendly.



Blast furnace gas cleaning and recovery systems



Fume-treatment systems



Dog-house and Elephant-house structures for EAF noise control



Dan-Eco<sup>2</sup> fume cleaning and oil recovery systems



Dan-Purity multi-plate filters



Water-treatment plants



Fume treatment centers for aluminum smelters



Plants for CO<sub>2</sub> and sulphur selective removal from Energon DR process



**DANIELI**

Danieli  
The Reliable  
and Innovative  
Partner  
in the Metals  
Industry  
Plantmaking  
Division

## Engineering and Plantmaking / Leading Team

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### Managing Board

**GIANPIETRO BENEDETTI**  
*Chairman and CEO*

**ALESSANDRO BRUSSI**  
*Finance  
and Administration*

**WERNER AUER**  
*Flat Products,  
Danieli Germany, Austria,  
The Netherlands*

**GIANPIETRO BENEDETTI**  
*Long Products,  
Manufacturing,  
Supply Chain*

**MARCO DI GIACOMO**  
*Customer Service,  
Key Account Management,  
Macroplanning*

**DARIO FABRO**  
*Danieli Plant Engineering,  
Danieli Construction,  
Advisory Services,  
Large Projects*

**LUCA FERRARESI**  
*Industrial Accounting  
and Internal Auditing*

**ANTONELLO MORDEGLIA**  
*Danieli Automation,  
Digimet 4.0*

**GIACOMO MARESCHI**  
*Danieli Asia,  
Information Technology*

**ROLANDO PAOLONE**  
*Research and Development*

**STEFANO STAFISSO**  
*Human Resources*

**ALESSANDRO TRIVILLIN**  
*Met2 / Lean Thinking*

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### Executive Staff

**Human Resources**  
S. Stafisso, C. Benedetti,  
P. Golini

— Danieli Academy  
P. Perabò

**Finance, Administration,  
Contracting, Controlling**  
A. Brussi, L. Ferraresi

— Administration, Controlling  
A. Deana, M. Marinutti

— Financing and Contracting  
P. Amico, A. Mareschi Danieli,  
R. Grosso, A. Perini

— Legal Affairs  
and Internal Auditing  
L. Ferraresi, F. Londero

**Information Technology**  
A. Stewart, M. Cappa,  
G. Mareschi

---

### Danieli Product Lines and Customer Service

**Key Account Management,  
Marketing, Macroplanning**  
M. Di Giacomo, A. Diasparro,  
E. Versace

**Costing, Macroplanning**  
E. Parisi, M. Chiandetti

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**Research Center**  
A. Poloni, R. Paolone, G. Marconi

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**Danieli Plant Engineering**  
D. Fabro, G. Mareschi, M. Pitton

**Proposal and Project Directors**  
G. Mareschi, M. Pitton

**Danieli Engineering Products**  
L. Barbante, G. Mareschi

**Danieli Centro Metallics**  
— Iron ore / Pelletizing / DR Plants  
A. Di Giacomo, A. Martinis

**Danieli Environment and Systems**  
— Ecological and Recovery  
Systems  
F. Casarsa

**Danieli Centro Cranes Spa**  
— Heavy-Duty Cranes  
L. Argiolas, A. Vrech

**Hydraulics**  
— Industrial Hydraulic and  
Lubrication Equipment  
C. Benini, C. A. Gadda

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**Danieli Epc and Site  
Management Services**

**Danieli Construction International  
Spa (Italy)**  
S. Baici, A. Cimarosti, G. Furino,  
E. Gardina

**Fata EPC (Italy)**  
A. Lombardi, S. Pagani

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**Advisory Services  
for Plant Startup  
and Commissioning**  
I. Grgic, P. Saccuman

**Danieli Automation  
and Digimet 4.0**  
A. Mordeglia, A. Brussi,  
S. Stafisso, G. Buzzi, A. Todisco,  
M. Ometto

**Danieli Automation Spa**  
A. Mordeglia, A. Ardesi,  
A. Todisco, M. Ometto,  
E. Plazzogna, E. Gigante,  
A. Maestroni, L. Lusin,  
G. Brunetti, S. Martinis,  
F. Perotti, G.B. Vallarino,  
R. Guido, R. Poboni, S. Vasinis

**Digimet 4.0**  
M. Ometto

**Danieli Rotelec (France)**  
F. Guastini, P. Declerc

**Danieli Taranis LLC (USA)**  
G. Buzzi, W. Dow, C.J. Feather

**Danieli Systec Doo (Croatia)**  
S. Stafisso

**Danieli Automation Co Ltd  
(Thailand)**  
M. Oliviero

**Elsid Cheda Ltd (Russia)**  
E. Cuzzot

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**Danieli Customer Service**  
E. Brusini, M. Zanco

**Technical Service and Spare Parts**  
A. Vallan, P. Bahadian Bardy,  
G. Carnelutti, G. De Lorenzo,  
A. Donadon, M. Padovan,  
K. Shillam, U. Wilhelm, A. Zanon

**Danieli Corporation  
(USA, Canada)**  
— Marketing, Engineering, Project  
Management, Site Assistance,  
Service  
P. Losso, L. Rossetto,  
F. Palagianò, A. Voltolina

**Danieli Mexico (Mexico)**  
— Service, Sales, Marketing,  
Project Management  
G. Nigris, E. Perez

**Danieli Do Brasil SA (Brasil)**  
— Service, Marketing,  
Engineering,  
Project Management,  
Site Assistance  
L. Mottes, W. Souza

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### **Ironmaking and Converter Steelmaking**

#### **Danieli Corus Technical Services BV (The Netherlands)**

— Furnace and Oxygen Steelmaking Technologies  
P. Zonneveld, G. Apeldoorn, F. Van Gool

#### **Danieli Linz Technology (Austria)**

— Converter Steelmaking Plants  
G. Staudinger, C. Trungadi

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### **Electric Steelmaking, Continuous Casting**

R. Sellan, L. Morsut

#### **Danieli Centro Met (Italy)**

— Electric Meltshops / Billet, Bloom, Beam blank casters / Slab casters  
P. Burin, A. Carboni, A. Della Vedova, M. Knights, H. Koblenzer, A. Sgrò

#### **More Srl (Italy)**

— EAF Special technologies  
L. Londero, M. Iacuzzi

#### **Danieli Centro Recycling (UK, Germany, France)**

— Scrap Recycling Technologies  
E. Brusini, J. Allen, G. Lovadina

#### **Danieli Procome Iberica SA (Spain)**

— Charging systems for EAF, DRP and Pelletizing Plants  
G. Nigris, A. Aldama

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### **Long Products**

F. Mulinaris, L. Crespan

#### **Danieli Morgårdshammar (Italy)**

— Bar, Wire rod Mills, Heavy Bar / Section Mills  
L. Tambosco, I. Danielis, C. Tomat

#### **Sund Birsta AB, Morgårdshammar AB (Sweden)**

— Long Product Rolling Mills for Special Steels, Binding and Handling systems for Bars, Wire Rod, and Hot / Cold Flat Products  
P. Marstedt, O. Englund

#### **Danieli Centro Maskin (Italy) W+K Industrie GmbH (Germany)**

— Inspection and Conditioning Plants, Cold Finishing Lines, Welded Pipe Mills  
W. Auer, L. Crespan, R. Cecutti, S. Lodolo

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### **Flat Products**

G. Ximeris, L. Sandrin

#### **Danieli Wean United, Danieli Fata Hunter (Italy)**

— Hot and Cold Rolling / Processing Lines / Aluminium Hot and Cold Rolling Mills and Stretchers  
M. Bulfone, D. De Bella, S. Dolzan, R. Holz, T. Gregory, I. Koshyk, T. Settimo, S. Berger, L. Vignolo, A. Tropeano, C. Bilgen, M. Turchetto

#### **Danieli Kohler (USA, Italy)**

— Air Wiping Equipment  
G. Kohler, M. Turchetto

#### **Innoval Technology Ltd (UK)**

— Process Technology and Advisor Services for Aluminium Flat Product Mills  
T. Farley

#### **Danieli Germany GmbH (Germany)**

— Flat Products Rolling / Metallurgical Engineering for Final Applications  
W. Auer, J. Schröder

#### **Danieli Fröhling (Germany)**

— Cold Rolling Mills and Strip Processing Lines for Specialty Steel and Non Ferrous Materials  
M. Kotas

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### **Forging, Extrusion, Seamless Pipes, Heating, Heat Treatment**

S. Deplano, A. Ceretti, M. Totis

#### **Danieli Breda (Italy)**

— Extrusion and Forging Presses  
C. Bartolini, P. Fraternali

#### **Danieli Centro Combustion Spa (Italy)**

**Danieli Olivotto Ferrè (Italy)**  
— Heating Systems  
A. Ceretti, M. Totis

#### **Danieli Olivotto Ferrè (Italy)**

— Heat Treatment Furnaces  
F. Pere, C. Laviosa, A. Donetti, S. Bianchi, R. Elemento, G. Gianni

#### **Danieli Centro Tube (Italy)**

— Seamless Pipe Mills  
E. Cernuschi, S. Bettinelli, G. Grandi

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### **Danieli Asia**

G. Mareschi, L. Coianiz, F. Esposito, J. Geng, A. Menocci, D. Ambrosino, A. D'Attoma, P. Golini

#### **Danieli Metallurgical Equipment & Services Co Ltd (China)**

— Engineering, Project Management, Site Management, Manufacturing and Service for Danieli Products  
L. Coianiz, J. Geng, D. Ambrosino, J. Guo, J. Li, C. Zhang, P. Golini, E. Copetti

#### **Danieli Co Ltd (Thailand and Vietnam)**

— Engineering, Project Management, Manufacturing and Service for Danieli Products, Hydraulics, Pressure Vessels  
B. Mockmongkonkul, A. Menocci, S. Giacomelli, D. Ambrosino, G. Charoenvanate, M. Rinaldis, T. Nammisa, D. D'Odorico, F. Rocchetti

#### **Danieli India Ltd (India)**

— Engineering, Project Management, Site Management, Manufacturing and Service for Danieli Products  
F. Esposito, G.S. Rao, B. Ghosh, J. Loganathan, P. Sathishkumar, A. Todisco, J. Saroj, S. Banerjee

#### **Danieli Engineering Japan Ltd (Japan)**

— Engineering and Service  
A. Mordegli, R. Sato

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### **Manufacturing, Supply Chain and Logistics**

G. Del Fabbro, C. Battaglia

— Worldwide Manufacturing  
G. Del Fabbro

— Worldwide Supply Chain and Logistics  
C. Battaglia

— Buttrio Workshops  
G. Bobbio

— Procurement, Logistics  
E. Copetti, P. Menta, G. Cruder, C. Pittini, R. Staffa

— Quality Control  
R. Balestra, D. Lestani

#### **Danieli Volga LLC (Russia)**

— Marketing, Service, Engineering, Project Management, Manufacturing  
G. Del Fabbro, P. Zatravkin

#### **Termo Makina San. V.T.A.S. (Turkey)**

— Sales, Marketing, Service, Cranes and Meltshop Equipment Manufacturing  
G. Del Fabbro, A. Diasparro



Snapshots from significant events of the Group's consolidated international standing.

From top left: Signing ceremony for the DUE-Danieli Universal Endless Thin Slab Casting & Rolling complex at SGJT, China; Matteo Renzi, Italy's Prime Minister, cutting the ribbon of the Rotoforgia facility at ABS, Italy; souvenir photo at the contract signing for a cold mill complex at Ton Dong A, Vietnam; official

startup ceremony of the color coating and painting line for steel strip at LMZ, Russia; souvenir picture at Feng Hsin, Taiwan, at the contract signing ceremony for the new high-speed rebar mill and bar-in-coil line; contract signing ceremony for the new cold mill complex at Hoa Phat Steel, Vietnam.

## Danieli Plantmaking

### Sales and operating results

In thousands of euro	Plantmaking	
	June 30, 2016	June 30, 2015(*)
Net revenues	1,924,128	2,122,935
Gross operating margin (EBITDA)	149,253	183,664
Depreciation, amort. and write-downs	(78,271)	(60,406)
Operating income	70,982	123,258
Net financial income/(charges)	17,190	111,280
Profit before tax	88,172	234,538
Income taxes	(11,883)	(89,524)
Net profit	76,289	145,014
Segment assets	4,405,628	4,132,067
(increases in investments in tangible and intangible fixed assets included)	26,920	39,713
Segment liabilities	3,199,691	2,972,935
Net financial position	1,076,692	1,121,459

\* readjusted following the application of the amendments to IAS19 Employee benefits and IFRS3.

The Danieli Group designs and builds plants for all process areas, such as:

- Mines;
- Pellet production plants;
- Blast furnaces;
- Direct reduction;
- Scrap shredders,
- Steelworks for production of liquid steel;
- Conticasters for blooms, billets; slabs; thin slabs;
- Rolling mills for long products;
- Rolling mills for seamless tubes;
- Lines for welded tubes;
- Hot and cold rolling mills for flat products (all ferrous and non ferrous metals and stainless steel);
- Process lines for flat products;
- Complete plants for dimensional checking and for non-destructive quality control, and conditioning plants;

- Plants for secondary processing, such as peeling, straightening, 2-roll reeling and drawing machines;
- Forging presses and manipulators and complete forging plants;
- Extrusion presses for ferrous and non-ferrous materials;
- Plants for longitudinal cutting and for transversal cutting to size of sheet and plate in all non-ferrous metals and stainless steel;
- Level 1, 2, 3 and 4 plant automation systems;
- Cranes and lifting equipment.

In the long product rolling plant sector, the Danieli Group is world market leader in terms of both the number of plants in use and annual sales and, in particular, is the undisputed technological leader for level of automation as well as plant reliability, productivity and achievable product quality.

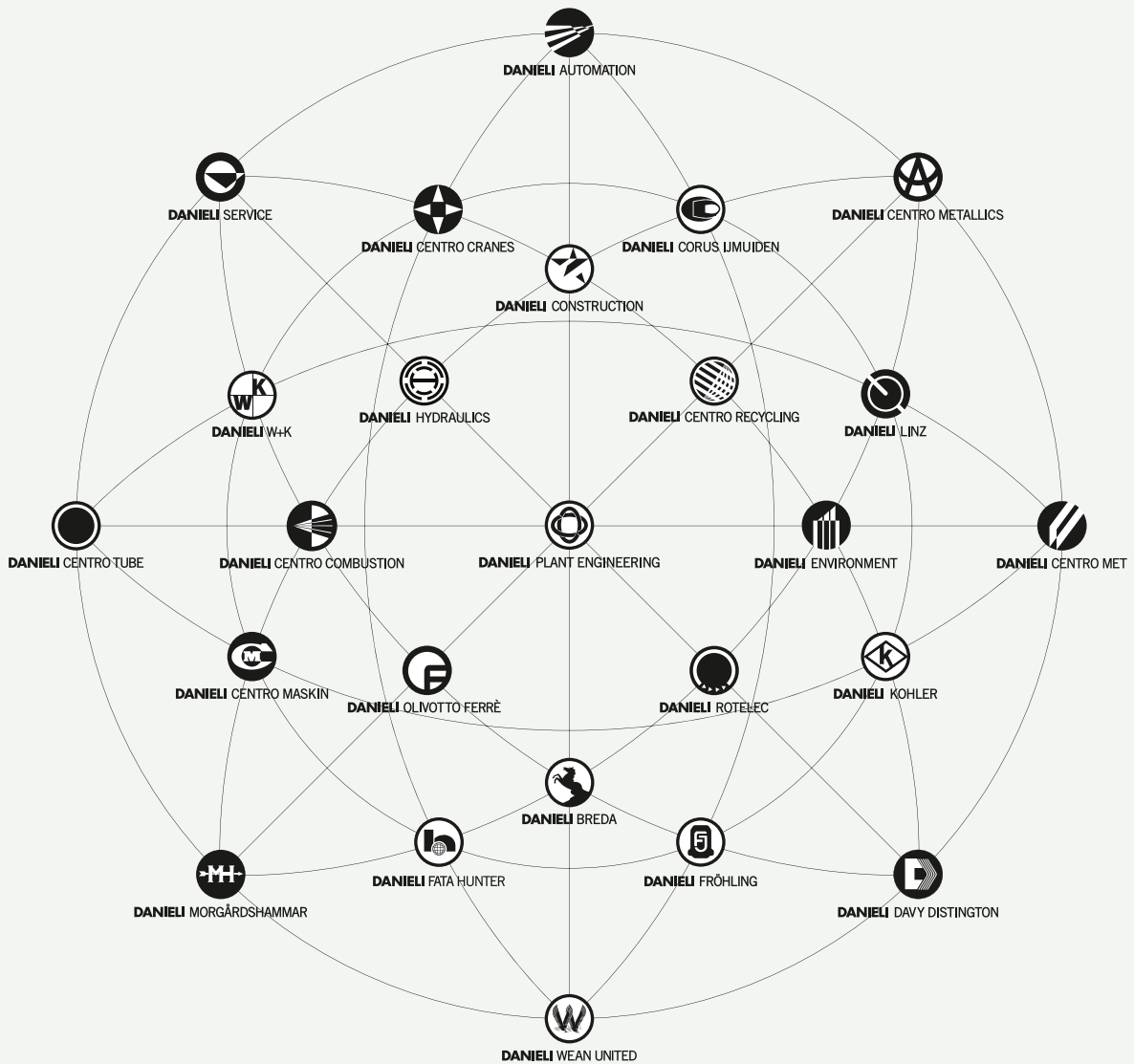






## Danieli Plantmaking / The Team

<b>Danieli Plant Engineering</b>	Since 1964	Italy	Turnkey Plants and Systems Engineering
<b>Danieli Fata EPC</b>	Since 1965	Italy, USA, India, China, UAE	Turnkey Plant Engineering, Procurement, Construction
<b>Danieli Automation</b>	Since 1969	Italy, USA	Process Control Systems
<b>Danieli Centro Metallics</b>	Since 1987	Italy	Ore Processing and Direct Reduction Plants
<b>Danieli Corus IJmuiden</b>	Since 1977	The Netherlands	Integrated Steelmaking Plants
<b>Danieli Linz</b>	Since 2011	Austria	Oxygen Converter Steelmaking Plants
<b>Danieli Centro Recycling</b>	Since 1998	Italy, UK, France, Germany	Scrap Processing Plants
<b>Danieli Centro Met</b>	Since 1914	Italy, Austria	Electric Steelmaking and Long Product Casters
<b>Danieli Davy Distington</b>	Since 1951	UK, Italy	Thick and Thin Slab Casters
<b>Danieli Wean United</b>	Since 1901	Italy, USA, Germany	Flat Product Rolling Mills and Strip Processing Lines
<b>Danieli Kohler</b>	Since 1959	USA, Italy	Air Wiping Equipment for Zinc Coating
<b>Danieli Fröhling</b>	Since 1947	Germany	Specialty Mills and Strip Finishing Lines
<b>Danieli Fata Hunter</b>	Since 1936	Italy, USA	Aluminium Casting, Rolling, and Coil Coating Lines
<b>Danieli Morgårdshammar</b>	Since 1856	Italy, Sweden	Long Product Rolling Mills
<b>Danieli Centro Tube</b>	Since 2004	Italy	Seamless Pipe Plants
<b>Danieli W+K</b>	Since 1968	Germany, Italy	Longitudinal and Spiral Welded Pipe Plants
<b>Danieli Centro Maskin</b>	Since 1953	Italy, Sweden	Conditioning, Drawing, and Finishing Plants
<b>Danieli Rotelec</b>	Since 1977	France, Italy	EMS and Induction Heating Systems
<b>Danieli Hydraulics</b>	Since 2008	Italy, Thailand	Industrial Hydraulic and Lubrication Equipment
<b>Danieli Breda</b>	Since 1950	Italy	Extrusion and Forging Plants
<b>Danieli Centro Combustion</b>	Since 1981	Italy	Heating Systems
<b>Danieli Olivotto Ferrè</b>	Since 1927	Italy	Heat Treatment Furnaces
<b>Danieli Centro Cranes</b>	Since 1958	Italy	Heavy-duty Cranes
<b>Danieli Environment</b>	Since 1973	Italy	Ecological and Recovery Systems
<b>Danieli Construction</b>	Since 2003	Italy, Thailand	Turnkey Construction, Erection, and Systems Engineering
<b>Danieli Service</b>	Since 1962	Italy, Austria, China, India, Russia, USA, Brazil, Thailand	Technical Service and Original Spare Parts



Danieli Team mission is to serve Customers with competitive plant and process technology/automation to produce quality at the lowest depreciation and production cash costs and offer friendly after-sale service involving top-specialized engineers. The technology spectrum -from ore to finished product- and relevant process know-how provided by our Product Lines, the well-known tendency towards innovation and high reliability are the best guarantees in reaching this target.

## Danieli Plantmaking / The Team

More than 25 divisions, each one staffed by individuals with specific technical capabilities, and bringing long and notable legacies from their own countries form a multicultural, multilingual team that helps us to establish the best relationships with our customers around the world.



Italy,  
USA

### **DANIELI AUTOMATION** Process Control Systems / Since 1969

With more than 40 years of experience focused on metals worldwide, Danieli Automation is your technological partner for production management, process and equipment control, advanced instrumentation, and state-of-the-art electrical solutions.



Italy

### **DANIELI PLANT ENGINEERING** Turnkey Plants and Systems Engineering / Since 1964

We supply integrated plants for the metal industry, including technologies, auxiliary plants, construction, and after-commissioning assistance. We provide customers with a single-point responsibility, ensuring project delivery time assurance and total investment cost certainty.



Italy

### **DANIELI CENTRO METALLICS** Ore Processing and Direct Reduction Plants / Since 1987

With more than 50 years of research and experience in design, construction, commissioning and operation of iron ore processing and direct reduction plants, we supply any type and size of DRI based minimills.



Italy,  
USA,  
India,  
China,  
UAE

### **DANIELI FATA EPC** Turnkey Plant Engineering, Procurement, Construction / Since 1965

Danieli Fata EPC operates in the field of plant engineering, procurement and construction, providing customized, state-of-the-art technology and environmentally consistent solutions for primary aluminium smelters, downstream aluminium projects, oil & gas, power generation plants.



The  
Netherlands

### **DANIELI CORUS IJMUIDEN** Integrated Steelmaking Plants / Since 1977

Danieli Corus has firm roots in IJmuiden, where steel production started in 1924 and quickly developed towards world benchmark for Blast Furnace ironmaking and BOF steelmaking.



Austria

**DANIELI LINZ**  
Oxygen Converter Steelmaking Plants  
/ Since 2011

Danieli Linz Technology is a steelmaking center of competence, where proven oxygen converter specialists interact with experts on substance systems, process models, and technological packages, as well as with the pioneering Danieli R&D Researchers.



UK,  
Italy

**DANIELI DAVY DISTINGTON**  
Thick and Thin Slab Casters  
/ Since 1951

Danieli Davy Distington pioneered continuous casting technology and today, through continuous innovation, is world's leader in the design and manufacture of advanced continuous slab casters.



Italy,  
UK,  
France,  
Germany,  
USA

**DANIELI CENTRO RECYCLING**  
Scrap Processing Plants  
/ Since 1998

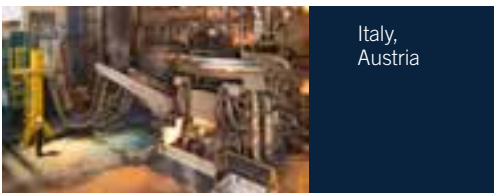
Danieli Centro Recycling is the innovative team to meet new challenges in the design and construction of advanced recycling plant technology, giving added value to scrap, and focusing on the needs and requirements of aiming for zero environmental impact.



Italy,  
USA,  
Germany

**DANIELI WEAN UNITED**  
Flat Products Rolling Mills and Strip Processing Lines  
/ Since 1901

Over the course of its long history Danieli Wean United has developed a thorough knowledge together with a well-earned experience in the downstream processing of the hot/cold rolled steel and strip processing lines.



Italy,  
Austria

**DANIELI CENTRO MET**  
Electric Steelmaking and Long Product Casters  
/ Since 1914

The constant evolution of technical and process know-how through significant investments in R&D as well as synergies and cooperation with our customers have made Danieli Centro Met a worldwide leading supplier of electric steelmaking plants.



USA

**DANIELI KOHLER**  
Air Wiping Equipment for Zinc Coating  
/ Since 1959

Danieli Kohler is world leader in the supply of highly technological equipment, with more than 150 installations in molten metal coating lines of all types.

## Danieli Plantmaking / The Team



Germany

### **DANIELI FRÖHLING**

Specialty Mills and Strip Finishing Lines  
/ Since 1947

Danieli Fröhling is well known all over the world as a manufacturer of machines of the highest quality for rolling and processing of non-ferrous metals, not simply satisfying its demanding customers but rather inspiring them by continuously extending technical limits.



Italy

### **DANIELI CENTRO TUBE**

Seamless Pipe Plants  
/ Since 2004

Through a highly qualified and long lasting experienced engineering team, Danieli Centro Tube designs, manufactures and supplies technologically-advanced complete plants and equipment for the hot rolling and cold finishing of high-quality seamless pipes.

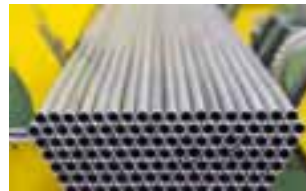


Italy,  
USA

### **DANIELI FATA HUNTER**

Aluminium Casting, Rolling, and Coil Coating Lines  
/ Since 1936

Danieli Fata Hunter is one of the world leaders in implementing single equipment as well as complete turnkey plants for the aluminium flat rolled product industries and for steel and stainless steel processing industries, with a comprehensive ability and know-how for all production ranges.



Germany,  
Italy

### **DANIELI W+K**

Longitudinal and Spiral Welded Pipe Plants  
/ Since 1968

Danieli W+K is a strong, reliable and competent partner for the pipe and tube industry. It develops customer-orientated individual solutions not only with upcoming modernization projects and the delivery of single plant components but also with the installation of a complete turnkey pipe plant.



Italy,  
Sweden

### **DANIELI MORGÅRD SHAMMAR**

Long Product Rolling Mills  
/ Since 1856

We believe in what we build day by day and we are what we produce. This is written in our DNA since 1856. From bigger to smaller, from heaviest to longer, from smaller to faster, simply undisputable features in the metals industry.



Italy,  
Sweden

### **DANIELI CENTRO MASKIN**

Conditioning, Drawing and Finishing Plants  
/ Since 1953

Danieli Centro Maskin is a reliable and innovative partner for challenging new goals in the design and construction of advanced grinding, drawing, peeling and cold finishing lines for sbq bars.



France,  
Italy

**DANIELI ROTELEC**

Ems and Induction Heating Systems  
/ Since 1977

Danieli Rotelec is a leading company in the manufacture of electromagnetic stirrers for continuous casters and induction bar edge heaters for hot strip mills, offering a unique combination of metallurgical process know-how, and expertise in designing/self-manufacturing of equipments.



Italy

**DANIELI CENTRO COMBUSTION**

Heating systems  
/ Since 1981

Equipment is bespoke to suit the needs of each client and includes cutting-edge technologies which concentrate on environmentally friendly solutions. A well-established network of after sales services guarantees equipment supplied, regardless of different feedstocks; billets, blooms, beam blanks, slabs or pipes, etc.



Italy,  
Thailand

**DANIELI HYDRAULICS**

Industrial Hydraulic and Lubrification Equipment  
/ Since 2008

Thanks to the expertise and know-how gained in the steel industry, Danieli Hydraulics can provide any stage of engineering, production and commissioning process also for other markets, such as oil & gas, mining, paper industry, cement industry, hydro-power, tools machine, marine, etc.



Italy

**DANIELI OLIVOTTO FERRE'**

Heat Treatment Furnaces  
/ Since 1927

With over 800 references, Danieli Olivotto Ferre' is able to supply a wide range of economic and sustainable heating solutions and modern heat treating furnaces covering a whole range of appliances and services for the metals industry.



Italy

**DANIELI BREDA**

Extrusion And Forging Plants  
/ Since 1950

For well over 50 years Danieli Breda has been recognized as one of the world's front-runners in the design, manufacture and supply of machines and integrated plants for processing ferrous and non-ferrous materials in the field of extrusion and forging technology.



Italy

**DANIELI CENTRO CRANES**

Heavy-Duty Cranes  
Since 1958

Design and supply of cranes and lifting systems for the heavy industry and logistics, with dedicated solutions for lifting and handling of materials and equipment in the most severe conditions. Our products are designed to operate where reliability, safety, and cost-effective solutions are a must.

## Danieli Plantmaking / The Team



Italy

### **DANIELI ENVIRONMENT** Ecological and Recovery Systems / Since 1973

A division that specializes in environmental protection, offering a full range of proprietary technologies for air pollution control, water treatment, energy saving, energy recovery, solid waste recovery, and noise reduction.



Italy,  
Thailand

### **DANIELI CONSTRUCTION** Turnkey construction, erection and systems engineering / Since 2003

Danieli Construction International operates worldwide with own handling and transportation equipment and through specialized and trained people covering a full range of services related to Civil and MEIP (Mechanical, Electrical, Instrumentation, Piping) installations for industrial plants.



Italy, Austria,  
China, India,  
Russia,  
USA, Brazil,  
Thailand

### **DANIELI SERVICE** Technical Service and Original Spare Parts / Since 1962

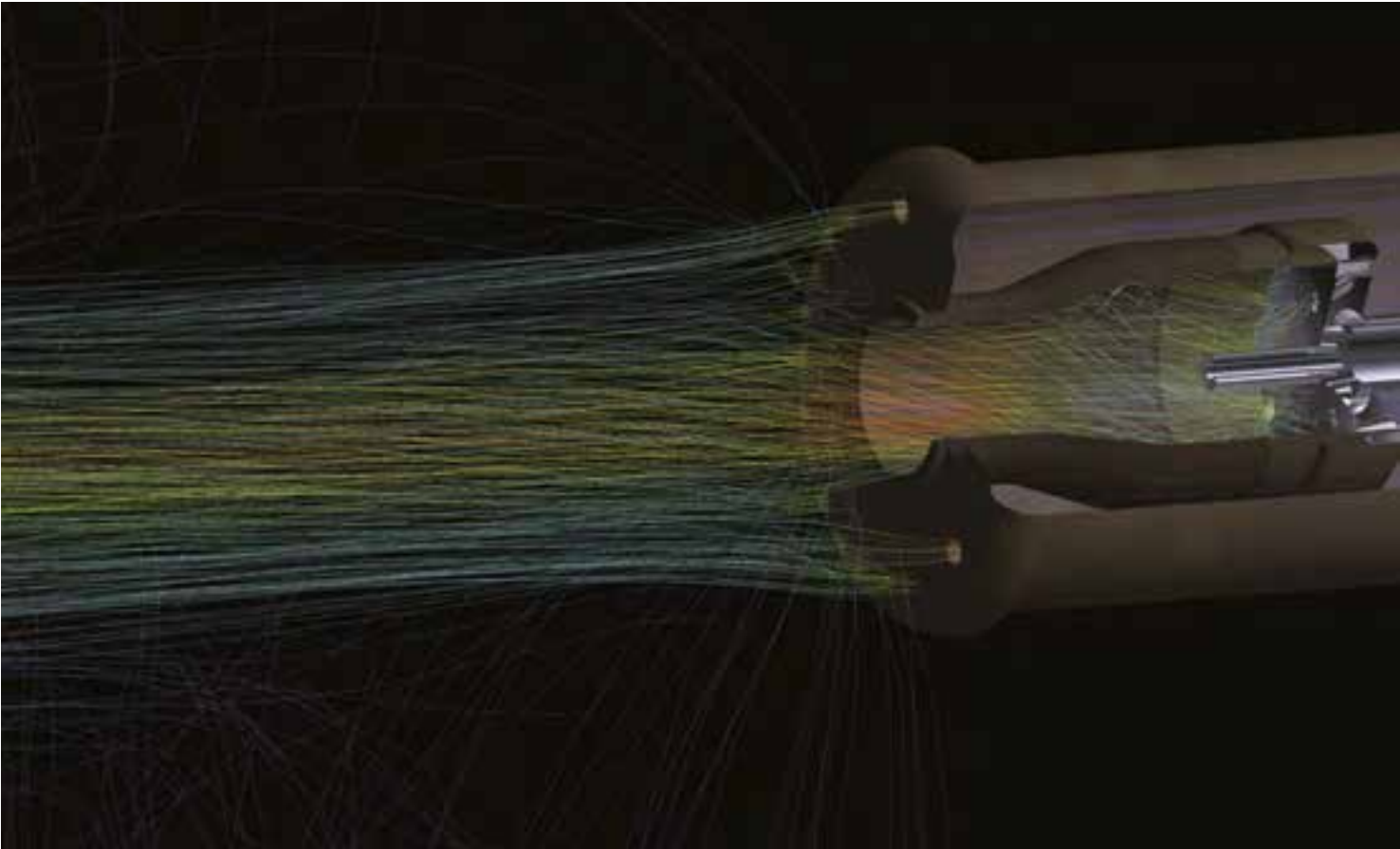
Always close to our partners. Counting on Danieli Service support means becoming more than just a customer: it means becoming a partner in the strategic challenges requested by market developments, so as to be always a step ahead in CapEx and OpEx.











Danieli Research and Development for

# continuous innovation to improve competitiveness

Research and Development projects carried out in the financial year 2015/2016

## **Ironmaking, steelmaking, and continuous casting plants**

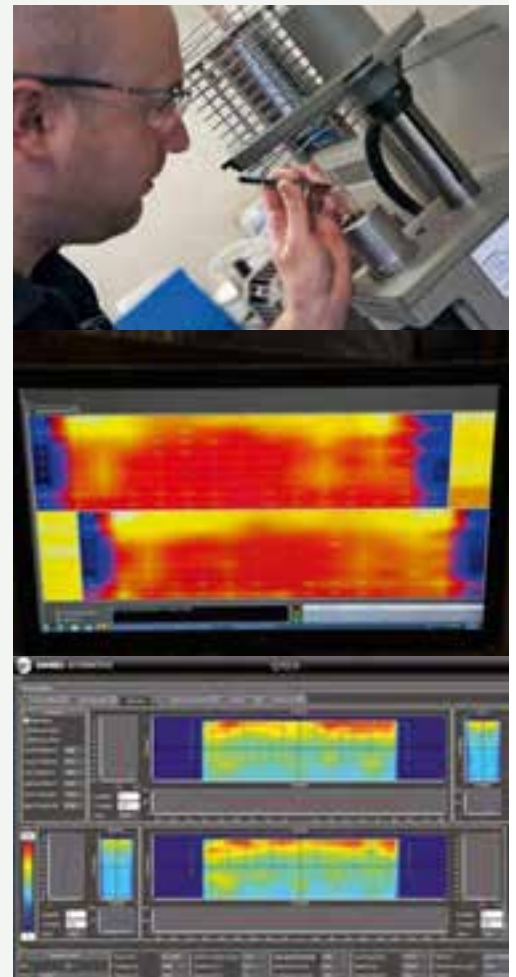
- Development of an innovative charging system for blast furnaces and Direct Reduction reactors.
- First industrial installation of a new temperature monitoring system for the BOF vessel.
- Development a new slag stopper system.
- First industrial installation of the technological package Q-MELT for the automatic control of the EAF process.
- Development and industrial application of an innovative technological package for quality control in secondary metallurgy.
- Tests in progress for increasing the productivity of conicasters, in particular for casting/rolling plants.
- Industrial installation of a robot system in the tundish area, with the target of zero men in the risky areas.
- Development of a new soft reduction system for blooms.
- Development of a new design of thin slab caster copper plates, for improved cooling capacity and funnel shape.
- Development of a new segment rolls, to improve cooling capacity control and extend their service life.

## **Rolling mills for long products**

- Development, design, and testing of wire rod mills for operating speeds higher than 130 mps.
- Completion of the full-scale testing of the first innovative sizing rolling mill for SBQ.
- Development of the fully automatic rolls change of ESS stands.
- Industrial installation of the first in-line heat treatment process for heavy beams.
- Development of an ultra-heavy straightener for large beams.

## **Hot and cold strip mills and processing lines**

- Completed development of the transverse induction heating system for hot strip mills.
- Industrial testing of an improved heat treatment system for strips (run-out table) and plates.
- Ongoing development of a new system for improving productivity and product quality in the zinc pot area of a finishing line.
- Development of an innovative system for increasing productivity and material yield in cold rolling mills.
- New generation pickling lines under development.



## Danieli Research and Development



### Seamless pipe mills

- Development of the FQT-Fine Quality Train technology.
- Development and study of the ICM-Integrated Cross Mill with double sequence rolling (Piercer + Diescher).
- First industrial test of the ATC-Adaptive Thickness Control system.

### Non-ferrous metals

- Innovative system for adaptive modular cooling of extrusions in aluminum extrusion presses.

### Heating systems

- Optimization of the radiant tube combustion system: new heat exchanger to maximize energy recovery from waste gases, to reduce fuel consumption.
- Development of higher efficiency regenerative burners using natural gas, to reduce NOx emissions.
- Study and testing of new generation wet rolls for thin slabs furnaces to reduce gas consumption.

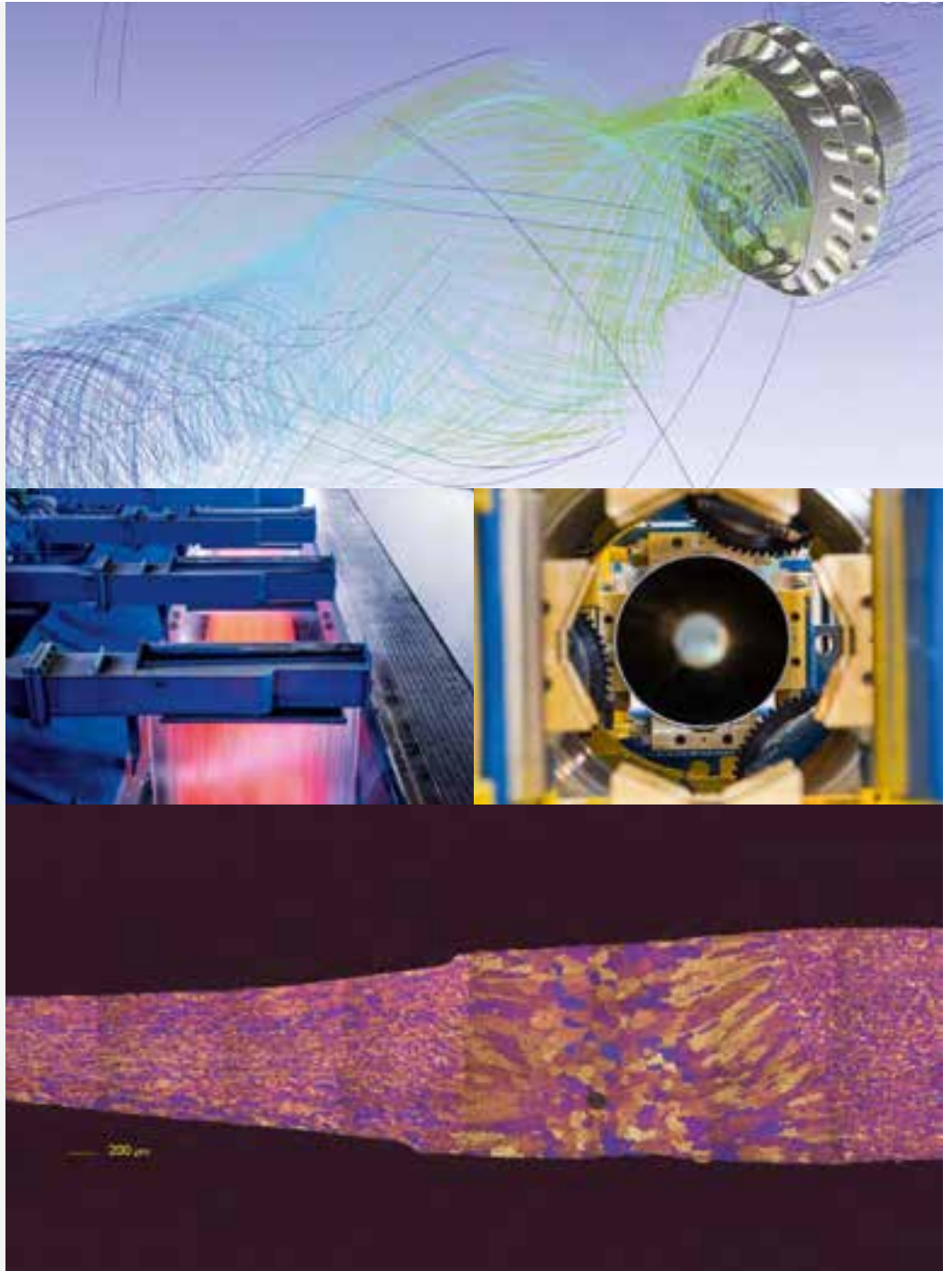
### Automation and Process Control Systems

- Development and industrial application of hot strength forecasting models for the flat product rolling process.
- Updating of the CQE-Coil Quality Estimator for estimating the quality of the strip coil under hot rolling
- First phase of development of the logistic simulation model extended to meltshop and continuous casters for long products.
- QCAST: Completion of the architectural updating of the Q-CORE and Q-COOL packages, and consequent migration to the meshless technology

- QMELT: Completion of the reliability tests for Q-REG 7.0 with a renewed HW and SW architecture guaranteeing performances 50 times higher than the previous versions.
- Completion of the development of the first prototype of laser welding machine for strip processing lines.
- Installation and testing of the Meltmodel for the automatic refining phase.
- Installation and testing of Q-TEMP (continuous temperature measuring probe) for EAF.
- Development of the cooling model and identification of the cooling coefficients for the Direct Quenching system for strip/plate.

- Installation of the first version of the offline CQE-Coil Quality Estimator.
- Development of aluminium rolling models and configuration of Q3Intelligence for aluminium metallurgy knowledge.
- DIGIMET / Q-MPE for DUE: Development of the first part of the layout client configuration. Beginning of the calculation model integration phase.
- Completion of a new simulator for flat product mills virtual commissioning.
- Testing of Q-One technological package, with advice services for the phase balance advanced control.
- Development of AC/DC thyristor converters for Q-ONE and Q-HEAT packages.
- R&D Development of a Medium Frequency system for the EWR billet welding machine.
- INTELLICMS: Machine monitoring and maintenance. Porting onto 3Q platform and re-engineering of the system towards a more economical and modular solution.
- Development of the 2D Meshless Thermal Model for generic shape cross-sections, and development of a 2D cross-section plastic deformation model.

In 2015/2016  
Danieli Group  
invested 35 M  
Euro in direct and  
indirect research  
activities,  
and more than  
150 M Euro in the  
management  
of innovative job  
orders.





Danieli Automation and Process Control Systems from

# process know-how to automated production

Danieli Automation is the Company within the Danieli Group responsible for the transfer of technological know-how from other Danieli technological divisions to end users, supplying the interface between plant process and operator.

Our mission is to provide process automation and control systems for the metals industry, covering the wide spectrum of Danieli Technology, ranging from iron ore to long and flat products. Software algorithm models, computerized quality and production control systems are developed in house and are the means to transfer Danieli process know-how to final users, thanks to the synergistic relationship with Danieli and the technological background shared with the parent Company. This co-operation with the mechanical designers has lead to optimized and standardized solutions, resulting in best performances and quicker plant start-ups.







Seven Danieli worldwide Production Centers to

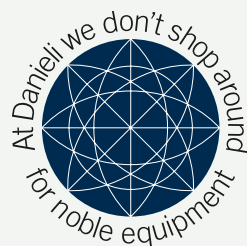
# ensure the same quality everywhere

We built  
all the noble  
equipment  
in our own  
state-of-the-art  
workshops  
in:

**Italy**  
**Russia**  
**India**  
**Thailand**  
**China**  
**Austria**  
**Germany**

## Danieli Quality Philosophy

At Danieli we are aware that know-how reflects not only in technological process and design, but manufacturing capability as well. The fact that we have overall control of our projects from in-house design and manufacturing to on-site start-up and commissioning creates an ideal virtual loop that consistently feeds Danieli's technological knowledge base, resulting in guaranteed quality and reliability. Danieli doesn't want to compromise the quality and reliability levels of the equipment supplied. That's why the new workshops in China and Thailand are completely owned and managed by Danieli, and operate with Danieli manufacturing know-how, to guarantee the same excellent quality we have at the headquarters workshops in Italy, and allow us to claim "Danieli workshops: same quality worldwide". By manufacturing most of the equipment in our own workshops in Italy, Thailand and China we may not have the lowest costs, but we believe this is the best way to guarantee quality.





1



2



3



4



5

## Italy

Danieli  
Headquarters  
Buttrio

Sales, design, manufacturing,  
assembly, project management,  
R&D, after-sales service.



6



7

**1 / Danieli Headquarters**  
Workshop area: 92,000 m<sup>2</sup>;  
Technical and administrative  
offices: 28,000 m<sup>2</sup>.  
Employment: 2,400 engineers.  
Sales, engineering,  
manufacturing, assembly, project  
management,  
R&D, after-sales service.  
Start of operations: 1962.

**2 / Danieli Volga, Russia**  
Workshop area: 10,000 m<sup>2</sup>;  
Technical and administrative  
offices: 1,800 m<sup>2</sup>.  
Employment: 180 engineers.  
Sales, engineering, procurement,  
manufacturing, project  
management, R&D, after-sales  
service, site services. Start of  
operations: 2014.

**3 / Danieli India**  
Workshop area: 41,000 m<sup>2</sup>;  
Technical and administrative  
offices: 2,500 m<sup>2</sup>.  
Employment: 500 engineers.  
Sales, engineering, procurement,  
manufacturing, assembly, project  
management, R&D, after-sales  
service. Start of operations: 2013.

**4 / Danieli Thailand**  
Workshop area: 200,000 m<sup>2</sup>;  
Technical and administrative  
offices: 13,000 m<sup>2</sup>.

Employment: 2,000 engineers.  
Sales, engineering,  
manufacturing, assembly,  
project management, R&D,  
after-sales service.  
Start of operations: 2005.

**5 / Danieli China**  
Workshop area: 90,000 m<sup>2</sup>;  
Technical and administrative  
offices: 15,650 m<sup>2</sup>.  
Employment: 1,300 engineers.  
Sales, design, manufacturing,  
assembly, project management.  
Start of operations: 2007.

**6 / Danieli Austria**  
Workshop area: 6,000 m<sup>2</sup>;  
Technical and administrative  
offices: 1,400 m<sup>2</sup>.  
Employment: 90 engineers.  
Logistics, spare part sales,  
manufacturing, assembly, and  
provision of services all over  
Europe.  
Start of operations: 2008.

**7 / Danieli Fröhring, Germany**  
Workshop area: 2,800 m<sup>2</sup>;  
Technical and administrative  
offices: 1,400 m<sup>2</sup>.  
Employment: 140 engineers.  
Sales, engineering,  
manufacturing, project  
management, after-sales service.  
Start of operations: 2005.



## Russia

Danieli Volga  
Dzerzhinsk,  
Nižnij Novgorod

Sales, engineering, procurement,  
manufacturing, project management,  
R&D, after-sales service, site  
services.



## India

Danieli India  
Sri City,  
Andhra Pradesh

Sales, project management,  
engineering, procurement,  
manufacturing, after-sales services,  
site services.



## Thailand

Danieli Thailand  
Rayong  
Industrial Area

Sales, design, manufacturing,  
assembly, project management,  
R&D, after-sales service.



## China

Danieli China  
Changshu,  
Shanghai

Sales, design, manufacturing,  
assembly, project management,  
after-sales service, site services.





Danieli LSTK capabilities to

# optimize and guarantee CapEx and construction time

**3,000 People**

providing construction services

**1,250 People**

(from 55 countries)  
providing expert advisory services

Nowadays Danieli Engineering proudly represents the world-class reference as General Contractor for the steel industry.

The Danieli turnkey concept truly means single-point responsibility and therefore reliable, optimized, and trouble-free plant implementation and commissioning, in full compliance with budget, schedule, and performances.

Danieli Construction International on-site experiences complete the range of necessary know-how to be successful in the turnkey concept with its skills in complex civil works, engineering and installation of fluid networks and the electrical and mechanical installations of both machinery and plant.

The above turnkey concept as proposed by Danieli is unique and results in certainty of: Project Results, Velocity, and Completeness.





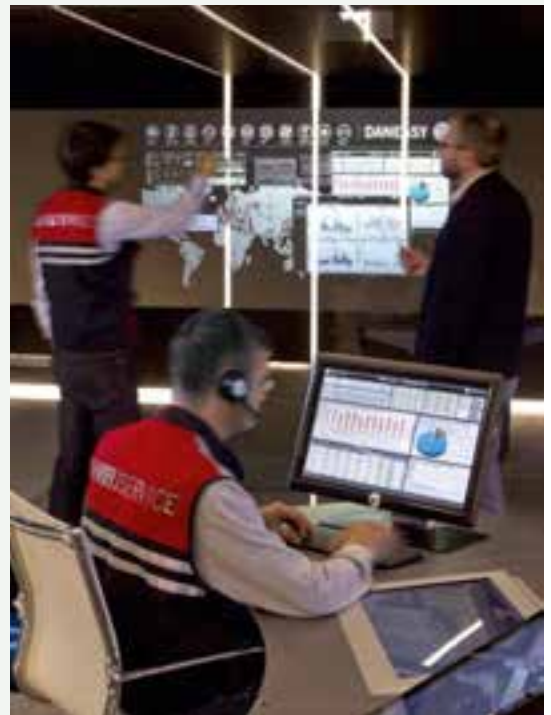


# Danieli Service and Customer Support to be always close to our Partners

65,000  
hours/year

of technical support  
and consultancy  
for productivity  
and quality improvement

Always aiming for best plant performance, Danieli provides after-sale technical support through integrated and quick reaction services, such as production assistance, maintenance and repairs, original spare parts and own brand technological products, training knowledge and expertise sharing, condition monitoring and 24-hour remote assistance via teleservice, automation and electrical maintenance, and troubleshooting. Our products are valuable assets for the production of new steel qualities and products, as well as for new producers joining the steel and non-ferrous metals community.



### **Water pollution and consumption decrease**

Water is a valuable resource, and the market will require continuous improvement to reduce water waste and improve integration of cooling systems for different processes. Water also is the more efficient media for energy recovery methods. On our website, visit the section on softening, demineralization, ultrafiltration, and reverse osmosis to address the future scarcity of water.



### **Air pollution and noise reduction**

More and more restrictive standards on emissions, pollutants, noise -both inside the plant working areas and in the surrounding environment- will be applied for the steelmaking market. This trend requires a reliable partner with knowledge, experience and commitment to ensure operational health, sustainability, and competitiveness. On our website, visit the section on product capabilities to have a view of the full range of proprietary technologies.

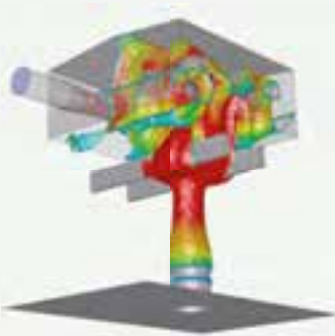


### **Energy saving**

Short- and medium- period trends seek to recover heat losses and improve the efficiency of the processes. It means increasing the competitiveness, to reduce greenhouse gas emissions, to be ready for future challenges. On our website, visit the section on CHR™ to learn about converting thermal energy into electricity.



# Danieli Green Steel Technologies for a sustainable and profitable production



## Environmental Culture

Increased environmental awareness is a cornerstone of sustainable development all over the world, reflected in increasingly stringent regulations and practices that must be respected.

The purpose of the iron and steel industry is to produce, high-quality products at a competitive cost, at the same time respecting, environmental regulations that are becoming more uniform and stringent worldwide by mandating the use of BAT - Best Available Techniques.

Danieli believes that the reduction of the environmental impact of steel production can be accomplished together with the goal of being cost-competitive, as many environmentally friendly process technologies also are cost-friendly.



## Solid waste recovery

Depending upon the circumstances in different countries, by products may have an important influence on the OpEx of steelmaker.

On our website, visit the section Ecogravel® to learn about turning a waste disposal problem into a business opportunity



## Main events of the year

### **Main orders acquired** **Plant startup and commissioning**

- Minimills, ironmaking and steelmaking plants
- Flat product casting, rolling and strip processing lines
- Long product casting and rolling plants
- Seamless and Welded pipe mills
- Extrusion and forging presses
- Inspection, conditioning and cold finishing lines
- Heating systems

## Main orders acquired

— Minimills, ironmaking and steelmaking plants



### Europe

#### **DK Recycling un Roheisen, Germany**

Order for the hearth relining of a Blast Furnace producing over 100 varieties of specialty pig iron and also specific, customized pig iron alloys.

#### **Hüttenwerke Krupp Mannesmann, Germany**

Hot repair of hot blast system for a blast furnace producing up to 2.7 Mtpy.

#### **ArcelorMittal Galati, Romania**

Order on a turnkey basis for the revamping of a BOF cooling stack and the relevant control system to improve the system's safety.

### **Siderurgica Sevillana, Spain**

Order for a Lindarc system to perform real-time measurements of the furnace off-gas atmosphere, tracking CO, CO<sub>2</sub>, H<sub>2</sub>O and off-gas temperature, thereby helping to optimize the overall melting process, and reliably and accurately detect any water leakages.

### **Zaporizhstal, Ukraine**

Order for a new top charging unit for blast furnace No. 3. The vulnerable competing design will be replaced by the reliable hydraulic technology by Danieli Corus.

### **Kroman Celik, Turkey**

Order for a Q-Melt Automatic EAF technology package to dynamically optimize furnace profiles.

### Far East

#### **Taybah Group, Pakistan**

Order for a 500,000 tpy greenfield micromill with MI.DA. technology.

#### **Hoa Phat Steel, Vietnam**

Order for the revamping of a Blast Furnace in order to increase production from 1,700 to 2,000 tons of hot metal per day.



### Europe

**Yildiz Demir Celik, Turkey.** Order for a most modern, 1.5-Mtpy cold mill complex for pickled/cold-rolled/galvanized and annealed/skin-passed coils for high quality applications.

**ArcelorMittal Galati, Romania.** Order for the extensive revamp of a two-strand slab caster, aimed to increase both slab surface and internal quality for LC, MC, peritectic, microalloyed, and silicon steel grades.

### Far East

**SGJT, China.** Order for a 2.1-Mtpy casting/rolling facility for high value-added products based on the DUE® Danieli Universal Endless concept; the way to the future in thin slab casting and rolling.

**Hoa Sen Group, Vietnam.** Order for a 180,000-tpy hot-dip galvanizing line for high-quality paint and roofing products

**TVP Steel, Vietnam.** Order for a hot-dip galvanizing line to produce up to 190,000 tpy of aluminum and zinc and GI coated coils.

**Ton Dong A, Vietnam.** Order for a 400,000-tpy double-stand cold reversing mill and a hot-dip galvanizing line, with optimized CapEx and OpEx over the total performance life of the plant, to be added to a Danieli cold reversing mill installed in 2014.

**Southwest Aluminium Group, China.** Order for a complete high-speed (90 mpm) cut-to-length and finishing line for aluminum strip with maximum yield strength of 400 MPa, ranging in thickness from 0.3 to 4.0 mm.

**Hoa Phat Steel Sheet, Vietnam.** Order for a 400,000-tpy cold mill complex comprising a push-pull pickling line, two reversible cold mill stands, and two hot dip galvanizing lines.

**JSW Steel, India.** Order for a 200,000-tpy cold mill complex for tinplate and TFS, comprising a Double Cold Reduction Mill, coil prep. Line, an electrolytic tinning line, and two cut-to-length lines.

**Ton Dong A, Vietnam.** Order for a 350,000-tpy hot dip galvanizing line for GL coated strip and thin low-carbon strip. It is the third repeated order in four years for cold mill and strip processing equipment.

- Long product casting and rolling plants.
- Seamless pipe mills

Main orders acquired



### Americas

**Cascade Steel, USA.** Order for a 150-tph Perfect Bundling system. 50% time saving is expected on bundle preparation for downstream processing.

### Africa and Middle East

**Intermetal, Tunisia.** Order for a 400,000-tpy wire rod line to be added to the Danieli bar mill supplied in 2001.

### Europe

**Çemtas Çelik, Turkey.** Order for the revamping of a 50-tph walking-hearth reheating furnace and a new heat treatment complex for bars.

**ZSMK Novokuznetsk, Russia.** After the revamping of the 8-strand caster completed in October 2015, capable of producing over 320 tph of billets, Danieli will carry out the conversion of a 2-strand slab caster into a 12-strand billet caster.

**Hüttenwerke Krupp Mannesmann, Germany.** Order for the revamping of a round bloom caster for engineering steels with the installation of Eco Power Mould, Hy-Power mould oscillator, M-EMS, secondary cooling, and a Hi-inspect system for in-line measurement of the surface quality.

**Vallourec Mannesmann, Germany.** Order for a three-roll Cross Rolling Mill to be used to elongate the pierced hollows. This unique machine will make it possible to further expand the already wide production range, both for tube size and material quality, and to achieve improved geometrical tolerances and lean productivity cycles.

**SN Longos, Portugal.** Repeated order for a Spooler line for heat-treated rebars up to 25 mm, in coils weighing up to 2.8 tons.

**SAM Riva Montereaux, France.** Order for two HSS-High Speed Shears for head and tail trimming of wire rod at speeds of up to 130 mps.

**AcelorMittal Differdange, Luxembourg.** Order for a straightener with 2,500-cm<sup>3</sup> modulus; the largest straightener ever built to treat jumbo beams and columns made of high-strength steel grades with up to 1,138-mm web width, up to 476-mm flange height, up to 140-mm flange thickness and up to 1,377-kg/m linear weight, intended for extreme engineering projects.

### Far East

**Tokyo Steel, Japan.** Order for a five-strand high-tech billet and bloom concaster to be added to the 420-ton DC Electric Arc Furnace shop.

**NFC, India.** Successful in-house acceptance test of a Quarto-type Cold Pilger Mill specifically developed to roll tubes and bars made of zirconium and stainless steels for nuclear applications.

**Tsingshan Stainless Steel Group, China.** Order for an 80-mps H3 wire rod line for stainless steel products; the third rolling line for stainless steels supplied to the world's largest stainless steel producer in the latest five years.

**JSW Salem, India.** Order for a 3-strand bloom caster; the fourth caster for long products supplied to the JSW Group, following the bloom caster at Salem, and the two billet casters at the Vijayanagar and Dolvi Works.

**Vietnam-Japan Steel, Vietnam.** Order for an Endless Casting and Rolling plant to produce up to 350,000 tpy of rebars with the lower CapEx and OpEx typical of a MI.DA. micromill.

**Shandong Xiwang SS, China.** Order for a two-strand concaster for jumbo round blooms of 600, 700, and 800 mm, to produce up to 450,000-tpy of high alloyed steel grades.

**Fuco Steel, Vietnam.** Order for a 600,000-tpy wire rod mill for rebars, wire rod and small sections.

**Melwire Rolling, Sri Lanka.** Order for a 250,000-tpy rolling mill for rebars from 8 to 40 mm dia.



- Extrusion and forging presses
- Inspection, conditioning and cold finishing lines

Main orders acquired



### Americas

**Lift, USA.** Order for a 12-MN extrusion press capable of simulating different extrusion process conditions for a research project aimed at developing advanced lightweight manufacturing technologies.

**Indalum, Mexico.** Order for a complete extrusion plant equipped with a 3,100 UST front-loading press.

### Europe

**Indinvest, Italy.** Order for a 28-MN extrusion press for aluminum sections, equipped with the ESED-Energy Saving Electrical Drive (patented) solution.

**Trafilix, Italy.** Order for a chain-track drawing machine for high-speed drawing of stainless bars and special sections.

**Nisva, Italy.** Order for a 6-ton chain-track drawing machine for high-speed drawing of top-quality special engineering steel bars.

**Extrugasa, Spain.** Order for a 45-MN extrusion press -the largest press in operation in Spain- equipped with ESED technology for the production of sections for heavy industrial applications.

### Far East

**Jiangyin Xingcheng, China.** Order for a state-of-the-art conditioning plant for specialty engineering steel billets featuring the Hi-Grind and Hi-Corner technological packages for very stringent roughness requirements. The full-skin ground billets will feed a Danieli bar and wire rod mill.

**YXSS, China.** Order for a grinding plant for special steel billets (including 200-, 300-, 400-series stainless steels and special high-temperature and anticorrosion alloyed steels).

## Plant startup and commissioning

— Minimills, ironmaking and steelmaking plants



### Americas

**Aperam, Brazil.** Record-time (17 days) startup and commissioning for an 80-ton BOF converter.

**Villares Metals, Brazil.** Successful startup and commissioning and early acceptance of a 28-ton EAF for special and carbon steels.

### Africa and Middle East

**Ezz Steel, Egypt.** Record-time startup in less than one month for a 2.0 Mtpy Energiron Direct Reduction Plant, with excellent results in terms of energy consumption and material yield.

**Aceria de Angola, Angola.** Startup of a 300,000 tpy NanoMill for the production of structural steel.

**Mass Global Investment, Iraq.** Startup of a 600,000 tpy minimill for the production of structural steel.

**Tosyali Holding, Algeria.** Startup of a 4,000-HP scrap shredder that soon raised the number of heats per day from 27 to 31.

**EZDK, Egypt.** Successful startup of an Ecogravel plant for treating up to 350 tph of black and white slag.

**Abu Hashima, Egypt.** Startup and commissioning of a Mi.Da. micromill for the production of 830,000-tpy of rebars.

**Arcosteel, Egypt.** Conclusion of a revamping project for a 0.35-Mtpy meltshop for special steels.

**AGSI, UAE.** Startup of a 350,000-tpy Nano meltshop for billet production.

### Far East

**Jigang Group, China.** Commissioning of a sublance-based converter process control system; the fifth installation in the same BOF shop since 2002.

**Seah Besteel, Korea.** Successful upgrading of a fume dedusting plant for two 100-ton EAFs.

### Europe

**ABS, Italy.** Successful startup of a fume filtering system based on activated carbon, to control dioxin emissions.

**DK Recycling & Roheisen, Germany.** Completion of the hearth relining project for a 580-m<sup>3</sup> blast furnace producing over 100 varieties of specialty pig iron.

**HKM, Germany.** Completion of hot repair of the hot blast stoves of the “B” blast furnace, which operates with a hot blast flow of 315 Nm<sup>3</sup>/hr at a temperature of 1,320 °C.



**Americas**

**Gerdau Ouro Branco, Brazil.** Commissioning of a hot skin-pass mill to process up to 830,000 tpy of HR strip to suppress yield point and improve strip flatness and coil shape.

**Sural, Canada.** Final acceptance of the minimill for aluminum rod in soft and hard alloys. Extremely accurate tolerance rod diameters up to 32 mm will be packaged in compact coils of up to 3.5 ton.

**Steel Dynamics, USA.** Order for a double coat continuous coating line featuring the patented single slide coating machines and the Clean Air System for high quality coated steel coils produced by minimizing the operation cost and the environmental impact of the line.

**AK Steel, USA.** Commissioning of a Q-ROPO continuous roll polishing device for skin-pass rolling of high value-added stainless steel strip. Further to the improved product surface quality, the system will lead to up 1.5% productivity increase.

**Europe**

**ArcelorMittal Industeel, Belgium.** Successful startup of a slab caster for specialty steels for the production of heavy plates of up to 20 tons, geared to the needs of boiler and pressure vessel manufacturers. The plant produces the thickest (355 mm) austenitic steel slab ever cast.

**LMZ - Russia.** Successful commissioning of an innovative color-coating and printing line for high-value-added products for the finishing of façade and interior of buildings.

**Atakas, Turkey.** Quick and successful startup of a continuous pickling line, cold rolling mill and hot dip galvanizing line making part of a 1.2-Mtpy cold mill complex also including a second cold rolling mill and a color-coating line. In a second phase, the complex will also incorporate an electrolytic cleaning line, a batch annealing line, and a temper mill.

**Kumz, Russia.** Final acceptance of a six-high single-stand Diamond mill for aluminum sheet up to 2,800 mm wide for aerospace applications, in thicknesses from 8 down to 0.2 mm.

**Plansee, Austria.** Startup of the world's largest cold rolling mill for molybdenum (and tungsten, tantalum, and niobium). The finished material can be rolled up into 11-m long by 950 mm wide coils, in thicknesses as small as 0.15 mm, with a tolerance of less than 3 µm.

**Far East**

**Chinalco Shenyang, China.** Successful commissioning of a special plate/Steckel mill for a wide product mix including stainless steels (AISI 304 to 316) and titanium, nickel, and copper alloys.

**SAIL Bokaro, India.** Commissioning of a 3.95-Mtpy hot strip mill extensively revamped and upgraded to increase productivity (up to 4.5 Mtpy) and product quality.

**Ansteel, China.** Final Acceptance of a revamped tandem cold mill, with excellent performances achieved in terms of strip thickness and flatness tolerances.

**Shandong Weiqiao Aluminium, China.** Final acceptance of the first of two high-speed (up to 1,500 mpm) edge trimming lines for aluminum strip of 1xxx, 3xxx, 5xxx, and 8xxx series.

**Yieh Phui, China.** Final acceptance of one of the most modern continuous pickling lines coupled with a five 6-high stands cold rolling mill for high-quality strip products.

**Nela, China.** Final acceptance of an 85-MN stretcher for aluminum plates of the 1xxx to 8xxx series for aerospace, marine, and commercial transportation applications.

**Benxi, China.** Successful startup of two thick slab casters revamped with the installation of Q-Level and Q-Art technological packages to improve quality in producing steel for exposed automobile sheets.

- Long product casting and rolling plants
- Seamless pipe mills

Plant startup  
and commissioning



### Americas

**Gerdau Metaldom, Dominican Republic.** Successful technical assistance project to restart a bar mill. As a result, more than 98% of the total annual planned production was achieved in the first eight months' operation.

### Africa and Middle East

**Wempco, Nigeria.** Final acceptance of a 300,000-tpy wire rod mill, the most modern facility of this type in the Country.

**JESCO, Saudi Arabia.** Commissioning of an innovative hydrotester for seamless pipes designed to process up to 150,000-tpy of pipes with OD ranging from 4.5 to 16 in.

### Europe

**Kar-demir, Turkey.** Commissioning of the new finishing services for small sections, successfully achieving a significant reduction in the plant's OpEx.

**BMZ, Belarus.** Startup of 1.0-Mtpy rolling mill for special steel wire rod, bars and coiled bars, complete with inspection and conditioning services for billets and bars, and a complete line of heat treatment services.

**Abinsk, Russia.** End of commissioning and final acceptance of a 150-tph H3 high-speed wire rod mill.

**SN Longos Seixal, Portugal.** Final acceptance of a second spooler line for supercompact 3.5-ton coils of rebars.

### Far East

**Dongkuk Steel, Korea.** Hot startup of a spooler line producing 3.5-ton coils at a speed of 37.8 mps.

**JNIL, India.** Startup of a 400,000-tpy rolling mill for SBQ heavy bars and sections, making part of a complete Danieli miminill.

**Abul Khair Steel, Bangladesh** Successful completion of a rolling mill revamping project that resulted in a 122% increase in productivity and a 20% increase in efficiency. The project also included the installation of the world's first 5x8 mm rebar slitting process.

- Extrusion and forging presses
- Inspection, conditioning and cold finishing lines
- Heating systems

Plant startup  
and commissioning



### Americas

**Southern Tube, USA.** Startup of a tempering furnace for a seamless pipe mill, equipped with ultra-low NOx burners. The 18.5-tph furnace will uniformly reheat pipes of up to 250 mm OD with a maximum temperature-differential of 5°C across the entire pipe length.

### Europe

**Outokumpu, Sweden.** Successful startup of a modern grinding machine for slabs installed and commissioned in two weeks, thanks to the absence of the need for civil works execution and to the machine workshop preassembly.

**Aluminia, France.** Startup of a 23-MN T-WIN extrusion press. With the T-WIN concept the press performance is improved by over 30%, and energy consumption is significantly reduced.

**Foma, Italy.** Successful commissioning of a DEC+DED-Danieli Eccentricity Control+Detection system for improving material yield on drawn copper tubes by reducing eccentricity of 5-6%.

**Ruspolimet, Russia.** Startup of a 35-MN integrated forging complex -the second supplied by Danieli in two years- to process ingots of up to 12 tons in a wide range of carbon and stainless steels, nickel-based and titanium-based alloys for advanced applications.

**BMZ, Belarus.** Startup of the off-line heat treatment area for a 700,000-tpy Danieli bar and wire rod mill for special engineering steels. The facility comprises four batch furnaces for soft/spheroidizing annealing, two for wire rod coils and two for bars, and one furnace for continuous isothermal annealing (and normalizing, if needed) of bars.

**AMT, Russia.** Startup of a 10-MN cylinder-stroke forging press.

### Far East

**Baosteel Shanghai, China.** Final acceptance of an innovative grinding plant for hot slabs, featuring Supergrinders with 630-kW main unit and 200-kW lateral grinder, and Intelligrind DDS automatic defect detection system.

**Jindal South West, India.** Final acceptance of a Walking Beam Furnace for the Danieli 1.4-Mtpy high-speed, high-productivity rebar mill.

**Jindal Shadeed, Oman.** Final acceptance of a 245-tph Walking Beam Furnace for the Danieli high-speed, high-productivity rebar mill.

Aluminium plate being rolled on a high-tech hot rolling mill at AMAG, Austria. The compact mill (less than 20,000-mm distance between the two mandrels) is capable of rolling both plate (120,000 tpy) and coiled products (280,000 tpy) at a maximum rolling speed of 300 mpm in the coiling mode. The mill concentrates the best technology to roll all the aluminium alloys, including 1xxx, 3xxx, 5xxx and 7xxx series. Moreover, AMAG's product mix includes specialty products such as clad products and tread-plate. The performance tests achieved all the quality performance figures, over and above the contractual requirements.



Fata EPC, part of Danieli Group since October 2015, implemented two thermal electric power generation plants that will provide over 1 GW to the South Africa's national grid. The large-scale project is the first ever in the country to be owned by an independent power producer (IPP). The first of the two plants ("Dedisa", 342-MW station) successfully satisfied all the acceptance requirements and achieved the Commercial Operation Date (COD) in September 2015, while the second, 685-MW plant "Avon"- became fully operational in July 2016.







Roughing mill stands in operation at Europe's most technologically advanced wire rod and bar-in-coil line at voestalpine Wire Rod Austria GmbH, in St. Peter-Freienstein.

The ultra-modern H<sup>3</sup> rolling mill to produce special steel coils has been conceived with an extremely high degree of flexibility for process routes (12 different route combinations, according to different steel grades/product sizes). The target for Danieli is to deliver special steel mills of this kind to perform quick changing operations within 4-5 minutes from last rolled billet to the next one, with the first bar rolled immediately in metallurgical and dimensional quality.





The minimill in operation at Sural Quebec, Canada, has a production capacity of 60,000 tpy of aluminium rods in soft and hard alloys for electrical conductors and critical elements used in the automotive and aerospace sectors. Rod diameters up to 32 mm are produced with extremely accurate tolerances (up to  $\pm 0.15$  mm), with 50% ovality, in compact coils of up to 3.5 tons. This endless compact solution (melting, holding, and coticasting of liquid aluminum, rolling and heat-treating of coils), combined with a high level of automation, ensures a saving of up to 20% on transformation costs, giving Sural the most competitive position in the NAFTA region.





Twin-stand Steckel mill producing up to 600,000 tpy of strip, with minimum thickness of 1.4 mm, and with superior coil quality uniformity (head/body/tail). The great flexibility of the Steckel mill process along with its compact layout and lower investment cost per ton has made this technology a success story. This rolling concept is still successful, and indeed unbeatable when compared to alternative processes for small volumes over a wide spectrum of steel and non-ferrous material grades. Besides strip production, rolling in Steckel mode is still the only way to produce light plates as wide as 3,500 mm.





In ABS Luna Plant a new hardening and tempering line has been commissioned and the production started in March 2016. The plant, manufactured by Danieli, improves the product and process quality, since there is no scale formation and surface decarburization. The max heating temperature is 950 °C with an induction frequency range of 2-8 kHz. The round bar diameter range is from 20 mm to 120 mm. In terms of energy, the in-line immediate temperature control is immediate and thus it reduces the energy consumption. The Danieli Automation induction heating system is foreseen also of an independent water treatment plant for in-line cooling.



Danieli  
The tradition  
of innovation  
since 1813  
Steelmaking  
Division





## Danieli Steelmaking Division



In October 2015, ABS inaugurated the Rotoforgia plant, an innovative mill that completes the ABS' "Marte Project" that started in 2013 with the installation of the new Reversible mill 800, and continued in 2014 with the new Blooming mill 1000. Through an innovative production process, the Rotoforgia product combines the features of the rolling and the forging process. The final product guarantees the same internal soundness as forged material with the same size tolerance as rolled bars. The dimensional range of products covers rounds bars between 400-500 mm and square blooms between 320-480 mm with the aim to extend to bigger dimension in the future.

### ABS Production and sale of special steels

With its wide range of products (ingots, blooms, rolled bars, bars in coil and bright bars) in terms of both dimension and quality, Acciaierie Bertoli Safau once again, confirms its position as one of the most important player of special steels market. The value of ABS steels is granted by the incessant product and process innovation, which goes along with its long tradition and experience. ABS is now able to satisfy every customer request, even those with the most stringent requirements. ABS is supplier for several demanding sector, in particular: automotive; oil and gas; wind energy; railways; yellow goods.

### Steelmaking Division Structure

<b>ABS Acciaierie Bertoli Safau Spa</b>	Steelmaking Plant (Udine, Italy)
<b>ABS Sisak doo</b>	Steelmaking Plant (Sisak, Croatia)
<b>Qualisteel Srl</b>	Cold Finished Bars Production Unit
<b>ABS Centre Métallurgique Sarl</b>	Research & Development Centre
<b>ABS Deutschland</b>	Sales Agency
<b>ABS Scandinavia</b>	Sales Agency
<b>ABS Services</b>	Special Steel Trading

### Steelmaking Division Executive Board

**CARLA DE COLLE**  
*President*

**ALESSANDRO TRIVILLIN**  
*CEO*

**FEDERICO BUIATTI**  
*Procurement Director*

**MICHELE MAGISTRETTI**  
*Scrap Procurement Director*

**ANDREA CHITTARO**  
*Quality Director*

**GLADYS CODARINI**  
*Controlling Director*

**MIRTA FIOR**  
*Logistics and Planning Director*

**GIUSEPPE GIACOMINI**  
*Production Director*

**ALESSIO MAURINI**  
*HR Director*

**STEFANO SCOLARI**  
*Sales Director*

**MARCELLO STOPPA**  
*Plant Director*



In May 2016, a new Danieli Olivotto Ferrè heat treatment plant has been installed with the aim of improving the processes of reheating, normalization, and stabilization of both rolled bars and cast products. It consists of six fixed charging bases in refractory material, two reheating cells and two controlled cooling cells; a semi-automatic crane moves the cells.

At full capacity, it will treat approx. 6,000 tons per month and will be characterized by high flexibility and extremely low methane gas consumption (20% less if compared to a traditional furnace). Concerning the quality, the plant obtained the certification according to the AMS 2750 standard and it guarantees a high thermal treatment uniformity.



In January 2016 a powdered activated carbon injection system was installed upstream the 500,000 m<sup>3</sup>/h fumes treatment plant. This system ensures a reduction of dioxins levels according to the European Directive 2010/75/EU Best Available Technologies (B.A.T.) due to the combination of the powdered carbon with the furnace fumes, which

creates a coating around the filter bags where the absorption mechanism takes place. The powdered activated carbon is stored in a silo of about 50 m<sup>3</sup> which ensures a sufficient volume of product for three to five weeks of production.

## Steelmaking Division Companies

### Sales and operating results

In thousands of euro	June 30, 2016	June 30, 2015
Net revenues	621,297	726,275
Gross operating margin (EBITDA)	62,183	70,532
Depreciation, amortization, and write-downs	(42,921)	(43,618)
Operating income	19,262	26,914
Net financial income/(charges)	(1,787)	(585)
Profit before tax	17,475	26,329
Income taxes	(5,765)	(9,605)
Net profit	11,710	16,724
Segment assets	980,269	1,024,702
Increase in investments in tangible and intangible assets	78,251	162,000
Segment liabilities	409,048	470,090

### ACCIAIERIE BERTOLI SAFAU SPA (ABS)

#### ITALY

In 2015/2016 ABS had operating revenues of 603.1 million euro (678.6 million euro in 2014/2015), with a net profit of 12.7 million euro (profit of 19.9 million euro in the previous year). In 2015/2016, the steel market followed a see-saw pattern, with expanding phases followed by periods of contraction: this had negative impacts on the company's sales relative to 2014/2015, when the market had exhibited good stability.

The important investment programme, involving a total of 360 million euro and approved by ABS, is ongoing; it is directed at innovation in production processes, thanks to the improvement of existing plants and to the construction of new ones it will enable the company to manufacture the products required by the special steels market during the next 15 years.

In the last years, ABS achieved several goals, among these: the revamping of the MCC3, the revamping of the "Blooming 1000" that with the start-up of the Rotoforgia complete the implementation of the Marte Line. The Rotoforgia is a new concept developed and designed within Danieli, first of its kind in the world and on which ABS has made significant investments. With the Rotoforgia plant, ABS can now produce a unique product that represents the union and the evolution of the two classic hot deformation techniques for special long steels: rolling and forging.

Partly thanks to the last investments, ABS specialised its production into higher value sectors confirming its strategy, oriented at manufacturing high quality finished products in a varied product mix. The extraordinary wide product mix, let ABS maintain an increasing level of production, focusing it in relation to the unexpected market trends and taking advantages of the opportunities linked to a specific sector.



### ABS SISAK

#### CROATIA

The company was not able to work in a constant manner in fiscal year 2015/2016 because of the market situation, not yet stabilised, and the operating loss was thus generally affected by the non-continuous production. Nowadays, the production mill is not working and our goal is to start again in the second half of the next fiscal year, within February 2017. In the new year the company will pursue continuous improvement both in terms of product quality and of cost reduction and higher process efficiency.



Right page: a new crane for ingot handling, operating in the pit furnaces area of the plant, was installed.

The crane is designed according to FEM Standard in A8/M6 classes, with a maximum capacity of 25 t at the tong and 46 t at the auxiliary hook.

It features a three-girder bridge for the travelling of two independent trolleys on the main ones and a separate one with the cabin on the side. Based on the latest technology, the automation system is managed via PLC, whose supervision is carried out with two operator panels installed in the cab and in the electrical room.

## QUALISTEEL SRL

### ITALY

Qualisteel S.r.l. operated in the period performing cold finishing activities on ABS products, completing their verticalisation: both rolled bars and polished bars were worked where profitability is higher. For the year 2015/2016, the company's revenues amounted to 7.6 million euro, compared to 11.0 million euro in 2014/2015, substantially breaking even at June 30, 2016. During the year, the company has continued its work in order to reduce lead times with a lean manufacturing approach in order to increase productive efficiency. The implementation of a new peeling production line will improve both Qualisteel's production capacity and the customers' satisfaction, guaranteeing the highest flexibility, thanks to a better material flow and an innovative quality control.

Moreover, a great deal of effort has been invested to emphasize the importance of sustainability, reducing the cost of disposal and production through advanced internal processes.

## ABS CENTRE METALLURGIQUE (ACM) SAS

### FRANCE

ACM operates as a centre of excellence in the study of steel production covering the entire operating chain (from the raw material to final product or part). 18 engineers and specialists develop the research activities through approximately a portfolio of twenty projects launched to improve the performance of product quality through innovation of steel processing or innovation of steel chemistry.

In order to follow the new approaches of ABS and in particular the innovating quality concept, ACM reorganized also during the financial year its team in

order to be able to follow the increasing demand of innovation monitoring strongly the ability for changes and flexibility. ACM starts to operate also as a centre of studies for other materials providing on the market a new offer and giving the possibility to ABS's customers to characterise their entire material portfolio.

During the financial year, the company continued to pursue the joint projects mainly focused on numerical models of the production devices of ABS Italy with "Ecole Arts et Métiers Paristech" of Metz (mechanical engineering specialisation school). During the financial year, two additional projects for the development of high performance steel were launched with new ABS's partners.

## ABS SALES OFFICES

### ABS DEUTSCHLAND

### ABS SCANDINAVIA

### ABS IBÉRICA

### ABS SERVICES

ABS has three main Sales Offices in the domestic market and they are all based in the most consuming Italian regions (Milano, Brescia, Udine). ABS wants to enlarge every day the customers portfolio and satisfy all existent customers' needs. In order to pursue this strategy, ABS decided to strengthen its presence in the most important markets and countries, being closer to its customers. This is the reason why, in March, ABS inaugurated the new sales office in Spain, ABS Ibérica (Bilbao, Spain), improving ABS's presence in Europe by joining ABS Deutschland (Ratingen, Germany), ABS Services (Aalen, Germany) and ABS Scandinavia (Örebro, Sweden).





## Quality and Service

During the fiscal year, as usual, all the Quality Departments were committed to Product Development for the most demanding applications (i.e. crankshaft, parts of wind generation system, pinions, etc.). A consistent effort was focused on the improvement of the production processes. In particular, ABS started a series of projects aimed to perfect steel cleanliness at different steps of the production line.

Moreover, this year ABS maintained or renewed these certifications:

— UNI ISO/TS 16949 and UNI EN ISO 9001 for Quality Management System.

— CE Marking according to the Construction Products Regulation 305/2011/UE (EN 10025-1) American Bureau of Shipping, Bureau Veritas, Det Norske Veritas and Lloyd's Register approvals for marine applications- CE according to EN 10025-1:2004.

— TÜV approval according to the Pressure Equipment Directive 97/23/EC and AD2000 Merkblatt W0.

The Service and Logistics Departments worked together with the Sales and the Quality Department to improve their performance. In particular, the most important projects carried out concern the control of internal steel product transports in ABS and the transport loading Slot Management. In the first one, the Logistics Department and the IT worked intensively to ideate a software able to geolocate ABS's internal WIP and Finish Products transportation, in order to optimize WIP lead time and Customer Promise. The second one aimed to automate the loading truck's scheduling, optimizing the outbound flow process through control and reduction of loading times.

## Safety figures



During the last fiscal year ABS improved Frequency rate (I.F.) and Severity rate (I.G.) achieving the best all time result in ABS' history. These two rates have decreased considerably, with injuries being less frequent and less severe compared to the previous year. The Frequency rate was 6,64 (from 12,98) and the Severity rate 0,22 (from 0,38). Moreover, ABS safety data are better than average rates of other companies in national steel industry. It is also important to highlight that thanks to the measures taken in the last years, regarding workers' behaviour, their attention to procedures and the use of DPI, our workers' efforts in Marte Dept. have been rewarded with more than a year without any injuries or accidents (385 days at 30/06/2016). In the same period, each Department achieved a decrease in comparison to the results of the previous year.

## Training & Information

In 2015/16 ABS organised 9.100 hours of Safety Training (mandatory and not) for more than 1200 workers. These courses regarded forklift trucks and machinery, overhead travelling cranes, DPIs, Fire prevention, First Aid etc. The total amount of hours reduced compared to the last year and this is thanks to all the efforts previously done in terms of training and safety. The appreciable number of hours and people involved testifies ABS's investment in know-how and Safety behaviour, together with the responsibility to comply with the law. Furthermore, once the training activities finished, the new fire prevention team, composed of 153 persons, has been proclaimed. Finally, the project "Alcohol & Workplace" was implemented to verify the absence of alcohol dependence and use of psychotropic substances and drugs.

BS OHSAS 18001:

In January 2013, IGQ granted ABS with the Occupational Health and Safety Management System Certification in compliance with British Standards BS OHSAS. In December 2015 the last audit took place by IGQ, an accurate analysis of the Risk Assessment Document was carried out with a positive result and no warning or N.C. emerged. The next audit is planned for December 2016.

**Sustainability: willing to go beyond**

During fiscal year 2015/16 ABS's proactive approach with regards to sustainability has continued, together with investments aimed to manage the environmental component through the Best Available Technologies, to enhance the health and safety of workers and to improve ABS employees' welfare.

In addition to this, ABS started a path towards the consolidation and enhancement of the principles and logics of sustainability, promoting its core values.

Several training sessions have been carried out to spread the sustainability principles, firstly directed to the management and in a second moment to all the employees. In order to achieve the desired results a road map has been created considering the contribution of the different stakeholders. Among the most relevant activities in the road map, there are:

— “Progetto Ordine e Pulizia” (Italian for “Order and Cleanliness Project”) has been further developed, covering a significant part of the production lines, and has led to remarkable results by being applied in a systematic and proactive way.

— For the first year, the Ideathon event was introduced, an idea contest targeted at university students and graduates who wish to put their abilities to the test by solving an important corporate problem in a teamwork competition.

— A triennial collaboration with CONI and Friuli Venezia Giulia was started, and it aims to teach a healthy lifestyle to primary school children through a project called “Movimento in 3S, promozione della SALUTE nelle SCUOLE attraverso lo SPORT” (Italian for “Movement in 3 Ss, HEALTH promotion in SCHOOLS through SPORTS”). The initiative covers around 40% of the whole population of primary school students of Friuli Venezia Giulia, more than 15,000 children.

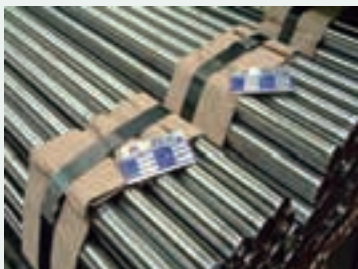
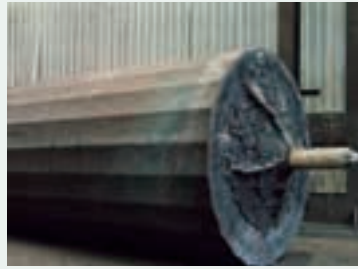


**In 2015/16 ABS's proactive approach with regards to sustainability has continued, together with investments aimed to manage the environmental**

**component through the Best Available Technologies, to enhance the health and safety of workers and to improve ABS employees' welfare.**



A wide range of special steels products



**Product mix**

- Ingots up to 130 t

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- Forged bars up to 1,000 mm

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- Blooms up to 850 mm

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- Rolled bars up to 500 mm

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- Bar in coils up to 60 mm

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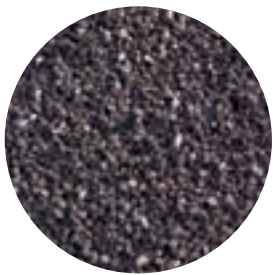
- Peeled bars up to 300 mm

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- Reeled bars up to 200 mm

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- Ground bars up to 160 mm



**Ecogavel®**

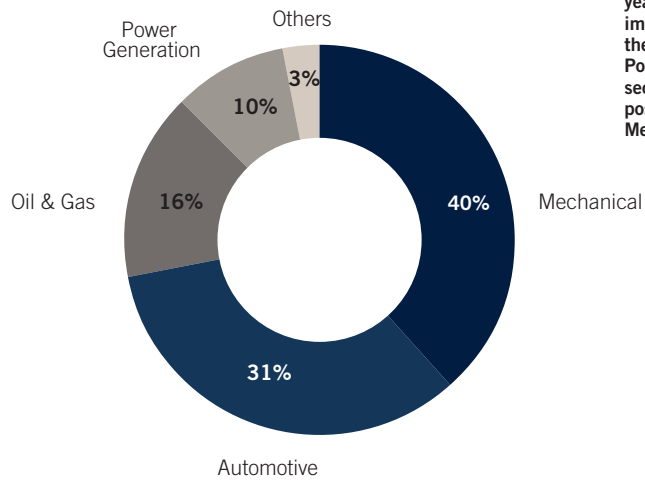
industrial aggregate from EAF slag recovery, for bituminous conglomerates, cement mixes, and concrete.

**Surface finish**

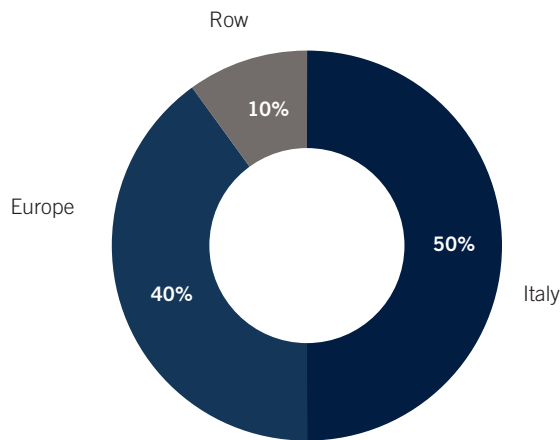
As-cast, As-rolled, Shot-blasted, Rough-forged, Peeled-reeled, Rough-turned, Ground

**Heat treatments**

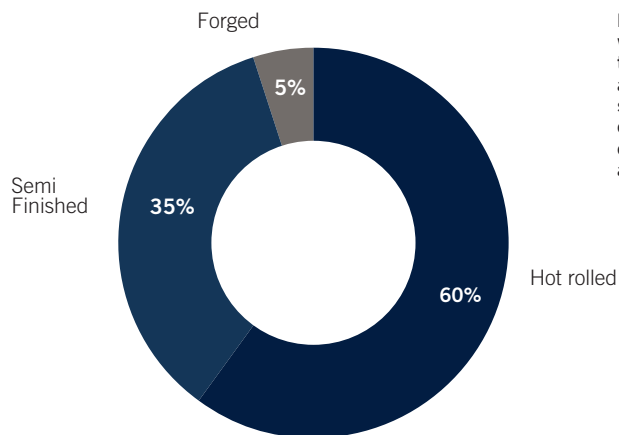
Shearability annealing  
Soft annealing  
Isothermal annealing  
Spheroidizing annealing  
Normalizing  
Hardening and tempering



**End Use.** During the last year ABS has strongly improved the shipments for the Automotive (+11%) and Power generation (+23%) sectors and consolidated its position on the Oil&Gas and Mechanical market (+4%).



**Geographical Area.** ABS confirms both its good position on the domestic market (+12% vs. 2014) and its traditional export activity recording 50% of total deliveries. The significant decrease of Oil&Gas consumption had a negative effect on the export to the North American region.



**Products.** The overall volumes delivered during the fiscal year 2015/2016 and produced in the Udine steelmaking plant increase of 6%, with an important rise of hot-rolled products (+5%) and semi-finished.

## Danieli Group History



Danieli's origins date to 1914 when Mario and Timo Danieli founded the Angelini Steelworks in Brescia, Italy, one of the first companies to use the electric arc furnace for steel making.

In 1929 part of the steelworks was transferred to Buttrio to manufacture tools for forging plants and auxiliary machines for rolling mills.

In 1955, lead by Luigi Danieli, the company started designing and manufacturing equipment for the steel industry. His idea was to manufacture more competitive equipment, simplify layouts and maximize the use of automation.

One of the concepts developed, the "EAF/Conticaster-Rolling mill" production route, has characterized and contributed to the successful development of the minimill process, which is widely adopted today.

Since then, through the acquisition of German (Josef Fröhling), Swedish (Morgårdshammar), British (Davy Distington), French (Rotelec), American (Wean Industries, United Engineering), and Dutch (Corus Technical Services) companies, leaders in their specific fields of activity, and the continuous development of the acquired process technologies and equipment, Danieli has become a global player in plant making over the full range of products from ore, scrap and treating; to flat, long, tubular, forged and extruded products processing; and fume, water and slag treating. Beginning in 1969, through Danieli Automation, the company has developed its own automation systems, including instrumentation and power control technologies.

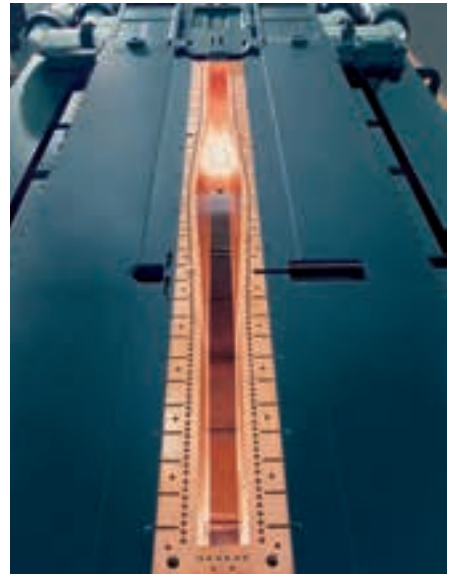
In 2005 the company started a transformation program and expanded into developing countries by establishing fully owned and directly managed design and production centers, guaranteeing the same excellent quality equipment and service produced at Danieli Headquarters in Italy.

In the early 90s Danieli acquired a local steelmaking company, ABS, which today is a European leader in engineering steels.

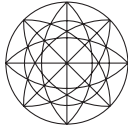
## Danieli Group Milestones

The Danieli Team is a multinational collection of companies that have helped shape the history -not to mention the progress- of metals production. On the right page there are some of the technological milestones Danieli implemented through continuous investments in innovation, together with high-quality in-house manufacturing, our own process automation, construction, project management and customer service. These are the basis of Danieli strategy that allows us to maintain our leadership and expand our market share in plantmaking in the coming years. Please visit our website for the complete list of our contribution to the history of the metals producing industry.





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**DANIELI**

DANIELI TEAM

A CENTURY OF PARTNERSHIP  
EXPERIENCE

ITALY GERMANY SWEDEN AUSTRIA  
FRANCE THE NETHERLANDS UK  
SPAIN RUSSIA TURKEY USA BRAZIL  
THAILAND INDIA CHINA JAPAN

