WITHOUT compromise

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Fassi Gru international magazine with information and updates

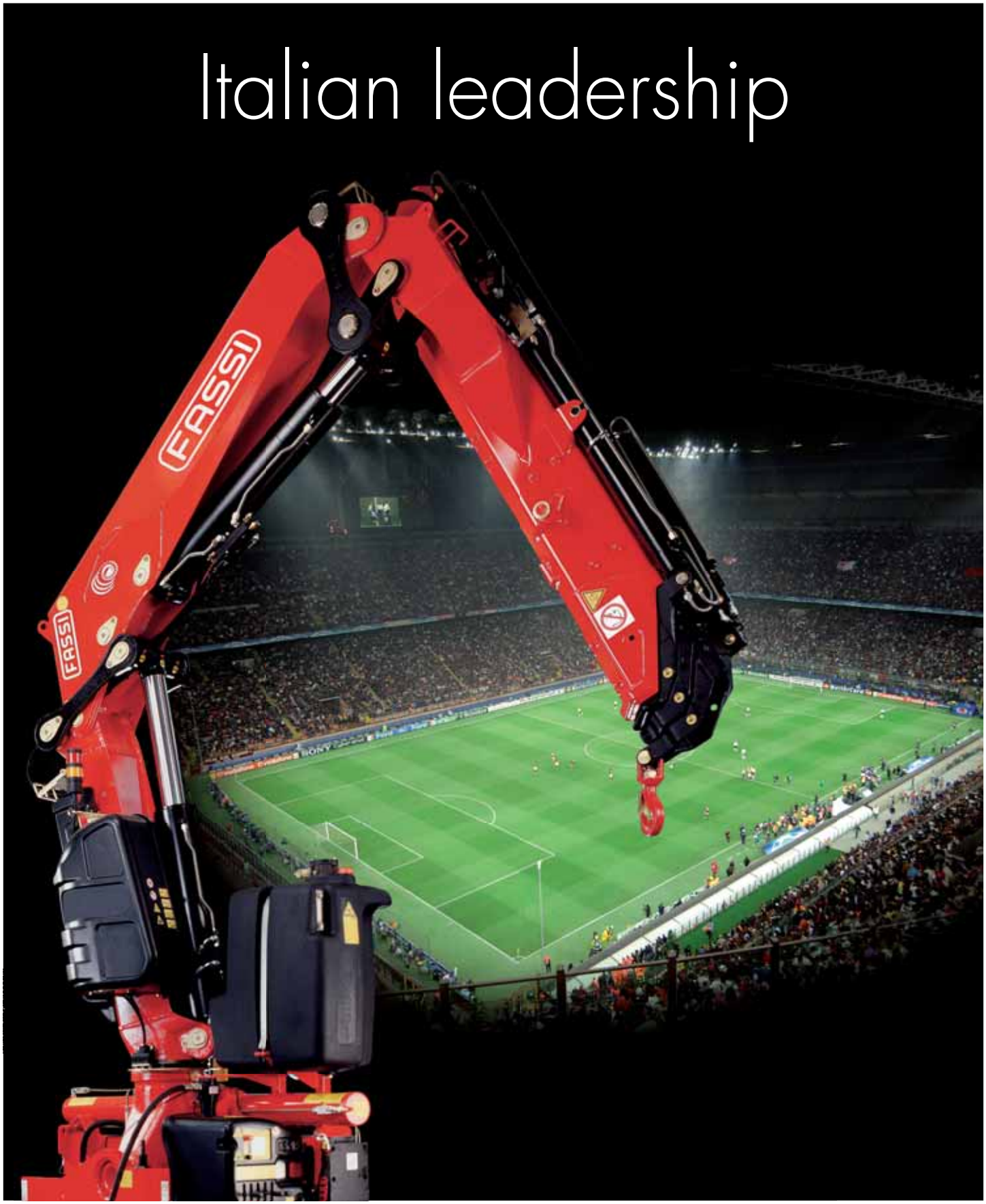
LEADER IN AUTOMATION
A trip through Fassi production to understand what gives them this leadership in automation

F50A TESTED IN THE UNITED KINGDOM'S TRAFFIC RESTRICTED ZONES

A SUMMARY OF STATE-OF-THE-ART TECHNOLOGY IN A MEDIUM SIZED CRANE: F310AXP

FASSI
CRANES WITHOUT COMPROMISE

Italian leadership



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In this edition

Without Compromise dedicates this edition to automation of manufacturing processes, a choice that in just a few years has caused Fassi to experience unprecedented world-wide growth in the cranes sector.

Fassi's 14 factories operate using advanced, flexible systems to fabricate the individual crane components, to assemble them and check the final quality of the product. Fassi has been able to become a leader in process automation thanks to important investments that are worthy of being known in greater depth, above all because they translate into concrete advantages for Fassi crane users.

On the pages of this edition of Without Compromise we will also be noting the importance of the international co-operation that has gone into increasing this commitment. Investments, choices and synergism that have been rewarded by the market, witness the "figures" that highlight Fassi's development during recent years.

There will also be the usual appointments dealing with "on site" work by crane users. The editorial staff of Without Compromise has been to Germany and London to document two situations that are a good illustration of how lifting activities have evolved in two contexts that differ considerably, but have important points of contact. The experience described shows us that working with cranes must increasingly take into account evolutions in specific market sectors, for example building construction, and the needs connected with a growing attention for the environment in town centres.

Automation and investments: the winning cards for the international challenge

The reasons behind Fassi's growth: quick response to changes in the market, making the highest levels of quality a standard feature, applying technological progress to cranes in a coherent manner.

An increase of 80% in projects over three years, implemented through a program that will bring production capacity up to around 11,000 cranes a year. All this, within a company system that now comprises 14 factories. These are just a few of the figures that provide a picture of Fassi's development, a growth that is unique in this sector. To understand the reason for this success we asked Giovanni Fassi to explain how the investments made in recent years have translated into such important results.

"If Fassi can be seen today as having gained a leading role in terms of investment and growth in its sector, this is mainly due to the ability to understand in advance and interpret market expectations, creating an organisation that is capable of meeting today's challenges. Those who choose a Fassi crane know they can count on a product whose quality is the fruit of decisions that form part of our company identity and that distinguish us on the market. In order to achieve these goals we have invested considerable resources in a technology program centred around automation. We have increased our manufacturing centres to 14, all within Italy, an original decision when compared to the current dynamics imposed by globalisation, in which there is a tendency to transfer production to Countries in which the cost of labour is lower. We are convinced that state-of-the-art automation, co-ordinated and controlled by highly specialised personnel, means that it is possible to create a high quality product, which is the best for our cranes both in terms of quality and competitivity".

Giovanni Fassi also underlines the company's commitment to R&D, and the excellent results achieved.

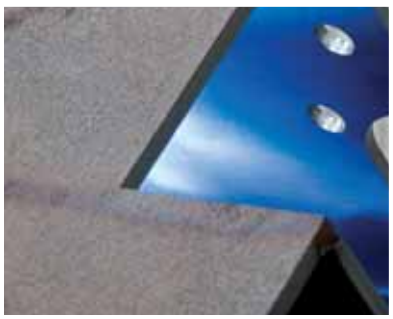
"I want to stress that at the present time we are putting over 8% of our resources into research and development. We have completed ten new projects per year for the last five years. Because of this we have been able to compete with world leaders, and keep well abreast of our longstanding Austrian and Swedish competitors.

Some people might ask themselves: why have our competitors not achieved the same levels of growth? The answer is that you have to put the needs of the company before those of the shareholders in order to move quickly from funding programs to an increase in production cycles.

This has been anything but easy for us. It has taken years of hard work and some pretty brave decisions, that were not always immediately understood by all. Bear in mind that it was necessary to achieve high levels of quality on the whole range





of cranes, while still remaining competitive. From this point of view as well, automation is decisive for us. Our factories operate using certain plants that have been designed specifically for Fassi, all perfected to suit our special manufacturing process. Without development of automation in our factories, along the whole manufacturing line, it would not be possible to offer the market exactly the cranes the users are looking for.

The things that make us leaders in technology applied to manufacturing processes are visible to everybody and we are glad to make them known, thanks also to specific encounters with operators in this sector, as well as through documentation dedicated to the work carried out in our factories. Not without reason we take an enthusiastic part in operations such as the Red Kilometre, the international science park that has recently been created just outside Bergamo, only a few kilometres from our head office.

Here we are involved directly in the new frontiers of mechanics, mechatronics and process automation. We are open to an exchange of ideas and experiences, we have nothing to hide, because we have made choices that qualify our company and give it a positive image on the market. A way of thinking and working that has taken us from the 50,000 cranes in total put onto the market up until 1996 to the over 100,000 of today."

LEADER IN AUTOMATION

The innovative Fassi cranes are born in our highly automated factories

One of the key concepts that has characterised Fassi Gru's view of industrial strategy in recent years has been that of creating a system made up of highly automated individual realities, specialising in different products. In short, it has created a sort of "crane district" in which automation of production plants is a constant to make the Fassi Group more competitive, capable to offer a form of "made in Italy" that is technologically advanced and capable of competing on the international scene. Automation has thus been the option that has enabled Fassi Gru to respond to the industrial challenges imposed by globalisation, allowing the entire development of the crane product to take place in Italy.

A direction in which it is possible to read some of the main reasons that have pushed the Company towards automation, that is to say research into constantly high standards of quality, recovery of productivity and orientation towards a "mass customization" approach. Furthermore, evolutions in technology in recent years have allowed an improvement in performance, making purchase of a Fassi crane increasingly advantageous. Adopting and implementing this philosophy has helped free up energy and manufacturing resources, and achieve the basic targets to compete on the market.

Fassi Automation Processes

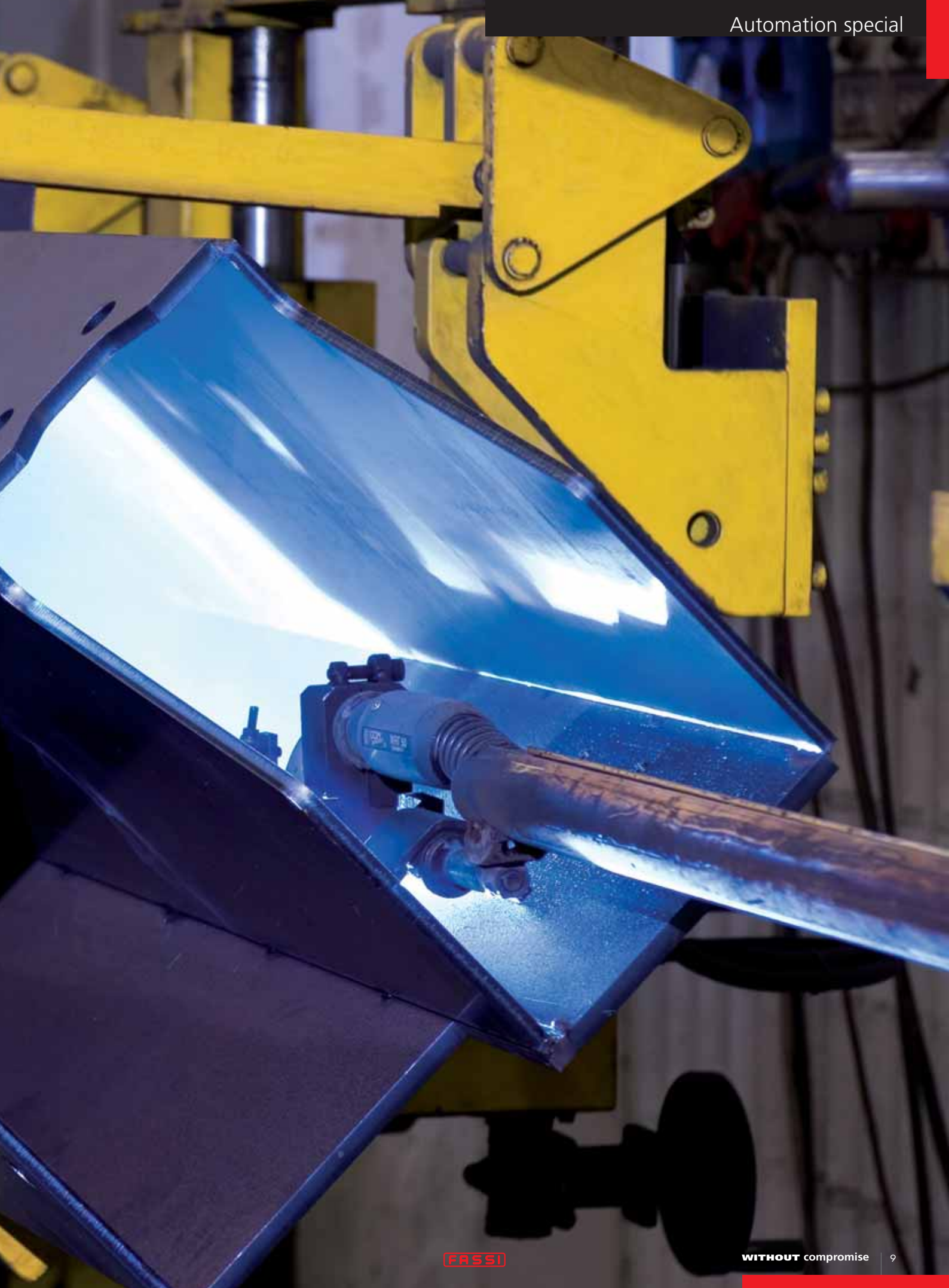
A model of manufacturing efficiency at Campagnola (RE), showing the automation applied in Fassi industrial units.

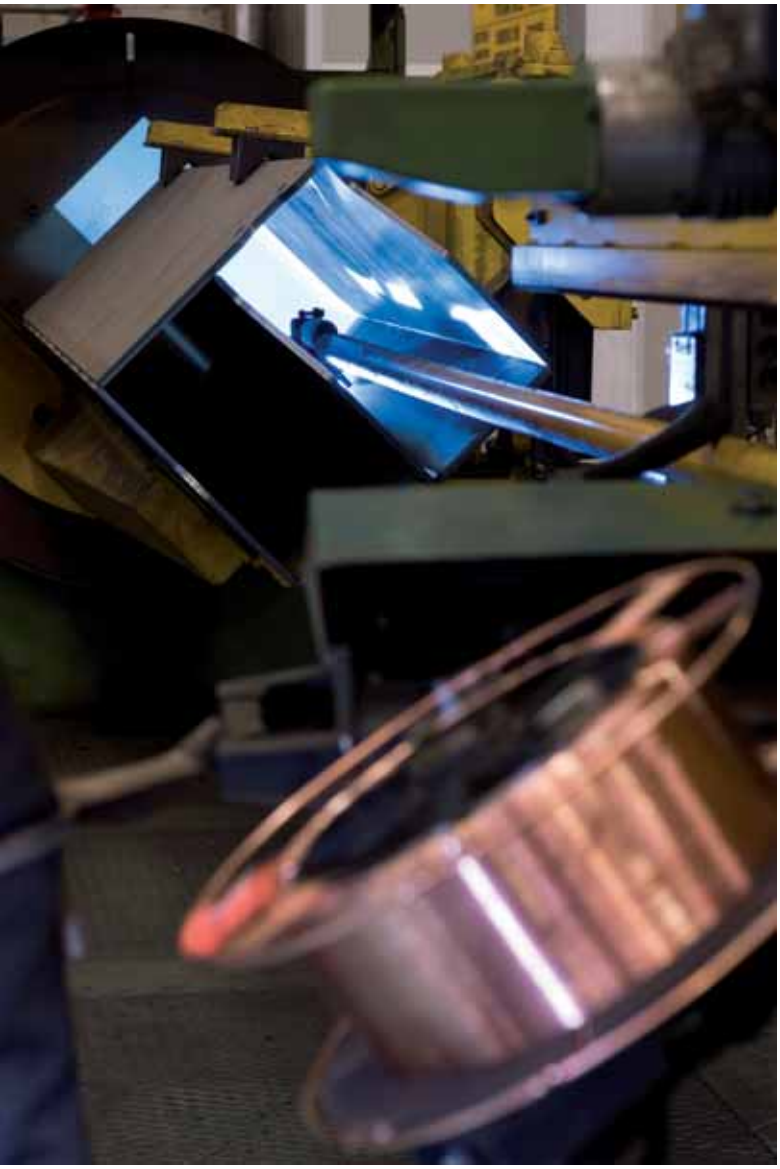
Fassi's plant in the province of Reggio Emilia can be considered a model of manufacturing efficiency. This unit, which boasts almost forty years experience in special carpentry work, produces some important elements that go to form the cranes: extending booms, crossbars and outrigger supports. Some figures for this manufacturing unit give an idea of its operation: 70 employees, over 8,000 tons of steel and 130 tons of welding wire are used every year to fabricate more than 60,000 items, which are sent to the other Fassi plants in Albino (Bergamo) where the cranes are made up. Here they perform cutting, bending, milling, boring and above all welding operations. Activities that occupy this manufacturing unit, combining the experience of professional staff with the use of state-of-the-art technology: robots and dual robots to weld crossbars and supports, interfaced with automatic islands for longitudinal weldings, which work above all on box beam structure and are capable of carrying out even the most complex internal weldings.

These processes enhance the quality of the raw materials employed, high-resistance steel, featuring particularly high levels of resilience.

For several years now, process optimisation has meant that this factory also deals with painting and pre-assembly. All the plant operating here is the result of an engineering project born within Fassi itself.

Development of automation in this unit started with initial innovations in 1995, when welding of hexagonal profiles was handed over to robots. Since then, evolution has been continuous, thanks also to the Fassi research team's commitment to perfecting the





plants. One of the most interesting results was obtaining and putting into the production line a welding machine that features a special "welding joint follower", which dialogues continually with the control system so as to drive the moving axes during the process. During welding the machine is able to "read" any deformities, even tiny ones, and make the necessary corrections. From the initial prototype to the present day, projects for extremely advanced machines have been drawn up, such as the one that performs longitudinal weldings without initial spot-welding. This technology works with a double wire, in a welding process known as "Twin-arc". One for penetration and one for filling, to guarantee the best and most reliable joining of parts, without altering the mechanical characteristics of the materials used thanks to the fact that the thermal level is kept low. Equally interesting is the work carried out by the internal longitudinal welding machines, equipped with a mechanical arm that enters the beam and box members and welds them along their whole length. Also innovative is the work island with two robots operating in synch: one moves the pieces, for example positioning the extensions, and the other welds them. All the welds carried out involve monitoring of each operation on the piece, so that they can be identified using traceability procedures.

Flexible Machine System

The robot-controlled plant in the manufacturing unit at Nembro (Bergamo) is one of the most advanced expressions of Fassi Gru flexibility.

The robot controlled "Flexible Machine System" installed recently in Fassi's factory in Nembro, just outside Bergamo, is an example of a welding plant interfaced directly with an automatic warehouse to move and manage the pallets carrying the pieces to be welded to the machine, and then removing them after welding to continue the crane production cycle.

Fassi's automation choices are aimed at making the plants more versatile, in harmony with the company's philosophy: to produce according to the customers' indications. The FMS plant is able to manage as many as 77 pallets, each one containing different crane parts, for dimensions and type, in a fully automatic

manner; it takes the form of a system over 50 metres in length with seven working islands, of which four (the two at each end) are fully robot controlled. In practice the plant operates like an intelligent mechanism that can be programmed entirely by computer, allowing Fassi technicians to decide quite freely which pieces to weld each time, according to the job specifications. With the Flexible Machine System, welding operations evolve from the typical standardised process, in which it was necessary to proceed in batches of similar pieces, to become a much more versatile procedure in which the operator decides "just in time" what to weld, and how, while maintaining complete control of all the operations, which can also be managed in programmable cycles for individual pieces. Once the pallets have been positioned in the loading area, the system is able to proceed with welding according to the set working time, operating in a fully independent manner for several hours, or even throughout the night. Once the operations to be carried out in the plant have been programmed in the computer based on production needs and priorities, the arms of the mega-robot select

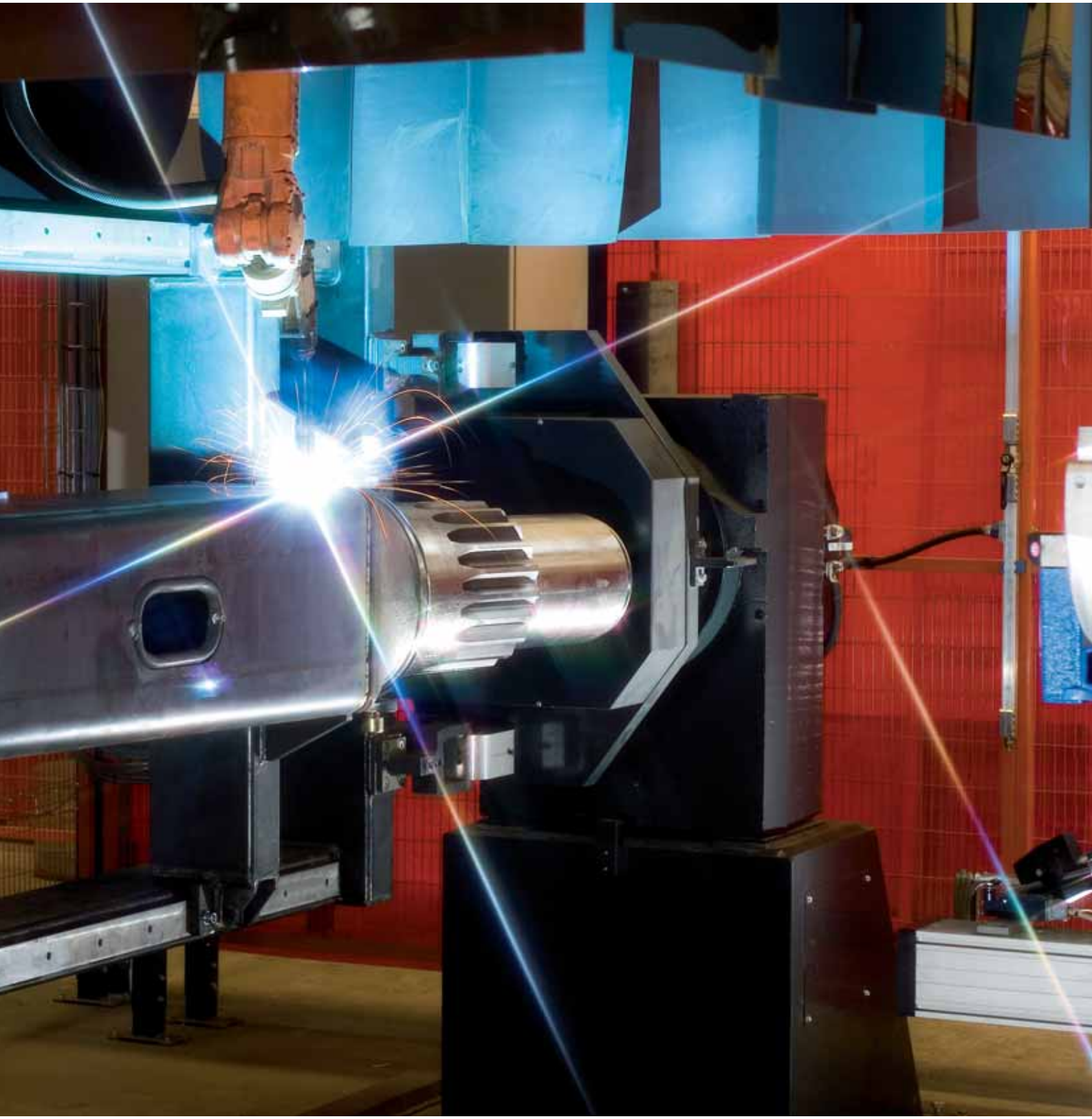
Automated factories that allow "just in time" production: these are the new Fassi welding departments.

and pick up from the pallets the materials required, and weld them with millimetric precision. An additional advantage is the fact that the machine does not have to be constantly monitored: whereas prior to this method the welding system had to receive input from the operator for each pallet to be processed, with the innovative FMS system the operator can simply decide what the machine has to do, according to the priorities dictated by orders in progress, and the system will go ahead automatically and do it on each of the pallets.

Every day it is possible to produce totally different pieces. The advantage is that only needed parts are produced, and as a result there is an overall improvement in process dynamics along the whole production line.

A step forward as regards warehouse management as well, if you consider that with traditional methods operations were organised in batches of pallets ordered on a monthly basis. But the reasons for this investment go beyond the need for manufacturing flexibility, and involve the commitment to quality and safety at work. Welding is in fact one of the most delicate and stressful manufacturing processes in the world of mechanical industry. The FMS system installed in Fassi's Nembro plant operates in a fully automatic manner during the welding phases.

Fassi gives priority to automation of its plants so as to create high-quality cranes, each one different from the next and designed to meet the specific needs of customers.



Less weight, lower consumption, better performance

To create lighter, higher performance cranes, Fassi research has developed new boundaries in the application of high-resistance steel, in combination with the reliability of casting operations.

Activities in the international "Kilometro Rosso" science park, located just outside Bergamo, form a reference point for research in the fields of mechanics and mechatronics. It is significant that the Red Kilometre is the headquarters for presentation of the most advanced research into high-resistance steel in the fields of transport and movement. Fassi and SSAB Swedish Steel, a Swedish company that carries out groundbreaking research into high-resistance steel, have been working together for years to create cranes using steel that is capable of providing extremely high resistance and greater physical and structural cohesion, obtained using a special thermomechanical process capable of ensuring performance levels that are unique to this sector.

The co-operation between Fassi and SSAB has resulted in careful verification of the numerous advantages offered by these steels in terms of reliability and resistance to stress, always bearing in mind that steel is an element of fundamental importance in a crane.

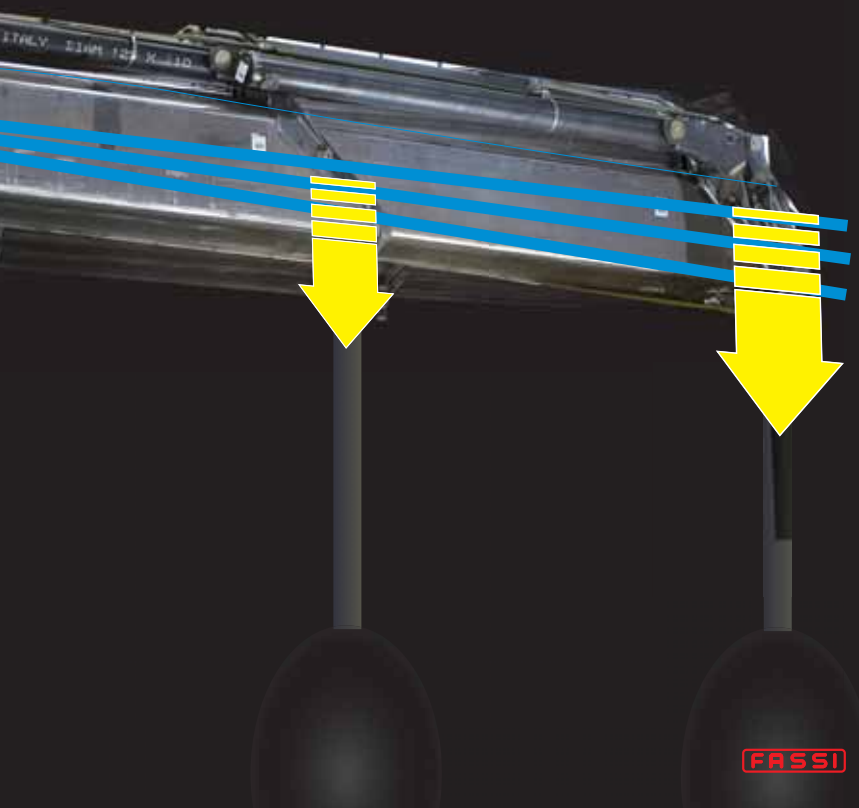
Equally important is the question of weight, as the crane represents a tare weight for the industrial vehicle, and its incidence must therefore be as restricted as possible. From this point of view also the high-resistance steels used by Fassi make the difference.

Compared to a normal carbon steel, these high-resistance steels allow a reduction in the weight of the crane, giving real advantages in terms of loading capacity for the vehicle, along with fuel savings. The micro-bonded steels with extremely high elastic limits guarantee excellent resistance to structural yield and permanent deformation, as they are able to return to their original dimensions once the load is removed. Their resilience and resistance to yield make them ideal for use in cranes. For the Fassi research team, high-resistance steels are the present-day technical and application challenge for lifting. Thanks to new generations steels it is possible to create lighter products giving advantages that will remain throughout the product's working life, in particular in the case of a crane, exposed to constant strain and extreme stress. Fassi has been one step ahead of the needs of users, who are now asking for increasingly light-weight cranes. The weight has a great commercial value, and is no longer a negligible factor. An essential quality factor is that high-resistance steels allow optimum cutting and welding during all phases of the process, combined with the most advanced plant automation and robotization projects. It can be said that high-resistance steel is a material that is synergetic with process automation. This is proved by the Fassi manufacturing cycle, in which robotization is now an integral part of the cycle, with continuously monitored welding parameters to increase process reliability even in what were traditionally the most "sensitive" points. A time for reflection and to stimulate new ideals on use of latest generation steels relates to the possibility of creating even very large cranes with considerably restricted weights, while at the same time ensuring levels of working reliability that are unknown to those dealing with less innovative manufacturing technology.

The reliability of steel and cast iron casting

Among the choices that are most characteristic of the Fassi manufacturing cycle is the combined use of high-resistance steel and steel and iron casting for bases and columns. These castings have par-

ticularly high mechanical characteristics, comparable with those of high elasticity metal plate. The experience matured at Fassi in this sector has been essential in discriminating and giving an objective valuation of the methods used by the supplier: from casting procedures to forming, to the various finishing operations, all the way to heat treatments and laboratory controls. Fassi has identified the ideal casting parameters for bases and columns. The professionalism and care used to protect the quality of all pieces even goes as far as to "approve" each casting operation, applying a particularly extensive and severe test program that starts from the prototypes. These are subjected to special tests (magnetic particles, penetrating fluids, ultrasounds, X-rays) and geometric/dimensional tests in search of possible internal and surface faults. The control activities are carried out both at the foundries and in the Fassi factories. Each casting operation is only approved if it complies with all the specifications. This scrupulous care is justified by the decision to give priority to base and column casting, to obtain pieces capable of withstanding the stress to be borne by the crane during its working life in the best possible manner. Not without reason, in over forty years of industrial activity, and with ever-growing numbers in terms of cranes produced, the cases in which Fassi bases and columns have given problems during operation are extremely few. This all helps confirm another point that distinguishes Fassi products: they are among the most long-lived cranes, and most of the over 100,000 cranes produced are still in activity.



Fassi research and development aim untiringly at creating a mechanical structure that weighs less and performs better. Fassi cranes are built using the best high-resistance steel in the world, thanks to which they have various advantages. Lower weight: this makes it possible to increase the load in the truck, or to fit a more powerful crane, and at the same time save energy for the crane and for the truck.

Better performance: more power, resistance and reliability.

More advanced, environmentally friendly processes

Fassi cranes are protected with ecological paints, applied using a robot-controlled manufacturing process.

Paintwork takes on the task of providing "active" protection, and must be considered a sensitive component in manufacturing dynamics. Aware of this fact, Fassi pays particular attention to the painting phases, and makes constant investments to update its systems. To do this, it co-operates with BASF Coatings, the most important chemical group at world level in terms of research. BASF pursues a policy of experimentation and evolution in painting, aimed at creating products of extremely high quality and low environmental impact.

At Fassi the choice of painting cycle has been perfected using ecological paints that are ideal for application using robot-controlled systems.

As regards the paints themselves, the choice of adopting products that contain no heavy metals (such as lead, chrome and molybdenum) is particularly interesting. To this must be added the decision, implemented several years ago, to give preference to paints with a low solvent content. Recently, there has also been a transition to painting systems that use water-soluble epoxy coat, which allow total elimination of solvent emissions, while retaining the paint quality levels. A responsible choice that has resulted in a drastic reduction in solvent emissions into the atmosphere, but has also given a number of advantages at painting process level: shorter working times, excellent elasticity and even application homogeneity, overpainting and absence of flammability.

This attention to ecological paints forms part of a wider company commitment to the environment, which starts at Fassi factories and extends to the day-to-day use of cranes produced. Paints that are in harmony with the environment, that can guarantee the best possible results thanks to systems that are just as advanced in concept and working method. Complete automation of the painting process is a feature of Fassi departments, where this delicate operation is carried out by robots. Automation dominates the whole of the painting process, from degreasing, during which pollutants that might prevent proper adhesion of the paint are removed from the surfaces, right down to passage of the painted elements in the special ovens to complete the process.

Painting cabs fitted with humanoid robots have been set, capable of painting all the main crane components in a uniform manner, first among them all the base, the inner and outer booms. The robots operate in a continuous cycle because, thanks to an information technology system created exclusively for Fassi, they are able to recognise the parts to be painted and thus automatically adapt the working cycles, which are made up of spraying parameters and paths designed and optimised for each part. Even proper mixing of the epoxy primers and their catalysts is managed using a computer, which controls how the procedure is carried out. In particular the computer's "brain" intervenes if the paint is found not to be properly catalysed and therefore does not comply with the quality levels set down by Fassi. Robots and computers also oversee subsequent application of the surface acrylic polyurethane enamel, in characteristic Fassi red. It must also be noted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that all the parameters used during the various painting phases are recorded and stored in the computer memory to monitor proper progress of the production line and ensure global traceability.

The ability to use state-of-the-art ecological paints through process automation gives a dual advantage for the quality of Fassi cranes and for the environment: first of all it means that it is possible to create a protective film with chemical and physical resistance and ageing properties that are unknown to traditional paints. The use of new generation epoxy primers, with the addition of suitable rust-proofing pigments, makes the paintwork on Fassi cranes an extremely reliable protection, even in aggressive conditions or in industrial situations involving chemical powders. This reliability of paintwork can be seen during use of the crane, but it also has an authoritative "scientific" testimonial in the form of laboratory tests.

This is because, at Fassi plants, a strict series of controls are carried out to test the final quality of the paintwork, including tests on the thickness of paint applied and an abrasion test. One more guarantee that confirms the fact that process automation is now essential in order to achieve certain results.


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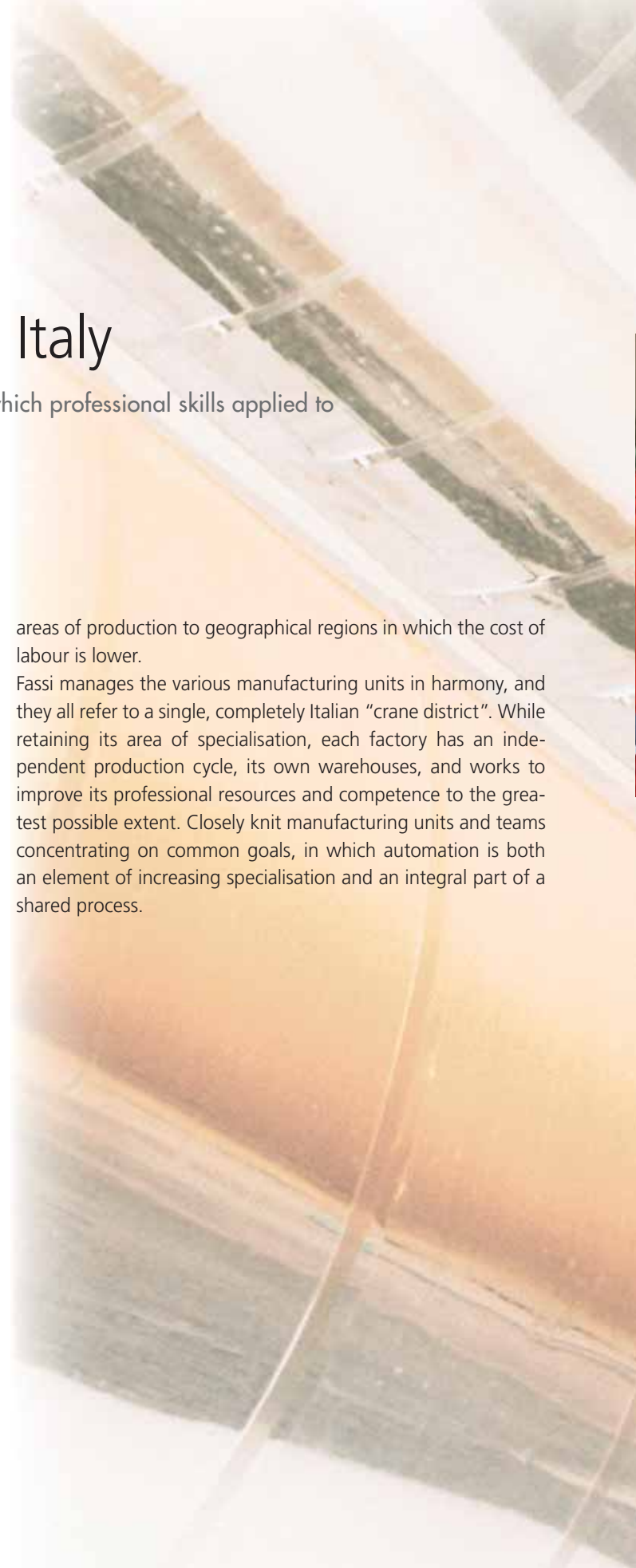
Made in Fassi, Made in Italy

Fassi has developed its own manufacturing area, in which professional skills applied to state-of-the-art technology can mature.



Setting up parallels between a Fassi crane and the best known "made in Italy" cars is based on much more solid reasoning than you might think. The use of excellent and innovative solutions, and that red colour that is (and not without reason) the "mark" of a winning Italy on all the F1 racing tracks of the world. Fassi has decided to carry out the whole manufacturing process in Italy, a decision based on reasoning that goes beyond the mere fact that the Fassi family is at the head of the company. Those who work at Fassi are trained to carry out their job in the most flexible manner, they must not only have knowledge of their own tasks, but also share the identity of the company and the dynamics behind manufacturing organisation. Orientation towards process automation has resulted in a high level of specialisation required for all staff, at whatever level. General workers are something that has almost completely disappeared from Fassi plants, where all employees have technical qualifications and specialisations suited to the level of innovation in the plant.

Over 90% of every crane is born directly within Fassi, and those parts that come from the outside are the work of partner suppliers who share both the company's technical and quality aims. There has been no lessening of this fact, even as a result of the considerable increases in production capacity over recent years. The current structure has been set up thanks also to the contribution of specialist companies who have joined the Group, which is currently made up of 14 manufacturing units. All the factories apply a working system based on coded principles that are bonded together by the concept of quality. This makes it easy to understand the decision to keep the entire production process in Italy, particularly when considering the essential need for control. The fact that each crane is built entirely within the company and in Italy is a value that the company intends to make more widely known, particularly to clarify why they are not relocating areas of production to geographical regions in which the cost of labour is lower.

Fassi manages the various manufacturing units in harmony, and they all refer to a single, completely Italian "crane district". While retaining its area of specialisation, each factory has an independent production cycle, its own warehouses, and works to improve its professional resources and competence to the greatest possible extent. Closely knit manufacturing units and teams concentrating on common goals, in which automation is both an element of increasing specialisation and an integral part of a shared process.

The Fassi group, 14 factories, 152,000 square meters of surface area, 600 employees

Albino (BG)
Headquarters, in which market research, design, product distribution, after-sales services take place. Production of heavy cranes.

Nembro (BG)
Production of light cranes.
2 factories

Nembro (BG)
Automated mechanical machining operations.
2 factories

Campagnola (RE)
Highly automated carpentry production.

Albino (BG)
Production of medium-heavy cranes.

Nembro (BG)
Automated logistics centre.

Almè (BG)
Precision mechanical machining, production of rams, cylinders and racks.
5 factories

Sorbara (MO)
Production of "Dry Wall" cranes and Socage aerial platforms.
2 factories

ALL THE SECRETS OF THE F310AXP

From a point of view of structural reliability it is important to remember that the F310AXP has a base and the lower part of the column made of cast steel, for ideal resistance to stress and higher strength. A level of stress resistance that is highlighted by the rack rotation using self-centring cast iron guide pads, which guarantee proper and constant coupling of the rack and pinion, preventing wear in the teeth.

The F310AXP is a summary of state-of-the-art technology in a medium sized crane

This crane is a significant example of how Fassi technology translates into advantages for the user, with operating features that make it an ally no matter what the working conditions may be.

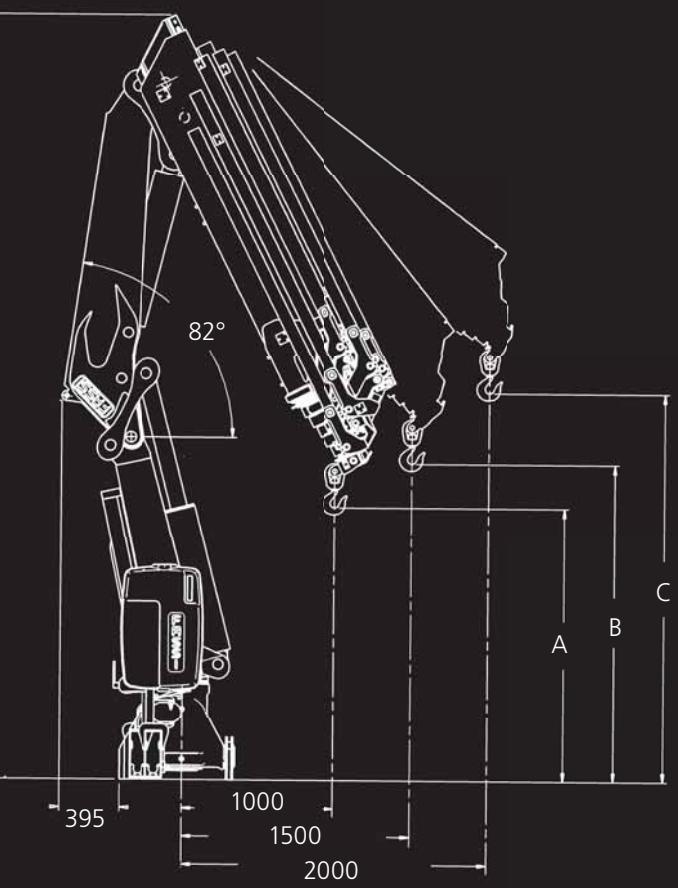
In the wide range of Fassi products there are some models that have been so widely sold that they represent a true reference point in the world of lifting.
One of these is the F310AXP, whose weight to performance ratio is ideal in many areas of use, so much so that it is considered a "multipurpose" crane.
The main reason for this level of appreciation is that it comprises a summary of high technology features in a medium sized crane. Considering the technological equipment and features of this crane, it can be seen how Fassi has managed to look at all those points that will help satisfy the expectations of even the most demanding user, who wants machines that are easy to manage and will work without creating problems or requiring particular attention.

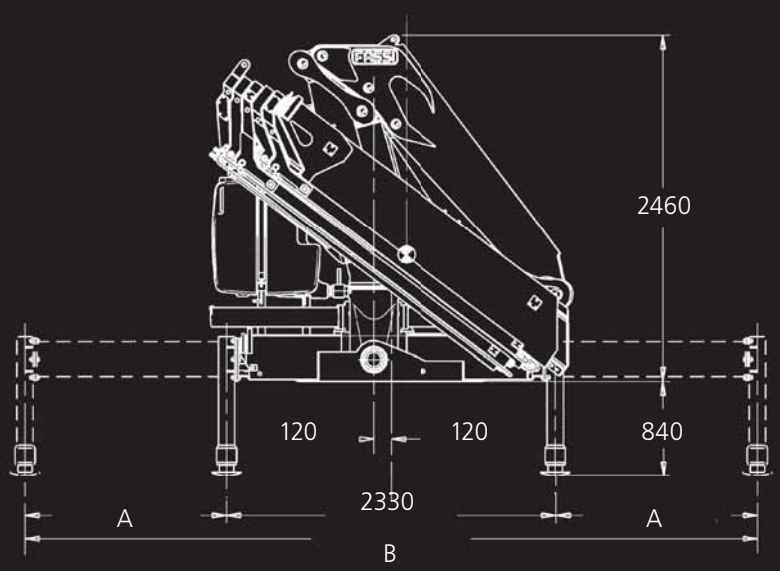
Add to this the vast range of options available and the extensive level of customisation possible, it is easy to understand why this has become one of the "work horses" in all areas of the globe.

The F310AXP is fitted with the FX800 Evolution system, which electronically controls the crane's loading conditions, the hydraulic and manual extensions and the winch, managing the lifting moment and giving the option of activating different working sectors according to the stability conditions of the truck/crane unit. Equally important is the multifunction D850 hydraulic distributor with digital "flow sharing" antisaturation system, which causes the oil sent by the pump to flow in a manner exactly proportional to the functions requiring it, guaranteeing perfect multifunctionality and preventing uncontrolled responses by the distributor. The system works in combination with Fassi XF (Extra Fast) technology, which guarantees optimum fluidity and speed of action. Still on the subject of operating speed, the presence of the original Fassi MPES (Multi Power Extension System) must also be stressed, ensuring exceptional extension and retraction speeds for the telescopic booms. This is made up of a series of independent rams of equal power, connected to each other in parallel.

The Fassi Prolink system also takes an active part in improved and full management of all functions, involving a longer outer ram combined with a particular linkage system, which allows the working angle to be increased to as much as 15 degrees above the horizontal line. As indicated by its name code, the F310 AXP also uses the Fassi Extra Power system, which activates surplus power in the most demanding and severe situations just when it is needed, reducing the speed of movements in the crane proportionally and at the same time increasing the lifting capacity. Regarding remote control of functions, the F310AXP is fitted with the new generation RCH or RCS remote control unit, with ample digital display.

All in all, there are as many as 13 different versions and relevant lifting capacity charts available under the name F310AXP, which in turn can be customised with a wide range of options, providing specific opportunities for the hydraulic part, articulation of the booms, thermal regulation devices, controls.





Fassi F800BXP tested at work by "Auto Kurz", a transport company specialising in prefabricated units

This company's operations highlight the abilities of a crane that is extremely suited to all the lifting and assembly requirements of modern industrialised building elements, whether of cement, wood or metal.

The customers of Fassi Ladekrane GmbH, the Fassi reference point within Germany, are a good representative of the German transport and lifting sector and all the various specialised operations in which cranes are involved. A particularly significant example of this is the transport company Auto Kurz GmgH of Willingshausen, founded by Hartmut Kurz in 1992. The company, which is based in central Axia, has for some years now been focussing on large three- and four-axle articulated trucks with 60 and 80 meter cranes, supplied by Fassi Ladekrane of Gründau. The main activity centres around transport of building materials, in particular prefabricated elements of considerable size and weight, over distances of up to 500 kilometres and their subsequent assembly. The range of activities is wide, and also includes transport and assembly of prefabricated wooden houses, steel structures, prefabricated cement roofs and machinery. For this reason they are also equipped with special six- and seven-axle lorry, suitably authorised, which reach a total weight of 80 tons.

The largest transport vehicle in the fleet is a Volvo FH480 8x4 weighing in at 23 tons, with 353kW power and a load of 9 tons on the semitrailer. Another strategic vehicle for Auto Kurz's operations is the four-axle 8x4, equipped with a Fassi F800BXP.28 crane with L214 (jib) and V30 (winch). This crane with continuous rotation weighing 8450 kg has a hydraulic reach of 20.45 m (lifting capacity

F800BXP


FASSI F400XP

2505 kg) and is equipped with an additional boom (jib) giving a total extension of up to 32.20 m (lifting capacity 270 kg).
Harmut Kurz, owner of the company, tells us: "We prefer Fassi because with these cranes the figures always add up. The cranes have an excellent weight by power unit, and are easy to maintain. A perfect example is our giant F800BXP, which we can use to solve all our lifting and mounting requirements, even when dealing with prefabricated elements of the most demanding weight, size and shape. We are able to position a panel weighing several tons with amazing speed and precision. Working angles with articulated levers give us an optimum geometry that guarantees constant maximum lifting capacity even when the boom is at a vertical level of 0 degrees. Also, the Fassi Multi-Power Extension System allows for high extension/retraction speeds in the telescopic booms. This is because it is made up of independent rams connected to each other in parallel.
For us the reliability is also essential. Modern job sites all operate like clockwork: the prefabricated element must be installed at the time and in the manner foreseen, and the transport company has a great deal of responsibility. With Fassi cranes we have never had problems or unforeseen events to date, servicing is limited to changing the oil and, when necessary, adjusting a sensor. Another important advantage for us is the fact that the cranes can be folded away transversally to the direction of movement".
The cranes are used on a daily basis, because assembly work is one of the company's permanent operations. The second large Fassi crane used by the company is a F460/520XP.26. This is also equipped with fly-jib and winch, two important accessories when assembling wooden houses, fitting roof beams, industrial buildings and carrying out industrial moves.
One particularly interesting point: Auto Kurz takes an active part in set-up of the vehicles, providing technical and application details that are the fruit of hands on experience, particularly in the field of prefabricated unit transportation. Based on this experience and skill, since Autumn 2007 the firm Auto Kurz has been working directly with Fassi Ladekrane GmbH, also providing suggestions on set-ups

Fassi F800BXP
An extremely high performance machine, that combines extraordinary lifting power with a weight and working versatility that are hard to find in a crane of this category. An essential ally, particularly when lifting prefabricated elements and containers, it shows excellent abilities when handling extremely severe loads with precision, even at great distances from the centre of rotation, performance levels that can be further increased by using the special Jib. It is fitted with the XP system, which, together with the FX load control system, acts on the crane's hydraulic power supply to reduce the speed of movement and increase the lifting capacity and power in proportion, in full safety.

for trucks fitted with Fassi cranes for other customers. Wolfgang Feldmann, managing director of Fassi Ladekrane GmbH, comments: "We work with over 30 independent construction partners, but the quality and effectiveness of the information we receive from Kurz, for example the indication that resulted in our configuring a height of 1280 mm above road level for the trailer fifth wheel and a better torque resistance, mean that those of our customers who are interested in large cranes have turned their attention to these experts from Axia".


FASSI F800XP

Fassi is close to those who look to the future

Transport companies in London are renewing their fleets and set-ups so that they can operate in city areas subject to the new rules on low emission levels.

All the main European cities are looking at the problem of traffic as one of the priorities on which to take action. The London Metropolitan Council is one of the most active in this sense, and the Mayor Ken Livingstone has announced a progressive extension of the traffic restrictions and low emission zones (traffic restricted zones). The first stage of introduction of these traffic restricted zones came into force on 8th February 2008, and will be followed by other zones according to a schedule that will be completed in 2012, again with the aim of improving the quality of air in the British capital. The traffic restricted zones zones will be prohibited to vehicles with high pollution levels, through application of a pay-to-pass system.

It is therefore obvious that in London, like in many other cities on the Continent, transport companies are renewing their fleets so that they can continue to operate even in these "sensitive" areas. This need involves both trucks and the other devices used for work, first among these cranes. The winning mix is to use highly-evolved set-ups, made up of more compact, less polluting trucks fitted with cranes that have a limited weight but still provide good levels of performance.

A significant example of this are the choices made by LS Smerald Roofing Contractors, specialists in building roofing systems based in the East End, a company with a very clear approach to ecological and environmental questions and to the needs connected to this evolution: "In 2012 the pollution levels for Euro4 vehicles will become the standard, and because we normally use our vehicles for a long time, it's nice to know that we are already complying with the rules".

Recently, Smerald made several particularly significant choices when renewing its fleet. These included replacing a 7.5 t vehicle with a Mitsubishi Fuso Center, equipped with the new 145 CV 7C15 and a 3 litre Euro 4 engine, in compliance with the strictest anti-pollution regulations and therefore useable even within the traffic restricted zones. Another contribution towards making this set-up ideal for these areas came from the Fassi F50A crane, made using high-resistance steel, which both increases reliability and allows a reduction in weight of the crane itself. With the F50A mounted on the Mitsubishi Center, Smerald still has a working load of 3.6 tons, but with important improvements compared to the old truck. "Thanks to our choice of renewing the fleet, we can continue to serve our customers in every area of London, without running the risk of having to pay tax to enter the traffic restricted zones areas".


F50
CANTER
FUSO

Fassi F50A

The F50A is a crane that represents a good interpretation of Fassi's philosophy, aimed at offering machines with high performance levels, fitted with state-of-the-art devices to control the load and safety, but always with a limited weight and very easy to manage. In this sense, the original MPES (Multi Power Extension System) stands out, ensuring exceptional extension and retraction speeds for the telescopic booms. It is, in fact, a device made up of a series of independent rams of equal power, connected to each other in parallel and operated by a single control. Equally interesting is the HO hydraulic or FX electronic lifting moment limiting device for automatic control of the load conditions. The F50A is an extremely versatile crane suitable for many lifting needs, again aiming at an optimum weight/performance ratio. Regarding structural reliability it is important to remember that the base is made of cast iron, for ideal distribution of stress and to provide superior resistance.

F50A

LS Smerald Roofing Contractors

This company deals with the commercialisation and supply of roofing tiles and lead, zinc and copper sheets, particularly for building construction applications. It is based in Bow and was founded in the early Fifties. The co-managers, cousins Mark and Ray Smerald, whose fathers founded the company, have converted the original building construction operation to concentrate on the supply of materials. The working area, particularly as

regards delivery of materials for the roofs of new buildings or those undergoing renovation, extends from the London area into Essex and Hertfordshire. Work is mainly over medium-short distances, so that a good working load is an essential factor for company profitability as well as its, versatility and dynamism during the loading and unloading phases. For this reason Smerald prefers Fassi cranes, particularly the light and medium-light models, which are capable of combining optimum lifting performance with great working flexibility in every situation and condition. Smerald is a customer of Fassi UK, the British branch office that provides and proposes Fassi quality and gives top-level service in terms of efficiency and timeliness, from technical consultancy to servicing.

In these pictures, the F50A at work: to optimise its performance and compactness it has been fitted on a compact vehicle, ideal for its flexibility and when working in areas where even the size of the vehicle might represent a problem.

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