

LIFTING

TOMORROW

International Information Magazine of the **FASSI GROUP**



The new Carmo

After its expansion, Carmo is now working in line with 4.0 industry, digitalisation and faster and more flexible production



Fassi efficiency

How is the best crane developed? The description of the main steps that lead to the development of Fassi products



Stories from around the world

Case studies from Fassi's dealers and customers in UK, Denmark, Finland and Portugal

Efficiency and performance

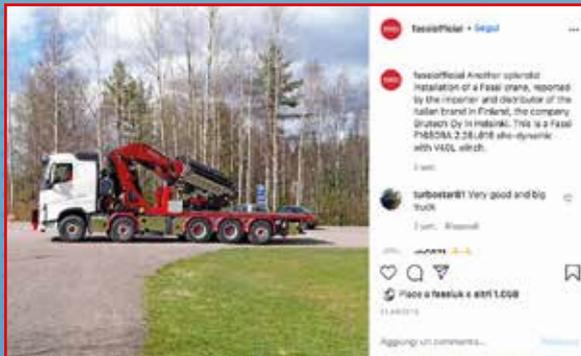
The birth and evolution of Fassi cranes



Share photos with us of Fassi cranes at work



Fassi cranes operate all over the world in new and different places and sectors. Stories speak through images that come from dealers and customers on five continents and are posted throughout the year on social media. In this section we have chosen and shared some of them.



To build the future, we must remember who we are

What else can we say and write about everything that has happened? What can we add to the widely discussed analysis, interpretations of situations, causes and effects? Maybe this is not the right outlook to take right now. Certainly time and a better understanding will help us put the complexity of these historic events under a new light.

But the more “urgent” outlook is the one we are facing now and probably the very idea of future as we always imagined it needs to be reconsidered in light of what has happened. We will need time to understand and to find all the answers, but we have already experienced enough of it to learn from, and what we have learnt could also be useful when considering the future.

Planning the future is the first and foremost duty for a company such as the Fassi Group, which represents a pool of people, projects and products spread all over the world. To look forward nowadays also means to be aware of new opportunities. This we know very well: that in every crisis there is an opportunity.

Instead, what we are reflecting upon here is mainly the opportunity to have a greater awareness of ourselves and be aware that, despite everything that has happened, the group has proven its solidity, flexibility and resilience. For this very reason, it is crucial to catch this opportunity to learn further from who we are and from the values that allowed us to face all the upheaval by remaining focused on our foundations. There was no need to change, we only had to rely on what we have always been.

In a world where instability has unfortunately become a keyword, the Fassi Group has never gotten lost, and rediscovered within itself the values of integrity, sacrifice and hard work, characteristics of the territory from which it originated.

We will have to build the future we want day-by-day. A future that will need to be much more sustainable. A future able to honor those that passed away or lost a loved one during this tragic period. Our thoughts and deepest sympathies go out to all of them.



Featured



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The new F425SE

The new crane from Fassi's SE range is now coming to the American market. Always one step ahead



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The first 60 years of Cranab

The history, innovations and objectives of the enterprise founded in 1960 by Allan and Rune Jonsson



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Marrel joins the Danish army

Marrel, Fassi and Scania together for the DALO project of the Danish army. More than 100 vehicles starting from 2021



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Experts in motion

90 years of history for Collett in UK. For the latest addition to the fleet they chose the F1150RA.2.26

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#carmo

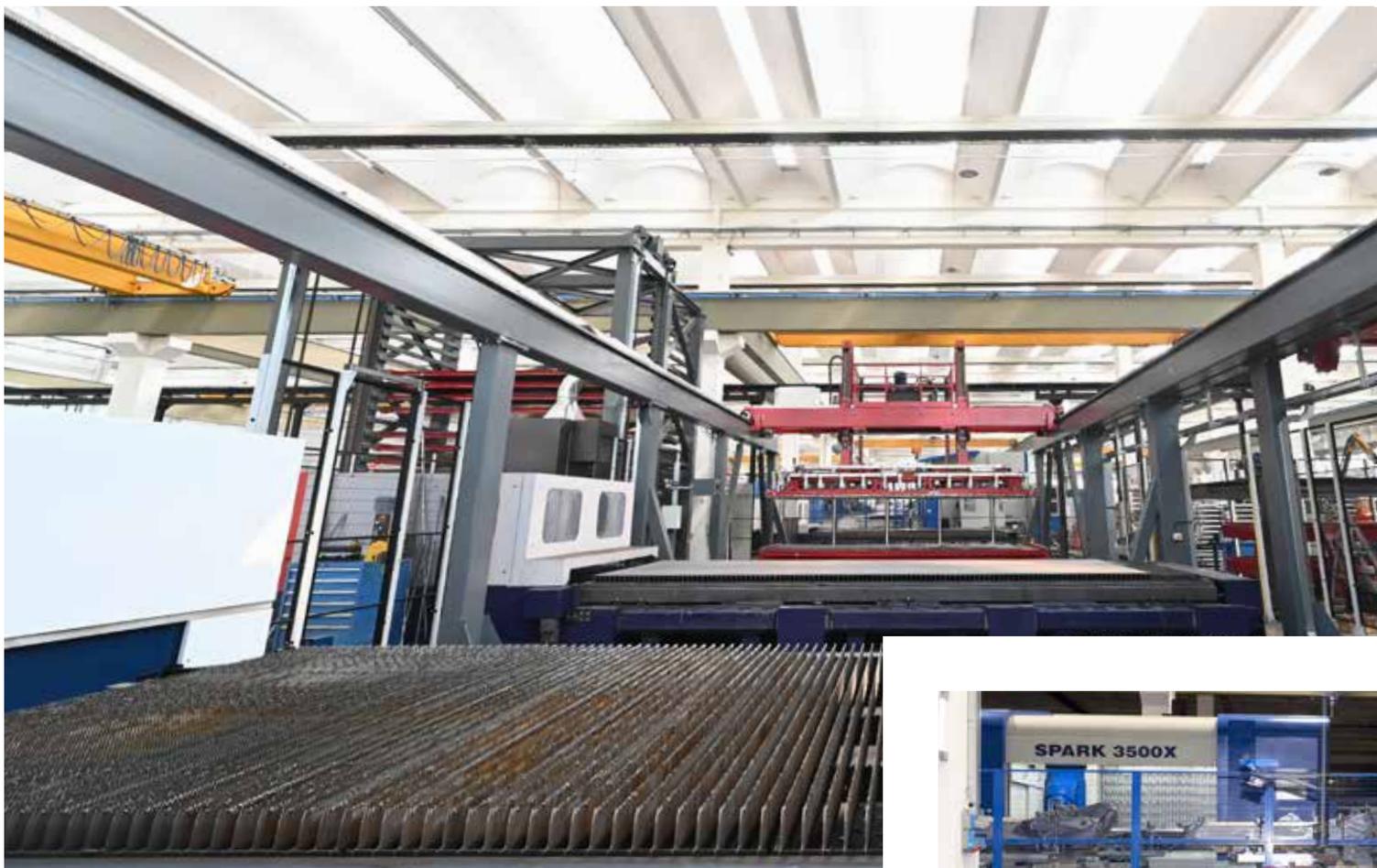


THE NEW CARMO, IN LINE WITH 4.0 INNOVATION



Fassi opens its new factory equipped with robots and 4.0 facilities. The expansion of the Carmo site by around 17,000 square metres has allowed Fassi to digitalise and make production faster and more flexible

Fassi is growing as a network and a group not only in the world, but above all in the territory where it was founded: the Bergamo area, where nowadays 5 out of its 6 Italian-based companies are located. In fact, a new **Carmo production plant will be soon fully operational in the town of Nembro. Carmo is a Fassi Group company founded in 1975 and specialises in the production of medium-light cranes and in mechanical and metal work production.** The production area was doubled in 1996 with the addition of 6,000 square metres. Today, a new 17,000 square-metre production plant joins Carmo, which houses machinery that mostly has automatised innovative technology that perfectly complies with 4.0 production systems. **In fact, half of this €20 million investment was allocated for new machinery. Machining centres, laser cutting machines and welding robots now complete the group's new factory.** As a result, Fassi is even more oriented towards the evolution of production processes, achieved by connecting the plants and managing production in a more flexible way. This is an essential activity, given that Fassi internally produces 90% of the 45 families of cranes. The cranes are globally available in 50,000 different versions, each of them composed of many parts and specific and differentiable components. This is a fundamental step in making the world of Fassi products more competitive and in always being able to guarantee a wide range of choice, since the number of available crane versions is so large.



WORDS FROM THE CEO



Giovanni Fassi
CEO of the Fassi Group

“It has not only been a work of modernisation but also an operation that will lead to an evolution in production processes. With the innovations in which we have invested, we are in fact going to connect the facilities and manage production in a more flexible way. Nowadays we produce 45 families of cranes that overall amount to 50,000 different versions. Each crane is made up of many components such as booms, bases, columns and other differentiable parts. Digitalisation will help us optimise production flows and this will increase our productive capacity, maintaining the same work force.”

Important numbers



size



Investment



INTERVIEW WITH

Eugenio Sarzilla,
President of Carmo

How and when did the need arise to create a new Carmo in line with digitalisation and build such an important expansion?

In all respects, Carmo can be considered the beating heart of Fassi because it is here that the raw materials arrive and is where the steel plates are handled and treated. At the end of processing, the pre-assembled parts leave Carmo, ready



Carmo srl

Via Antonio Fassi, 2
24027 Nembro (BG)
Italy



to be painted. This step involves Carmo for medium-light cranes and Omefa for the heavy ones.

In the previous facility, production needs created a large stock of materials that made it difficult to move parts around, especially because the market is trending towards increasingly larger cutting machines. Also, some machinery was in need of renovation.

Today Carmo is a 17,000 square-metre facility. What is the added value of this programme?

Nowadays there are two Carmo facilities: the one for metal working takes care of parts manufacture; the other handles the painting process, assembly and medium-light crane testing. The expansion to 17,000 square metres has led to a technological refurbishment where mechanical and metal work production are concerned. It is an operation aimed at achieving high-quality production standards and great production flexibility thanks to its pioneering machinery. Flexibility is fundamental in satisfying the various needs of the market and in progressively modifying production plans.



“WITH THE INNOVATIONS IN WHICH WE HAVE INVESTED, WE ARE IN FACT GOING TO CONNECT THE FACILITIES AND MANAGE PRODUCTION IN A MORE FLEXIBLE WAY”.



How is the “new Carmo” structured?

The operation involves the whole supply chain: from handling steel plates, to cutting, welding, logistics, mechanical production up to the machining centres. The welding process had already been revised. Today the process of handling and cutting steel plates is an integrated system, so once the steel plate is positioned at the top of the machine by the operator, it is picked up onto a rack and positioned in the sandblaster. Afterwards, it enters the suction cup system directly from the cutting machine, and manages and supervises two lasers, both during loading and unloading. Once the steel plate is cut, it is picked up and inserted into storage areas and then taken out according to priority. When the work of the cutting machine is done, the parts are sent to the first welding stage

and directed to the different implementation programmes. The welding stations today are particularly advanced and so the operators receive all the features of the product directly at their workplaces and the entire logistics are entrusted to autonomous forklifts or shuttles that load and unload the different workstations. This automation system has allowed us to transform our logistics hub as if it were a “zero-miles” premises because we have managed to internalise many of the operations. The new devices for mechanical production have been another important game-changer. In fact, we have two machining centres served by the autonomous forklifts. They are important centres, each covering 60 square metres.

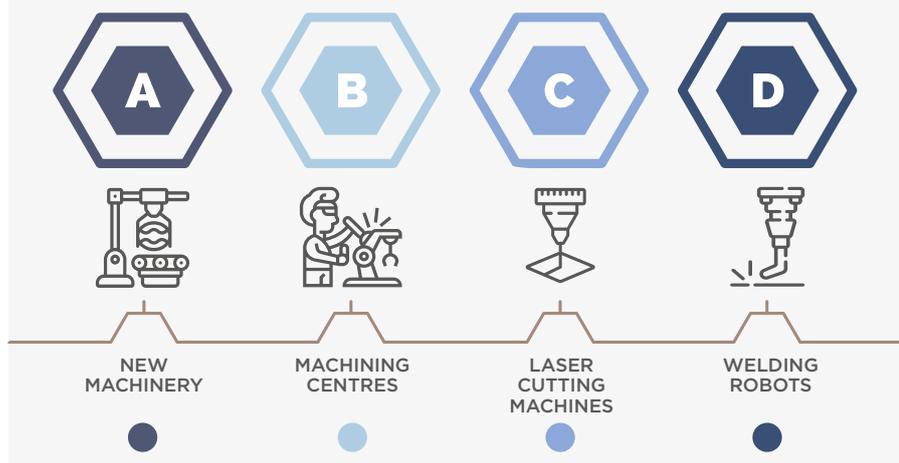


OTHER FASSI GROUP EXPANSIONS:

IN 2019, MARREL OPENED ITS NEW HEADQUARTERS IN ANDRÉZIEUX-BOUTHÉON, IN THE LOIRE VALLEY.

RECENTLY, CRANAB COMPLETED ITS NEW INDUSTRIAL PRODUCTION AREA IN VINDELN, SWEDEN.

WHAT THE RENOVATION WILL INCLUDE



#

#liftingtomorrow
 #Fassicranes
 #Carmo
 #bestperformances
 #production
 #innovation
 #madeinFassi
 #technology

Speaking of the work force, how many people work in Carmo?

There are 40 operators in 3 shifts. Luckily, we have a lot of space and this allows us to work safely. Distancing between workers is guaranteed, together with constant cleaning and sanitation of the workplace.

New spaces, investments in digitalisation and automation.

What will be the practical advantages of this investment?

There will certainly be an increase in productivity in terms of the cutting phase, benefits and advancements for the welding process and a significant improvement and increase in mechanical production. Not to mention the flexibility that I discussed before. There are so many Fassi cranes and each crane has different models, each one of them with different code numbers. By code, I mean part types. Thanks to an automatised system, it is possible to handle requests for new codes quickly and therefore to produce new parts.

FASSI COMPANIES IN ITALY

6 companies + 11 factories

Fassi Gru SpA
 Albino (BG)

Omefa
 SpA

Carmo
 srl

Ocima
 srl

Ciesse
 srl

Omb
 srl

Given the huge amount of innovation and technology, training will also play an important role...

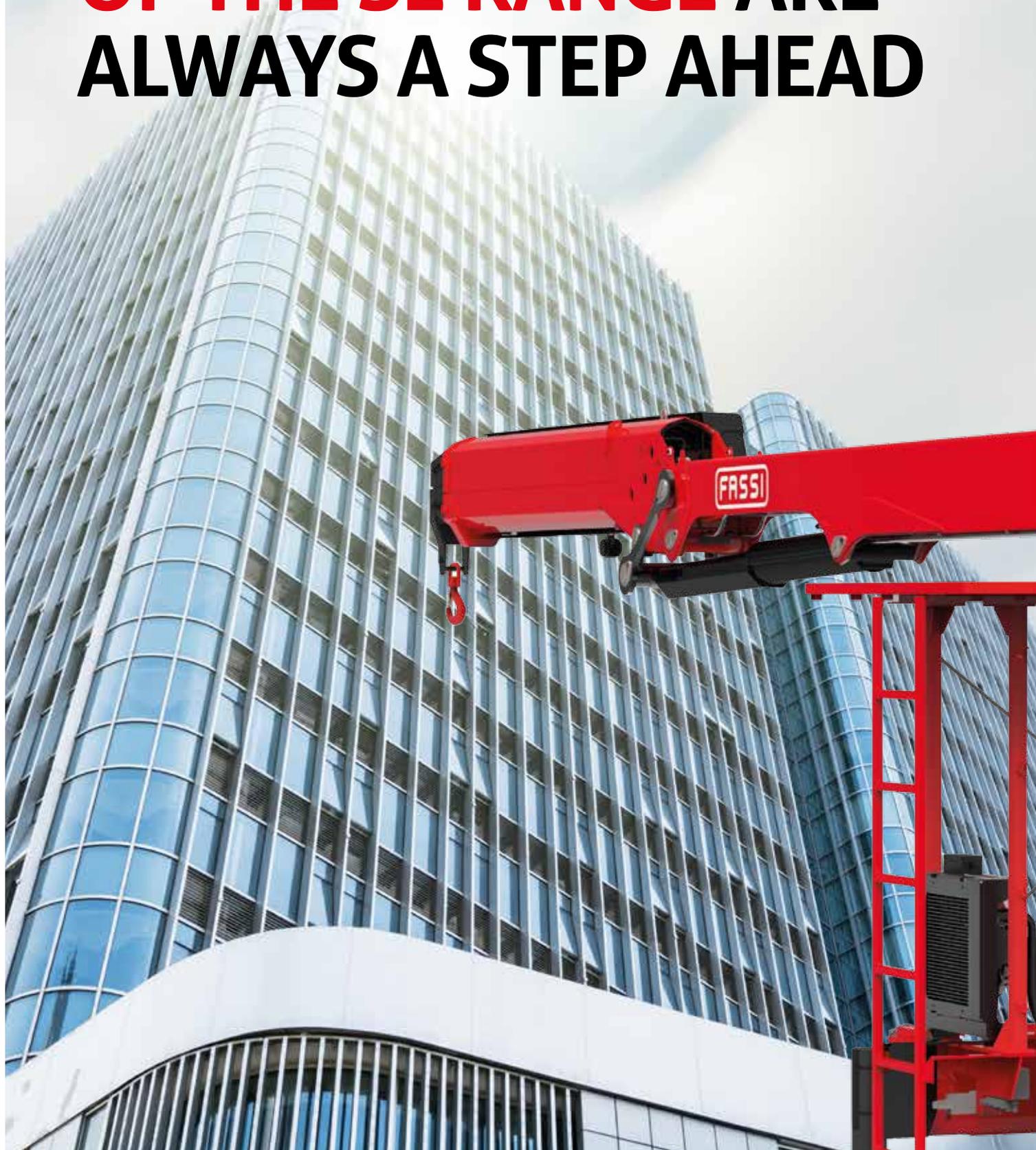
Definitely. Our employees always receive specific training on the machinery they are using. Operators are requested to study the machinery in great detail and even to attend seminars directly at the companies that supply that machinery. Training is continuous and always specific.

When will the new Carmo site be fully operational?

We began moving to the new plant on 27th December 2018. The relocation was completed at the end of 2019 without stopping production or work. We are 90% functional now. We soon hope to be at 100%.



THE CRANES OF THE SE RANGE ARE ALWAYS A STEP AHEAD





#F425SE

The new Fassi F425SE has improved in performance, load capacities and reach, and it is going to conquer the American market



Simplification, performance and electronics: here is the new Fassi F425SE, going to conquer the American market, and not exclusively. **A new crane for the SE segment, developed for a well-defined use in the construction field, specifically, to move drywall panels.**

With the F425SE, Fassi has taken another step forward in terms of performance, electronics and equipment compared to its previous cranes. This has been achieved by taking features from models like the F600SE and F375SE and adding new improvements.

With this crane it is possible to move the drywall or plasterboard up to the sixth floor of a building. And, in comparison with previous models (even those that weigh the same amount), it can achieve a performance increase of over 33% in lifting capacity at its maximum outreach and when in vertical mode.



#Fassileaderininnovation
#dynamic #Fassicranes
#madeinFassi
#craneoperator
#liftingtomorrow

HERE ARE THE FEATURES AND THE MAIN EQUIPMENT OF THIS CRANE:

HYDRAULIC OUTREACH

The new decagonal boom section was also used on this model, reducing its deadweight compared to the range of Fassi cranes with a hexagonal solution. Thanks to the new solution permitting better stress distribution between guide shoes and extensions, it was possible to reduce the thickness of the extension, decreasing the deadweight by around 15%.

Furthermore, with the new solution it is possible to carry out maintenance on the guide shoes without having to disassemble the extension booms or adjust the lateral guide shoes.

STABILISATION

The outriggers' extra extension length of 7790 mm is a standard feature on the F425SE, up from the 7170 mm of the F360SE. Moreover, with the new base the hoses are stored inside the outrigger rams.

DIGITAL ROTATION CONTROL

A wide focus has been placed on electronics compared to in the past, as far as the American market is concerned. On this crane the rotation control is digital and this function, used for the differentiated or integrated control in the stability systems, allows an easier and more practical setup, compared to electromagnetic solutions.

In this specific case, the request for rotation a mechanically locked fifth wheel, which avoids the need to install both hydraulic and electric



rotation joints, has led to the design and development of a new control system. The new solution has been patented.

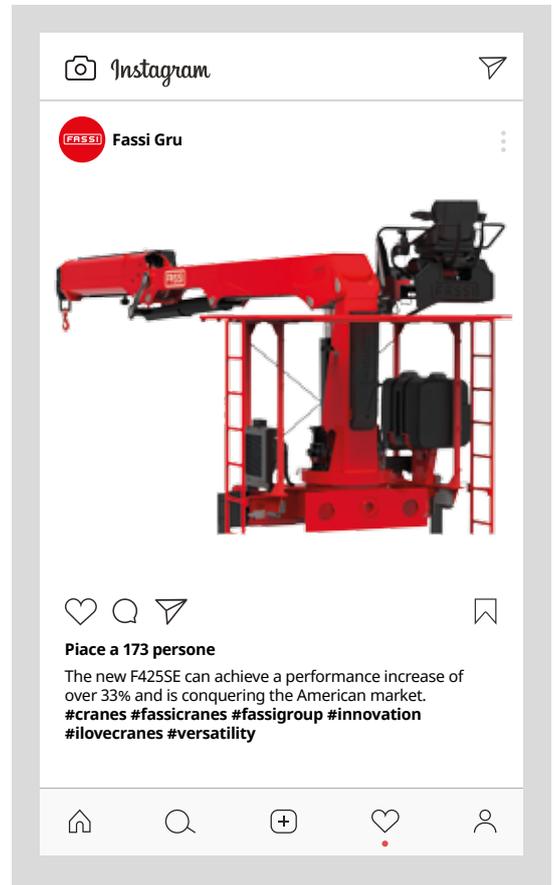
CONTROL POST

Like on previous models and also in this case, the version with top seat has the new SE932 seat. With a more wrap-around shape and with an improved and adjustable backrest height, it stands out mainly for its absorption system that can adapt to the operator's weight.

Keeping some features, such as the reclined backrest (23°), the F425SE model armrest can be adjusted downwards (23°) supporting the natural position of the arm towards the control levers. There is also a document pocket in the back.

The new seat comes complete with joysticks, FX500 unit and a comfortable

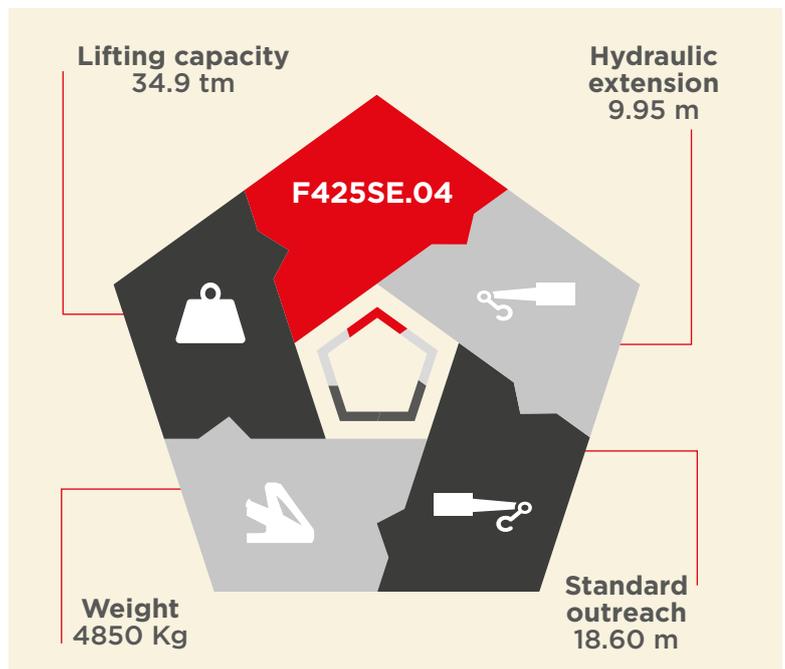
F425SE.04



footrest. The new electronic joystick was conceived and developed with ergonomics in mind, so a horizontal handle was preferred over the vertical type.



A NEW CRANE FOR THE SE SEGMENT, DEVELOPED FOR A WELL-DEFINED USE IN THE CONSTRUCTION FIELD, SPECIFICALLY, TO MOVE DRYWALL PANELS



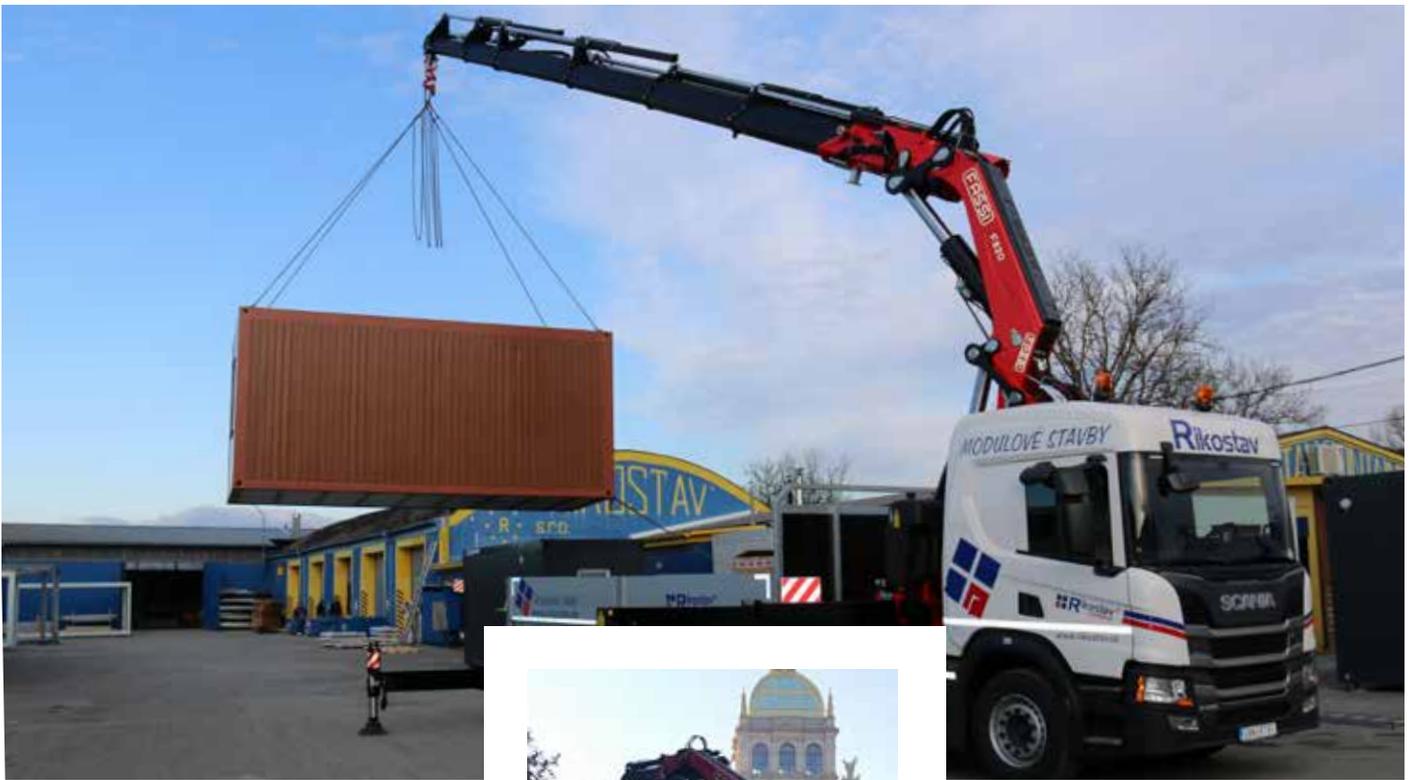
WITH FASSI, CRANES EMBODY EFFICIENCY IN ALL WORKING CONDITIONS



How is the best crane developed? And what are the main steps that lead to success in the development of a high-performance, safe and easy-to-use product? Rossano Ceresoli and Emilio Bertazzi describe how the efficiency of a Fassi crane is created



The best crane comes from a compromise between load capacity, stress cycles and weight. Performance on one side and efficiency on the other. That means, respectively, crane load capacity and the capacity to support intense and prolonged work cycles over time. Over 200000 cycles, to be precise. These are features that are inextricably linked to each other and are at the foundation of the design and development of every Fassi crane, to guarantee high standards of efficiency. The credit goes to the great care taken during the design and prototyping phase, the enormous amount of data derived from a long experience of manufacturing, the materials used, starting with the special steels, and to the tests carried out on the prototypes. In addition, there are the high levels of technology, electronics and automation, not forgetting the importance of maintenance, which is scheduled and constantly carried out. The common thread that connects every step is always the same, the concept of efficiency. This means “constant performance capacity and compliance with its own functions and goals”. The starting point is really the clear objectives that Fassi sets: development of a product able to face heavy work cycles while maintaining high-level performances and constant efficiency. To attain all that the following is needed: consolidated processes (that are at the same time flexible and open to innovation), expertise and skills, technology, timeliness, and knowledge of the



market. The possibility of exploiting the crane's potential as much as possible becomes the fundamental target that forms the basis of every design phase, component production and product test. In these interviews Rossano Ceresoli, R&D Manager of Fassi and Emilio Bertazzi, Fassi Sales Manager, explain respectively the processes that enable the development of high-performance and efficient cranes and the important implications for the market.

What are the technical features of the crane that increase its longevity when performing heavy work cycles over a long period of time?

Cranes should have features that minimise the load concentration at the critical points: during the design phase, particular focus is given to the most stressed points. The control system also has to guarantee fluidity of movement that limits the stress peaks caused by accelerations and stops.

What design challenges do you face when developing cranes that can pass tests of 200,000 stress cycles?

Great care is given to the welded joints and their position on components, focusing on the geometric aspects of the welding and on the implementation procedures. For every variation in the parameters that compose



Rossano Ceresoli
Fassi R&D Manager



- #Fassicrane
- #efficiency
- #cranes
- #workcycles
- #performance
- #liftingtomorrow
- #Innovation

the welding joint (such as steel quality, weld wire, joint geometry, temperature, execution speed, welding layers and last but not least the execution, which can be manual or automated), Fassi carries out several tests in order to identify the right execution in accordance with the requirements and the performances called for by the design.

How much do special steels contribute to the development of cranes that can support intense and prolonged work cycles?

The special steels – when properly employed – can have very good welding properties that increase the machine's performances in terms of weight reduction and guaranteeing the crane's strength and tenancy.

Which criteria are taken into account when defining a really efficient crane? The best crane comes from a compromise between load capacity and stress cycles. Is this always true?

The best crane comes from a compromise between load capacity, stress cycles and weight. On the top of that, you have to add ease of use and the possibility of exploiting the crane's potential as much as possible: these aspects are managed by the electronic control system that allows optimal use of the crane in complete safety.

Has computer design contributed in a relevant way to the design of cranes that can face intense and prolonged work



One of the strong points in the development of a Fassi crane is the welding process, a stage to which we dedicate time, materials and specialist personnel. This is because the welding has to be as perfect as possible in order to avoid any future failures caused by the stress levels of the materials or to the stresses they have to undergo. It also lowers the costs of maintenance over time. One of the objectives is to reduce the welding process to a minimum and once again Fassi has been able to attain high performance levels.



cycles?

Computer design allows us to speed up and verticalise the design phase. Nowadays the environment of pure design is integrated with that of engineering, so the designer can virtually design and simulate an idea and immediately check it with the analysis tools, such as FEM (Finite Element Method).

However, considering all this as essential is a simplification; is a good investment enough to become a designer? No, it all has to be coupled with a deep knowledge of the product and of the materials, with a long experience of fatigue tests that we have been carrying out on all our projects since 1980 (that is, for 40 years) and with the vast experience accumulated after being on the market for 55 years. The computer is an excellent tool, but it has to be used by trained people with a lot of experience.

Which tests does Fassi use to check the crane's capacity to take on prolonged work cycles? How close are they to reality?

In my opinion this is one of the

most important strategic choices Fassi made at the beginning: to have in-house tools and people qualified to carry out the tests autonomously. Whether they are mechanic, metallurgic, environmental or procedural tests. Cranes have to be checked with structural calculations and experimental tests, from fatigue tests and measures that analyse the outreach, to confirming the calculations. The experimental tests are very accurate and allow us to simulate the real use of the crane in the field. In this way, we can guarantee that crane performances will be consistent over time.



a hook, provides for an intensive use of the machine. The S1 class, used by some other manufacturers, provides for a moderate use. Fassi cranes therefore stand out for their strength and reliability, even when used intensively.

The B.2 chart is used by professionals to compare the classification according to the legislation currently in effect (EN 13001) and the DIN legislation, which has been superseded but is still a historical reference. The S2 class corresponds to the DIN B3 class, while the S1 class is an intermediate class between the DIN B2 and B3 classes.

Who certifies cranes designed in this way? And how?

According to current European regulations, the machine producer shall self-certify that its own product meets the safety requirements with respect to risk analysis and the observance of all mandatory legislations. The application of the EN 12999 regulation, which is the reference we use for our product, the CE declaration of conformity and its resulting certification mark represent a guarantee.

Data sheet B.2 Examples of basic S-classes depending on the type of crane

Duty Type	INTENSITY OF USAGE			
	Very light	Light	Moderate	Intensive
Hook, Brick and Block	S ₀₁	S ₀	S ₁	S ₂
Digging	S ₀	S ₁	S ₂	S ₃
Scrap Handling	S ₁	S ₂	S ₃	S ₄
Timber Handling	S ₂	S ₃	S ₄	S ₅

For a final crane user, which aspects can be identified from a technical point of view through the following charts?

From table B.2, we can determine the significance of the S class, which is indicated in the user's manual. The S class is a standard that shows the performance of the machine over time. The S2 class, used for Fassi cranes with





Emilio Bertazzi
Fassi Export
Sales Manager



THE COMMERCIAL POINT OF VIEW



Performance (in terms of load capacity) and efficiency (the capacity to support intense and prolonged work cycles over time) are two important requirements when choosing a crane. Which sectors prioritise one over the other?

Unfortunately, the two aspects are inextricably linked, no customer would accept a performance increase at the expense of efficiency and longevity and vice versa; therefore it's not possible, in my opinion, to separate the two issues in our world and it is with this spirit that we design our cranes and put them on the market.

How sought-after is the service life of the crane in connection with prolonged performances? Why is such a feature so important?

Continuous and constant crane maintenance is the secret for a long product life. Over these 55 years of market experience, we have seen the benefits of systemic and scheduled maintenance in terms of average life of the crane. So, we can say without any doubts that maintenance becomes the most important element that allows the crane to be operational for a long time.

Do the customers know and ask for certificates pertaining to the crane's capacity to face intense and prolonged work cycles over time?

Generally, they don't. If the salesman doesn't mention the issue of the work cycles, they are not normally taken into consideration by the customer during their evaluation of the product.

How much does the residual value of the crane factor into choice when a new crane is purchased?

When evaluating a used crane, the customer normally considers its aesthetic and functional appearance; it's very difficult for him to evaluate the residual life of a crane. Firstly, because he doesn't have the instruments to make an evaluation (normally there are no data on which he can base an evaluation) and secondly, the market normally

evaluates the crane's working hours without being able to calculate the average used load, which can help in understanding the crane's average residual life in relation to the design parameters.

Lifting efficiency: crane efficiency coupled with maintenance scheduling. How is this concept applied on Fassi cranes?

Correct maintenance extends crane life, increases reliability, protects its value over time and last, but maybe most important, it makes it a safe machine. For this reason, we have developed in-house software which is integrated into the control systems and can interpret the crane work data and accordingly plan maintenance intervals to avoid any problems on the crane.



ACM, THE FASSI AUTOMATION SYSTEM MAKING WASTE COLLECTION EASIER

It's called ACM, an acronym that stands for Automatic Crane Movement, and we are talking specifically about this application for Fassi cranes mounted on trucks with compactors for the collection of separated waste

The innovative system developed by Fassi is a valuable and efficient support for those working in the sector of waste collection. Its help results in ease of use, quick and precise movements and safety.

#

#Fassicranes #madeinFassi
#liftingtomorrow #ACM #Fassi
#Fassileaderininnovazion #cranes
#tecnochips #automation
#automaticcranemovement

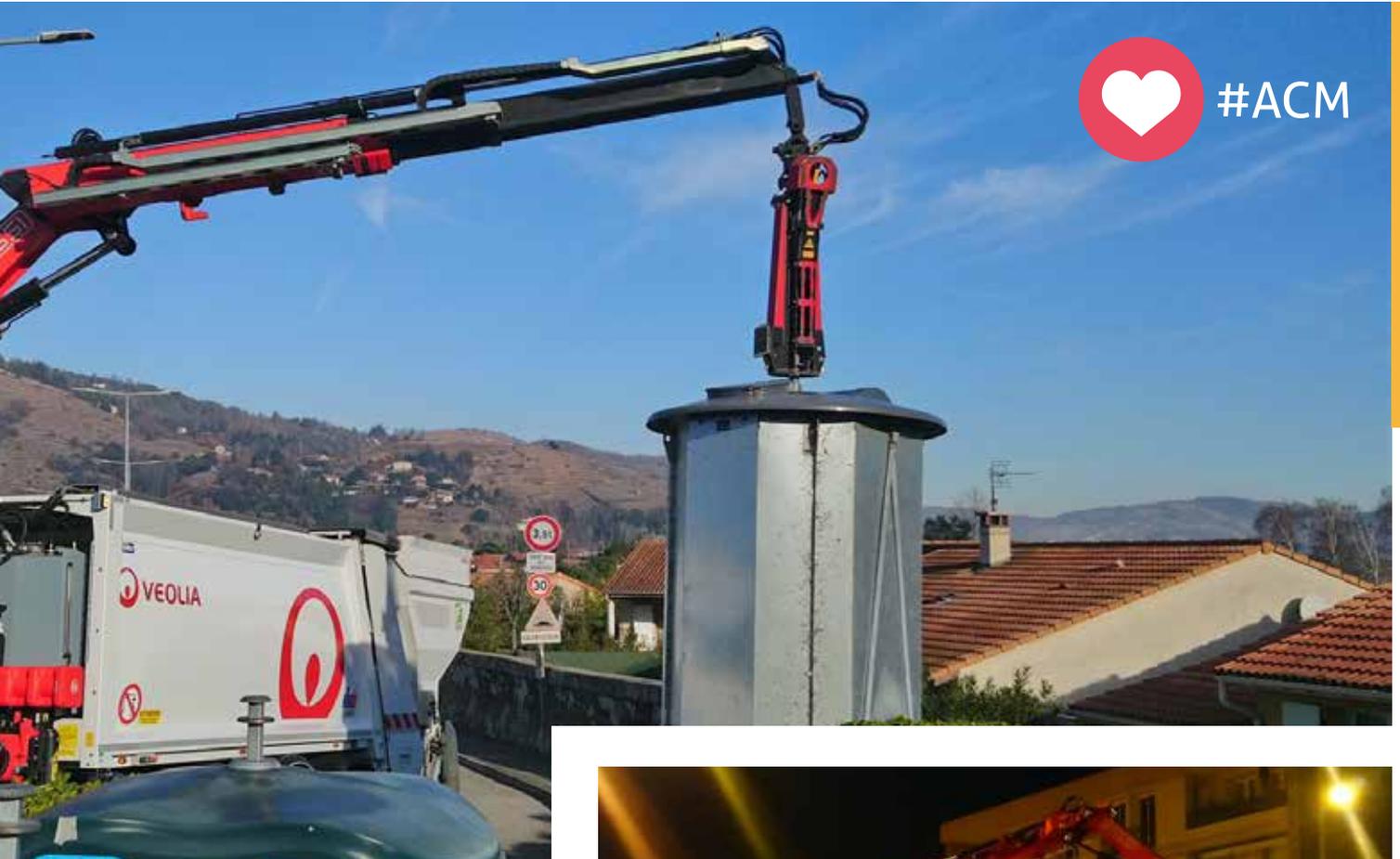


Fassi's **ACM** system automates the operations involving the loading-emptying-unloading-repositioning of waste bins.

These operations can be executed by the operator thanks to the assistance of Fassi cranes installed on compactor vehicles that carry out daily waste collection services.

Cranes equipped with Automatic Crane Movement for the application of waste collection carry out some automatic operations to make the loading, emptying and unloading of the waste bins easier.

Specifically, the actions made automatic by activating the ACM are: removal/lifting of the bin



from its seat, discharge of the bin into the compactor on the truck, replacing the bin into its housing. The system cannot be applied on SE, C and K models.

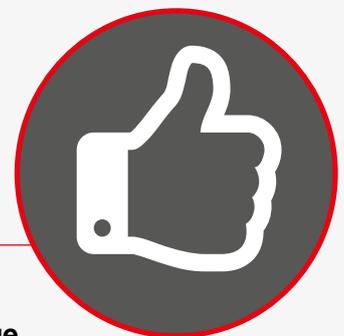


REQUIREMENTS

- **Sensor to detect the rotation angle**
- **Inclination sensor on the inner boom**
- **D900 distributor bank**
- **Digital radio control**
- **Crane with a maximum of 6 extension booms**

AUTOMATIC OPERATIONS

- **Vertical lifting and automatic positioning of the bin at the discharge point above the compactor on the truck**
- **Vertical descent to place the bin over the compactor**
- **Lifting the bin from the compactor and positioning it above its housing**
- **Vertical descent to place the bin inside its housing**



THE FIRST 60 YEARS OF CRANAB

Over 60 years, the company established by Allan and Rune Jonsson has become a leading international producer of cranes and grapples for forestry machines and trucks



A photograph of a forest scene. In the foreground, a grey crane arm with yellow hydraulic cylinders is positioned on the left, holding a large, cut log vertically. The crane arm has the word "Cranab" written on it. The background is filled with tall, thin pine trees under a grey, overcast sky. The ground is covered with fallen logs and branches.

On a fall evening in 1960, Rune Jonsson began to help his cousin with the installation of some forestry crane parts onto a tractor. It was in that moment that Rune realised that hydraulics coupled with that sector would be his new future. So, together with his brother Allan, they started to explore their own path that would lead them to produce the first cranes for forestry machines and trucks. Everything started in Vindeln, outside Umea, a small town in northern Sweden, where there is a higher concentration of state-owned forests. 66% of the territory in Sweden is covered by woods, one of the largest percentages in Europe.



#Cranab



For the first two/three years, the Jonsson brothers explored their own path, they drew their designs with chalk on the floor of the workshop and they built every crane according to the customers' needs. The very first crane was delivered to a customer in Hörnsjö at the end of 1960 and it was made up of a single boom lifted by a hydraulic ram and a chain to hold the wood. It was the first of many.

"Being in our sector for 60 years could be considered a unique case," says Micael Olsson, Marketing Manager of the on-road segment within Cranab and company employee for over 30 years. "From the beginning, we have

been investing in quality, knowledge, development and we have been accumulating extensive experience through our employees over the years. Furthermore, we have loyal customers and users throughout the world that appreciate our products."

And not only in the forestry world, since it has become natural for Cranab to widen its product range in recent years by investing in the manufacture of cranes and grapples for the forestry, recycling and road transport sectors. A further step forward in the company's development was when the Slagkraft brand became part of the company in 2005. Slagkraft was



Anders Strömgren
Cranab CEO



Micael Olsson
Cranab Marketing Manager

an independent company founded by Allan Jonsson and managed by his son Fredrik Jonsson. The equipment is characterised by its strength and reliability and it is used for clearing bushes and vegetation and to clean ditches, slopes and road edges, both on municipal streets and on larger roads, such as motorways.

The future of the products

“Cranab’s vocation has always been for cranes and related equipment and this is our goal for the future too,” says Anders Strömngren, CEO of Cranab.

“We are constantly working and we are determined to develop our products so as to be able to supply quality forestry machines and vehicles and to offer a complete range that can adapt to the professional market and to the needs of our customers. This is also true for Slagkraft, which is a technological leader in machines for green road-side maintenance.”



NEW FOR 2020



- A new range of CT grapples, designed and optimised for truck-cranes
- A new W180 Slagkraft control unit

Cranab launches a new range of grapples for trucks

Cranab has introduced a new range of grapples, suitable for truck-cranes. The range is made up of three products (CT35, CT40 and CT50), and it completes Cranab’s entire grapple series. The grapples used on the forwarders are designed to work continuously and are for demanding tasks. A grapple on a truck-installed crane, on the other hand, works with a completely different intensity, as they are used to load and unload woodpiles from the vehicle and aren’t usually seen excavating the ground, as the grapples for forwarders do.

The grapples do not only adapt to Cranab cranes for trucks, but also to those of other brands.

The most requested grapple of this range should be the CT40, but there is also the CT35 (the smallest), and the CT50 (the biggest), to satisfy all the users’ needs.

“The CT50 is one of a kind and was designed to maximise the functioning of every grapple and to work as rapidly as possible. It’s able to collect big piles of wood at one time,” affirms Micael Olsson, Marketing Manager for the on-road segment of Cranab. “This grapple will be very much requested throughout Europe, as the CT50 will satisfy the requirements of the most demanding activities.”

Its name is **DALO** and the acronym stands for “**Defense Acquisition and Logistics Organisation**”.

What we are talking about here are more than 100 new military vehicles that will be supplied to the Danish Army starting from mid-2021. It is an important project in which Marrel, alongside Fassi and Scania, is taking the lead in the supply of the entire outfit. **Marrel will supply its Ampliroll AL1600DM, Fassi its F115A.0.24 crane and Scania its 8X8 truck.**

Before the end of 2020 all three together will deliver the prototype for the internal tests carried out by the maintenance services and the Danish soldiers, and subsequently will supply the 100 vehicles on a gradual basis by mid-2021.

Marrel’s AL1650DM LHS equipment enables the loading and unloading of Stanag 2413 loading platforms - supplied by the Danish army - and the handling of ISO 20’ standard containers by using the Amplitainer CHU (container handling unit).

The Danish Army requested to have a high degree of equipment flexibility with assembly combinations based on four elements: a Scania truck equipped with a AL1650DM hooklift and the Amplitainer ISO container handling system; a Sepson winch installed on the right side; an F115A.0.24

Fassi crane mounted together with a removable unit for ISO container handling; 2 storage boxes in the



MARREL JOINS THE DANISH ARMY ALONGSIDE FASSI AND SCANIA IN THE NAME OF FLEXIBILITY



Marrel will install its AL16000DM Ampliroll Hooklift on the new Danish Army vehicles. Together with Fassi and Scania, Marrel created a new modular assembly system

back of the cabin, to insert a set of GFE options supplied by DALO.

To meet these demands, with Fassi, Scania and Sepson, Marrel created a concept of modular assembly that mainly allows the removal of the H frame from the CHU unit for ISO containers with its storage support, in order to replace it with the F115A Fassi crane in less than 4 hours, an operation that will be carried out by the Danish army in its own maintenance workshops.

Scania 8x8 trucks will be assembled in Sweden and later sent to France, to Andrézieux-Bouthéon, for complete assembly and the installation of the hooklift by Marrel.



When did Marrel's experience of the military sector begin?

Marrel can look back on a long history in the military sector starting from the 80s with the supply of more than 2000 logistics vehicles to the French army. They were vehicles equipped with hooklifts to handle flat shelving units.

In the 90s, we introduced more and more sophisticated versions equipped with container handling units for loading ISO 20' containers. For the last 40 years Marrel has been involved in both European and Extra-European programmes, in collaboration with several truck producers.

In 2010, when modernising its fleet, the French army chose Marrel again for its CHU Ampliroll hooklifts mounted on Iveco 8x8 trucks. More



Jérôme Semay
Marrel CEO



than 850 vehicles were produced and delivered for that project.

What were the requests of the Danish army?

To equip the frames of the 8x8 trucks, the Danish army was looking for a modular solution composed of a hooklift able to exchange a container handling unit with a crane by itself. The hooklift together with the CHU were supposed to lift 16.5 t and the requested crane had to be one with a 10 t/m capacity.

Usually in such military programmes, the Danish army has many demands to meet concerning the performances of the hooklift and the crane, as well as for the design of the bodywork with different boxes and a support for the DALO equipment.

What was the added value of the Fassi, Marrel and Scania partnership?

Being a group that offers both products (cranes and hooklifts), has allowed us to present ourselves as Scania qualified partners for this programme. The organisation of the project has allowed Marrel to develop the necessary modular bodywork and to create the truck prototype in partnership with Scania and Fassi. This close connection between Scania, Fassi and Marrel has also helped the project team to adapt the design and the performance of the forklift in a flexible way.

Thanks to what has been done for the DALO project, are there new possibilities for the future of Marrel?

Are there new market segments?

The DALO programme is a new opportunity for Marrel to show its expertise in military applications. The need for flexible vehicles for logistics matters is felt all over the world and to be able to offer cranes and hooklifts on the market strengthens both Fassi and Marrel.



Emilio Bertazzi
Export
Sales Manager

“Fassi has been producing cranes for the military sector for many years. Experience gained in the past becomes fundamental in choosing the best supplier and in increasing reliability. In this sense, the Fassi-Marrel partnership has been very important and has given an added value to the request of the Danish army.”



Alain Jochum
Marrel
Project Engineer

Which changes and innovations has Marrel brought into the DALO project?

With Scania and Fassi, Marrel has created a system of modular assembly, the main function of which is to remove the entire CHU (made in “H frame” for ISO container handling and its storage support), to replace it with the F115A Fassi crane in less than four hours, an operation that will be carried out by the Danish army in its own maintenance workshops.

This particular fitting was possible thanks to the design of the storage support as a bolted system and it can be easily removed in the workshop and replaced with the Fassi crane.

The mechanical, hydraulic and electrical interfaces were discussed and approved by Fassi, Marrel and Scania.

Marrel then developed the new control box, integrated into the storage boxes behind the cabin. The integration is a part of the common project of this modular grouping.



How has Marrel adapted or customised the Ampliroll LHS concept for the DALO project?

Besides the modular concept, Marrel has improved the Ampliroll hooklift to comply with the loading of the Danish STANAG 2413 Flatrack, thanks to the integration of a double centring roller in the back and to the development of automatic mechanical locking points that are lifted during the loading of the Flatrack onto the machinery. Several proximity sensors have been incorporated into the hooklift, even a digital running sensor in the telescopic cylinder, all of them linked to the central cable box and to the computer that have been tested and approved in severe conditions of electromagnetic compatibility.

The new extendable hydraulic rear under the driving protection device and options such as mudguards, sideguards and various supports have been adapted to the design of the Scania 8x8 frame for rough terrain.

EXPERTS IN MOTION

Established in 1928 Collett has evolved and expanded to become an industry leading multi-modal abnormal load specialist. For the latest addition to the fleet they chose the FASSI F1150RA.2.26 xhe-dynamic





#collett



Collett & Sons Ltd

Halifax
Victoria Terminal
Albert Road
HALIFAX
West Yorkshire
HX2 0DF

Goole
Mistral Point
AW Nielsen Road
GOOLE
East Yorkshire
DN14 6UE

Grangemouth
Baltic House
Central Dock Road
GRANGEMOUTH
Central Scotland
FK3 8TY



www.collett.co.uk

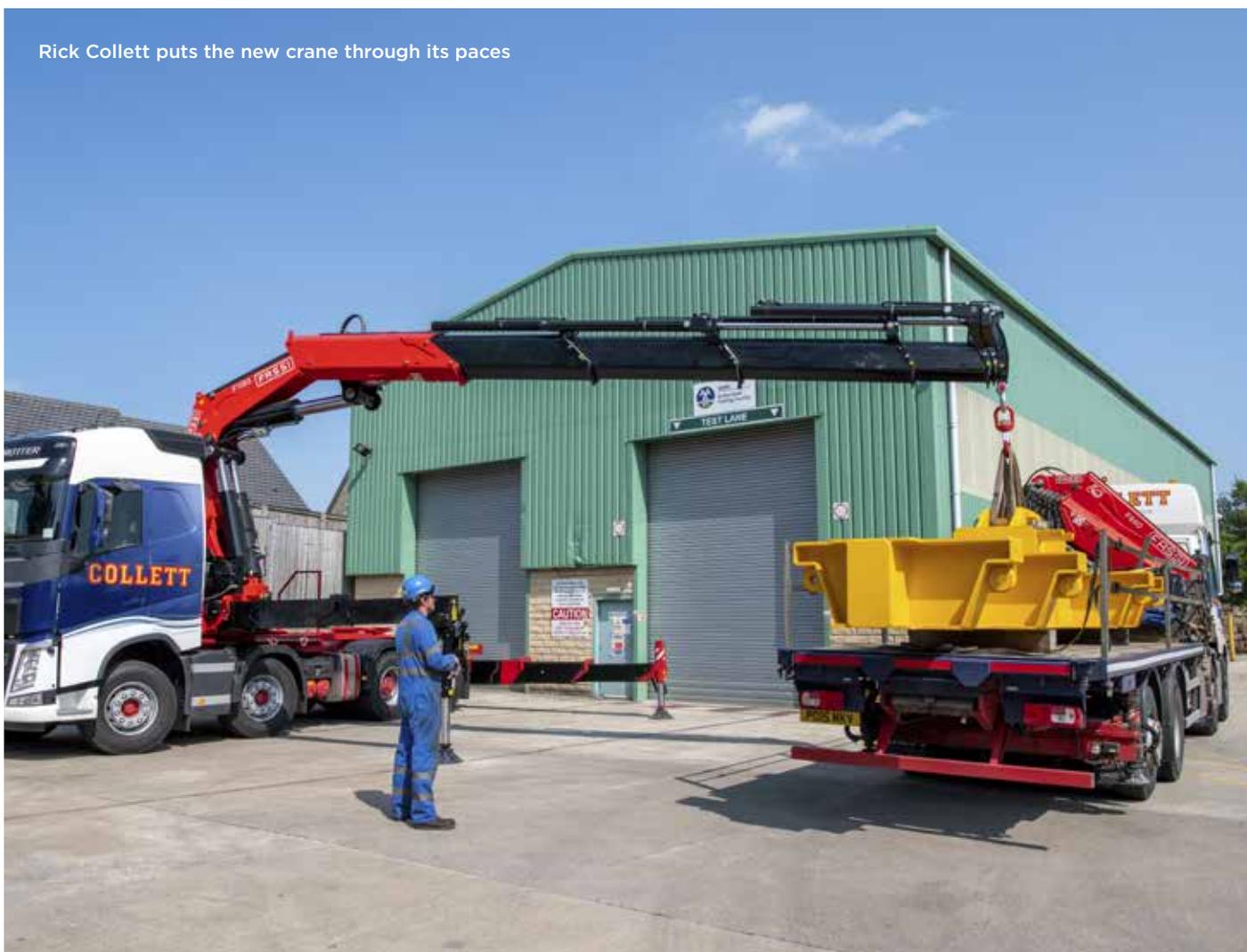
Over 90 years of history

Collett's history begins back in 1928 when Richard Collett (1) began transporting his and other farmers' milk to the dairy by horse and cart.

In 1933 Richard buys his first wagon and is employed by the MMB to collect milk, then in cans, from farms to be delivered to the dairies. By 1939 he is running seven wagons. The partnership between Richard Collett and his son Richard (2) is formed in 1964, creating the firm R. Collett & Son. Over the following years the milk haulage fleet increases to 14 wagons and, in the early 70s, expands into general haulage and heavy transport of abnormal loads. With the MMB introduction of tankers, Collett

abandon the milk transportation business to focus on more specialist transport with the creation of R. Collett & Sons (Transport) Ltd in 1975. Over the coming years the five sons of Richard (2) join the company to fill various roles (Richard (3), David, Lincoln, Mark and Michael). By 1996 the expansion of the heavy transport side of the business finds Collett occupying a five-acre site at Victoria Terminal, Albert Road in Halifax, which also enabled the company to provide heavy lift and warehousing facilities. At the start of the new millennium business in the specialist transportation of wind turbines has increased significantly & the fourth generation Richard Collett

Rick Collett puts the new crane through its paces



(4) joins the company. Fast forward to the present day & the company now employs over 150 people across four depots and run a diverse fleet of trucks and trailers. They provide all the expertise and equipment associated with abnormal load heavy transport, general haulage, heavy lift, marine services and transport consulting on a worldwide basis for the renewable energy, aerospace & aviation, power generation, environmental systems, heavy engineering, oil & gas processes and civil & infrastructure industries.

#

#Fassicranes #Fassiinaction
#Fassiintheworld #Collett
#FASSI F1150RA #Uk
#family #passion



Richard Collett (R), Ricky Thornton (L)

Richard Collett

“We understand that unique projects require unique logistics solutions, that’s why we are recognised globally as industry leading multi-modal heavy lift specialists. Our expertise, skill and years of experience allows us to provide bespoke haulage logistics for the movement of abnormal indivisible loads throughout Europe. Our dedicated fleet of trucks, specialist trailers and self propelled modular transporters (SPMTs) operate across our strategically placed depots in Halifax, Goole, Grangemouth and Ireland, positioning us perfectly to provide the ideal haulage solution for your project’s requirements. Our Team undertake all single unit goods handling requirements, project cargo and one off deliveries, permits & Police escorts through to heavy lift positioning. This also includes the relocation of machinery, jacking & skidding and specialist logistics operations for complete breakbulk contracts. With all these services combined Collett are ideally placed to quickly and efficiently undertake your project. Our accreditation stable is full to the brim with awards and successful audits. Many of these externally audited, providing hard evidence of our commitment to the highest levels of Health, Safety, Environment and Quality”.

Rick Collett

“The new crane is predominantly going to be based in Scotland for delivery of wind turbine components to site. It will also be utilised for other general transport work when possible. Collett chose Fassi as we consider it to be a good robust and reliable product with a comprehensive aftersales network. We like working with (FASSI main dealer) Central Crane Technicians as they are trusted to turn out a very good finished product. We were very impressed with (FASSI GOLD engineer) Bartoz Hetmanczuk’s handover as it was very thorough and he is clearly a knowledgeable and enthusiastic engineer”.

Light & compact

This is the second FASSI F1150RA crane to join the Collett fleet.

Supplied & fitted by FASSI main dealer Central Crane Technicians, it is fitted to a Volvo FH 8x4 tractor unit.

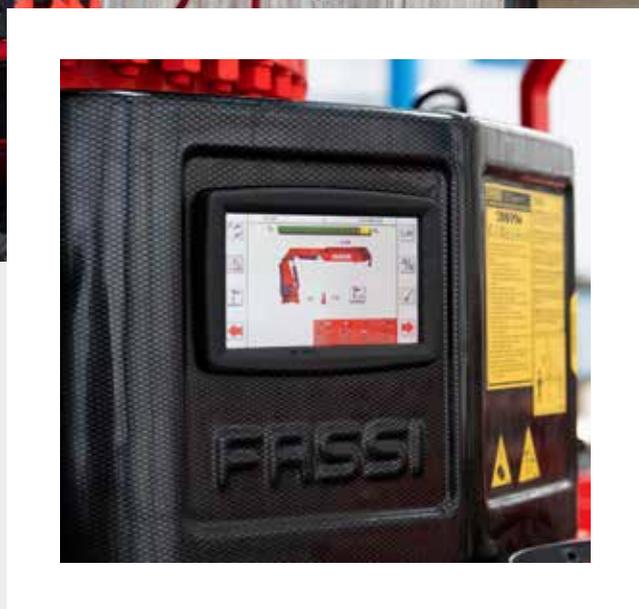
With the F1150RA FASSI achieved the goal of producing a crane with a footprint that is light & compact enough for installation on a 4-axle tractor unit chassis.

The crane belongs to the xhe-dynamic range and maximises the performance potential granted by the HD5 design class. It has gone through a rigorous fatigue test of 200,000 working cycles - equivalent to 10 years of normal typical operations - to verify the durability of the design.

The machinery directive EN12999 defines design stress classifications according to the intensity of use of the crane. Cranes designed and constructed with different "S" classes can be used for the same application in a different way: light, moderate and intensive. In the case of hook lifting, the S2 class is the highest and guarantees intensive use. This results in a greater resistance to fatigue and consequently a longer duration of the product over time.

All FASSI cranes are designed & tested to the higher S2 class. The class must be made clear in the sales brochure so check the small print before you buy because some brands are only designed to the S1 standard.

Supplied & fitted by FASSI main dealer Central Crane Technicians, the F1150RA.2.26 xhe-dynamic is fitted to a Volvo FH 8x4 tractor unit.



State of the art

The F1150RA represents state of the art for FASSI & comes with FSC-SII and HS supplementary outriggers as standard as well as a range of other advanced systems such as Automatic Crane Folding (ACF). The 7" colour display with touchscreen technology graphically displays the position of the stabilisers & available lifting capacity. It's a looker too with black carbon fibre covers setting off the vibrant FASSI red beautifully.



All of the available truck stability is converted into useful lifting capacity

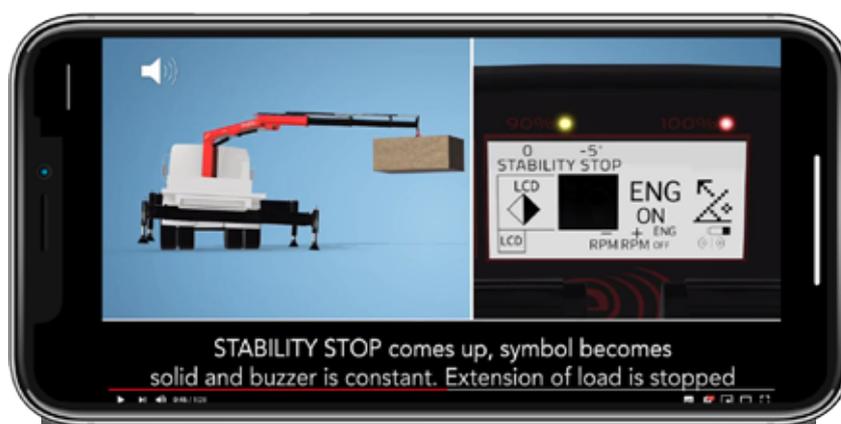
Digital encoders bring full proportionality to the 'HS' supplementary outrigger range by replacing the existing linear micro switch with the digital encoder already used on the crane outriggers. This allows 'mm' precision measurement of the supplementary outrigger extension. In conjunction with FSC-SII this allows the system to proportionally optimise performance at every possible outrigger position, converting all the available truck stability into lifting capacity.

In the lift shown above, Rick Collett has the crane & supplementary outriggers at just over 25% extension & the crane has entered L2 enabling rated lifting capacity safely controlled by the inclination sensor. This means that the lift can safely be completed even in the tightest of spaces.

TECHNICAL FEATURES OF THE F1150RA.2.28L616 xhe-dynamic



- Lifting capacity: **90.01 tm**
- Weight: **10630 kg**
- Max. outreach with the jib: **31.8 m**



Everything is easy to use when you know how

As a leader in innovation FASSI cranes use the latest technology and systems to deliver class leading lifting performance in complete safety. Our 'easy to use' animations cover some frequently asked questions. Optimised for viewing on mobile devices, you can view them via our website: <https://www.fassiuk.com/pages/easy-to-use-videos.html>

13 YEARS OF HISTORY FOR FASSI IN PORTUGAL

Rafael Baptista, Manager of Fassi Portugal, talks about the presence and growth of the Fassi brand in his country, among new sectors and opportunities

Fassi on one side and Fassi Portugal on the other. Italy and Portugal, specifically Leiria, located a short distance from Lisbon. Two countries separated by over 2,000 kilometres but united by a common history that has continued for 13 years, specifically from 1st April 2007 when the first importer of Fassi loader cranes was established in the heart of Portugal. Since then, figures, case studies, sales and new sectors have been growing, amounting to an average of 45-60 cranes sold every year.

“The Portuguese market has evolved over the years,” explains Rafael Baptista, the manager of Fassi Portugal. “Mainly for the biggest cranes with accessories like winches, jibs and baskets. The demand for marine cranes and for those that satisfy the growing needs of the recycling sector has also increased.” And many different

Fassi Portugal



It was established in 2007



It sells an average of 60 cranes per year



One location in Leiria



sectors have seen Fassi cranes and the Portuguese distributor in the foreground in recent years: “Nowadays the markets requesting Fassi cranes are mainly those of transport, marine, construction, rental services and recycling,” continues Baptista. “Thanks to their versatility and their level of technological innovation, these cranes can satisfy the needs of various sectors, adapting to many of the customers’ requests.”

New sectors then, but also higher requirements in terms of performance, efficiency and technology. “The market,” says the Fassi Portugal manager, “requires efficient cranes with a good ratio between weight and load capacity. Furthermore, the development of technology and safety has remarkably improved the interaction between operator and crane.”



#fassiportugal



#Fassicranes #Fassigroup
 #Fassiportugal
 #liftingtomorrow
 #togetherwegrow

The establishment of the Fassi Group has brought even more value and energy to the growth of Fassi in Portugal. “The arrival of the group on the market,” Baptista concludes, “was extremely important for us. With the new brands and the new products, we have managed to enter into different sectors and opportunities.”

FASSI PORTUGAL'S STRENGTHS

- 1 Present in various sectors
- 2 Proximity to customer for after-sales support
- 3 A service network that runs throughout the whole country



A F1650RA IN DENMARK

Fassi Kraner's team has delivered an
F1650RA.2.28 crane equipped with L616L
jib to the Danish company Vognmand
Erling Andersen I/S

Vognmand Erling Andersen

Lollandsvej 6, 8940 Randers, Denmark



www.vognmanderlingandersen.dk



#Fassidenmark



#

#Fassicranes
#Fassigroup
#Fassidealer
#Fassiintheworld
#liftingtomorrow

Vognmand Erling Andersen was the first company to import the F1950RAL to Denmark and shortly after has now expanded its fleet with the F1650RA.2.28, equipped with L616L jib. Thanks to the collaboration with the Danish distributor, Fassi Kraner APS, the company led by Camilla and Casper Andersen brought home a Fassi crane that is “versatile and approved for multiple possible uses”, as the two siblings emphasise. Vognmand Erling Andersen in fact works in several areas, from construction to the nautical sector, and requires machines that can guarantee flexibility and high performances. The F1650RA.2.28 was installed directly by Fassi Kraner onto a Scania truck. More specifically, the “long boom” crane was mounted onto the low platform of the truck. Thanks to the special coupling with the long jib, the crane can attain a horizontal hydraulic outreach of 35.9 m (41.34 m with manual extensions). It was the crane’s weight that made

Fassi Kraner ApS



years of history



locations in Denmark



people



A network of 12 independent partners for maintenance services across the whole of Denmark

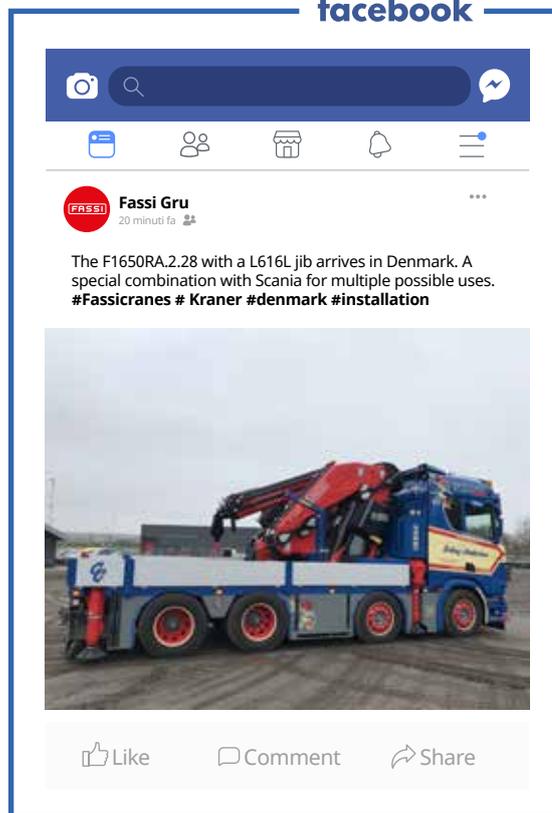
its installation onto a very compact 4-axle vehicle possible. Additionally, the front stabiliser, reinforced to 50 tonnes, enables optimal work in the front area of the truck as well, without compromising stability. The crane is equipped with various technological control systems, including CCD (Cabin Collision Detection), AWC (Automatic Winch Control) and the IoC (Internet of Cranes) for remote assistance for the crane. The Danish company Vognmand Erling Andersen I/S is a customer that knows Fassi cranes very well. The Fassi Kraner team has been supporting the company for a long time in its choice of truck and crane pairings to work with, always finding the best solutions.

The collaboration between Fassi and Vognmand Erling Andersen started in 2004 and today their fleet is comprised of the following Fassi cranes: F365RA.2.25 + L324; F950RA.2.27 + L616; F990RA.2.27 + L616; F1650RA.2.28 + L616L; F2150RAL + L816L.

Fassi Kraner ApS celebrates 30 years

2020 marks the 30th Anniversary of Fassi Kraner ApS. The Danish company was founded in 1990, simultaneously with the sale of the first Fassi cranes. To be precise, the sale of the first F750.24 that at the time was “an enormous crane equipped with 4 jibs,” says Gert Rasmussen, at the helm of Fassi Kraner since 2008.

Since 1990, the distributor has been selling “thousands of Fassi cranes”, satisfying requests from different sectors. Fassi Kraner ApS has two locations in Denmark, in Copenhagen and Aarhus. It employs a total of 15 people and deals with crane installation and servicing, besides managing the supply of spare parts.



TECHNICAL FEATURES OF THE F1650RA.2.28 con L616L



Lifting capacity: **120.90 tm**

Weight: **14800 kg**

Max outreach with jib: **31.65 m**



Vognmand Erling Andersen

Vognmand Erling Andersen was founded in 1966, when Erling Andersen purchased the first truck, a "Leyland Comet". After over 50 years of history, the company today owns a modern and versatile fleet of vehicles and over 150 containers that allow several complex tasks, both traditional and specialist, to be carried out. Erling was the first to bring a truck-mounted crane to his hometown.

A point of interest: every truck has a name, which is not chosen at random but belong to the sons, daughters, nephews and grandchildren of the family. In 2015 Erling passed the baton to Casper and Camilla, who both grew up in the company's offices and workshops. Vognmand Erling Andersen operates in the transport sector and crane services for several areas: nautical, transport, the installation of panels and lifting beams.

AN **F1150RA** IN THE COLD OF THE ARCTIC

Thanks to the work of Grutech, Fassi's distributor in Finland, the specialist stone-crushing company Kamrock Oy has added to its fleet with one of the most high-performance Fassi cranes on the market

Kamrock Ltd

Ylipääntie 93, 90440 Kempele, Finland



www.kamrock.fi



Finland is the country where beauty wins over everything. It stands out for its nature, the community that live there, its customs and lifestyle, the Northern Lights and for its unique and almost magical landscapes. Besides its forests, bodies of water and boundless nature, Finland also boasts mining activity with low environmental impact, which is an important part of the country's economy.

The company Kamrock, leader in the stone-crushing sector, knows this very well. The company, located in Kempele, owns 5 crushing plants throughout Finland.

It is hard and important work that involves a total of 70 people and several sub-contractors. But they are not alone, since in this type of work especially, it is the kind of machines used that make a difference. That's why Kamrock has chosen Fassi. Thanks to Grutech, Fassi's distributor in Finland, Kamrock now owns an F1150RA.2 xhe-dynamic with L616 jib, one of the most powerful and efficient cranes on the market. Due to the type of work carried out by the company, the crane was installed on a SISU 10X4 truck, as Aki Hintta, Technical Director of Kamrock Oy explains. "One of our main competitive advantages is that we have very reliable in-house trucks and high-performance cranes. The Fassi crane mounted on our latest vehicle, a SISU Polar Crane, is mainly used to support the quick transfers of the



#Kamrock



KaM **R**OCK

Kamrock is a company that specialises in aggregate crushing and refining. It owns 5 crushing plants throughout Finland. It boasts ten years of experience in the sector, almost 70 staff and several sub-contractors.

Strong points:

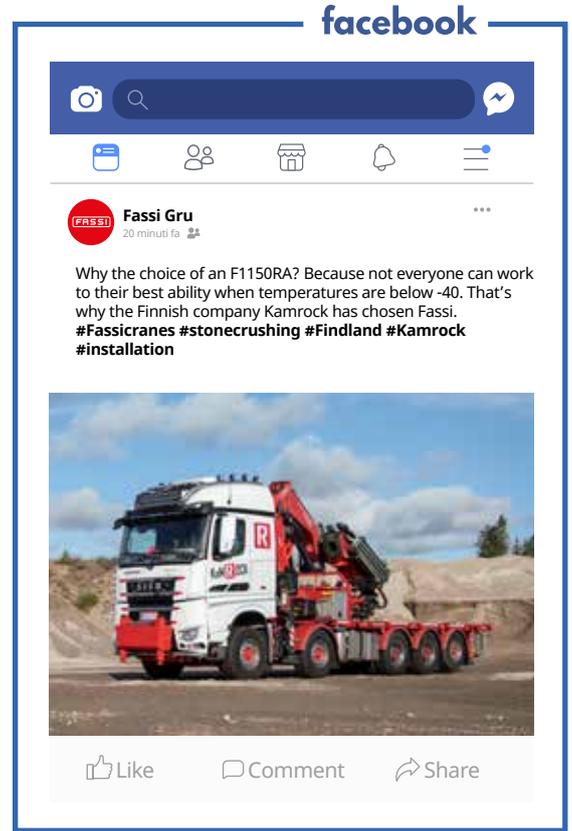
- 1 Product and service quality
- 2 Thanks to the provision of its own fleet, service is always operational, quick and flexible
- 3 Ten years of experience in the sector of aggregate crushing
- 4 Five crushing plants throughout Finland

crushing machines in Finland, from one operating site to another.”

The weight of the machinery Kamrock lifts normally varies between 4 and 15 tonnes and the operating distance that the crane has to cover is on average 15-20 m. “The added value of the Fassi crane,” Hintta continues, “is also that all year round it can count on servicing and maintenance directly at the operating sites and in hostile climatic conditions.”

The choice of the F1150RA was mainly guided by three reasons: lifting capacity, horizontal outreach and reliability in extreme climatic conditions.

“So far,” the technical director of Kamrock Oy concludes, “the Fassi crane has met our expectations and has supported our growth



DEALER

strategy. The mobility of our fleet represents our factor of success. That's why it's very important that the pauses created by the need to transport are as short as possible and the machinery starts working very quickly when moved to a new site.

Most of the northern sites are now 150 km away from the Arctic Circle and temperatures in winter can go below -40 degrees centigrade, this means that the lifting equipment must be reliable.”



#Fassicranes #Fassigroup
#Kamrock #stonecrushing
#Findland #Fassidealer
#Fassiintheworld
#liftingtomorrow

**TECHNICAL
FEATURES OF THE
F1150RA.2.28L616
xhe-dynamic**



- Lifting capacity: 90.01 tm
- Weight: 10630 kg
- Max. outreach with the jib: 31.8 m

LIFTING TOMORROW

International Information Magazine of the **FASSI GROUP**



03 | september 2020

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In the next issue:
“Drive by Fassi at work”

