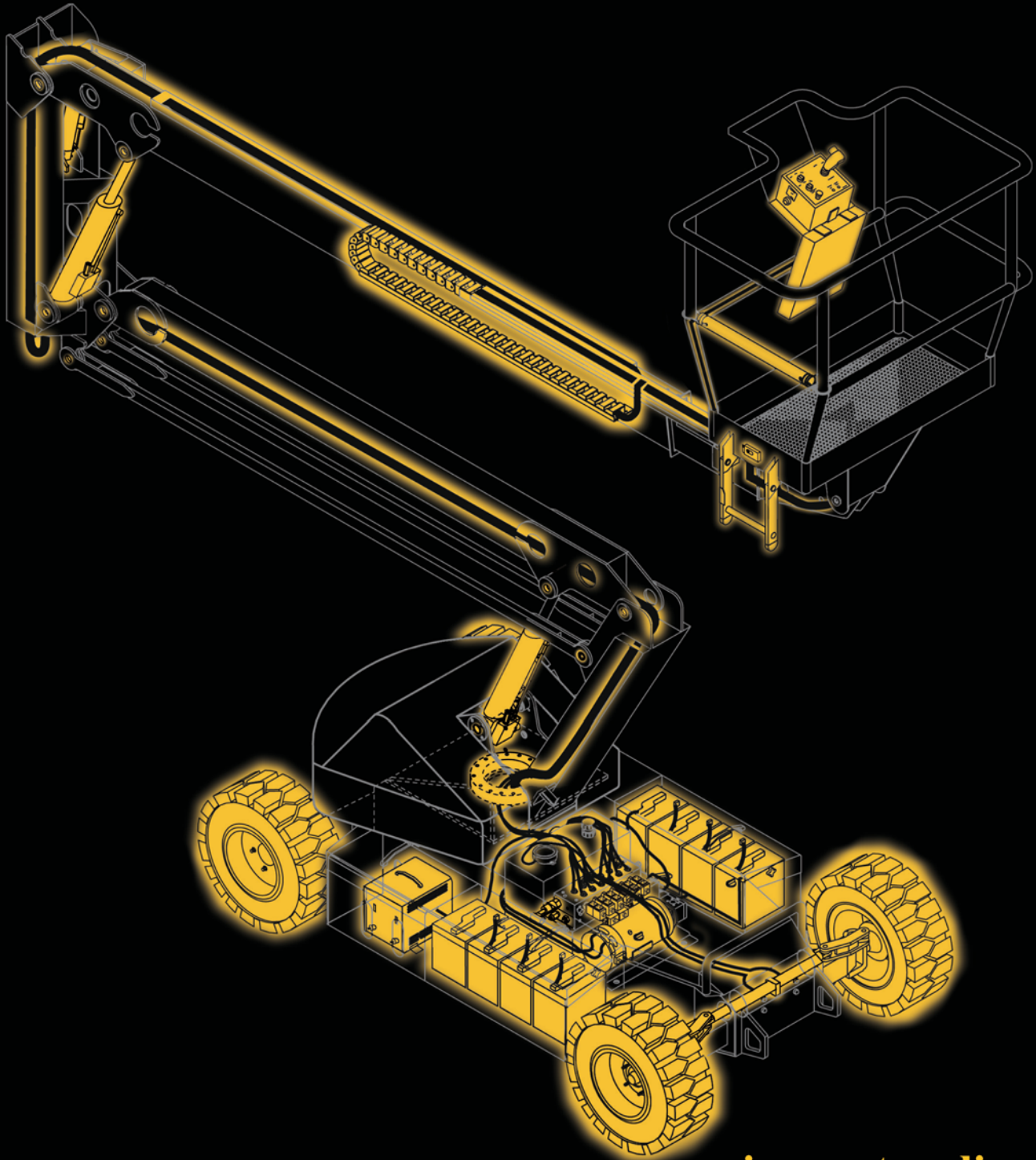


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# Competition hotting up

The articulated loader crane market is currently going through a golden period which looks set for several years to come. With new markets developing in India, China and Eastern Europe together with strong performances from the traditional European countries, most manufacturers are posting strong growth, both in terms of revenues and unit sales.

The world market is now guesstimated at between 50-55,000 units. In recent years Palfinger has claimed market leadership, a claim that many smaller manufacturers acknowledge. The fast-growing Austrian company caught up and - if you believe its claims - passed the articulated crane's originator Hiab two to three years ago.

Hiab seemingly lost its way under the ownership by Kone after a series of misguided strategies which included messing about with the most established brand name in the industry.

However at the start of last year, Kone divested itself of Hiab along with Kalmar and McGregor, floating them into the new company Cargotec. Since then Hiab appears to have rediscovered some of the spirit that made it into one of the world's leading brand names. One by-product of the company's resurgence is that it is again claiming to be the market leader. With no reliable sales figure exchange we cannot be certain which one built more cranes last year (let alone this year). One thing is for certain, the two companies are probably very close, each producing between 13,000 and

14,500 cranes each.

One company that has no hesitation about talking precise numbers is Italian market-leader Fassi. The company undoubtedly holds the number three position in the global market and is probably justified in its claim to be the fastest growing, at least among the top half dozen producers. The company has its sights quite unashamedly on Palfinger and its heavy investment in new models and technology over the past three years has certainly kept Palfinger on its toes (see Fassi interview Page 38). In most major markets, these three companies are usually fighting it out for top spot.

All three manufacturers have been introducing new technology at a pace that makes even the very best manufacturers of the other lifting equipment we cover look positively sluggish. This development appears to be taking place right across the whole size-range of lorry loaders although in general, the most popular models have increased in size over the past few years.

In the UK a general builder's loader crane has almost doubled in size from about eight to 15 tonne metres and material suppliers that were using 30 tonne metres are now taking 40 or 50 tonne metre units.

The first Cormach 125000 in Ireland is with precast concrete specialist Drumderry.



Figures for total units sold in the UK last year vary between 2,800 - 3,400 units. Terex Atlas says that 2007 has been an exceptional year with a record number of orders. The company says it has several 'exclusive' deals with leading builders' merchants and is probably market leader in that sector. It is also making significant inroads into the grab loader sector. According to general sales manager Lee Maynard, continuous investment in product development and after-sales service have been the key drivers.

Exact sales figures in the UK are also not available, but Atlas, Palfinger and Hiab (probably in that order) dominate the market. The UK is a good for Fassi being its fifth best market, but it claims to have only had sales of about 400 units last year. Putting the size of the UK into perspective - the market in Italy is thought to be 8,000 units while around 4,000 are sold in France.

The move towards larger loader cranes coincides with a trend towards mounting these cranes onto large tractor units and offering a service similar to that of a small All Terrain or City crane - but at a lower cost. One company C&A featured earlier this year - D&F Gorrett - has added a 580hp, 6x2 Scania Topline T580 fitted with a 70 tonne/metre Fassi F700XP loader crane. This combination can lift 1.25 tonnes to 28 metres and is finding a lot of work with house builders installing timber roof trusses and the like.

The recent SAIE show in Italy, revealed numerous new large loader cranes including the 'mother' of them all - the 200 tonne/metre Cormach 225000E. A year ago Cormach unveiled its smaller 125000 sister at the show and has subsequently sold numerous units including a unit to Dublin-based

pre-cast concrete specialist Drumderry - the first in Ireland.

The unit - a nine extension 125000 E9 - has a 4.55 tonne lift capacity at almost 19 metres reach. The equivalent, nine section 225000 is capable of lifting 6.1 tonnes at 23 metres and is still capable of lifting more than a tonne at 42 metres!

The market for these huge loaders is small but growing. Cormach is hoping to sell six units of its monster loader next year.

A smaller, 'large loader' recently launched is the Effer 1355. The unit is available with nine hydraulic extensions and is rated as a 92.7 tonne/metre crane with a 22.1 metre maximum reach.

Both the Effer and the Cormach make use of diagonal, X-type outriggers which keep the sub-chassis shorter and also gives a greater slew range through which it can lift the full rated load. Other large loaders recently introduced include the 80 tonne/metre Fassi 950AXP, Ferrari 990 and the Hiab 1055.

The 92.7 tonne/metre Effer 1355 has X-type outriggers which keep the sub-chassis shorter and also gives a better load slew range.





*Smash and grab from Hiab*

**Two new models from Hiab**

Hiab has added two new models to its XS range of cranes. Biggest is the 90 tonne/metre XS1055 - Hiab's largest loader crane yet. Hiab has typically shied away from getting involved with the largest cranes, keeping to its policy of only supplying units that still leave a reasonable cargo payload on the truck. It previously set this top end at around 80 tonne/metres but recent design developments have allowed the company to build the new crane with increased lifting capacities while keeping its overall weight to between seven and nine tonnes. Its maximum lift capacity is 18 tonnes and it can handle more than a tonne at its maximum horizontal outreach of 30 metres. The 1055 is only available in Hiab's top end, Hi-Pro specification and as such comes loaded with features including its high range valve block, Combi Drive control unit, Space 5000 electronics package, full blown automatic overload system, Automatic speed control and Hiab's Pump Flow Distribution system to maintain speeds when multi-functioning.

The XS1055 takes between 1.6 and 1.73 metres of installation space, will fit on a four axle truck and still offer around five tonnes of cargo capacity. Options include an EN280 work platform. In order to benefit from the maximum reach and capacities that big cranes like this can offer, the Hiab sports outriggers with up to nine metres spread which add a further 1,300kg of GVW.

The second new model is the XS 211 - a 21 tonne/metre unit targeted at the top end of the transport market with a maximum lift capacity of 7.5 tonne and up to 25 metres of hydraulic reach when fitted with the optional 8 section (first and second arm plus six hydraulic) plus four section articulated jib. The jib can articulate up to 30 degrees above horizontal and lift 120kg at 25 metres radius or 1.6 tonnes at nine metres radius and 18 metres hook height.

**Palfinger launches 'High Performance' cranes**

With the competition continually improving its performance, quality and usability, Palfinger is certainly not resting on its laurels. SAIE saw



*One of Palfinger's many new 'High Performance' cranes - the PK9001 EH*

the culmination of four years of development work when it introduced its new 'High Performance' models. Over the next three years a whopping 80 variations will be introduced.

One of the main components of the new cranes is the new hexagonal boom - one of the products of the €80 million investment in the new machines and manufacturing facilities.

According to Gerald Pschernig, head of Palfinger cranes, the new precision technology makes it possible to ensure even more accurate crane movements.

Main features of the new models include a 10 percent improvement in lifting capacity over its Performance series, with almost the identical dead weight - achieved through the use of high-tensile steels and a slightly higher oil pressure.

"The cranes also have a 'maintenance-free boom system' by using special synthetic slide blocks that have lubricant qualities," he said. "Following the single initial lubrication, which uses bio-degradable grease, no further servicing work is required. This saves the operator time and it is also better for the environment."

"Keeping one eye on the environment, all crane components that need corrosion protection have a chromium VI free coating, which goes beyond the statutory requirements," explained Pschernig. From a functional design point of view, the cranes use a premium synthetic material which is particularly resistant to extreme temperatures, yet light and easy to remove for maintenance and servicing.

The control station is easier to read with its backlit LEDs and the levers are now fitted with soft rubber grips making them better and safer to use. Spiral hose protection is now standard on all Palfinger cranes.



*The easier to use Palfinger control panel.*

Improvements to the electronics include a fully controlled overload system and a multi-function digital hour counter. Larger models introduced from the end of next year will have a new electronic control system.



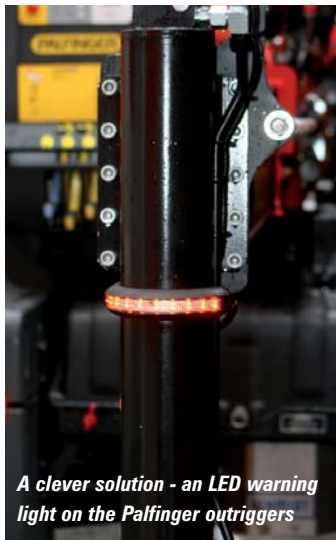
*The 90 tonne/metre XS1055 is Hiab's largest crane to date*



*The XS211 is targeted at the top end of the transport market*

The first of the new models launched at the show included three compact models, the PK2900, PK3400 and PK4200 with 2.9 to 3.5 tonne/metres capacity and six models in the 8-12 tonne/metre range, the PK8501, PK8501K (K signifying a short boom extension system) the PK9001 EH, with Electronic High Power Lifting System (EHPLS), the PK11001, PK11001K, and the PK12001 EH models.

The EHPLS system allows the working speed of the crane to be reduced if required to provide an increase in lifting capacity. The electronic adjustment of the high-end control valve also allows several crane functions to be used at the same time.



*A clever solution - an LED warning light on the Palfinger outriggers*

Power Link Plus has been introduced on all cranes from the PK8502 and larger, allowing the outer boom to extend up to 15 degrees above horizontal. This was previously normally available on its larger cranes.

### Hi-tech Fassi

The latest Fassi machines are filled with technology. Its Double Link Technology connecting rod and fork system is claimed to help obtain maximum performance even with the main boom horizontal, while the increasingly common Prolink linkage

offers a 15 degree upward angle on the outer boom with 10 degree on the jib, all with electronic monitoring of the working angle.

The high-capacity Integral Machine Control electronic control system receives information from the crane sensors in real time and guarantees optimum performance for the type of work situation. Featuring CAN-BUS architecture, the system is able to manage not only the Evolution intelligent load limiter, but also the ADC dynamics control device which provides a fully automatic elimination of dynamic load swinging.

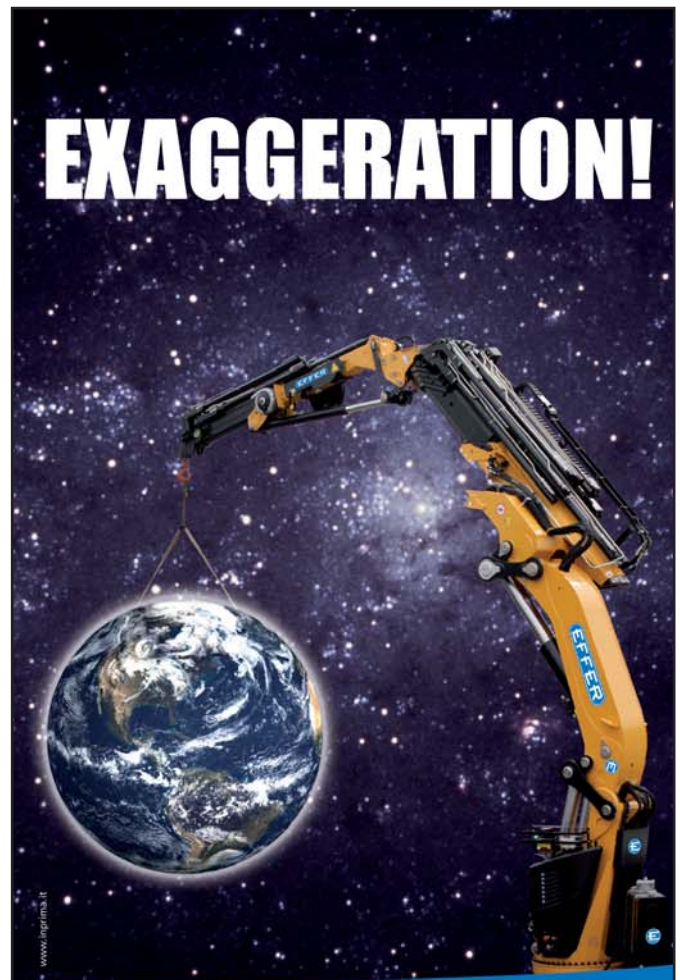
The D900 flow sharing digital hydraulic distributor (electronic saturation preventer) allows proportional oil distribution, so that crane functions that are activated simultaneously will move proportionally to the amount of oil required for the purpose. Fassi has its own RCH integrated remote control which, as well as controlling all crane functions, including stabilisation, informs the operator by means of an ample LCD display which shows the state of the crane using a simple, intuitive icon-based user interface.



*Fassi cranes are filled with technology*

Fassi introduced four cranes with lifting capacities of more than 50 tonne/metres at Bauma earlier in the year - the F510A, F560AXP, F600A and the F660AXP. All are available with up to eight hydraulic extensions that can be fitted with up to three different jibs giving a total of more than 25 versions per model.

*Copma crane at vertikal days*



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*The mother of all loader cranes?  
The 200 tonne/metre Cornach 225000E.*

According to Fassi, the F660AXP Evolution has the best power to weight ration of any crane in its 60-70 tonne metre category. The unit has a maximum capacity of 62.5 tonne metres and weighs 5.1 tonnes. The 'XP' Extra Power device on the F560XP and F660XP provides a power reserve that can be used in difficult applications, caused either by the size of the load or the particularly difficult dynamic conditions.

SAIE saw the introduction of the F950AXP which slots in between its 80 and 100 tonne/metre units.

Weighing in at 7.3 tonnes, the crane in its various versions can lift 585kg to a height of 31.90 metres or in maximum load specification can lift 19.2 tonnes to 4.1 metres radius. The company's innovative JDP - Jib Dual Power device - ups performance by 30 percent depending on the working area. Fassi also has introduced a self-lubricating, maintenance-free hinge bushes designed to last the expected working life of the crane.



*The PM Power Tronic control system monitors and controls all crane functions*

## Trailer mounted

With loader cranes now being mounted on a variety of carriers, it was only a matter of time before someone put one on a trailer.

Copma, working with Kiraly - its dealer for France - has launched a trailer with a lorry loader crane.

With a total weight of 3.3 tonnes, the unit can be towed behind many 4x4s and then left on site to carry out lifting duties.

The unit can move under its own steam, via a drive assist to the trailer wheels. Using the Copma 110T crane, the unit is aimed at building and rental companies, having a 20 metre hook height with up to 14 metre outreach. The crane can also be fitted with a man basket with a platform capacity of 350kg. Copma says that it is gauging the reaction but it is confident that the unit will sell - perhaps 50 units a year.

Copma, one of many smaller Italian manufacturers which produces about 1,500 cranes per annum, also has a large loader, the 92 tonne/metre 990 and looks set to introduce two new bigger machines next year - the 1300 and 1600.

## Power Tronic

Main news at PM is the fitting of its Power Tronic Compact control system. The CAN-BUS-based system electronically monitors and controls all crane functions. And by simplifying communication between devices it is claimed to improve machine performance. Already available on larger models in the range, will be fitted to the new versions of the 10, 14, 16, 19P models.

Latest new model is the 35.5SP which can be equipped with very compact, electronically controlled winches (developed in conjunction with Rotzler).

The new unit has 360 degree rotation and a 15 degree uplift of the main boom to compensate for normal boom flex when loading.

The good news for all loader crane manufacturers is that demand for product should remain good for at



*Copma has produced this loader crane on a trailer. It might just catch on.*

least another few years. As well as continued growth in the traditional mature markets, the demand in developing countries is just beginning. Three manufacturers are now starting to pull away from the

rest of the loader pack, yet there are some sizeable manufacturers that are yet to reach their full potential. The next few years will be very interesting for the loader crane manufacturers.



*PM's latest model, the 35.5SP can be equipped with compact, electrically controlled winches developed in conjunction with Rotzler.*

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# Fassi snapping at the heels

**Italian loader crane manufacturer Fassi is snapping at the heels of the European market leaders Palfinger and Hiab. Its growth over the past few years has been charted by Giovanni Fassi - the son of the founder and current president. Mark Darwin learnt more about the man and the company on home soil at the SAIE show in Italy.**

**Fassi loader cranes have been manufactured in Albino, Italy for more than 40 years. As a young boy, Giovanni always wanted to join his father in the business. He joined as a teenager in 1987, gaining valuable additional experience by working with Sogage - part of the Fassi group - for three years in the early 1990's. Giovanni took over running the company about four years ago and although he continues to report to his father who is still President, has had an increasingly important influence on the company.**

"I want the company to be the technology leader in the sector," he said. "This is my aim and has brought success through innovative products with high performance and good residual values."

His approach has certainly resulted

in the company now being recognised as the world's third largest producer of loader cranes. But this is not enough for him. "I need a challenge and that is to be world leader in sales and technology." Not an easy challenge then. A few years ago this would have been a typical comment of an aspiring new company entering the market giving the press 'sound bites' of its ambition. However with Fassi and its growth over the last five years you never know. "By next year we will have increased production 120 percent in five years. In 2005 we produced 6,871 cranes and this has grown about 20 percent in 2006 and 15 percent in 2007 to 9400 units," said Fassi.

Next year he hopes to build 11,000 loader cranes which he says would make Fassi the second largest manufacturer behind Palfinger.

Perhaps he is starting to believe some of his own hype because although exact sales figures for loader cranes are not available, it is generally thought that Palfinger and Hiab each produce between 12,500 and 14,000 cranes per year.

The company is achieving its growth (revenues are up from €141 million three years ago to €200 million while the number of employees has increased from 443 to 560) organically. "We will continue to grow but not by acquisition," says Fassi. "Our last acquisition was 20 years ago and we are not looking to purchase a competitor."

Fassi, however, did not rule out buying suppliers - but only if they manufacture in Italy - which would ease the growing problems of sourcing components.

"In Italy, the cost of labour is high and raw materials are scarce, which is why innovation is crucial to ensure that our product remains competitive," he said. "In recent years the group's research and development has grown and strengthened so that today, eight percent of our staff are involved in R&D and we have introduced eight new products over the last five years."

These products have been based on the use of electronic systems which have formed the foundation of the 'Evolution Concept' project.

The Fassi Group, along with other industrial partners - such as Brembo brakes - has been instrumental in the creation of Intellimech - a consortium of companies working in the field of mechatronics - electronic management of

mechanical solutions.

"The very fact that we have an R&D area within the 'Red Kilometre Technological Park (Intellimech) is an opportunity to have a mutually profitable exchange of information with other businesses, universities and local scientific institutes," said Fassi. "This allows us to introduce market-leading innovative solutions to our new cranes."

From a manufacturing point of view, the new Flexible Machine System (FMS) welding process will allow the company to achieve its target of 11,000 cranes per year.

"FMS is an imposing system measuring 45 metres by 15 metres which was designed and built by ABB to our specific requirements," said Fassi. "Flexibility is the key and this system makes it possible to carry out welding operations either in a series of small batches using pre-set templates, while retaining the freedom to work on individual items. FMS is just part of a wide range of investments - which include a new automated welding facility and 10,000 sq m factory dedicated to the assembly of medium sized cranes."

By concentrating on technological innovation and growth, Giovanni Fassi has certainly raised the sales and image of the company's products. Continued expansion of production facilities also means that the company is undoubtedly the fastest growing loader crane manufacturer. Whether it can rise any higher than third, only time will tell.



*Giovanni Fassi - the driving force behind the company.*

*One of the latest Fassi cranes - the Fassi F660XP*



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