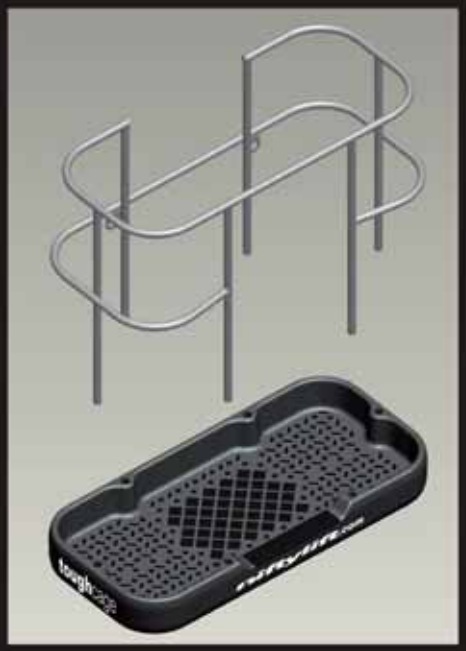
nifty Innovations

ToughCage Technology



Niftylift's innovative **ToughCage** gives increased strength and durability while improving operator safety and reducing running costs.

- **Impact resistant composite base**
- **Reduced likelihood of cage damage**
- **Larger cross-section steel cage**
- **Better operator protection**
- **Base & rails replaceable separately**

A tough impact resistant composite base and larger cross-section steel cage give **ToughCage** extra strength and durability, both protecting the operator and reducing the risk of damage to the cage.

As well as resisting damage, **ToughCage** absorbs much of the force of an impact preventing damage to the boom.

Should damage occur, the **ToughCage** rails can be replaced separately for a fast low cost repair.

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To watch a video on the Nifty **ToughCage** and its benefits please visit our website.

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Booming market

More than 60 percent of all self-propelled aerial lifts sold each year are either articulated or telescopic boom lifts and while entering the boom lift market is a tough challenge for a manufacturer, today's buyer has a wider choice of suppliers and models than ever before.

In spite of this the market is generally dominated by the two largest manufacturers JLG and Genie. Because of the higher cost compared to small scissor lifts, most buyers tend to play it safe when buying boom lifts and are less willing to try a new products.

However there are many other manufacturers carving out significant sales as the aerial lift market continues to grow. These include Haulotte - which usually outsells the two leaders in Europe - and fellow French manufacturer Manitou a relatively recent entrant to the market which is building a significant following for its products, both in France and further afield - See separate story page 20.

Snorkel, once one of the worlds leading brands, does very well in the 38ft market and has a strong following in some markets for its larger boom lifts. Its current line-up is an amalgamation of Snorkel and UpRight and is being updated at a steady pace. Then there is Niftylift which is a far more significant boom lift producer than many realise. The company has built a substantial self-propelled business by being different. The foundation of its success is the HR12, a simple 33ft mini boom that is loved in a number of markets, yet ignored or not taken seriously in others. Those that buy and use them don't care that they are not the most sophisticated, nor the best looking, but they appreciate the simplicity, reliability, light weight and compact dimensions.


Snorkel A38E


An early Skyjack 66TK


Aichi produces this tracked SR14CJ1

The Snorkel A38E also captures some of this appreciation but the product does not have the variety and scope of the HR12 which can be ordered in narrow or wider/lighter overall widths, with battery, diesel or Bi-Energy power sources plus 4x4 and everything in between. While the modern HR12 has hardly changed since the 1990s, Niftylift's more recent introductions are highly sophisticated and lead the market in terms of technology. These include electric/diesel hybrid drive systems, SioPs anti-crush protection and more outreach from a lighter narrower machine than just about anything on the market.

One of the most recent boom lift entrants has been Skyjack although that statement is not entirely true. The company was in the market in the early 1990's when it followed the perfectly rational strategy as a latecomer to introduce products that were different. Its TK models are still appreciated for their ability to reach below ground level making them ideal for dockside and bridge applications. When the products were in production they were too different for most mainstream rental fleets and ended up as a niche product, causing the company to abandon boom lifts when the recession hit.

When it re-entered the market in 2007, it decided that the best strategy was to build a boom lift that was similar to the Genie and JLG models combining the best of each while introducing a few tweaks of its own. The 46 and 51ft articulated and 40, 45, 60 and 65ft telescopic units are well liked by owners but the company has yet to make a serious dent in the market. One positive point is that it has come through this recession with not only its boom line intact, but with designs for a 63ft articulated and 80ft straight boom well underway - the former being shown at The Rental Show in New Orleans.

Looking towards the East

Moving to the East and there is an increasing amount of choice. But for many western buyers there is only one - Japanese producer Aichi. The company arguably builds the best straight booms on the market, to the point that its European master dealer provides a five year warranty on its wheeled booms and says that this was not a costly decision. The initial purchase price of an Aichi boom is high and the manufacturer struggles with its international marketing and distribution. Its plans to become a leading player in the USA and Europe and introduce articulated models - announced five years ago - has come to little, but


JLG is one of the major players in the boom market

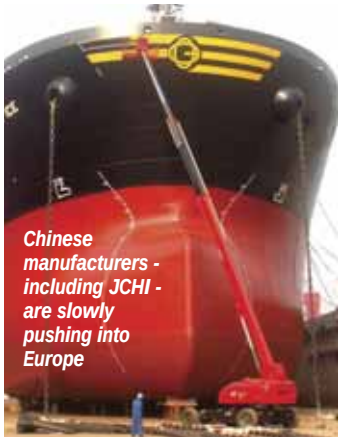

Dinolift is a new entrant with its 18.5 metre working height 185XTS

the company is a master of playing the long game so it would be foolish to right-off its expansion plans just yet. At present the company says that the high yen is making plans to increase exports a hard task. What is odd is that its production facility is possibly the most efficient in the world and it can achieve premium prices, two factors that compensate for the currency challenges?

Chinese growth

Staying in the east the fastest growing producers in terms of new model development are the Chinese with Dingli, JCHI and Mantall all boasting wide product ranges and looking at export markets. The main problem the Chinese face is that very few rental companies in the West will risk investing in an unknown boom lift. This coupled with the fact that Chinese products have not exactly impressed in recent years. However they are learning fast. Dingli for one has made incredible strides in the quality and design of its small scissor lifts, to the point where European and North American companies are giving them a go and not being put-off. The company will hold off promoting its booms in Europe until it has established its name with smaller lifts and built up a support network.

At the same time as companies continue to refine their offerings, JCHI is looking at the alternative of acquiring a European brand and technology to speed its entry into the market. We understand that at least one Chinese crane producer is also seriously looking to enter the boom and scissor lift market via this route.


Chinese manufacturers - including JCHI - are slowly pushing into Europe

So what does that leave us with? A number of niche players with different strategies looking to either serve their existing customer base with specific products or specialising even further. Platform Basket is one such company. When the current company was formed it inherited a full self-propelled boom line ranging from small to exceeding 40 metres. It wisely decided to focus its efforts on spider lifts and has done very well while building a few self-propelled booms to order. Where it has done exceptionally well is with its specialised road rail articulated boom lifts that incorporate a levelling superstructure for banked cambers. While this is a niche business the values are high and numbers greater than many realise.

On the level

One company which tries to straddle the niche and standard markets is Matilsa of Spain. The company produces a range of articulated booms starting with a competitor to the Nifty HR12 and Snorkel A38E and extending up to the 63ft Parma 21D model with 21 metres of working height. One thing that differentiates the company is the option of jacks which allow the booms to be levelled on significant slopes. This is a feature that many users appreciate, but tend to overcome by driving onto cribbing, or if interlocks allow operating on a slope with the tilt alarm disengaged - both of which are highly dangerous.

Matilsa does not produce in large volumes so prices tend to be on the high side, limiting its volume and keeping it from begin more competitive. However for those who want to work safely on slopes without paying too high a premium, the machines are worth a look.

Fellow Spanish manufacturer Mecaplús also specialises in boom lifts for slopes, but the concept which reaps huge productivity benefits for specific applications is too different for most rental companies.

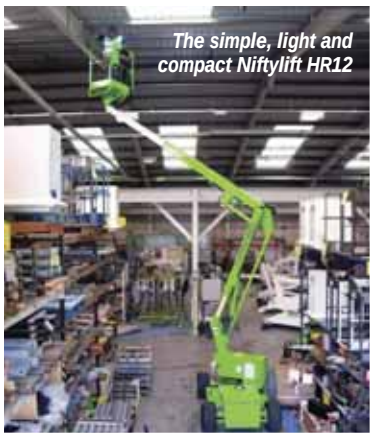
A boom from the north

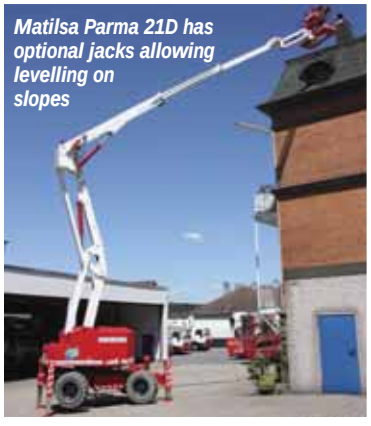
The most recent entrant into the fully-self propelled boom market is Dinolift of Finland, which has also taken note of working on slopes. Its new 18.5 metre working height 185XTS can operate on slopes of up to four degrees - most booms are overload tested to five degrees but are supposed to operate on firm level ground. Other than that the new articulated boom has all the desirable features, 4x4x4 drive and steer with oscillating axle, 45 percent gradeability, articulated jib, decent 250kg platform capacity and fast function speeds. It is likely to struggle to break into the mid to large rental fleets, but then Dinolift - as Manitou says - does not need to build this product by the thousand. It may well be satisfied with 25 to 50 units a year at a decent price to satisfied customers?

Long platforms

H.A.B of Germany inherited the designs and concepts of a well-established straight boom company TKD. It currently builds a limited range in the 60 and 100ft range, very competent and solid products with a specific following in its home market and the Netherlands. One option that might just help exports is its five metre long platform options.

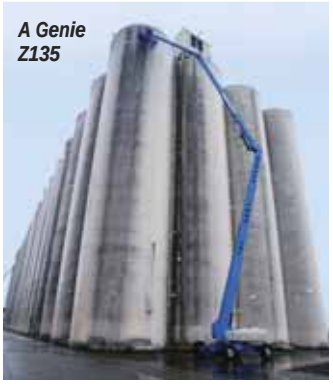
That brings us to a couple of Italian producers Airo and Imer/Iteco with designs on higher volumes, but facing the challenge of breaking into rental fleets. Airo has the most experience with boom lifts and offers some very interesting products including 60ft battery models and compact industrial units. It has a following in some markets, such as Germany, where the specification of some of its models are much appreciated. Iteco, now Imer Access has more marketing and distribution clout as part of the Imer group and has already broken into a number of large rental companies with its scissor lifts, the brand is also appreciate in a number of Northern European markets. The problem as always is a limited range.


The simple, light and compact Niftylift HR12

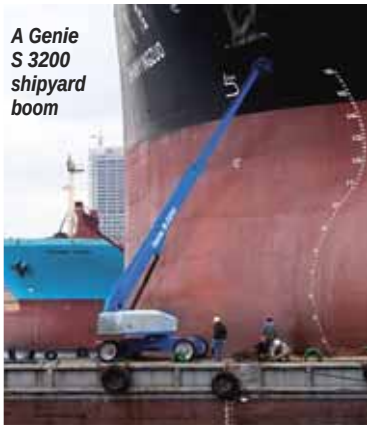

Matilsa Parma 21D has optional jacks allowing levelling on slopes

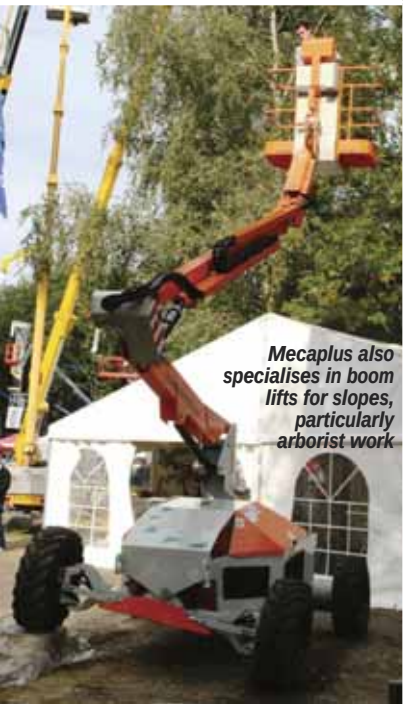

JLG 1250 AJP


HAB T22J


A Genie Z135


Largest boom available - JLG 1500SJ


A Genie S 3200 shipyard boom


Mecaplus also specialises in boom lifts for slopes, particularly arborist work


Skyjack SJ46AJ

Finally one alternative for particular applications is a telehandler with fully integrated work platform. For jobs that require boom type outreach with larger work platforms and higher travel speeds, the telehandler is ideal. While they are hardly impacting the boom lift market they are selling in larger numbers and finding an appreciative customer base.

Telescopic jibs

Three years ago Haulotte introduced a new idea to the straight boom lift market by adding a telescopic section to the articulated boom on its H28TJ. Launched at Conexpo 2008 the timing was not great but it did give the company an exclusive sales feature which helped get some of its larger booms into the fleets of some new customers. The idea itself is not of course new - it has been used on truck mounted lifts for some time and it might be argued that some articulated booms are just a larger version of this? However any good idea is worth emulating and JLG took the concept a stage further adding a fairly long two section telescopic jib to its 135ft straight boomed 135SJ to create the largest straight boom ever - the 1500SJ - matching the height of its aging 150HA articulated boom in a dramatically more compact and easier to transport package.

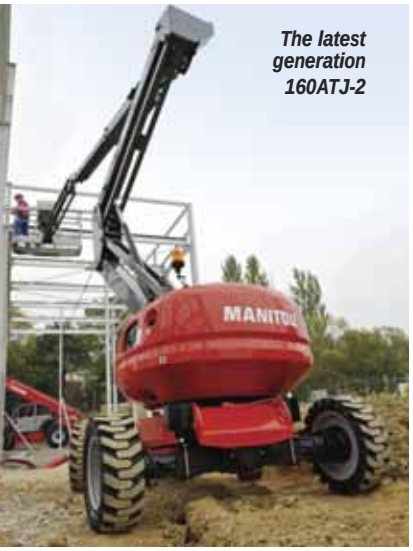
The latest company to adopt the concept is Manitou with its 28 TJ - see separate story page 20 - the company's first straight telescopic boom lift. The benefit of the long jib is that it provides some significant outreach at a significant height without sacrificing straight up or straight out reach. Expect to see more manufacturers adopt the idea. And who knows, perhaps we'll see some three section jibs before too long?


Haulotte HA 28 TJ+

Manitou

a period of consolidation

French equipment manufacturer Manitou is predominantly known for its telescopic handlers, having built its first Rough Terrain fork truck more than 50 years ago. Of its three divisions, Rough Terrain Handling - which includes telehandlers and access equipment - is by far the largest, accounting for 70 percent of group revenues, with the Industrial Material Handling and Compact Equipment (Gehl/Mustang in the USA) divisions making up the remainder.



The latest generation 160ATJ-2

At the end of last year, Cranes & Access and sister magazine Kran & Bühne were given an exclusive insight into the company which included a tour of two of its facilities in Ancenis and Candé along with a session with chief executive Jean-Christophe Giroux.

Founded by the Braud family 60 years ago in Ancenis in north west France, Manitou achieved sales of €1.13 billion in 2011, 68 percent of which came from markets outside of France. The company employs nearly 2,800 across eight production sites (four in France, three in the USA and one in Italy) with five brands – Manitou, Mustang, Gehl, Loc and Edge – operating in the construction, agriculture and industrial sectors.

In terms of financial performance 2009 was a bad year for Manitou. After several years of healthy profits (€155 million in 2006) it posted a loss of €48 million and was choking on the over the top price of its 2008 acquisition of Gehl. In 2010 it managed to scrape a modest profit (€10 million) on the back of a new strategy, reviewing all of its production processes, rationalising its product lines and setting out a clear plan for its dealers, users, employees and shareholders of the group's long term ambitions.

Growing access product range

For many, Manitou will always be a telehandler company, however after having entered the access market as long ago as 1992, the company has in recent years made some significant progress, expanded its boom and scissor range – both organically and through partnerships – to create a reasonably broad product line. The company can now offer, compact electric slab scissor lifts up to 33ft/12 metres working height, a 12ft self-propelled vertical mast lift and two compact Rough Terrain diesel scissors, with 26 and 33ft platform heights. The scissors are part of a cross branding deal with Terex/Genie, while the mast comes from Snorkel.

On the boom side Manitou designs and produces all of its own models, including eight and 10 metre mast booms, electric and diesel articulated booms ranging from an industrial 33ft to a larger 60ft and most recently added 80 and 86ft telescopic booms.

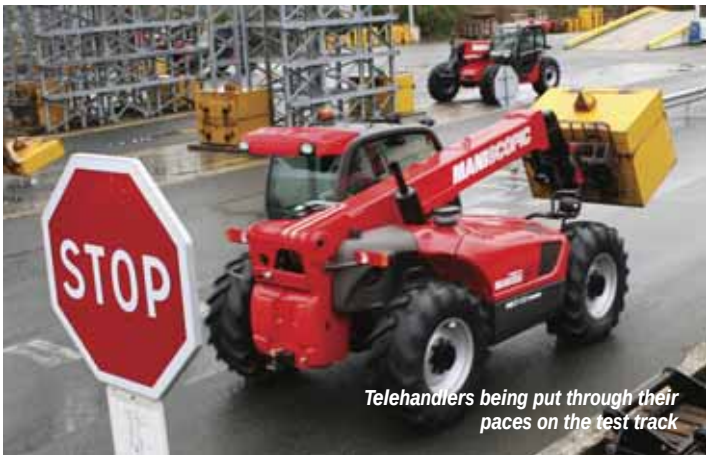
Manitou says that articulated boom lifts represent 52 percent of its aerial lift sales, while scissor lifts are higher than you might expect at 28 percent, while mast booms are 20 percent. It also claims to have steadily increased its market share, which is now around seven percent in Europe as a whole and roughly 20 percent in France. Its strategy is to build those products that it does well and focusing on the European market before considering any move into the Americas.

When the company was negotiating the agreement with Terex – which is said to be working well – it decided to concentrate on Genie's compact scissor lift range, which it says is more in tune with its dealer's requirements - particularly in France - where many are industrial fork truck franchises, a result of its long-term partnership with Toyota which ends in 2013.

"Dealers were often buying other manufacturers scissor lifts and painting them red to look like Manitou machines – now they don't have to do it," said Francois Desbriere Manitou's product manager for access equipment. "Genie is also a good and reliable product, we have not had any problems with the equipment – the arrangement works very well."

The 60V vertical mast - available through a manufacturing agreement with Snorkel (previously the UpRight TM12) is also selling in reasonable numbers according to Desbriere. He says that it complements Manitou's mast booms, the 7.7 metre 80VJR and 9.9 metre working height 100 VJR which have outreaches of up to 3.25 metres. Both of these products were redesigned in 2009, in order to make them lighter and easier to transport. The mast uses a telescopic cylinder rather than chain extension, resulting in a cleaner boom (no oil and grease lubrication) and less maintenance/inspection issues.

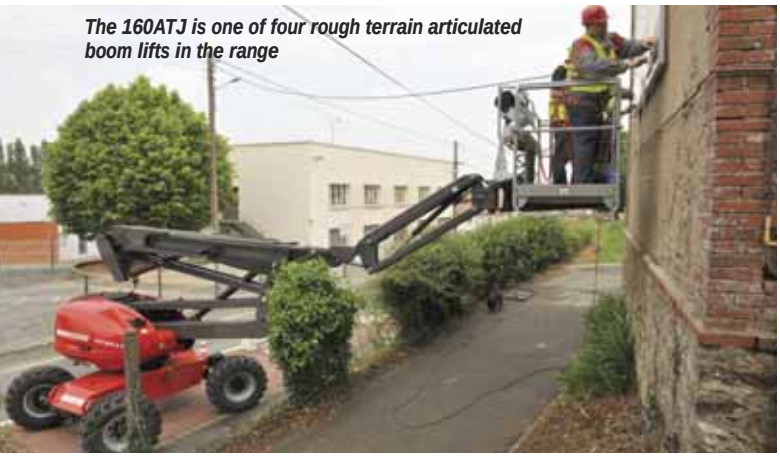
The five model electric articulated boom lift range includes two bi-energy models and two smaller industrial models, both of which offer a rotating articulated '3D' jib. The 17 metre model has an impressive 9.4 metres of outreach



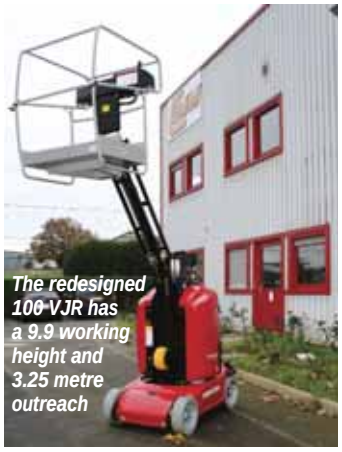
Telehandlers being put through their paces on the test track

and is particularly popular with industrial users.

Then there is the 150 TP – a big platform on a telescopic boom, using telehandler components. It combines the benefits of a larger Rough Terrain scissor lift with the levelling advantages of a Speed Level, in a product that offers 15 metres working height and a relatively low platform entry height. The machine was launched just before the economic crisis of 2008 and has struggled, not helped by a weak marketing effort. To date only around 70 units have been sold. Its ability to lift 1,000kg in a large platform, combined with some significant outreach, is particularly useful in tunnelling, mining and aviation applications. Although it offers more than a scissor lift, rental companies often struggle with something so different, tending to supply a less expensive scissor lift that most customers are used to and ask for, ignorant that something like the 150TP exists.



The 160ATJ is one of four rough terrain articulated boom lifts in the range



The redesigned 100 VJR has a 9.9 working height and 3.25 metre outreach

Articulated RT booms lead the way

However it is the company's four model Rough Terrain articulated boom lift range that has kept the Manitou name in the access market. Combining its telehandler rough terrain experience with a very high build quality has helped make its 160ATJ and larger 200 ATJ highly popular products in a number of countries. More recently it introduced the 160ATJ+ which offers a 400kg platform capacity and slightly more outreach, although the trade-off is a weight increase of almost two tonnes to 8,100kg.

The latest generation articulated boom – the 160ATJ-2 - was launched at Apex last September. It offers improved performance with a smaller and more environmentally friendly Kubota V1505 engine thanks to a new hydraulics and engine control system that matches output to need. Benefits include a claimed 50 percent reduction in fuel consumption, less noise and faster movements. The unit has excellent off-road capability with a new differential lock, four wheel drive, four wheel steering and puncture proof Solid-Air tyres – which are also easier to recycle than foam filled tyres - and smaller 16.5" wheels, which when combined with more torque gives better gradeability. An oscillating axle is optional.

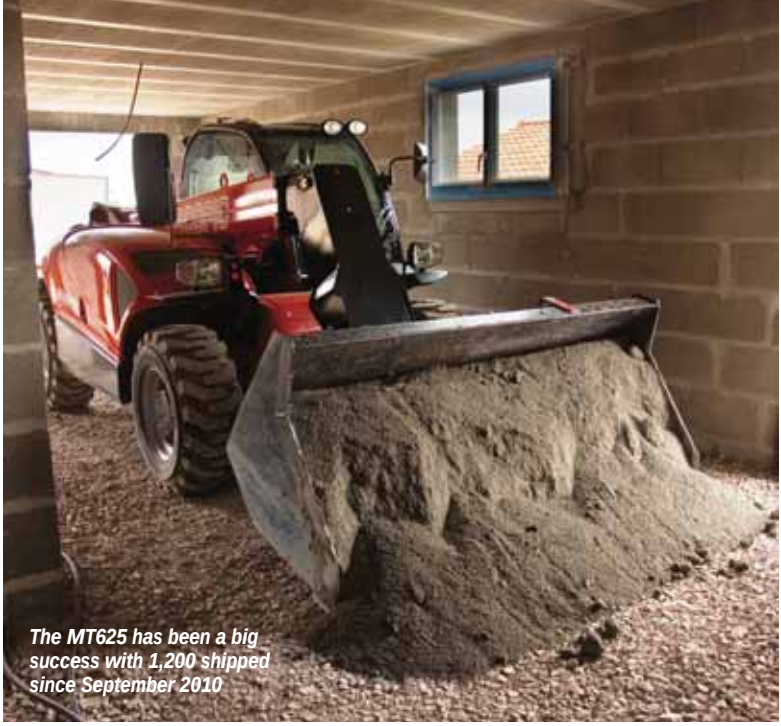
An on-board computer helps the service engineer with fault-finding as well as offering a number of options including limiting the lift height – ideal for a rental company renting it out for lower heights, a rental hour meter and automatic re-alignment of the wheels for easy changing between the three steering modes.

Telescopics with a difference

Apex was also the launch pad for two new telescopic booms, with 80 and 86ft platform heights and 26 and 28 metre working heights. The only major difference between the two is that the jib on the larger unit is telescopic, while the lower one is fixed. This gives the 260 TJ a 400kg unrestricted platform capacity whereas the 280 TJ has 350kg but is limited to 240kg at full outreach. It also makes the 280 TJ slightly longer at 11.25 metres and heavier at 16,600kg. The two platforms have been designed along the same lines as the160ATJ-2, to offer premium performance from a smaller engine which being less than 36kW does not have to meet 3B emissions regulations.

Electronic management of the engine rpm provides the required hydraulic pressure and flow needed for faster single movements and still allows four simultaneous functions without noticeable interference between them, making it a very quick and smooth machine and adding to the comfort and security of the operator. The unit also offers a single button programme to provide automatic single control movements in both the horizontal or vertical planes.

The development of these new TJ telescopics has taken three years, but the project is now virtually complete. Final tests are being carried out with production due to start in April.



The MT625 has been a big success with 1,200 shipped since September 2010

Telehandlers are still the driving force

Laurent Pons, Manitou's telehandler product manager said that Manitou's sales are split between three major markets with construction representing 45 percent, agriculture 31 percent and industrial applications – including scrap & recycling - 24 percent. The company currently sells its products through 600 Manitou distributors, while Gehl added 780 industrial and compact equipment outlets, primarily in North America, Western Europe and India.

Laurent Pons

With the market up around 50 percent in 2011 telehandlers are the main driving force behind Manitou's strong revenue growth. The company has also done a great deal to rationalise its product line, dropping older, less competitive models in order to focus on increasing production of its more popular models such as its new MT625. This has meant that it has pulled out of the rapidly growing ultra compact model just as it is taking off.

"Investing valuable engineering resources to update engines and systems on a very dated original design makes no sense," says Pons. "Nor does devoting production capacity to products that are inefficient to build. The company will come back to this sector."


The Manitou Ancenis facility

More rational range

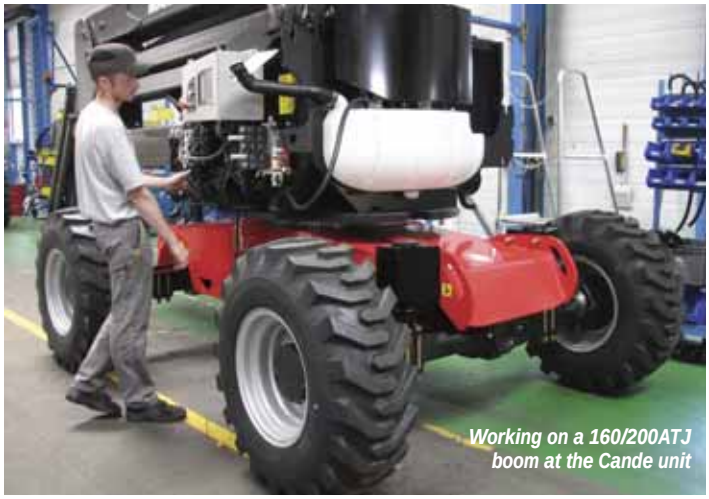
The newly rationalised range has four sectors, Compact, Middle Lift, High Lift and Rotating with 10 series and 23 models. The compact range is now just one model – the MT 625 - following the dropping of the Buggiscopic and Twisco, with five High Lift models and seven Rotating models. Manitou says that the Middle Lift machines the MT732 to MT1235 – will be the next products to be reviewed.

The company has sold more than 1,200 MT625 units since shipments began in September 2010, in addition to 400 units of the Ag derivative MLT 625. The result is that Manitou's share of the under six metre market for both construction and agriculture has increased from 25 percent in September 2009 to 36 percent a year later – although these are AEM numbers and do not include Merlo.

capacity of four tonnes and three lift heights – 14, 16 and 18 metres – all with common chassis specifications, complete with simple 'flop down' outriggers and optional self-levelling. According to Manitou the 360 degree telehandler market is growing with machines often working in stationery applications inside or alongside buildings.

With Bi-Energy

The company has also introduced an MRT Bi-Energy telehandler using a three-phase 11kW 380-400 volt AC mains powered motor to drive a dedicated hydraulic pump to power slew and all boom functions but not drive. The unit is designed to operate in any situation where noise and pollution is critical. The unit can be operated from the cab, the access platform or from a remote control unit.


Working on a 160/200ATJ boom at the Cande unit

Changes at the top

In January 2011 the new 14 metre/4,000kg MT 1440 and 18 metre/4,000kg MT1840 telehandlers were introduced. Available with hydrostatic or torque convertor transmissions they can be specified with fully integrated access platform attachments. Another significant change is the move to a chain boom telescope system on the four section MT1840 which provides a faster synchronised extension.

Other improvements include a more intuitive operator interface, with improved navigation system and new LCD screen layout as well as an easy connect system (ECS) for attachments, standard tilt lever lock, an inching option and lift cylinder end of stroke - 'cushion stop'- shock absorber.

360 degrees

The MRT Easy is a simpler range of 360 degree telehandlers with a

With Bi-Energy

Over lunch chief executive Jean-Christophe Giroux shared his thoughts on Manitou's markets and products.


Jean-Christophe Giroux

Given the uncertain economic conditions and the general media 'doom and gloom' of recent months, Manitou had a good year in 2011 and is looking forward to 2012 although with a little uncertainty.

"It is difficult to predict how the year will pan out but we seem to be over the worst," said Giroux. "For 2012 we still have a substantial backlog of orders and is not going down, even though we are now producing 20 percent more product than we were a year ago. If the market recovers, we do have the capacity to supply machines. But as we don't know what to expect in 2012 - the increase may be five or 20 percent - we will have to work hard to adjust production to suit."

"Component supplies are still a big issue. We could increase production by 50 percent with our existing facilities, but the real bottle-neck is supplier component capacity, rather than fabrications. In Italy all fabrication is outsourced to subcontractors and suppliers which are excellent, here in Ancenis it is a mix, but our biggest problem are engines."

"Current backlog for telehandlers is about six months which is way too long, we would be happy with between eight to 12 weeks. Some of the more popular models are already down to 10-12 weeks but then others are much longer. We have changed the system so that instead of scheduling machines to order which was causing a lot of delays, we identified 10 to 12 very popular machines and scheduled these into stock and they are therefore available more quickly. It is more efficient for us and the supplier to build a longer run of one machine, particularly if it is a basic model – variations take longer. The cost and time of changing to 3B engines is enormous. In the mean time we are also stocking 3A engines so that we have engines in stock to continue building."


Even though it is no longer available, the Buggiscopic is still very useful around the Ancenis facility


Telescopic handlers undergo thorough testing


Products awaiting delivery at the Candé facility


The VJR machines during production

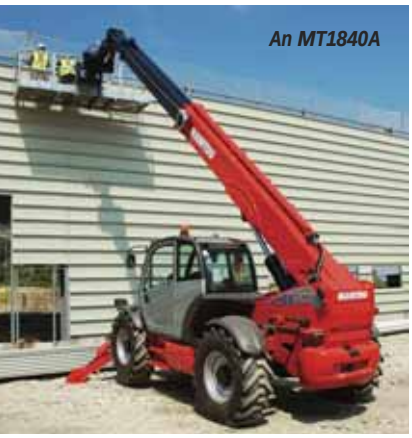
"We are trying to prioritise and some models classes have had to be cut – not for ever, just during this transition. It is not the result of a crazy marketing policy it is just down to hard choices we have had to make. We could say a replacement is coming and then delay and delay but we would rather be open and straight forward about what is happening."

C&A: What are your plans for the future?

At the moment we are trying to keep customers and dealers happy and are focusing on rapidly growing market sectors and regions.
For example with raw material demand continuing to grow, mining is becoming a massive industry. We don't produce mining equipment but we do make machines that are used in mines and for maintaining mining equipment. Mining is often strong in regions where we don't generally supply a lot of equipment.
So focusing on supplying machines and attachments to this area helps build a Manitou brand presence and generate revenues and profit for our dealers."

C&A: Why have you stopped production of the Buggiscopic and Twisco before a replacement is available?

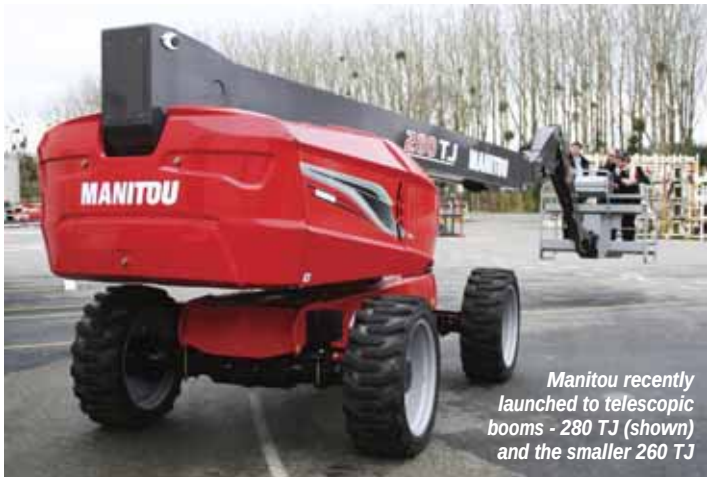
"The decision is not ideal, but it is not a smart decision to put a 3B engine in the Buggiscopic. I am sure customers would purchase some, but is it worth the effort for small volumes and future sustainability? For any given model we have to add a 3B engine model for Europe, while having to sustain some type of 3A version for other markets, at least for few years and also offer a low cost version with or without EN15000. So instead of one model we may have three or four. Unfortunately the customer only sees one model but for us it requires an R&D team for each of the four variants. We just could not do that with all the models we had – it was just not possible."


An MT1840A

"India is not one of our major markets, but we do have some interesting enquiries, such as one for 50 MRT30 telehandlers in just one refinery, which will help to establish an initial presence.
We are excited about growing in new markets and finding new customers that use machines in ways we never thought of. I am often surprised that the Manitou brand is so well known in remote countries where we do not even have a dealer."

C&A: What are your plans for the access division?

"We are not a big player in the access market and don't want to be. We may not offer a full line, however, what we do, we do well. You cannot say however that we are a small player, with a 23 percent market share in the sectors where we are active. Our access business is profitable, it is growing and can survive. I would not accept a loss making business. This is a crowded market with respectable players, so we try to be a bit different. Product feed-back from customers is good, even though we may have a small share of their fleet, but where is the problem in that? I cannot see the point of entering a loss-making product sector just to look good and offer a full line."



Manitou recently launched to telescopic booms - 280 TJ (shown) and the smaller 260 TJ

C&A: What about your access partnerships?

"We knew what we wanted when we entered into the Genie partnership - it was better than spending valuable Research and Development money on scissors. But I don't know where it will take us. We are proud of our platform range, they sell like 'hot-cakes' and we could have sold 30 percent more this year, if only we could have built them. Access is not a problem child.

We don't need high volumes to be profitable in access and we are not dependent on the major rental companies like many of our competitors.

As it stands I am very happy that we can build any machine. The challenge over the next few years however is to improve and master the current product portfolio before we add to it."


160 ATJ-2


Manitou parts centre


150 AETJL
Bi energy and 160 ATJ