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Niche no more

Over the past couple of years or so, French access manufacturer ATN has shown its innovative side with the introduction of new articulated booms, scissor lifts and the recently announced spider lift. Mark Darwin visited its facility in Tonneins, South West France and spoke to Daniel Duclos, president of the company to find out more.



Daniel Duclos

ATN was founded on a niche of a niche, the rubber track mounted mast boom, adding to the growing mast boom market that has a strong European following, mainly in France but more recently in Germany, Switzerland and the UK. However it quickly added more mainstream wheeled mast booms and a few years back moved into the small Rough Terrain boom market and is now spreading into a wider range of access products.

The company has an interesting history. It was all started by Duclos - a young mechanical engineer - in 1988 and joint founder of Delta Systemes, the company which first introduced the 'Toucan' mast boom. With sales to rental companies slow to take off he started a rental company in 1992 called Delta Bail in the Paris area with a fleet of 50 mast booms in an effort to promote the concept.

A few years later (in 1995) Delta Systemes was purchased by Grove - at that time the third largest aerial lift manufacturer in the world - with Duclos allowed to run his company within the Grove empire. Delta Bail however was not acquired as Grove did not want to be involved in rental so Duclos retained it and later renamed Acces Industrie which still continues today.

"During the time we were owned by Grove I visited rental companies around the world and could see the huge difference in the market maturity between Europe and North America," says Duclos. "For example, the largest rental company in France had a fleet of 400 self-propelled platforms. Nationwide in the UK had about 4,000 units whereas United Rentals in North America had 40,000 units. The potential in Europe was huge."

So as part of the Grove plan for Duclos he was to design and manufacture a new range of articulated booms, scissor lifts and mast booms - up to 16 metres working height in Tonneins. However the plans never got off the ground, because unbeknown to Duclos, Grove was up for sale and as a result all investment was blocked.

"I was 35 at this time - too young to retire - so I developed the rental company -renamed Acces Industrie in 1997 - initially to develop the mast booms although rental companies did not want this type of equipment as it was too different and too expensive. We were selling the product to end users so I was convinced that there was rental potential. Over time we developed the know-how and gained experience to modify the machine to make it more tuned to the rental market. However Manitowoc purchased Grove in 2002 before this came to fruition. This is why I set up ATN in 2000 to design a range of mast booms - starting with the tracked Pifaf and developing a range of mast booms for the rental sector. Our philosophy was and is clear - build platforms that have good performance, longevity, reliability and are simple to maintain."

Following on from the mast booms, ATN produced its first articulated,



Part of ATN's new production facility near Tonneins, South West France

four wheel drive diesel boom lift in 2009 and launched its first diesel scissor lifts in 2011. By attracting investment to support its growth it was recently able to expand including moving into its new 20,000 square metre production facility just outside of Tonneins.

Business model changes

"Originally we were a small niche manufacturer but then six years ago we decided to develop a full range of products, but taking time to make sure we got it right," says Duclos. "You do not get a second chance to make a good first impression. While developing the new machines the experience gained from Acces Industrie helped enormously. Rental machines have to be reliable with good accessibility to the engine and components for easy maintenance. Sometimes it is a bit more expensive to manufacture this, but it is cheaper for the customer in

the long run. We also have a policy of using standard components with no captive parts. All too often manufacturers create captive parts so users are forced to buy from them at inflated prices. This is not what we want."

"After 27 years in this market I can see that the major manufacturers have been successful by doing a good job for the customer. However I think that they have lost sight of this philosophy, because they are now more finance or corporate orientated. They have an eye on the short term gain or stock market price, and not on the long-term relationship with customers. Take machine covers for example. They used to be made from fibreglass however the damage after an accident/impact was expensive to repair. Then they were made of much cheaper plastic however when it is damaged it breaks



Early Delta Systemes machines.





The new Piaf 66 has a 6.6 metre working height

completely offering no protection. Replacements are expensive - say €1,500 - and over the life of a machine may need replacing up to three times, good money for the manufacturer, but a significant cost to the rental company. There can also be problems with machines and we as the manufacturer have a responsibility to fix them even after the warranty period has expired."

Mast boom popularity

The mast boom is most popular in France and according to Duclos this is because of the education about the product concept over many years. More recently Germany and also the UK have begun to

"When I left Grove it was the only company producing a mast boom. Now JLG may have 25 percent of the growing market share, but it also has to compete with products from Manitou, Haulotte, Genie (badged Manitou), ATN and now Dingli. The mast boom is still a niche product but ATN is no longer a niche manufacturer."

Currently ATN, which employs around 60 and produces 400 units a year at its new production facility however the new plant has a capacity to produce much more.

"Manufacturing is not a problem," says Duclos. "If we need to build 10,000 units then we could do it. Our sales are currently around €10 million, but I cannot see why in the future we could not have 10 to 20 percent share of the European market. Worth up to €3 billion a year we could reach €100 to €200 million a year. The new factory could take us to €100 million without further investment apart from more staff."

"Machines are assembled at the facility with components and prefabricated parts arriving from all over the world, including Sri Lanka, Slovakia, France, Spain, Romania,



Part of the mast boom production line

appreciate the advantages of the mast boom, but it is only slowly gaining in popularity, even in countries where aerial work platforms are well established. "Habits are difficult to change," says Duclos. "First users had to be convinced to move away from scaffolding and towers to platforms. Then we need to educate the users about the different types of platforms and their benefits. We have succeeded in France because we have spent years educating end users on the benefits of mast booms."

China and Portugal. The world is now a small village and we have to find the best supplier for quality and price."

The facility is situated on a 40,000 square metre plot so there is plenty of room to expand if necessary. A €3million investment has recently been made in a new paint booth which improved the quality of the finish and added additional capacity. A new office building also being constructed bringing together the production, sales and engineering departments. The new factory is within a few



The new 23 metre spider platform will be launched at Intermat



The new facility has the space for massive expansion

hundred metres of Duclos' old facility - now owned by JLG - where the Toucan products are still built.

Spider lifts

"Mast booms with telescopic jibs are a niche within a niche and not an area we are looking to get into at the moment," says Duclos. "The spider lift is another niche, but I can see that they will become more mainstream, especially if they become more user-friendly. The development of the spider lift market could be very surprising over the next 10 to 15 years. Our aim is to build a simple, easy to use 23 metre spider with controls and systems similar to our other products. It will be launched at Intermat and hopefully will be available late 2015/early 2016. We take our time on developing products to make sure that we get it right."

ATN says that it decided to start at what it sees is the most popular size for a rental spider lift, but is also looking to add smaller - 17 metres - and larger - up to 30 metres - models. And hopes to launch three new products a year of all types.

"We have taken a different approach with our spider design," says Duclos. "We have about 30 spiders

from other manufacturers in the rental fleet so we know the pros and cons of each machine and how they perform."

Different products

For ATN the initial product was the crawler and then wheeled mast boom. Crawler units are becoming increasingly popular so it will launch an eight metre electric and a 10 metre crawler unit at Intermat for applications such as greenhouses in France and The Netherlands, where soft ground is an issue. Tracked lifts are also very popular



A €3million investment has recently been made in a new paint booth which improved the quality of the finish and added additional capacity.

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ATN currently produces about 400 machines per year but has the capacity for much more

in Japan. Mast booms now account for just half of ATN's current production, and only 30 percent of its revenues. The production of diesel scissors is growing, but has encountered several problems. "For rental companies the RT scissor is expensive to buy and rental returns are low," says Duclos. "It also suffers abuse as it is a heavy duty product but as it is in demand we have to offer a product but it is not very profitable."

"We could produce something cheaper - low reliability and short longevity - but we chose the heavy duty product, with best the capacity and gradeability in its class, using four millimetre thick steel covers etc. It is a bit more expensive but its whole life costs are lower. The customers who understand this are happy to buy."

ATN's articulated boom range which includes the 12 and 16 metre



Zebras, will also be expanded with a 20 or 22 metre model. The product is starting to sell well to the big rental companies including Hertz, Goscor, Salti, and Schwenk in Germany.

Hybrid the future

"We think the future is hybrid or electric and this will be applied right across the product range," says Duclos. "I have many ideas but cannot mention them in detail at the moment but the rental market is key. In France we see a demand for the smaller platforms of less than eight metres which is why we launched the six metre Pifaf at Apex. It is a jobsite product that is strong and reliable like our larger machines. We are not looking to manufacture a push around - we believe in self-propelled platforms - and may consider lower machines after the 6.6 metre Pifaf is established."

"The very first ATN platform was a narrow, 5.6 metre tracked mast boom. I still believe in this machine but when we did it 14 years ago no-one was interested - it was too advanced for its time. Now we are starting to see the demand for the new Pifaf 660RC because it can go anywhere. Perhaps we will reinstate the concept of our original platform?"

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The choice is yours

When it comes to choosing a boom lift at the lower end of the height range, the market is bulging with different concepts and alternatives from a wide range of manufacturers. This month Cranes & Access takes a look at small electric powered booms including mast booms.

When sourcing the right platform the first decision is of course to decide the type that best suits the application, or if you are a rental company, what is your customer base? The small electric boom market - with platform heights between six and 10 metres - essentially breaks down into the following categories:

- Lightweight booms such as the Niftylift HR12, Snorkel A38E or new Genie Z33/18 etc...
- The ultra-compact industrial booms such as the JLG 300, Genie Z34/22, Haulotte HA 12 or Manitou 120 AETJ-C
- Mast booms such as the Haulotte Star and JLG Toucan products
- Small Rough Terrain booms such as the JLG 340AJ and Niftylift HR12-4x4

The decision really depends on the usual platform selection criteria - the working height, outreach and/or up and over reach required along with physical dimensions including height, width, length, weight and manoeuvrability which allow or prevent the platform gaining access to the work area.

The specification table below shows the relatively wide range of physical dimensions and weights available with working heights from 7.7 to 12.65 metres and outreaches from about three to seven metres. All should all be able to go through a standard height double doorway but while the mast booms have overall widths of around one metre, the regular booms are much wider - ranging from 1.2 to 1.93 metres wide - and generally heavier weighing anything from just under three tonnes to a whopping seven tonnes. On the whole, the heavier or bulkier lifts offer much better outreach. They each have their merits and having narrowed your selection to those that suit the work, the final decision will ultimately depend on availability and cost - no matter if you are renting in or buying.

The mast boom might initially appear to be at a disadvantage with outreach limited to three or four metres. However they have the advantage of being lighter and



The new Genie Z33/18 is the latest addition to the lightweight booms



The 10 metre working height Manitou 100VJR has an outreach of more than three metres.



C&A

mast booms

narrower while offering far better up and over heights. However there are now several mast booms with platform heights in the 30ft range - 11 to 12 metre working height - that feature two or even three section telescopic jibs, providing outreaches up to six metres. The downside of these jumbo mast booms is that they can weigh around five tonnes with overall widths in the region of 1.2 metres.

While smaller non-telescopic mast booms cannot compete on height and reach with the small boom lifts, the fact that they are more compact and lighter might be the difference of reaching the work area or not. And getting closer to the workplace means less outreach is needed, particularly if it is being used to just to straddle small low-level obstructions.

Small RT booms such as the JLG 340AJ are now an option when looking for platforms around the 12-14 metre range.

Small RT booms?

Finally you can argue that there is a fourth sector edging in as small hybrid Rough Terrain booms come on stream. Niftylift has offered a four wheel drive version of its HR12 for at least five years and from the start it was available with a Bi-Energy power source. JLG took it a stage further in 2012 with its 340AJ which utilises four electric hub motors to not only provide highly efficient drive and traction, but made a full electric Rough Terrain boom possible. The 340AJ also has a diesel engine to recharge and top up the batteries creating a form of hybrid. The unit was available from the start with heavy lugged non-marking tyres, making it truly viable for indoor use. Other machines are coming on stream to add to this sector.





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Mast boom history

The mast boom market continues to grow and expand as more end users discover their attributes helped by the rental companies getting to grips with the concept. While the American manufacturer Lift-a-Loft can probably claim to have invented the concept, it was the French that converted the idea into a commercially viable volume product. We have told the story in previous issues of how Alexis Biramian began work on the idea while at Comabi - at the time a part of SGB - but left to establish his own access rental business, ABM in Mirabel, near Lyon. He then commissioned a design company from South West France to turn the concept into a reality. The young engineer responsible for the project was Daniel Duclos and for whatever reason, instead of handing over the prototype and the designs to ABM, Duclos and his partner decided to commercialise the product themselves and founded Delta Systemes selling the new mast booms under the Toucan brand. (See Daniel Duclos, ATN interview page 27)

Grove acquired the company, dropped the Delta name and rebranded the products as the Grove Manlift Toucan promoting them through a combination of its own dealer network and the better Delta dealers. In 2001 Grove was acquired by Manitowoc, which had also acquired Potain tower cranes and had no long-term interest in the access market, yet through these two acquisitions it was the owner of Grove Manlift and Lift Lux with two dedicated production facilities as well as two Grove crane plants that also built Manlifts. It dropped the Grove name from Manlift and began to separate the access business

from its 'core' crane operations, while looking for a buyer.

In 2004 JLG made an acceptable bid for the business - some say in order to take the Manlift boom lifts out of the market - a highly satisfactory achievement given the historic rivalries between Grove and JLG. The fact was that the jewel in the crown of the Manlift acquisition was the Toucan product range, along with the dedicated plant in Tonneins, South West France, while production of Lift Lux scissor lifts moved from Germany to the JLG plant in Maasmechelen, Belgium, but was nowhere near as successful as the Toucan.

To wrap up our mast boom history Alexis Biramian went on to introduce his own range of mast booms under the ABM brand. He later sold that business to Haulotte which was building its own Starlift mast booms, but struggling to make money from them. UpRight also joined the market with its MB range, followed by Manitou with its VJR's and to square the circle Duclos got back into the act founding ATN initially to build a specialist tracked mast boom. Today the company is a significant player in the market and has expanded its range to include booms, scissor and shortly spider lifts. Oh and Comabi - the company that might claim to have started the whole thing in Europe - was sold off by SGB and designed its own range of small mast booms, but they have never found wide commercial success.

In recent years several Italian manufacturer's such as Airo and Iteco/Imer have tried their hand in the market, with limited success. In Germany Lehmann and more recently Hematec have built excellent machines, but they tend to be less competitive and more complex than the French models.

The latest entrants come from the east in the form of Chinese manufacturer Dingli which has two very respectable looking models, shortly to be joined by fellow Chinese producer Mantall which showed a 10 metre product at Bauma China in November.

Mast boom characteristics

The bulk of mast boom sales comprise the 10 metre working height models, with an overall width of just under a



German manufacturer Kreitzler has several interesting mast booms with outreaches up to five metres. This KIB 12/047T has a 4.7 metre working height, four metre reach with a capacity of 300kg and weighs 3,300kg

metre, overall height of just under two metres and around three metres of outreach through 360 degrees of slew. Over 90 percent of mast booms are made in France by JLG, Haulotte, Manitou and ATN. Why France? Well as outlined in the Duclos interview, it came out of the strong promotion and rental availability for end users by Delta. The concept is now very well established and is the only market where it is considered as a mainstream rental machine, compared to the rest of the world where it is seen as a niche product. In addition to the 10 metre models, several companies produce eight metre models, that tend to be based on the 10 metre units, but tend not to sell well due to a lack of serious price differentiation. One or two companies build larger machines, although internationally only JLG is active in this market. The basic mast boom design with its high counterweight and short length has tended to make mast booms a little top heavy, resulting in instability particularly when loading and unloading. This has resulted in a number of accidents over the years and put off some rental companies. However the main producers have all worked on this issue to the point where it is not really an issue any more.

Bigger mast booms

As we have already mentioned JLG acquired the Toucan mast boom range from Grove in 2004, which included a 12 metre model which had not sold well. Initially JLG tweaked and improved the design but failed to significantly improve its popularity. Although these big mast booms did have those that

appreciated their good up and over reach and an absolute parallel lift/lower function, ideal if doing sequential work on a wall or façade. In 2013 JLG introduced a more mainstream product which included a telescopic jib - the T12E Plus with similar dimensions to the smaller models apart from being 1.2 metres wide. The benefit is over six metres of outreach and a working height approaching 13 metres although it weighs 4.9 tonnes.

Mast boom based crane

In Germany last year Hematec refreshed the Lehmann Emu design for a mast boom that is truly as compact as most 10 metre models yet offers substantially more outreach at 5.15 metres. But while the Helix 1205 has dimensions which are competitive with other 10 metre mast booms, its weight is significantly more at 4,800kg. Hematec also has the Helix 1508 - a larger 13 metre mast boom with an eight metre outreach. This is slightly wider at 1.2 metres but weighs in at a hefty 7,500kg.

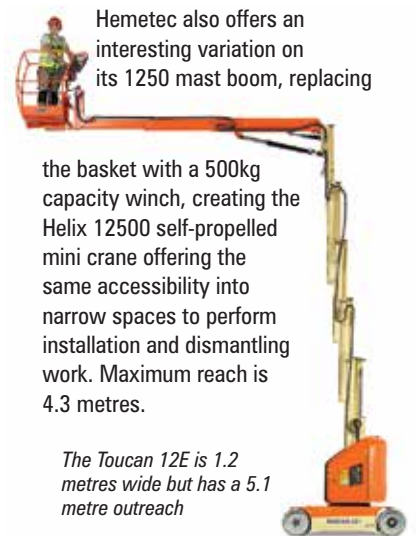
Hematec also offers an interesting variation on its 1250 mast boom, replacing

the basket with a 500kg capacity winch, creating the Helix 12500 self-propelled mini crane offering the same accessibility into narrow spaces to perform installation and dismantling work. Maximum reach is 4.3 metres.

The Toucan 12E is 1.2 metres wide but has a 5.1 metre outreach



A Grove Toucan





The more specialist German-built Hemetec Helix 1508 has a 15 metre working height and eight metre outreach.

Mast boom innovation

Of the mainstream mast boom manufacturers only ATN supplies units on tracks. It claims that crawler units are becoming increasingly popular and will add an eight metre electric and 10 metre crawler units in the coming months, particularly for greenhouse applications in France and The Netherlands where soft ground is an issue. In the major mast boom market - France - there is also a growing demand for smaller working height platforms.

Several Chinese aerial lift manufacturers are now looking at the mast boom market, and the leading manufacturer Dingli now has two models. Its first 11.2 metre platform - originally known as the AMWP11.5-8100 but now known as the Whirlwind 11.5 has been joined by the smaller 10 metre Whirlwind 10 which is pretty much the same, but uses one mast section less. Dingli is also different in that it includes an automatic pothole protection device as standard,



Hemetec also offers an interesting variation on its 1250 mast boom, replacing the basket with a 500kg capacity winch

improving its ground clearance when the platform is stowed.

UpRight (now Snorkel) introduced this idea to the mast boom when it launched a narrow, 800mm wide, eight metre mast boom in the 1990s. The advantages of a narrower platform largely failed to appeal, with most buyers preferring to stay with the standard 10 metre Dingli appears to be finding some success having sold a number of its 11.5 metre machines to customers in Australia. Finland. France the



Originally known as the AMWP11.5-8100 the Dingli Whirlwind 11.5 has been joined by the smaller 10 metre Whirlwind 10.



ATN produces both wheeled and tracked mast booms



The Snorkel MB26J seen recently at the ARA show in New Orleans



The recently launched 10 metre Mantall IPM100J

UK, Netherlands, Russia and New Zealand.

Chinese aerial lift manufacturer Mantall also unveiled a new mast boom at Bauma China. The 10 metre working height IPM100J uses direct DC electric drive for both wheels and is said to have high operating speeds. It has very similar dimensions to other platforms in its class with an

overall width of less than a metre, is just under two metres high by 2.7 metres long when stowed. Maximum outreach is said to be 3.2 metres.

Manitou are among several manufacturers offering industrial type boom lifts.



Mast Booms		Platform Height m	Width m	Weight kg	Capacity kg	Grade	Outreach m	Height m
ATN	880R	6.8	1.03	2600	200	20%	3.36	1.98
	1000R	8.04	1.03	2980	200	20%	3.46	1.98
	1100R	9.0	1.03	3200	200	20%	3.74	2.14
Dingli	Whirlwind 10	8.0	1.0	2890	200	25%	3.0	1.99
	Whirlwind 11.5	9.2	1.0	2950	200	25%	3.0	1.99
Genie	GR-20J	5.7	0.99	2250	200	25%	2.75	1.99
	GR-26J	7.85	0.99	2650	200	25%	2.65	1.99
Haulotte	Star 8	6.2	1.0	2610	200	23%	3.0	1.99
	Star 10	8.0	1.0	2735	200	23%	3.0	1.99
Hematec	Helix 1205	10.0	0.98	4800	200	16%	5.15	1.98
	Helix 1508	12.98	1.2	7500	200	16%	8.0	2.20
JLG	T8E	6.15	0.99	2120	200	25%	2.39	1.99
	T10E	8.10	0.99	2990	200	25%	3.08	1.99
	T12E	9.83	1.2	4300	200	25%	5.10	1.99
	T12E Plus	10.65	1.2	4900	200	25%	6.05	1.99
Kreitzler	KIB 08/08 GT	5.9	0.85	2000	120	14%	3.10	2.10
	KIB 08/09 GT	7.5	0.85	2240	120	14%	3.50	2.50
	KIB 10/095 GT	7.5	1.05	2240	250	14%	3.50	2.50
	KIB 08/095 GTS	7.5	0.80	5500	120	14%	5.00	2.10
	KIB 08/122 GTS	10.2	0.80	5700	120	14%	5.00	2.10
	KIB 08/132 GTS	11.2	0.80	5800	120	14%	5.00	2.60
	KIB 08/110 GTS	9.0	0.80	5680	120	14%	5.00	3.10
KIB 08/126 GTS	10.6	0.80	5950	120	14%	3.65	3.10	
Manitou	80VJR	5.7	0.99	2250	200		3.25	1.99
	100VJR	7.9	0.99	2650	200		3.15	1.99
Mantall	IPM100J	8.0	0.99	N/A	N/A	N/A	3.20	1.99
Snorkel	MB20J	6.1	0.81	2590	215	25%	2.60	1.98
	MB26J	7.8	1.0	2660	215	25%	3.00	1.98
Industrial/RT type boom lifts								
JLG	E300AJ	9.19	1.22	6900	226	25%	6.17	2.01
	340AJ	10.33	1.93	4400	230	45%	6.06	2.0
	34/22DC	10.52	1.73	5179	227	30%	6.78	2.0
Genie	Z33/18	10.0	1.5	3665	200	30%	5.57	1.98
	HA12 CJ+	9.7	1.2	7040	230	25%	7.22	1.99
Haulotte	HA12 CJ	9.7	1.2	6970	250	25%	7.0	1.99
	HA 12 IP	10.0	1.35	5900	230	25%	6.6	2.0
	120 AETJ-C	9.95	1.2	6660	200	25%	7.0	1.99
Manitou	120 AETJ-C	9.95	1.2	6660	200	25%	7.0	1.99
Niftylift	HR12N	10.2	1.5	3100	200	25%	6.1	1.9
Snorkel	A38	11.5	1.5	3770	215	36%	6.1	2.0

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