



MAC'S NEW ACCESS SPEC BODY



Built with safety in mind and features to enhance your operation, our new access body is here. With the industries lowest load angle and new Mac's Gridlock Flooring, loading equipment in all weathers is a cinch.

FEATURES:

14T Payload on 6x2 - 18t Payload on 8x2 - 304 Grade Stainless Steel - Patented Galvanised Side Rails - Mac's LED Work Lighting - Galvanised Headboard - Heavy-Duty Ramps - Marine Grade Ramp Ropes - Stainless Steel Toolboxes & Storage - Winch with Collision Protection



KEEP ON TRUCKIN'

One of the major downsides of running specialist, low volume equipment is that it can be very expensive to operate, maintain and repair. The growth of the All Terrain crane over the past 40 years or so has transformed the mobile crane sector particularly in Europe and increasingly elsewhere. However, thanks to their specialist drive trains, complexity and relatively low production runs, they fall into the 'more costly to run category.' Its predecessor and alternative, the truck crane, benefits from a standard commercial chassis or running gear. We take a look at the various sectors of this changing market.

The All Terrain crane was originally conceived as 'jack of all trades' - a sort of 'have your cake and eat it' product, designed to be as adept on site as a Rough Terrain, while keeping up with truck cranes on the road - well almost. The original thought was that crane rental companies would have a mix of truck cranes and All Terrains, so that they could charge a premium for the more expensive and costlier ATs.

That strategy was predictably short lived. The All Terrain concept originally found its niche in the 25 tonne market - the mainstay of most rental company fleets back then. Once they discovered them, contractors typically began demanding the extra features and benefits at the usual 25 tonne rate! And it did not take too long for the dam to break, when some of those companies that had brought the two axle All Terrains began to offer them out at the same price as their cheaper and less costly three axle truck cranes. But at least this commercial madness was limited to the bottom end of the market as larger AT models were as rare as hens' teeth.

Liebherr changed all that with the introduction of a four axle 60 tonne All Terrain. Originally designed for a 333 unit order for the construction of the Russian pipeline in 1982, it released a version for the commercial market and quickly upgraded it to an 80 tonner. It took off faster than expected, Krupp introduced its 60 tonner, and on upwards it went until new truck cranes almost vanished from the European crane market but

becoming increasingly popular in North America and elsewhere. The result was that cranes had become more expensive, yet in many places - especially the UK - rates were no better. This in spite of the higher costs for fuel, tyres, chassis parts and general maintenance and repair costs.

TRUCK MOUNTED OR TRUCK CRANE?

The terms 'Truck Mounted' and 'Truck Crane' are often used interchangeably, but it can be argued they are quite different. The original telescopic truck cranes that began to appear during the mid to late 1950s featured superstructures made by the crane manufacturers but mounted on 'bog standard' commercial truck chassis.

However, as capacities increased beyond 10 to 20 tonnes, the concept became problematic, in that the increasingly sophisticated truck chassis had too much flex for heavy crane use - especially in Europe - requiring the use of heavy sub frames which added to the height and the weight of the machine. On top of this, full width cabs limited either the cross section profile or length of the boom, making stronger booms a challenge. In North America, Grove decided to build its own chassis to its first 40 tonner, fabricating a rigid heavy-duty chassis with integrated outriggers with single width 'carrier' cab, but using standard commercial running gear. The single cab concept was already used for lattice cranes of course and allowed the boom to run the full length of the chassis resulting in longer booms with fewer sections.

The All Terrain crane was originally conceived as a 'jack of all trades' product, designed to be as adept on site as a Rough Terrain, while keeping up with truck cranes on the road



GROVE TRUCK MOUNTED HYDRAULIC CRANE



ALLEN MODEL H - 2264

An early hydraulic Allen H-2264 using the Allen chassis and Grove superstructure had an 80ft boom and 22 tons lift capacity



A 70 tonne Tadano HK 4.070-1 truck mounted crane on a four axle Scania chassis



The last six Tadano TL250E truck cranes sold in Europe in 2003 went to Marsh Plant in the UK

These may well be referred to as truck cranes, while the units mounted on full commercial chassis are truck mounted cranes. Companies still making truck cranes include Grove, Tadano and Link Belt and ACE (Action Construction Equipment) in India, plus of course all of the Chinese manufacturers. The new Tadano GT-1200XL and the GT-800XL truck cranes launched at Conexpo last year for the North American market are the latest examples of such cranes, which these days tend to be limited to capacities between 60 and 150 tonnes.

Today the truck mounted crane market is split into traditional truck mounted cranes - usually 40 to 70 tonnes from the likes of Tadano and Liebherr as well as several Chinese manufacturers including Sany and Zoomlion, and specialised heavy duty truck mounted cranes with swing out stabilisers and capacities from 40 to 180 tonnes are built by several Italian companies including Marchetti, Locatelli, Idrogru and Ormig. German crane manufacturer Sennebogen did produce a 40 tonne four axle truck mounted crane - the HPC 40 - for several years but stopped production in 2020.

German crane manufacturer Sennebogen stopped production of its 40 tonne HPC 40 in 2020



In North America a different type of truck mounted crane emerged in the form of the Boom Truck, originally conceived by Ray Pittman with his R.O Stinger. Companies such as Manitex and National Crane took the concept upwards from a glorified telescopic loader crane, into long boomed machines that became the standard product for the US street sign business both as a lift crane and with platform attachment. The smaller units could be mounted on the heavy American truck chassis, while the larger units needed sub frames.



A typical American truck crane - the Load King Crossover 80-160

As these cranes grew larger they morphed into a true truck mounted crane with good cabs and capacities in the region of 50 tonnes - just like the German truck mounted cranes, but different. They tend to have longer, lighter booms, and are best mounted on American trucks.

They have never taken off in Europe, although some have tried however they just don't suit European trucks and cannot match the convenience or sophistication of the locally produced articulated or knuckle boom cranes. And perhaps most importantly they have simply not captured the hearts and minds of crane rental buyers.

CHINESE RULE

If talking pure global numbers, truck cranes have once again been the most populous mobile cranes in the world, primarily due to the tens of thousands of three axle 25 tonners produced in China for the home market. In recent years production has fallen but still remains relatively high. The market is fulfilled entirely by locally built products.

Another company producing truck cranes is Action Construction Equipment - ACE - based in India but exporting to numerous countries in the region. The company's TM range runs to



The ACE TM450 truck crane is made in India

five models of three and four axle truck cranes ranging from the 31 metre boom/25 tonne TM 250 to the 41.5 metre boom/55 tonne TM 550.

In Europe, aside from Germany, Italy is the main truck mounted crane producer. They have emerged from heavy duty wreckers and generally have incredibly high capacities - up to 180 tonnes - but with short booms and are mounted on four and five axle commercial truck chassis.

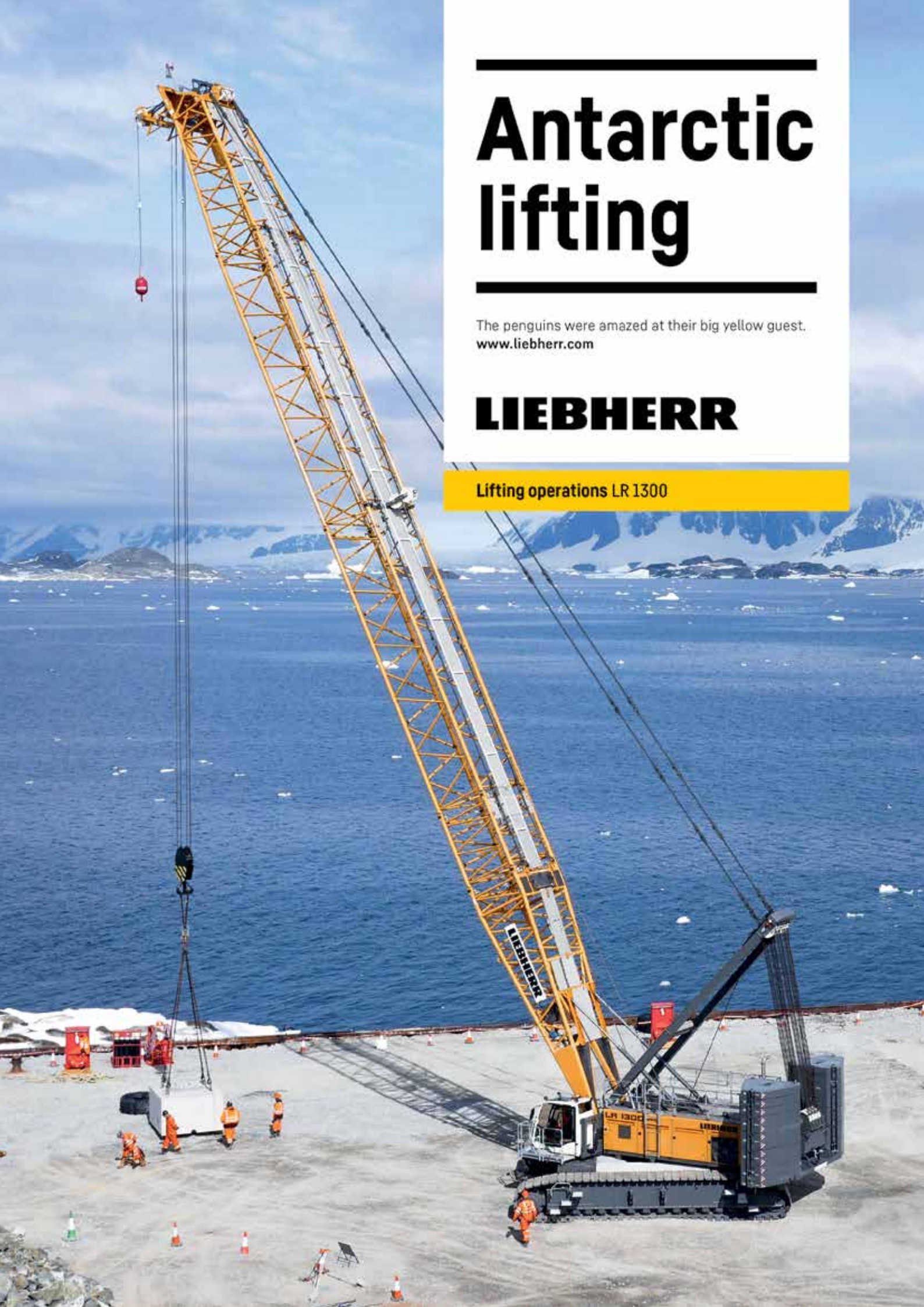
Almost all of the Italian truck cranes feature swing out outriggers which are an integral part of the crane superstructure rather than part of the truck chassis. This permits the higher capacities, and most are aimed at lifting very heavy loads such as prefabricated modules, shipping containers and production machinery etc to low heights and shorter radii.

Antarctic lifting

The penguins were amazed at their big yellow guest.
www.liebherr.com

LIEBHERR

Lifting operations LR 1300





In recent years aluminium boomed cranes have been selling in increasingly significant numbers

WHY ARE SALES NUMBERS SMALL?

But why are sales so poor compared to All Terrains - particularly when truck mounts on commercial chassis offer lower running and maintenance costs, particularly tyres and brakes? For example, an online search for the price of a 445/95r25 (16.00R25) Michelin X-Crane+ All Terrain crane tyre came in at £2,200, whereas a 315/80R22.5 Bridgestone M729 TL tyres for a Scania commercial was about £500 fitted and the wider 385/65R22, £600 fitted. Multiply those prices by six or eight for the AT and you are looking at the best part of £15,000 to £17,000 compared to £4,000 to £5,000 for the commercial vehicle.



A tyre for an All Terrain crane may cost more than four times that of commercial truck tyre

You might expect the purchase price of a truck crane to be lower than an AT, in some cases though it is slightly more. This becomes more obvious as the truck crane has two engines, while the truck chassis can be expensive when purchased in relatively small numbers. Add to this the additional costs which are not incurred with a specifically designed AT chassis, such as building a second chassis/sub-frame and modifying the chassis to accept it and it becomes clear how that might be, especially given the low volumes.

In Europe - dominated by the All Terrain crane - the German truck mounted cranes tend to have capacities from 40 to about 70 tonnes - pretty much covering the most popular size of All Terrain crane, while failing to address the market for smaller cranes. In its hey day the most popular truck crane was the three axle 25 tonner with a three section 24 metre boom. Most buyers find the two axle All Terrains that remain are too expensive, especially given the wide range of alternative lifting equipment such as spider cranes, loader cranes, Kato City Cranes, not to mention the aluminium truck cranes from companies such as Klass and Böcker - Europe's answer to North America's boom trucks. Over the past 10 years or so the aluminium boomed cranes have been selling in increasingly significant numbers outside of its German home market where they have been popular for years. As word spread more and more crane rental companies

spotted the benefits of these lightweight cranes. Aluminium boomed is a slight misnomer as only Klaas still uses aluminium boom sections. Mounted on two and three axle commercial chassis they do not have the same nominal capacities as an All Terrain crane. Most are between three to six tonnes although the largest are 12 tonners - but while might lack the 'impractical' nominal rating, they excel in terms of reach - both height and up & over, up to 45 metres or more. This makes them perfect for jobs such as installing lightweight components such as roof trusses, prefabricated chimney stacks or air conditioning units onto a building's roof. However, compared to an AT or truck crane they are substantially less costly, possibly half the price!

RUNNING COST SAVINGS

A standard truck crane chassis, by virtue of its design, has lower fuel consumption than a comparable All Terrain and is designed to handle extreme road mileages. The chassis can also be serviced by local dealers, while extras such as sleeper cabs are possible.

Liebherr has produced truck mounted cranes for many years and currently has two in its LTF range - the 45 tonne LTF 1045-4.1 and the 60 tonne LTF 1060-4.1. The company says its main market is central Europe with most going to German

customers although sales numbers are modest compared to All Terrains of the same capacity.

Most truck mounted cranes can carry most, if not all of their counterweight on public roads, without special permits, which means they are immediately ready for work once on site. Mounted on a Scania chassis the 60 tonne Liebherr LTF 1060-4.2 - with bi-fold swingaway extension and up to 10.2 tonnes of counterweight - has an overall weight of 42 tonnes with the rear two axles having a weight of less than 12 tonnes per axle. By reducing the counterweight to five tonnes axle weights are reduced to 10 tonnes.

The 45 tonne LTF 1045-4.1 - with its maximum nine tonnes of counterweight - weighs 38 tonnes and has a maximum axle load of 10 tonnes per axle. This can be reduced to 9.5 tonnes with a four tonne counterweight. With mobility and permits an increasingly big issue for crane users most manufacturers are developing cranes with lower axle loads than the typical 12 tonnes.

NEW TADANO TRUCK CRANES

Tadano launched two new truck cranes - the 120 ton (110 tonne) GT-1200XL-2 and 80 ton (72.6 tonne) GT-800XL-2 - at Conexpo last year aimed at the North American market. The GT-1200XL-2 features a five section 51 metre pinned boom and can be equipped with a 10.3 to 17.9 metre bi-fold swingaway extension. The self-rigging counterweight options range from 3.5 to 25 tonnes.

The GT-800XL-2 features a five section, 47 metre full power boom and can be equipped with the same 17.9 metre extension. Multiple self-removable counterweight configurations are possible up to a maximum of 8.1 tonnes.

Tadano launched its GT-1200XL-2 and GT-800XL-2 at last year's Conexpo



Two 60 tonne Liebherr LTF 1060-4.1 carrying out a tandem lift



GOUWEELEEUW

The power of perfection



www.gouweleeuw.com/en

No project too big or too heavy!

Gouweleeuw: The paint shop for vertical transport!

About Gouweleeuw

Specialized in painting:

- Mobile cranes
- Crawler cranes
- Tower cranes
- Excavators
- Aerial platforms
- Other heavy equipment

We work daily on assignments for leading manufacturers such as:

- Tadano
- Liebherr
- Sany
- Manitowoc
- Kobelco
- Spierings

But of course we also work for importers, dealers and end users (both new and used-equipment) such as:

- Global Crane Services
- Allelys Installations Ltd.
- DM Cranes Ltd.
- G. O'Brien Crane Hire Ltd.
- Kovanagh Crane Hire Ltd.
- Osprey Marine Ltd.

Transport service

Have you bought a crane in Europe? First have the crane sprayed in your corporate colours at Gouweleeuw!



If desired, we can take care of the transport of the crane. We arrange international transport as well as transport from the port to Gouweleeuw and back.

Recent projects



Phone number
+31 (0) 527 252 307
+31 (0) 6128 436 37



Email address
info@gouweleeuw.com



Visiting address
Ondernemersweg 14
8304 BH Emmeloord

TRUCK CRANES

The new cranes essentially mount a Tadano Rough Terrain superstructure on a four axle crane carrier with US running gear, an overall width of 2.59 metres and axle spacings optimised to meet state road and bridging formulas making transport permits easier to obtain. A boom dolly trailer is available for areas with the most stringent road regulations.

The chassis features a full width cab, independent front and rear air suspension, a Cummins X12 diesel engine that meets EPA 2021 on-road emission standards, driving through a ZF TraXon transmission with 12 forward gears for a maximum road speed of 65 mph, while all-round disc brakes provide the stopping power.

The engine is equipped with fuel monitoring to prevent waste and save fuel, while a positive control system adjusts the hydraulic pumps during crane operation to match demand, with an Eco Mode feature regulating the engine speed. The superstructure cab features 15 degrees of tilt and a large in-cab screen which not only displays operating parameters but also video feeds from hoist monitoring and other cameras.

Outrigger widths are totally variable, with the selected set-up information fed into the crane's smart chart system to provide optimised lift capacities. The cranes also feature front outrigger jacks for lifting over the front.

At the end of last summer US Rental company Sims Crane & Equipment of Florida took delivery of the first GT-800XL-2, in North America, while DMD Building Systems took the first to arrive in Canada at the end of the year.

MARCHETTI

Italian manufacturer Marchetti has been building mobile cranes including truck cranes for more than 60 years. Its large modern facility in Piacenza, produces cranes with capacities from 35 to 180 tonnes. The truck crane range features five models with capacities of 40, 60, 80, 100 and 180 tonnes.

All feature swing out cruciform outriggers, optional swingaway extensions and can be fitted with man baskets to convert the crane to a work platform in full compliance with EN280. A-Lift Crane Hire in the UK purchased one of the first Marchetti MTK40 truck cranes in early 2022, mounted on a standard truck chassis the customer was able to choose left or right hand drive.

Outside of Italy, Marchetti's largest truck mount, the 180 tonne MTK 180L is a rare sight. The crane features a six section rounded profile main boom made from Weldox (Strenx) steel with a tip height of 40 metres. Total height with the lattice extension is 53 metres.



Marchetti's largest truck mount is the 180 tonne MTK 180L



The first Tadano GT-800XL-2 in Canada went to DMD Building Systems



The 60 tonne Marchetti MTK60 mounted on a Scania chassis



Grove TMS 800-2



A Link Belt 4 axle truck crane

The superstructure is operated through the truck's PTO and can be mounted on most truck makes, including Iveco, Volvo, Scania, MAN, Mercedes and Astra. Four hydraulically operated swing out outriggers can be operated from both the cab or either side of the chassis. The crane is supplied with an 80 tonne hook block and the three piece counterweight is 15.9 tonnes.

IDROGRU

Idrogru is another Italian manufacturer that has been designing and selling high capacity truck mounted cranes for more than 40 years. All are mounted on standard commercial three, four and five axle chassis. The company has three ranges - light, medium and heavy duty - with most approved for road use without needing special permits.

Its smallest model in the 'Light' range is the 90 tonne KT90.23 other models being 110 and 130

tonne models. The medium range has five 160 tonne models and the heavy duty line up spans from 160 to 300 tonnes.

What is immediately noticeable about all of the cranes is how compact they are for their rated capacity. The three axle KT90.23 is 8.83 metres long, 2.55 metres wide and 3.2 metres high. Even the five axle 300 tonne KT300.25 - is less than 10 metres long and 3.8 metres high. It has a 20.7 metre maximum tip height, and the 180 tonnes is available at a four metres radius! It weighs 56 tonnes all up with 12 tonnes of counterweight on board, however it does require a permit to travel.

All the truck cranes have a variety of extensions and counterweight configurations, and all offer high capacities with their short booms. The maximum counterweight of the KT300 is 36 tonnes, allowing 19 tonnes to be lifted at a radius of just over 18 metres. ■



Idrogru has a wide range of three, four and five axle truck mounted cranes up to 300 tonnes



The 300 tonne Idrogru KT300.26S



**The right crane
for the job**

Boom extensions,
luffing jib, Boom Booster Kit,
and other modules can
be added as needed.

Easy handling

Intelligent counterweight system,
slabs interchangeable for all CC cranes.

IC-1 Remote

IC-1 Remote gives you access to
advanced real-time diagnostics
and much more.

Easy rigging

Quick-connection system allows superstructure
to be installed or removed in less than 15 minutes.

Take a closer look at Tadano.

Discover how our DNA can fuel your passion for lifting.

When the job demands something unusually big, powerful and reliable, a Tadano lattice boom crawler crane is the perfect solution. They have excellent capacities up to 3,200 t and maintain outstanding maneuverability under heavy load.

Despite their size, Tadano lattice boom crawler cranes are easy to transport and quickly rigged on the job site. Innovative solutions provide you with the right crane for every application.

Learn more about Tadano lattice boom crawler cranes at tadanoworld.com