

# RETHINK POSSIBILITIES

## Putting incredible within reach

You need control over the entire lifting process. We believe that digital solutions can get you there faster and we want to be your partner every step of the way. Our smart tools give you a complete overview of job planning, lifting, diagnostics and monitoring – and put the incredible within reach.

And we're not stopping there. Come to **bauma 2019** and see how we're continuing to rethink possibilities.



IC-1 IC-1 PLUS  
*controlled*  
IC-1 REMOTE

**DEMAG**<sup>®</sup>  
BY TEREX

# Recognising the advantages

C&A

crawler cranes

It is said that any publicity is good publicity. However a spate of tip overs in the UK at the end of last year has raised the profile of the telescopic crawler crane for all the wrong reasons.

Three similar incidents all involved telescopic crawlers from 60 to 100 tonnes. All had fully retracted, elevated booms with the undercarriage set in the 'narrow' position resulting in the crane tipping over rearwards onto its counterweight.

The first incident involved a 100 tonne Liebherr LTR1100 working in Edinburgh, Scotland with the operator slewing the raised boom across the narrow tracks and the 32 tonnes of superstructure counterweight did the rest. Fortunately the crane was working close to a building coming to rest against the structure and no-one was hurt. The crane does not have a 360 degree chart with the narrow track width.

Six weeks later a 70 tonne Sennebogen 673E working on the M23 motorway near Gatwick Airport tipped backwards onto its counterweight in exactly the same circumstances - tracks fully retracted, full counterweight and retracted raised boom slewed to the side. And then two weeks later another Sennebogen 673E tipped when working at a job near Luton Airport. While obviously all three

incidents were 'operator error' this is clearly a problem area for the telescopic crawler crane - albeit with the familiarisation of the operators.

This issue is no different to All Terrain cranes where operators have been known to have the outriggers at the rear retracted, and then slew over the side with the retracted boom fully elevated. However, with outrigger position detection along with variable load charts, this is likely to become a problem of the past. The same is beginning to occur on telescopic crawler cranes. Tadano appears to have led the way here with its Opti-Width track extension system providing load charts for any width whether symmetrical or asymmetrical from fully retracted to fully extended. Expect other manufacturers to add this feature in the year ahead.

One thing is for certain, the telescopic crawler crane is becoming increasingly popular given that they are quick and easy to set up, have the ability to cope with tougher ground conditions and have a very useful pick & carry capability.

## History

Telescopic crawler cranes have been around for almost 60 years with early examples being produced by Grove, Coles and Kato. However in the early days most crane buyers questioned the rationale of putting a telescopic boom on a slow and heavy set of tracks, opting for the more versatile Rough Terrain or truck crane. This meant the market



*This early Coles telescopic crawler crane will undergo a full renovation*



for the telescopic crawler was limited to niche end user purchases for many years.

The main advantage of the telescopic crawler is that the boom does not need to be rigged allowing rapid set-up once on site. This meant that it was often used on short term work where the saving in set-up time was of most benefit. Only a few users appear to have recognised the advantages of being able to retract the boom every night, or when travelling under overhead obstacles such as a bridge or power lines.

In recent years there has also been an enormous improvement in the lifting performance, design, versatility and choice - all helping to increase take up. Historically, availability has been an issue with most rental companies only buying for specific customer requirements. However as more rental companies have added them to their fleets,

the more end-users have requested them, and the more manufacturers have entered the market. Over the past year or so there have been several product launches and improvements.

## Link-Belt TCC-1200

Last summer Link-Belt announced it was increasing the capacity of its 100 tonne TCC-1100 telescopic crawler to 110 tonnes. As with the TCC-1100, the TCC-1200 features a full power 45.7 metre five section boom fabricated from ultra-high strength steel while a lattice extension takes the maximum tip height to 64 metres. The new crane now shares its carbody frame with the larger 127 tonne TC1400



*The new 110 tonne Link-Belt TCC-1200.*

*There has been a spate of tip over incidents in the UK involving telescopic crawler cranes*





*The 130 tonne 6133E will be Sennebogen's largest capacity telescopic crawler crane to date*

and offers three track widths - 5.5 metres fully extended, 4.8 metres intermediate setting and 3.6 metres fully retracted - all of which have

their own load charts. Wireless remote control similar to the TCC-1400 is also available.

**Sennebogen 6133E**

Next month Sennebogen will launch the 130 tonne 6133E, its largest telescopic crawler crane to date. The crane has a six section 52 metre main boom and 15 metre extension giving a maximum tip height of almost 70 metres. Powered by a Tier V diesel the 6133E has two 125kN winches and the Maxcab cab with 20 degrees tilt. Transport/travel width is less than four metres fully assembled but can be reduced to three metres with the tracks and counterweight removed. The fully extended undercarriage has a maximum width of 6.3 metres.

Sennebogen, has also been building telescopic crawler cranes for Grove since early 2015. The Grove/Sennebogen range now consists of four models from 30 to 120 tonnes only available in the Americas, they are sold through the Grove dealer network and fully supported by Manitowoc Crane Care. However, in our last feature, Grove had just unveiled its smallest telescopic crawler - the Sennebogen-built 30 tonne GHC30 - surprising because

Sennebogen had not yet launched its own 30 tonne version and did not have an equivalent model in its range. This it remedied at the end of 2017 when it launched the 30 tonne 633E as well as the 16 tonne 613E and the 40 tonne 643E.

The 30 tonne 633E fills the gap between the 613E and the 643E and features a three section 25.2 metre full power boom, with 6.5 and 13 metre extensions giving a maximum tip height of 38.2 metres and like



*The 30 tonne 633E fills the gap between the 613E and the 643E.*

# MAT & TIMBER SERVICES



- CRANE MATS**
- OUTRIGGER MATS**
- TEMPORARY ACCESS ROADS**
- RAMPS**

**For all types of cranes under any application - Nationwide and Overseas**



**TEL: +44 (0) 1264 811005**  
**FAX: +44 (0) 1264 810600**

**e-mail: [info@sarumhardwood.co.uk](mailto:info@sarumhardwood.co.uk)**

**web site: [www.sarumhardwood.co.uk](http://www.sarumhardwood.co.uk)**



*A Sennebogen 608 with elevating cab*

most telescopic crawlers it can pick and carry its maximum capacity. It has an overall width of three metres and 10.6 metre overall length. The Multicab II can be tilted by 15 degrees as standard.

The 613E - the smallest telescopic crawler crane from Sennebogen - is just 2.53 metres wide and features an 18.8 metre main boom with five metre swingaway extension. Powered by a Tier 4F diesel engine, the crane also features Sennebogen's new elevating

Multicab. The new 40 tonne 643E has a 30 metre full power boom and is available with either crawler or wheeled undercarriage. Maximum speed of the all wheel drive version is 20kph. The crawler undercarriage can extend from three to 4.5 metres when in use. Power is provided by a Tier 4F diesel.

**New Tadano Mantis GTC-500**

Tadano Mantis has also just launched a new crane - the 45 tonne GTC-500 - which it says brings the features and benefits of the GTC series to the smaller capacity crane sector. The GTC cranes' core markets include power transmission, bridge/heavy civil and foundation work but, it says the latest model is hoping to expand its appeal in the wider lift crane markets. The new crane has been designed with Tadano technology and input - the winches, extensions, hydraulic cylinders, AML-C and Hello Net telematics are all Tadano. Tadano has owned Mantis since 2009 but has taken its adoption into the Tadano fold at a very steady pace, looking to combine the rugged heavy-duty structures that Mantis is known for with the Tadano fit/finish and technology.

The 45 tonne capacity is achievable on 'level' ground which means up to 1.5 degrees. Load charts offer full pick & carry capacity through 360 degrees and an optional 12.8 tonne 'Heavy Configuration' counterweight for

*The 45 tonne Tadano Mantis GTC-500.*



**C&A crawler cranes**

*The 32 tonne Tadano Mantis GTC 300EX is the smallest in the GTC range*

increased lifting performance. The crane can work on slopes up to four degrees with reduced capacities. The 34.7 metre four section boom is built by Tadano Japan and a 15.2 metre bi-fold swingaway that offsets five, 25 and 45 degrees is also available giving a maximum tip height of 51.9 metres. Working on a slope with a jib is possible up to 2.5 degrees.

Operating weight is 47.1 tonnes. Transport is possible on one truck

having an overall width of 3.48 metres with 800mm wide track pads with 900mm wide pads an option. Overall length is 13.1 metres and overall height 3.69 metres.

The new crane is also equipped with Tadano's Opti-Width track extension system providing load charts for any set-up width, whether symmetrical or asymmetrical from a fully retracted 3.48 metres to a fully extended 5.2 metres with the



*The 25 tonne Marchetti CW 25.35 Sherpina is the smallest in the range*



*The 55 tonne Marchetti Roma CW 55.40*

800 mm pads. Power is supplied by a Cummins Tier 4f, Euromot Stage IV diesel and the two speed track drive gives maximum speed of 2.9kph.

A boom mounted auger system can be mounted to the boom base section or to the second stage of the boom for variable radius drilling up to 16.5 metres at any position through 360 degrees. A 340kg capacity work platform can also be mounted to the main boom or to the seven metre offsettable extension for a maximum working height of 36.6 metres.

**Smaller Tadano Mantis**

About 18 months ago Tadano Mantis launched the 32 tonne GTC 300, the smallest model in the company's GTC range but with similar features to the GTC-500. It has a 27 metre, three section full power boom topped with a 7.1 to 12.7 metre bifold swingaway extension that offsets at 5, 25, or 45 degrees and provides a maximum tip height of 41.1 metres. The load chart is good to pick & carry through 360 degrees on level ground up to 1.5 degrees and up to four degrees on the main boom or 2.5 degrees when lifting with the extension.

The crane also features Tadano's Opti-Width track extension system with tracks fully retracted at 3.3 metres and fully extended at 4.8 metres with 750mm wide track

pads. Narrow pads are also available for a reduced transport width of 2.58 metres. No track extension pinning is required, allowing widths to be varied quickly and easily. The track width and set up, slew position and slope sensor data are all automatically picked up by the Tadano AML-C Rated Capacity Indicator to calculate an optimum load chart for each position.

Overall height of the crane can be reduced to just 2.42 metres for clearance under obstacles and easier transport. Weight is 32,440kg and power comes from a Cummins Tier 4f diesel with auto-idle and adaptive throttle controls. Maximum travel speed is 2.1mph and a maximum gradeability 70 percent. The two person, 340kg capacity work platform has a maximum working height of 38 metres.

**Marchetti**

Italian crane manufacturer Marchetti offers a three model telescopic crawler crane range which includes the 25 tonne CW 25.35 Sherpina, the 55 tonne Roma CW 55.40 and the 70 tonne Sherpa CW 70.42L which is unusual in that it has outriggers allowing it to set-up and level on sloping ground, giving substantially more capacity than if working on a four degree slope.

The Roma CW55.40 features a 40



*The 65 tonne Hitachi Sumitomo 650TLX has a lightweight 31.1 metre four section boom*

metre full power five section boom made from Weldom (Strenx) steel and can be equipped with a 14.5 metre lattice extension with offsets of 0, 20 and 40 degrees as well as a 1.3 metre jib which has a maximum offset of 40 degrees giving a total height of 57 metres. Total weight is 58.8 tonnes with 29 tonnes of counterweight.

**Hitachi Sumitomo**

Another crane launched just after our last feature is the Hitachi Sumitomo 650TLX - the only telescopic crawler in the HSC cranes line up. With a 65 tonne maximum capacity at three metres, the 650TLX has a lightweight 31.1 metre four section boom. The crane has two modes - crane and drilling - with its hexagonal cross-section design giving the rigidity needed for foundation and other heavy duty

work, including pulling or installing sheet piles and working with drill augers.

Options include a 'self assembly' unit to install the tracks and counterweight and a foldable jack mounted to the undercarriage. These allow the crane to be stripped down easily for transport and once on site it can quickly be ready for work even when space is restricted. Transport width is 2.99 metres and weight can be reduced to 30.7 tonnes including the jack option. Operating weight is 70.9 tonnes with the 65 tonne hook block. A third winch option is also available. The crane is also fitted with 'remote sensing' which records data on machine conditions and operations including total operating time management, position information with GPS and operating condition management.



*A variety of attachments on this Sennebogen include forks and access platform*



*Link-Belt TCC-500*

Together.  
Now  
Tomorrow. &

bauma  
Munich, April 8th – 14th



## Visit us at Bauma 2019

Be part of Bauma 2019 – where we showcase Liebherr's latest advancements and prepare you for what lies ahead tomorrow. Visit the Liebherr stands and experience the newest industry developments and innovations first hand. **Together. Now & Tomorrow.**

April 8th to 14th - Messe München  
Outdoor area, Stand 809-813  
Liebherr components, Hall A4, Stand 326  
Liebherr attachments, Hall B5, Stand 439  
Liebherr training, THINK BIG! ICM Foyer, Stand 308

Find out more at [www.liebherr-bauma.com](http://www.liebherr-bauma.com)

# LIEBHERR



Fassi started shipping the second generation version of its six tonne SPK60.2 mini crawler crane last year

**Smaller crawler cranes**

For some reason - possibly due to the popularity and availability of the spider crane - the smaller capacity telescopic mini crawler is still very much a niche product. Although heavier and bulkier than their spider counterparts, the mini crawler has several advantages including no outriggers, a much smaller footprint when working, an operator's cab and the ability to pick & carry. A spider crane may be compact when tracking to the work position but has a very large footprint with its legs extended.

Jekko - now one third owned by Italian loader crane company Fassi - started shipping the second generation version of its six tonne SPK60.2 mini crawler crane last year, the original being launched three years ago. The biggest change on the model is a new software suite that extends the operational ability of the crane. It now has automatically selected load charts for working on slopes of 0.7, 1.5 and three degrees as well as level ground. The crane has extendable tracks and can pick & carry up to three tonnes.

The boom and jib options remain the same with a 17.7 metre five section main boom, plus four section 8.27 metre telescopic luffing jib for a maximum tip height of 27 metres.



Another recently launched mini crawler is the 4.9 tonne Maeda CC985

Maximum radius with the jib is 19 metres, while it can luff down to 10 degrees below horizontal. A 7.3 metre telescopic swingaway extension with a capacity of 1,500kg, or a short 3.5 tonne jib are also available.

Power comes from a new Yanmar diesel, with an optional electric motor available alongside for use when working in enclosed spaces or where noise or emissions are an issue. The cab includes a large information screen, rear view video camera, air conditioning and ergonomic seat. The new software comes with a remote diagnostics system. A new remote control includes full information read out to keep the operator as informed as if he was in the cab. Overall weight is 13,760kg, of which 1,500kg is removable counterweight.

**New Maeda mini crawler**

Another recently launched mini crawler is the 4.9 tonne Maeda CC985. The second in the new CC range of mini crawler cranes features a five section 15.8 metre pentagonal boom with a short telescopic extension that increases the lifting height to just over 22 metres. The crane can pick & carry up to two tonnes, while the rest of the chart is in static mode, slew is 360 degrees continuous with virtually no tailswing. Overall width is 2.32 metres, and the overall height 2.73 metres, the crane is very compact with an overall length of just 5.2 metres and weight is 9,450kg. Power comes from an Isuzu EU Stage 3B/4B compliant engine - which claims to be up to 40 percent more fuel efficient than the power units on the Maeda LC spider models. The airconditioned cab features a rear view camera and seven inch monitor as standard.



# TCC-2500 solves wind challenges in Kansas

**Being able to retract the boom and carry the load is one of the main reasons a 235 tonne Link-Belt TCC-2500 telescopic crawler crane was chosen to unload a variety of wind components in Kansas, USA.**

R.J. Corman Railroad Services is using the crane in Central Kansas to unload the components for Watco Supply Chain Services at two, 30 acre sites in Great Bend and Larned.

The wind components arrive by either truck or rail and are offloaded and placed on storage frames on the ground where they will remain until they are assigned to a wind farm for installation. Over a 12 month period to May last year more than 1,000 components for the two locations had been delivered and stored.

"We have to go under a couple of power lines at the Great Bend site and with the TCC-2500 it is simple to retract the boom, track under the lines using a spotter, and get the job done," said R.J. Corman crane operator Patrick Nemec. "With a lattice crawler you need a crew of men and a semi-trailer, lay the boom down and then go under the power line. Because of the number of components being delivered we may have to do that two or three times a day."

Components include 44 to 57 metre long blades weighing up to 13.6 tonnes, hubs weighing up to 31 tonnes and machine heads weighing 64.5 tonnes. As well as the TCC-2500 which is mainly used for the heaviest components, R.J. Corman is also lifting with a 238 HSL lattice crawler crane and two three axle Rough Terrain cranes - an RTC-80150 Series II and RTC-80100.

"The TCC-2500 performs the pick and carry duties excellently. We can swing the machine heads over the side, out front or over the rear, then walk it to where we need. The crane is just great. As components are delivered to the laydown yard, the TCC-2500 is positioned near to each shipment, able to pick and carry to the appropriate storage position."

"An RT crane to do this work would have to keep resetting. Now all we have to do is have the delivery driver back within our radius. Then we pick each load and crawl the TCC-2500 to stack where needed. If we were using an RT, you'd have to get the truck right where we need it and you'd be resetting the crane, lifting, moving and jumping these heads. It would take half a day to do all that. With the TCC-2500, we just get the truck somewhere close to the target area, pick it up and track to where it needs to be placed."



The TCC-2500 moved components weighing up to 64.5 tonnes

**TADANO**  
Lifting your dreams

100  
100th Anniversary

EXPERIENCE THE NEW ATF 60G-3 AT

bauma

APRIL  
8 - 14  
2019  
MUNICH  
BOOTH  
FS.1205



**AVAILABLE NOW**

# WHEN SUCCESS IS YOUR ONLY CHOICE.

## Strong. Long. Light. The new ATF 60G-3.

It telescopes loads of up to 40 tonnes. It operates with a radius of up to 44 m on main boom. It drives in a 10 tonne axle load configuration. In a nutshell: The ATF 60G-3 offers you an extraordinarily wide application spectrum which goes far beyond that of the equivalent 60 tonner – guaranteeing an above-average degree of utilization. And your long-term success. **When success is your only choice: The new ATF 60G-3.**

Find out more about your chances of success at: [www.atf60g-3.de/en](http://www.atf60g-3.de/en)

Max. Lifting Capacity	Boom	Boom Extension	Max. Sheave Height	Max. Radius	Engine (superstructure)	Gear
60 t	9.5 m – 48 m	1.7 m / 7.4 m	56.4 m	44 m	260 kW (354 HP)	6 x 4 x 6 (6 x 6 x 6 off-road)

[www.tadano.com](http://www.tadano.com)