



## Precise handling for heavyweight projects

Demand continues to grow for jacks, skates and rollers as ever-larger components are manufactured ready to be assembled on site. James Graham reports on some of the latest trends and developments.

Innovation in the jack, skates and roller arena is all about providing more precise shifting of heavier assemblies and project cargo items.

As ever-larger components are manufactured off-site, demand is surging for more powerful material-handling equipment capable of working to more precise tolerances to put these assemblies into place.

That is the opinion of heavy lift operator Mammoet, which is predicting that loads will only increase in size as the trend continues.

Theo Kroese, Mammoet marketing executive, said: "We foresee an increased use of hydraulic lifting systems due to

the fact that the scale at which heavy industries operate increases the search for economies of scale and production

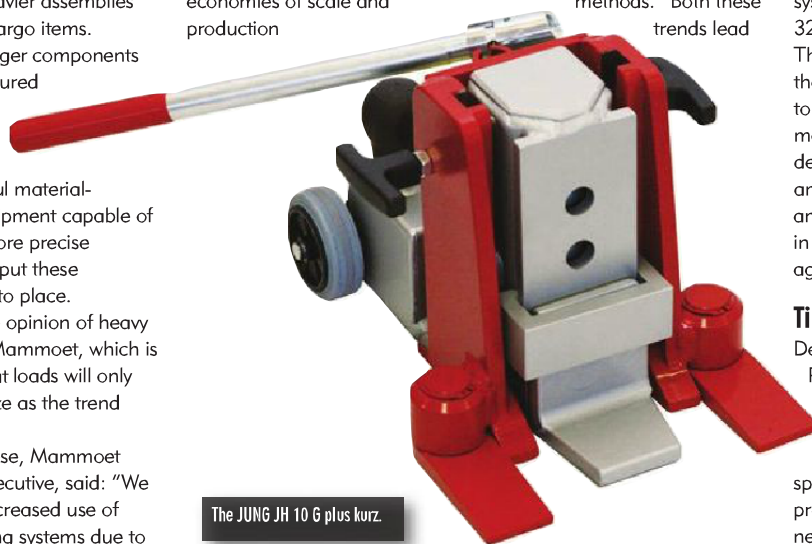
efficiency. Likewise, there is a constant push for efficient and cost-effective construction methods." Both these trends lead

to bigger components and modules that have to be transported, lifted and installed. In turn, this increases the demand for alternative lifting methods such as Mammoet's jack-up strand jack system.

Launched in 2004, the system has now completed its 32nd operation, said Kroese. This push-up system reduces the production time for the topside and requires no modifications to the topside design. Mammoet developed and engineered the jack-up and introduced it operationally in Baku, Azerbaijan, 12 years ago.

### Tightness of space

Designers at Engineered Rigging, based at Las Vegas, USA, have tackled loading and material handling issues where tightness of space and the costs of hire preclude the use of a crane. Its new Power Slide System delivers



The JUNG JH 10 G plus kurz.



Mammoet uses its own jacks, manufactured around the globe, for its lifting and positioning requirements.

a “safe, simple and efficient way to move overweight, oversized loads in tight quarters”, according to Christopher Cox, Engineered Rigging president.

Comprising skid shoes powered by hydraulic push/pull cylinders over a high-strength flat-topped track, Power Slide is designed to move heavy components such as turbines, generators, transformers, vessels and motors.

Its high-capacity design and versatile configuration enable it to move loads ranging from 50 tonnes to more than 2,000 tonnes, while its rugged construction withstands daily use and extreme loads, according to Engineered Rigging.

Cox said: “The system’s low track height reduces jacking requirements enhancing load and project safety.”

With a state-of-the-art fabrication facility in Russellville, Arkansas, Engineered Rigging can

quickly design and fabricate customised systems, including:

- 200-ton, 4 ins high (181.4-tonne, 10.16 cm), light-duty slide shoes.
- 300-ton, 5 ins high (272.1-tonne, 12.7 cm), 75-ton (68.03-tonne) slide shoes.
- 500-ton, 6 ins high (453.6-tonne, 15.24 cm), 125-ton (113.4-tonne) slide shoes.
- 1,000-2,000+ tons (907.2-1,814.4+ tonnes) engineered and fabricated to specification.

**Engineered Rigging’s novel flat-topped track makes the Power Slide easier to set up, use and maintain than traditional jack-and-slide systems.**

– Christopher Cox,  
 Engineered Rigging

### Unique design

Cox said his company is dedicated to “re-imagining heavy lift” and transport requirements with safety, efficiency and cost effectiveness at the forefront of its designs.

“Engineered Rigging’s novel flat-topped track makes the Power Slide easier to set up, use and maintain than traditional jack-and-slide systems. It is also less expensive to fabricate,” he said.

Its features include: modularity; push and pull functionality; quick direction adjustment; continuous, automated push/pull cycle; built-in lift lugs hook ready for secure handling; and rapid assembly with fewer parts, rig readiness and longer spans.

JUNG Hebe-und Transporttechnik, based in Waiblingen, Germany, has 40 years’ experience in material handling equipment



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manufacturing. Today, explained Matthias Schneider, JUNG sales executive, "We are manufacturers of hydraulic lifting devices and are always keen to develop and improve our equipment. Our quality is high and that is expensive."

## Made in Germany

JUNG's prices reflect the high-standard 'German' engineering and design that goes in its products, claims the company. Its smallest jack, the 6 JH G model which is able to lift six tonnes, retails at EUR905 (USD1,000), while the 20-tonne version retails at EUR3,265 (USD3,500).

The company has made significant investments into its manufacturing and production facilities, while bringing shipping, finished product warehousing and final assembly under one roof to optimise the production processes.

"Because of our warehousing system and optimised processes, most orders that reach us before 11am can be shipped on the

same day," noted Schneider.

JUNG has resisted the temptation to off-shore production out of Germany or Europe, Schneider observed. "It is very important for our customers that the devices are manufactured in Germany." Having resisted moves to relocate production to lower-cost hubs such as China in recent years, the region's reputation for counterfeiting products is not a worry. "At present, we have no problems with imitations or counterfeit products from China."

The company exports to all major heavy lift markets but the USA is a significant trading partner. "The American market is very important for us; export figures are higher than in Europe," Schneider highlighted.

Mammoet's hydraulic jacks have capacities that range from 20 tonnes up to 450 tonnes and are produced at "carefully selected manufacturers all over the world," said Kroese.

This year should see an exciting jack launch for the company, he noted, with a capacity far in excess of its



current hydraulic jack range. There will be a "new high capacity and height push-up system with a capacity of 10,000 tonnes per tower," he said. "This system is expected to be launched in mid 2016."

In 2015, Enerpac - a provider of solutions for the precise positioning of heavy loads - saw a 20 percent year-on-year increase in orders for its lifting products, which it attributed to a recovery in the infrastructure market and strong demand for bespoke lifting systems from the power generation industry.

The company recognised that the low oil price is having an impact on its business, but noted that many companies are looking for cheaper alternatives to using cranes for heavy lifting operations, while there is also an increasing demand for lifting systems capable of moving large units between and within manufacturing facilities.

Enerpac has recently manufactured a number of jack-up systems for different customers around the world, and the company told HLPFI that it is creating a new

standard product line offering a range of jack-up systems.

Enerpac recently shipped its new 60-tonne capacity ETG600 travel gantry to a customer, which it says combines the safety and efficiency of a hydraulic gantry, with a self-propelled modular transporter's (SPMT) ease of use.

## Low friction rollers

Jeff Hill, marketing manager at Hilman Rollers, explained that the US based company offers low height, low friction rolling solutions.

"Our standard 100-tonne capacity roller is only 171 mm in height," he noted, adding that its rollers are tested under ideal conditions to less than 1 percent coefficient of friction (COF). "So 1 percent of the weight of the object is required in force to move the object on Hilman Rollers products."

Hill said that the company's deluxe rigger kits, which include four rollers and two steering handles, have been very popular for a number of years.

"The rollers have swivel tops for assistance in accomplishing turns and we usually have these available for immediate delivery

## Jacks, Skates & Rollers Companies

Name	Website
Aeris Corporation	<a href="http://www.aeriscorporation.com">www.aeriscorporation.com</a>
AeroGo, Inc	<a href="http://www.aerogo.com">www.aerogo.com</a>
Airfloat, LLC	<a href="http://www.airfloat.com">www.airfloat.com</a>
Amital USA	<a href="http://www.amitalusa.com">www.amitalusa.com</a>
BIL Materials Handling	<a href="http://www.bilhandling.co.uk">www.bilhandling.co.uk</a>
Boerkey GmbH	<a href="http://www.boerkey.com">www.boerkey.com</a>
Eastern Rigging Supply Co., Inc	<a href="http://www.easternrigging.com">www.easternrigging.com</a>
Enerpac	<a href="http://www.enerpac.com">www.enerpac.com</a>
Engineered Rigging	<a href="http://www.engineeredrigging.com">www.engineeredrigging.com</a>
GKS	<a href="http://www.gksweb.com">www.gksweb.com</a>
Hebetec Engineering Ltd	<a href="http://www.hebetec.com">www.hebetec.com</a>
Hevi-Haul International Ltd	<a href="http://www.hevihaul.com">www.hevihaul.com</a>
Hilman Rollers	<a href="http://www.hilmanrollers.com">www.hilmanrollers.com</a>
HTS Direct Limited	<a href="http://www.hts-direct.com">www.hts-direct.com</a>
Hydra-Capsule Limited	<a href="http://www.hydra-capsule.com">www.hydra-capsule.com</a>
JUNG Hebe	<a href="http://www.jung-hebetechnik.de">www.jung-hebetechnik.de</a>
Movetech UK	<a href="http://www.movetechuk.com">www.movetechuk.com</a>
PJM Industrial (Australia)	<a href="http://www.pjmindustrial.com.au">www.pjmindustrial.com.au</a>
Power Jacks Ltd	<a href="http://www.powerjacks.com">www.powerjacks.com</a>
Selby Engineering & Lifting Safety Ltd	<a href="http://www.liftingsafety.co.uk">www.liftingsafety.co.uk</a>
Steerman Load Moving Systems	<a href="http://www.steerman.co.uk">www.steerman.co.uk</a>
Techimpex USA	<a href="http://www.moveheavystuff.com">www.moveheavystuff.com</a>
TTC Lifting Gear Ltd	<a href="http://www.ttclifting.co.uk">www.ttclifting.co.uk</a>
VSL Switzerland Ltd	<a href="http://www.vsl-heavy-lifting.com">www.vsl-heavy-lifting.com</a>
Zinko	<a href="http://www.zinko.com">www.zinko.com</a>

HLPFI has made every effort to make this as complete a listing as possible. However if your company has been omitted and you would like it included next time, please contact us at [editorial@heavyliftpf.com](mailto:editorial@heavyliftpf.com)



carried on a reduced number of wheels when travelling.

The Chester based company, which distributes in the USA, has used a special cast nylon material to create a unique turntable design. Large diameter thrust bearings allow these turntables to swivel smoothly, while the special composite material ensures both anti-slip properties and greater impact resistance.

Project cargo material handling operations that require movements of heavy equipment inside a facility or within an assembly line up to 40 tonnes can utilise the GKS ROBOT 40 and ROBOT 20 dolly system.

The system also ticks the box for those operations that are remote from external power sources such as electricity, hydraulics or compressed air. The system is described as the "world's first remote-operated, battery-operated transport system". **HLPFI**

because they are so popular."

However, he added: "Some users prefer an axle and wheel type of dolly as opposed to the traditional chain-action Hilman Rollers, so we recently launched a line of Hilman Bull Dollies in the same vein as our deluxe riggers kits (with four dollies, two steering handles and a toolbox)."

He explained that Hilman Bull Dollies are geared more towards floor protection, with a choice of polyurethane or nylon wheels that are intended not to mark surfaces.

Hilman Rollers offers both 'off-the-shelf' and customised products. "For most projects, our bespoke creations stem from one of our standard roller designs, where we may change a hole pattern or extend the length of the roller to increase contact area and capacity."

Hill continued: "Of course some projects are more in depth with regard to the roller design and we are certainly eager to tackle new challenges.

**The American market is very important for us; export figures are higher than in Europe.**

— Matthias Schneider, JUNG

The more we are able to learn about a customer's application the better a solution we can provide them."

### Load moving skates

Load moving skates are used to transport heavy machinery and other items in the work and loading area. Machinery skates use mainly nylon, polyurethane or steel wheels/casters, or are sometimes fitted with roller tracks similar to those seen on military tanks.

UK based Steerman Load Moving Systems manufactures load moving skates that comprise a steerable front section and a pair of adjustable rear trolleys. These systems are available in capacities from two to 100 tonnes and can be stripped down to their component parts for easy transportation. The skates are equipped with special composite wheels that are machined from a solid piece to produce the ideal wheel for use on modern industrial flooring, said Steerman. Each wheel is hard enough to give incredibly low rolling resistance, yet designed to protect expensive coated surfaces, unlike conventional metal wheeled skates, said the company.

This malleable material is very strong, is reproduced with total accuracy, and is powder-

coated prior to assembly.

The company has developed a three-point loading system to ensure a safe and stable configuration, eliminating the risk of one skate rolling out from below the load. This design also ensures that loads are not



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