



**Haydock  
Park**

**May 13th &  
14th 2015**

# **Don't miss the UK's number one lifting event**

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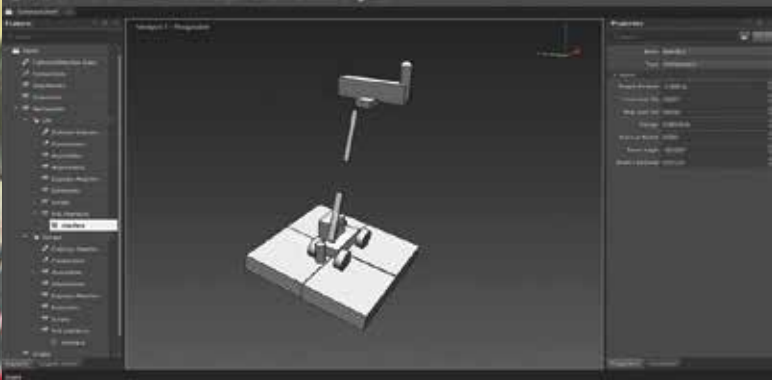
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**Vertikal  
days**



Prolad used collision geometries to determine the possible causes to the incident.

## Virtual investigations

Montreal based forensic engineering company Prolad Experts has teamed up with CM Labs Simulations to virtually recreate a fatal incident involving a telehandler which killed one and left two others injured in 2013.

CM Labs' used its interactive Vortex 3D simulation software to create a dynamic simulation of the telehandler and its operating environment based on the manufacturer's specifications and test data as well as site information about ground materials and compression.

The software was able to show the behaviour of the telehandler under a range of boom configurations, as well as highlight how the ground's incline and material composition, off-level angles and counterweight placement affected the situation. By processing various factors the software was able to calculate the precise threshold at which the telehandler could overturn, allowing the company to determine a series of causes for Prolad Experts.

CM Labs mechanical engineer Martin Hirschorn said: "Doing these calculations on this complex scale by hand is not even remotely feasible. What Vortex can do is consider positions, masses, and velocities, calculate contact forces under the wheels, and moments of forces in all of the joints. This opens a whole world of analysis possibilities."

## ATEX certified load cells

Specialist load measurement equipment manufacturer LCM Systems has launched a new range of ATEX/IECEx certified load cells for Zone 1 and 2 hazardous areas.

Designed for use in flammable gas and dusty environments the range of load pins, load cells, load shackles and load links with capacities up to 1,000 tonnes, are all supplied with full environmental protection, ATEX certification and a certificate of calibration. Additional amplifiers and displays can also be supplied and used in conjunction with the new load cells in potentially explosive atmospheres.



LCM Systems' ATEX-certified load cell, load pin and load link



When not in use the rack folds up on itself

## Outrigger mat carrier

US outrigger mat manufacturer DICA has introduced its ZeroLift Pad Rack for Rough Terrain cranes which eliminates the need for operators to lift and carry outrigger mats.

With a capacity of just over 450kg, the steel rack can be adjusted to fit mats up to 1.2 by 1.5 metres. Installed either on the front or rear of a crane, the rack weighs less than 30kg and has minimal impact on the crane's ground clearance. A single hitch point at the bottom of the rack allows it to fold up when not in use or when in transit. The Pad Rack can also transport other items such as tool boxes.

DICA chief executive Kris Koberg said: "The ZeroLift Pad Rack provides a reliable and convenient method to store outrigger mats. It virtually eliminates lifting injuries, because outrigger mats are stored at an easy to access height where they can be slid instead of lifted."

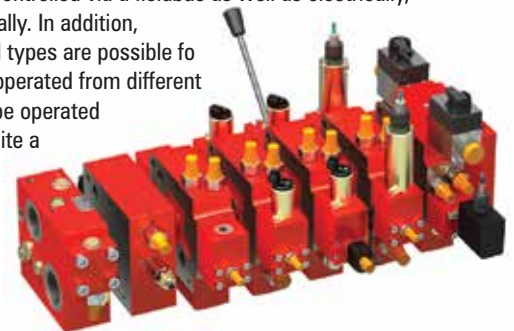
## Modular valve systems

Bucher Hydraulics has developed an SC18 proportional directional valve and electronic undersupply management (EUM) system designed for a range of machines including mobile cranes and reachstackers.

Filling the gap between Bucher's LVS and SC22 ranges, the sectional SC18 valve system can be combined with a number of the company's valves. The modular system allows for up to eight actuator sections and consists of inlet and end modules as well as compact valve sections which can be combined and tailored to a particular application. It uses an internal system to control the flow rate to the actuator and offers maximum load pressures of 420 bar and an actuator flow rate of 260 litres a minute.

Features include individual load pressure cut-off for both sides, an independent pilot-pressure interrupt which prevents load-increasing movements while allowing load-reducing ones to continue, and responsive load-independent control even with parallel operation of several valve sections. The range can also be used with variable - as well as fixed - displacement pumps and includes ATEX- and IECEx-approved valves for explosion zones one and 21.

Onboard electronics provide control action and diagnostic capabilities and the valves can be controlled via a fieldbus as well as electrically, hydraulically and manually. In addition, combinations of control types are possible for valves that have to be operated from different locations or that must be operated safely and reliably despite a power failure.



Bucher's sectional SC18 proportional valve system can be combined for specific applications.

enquiries

To contact any of these companies click on the 'Access & Lifting Directory' section of [www.vertikal.net](http://www.vertikal.net), where you will find direct links to the companies' web sites for up to 12 weeks after publication.

To have your company's new product or service featured in this section, please send in all information along with images via e-mail to: [editor@vertikal.net](mailto:editor@vertikal.net) with 'Innovations' typed in the subject box.