

# Global energy chains

## 162 entries from 27 countries submitted for the "vector award"

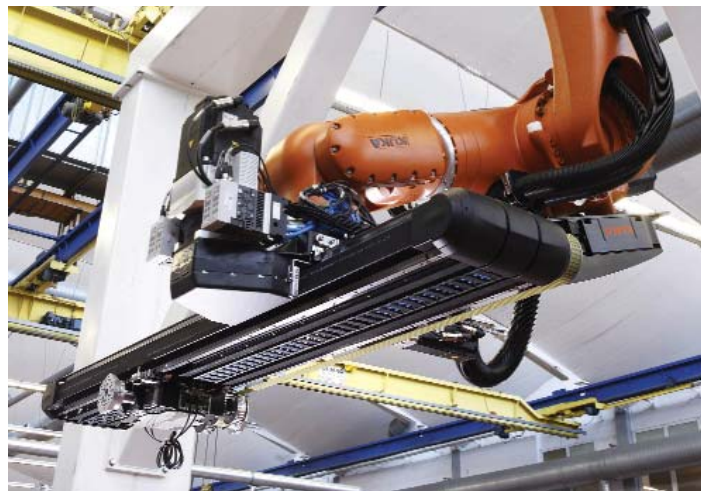
igus, leading manufacturer of energy chain systems, cables and accessories, announced the results of the third global "vector award" competition during the Hanover Industrial Fair. The competition jury included representatives from the automation association within the German central association for electrical engineering and industry (ZVEI), the tooling laboratory (WZL) of the RWTH Aachen and TÜV Rhineland. The winners received their awards at a special ceremony. The "vector award" is officially under the patronage of the Robotation Academy of the Hanover Industrial Fair.

### From China to Canada to Brazil

Four years ago, there were about 80 entries for the first energy chain competition, and two years ago this had increased to about 110 entries, whereas this year the jury had more than 160 sometimes quite spectacular entries to judge, submitted from all over the world: China, India, Korea and Singapore through USA, Canada and Brazil and right across Europe. All the energy chain applications submitted can be found on the internet, sometimes including videos, under [www.vector-award.de](http://www.vector-award.de) or [www.vector-award.com](http://www.vector-award.com) (in English). A free 130-page brochure can be requested by sending an e-mail to [vector@igus.de](mailto:vector@igus.de).

### Gold: Board from press to press at lightning speed

The golden "vector" and € 5,000 in prize money goes to the Augsburg technology leader KUKA Systems for the product KUKA Cobra. Here, a new concept has been developed which loads and unloads presses at lightning speed. The KUKA Cobra comprises two basic elements, a robot and a linear axis. This innovation makes it possible to increase press output capacities and reduce the distance between presses. For this application, igus developed a special version of the standard E6 energy chain with new connectors in order to make the KUKA Cobra design as compact as possible. The E6.29 runs especially quietly and with low vibration levels, making it a perfect match for the dynamics of the KUKA Cobra, which picks up components precisely and very quickly and transports them between the presses.



**Picture PM1712-01: igus GmbH, Cologne**

162 entries from 27 countries were received for the global energy chain competition the "vector award". The golden "vector" and € 5,000 in prize money went to the Augsburg-based robot system specialists KUKA Systems GmbH. Using a special version of the "E6" energy chain, the KUKA Cobra loads and unloads gigantic presses at lightning speeds.

### Silver: Large hoses in Antwerp

The silver "vector" and € 2,500 in prize money went to Joury van Gijsegheem from DEME for the Amoras project in Antwerp. The plant concerned handles around 50,000 tonnes of sludge per year which is dredged up for shipping routes in Antwerp harbour. A central component is an arch-shaped bridge with a span of 150 metres. There are mobile high-performance pumps fastened to the

rotatable bridge; these can pump the sludge from the sedimentation basin below for further treatment. This sludge is pumped through enormous hoses with a diameter of 300 millimetres. The largest polymer "e-chain" in the world - the E4.350 with an inner height of 350 mm - is used to route the hoses over the whole length of the bridge. The high hose weight (ca. 100 kg per metre) and the protection from mechanical abrasion through special opening bars with roller wheels made of "igli-dur" are some of the special features of the application. The additional weight of the bridge structure meant that a heavy steel chain was not an alternative to E4.350.

### **Bronze: Turning through 1440 degrees**

The bronze "vector" and € 1,000 in prize money went to Fabio Ferri, from the company SCM in Rimini/Italy. Wood, PVC, polypropylene and aluminium can be worked using the edge banding machine. The tool has to be able to carry out numerous different movements in order to follow the workpiece contour, including rotating about its own axis by up to 1440 degrees in both directions. For this reason, a solution was required for cable guidance to the tool which would be able to cope with this movement and is also light in terms of weight. The electro-pneumatic distributor previously used was too heavy, too expensive and too inflexible. The igus twisterband, on the other hand, was absolutely convincing on all counts. The layout of 6 chain modules can cover the complete movement sequence, is light and economical.

### **Picture PM1712-03: igus GmbH, Cologne**

Fabio Ferri, designer for the Italian SCM Group, won the bronze "vector" and prize money of € 1,000. The igus "twisterband" is being used in an edge banding machine for the reliable energy supply to the tooling unit and makes rotation of up to 1440 degrees in both directions possible.



### **Picture PM1712-02: igus GmbH, Cologne**

Heavy hoses: the jury awarded the silver "vector" to the Amoras project in Antwerp, Belgium. The largest polymer energy chain in the world (E4.350) gently guides hoses with a diameter of 300 mm and a weight of about 100 kg per metre.





**Picture PM1712-04: igus GmbH, Cologne**

Winners of the third global energy chain competition "vector-award" (from the left: gold prizewinner Michael Büchel (KUKA Systems GmbH, Germany), Joury van Gijseghem (DEME, Belgium) and Fabio Ferri (SCM Group, Italy) with igus company's founder Günter Blase (leftmost).

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