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# Wire & Cable

January 2015  
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ASIA 线缆 月刊

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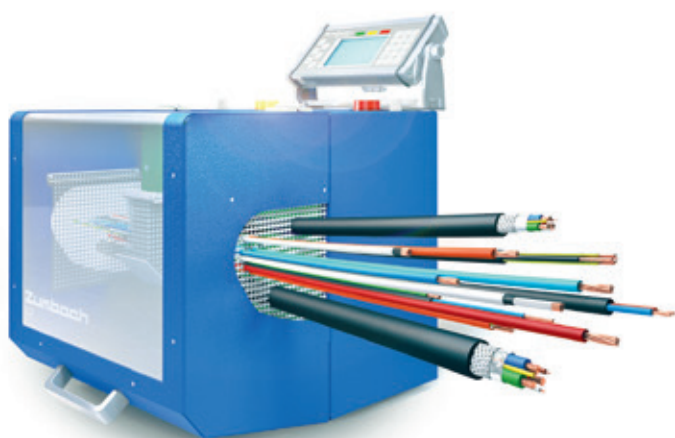
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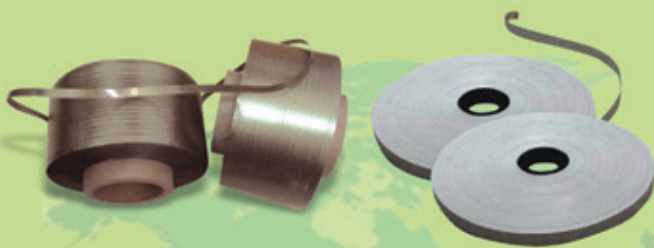
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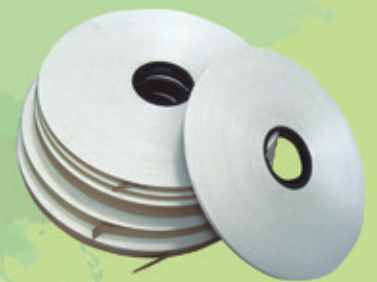
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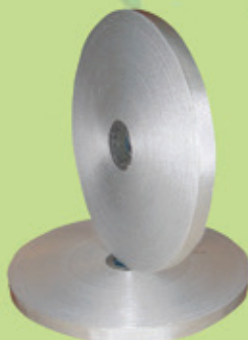
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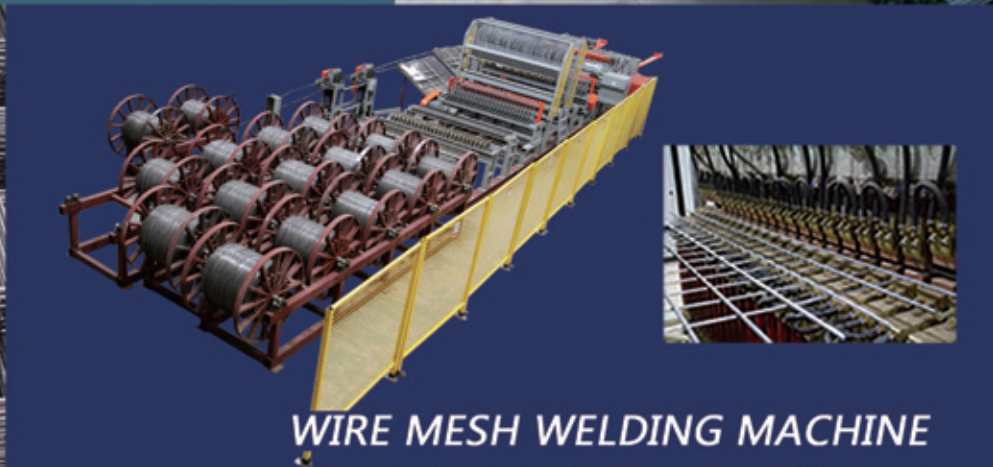
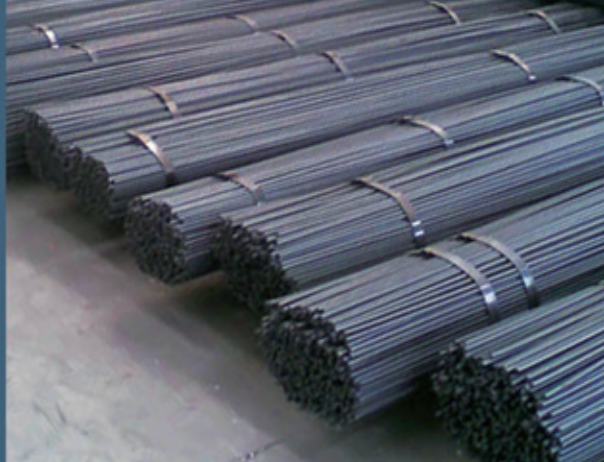
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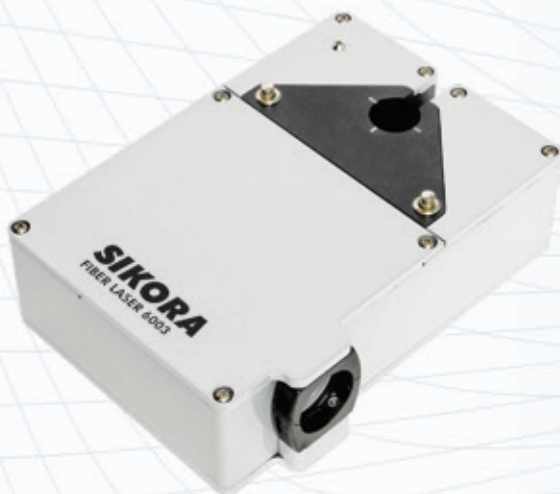
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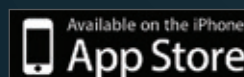
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# Quality counts for 2015

Happy new year! 2015 kicks off with our January issue full of news from the wire and cable industry – including a breakdown of record-breaking wire China from last year. This starts on page 10 and continues on pages 22, 23, 24 and 25.

Privately owned Chinese Taizhou Daming Stainless Steel Co is also starting the new year on a bright note – by upgrading its existing bar mill to increase quality for its customers. See page 20.

Also in this issue, RSCC Nuclear Cable has delivered safety-related replacement cables for the Korea Hyrdo Nuclear power plant in South Korea. The full story is on page 8.

UK company Alstom Grid has won another major HVDC contract to support power provision, also in Seoul, South Korea. The story is on page 16.

There is also a short report on the success of last year's WIRE AND CABLE INDIA, which can be found on page 46. A big thank you to everyone who stopped by our stand to say hello and collect a free copy of *Wire & Cable ASIA*.

The lady on the left is also certain to feature in our March issue, the Earth Goddess being one of the main focal points of the Botanical Gardens in Atlanta, USA, which plays host to Interwire in April.

David Bell  
Editor



## When and where

### January 2015

10-13 January:  
**Wire & Cable Arabia** –  
trade exhibition –  
Dubai, UAE  
**Organisers:**  
Al Fajer  
**Fax:** +971 4340 3608  
**Email:**  
jeen@alfajer.net  
**Web:**  
www.wirecablearabia.com

### April 2015

28-30 April:  
**Interwire** –  
trade exhibition –  
Atlanta, GA, USA  
**Organisers:**  
Wire Association  
International  
**Fax:** +1 203 453 8384  
**Email:**  
sales@wirenet.org  
**Web:** www.wirenet.org

### May 2015

12-15 May:  
**wire Russia** –  
trade exhibition –  
Moscow, Russia  
**Organisers:**  
Messe Düsseldorf  
and VNIIEP  
**Fax:** +7 499 246 9277  
**Email:**  
info@wire-russia.com  
**Web:** www.wire-russia.com

### September 2015

15-17 September:  
**wire Southeast Asia** –  
trade exhibition –  
Bangkok, Thailand  
**Organisers:**  
Messe Düsseldorf Asia  
**Fax:** +65 6337 4633  
**Email:**  
wire@mda.com.sg  
**Web:**  
www.wire-southeastasia.com



○ The Shin Kori Unit 3 nuclear power plant in Korea

# Nuclear cables delivered

RSCC Nuclear Cable has completed delivery of safety-related replacement cables (class 1E) for the Shin Kori Unit 3 nuclear power plant as part of a \$13 million award by Korea Hydro Nuclear Power (KHNP).

RSCC was selected to replace cables at two APR-1400 reactors in November 2013 and now marks the first installation of 60-year qualified nuclear cables anywhere in the world.

“RSCC is proud to have achieved this milestone in the qualification and manufacturing of the world’s highest quality cables, under the most challenging circumstances of scrutiny and delivery for KHNP,” said Steven Bonnell, president of RSCC Wire & Cable.

RSCC has delivered more than a million feet of cable to meet the urgent demand for qualified replacement cables.

More than 1,000 reels of low and medium voltage power, instrumentation and control cables have been air-freighted from JFK Airport, USA, to Korea over the past six months.

Each reel was inspected several times during and after manufacturing in the USA and again several times before and after installation at Shin Kori.

“Shin Kori’s cables have undergone more quality inspections than any other cable in the nuclear industry and KHNP has been one of RSCC’s most conscientious customers in the more than 40 years that we have been supplying nuclear cables,” said Corey McDaniel, vice president Asia.

RSCC passed a series of equipment qualification (EQ) tests to ensure the cables will withstand the most challenging circumstances 60 years into the future.

The cables installed at Shin Kori are claimed to be the first ever to meet such stringent EQ requirements, demonstrating the ability of RSCC’s cable to withstand harsh conditions that include extreme temperatures, pressures, steam and radiation.

RSCC cables have been installed in more than half of Korea’s reactors and in every reactor in the USA and most major US government nuclear facilities.

RSCC nuclear cables are sold internationally to countries where the highest safety standards are demanded, including the UAE, China, Taiwan, Canada, Mexico, and throughout Europe and South America. RSCC states it has qualified safety-related cables for more nuclear applications than any other company in the world.

**RSCC Nuclear Cable – USA**  
Website: [www.rsccnuclearcable.com](http://www.rsccnuclearcable.com)

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By combining the most advanced technologies with world-class innovation, Borouge is making a difference to everyday life.



## Record-breaking wire China 2014

THE largest wire, cable and tube exhibition in Asia closed its doors in September, following a record-breaking four days which saw the exhibition record more than 1,400 exhibitors at the Shanghai New International Expo Centre.

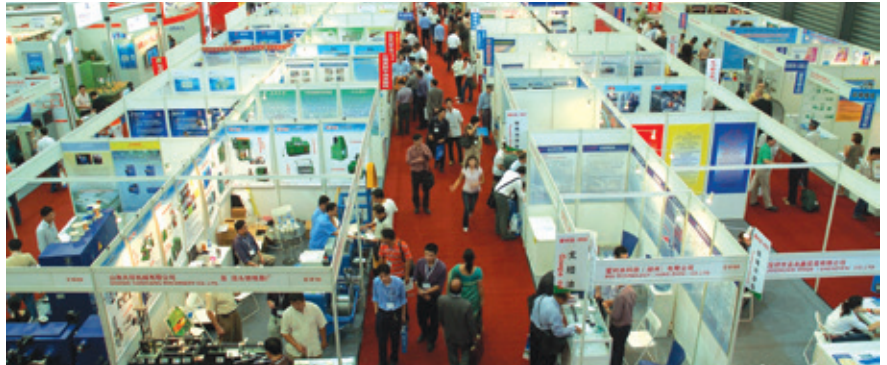
Covering 90,000m<sup>2</sup>, exhibitors from 34 countries were joined by more than 38,000 visitors from as far afield as Argentina, Thailand, Vietnam, India, Japan, South Korea, Hong Kong, Macau, Taiwan and mainland China.

Argentina organised a buyer group to visit wire and Tube China for the very first time. During the exhibition, both exhibitors and visitors were greatly satisfied with the exhibition.

“The continual economic growth of China with immense infrastructure and energy projects has led to a boost in the already huge market demand for all kinds of wires, cable and pipes. In only ten years, wire China and Tube China have become Asia’s number one networking platform for industry and buyers,” said Werner Dornscheidt, president and CEO of Messe Düsseldorf GmbH.

“As a dynamic platform of technology communication and information, as well as a trade collaborative platform to encourage the sharing of new technology, products and thoughts, wire China gathers in one place the global technology development trend in the industry and will definitely help with the transformation upgrade and innovative development of China’s wire industry,” added Wei Dong, director-general of Shanghai Electric Cable Research Institute, vice president of China Electrical Equipment Industry Association (CEEIA) and chairman of Electrical Cable & Wire Branch of CEEIA.

“After ten years’ efforts, we created a world-known international tube and pipe communication platform which we believe will bring new benefits for exhibitors and visitors both in China and abroad and create new values continuously, along with the transition of Chinese economy,” said Yang Zunqing, deputy secretary general of CISA, chairman of MC-CCPIT and director of



○ The Shanghai New International Expo Centre played host to wire China 2014

MCIEC (International Exchange and Cooperation Center of Metallurgical Industry).

“With ten years’ thoughtful operations, wire and Tube has grown to the biggest professional show in Asia and the second biggest in the world, all thanks to its renowned quality, service, scale and level. wire and Tube China have been building a strong connection between Chinese and foreign companies,” added Axel Bartkus, general manager of Messe Düsseldorf (Shanghai) Co Ltd.

The continual economic growth of China with immense infrastructure and energy projects has led to a boost in market demand for all kinds of wires and cable products which could be seen in the scale of the exhibition.

A total of 982 exhibitors from 34 countries and regions attended wire China 2014, and the exhibition area for cable and wire products reached 57,500m<sup>2</sup> with an increase of 10.6 per cent from the previous exhibition in 2012. The exhibitors from China and overseas actively took part in wire China and their increasing booth area showcases the potential economic development dynamic of China and Asia.

Steve Rika, chairman of the International Wire & Machinery Association (IWMA), was confident to increase the amount of members to attend the next show. “There seems to be more attendance and new professional visitors. Lots of our exhibitors showed their equipment on

site which attracted many visitors to negotiate business in their booths during the show. We will let our members know the success of wire China and believe more of them will come to attend next time.”

“We’ve been coming here since the beginning; the Chinese market is very important to us. The advertising and marketing of this event is very well done, and many visitors come to see us. As for us, we will also try to only come to the exhibitions that are important,” said Arnd Kulaczewski, president of Maschinenfabrik Niehoff GmbH & Co KG, who attended the show with advanced equipment.

“The success of this exhibition far exceeded our expectations,” said Dominique Perroud, managing director of SAMP Shanghai. “The visitor numbers and influential media power of wire China 2014 far exceeded our imagination, which proves again its strong international position. It provides us with a best opportunity to show our breakthrough comprehensive solutions in cable and wires to all. What surprises us is that many visitors are interested in our products and place a large amount of orders on site. In all, this exhibition greatly exceeds our expectations.”

“We’ve been coming to the exhibition since the beginning, and we manage to attract more and more customers every time we come here,” said Qingwei Liu, general manager of Traxit International.

**SECRI and Messe Düsseldorf (Shanghai) Co Ltd – China**  
Website: [www.wirechina.net](http://www.wirechina.net)

**REPORTS ON WIRE CHINA ON PAGES 22, 23, 24 and 25**



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

## Steady growth over the years

### Low voltage expansion for ABB

ABB has launched a new production facility in Cibitung, Indonesia, to boost its miniature circuit breaker production capacity within the region.

Global head of ABB's low voltage products division Tarak Mehta said: "We see substantial growth opportunities for the low voltage business in Indonesia. The country's strong economic growth prospects, coupled with a young population, is expected to increase demand in the residential, industrial and commercial construction sectors. Electricity demand grew by ten percent last year."

The new facility will employ more than 200 people and has been developed as part of the company's market penetration, innovation, expansion (PIE) growth strategy.

FOUNDED in 1903, Thompson and Hudson Wire Machinery has been steadily growing to become one of the UK's largest manufacturers of wire straightening, cutting and forming machines. These produce a range of wire products, from surgical needles to concrete reinforcement bars, for customers throughout the world.

Thorite, the UK's largest independent distributor of pneumatic products and process systems, has been a regular supplier to Thompson and Hudson since 1967, providing unique pneumatic system support plus various Norgren pneumatic equipment, to help maximise the speed, accuracy and efficiency of the wire cutting machines.

The two established Yorkshire, UK, companies have mutually benefitted over the years, creating a close synergy.

Paul Thompson, Thompson and Hudson's managing director, is proud of the export successes his machines have achieved and said: "Many people seem to believe that UK manufacturing companies have been unable to compete with products from far eastern companies which are produced using comparatively cheap labour.

"However, in the world of wire machinery I'm pleased to say this is definitely not the case. We've recently supplied special purpose machines to China which straighten and cut wire to make paint roller handles and to India for producing twist drills, among a long list of similar projects.

"I'm certain that the skills and expertise which can only be found in UK organisations which have honed their output over time is the secret to continuing success."

Thompson and Hudson is



○ Thompson and Hudson's machinery produces a range of wire products

located in Brighouse, West Yorkshire, and its machinery is used to produce thousands of items, from fireguards to fish hooks, and dish drainers to dartboards.

The company sells to to manufacturers in Germany, America and Iceland as well as India and China, not forgetting the home market which is currently seeing an increase in orders.

**Thompson and Hudson Wire Machinery – UK**  
Website: [www.thompsonandhudson.co.uk](http://www.thompsonandhudson.co.uk)

**Thorite – UK**  
Website: [www.thorite.co.uk](http://www.thorite.co.uk)

### Price hike

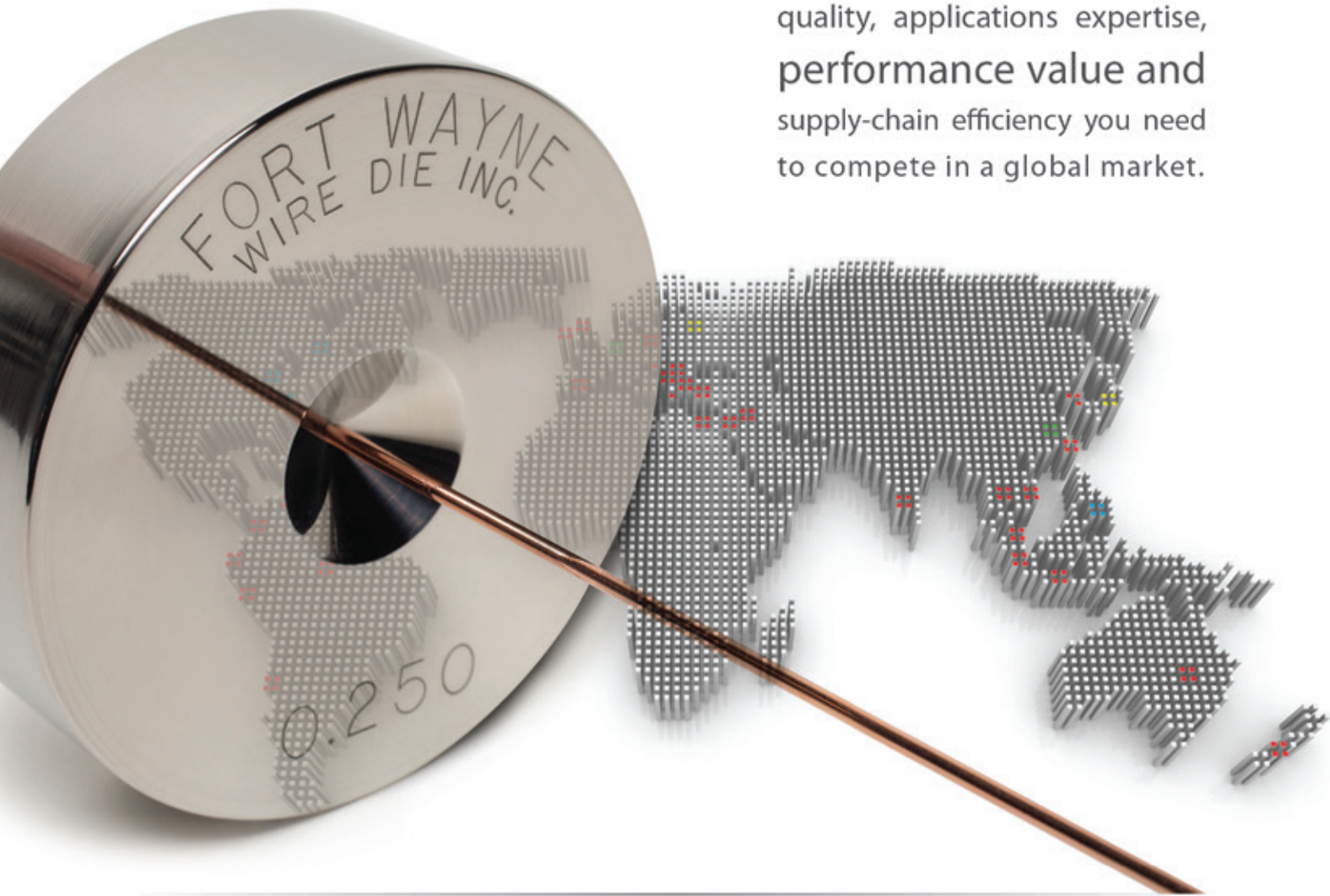
Ugitech and Deutsche Edelstahlwerke, subsidiaries of Schmolz and Bickenbach Group, have announced a price increase on their stainless steel bars, wire rod and drawn wire products. Increases will range up to €50 per tonne from now.

**Ugitech – Germany**  
Website: [www.ugitech.com](http://www.ugitech.com)

**Deutsche Edelstahlwerke – Germany**  
Website: [www.dew-stahl.com](http://www.dew-stahl.com)

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## Kent Wire back in action

Following a fire in May 2014 that damaged its production facility in Chatham Docks, Kent, UK, ArcelorMittal Kent Wire has reported that its production line is now fully reinstated.

The fire-damaged production line has been upgraded to enable Kent Wire to produce in excess of 130,000 tonnes of fabric reinforcement per annum.

Phil Taylor, CEO, said: "Following this incident, the damaged fabric reinforcement line has been fully restored and upgraded, and the business is once again fully operational. We would like to apologise to our customers for any inconvenience caused over the last six weeks of interruption and look forward to supporting businesses once again with high quality product and services."

A member of the British Association of Reinforcement, ArcelorMittal Kent Wire is part of ArcelorMittal, the world's largest steel producer.



○ *Huntsman has launched two new UV protected grades of thermoplastic polyurethanes, one of which is for use in mining*

## New cables for offshore and mining

HUNTSMAN has developed two UV protected grades of thermoplastic polyurethanes (TPUs) for use in offshore, oil and gas, and mining wire and cable applications.

The polyether-based TPU materials – part of Huntsman's established Irogran® product range – are designed for jacketing the cables of heavy duty pieces of equipment, which have to function in harsh, abrasive and outdoor environments, and are exposed to the elements.

Over time, exposure to ultraviolet light can cause cabling materials to degrade, losing performance in tensile strength, abrasion and elongation.

On oil rigs, offshore wind farms and in underground applications, any form of deterioration in cable quality is unacceptable and could have costly consequences.

Huntsman's latest wire and cable innovations were developed in response to requests from customers in the Americas, who were asking for increasingly demanding performance levels from their cable jacketing materials.

Easily processed and offering a wide temperature window, Huntsman's new Irogran materials contain a UV package that is not listed

as a substance of very high concern (SVHC) under REACH regulations.

Designed to increase cable longevity, the inclusion of this additive is beneficial for wire and cable manufacturers who are looking to improve performance and comply with stringent environmental standards.

Ahead of the launch of its new products, Huntsman has tested the performance of the materials extensively, with both grades surpassing industry standard UV tests. The two grades available are:

- Irogran® A 85 P 4394 UV DP, which has a hardness of 85 Shore A
- Irogran® A 92 P 4637 UV DP, which has a hardness of 92 Shore A

Both grades are entering final launch stage and will be available globally.

Rhona Watson, development centre manager Americas at Huntsman, said: "Creating new UV protected cable jacketing grades for industrial applications, using a specialised UV package, demonstrates that Huntsman is a provider of innovative wire and cable solutions."

**Huntsman Corporation – USA**  
**Website:** [www.huntsman.com](http://www.huntsman.com)

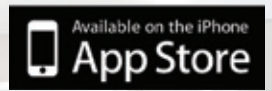


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## SEE US AT...



## Seoul contractor

ALSTOM Grid has won another major HVDC contract to support power provision in South Korea.

Alstom has been awarded an HVDC line commutated converter project through its joint venture, KEPCO-Alstom Power Electronics Systems (KAPES), to design and supply equipment for a 33km energy corridor in the Seoul region.

The  $\pm 500\text{kV}$  HVDC link with 1.5GW power capacity will transmit energy produced by the Dangjin power plant in the west of South Korea, to the densely populated Pyeongtaek area, east of Dangjin.

South Korea needs to meet a rapid increase in power demand. HVDC will increasingly be used to supply power to populated areas as the country develops a resilient transmission grid.

“Alstom is proud to contribute to Korea’s growing power economy. This project is the fruit of the joint venture and co-development efforts between KEPCO and Alstom; it will increase Alstom’s HVDC presence in Asia, and KEPCO will benefit from Alstom’s industry-leading HVDC technologies



○ HVDC valves hall at Alstom

and expertise from around the world,” said Patrick Plas, senior vice president grid power electronics and automation at Alstom.

Alstom is a recognised player in HVDC technologies in Korea. In the late 1990s the company provided the original 300MW HVDC bipole link for the 101km submarine interconnection

between South Korea’s Jeju Island and the mainland.

In 2009, Alstom was awarded a second contract to supply the new converter stations for the 400MW HVDC bipole scheme, completed in 2014.

**Alstom Grid – UK**  
**Website:** [www.alstom.com](http://www.alstom.com)

## Nigeria’s connectivity boost

Alcatel-Lucent and MTN Nigeria, a subsidiary of Dubai-based MTN Group, are creating ultra-broadband connectivity for Nigeria with the launch of a super-fast, 100Gps fibre optic network.

MTN Nigeria, which covers around 90 per cent of the country’s land mass, will deploy a 100G network that re-uses existing 10G optical assets, thereby preserving MTN’s past investments while ensuring a future-proof network.

Alcatel-Lucent is supporting MTN Nigeria’s rapid growth in mobile subscribers by building a 100G DWDM/OTN network using its 1830 photonic service switch (PSS) platform.

**MTN Nigeria – Nigeria**  
**Website:** [www.mtnonline.com](http://www.mtnonline.com)

**Alcatel-Lucent – France**  
**Website:** [www.alcatel-lucent.com](http://www.alcatel-lucent.com)

## Oil-resistant crosslinkable halogen-free fire-retardant compound

Fainplast compound HFX 521 has been developed to meet the demand of products for cables with high operating temperatures ( $-40^{\circ}\text{C}$ ,  $+90^{\circ}\text{C}$ ). Oil resistant, it is especially designed for applications in aggressive environments such as shipboards, railways and oil platforms.

HFX 521 can be processed on normal production lines for thermoplastic compounds and complies with IEC 60092-359, type SHF2 (sheathing materials for shipboard power and telecommunication cables) and with EN 50264-1, type EI 101-104 and EM 101-104 (railway rolling stock power and control cables).

HFX 521 moisture cures in a short time by adding a specific catalyst, thanks to the Sioplas method. The crosslinked product offers excellent oil resistance, as required by relevant standards. The product is halogen free according to EN 50267-2-1 (HCl  $<0.1\%$ , HBr  $<0.1\%$ , HF  $<0.1\%$ ).

In burning tests according to EN 61034-1, smoke allows a light transmittance higher than 90 per cent. The particular simplicity and cost effectiveness of the Sioplas method allows most cable producers to use HFX 521.

Fainplast has also developed a specific catalyst for external applications that helps HFX 521 to pass the xenon ageing test required by UL 1581 standard (Sunlight resistance – Xenon Arc Test – wavelength 340nm).

**Fainplast Srl – Italy**

**Website:** [www.fainplast.com](http://www.fainplast.com)

## Stimulating the Chinese wire and cable industry

WIRE & Cable Guangzhou will be staged from 9<sup>th</sup> to 12<sup>th</sup> June 2015 at the China Import and Export Fair Complex.

Praised as the ideal one-stop destination for sourcing the latest equipment, materials, machinery and detection instruments, the 2015 show is expected to be held across 25,000m<sup>2</sup> of exhibition space and host over 400 domestic and international exhibitors, all of whom are eager to take advantage of the growing demand in the global wire and cable market.

The 2015 fair will move to Hall 14.1 and Hall 15.1 of Area C, and once again be held alongside Messe Frankfurt's two other technical shows in Asia: Guangzhou International Lighting Exhibition and Guangzhou Electrical Building Technology.

Mr Emeka Hu, general manager of Guangzhou Guangya Messe Frankfurt Co Ltd, said: "The wire and cable, lighting and building industries are

interrelated in many areas. Organising the three shows concurrently offers a comprehensive platform for demonstrating the latest technologies and solutions for electrical engineering, lighting as well as building and home automation.

"The 2015 show will retain its focus on finished products, including wire and cable products, optical fibre cables, and equipment and materials. We are optimistic about the show's growth and its contribution to the development of the industry as a whole."

During the last edition Wire & Cable Guangzhou featured 318 exhibitors, and attracted 18,821 visitors from 25 countries and regions who came to discover advances in the industry and explore potential partnerships across the region.

The visitor profile included a number of industry sectors, such as automobile,

architecture, electric power, lighting, municipal engineering and more.

In China, the local wire, cable and accessories industry has expanded rapidly, with its current market value reaching RMB 3 billion (around \$487m). Along with the Chinese government's stricter energy efficiency building regulations and on-going urbanisation projects, as well as sustainable growth in the power, data communication and railway industries, the demand for smart grid systems and high-voltage cable accessories within the country remains high. This is expected to lead to strong and steady growth for the domestic wire and cable market over the next five years.

To find out more information about the 2015 show, visit [www.wire-cable-china.com](http://www.wire-cable-china.com)

**Wire and Cable Guangzhou – China**  
**Website:** [www.wire-cable-china.com](http://www.wire-cable-china.com)



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## Prysmian finding the future managers

Prysmian Group is launching the fourth edition of its international programme to recruit 40 new graduates in engineering and economics.

Candidate identification involves a structured selection and assessment process both at local and group level.

Successful candidates receive a permanent employment contract, competitive salary, and an initial period of induction and training at the Milan headquarters followed by a 12-month job rotation in their country of origin.

This is followed by at least 24 months of experience abroad within a specific function. After three years within the programme, the aim is to assign junior management roles in the home country or abroad.

## Refinery contract in Qatar

CCJV, the joint venture between Chiyoda and CTCI Corporation, has placed a major order for Nexans power and instrumentation fibre optic cables for the Laffan Refinery project.

Nexans will supply over 1,000km of cable, including low and medium voltage single and multi-core armoured IEC standard flame-retardant cables. In 2013, Nexans provided 1,000km of medium and low voltage cables for the Barzan gas processing project.

Charles-Edouard Mellagui, country manager and CEO of Qatar International Cables Company (QICC), the Nexans company based in Qatar, said: "Winning this major contract for such a high profile and strategic project is an important step for the contribution of the Nexans group to Qatar 2030 vision and its underlying will to



○ The Laffan Refinery in Qatar. Photograph courtesy of [www.2b1consulting.com](http://www.2b1consulting.com)

accelerate its industrial development."

For the Laffan Refinery 2 project, Nexans QICC will design and manufacture around 1,000km of low and medium voltage, power and earthing cables, while Nexans

France will provide the instrumentation and fibre optic cables. Construction began in December 2013, and is expected to be completed in the third quarter of 2016.

**Nexans – France**  
**Website:** [www.nexans.com](http://www.nexans.com)

## Cleats win phase two contract

Ellis has a second major order for its Emperor cable cleats and ProTect cable straps for the Areva European pressurised reactor (EPR) nuclear power plant currently being constructed in the Guangdong province of China.

The order was placed at the commencement of the second phase of the Taishan nuclear power project, which is a joint venture between EDF and China Guangdong Nuclear Power Group.

Tony Conroy, Ellis's export sales director, said: "Even after the success of the phase one specification, receiving a repeat order for phase two was far from simple.

"A huge emphasis has been placed on the various contractors to source local products, and so it felt like a huge victory to overturn this directive and once again see British products being specified for installation in a major Chinese development."

Designed for use where the highest levels of short circuit withstand are required, Ellis's Emperor cable cleats are available for both trefoil and single cable applications, and manufactured in type 316L stainless steel for

ultimate corrosion protection, even in the harshest of environments.

The Taishan reactor is the third nuclear power station to be built using Areva's 1,750MW EPR and it is the second time Areva has used Ellis products to secure electrical cables at a nuclear plant. The very first specification from Areva was for its OL3 reactor in Finland in 2009, and was followed in 2013 by the first phase order for the Taishan project.

**Ellis Ltd – UK**  
**Website:** [www.ellispatents.co.uk](http://www.ellispatents.co.uk)

### Chinese rebar warning

Independent tests on Chinese rebar have found some batches are not compliant with the industry standard, BS 4449, and this has led to the British Association of Reinforcement warning its members to "always check rebar material for British Standard compliance."

**British Association of Reinforcement – UK**  
**Website:** [www.uk-bar.org](http://www.uk-bar.org)

# Cables

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## Mill upgrade will lead to quality increase

THE privately owned Chinese Taizhou Daming Stainless Steel Co Ltd is upgrading its existing bar mill with the implementation of a Kocks 3-roll reducing and sizing block RSB® of the latest design.

The target for this upgrade is to increase the product quality to meet the customer requirements and to strengthen the company's market position.

Daming's products are widely applied in many different fields ranging from chemical, manufacturing and food processing to shipbuilding and automotive industry.

A stainless steel producer with more than 400 employees, it is located in Taizhou, a prefecture-level city in central Jiangsu Province in eastern China with a population of roughly 4.6 million.

The heavy duty reducing and sizing

block will be implemented as a finishing block in the existing 200,000 t/a stainless steel bar mill behind the 2-high reversing roughing mill and the intermediate and pre-finishing mill consisting of ten 2-high HV stands.

The block will roll straight bars in the range from 16 to 100mm diameter with tightest tolerances out of a one-pass family in the upstream mill onto the cooling bed.

The 3-roll RSB is dimensioned to operate with four 3-roll stands with 370mm nominal roll diameter. The modular, future-orientated new drive system grants a small footprint in the layout, a drastically reduced oil-lubrication volume and a simplified maintenance schedule.

Intelligent engineering leads to reduced hydraulic functions, which ensures a safe and environmentally friendly rolling.

The scope of supply comprises the 3-roll reducing and sizing block with automatic quick stand changing system, the roll shop with quick roll change, the mill configuration program Bamicon, and Capas, the computer-aided system for accurate adjustment of rolls and guides of the 3-roll stands.

Supervision of erection, commissioning and training of customer personnel are also Kocks' responsibility.

Implementing the new 3-roll RSB will enable Daming to reach its target and meet not only current but also future customer requirements.

The start-up of the upgraded mill is expected for the end of 2015.

**Friedrich Kocks GmbH & Co KG – Germany**  
**Website:** [www.kocks.de](http://www.kocks.de)

## New web presence for Leibinger

Paul Leibinger is now providing its customers with added value on its new, completely revised website. After being relaunched it is complete with a fresh, new design and clearly focuses on being able to quickly find more information about Paul Leibinger and the company's variety of products.

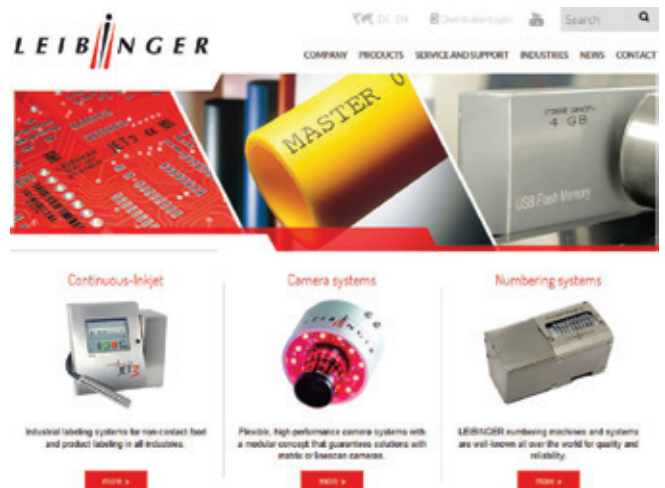
Easy entrance into the Leibinger product world is possible as of now by the new, clearly structured homepage of the Germany-based specialist for industrial marking and coding systems and verification solutions.

With just a click you can get detailed information about continuous inkjet printers, camera verification systems and numbering machines as well as access the 'news' area with all of the press releases, news and current trade show appearances.

To make searching for new information even easier for new visitors, the marking requirements and solutions for many different industrial areas are explained under the 'Industries' menu item, eg, the automotive, plastic, wood or pharmaceutical industry.

The Leibinger website relaunch was clearly focused on creating an easy-to-read, user-friendly structure and a fresh, up-to-date design that reflects the innovative technologies of the family-owned company and the modern corporate culture.

Visitors are provided with added value by the extensive service and support options, the greatly expanded product



○ The new Leibinger website with an up-to-date design and more product information

range with a detailed presentation of all JET3 and JET2neo models as well as the likewise expanded amount of information about software and accessories.

Numerous application images and the ability to quickly find your individual contact person using the 'direct contact' function are just a few further developments that make each visit to the new website even more enjoyable and efficient.

**Paul Leibinger GmbH & Co KG – Germany**  
**Website:** [www.leibinger-group.com](http://www.leibinger-group.com)

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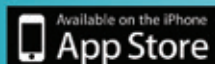
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## SAMP's China cheer

THE recent wire China exhibition in Shanghai has confirmed its status as one of the most important international trade fairs for the industry, according to Italian manufacturer SAMP.

"It was an even greater triumph than we expected," said Dominique Perroud, managing director of SAMP Shanghai.

"The 2014 edition of wire China had an extraordinary number of visitors and a powerful media impact, and it also reaffirmed its international vocation.

"All this gave us an opportunity to show ground-breaking innovations from our comprehensive range of wire and cable manufacturing solutions for sustainable and efficient manufacturing.

"We were pleasantly surprised by the interest of customers and by the quantity of new sales contacts that were made throughout the exhibition. The wire China show surely met and even exceeded all of our expectations."

SAMP, a global provider of turnkey solutions for wire and cable manufacturing, presented many technological innovations at the exhibition, including hi-tech rod breakdown machines for non-ferrous wire, double-twist bunchers and innovative spoolers.

One of these breakthrough machines is the new double-twist bunching machine BM 630 E, a high-performance,



○ The SAMP stand proved popular at wire China

enhanced version of its best-selling buncher, characterised by an innovative energy efficient architecture for high power factor, the possibility of an infinite adjustment of the main production parameters at the control panel and the ability to run without human intervention thanks to the SAMP automatic traversing system. The key features and technical solutions adopted are the result of careful analyses of customers' requests.

SAMP looks back with fond memories to the event since wire China 2014 coincided with a major milestone in the

company's history: the tenth anniversary of SAMP Shanghai. SAMP has been active in China since 2004.

In 2011 the decision was made to further strengthen its local presence, investing in a new state-of-the-art production unit to efficiently and safely produce high-quality machinery and equipment with minimal environmental impact. With over 3,800m<sup>2</sup>, SAMP Shanghai has almost doubled its original size.

**SAMP – Italy**  
**Website:** [www.sampsistemi.com](http://www.sampsistemi.com)



○ The Eder stand at the recent wire China exhibition in Shanghai

### Emphasis on quality

Increased demand for western goods and machines was noted at the Eder stand at the recent wire China exhibition in Shanghai.

The company experienced a good return on visitors to its stand during the first two days of the show, with an increase in number from countries such as Saudi Arabia, Egypt, Iran, Malaysia and India.

Quality is also appearing to be far more important to the Chinese market with many companies forgoing cheaper machines on offer.

**Eder Engineering – Austria**  
**Website:** [www.eder-eng.com](http://www.eder-eng.com)



## Quality counts

THE latest models of the Eurolls cassettes and micro cassettes were on display at the Italian company's stand at the recent wire China exhibition in Shanghai.

Staff from the company were joined by its own TeamChina, who are based in Shanghai Province.

Visitors showed great interest in the units as the market begins to see the benefits of producing wire by rolling rather than drawing.

Over the last 20 years, through its customer base, Eurolls has continued its innovative outlook with this turnkey solution.

Through customer feedback, it has been able to perfect the construction of the Eurolls Rolling Cassette, which is manufactured completely in-house, and to improve its know-how on process.

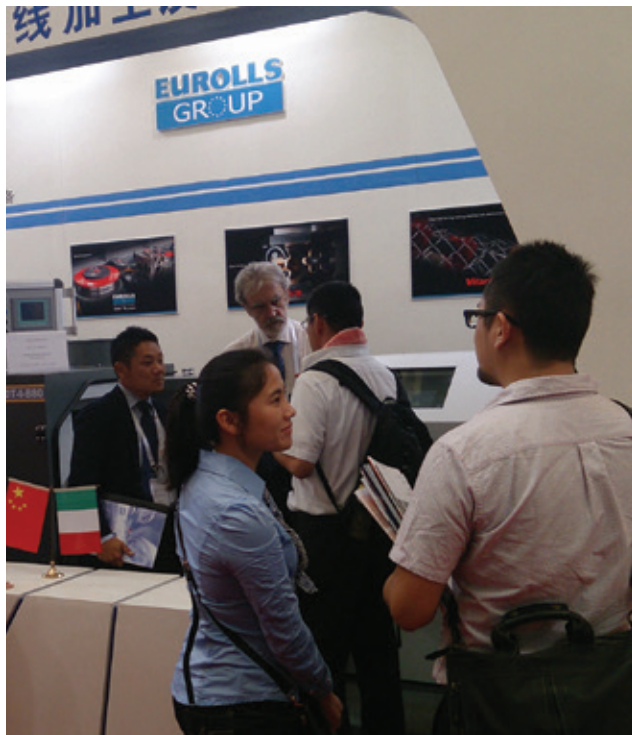
The latest innovation that drew the most attention during the show, however, was the double-twist bunching machine for steel cord.

This compact, easy-to-use and maintenance-friendly machine has already been sold to a customer in the area, and has gained a lot of interest within the market.

The company experienced a high number of quality visitors from China, Southeast Asia, India, Latin America and Europe.

**Eurolls SpA – Italy**  
Website: [www.eurolls.com](http://www.eurolls.com)

○ The busy Eurolls stand at wire China



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## HOSN delight at wire China

THE latest edition of wire China featured industry leaders from all corners of the globe and presented an excellent opportunity for both exhibitors and visitors alike.

Shanghai HOSN took up 180m<sup>2</sup> of central exhibition space where it showcased the latest technical innovations, provided a meeting area for consulting with clients, and impressed onlookers with its visual presentations.

With corporate synergy at its core and a progressive company-wide strategy, HOSN was primed to leverage its key strengths to create prosperous business relationships.

Under the pragmatic leadership of its general manager David Xu and operating under the auspices of Hold Manufacturing since 1999, HOSN has grown organically and always looked to maximise its global outreach. True to form clients and suppliers alike, from the EMEA, the Americas and Asia, were attracted to its prime real estate.

Welcomed by an international and multi-lingual staff, it was an excellent focal point for all. The centrepieces were the twist strander and laying up/ armoring machines which flanked the exhibit and attracted much praise.

For a company once branded 'energetic' by a foreign counterpart, HOSN lived up to its billing. The proactive regional sales force engaged downstream members of its supply chain whilst hospitality staff



○ General manager David Xu, centre, with staff from HOSN and two intern students from the business school at Nottingham Trent University

offered a range of beverages and local delicacies.

Looking beyond the contracts settled and the bonds forged, the company says that the event sent a clear

message: 'We are the benchmark, we are the wiring company that China deserves.'

**Shanghai HOSN – China**  
**Website:** [www.hosnglobe.com](http://www.hosnglobe.com)

### Windak's popularity

wire China has grown into one of the main events in the wire and cable calendar – and Windak has attended each one since 2008.

The company finds the exhibition an ideal opportunity to meet up with existing customers, and to gather information on new trends and the general market.

Many organisations and companies have based cable production in China due to the large market and potential sales.

The general labour cost is steadily increasing and companies are seizing the opportunity to look to automation of machinery, with Windak placed to help in the market place.

The Windak stand introduced its latest offers through the new line QuickPack QP3, a fully automatic cable coiling and packaging machine, which proved popular.

Its concept is based on simplicity and maximum output. The model has been designed to accommodate a range of product diameter up to 7mm with maximum speed up to eight coils per minute.

This new generation machine is faster, with more servo control and fewer settings, and is claimed to give customers a quicker return.

**Windak OU – Estonia**  
**Website:** [www.windakgroup.com](http://www.windakgroup.com)

## UK company drawing in the distributors!

LUBRICANTS manufacturer Metalube experienced an excellent wire China show with record numbers of visitors to its stand.

To coincide with the show the company hosted a SE Asia distributor conference at the Shanghai, Ramada Hotel, which included Metalube representatives from India, Malaysia and China.

Douglas Hunt, commercial director, said: "When you are an international company such as Metalube it is vital to bring teams together, giving them the opportunity to work collectively towards joint goals.

"Using wire China as a platform for a conference worked fantastically well. The event provided briefings on the latest new product developments from the UK as well as training and sales tools."

He added: "Most importantly, it allowed colleagues from different markets to not only attend the wire China show but to also get together and share experiences and ideas."

**Metalube Ltd – UK**

**Website:** [www.metalube.co.uk](http://www.metalube.co.uk)



○ Visitors flocked to the Metalube stand at wire China

**FIND OUT ALL THE FACTS AND FIGURES FROM WIRE CHINA ON PAGE 10**

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# 核级电缆圆满交付

RSCC Nuclear Cable (RSCC) 已向韩国新古里 (KHNP) 3号核电站 (Shin Kori Unit 3) 成功交付1E级核级电缆并安装, 总价值约1300万美元。

2013年11月, RSCC公司成功中标, 为两个APR-1400反应堆提供1E级核级电缆, 这是全球电缆产业首个60年寿命核级电缆安装项目。

“RSCC感到非常自豪, 能够成功完成世界最高水平核级电缆的安装。这是一个极具挑战的项目, 困难重重, 但是我们成功了。这是我们核级电缆制造和安装的一个重要里程碑。” RSCC Wire & Cable公司总裁Steven Bonnell声称。

RSCC为该项目共交付了1,000多卷中低压核级电缆、仪器仪表电缆和控制电

缆。这些电缆在过去的六个月通过肯尼迪机场陆续交付给韩国新古里3号核电站。

每卷电缆在出厂前在美国都要经过反复检验, 然后在安装前后还要在新古里再接受多次检查。

“新古里电缆要经过多重质检, 这在核工业其它电缆中是从来没有过的。RSCC在核级电缆生产、安装方面有着40多年的历史, KHNP是我们最忠诚的老客户, 多年来一直使用我们的核级电缆,” 亚洲区副总裁Corey McDaniel表示。

RSCC通过了一系列的设备鉴定 (EQ) 测试, 确保电缆在60年的生命周期里能够经受最严峻的挑战。

安装在新古里的电缆有史以来第一次满足严格的EQ要求, 表明RSCC电缆能够承受严苛的条件, 包括极端温度、压力、蒸汽和辐射。

RSCC电缆已安装在半数以上的韩国反应堆以及美国所有的反应堆和最重要的美国政府核设施。

RSCC核电缆销往全球安全标准最高的国家和地区, 包括阿联酋、中国、中国台湾、加拿大、墨西哥和整个欧洲及南美洲。

在全球范围内, RSCC拥有的核应用安全电缆品种最多最全。

**RSCC Nuclear Cable – 美国**  
网址: [www.rsccnuclearcable.com](http://www.rsccnuclearcable.com)

Graphics: bigstockphoto.com, Artist: Eky Studio

## SAMP参展成果喜人

近期在上海举行的中国国际线缆展再次确认了其作为全球电线电缆行业顶尖盛事的地位 - 意大利制造商SAMP如是评价。

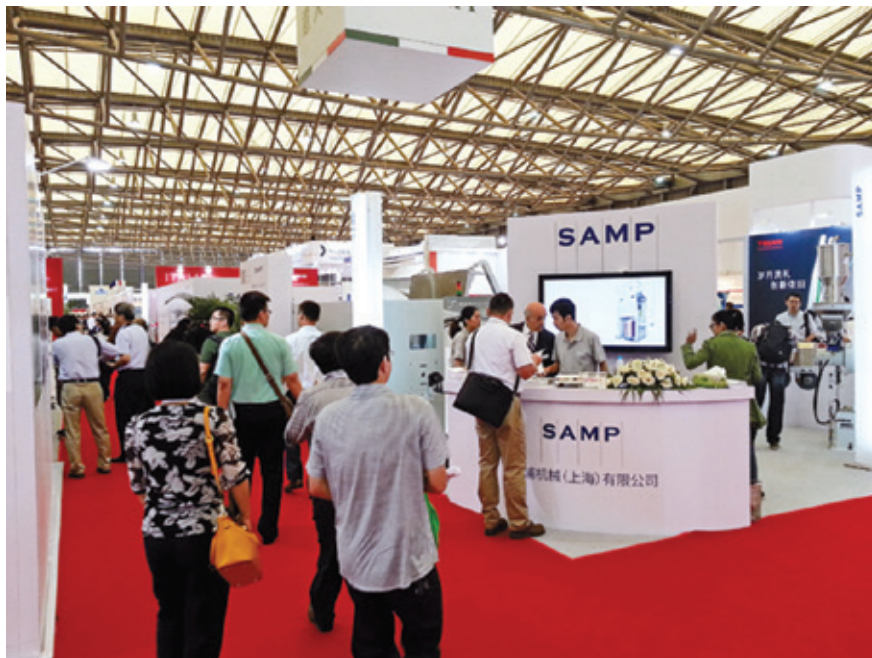
“这次的展览成果比我们预期的要好”，SAMP上海总经理Dominique Perroud表示。

“2014中国国际线缆展的参观者数量空前，媒体影响力也不同凡响，而且还重申了其国际使命。这一切为我们创造了全面展示突破性创新成果的机会，包括用于持续高效制造的电线电缆生产解决方案。”

“展会现场，众多客户对我们的产品有着浓厚的兴趣，同时，我们还获得了许多新的销售人员联系方式。中国国际线缆展的效果确实达到甚至超过了我们所有的预期。”

SAMP是电线电缆交钥匙解决方案的全球供应商，现场展示了许多创新技术，包括用于有色金属丝的高科技大拉机、双节距束线机和创新缠绕机。

突破性创新机器包括新型双节距束线机BM 630 E，性能高，是其畅销束线机的升级版，创新节能架构适用于高功率运行，在控制面板上无限调节生产参数，SAMP自动进给系统无需人工干预运行。机器的主要功能和技术解决方案是根据客户要求仔细分析的结果。



○ SAMP在中国国际线缆展上备受欢迎

2014中国国际线缆展也恰逢上海SAMP公司成立十周年，对SAMP来说，这是公司发展史上重要的里程碑。

事实上，SAMP集团自2004年以来一直活跃在中国市场。2011年，公司决定进一步强化其本地业务，投资于最先

进的生产装置，用以高效、安全生产高质机械和设备，并且将对环境的影响降至最低。上海SAMP目前占地面积超过3,800m<sup>2</sup>，差不多是原有规模的两倍。

**SAMP - 意大利**  
网址: [www.sampsistemi.com](http://www.sampsistemi.com)

## 凝聚经销商

业界领先的润滑油制造商Metalube在2014上海中国线缆展上收获颇丰，展台接待的来宾数量创历史记录。

展会期间，公司在上海的华美达大酒店召开了东南亚经销商会议，Metalube在印度、马来西亚和中国的代表出席了会议。

商务总监 Douglas Hunt 说：“如果是国际化的公司，像Metalube一样，增强团队的凝聚力尤为重要，给予他们在一起工作的机会，携手迈向共同的目标。借助中国国际线缆展的平台，把大家召集在一起开会非常有意义。本次活动简要介绍了英国最新的产品开发成果，以及培训和销售工具等。”

他补充说：“最重要的是，工作在不同市场的同事能够聚在一起，不仅参加了中国线缆展，而且在一起共同分享销售经验和销售理念。”

**Metalube Ltd - 英国**  
网址: [www.metalube.co.uk](http://www.metalube.co.uk)



○ 中国国际线缆展上，Metalube展台人气兴旺

## 持续多年稳健增长

Thompson and Hudson Wire Machinery公司成立于1903年，多年来一直稳步增长，现已成为英国最大的线材矫直、切割与成型机制造商之一。这些机器生产一系列线材产品，从手术针到混凝土钢筋，产品远销全球各地。

Thorite，英国最大的气动产品和加工系统独立分销商，自1967年以来，一直为Thompson and Hudson供应独特的气动系统和各种Norgren气动设备，以最大限度地提高线材切割机的速度、准确性和效率。

这两个老字号约克郡公司多年来互惠互利，建立了密切的合作关系。

Thompson and Hudson总经理Paul Thompson对公司机械出口业绩感到非常自豪，他说：“很多人似乎认为，英国的制造企业无法与使用相对廉价劳动力的远东公司竞争。”

“然而，在线材机械领域，事实并非如此。我们最近向中国提供了特殊应用的机器，用于矫直和切割线材，制造油漆滚筒，向印度提供的机器用于制造麻花钻，类似订单不仅限于此。”

“我可以肯定的是，只有英国的机构才掌握这样的技能与专业知识，并通过磨练自己的出口能力，不断取得成功。”

Thompson and Hudson位于西约克郡，布里格豪斯，公司制造的机器能够生产上千种产品，从火炉栏到钓鱼钩，盘子滤干器到飞镖靶，产品远销德国、美国、冰岛，以及中国和印度，当然国内市场也不可小觑，目前销售也呈上涨态势。

**Thompson and Hudson Wire Machinery – 英国**  
网址: [www.thompsonandhudson.co.uk](http://www.thompsonandhudson.co.uk)

**Thorite – 英国**  
网址: [www.thorite.co.uk](http://www.thorite.co.uk)



○ Thompson and Hudson 机械生产一系列线材制品

## 宣布涨价

Ugitech 和 Schmolz and Bickenbach Group 子公司 Deutsche Edelstahlwerke 最近联合宣布，不锈钢棒、线材和拉丝产品的价格将上涨。

每吨价格上涨50欧元，2015年1月开始生效。

**Ugitech – 德国**  
网址: [www.ugitech.com](http://www.ugitech.com)

**Deutsche Edelstahlwerke – 德国**  
网址: [www.dew-stahl.com](http://www.dew-stahl.com)

## Windak在中国很受欢迎

中国国际线缆展已成长为电线电缆行业的主要盛会 - Windak自2008年以来每年都会参展。公司发现，借助这样的展览，可以与客户零距离接触，并且能够收集大量关于行业发展趋势和一般市场的信息。

许多机构和公司在中国都有电缆生产基地，主要因为中国市场广阔和潜在的销售可观。总的劳动力成本在不断上升，公司都在抓住机械自动化的机遇，Windak恰恰能够迎合市场的需求。备受欢迎的Windak展台推出了最新产品QuickPack QP3，这是一款全自动卷线与包装机，受到市场的普遍欢迎。

机器设计基于绝对的简单性和最大输出能力。这一型机的设计满足的产品直径达7毫米，速度高达每分钟8个线圈。新一代机器速度更快，伺服控制更多，设置更少，因此，客户回报更快。

**Windak OU – 爱莎尼亚**  
网址: [www.windakgroup.com](http://www.windakgroup.com)

## 2014年中国国际线缆及线材展创记录

亚洲最大的线缆、线材及管材展览会在经过4天创记录的展期后于9月闭幕，在上海新国际博览中心迎来了1400多家参展商，再创新高。展会展出总面积90,000平米，来自34个国家的参展商参展，迎接了来自阿根廷、泰国、越南、印度、日本、韩国、香港、澳门、台湾和中国大陆的38,000多名参观者。值得一提的是阿根廷首次组织了买家团到访展会现场观展。在四天的展期内，展商与参观者对展会非常满意。

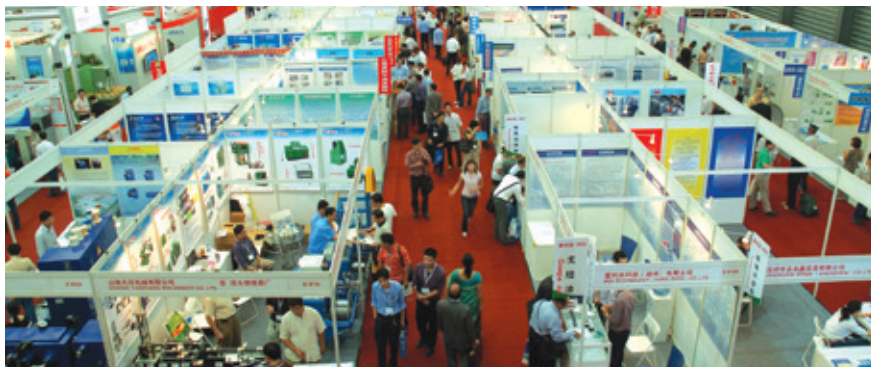
“随着中国经济的持续增长，大量基础设施建设和能源项目不断涌现，进一步刺激了市场对线缆、线材及管材产品的巨大需求。仅用了10年的时间，wire China及Tube China就成为了亚洲第一的业内人士与专业买家的交流平台。”杜塞尔多夫展览集团公司主席兼CEO Werner Dornscheidt说道。

“作为技术交流和信息动态平台以及促进行业共享新技术、新产品和新思想的贸易合作平台，wire China汇聚世界行业技术发展趋势，并将为中国线缆行业转型升级、创新发展提供助力。”上海电缆研究所所长、中国电器工业协会副会长(CEEIA)、中国电器工业协会电线电缆分会理事长Wei Dong先生说道。

“经过十年的努力，我们打造了一个令全球业界瞩目的国际管材交流平台，我们相信，伴随着中国经济的转型发展，这个平台将不断地焕发出新的活力，为参与其中的中外展商和观众带来新的利益，创造新的价值。”中国钢铁工业协会副秘书长、中国国际贸易促进委员会以及行业分会会长、冶金工业国际交流合作中心主任Yang Zunqing先生说道。

“经过十年的悉心经营，wire & Tube China展览会在质量、服务、规模和档次上，得到了业界的普遍赞誉，现已发展成为亚洲最大、世界第二的行业专业展览。为中国及外国公司建立了强大的联系。”Messe Düsseldorf (Shanghai) Co Ltd公司总经理Axel Bartkus先生说道。”

随着中国经济的持续发展，大量基础设施建设和能源项目不断涌现，进一步刺激了市场对线缆和线材产品的巨大需求，从今年的展会规模就可以看出。来自34个国家和地区的982参展商参加了wire China 2014，电线和电缆展出区域达到57,500平方米，比2012年的增长了10.6%。中国本土参展商和海外参展商积极参与wire China，纷纷扩大面积也彰显了中国乃至亚洲经济的潜在发展动力。



○ 2014中国线缆展在上海新国际博览中心举行

“本届展会比上一届吸引了更多出席人数和新的专业观众。我们很多展商带他们的机械来现场展示，展会期间吸引了很多参观者参观洽谈。我们将告诉会员wire China展会的成功，相信将有更多的会员参加下届展会。”国际线材机械协会(IWMA)主席Steve Rika先生对其会员参加下届展会十分有信心。

奥地利国家团组单位奥地利电线电缆机械制造商协会主席Kurt Eder博士表示：“今年的展会比往届更好。国际观众的参与度强势增长，包括来自沙特阿拉伯和伊朗的参观者。观众质量也更好。总体而言，中国的行为也有了转变。随着生活质量的改善，客户更为频繁地采购高质量的机械设备。随着中西方的质量差异逐渐得到理解，中国买家也逐渐意识到应为他们的客户提供欧洲制造的高质量设备——这是在wire China 2014期间明显体现出的对原产品需求的增长。”

“我们从展会成立伊始便参加了wire China展会，中国市场对我们来说非常重要。展会的广告和市场宣传做得特别好，很多参观者来参观我们的展出。希望展会保持这样的良好工作，把广告和市场宣传做得更好。对于我们而言，只参加重要的行业展会。”今年携先进设备参展的Maschinenfabrik Niehoff GmbH & Co. KG公司总裁Arnd Kulaczewski先生表示。

“这次的参展成功远超我们的预想。”SAMP Shanghai公司董事总经理Dominique Perroud先生表示，“wire China 2014的现场观众数量和强大的媒体影响力超乎我们的想象，再次重申了其国际地位。为我们提供了一个绝佳的机会展示我们公司在线材线缆制造方面的突破性综合解决方案。我们惊喜地

发现，很多参观者对我们的产品非常感兴趣，现场订购了大量的订单。总体来说，本届展会远超我们的期望。”

“我们从开展到现在每届都参加，一届比一届获得的客户都要多。”Traxit International公司总经理Qingwei Liu表示。

“这次参展是我们所有展会下来效果最好的一次。预约的观众全部到场。也有好几个当场成交的订单。相信wire China一定会越办越好。”第四次来参加wire China展会的REDEX销售经理Eric Rui表示。

“我们每届都来参展，感觉展会的观众越来越专业，展商的水平也越来越高。很多来我们展台的观众其实都是有购买意向的潜在客户。我们展出的两台样机也已被预定。”Meccanica China (Eurolls Group) 团队主管Ba Yan表示。

“感谢展会为我们提供了更好的与客户相互交流的平台，我们可以扩大业务。我们希望展会能够继续为我们提供更好的服务。”Shanghai Kingstone Cable & Equipment Co., Ltd公司总经理Jianyi Zhao表示。

“这次展会给我们公司带来了许多好处，我们也从其他展商那边学到了很多新东西，展会上展示了很多新的设备，带来了许多新技术。我也学到了很多。我们公司正跟随展会一同发展，希望展会越来越成功。”Xinming Cable Machinery公司总经理胡先生表示。

SECRI and Messe Düsseldorf (Shanghai) Co Ltd – 中国  
网址: www.wirechina.net



## 尼日利亚连通性增强

Alcatel-Lucent正在和非洲领先的服务供应商MTN Nigeria (MTN Nigeria系迪拜MTN Group子公司)合作启动一个超高速100Gps每秒的光纤网络, 以此来为尼日利亚带来超宽带连接。

MTN Nigeria服务覆盖约90%的尼日利亚地区, 将利用现有的10G光资产来部署100G光纤网络, 从而保留MTN此前的投资, 同时确保未来发展和顶级的解决方案。

尼日利亚增长中的经济正推动移动用户的增多, 因此, 尼日利亚急需可靠的移动宽带接入, 来支持宽带服务的增长需求, 比如流媒体视频和用于存储和数据中心连接的不增长需求。新的光纤网络将赋予MTN容量和弹性来为非洲其他服务供应商提供批发服务。

Alcatel-Lucent使用1830光子业务交换机(PSS)平台建立100G DWDM/OTN网络, 来支持MTN Nigeria移动用户的快速增长, 系列设备根据最新国际SD-FEC零接触光层和连贯技术设计而成。

Alcatel-Lucent灵活的光网络与WDM、OTN和GMPLS/ASON智能控制平面相结合, 以100G及以上速率用于可扩展、灵活、可靠和高效的传输。

**MTN Nigeria – 尼日利亚**  
网址: [www.mtnonline.com](http://www.mtnonline.com)

**Alcatel-Lucent – 法国**  
网址: [www.alcatel-lucent.com](http://www.alcatel-lucent.com)



○ Alstom 高压直流阀厅

## 首尔承包商

Alstom Grid赢得了又一高压直流输电大宗订单, 支持韩国提供电力。

Alstom已通过其合资公司韩国电力阿尔斯通电力电子系统公司(KAPES)获得了高压直流输电线路整流转换器项目, 为首尔地区33千米长的能源走廊设计和供应设备。

拥有1.5GW 电容量的±500千伏高压直流输电线路将来传送韩国西部唐津电厂生产的能源, 输送到人口密集的唐津东部平泽地区。

韩国需要满足电力需求的快速增长。国家正在发展弹性输电网, 高压直流越来越多地被用于提供电源给居住区。

“Alstom很荣幸能够参与韩国不断增长的经济活动。该项目是合资公司和

KEPCO以及Alstom共同努力发展的成果, 将提升Alstom高压直流在亚洲的存在, KEPCO将受益于Alstom业界领先的高压直流技术和世界各地的专业知识, ” Alstom 电网电力电子及自动化高级副总裁Patrick Plas表示。

Alstom是韩国高压直流技术公认的参与者。上世纪90年代末, 公司提供了一个300兆瓦的特高压两级电路, 用于济州岛点对点的海底互连系统, 该线路长达101千米。

2009年, Alstom获得了第二份合同, 为400兆瓦高压直流项目新建一个换流站, 于2014年完工。

**Alstom Grid – 英国**  
网址: [www.alstom.com](http://www.alstom.com)

## 品质至上

Eder最近参展在上海举行的中国国际线缆展, 展会期间Eder意识到西方的产品与机器需求呈上涨趋势。

展会进行的头两天, 公司展台前人头攒动, 接待了大量的来宾咨询, 今年的展会, 来自沙特阿拉伯、埃及、伊朗、马来西亚和印度的参观者数量明显增加。

随着大量廉价机器涌入中国市场, 产品的质量越来越被重视。

**Eder Engineering – 奥地利**  
网址: [www.eder-eng.com](http://www.eder-eng.com)

○ 中国国际线缆展Eder展台



## Kent Wire恢复生产

2014年5月的一场大火损坏了英国肯特查塔姆码头的生产设施，ArcelorMittal Kent Wire报道说公司生产线现已全面恢复。公司针对火灾损坏的生产线进行了升级，Kent Wire因此每年能够生产超过13万吨布筋。公司首席执行官Phil Taylor说：“在这个事件后，受损的布筋生产线已全面恢复和升级，目前公司已正常运作。在过去的六周里，我们给客户带来了许多不便，在此我深表歉意，我期待着再次以高质量的产品和服务为客户提供支持。”

作为英国钢筋协会的成员，ArcelorMittal Kent Wire是欧洲领先的线材制造商ArcelorMittal Hamburg的全资子公司，也是世界最大的钢铁生产商ArcelorMittal的成员。

## 印尼低压产品市场广阔

ABB在印尼西爪哇省建设了新的生产工厂，旨在提高微型断路器在该地区的生产能力。ABB全球低压产品总裁Tarak Mehta表示：“我们看到印尼地区的低压产品市场非常广阔，再加上国内经济增长前景良好，年轻人口又多，住宅、工业和商业建筑部门为低压产品带来了巨大机遇。去年电力需求同比增长10%。”新厂的投产能够为当地创造200多个工作岗位。在印尼建厂符合公司市场融合、创新和扩展战略(PIE)。ABB在西爪哇省已经拥有一座低压产品生产厂。



○ Huntsman推出两种新的紫外线保护等级热塑性聚氨酯，其中一种用于采矿

# 新电缆用于海上与采矿

Huntsman开发的两种紫外线保护等级热塑性聚氨酯 (TPUs) 适合于海上、石油、天然气和采矿电线电缆的应用。

聚醚TPU材料 - Huntsman已有Irogran®产品系列成员 - 设计用于重型设备电缆的护套，需在恶劣、磨蚀的室外环境中发挥作用，并且暴露于自然环境。

随着时间的推移，暴露在紫外线下可能引起电缆材料降解，从而导致拉伸强度、耐磨和断裂伸长率等性能的损失。在石油钻井平台、海上风电场和地下应用中，电缆质量任何形式的退化都是不能容忍的，后果也不堪设想。

Huntsman最新电线电缆创新应美国客户的需要，要求电缆护套材料具有越来越高的性能水平。

易于加工，并且具有宽泛的温度窗口，Huntsman新的Irogran®系列材料包含有紫外线包装，根据REACH规定，不列为高度关注物(SVHC)。这种添加剂能够提高电缆寿命，对电线电缆制造商来说是非常受益的，不但可以改善产品的性能，而且符合严格的环保标准。

在推出新产品之前，Huntsman对材料性能进行了超过行业标准的紫外线测试。两个测试等级如下：

- Irogran® A 85 P 4394 UV DP, 硬度85邵氏A
- Irogran® A 92 P 4637 UV DP, 硬度92邵氏A.

这两个等级都将进入最后启动阶段，在全球范围内推广。

Huntsman美国发展中心经理Rhona Watson说：“在工业应用中，开发新的紫外线保护电缆护套，使用专门的紫外线封装，表明Huntsman是创新电线电缆解决方案的供应商，能够紧密结合市场需求。”

Huntsman Corporation - 美国  
网址: [www.huntsman.com](http://www.huntsman.com)

## 鞭策中国电线电缆业

广州国际线缆展将于2015年6月9日-12日在中国进出口商会交易会馆举行。

被誉为业界新设备、材料、机械和检测仪器理想的一站式采购平台，2015年的展会预计在25,000m<sup>2</sup>的展览空间举行，国内外400多名参展商共赴盛会，他们渴望利用全球电线电缆市场不断增长的优势。

2015年，展会将移师C区14.1馆和15.1馆举行，法兰克福展览公司举办的广州国际照明展览会和广州国际建筑电气技术展览会也将同期举行。

广州光亚法兰克福展览公司总经理胡忠顺先生说：“电线电缆、照明和建筑行

业是在许多方面是相互关联的。三展联动，为电气工程、照明、建筑和楼宇自动化展示最新技术和解决方案提供综合性的平台。”

“2015年展会的重点仍然是成品，包括电线电缆产品、光纤光缆、设备和材料。我们对展会的成长和对行业整体发展做出的贡献持积极乐观的态度。”

2014广州国际线缆展吸引了来自25个国家及地区的318家参展商和横跨各领域专业的18,821名专业买家，他们前来发现行业的进展和挖掘潜在的合作伙伴。

这些专业买家来自各行各业，比如汽车、建筑、电力、照明等相关领域。

中国本土的电线电缆及配件产业规模迅速扩大，目前市场价值达到人民币30亿(约合4.87亿美元)。

随着中国政府越来越严格的建筑节能法规和正在进行的城市化项目，以及电力、数据通信和铁路行业的持续增长，对智能网格系统和高压电缆附件的需求仍然很大。

预计未来五年，国内电线电缆市场仍然保持强劲而稳定的增长。

了解更多关于2015年展会的信息，请访问 [www.wire-cable-china.com](http://www.wire-cable-china.com)。

**Wire and Cable Guangzhou – 中国**  
网址: [www.wire-cable-china.com](http://www.wire-cable-china.com)

## 耐油交联无卤阻燃化合物

Fainplast化合物HFX 521被开发用于满足产品对电缆的高温操作(-40°, +90°C)和耐油要求，特别设计应用于腐蚀性环境中，如船上、铁路和石油平台。

HFX 521能够在正常生产线上加工成符合IEC 60092-359标准的热塑性化合物、符合EN 50264-1规定的SHF2(船用电力与通信电缆护套材料)以及EI 101-104 和 EM 101-104 (铁路机车电力与控制电缆)。

由于Sioplas 法，HFX 521添加特定的催化剂后，在短时间内湿气固化。

此交联产品具有优良的耐油性，符合相关标准规定。同时，该产品无卤，符合标准EN 50267-2-1 (HCl <0.1%, HBr <0.1%, HF <0.1%)。

根据EN 61034-1进行的燃烧测试，烟的透光率高于90%。Sioplas法简单经济允许大多数电缆制造商使用HFX 521。Fainplast还为外部应用开发了一种特定的催化剂，帮助HFX 521通过UL 1581标准(抗日晒 - 氙弧测试 - 波长340nm)所要求的氙灯老化测试。

**Fainplast Srl – 意大利** 网址: [www.fainplast.com](http://www.fainplast.com)

## 中国国际线缆展凸显品质致胜

最近在上海举行的中国国际线缆展上，Eurollis在其意大利公司展台展出了最新的辊模和微型辊模拉丝机。

意大利公司和上海公司的团队成员一起出席了展会。

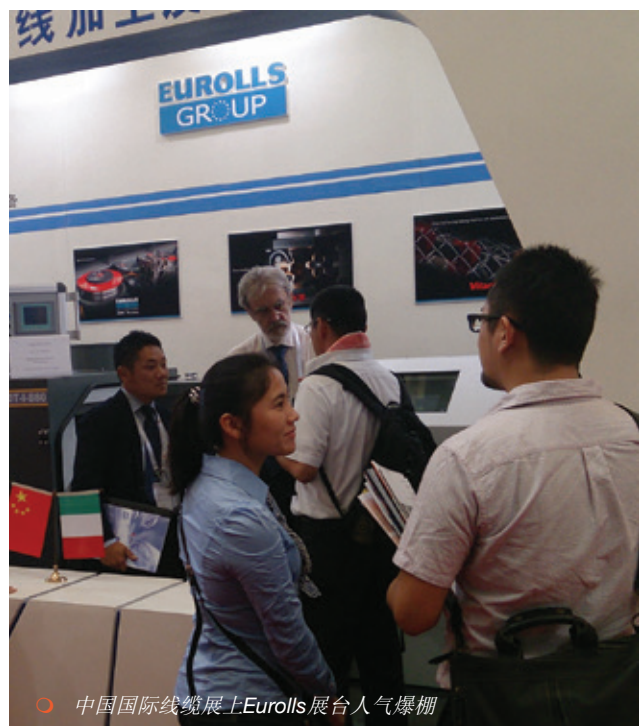
由于市场见证了通过轧制而不是拉伸生产线材的优势，因此，展会来宾对Eurollis设备有着极大的兴趣。在过去的20年里，通过其客户群，Eurollis“交钥匙”解决方案前景看好。

通过客户的反馈，Eurollis辊模不断完善，现已完全在内部制造，并持续改善其工艺技能。

展览会上最引人注目的创新要数生产钢丝绳的对绞机。这种结构紧凑、易于使用和维护方便的机器已在现场出售给了当地的一位客户，在该市场获得了广泛的关注。

展会现场，公司接待了大量的目标客户，他们来自中国、东南亚和其它国家，如印度、拉丁美洲和欧洲。

**Eurollis SpA – 意大利**  
网址: [www.eurollis.com](http://www.eurollis.com)



中国国际线缆展上Eurollis展台人气爆棚

## 电缆夹板拿下二期订单

Ellis公司生产的Emperor电缆夹板和ProTect电缆扎带赢得了二期订单，用于目前正在中国广东省建筑的阿海法欧洲压水核反应堆（EPR）核电站。

订单是在广东省台山核电站二期项目刚刚开始时签署的，台山核电站是法国电力公司EDF和中国广东核电集团合作建造的。

Ellis出口销售经理Tony Conroy说：“我们的产品在第一阶段表现卓越，因此我们才有机会续签订单，并非轻而易举。”

“每个承包商都被强烈要求采购本地产品，因此，推翻这一指令对我们来说就像取得了重大的胜利。我们再次见证了英国产品被指定使用在中国重要的开发项目上。”

Ellis公司生产的Emperor电缆夹板设计要求承受最高级别的短路，可用于三叶电缆和单根电缆，由316L型不锈钢制造而成，即使在极端恶劣的环境中也非常耐腐蚀。台山反应堆是使用Areva 1,750MW EPR建造的第三核电站，也是Areva第二次使用Ellis产品来保护电缆。Areva于2009年在芬兰建造首座OL3反应堆，接着于2013年合作建设台山核反应堆。

Ellis Ltd - 英国  
网址: [www.ellispatents.co.uk](http://www.ellispatents.co.uk)

## Nexans 获精炼厂合同

CCJV是Chiyoda和CTCI Corporation联合创建的合资企业，最近和Nexans签署订单合同，Nexans将为其位于Laffan的精炼厂提供电力电缆和仪表电缆。根据合同，Nexans将负责提供1,000多千米的电缆，包括中低压单芯和多芯铠装IEC标准阻燃电缆。2013年，Nexans还为Barzan气体处理项目提供了1,000千米中低压电缆。Nexans卡塔尔公司(QICC)首席执行官兼地区经理Charles-Edouard Mellagui说：“赢得如此大型的项目，对Nexans参与卡塔尔2030油气规划具有积极的战略意义，并加快其产业化的进程。”Laffan石油、天然气精炼厂项目，Nexans QICC负责设计生产大约1,000千米中低压电缆、电力电缆和接地

电缆，Nexans France将提供所需的仪表电缆和光纤电缆。精炼厂2013年12月开始建设，预计2016年第三季度完工。

Nexans - 法国  
网址: [www.nexans.com](http://www.nexans.com)



○ 卡塔尔Laffan精炼厂。图片来源：  
[www.2b1consulting.com](http://www.2b1consulting.com)

## 中国螺纹钢未通过测试

在对中国螺纹钢独立测试的过程中，发现不少批次不符合行业BS 4449标准。因此，该国使用进口螺纹钢的数量有所上升，这则消息引起承包商极大的关注，并促使英国钢筋协会(BAR)发出警告。协会已建议其会员：“作为英国钢筋行业的着力点，BAR有责任将此消息传递给会员，并提醒他们经常要根据英国标准检查钢筋材料。”样品由贸易机构收集，UK Steel送到独立的实验室进行检测。Ian Rodgers主任说：“我们从多个来源获取了一些样品，并把它们送去进行独立测试。结果显示，这些样品不符合英国标准，我们需要让行业知晓这一点。”一位业内人士说：“许多这样的进口材料已在混凝土中干燥，这种情况令人堪忧。”

British Association of Reinforcement - 英国  
网址: [www.uk-bar.org](http://www.uk-bar.org)

## HOSN为中国国际线缆及线材展览会感到欣喜

最近一届中国国际线缆及线材展览会吸引了世界各地的行业先锋，为参展商和参观

者提供了绝佳的机会。上海HOSN公司在180平方米的中央展览空间展出了最新的技术创新，并提供会议区进行客户咨询以及视频展示赢得了观众。HOSN以企业协同为战略，充分利用主要优势建立繁荣的商业关系。

以及美洲和亚洲的客户和供应商们都被吸引公司。

受到国际和多语言员工的欢迎是突出的焦点。毫无疑问，重点展品是双捻机和绞缆机/铠装机，矗立在展会上，吸引了众多好评。

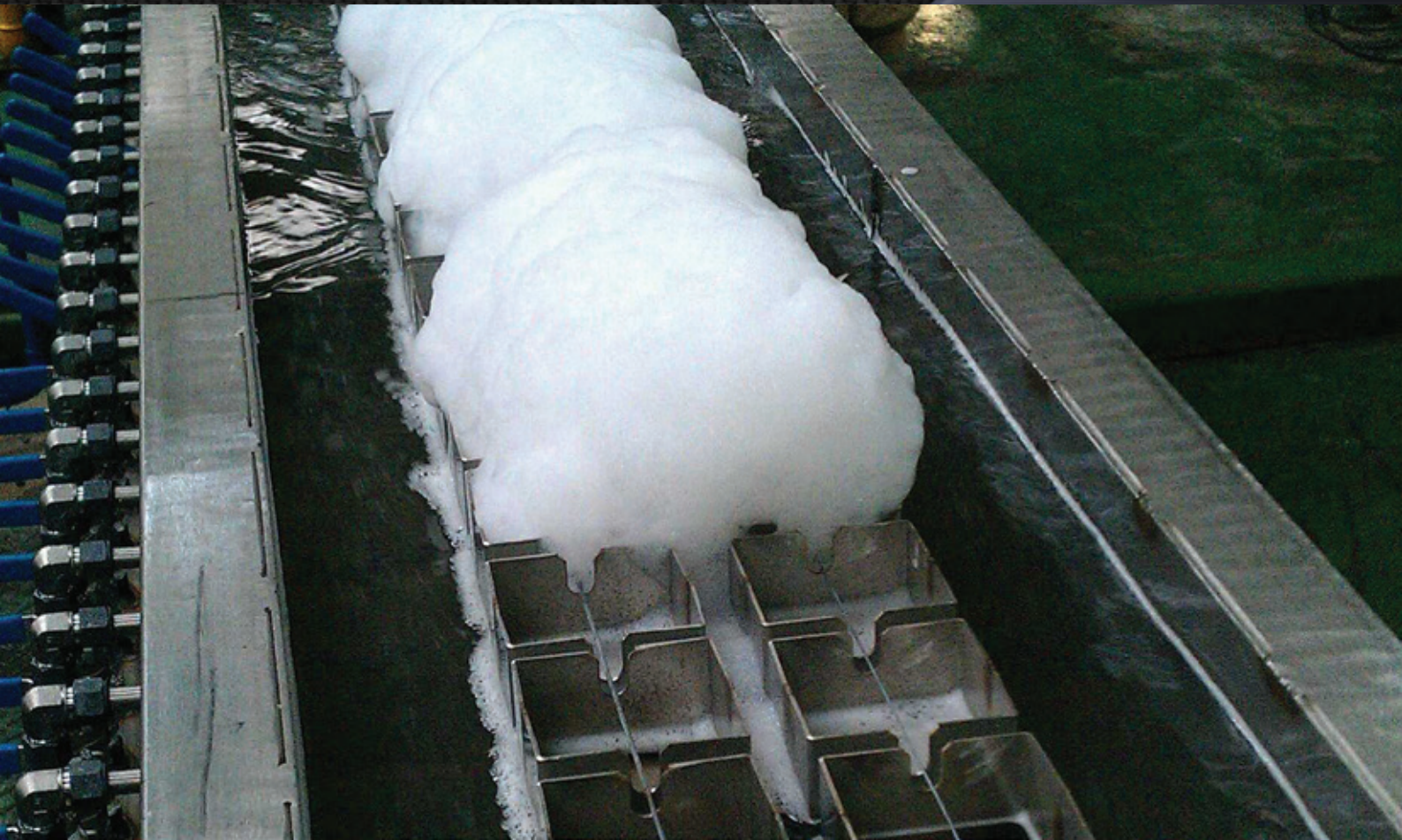
被国外同行认为是“充满活力”的公司，HOSN当然不会辜负这一盛名。积极的区域销售团队迎接供应链的下游成员，同时接待人员提供了各种饮料和地方风味小吃。

除了已签订合同和拟定的约定外，此次展会发出的明确信息是：“我们是行业标准，是中国受欢迎的线缆公司。”

Shanghai HOSN - 中国  
网址: [www.hosnglobe.com](http://www.hosnglobe.com)

○ 总经理David Xu，居中，与HOSN的员工以及两位来自诺丁汉特伦特大学商学院的实习生





○ Patented LQF technology from Thermcraft

## Environmentally friendly wire quenching technology

THERMCRAFT'S LQF technology is a patented liquid-based quench technology that can completely replace the existing hazardous and expensive technologies of molten lead, molten salts and sand-based fluidised beds.

LQF technology is now in operation as a replacement for a molten lead bath, quenching high carbon steel wire in the 1-2mm diameter range.

The latest LQF unit consists of three cooling zones: two liquid zones separated by a short air-cooling zone.

The LQF unit is installed immediately at the exit of the patenting furnace. The hot wires at  $\pm 920^{\circ}\text{C}$  exit the furnace and go directly into the first liquid quench zone.

The length of each quench zone is adjustable and determined by a target wire temperature.

The amount of heat transfer in both liquid zones is adjustable based on the length of the liquid quench and the air-liquid ratio.

The quench solution contains less than two per cent concentration of EcoQuench, Thermcraft's proprietary quenchant formula that consistently forces convective heat transfer.

LQF technology is 100 per cent environmentally friendly and does not release any hazardous fumes or other health threats to the machine operators. There are also no rejects, rework or scrap caused by lead-drag out.

The properties of the LQF-quenched wire products are claimed to be similar or better than the products quenched in conventional molten lead or salt or fluidised bed.

The amount of pure pearlitic structure in the patented steel wire is significantly higher in wires quenched using the LQF technology.

This feature will be beneficial in the further process steps of wet drawing, stranding and cabling.

Thermcraft offers the LQF technology for quenching steel wire in the range of 1-4.5mm (0.038"-0.18").

**Thermcraft Inc – USA**  
Website: [www.thermcraftinc.com](http://www.thermcraftinc.com)

## New generation of spark testers

THE high voltage testing with DC spark testers of the DST 28A series and the AST H 15A high frequency spark testers extend the spark tester product range from Zumbach.

These new testers meet all the requirements to ensure quality standards are maintained during the extruding or rewinding process. The spark testers instantly and reliably detect defects and faults on the sheathing and insulation of electrical cables, tubes, corrugated tubing, hoses and similar products.

These devices make sure that defective products with bare patches, hairline cracks or pinholes have no chance of slipping into circulation. As soon as a fault is detected, the system triggers an alarm and every fault is logged.

Once the fault is outside the electrode, the spark tester continues operations after a brief loading time and resets the test voltage to the default value.

On rewinding devices, the faults are



○ One of the new range from Zumbach

consecutively counted. The test voltage is disconnected on fault detection.

An alarm message is sent via the interface, or the potential free alarm contact is activated.

Benefits at a glance include:

- Best suited for highest capacitive loading capabilities
- Continuous and faultless detection of defects in insulation or sheathing of electric cables
- Detection of defects in the wall thickness of pipes, hoses, corrugated pipes and similar products made of insulating materials
- Regulated, adjustable output voltage up to 28kV DC (DST 28A)/ 15kV AC (AST H 15A)
- Full range of electrodes
- Detection of pinholes and bare patches on cables and tubes with diameters of up to 70mm (DST 28A); up to 30mm with AST H 15A
- Compact design
- Designed for a wide range of standards, incl IEC 62230, UL 1581 and UL 2556

The full spark tester product range from Zumbach covers test voltages of up to 40kV for products with diameters of up to 200mm.

**Zumbach Electronic AG – Switzerland**  
Website: [www.zumbach.com](http://www.zumbach.com)

## Cable compound technology

Borealis and Borouge are claiming a 'true step-change high voltage direct current innovation' based on Borlink™ technology.

Developed in partnership with ABB, this major new grade is designed to support the further integration of renewable energies into the grid and the establishment of more interconnections among countries in major infrastructure projects around the world.

The new grade, Borlink LS4258DCE, was introduced to industry partners at the 2014 Cigré Session in Paris in August.

HVDC power transmission supports long distance electricity transport without significant losses, providing higher efficiency and increased sustainability. The industry trend is moving towards an increased need for higher capacity transmission at high voltage levels.

The new insulation compound, together with the HVDC semicon Borlink LE0550DC, enables the use of extruded cable technology at significantly higher voltage and transmission levels in instances where paper cables have traditionally been used.

Successful type test qualification of an extruded cable system according to the Cigré recommendation 496 has been achieved at 525kV based on Borlink LS4258DCE and Borlink LE0550DC.

Borlink LS4258DCE is an unfilled crosslinked polyethylene compound based on the enhanced base resin technology Supercure.

The compound is designed to provide higher cable production efficiency in terms of a shortened cable production cycle, enabled by a significant reduction of degassing burden and improved scorch performance. The compound is produced at Borealis's high pressure production facilities in Stenungsund, Sweden.

**Borouge – UAE**  
Website: [www.borouge.com](http://www.borouge.com)

**Borealis – Austria**  
Website: [www.borealisgroup.com](http://www.borealisgroup.com)

## Second Cat 6A connection module

Reichle & De-Massari (R&M), the Swiss specialist for network cabling solutions, has unveiled a second Cat 6A connection module.

The first has been available since 2010 and according to the company is still considered the high-end module with the greatest performance reserves.

**Reichle & De-Massari AG (R&M) – Switzerland**  
Website: [www.rdm.com](http://www.rdm.com)

## BMI 124 rotary braiding machine



○ The new BMI 124 from Niehoff

THE most recent innovation of Niehoff's BMV type series of rotary braiding machines is the BMI 124 model. The striking feature of this 24-spool machine is its inclined braiding rotor. The inclination means a cable deflection of just 45° (instead of 90°) on each deflection pulley, resulting in reduced cable deformation and improved braiding quality.

If a caterpillar haul-off is used, the machine can be applied to manufacture cables with diameters up to 40mm. Like the other four models in the BMV series, which are designed for 12, 16 or 24 spools in vertical operation, the BMI 124 also offers infinitely variable electronic control of the braiding speed and pitch and an automatic central lubrication system.

The BMI 124 also features fully automatic electrohydraulic slideway lubrication. The BMI 124 enables bundles of braiding wire to be produced with maximum bundle cross-sections of 24 x 1.5mm<sup>2</sup>.

All process steps, from the pay-off of the cable to be braided to the individual wires and bundles of wires and the final take-up of the braided cable, are monitored by a quality control system. An empty bobbin detection system can also be installed which ensures that the machine is stopped automatically before a braiding bobbin is completely empty.

This system minimises waste and the amount of residual wire left on the

bobbin. For greater operational safety and reliability, the temperature of slideways is overseen by a monitoring system. The operator can use this system for adjusting the lubrication frequency and amount of lubricant to optimise lubricant consumption. BMV machines can be operated for a long time without an operator.

The vertical BMV machines can be combined with different types of taping systems so that braiding and taping can be performed in a single operation. This simplifies the manufacturing process, reduces the amount of space required and increases the product quality compared with using individual process steps.

The experience of many cable manufacturers has shown that one BMV machine can replace two or three older types of braiding machine. The mentioned braiders can be used for the processing of bare or coated round and flat wire made of copper, aluminium and stainless steel with single-wire diameters of 0.05 to 0.3mm, as well as yarns and fibres made of plastic.

The machines can be used for the production of data cables, control cables and coaxial cables as well as for braiding for battery cables, strand braids and for mechanical reinforcement for pressure hoses.

**Maschinenfabrik Niehoff GmbH & Co KG – Germany**  
Website: [www.niehoff.de](http://www.niehoff.de)

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

- Electrolytic plating
- Candojet hot water cleaning
- Electrolytic & Ultrasonic degreasing
- Welding wire cleaning and copper coating
- Pickling & phosphating

### Steam-cleaning plant



### Multi wire cleaning plant



### Ultrasonic & Electrolytic



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Email: [info@candorsweden.com](mailto:info@candorsweden.com)

**ADWANTEK TECHNOLOGIES CO., LTD**

**High Frequency Inductive Preheater**

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Email: [sales@adwantek.com](mailto:sales@adwantek.com)  
Web: [www.adwantek.com](http://www.adwantek.com)

## Five times more productive

A new 'bullhead' tubular strander for armouring optical and special cables is presented as an alternative to the classical planetary or tubular stranders.

Caballé has upgraded and improved the existing technology of bullhead stranders with some major improvements:

- Number of steel wires up to 36
- Pay-off bobbins: DIN 500-630
- Central tube reel size: DIN 1600-2500
- Tension control core by motor/dancer system
- Dual compensation mechanical system that keeps wire tension fully constant
- Optimal management/information of alarms in the main screen with alarm description and position (n° of payoff)
- Maximum stranding speed: 500rpm

With this system the central core with the fibre optics inside

is paid off completely straight with no twist occurring in the product, so the resulting quality is the same as with a planetary strander but with much higher stranding speeds. In the production mode the productivity of this machine is up to five times higher than a planetary strander.

The possibility to work with up to 36 wires in a single pass makes this machine a very versatile line, as well as a high productivity line, being able to armour optical and special cables with high tensile strength steel wires.

The 'bullhead feeder' has been designed to allow a wide range of working tensions, which makes it suitable for a single steel tube with fibres inside as well as for an armoured cable with a first layer of steel wires.

**C M Caballé SA – Spain**

**Website:** [www.cmcaballe.es](http://www.cmcaballe.es)

## RT600 is proving a big hit worldwide

THE new Eurolls straightening and cutting machine RT600 for electrodes, capable of producing electrode sticks at 10m/sec, has attracted major attention since its launch.

This interest has continued to gain momentum to the point where a number of internationally known companies have installed the machine.

The flexibility of this machine permits it to be connected directly to the wire production line.

Productivity can be further increased by substituting the traditional dies with Eurolls' CL25C33 cold rolling micro cassettes.

The line permits entry with low carbon or stainless steel entry rod (5.5mm diameter), to roll/draw it to the final exit wire product (from 2 to 5mm), to clean the wire, straighten and cut it to the final electrode stick length (normally two main product lengths – 350mm and 450mm).

The main advantage of this is that in a single process it goes directly from entry material to final electrode stick at high production speeds while maintaining the surface finish, accuracy in stick diameter and length requested for this type of product.

To show this, Eurolls has successfully commissioned in the Lincoln do Brasil plant and in the presence of Eurolls president Renato Railz, a combined



○ *Interest in the new RT600 has continued to gain momentum*

line complete with multi-pass rolling machine, cleaning unit, straightening and cutting unit for production of low carbon and stainless steel electrode sticks.

In the same period, the Turkish company Kainak Teknigi Sanayi ve Ticaret AS (partner in Turkey of Lincoln Group) has visited the Eurolls premises for the contractual pre-shipment inspection and approval of the cleaning plus straightening and cutting unit for production of low carbon electrode sticks.

The inspection was said to be a

complete success and the customer left satisfied with the equipment.

Requests for similar equipment have arrived from producers of welding wire materials, and even from different individual branch offices belonging to the same parent company.

Similar equipment has already been installed with success in Turkey, Bangladesh, Peru, Bulgaria, Iran, Spain and Germany.

**Eurolls SpA – Italy**

**Website:** [www.eurolls.com](http://www.eurolls.com)



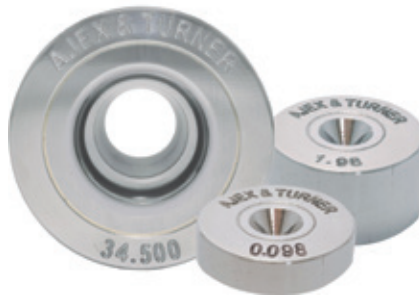
## Longer die life

Electricity is the lifeline of developed and developing nations today. It has tied the cable and wire die industries together, and wire dies are an essential cost factor and a major key to boost any wire plant's economy.

Substandard quality of the die can affect both the quality and production of the drawn wire and the necessary profit of the wire plant.

At Ajax & Turner, from selecting the precise quality raw material for the die, taking care of all the dimensions and manufacturing until executing quality control parameters and reviewing dies in real-time 3D, the company makes sure that products meet the standard and are also error-free.

The company manufactures wire drawing dies for multi-wire and compacting in PCD/ND/carbide/vitrified nanocrystalline dies for copper, aluminium and CO<sub>2</sub> wire. Ajax & Turner has always been dedicated to



○ A range of dies from Ajax and Turner

producing custom-made wire drawing dies to meet customer specifications.

Depending on the quantity of drawn wire and also on the care under which dies are being used, sooner or later even the hardest die material is subject to wear out. To solve this problem, Ajax also provides re-work facilities, with dies being re-polished and re-ground.

**Ajax and Turner – India**  
Website: [www.ajaxturner.com](http://www.ajaxturner.com)

## Classic range of gauges

IN addition to Sikora's classic diameter gauges of the Laser Series 2000, it offers the high-end devices of the Laser Series 6000. These diameter-measuring devices are specifically designed for sophisticated customer requirements that exceed the classic demands for quality control in the wire and cable industry.

Up to 5,000 measurements per second, all with extremely high single value precision, allow for an optimum line control and provide reliable statistical data. The gauge heads measure the diameter of wires and cables with precision and repeatability. Sikora offers three gauge head models for product diameters from 0.2 to 78mm. The Laser Series 6000 also measures precisely transparent products.

The devices include an integrated LCD display with control panel. This provides the operator with diameter values at a glance, directly at the measuring device. At the control panel the diameter nominal value can be entered and the control module activated. Via line speed or extruder rpm the module controls the diameter automatically to the specified value.



○ The Laser 6040 XY for high-speed diameter measurement and detection of lumps

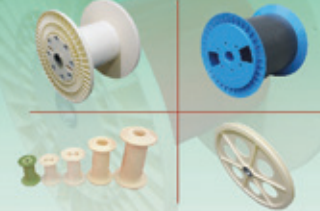
The high measuring rate of the diameter devices also allows the detection of lumps and neckdowns. With the two-in-one system, investment costs are reduced. In addition, there is more space in the line, as only one gauge head has to be installed.

**Sikora AG – Germany**  
Website: [www.sikora.net](http://www.sikora.net)

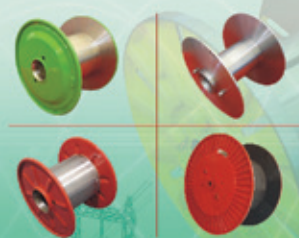
## OST REELS

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For Wire & Cable Processing and Delivery

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E-mail: [info@guanbiao.com](mailto:info@guanbiao.com) [market@guanbiao.com](mailto:market@guanbiao.com)

## New TRI leads the way

VIOLI Srl has developed a range of drawing machines for the processing of metal profiles that includes equipment for tubes, bars or wires made of ferrous or non-ferrous metals.

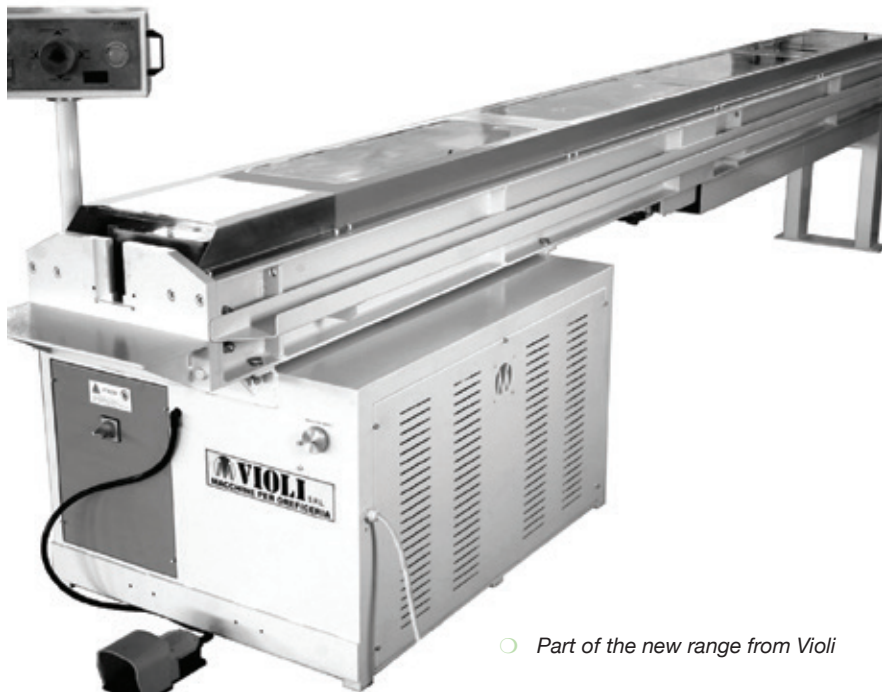
Top of the products is the TRI series, a full range of hydraulic equipment for the drawing of tubes or rods with circular cross section, or complex profile.

Technologically advanced thanks to the use of prime selected components and innovative design solutions, the TRI draw benches are fully PLC controlled for both working phases and safety protection.

The speed of the traction is adjustable and the use of the bench is extremely simple by using a joystick placed on the control panel which allows the operator to easily manage all the steps of the process.

Violi also offers a line of chain draw benches, the TR series, designed for the processing of bars and tubes with a maximum diameter of 12mm.

The anchor pliers, with adjustable jaws, is provided with a locking system manually managed by the operator; the return of the draw lift is electrically controlled. The working



○ Part of the new range from Violi

speed can be fixed to one or two levels, or adjusted by inverter.

The range of products is completed by a number of subsidiary equipment such as tapering machines – APT series for pipes and bars or AP series for wires, manual or automatic spindle unlocking systems and a compact kit

for hydraulic drawing named KTF10, an extremely compact device for the production of half-processed pipes or rods ready to be finished. All Violi machines comply with the applicable international standards.

**Violi Srl – Italy**  
**Website:** [www.violimacchine.it](http://www.violimacchine.it)

## Web-based printing supervision and configuration platform

Wiedenbach Apparatebau has introduced a remote-control functionality as a standard feature of the CS/WP series printers.

The new Command Control System (CCS) is a web-based supervision and configuration platform that controls printers remotely from any PC, tablet or smartphone in any location and without the need for a complicated PC installation process.

The new software enables users to control and monitor one or up to 100 printers and to obtain real-time production information. As printer warning and alarm messages can be seen across the entire printer network

simultaneously, users can reduce costly errors and downtime.

The system can also be used for quick and error-free adjustment of printer settings during product changeovers. Printers located in hard-to-access areas on the production line are easier to monitor and control.

The CCS is now a standard feature of all CS/WP series printers; machines which have already been installed with this function can be updated with the latest software.

**Wiedenbach Apparatebau GmbH**  
**– Germany**  
**Website:** [www.wiedenbach.com](http://www.wiedenbach.com)



○ Printers like the inkjet printer type CS 407 can be controlled by the new Command Control System

## Increasing accuracy

CALIBRATION in measurement technology means establishing the measurement deviations on the measuring unit.

During the calibration no technical intervention occurs at the measuring instrument, as opposed to adjusting where an instrument is set or adapted to keep the errors as small as possible or that the number of errors does not exceed the error limits.

The official calibration of a measuring unit is carried out according to the rules and regulations of the examining authority and the unit is marked with the respective stamp. The examining authority establishes whether the measuring unit fulfils the respective prerequisites.

The validity of a calibration period follows practical requirements such as manufacturer information, requirements of quality standards or company internal and customer-specific regulations, rather than an official calibration with a fixed time period validity for use.



○ ODAC® measuring unit with reference calibration standards

In order to be able to compare results of measurement, it must be possible to feed back information via a chain of comparison measurements to a national or international master. For this purpose, the display of the unit in use or the material representation must be compared with the masters in one or more stages. At each of these stages a calibration is carried out with a master which has been previously calibrated with a higher-level master.

According to the ranking of the master – of consumption or factory standards via reference masters up to national standards – there is a calibration hierarchy of points to be carried out.

This extends from the in-house calibrating laboratory through accredited calibrating laboratories up to the national metrological institute.

Different standards, regulations and guidelines are valid for the expert carrying out of calibrations. A unit must fulfil basic requirements before it can be calibrated. One must also be aware of the physical conditions required in order to carry out a calibration and observe them. Rules for the calibration of instruments are essential when a company decides on adhering to a specific norm or guideline or if it produces a product whose production is subject to legal regulations.

The benefits of a Zumbach measuring unit include:

- Calibration and self-calibration functions of ODAC® measuring heads
- Measuring units are calibrated using reference standards which were certified by the federal office for metrology ([www.metas.ch](http://www.metas.ch)) or by accredited laboratories. Each unit is supplied with a detailed calibration protocol
- A regular check for measuring errors along with the corresponding protocol can be carried out according to the customer requirements. The regularity of these calibrations is dependent on the customer-specific requirements (internal regulations). Zumbach recommends a check every 12 to 24 months
- All the measuring heads of the ODAC® series have a self-calibration function (Patent DE3111356) which makes subsequent regular calibration superfluous, except when exchanging components

All the relevant parameters for accuracy are continuously monitored by the measuring system and automatically compensated when required.

This is particularly important for possible ageing effects of the scanner motor or the possible long-term drift of the measuring electronics.

**Zumbach Electronic AG – Switzerland**  
**Website:** [www.zumbach.com](http://www.zumbach.com)

## Worldwide GER

GER SA, Belgium, is a supplier of quality second hand wire and cable machinery with worldwide activities.

One of its key activities is the purchase and sale of straightening and cutting machines for smooth and/or ribbed wires.

The machines are available in “as-is” condition as well as mechanically and electrically reconditioned or with new electrics.

Extensions of existing outlet tables or new outlet tables in any required length are also being offered.

Once a machine has undergone thorough reconditioning the buyer is invited to witness a test run prior to shipment. Installation and commissioning by GER’s staff is also possible.

**GER SA – Belgium**  
**Website:** [www.ger.be](http://www.ger.be)

### SINGCHEER

Automotive Wire Equipment

Leading supplier from China



- High speed, efficiency and automation
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- QCC system
- IPC Control system
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- Less scrap: min.15m for colour change

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[www.singcheer.cn](http://www.singcheer.cn)



○ Thermcraft 专利LQF 技术

# 环保线材淬火技术

Thermcraft公司LQF技术系专利液基淬火技术，可完全替代目前熔铅、熔盐和砂基流化床危险且昂贵的技术。

LQF技术现已正式替代熔铅浴，淬火高碳钢丝，直径范围在1-2毫米。

最新的LQF设备包含三个冷却区，短的空气冷却区将两个液体区分开。

LQF设备安装在铅浴炉的出口处。热金属丝在 $\pm 920^{\circ}\text{C}$ 时退出炉，直接进入第

一液体淬火区。每个淬火区的长度是可以调节的，并且通过目标线材温度来确定。两个液体区的热传递量根据液体淬火长度和液气比进行调节。淬火液中含有不到百分之二浓度的EcoQuench，这是Thermcraft专有的淬火剂配方，持续促使对流换热。

我们的LQF技术100%环保，不释放任何有害或其它威胁机器操作员健康的气体。没有因为拖铅出来造成许多废品、废料或返工。

LQF淬火线材产品的性能类似或优于传统熔融铅、盐或流化床产品淬火。专利钢丝中纯珠光体结构的数量显著高于使用LQF技术淬火钢丝中的数量，有利于湿拉、绞合和布线的进一步加工。

Thermcraft提供LQF技术，用于淬火直径范围在1-4.5毫米（0.038"-0.180"）的钢丝。

**Thermcraft Inc – 美国**  
网址: [www.thermcraftinc.com](http://www.thermcraftinc.com)

Graphics bigstockphoto.com, Artist Olechowski

## 模具寿命更长

电力是当今发达国家和发展中国家的生命线。电力和电线电缆模具行业联系紧密，线模是最重要的成本因素和提高电线制造企业效益的关键所在。

模具质量不合格将影响拉丝的质量和生以及线材生产厂的必要利润。

Ajex & Turner公司从严格把关模具的优质选料，考虑到所有尺寸和制造，到执行质量控制参数和检查模具实时3D，公司确保所有产品符合相关标准和零误差。

公司制造的拉丝模具可用于多线，密实PCD/ND/t碳化硅/玻化纳米晶多孔模具用于铜、铝和CO<sub>2</sub>线材。Ajex & Turner一直致力于生产定制拉丝模，以满足客户的需求。

根据拉丝模的数量和对使用中的模具护理，即使最硬质的模具迟早都会受到磨损。为了解决这个问题，Ajex还提供再加工设备，模具可多次成功地进行抛光和研磨。

**Ajex and Turner – 印度**  
网址: [www.ajexturner.com](http://www.ajexturner.com)



○ Ajex and Turner生产的系列模具

## 新的BMI 124旋转编织机

Niehoff最新创新成果BMV系列旋转编织机BMI 124, 该24线轴机器的显著特点是其斜编织转子。

该倾斜装置每个偏转带轮上的电缆弯曲度仅为45°(而不是90°) - 导致电缆变形减少, 并改善编织的质量。

如果使用履带牵引, 机器可用于制造电缆, 直径达40毫米。

正如BMV系列中的其它四个型号机, 设计用于垂直操作中的12、16或24线轴, BMI 124还提供无限可变电子控制编织速度和倾斜度, 以及自动中央润滑系统。

此外, BMI 124还具有全自动电动液压导轨润滑功能。BMI 124能够让编织电线束在最大的线束横截面24 x 1.5mm<sup>2</sup>上生产。

所有的加工步骤, 从电缆放线、编织成单独导线、线束到最终编织电缆收线, 都由质量控制系统监控。空的线轴检测系统可安装用于确保机器在编织线轴完全放空之前自动停止。

此系统最大程度上减少了废料和绕线架上残余线材的数量。为了提高运营的安全性和可靠性, 滑道的温度由监控系统监控。

操作者可以使用该系统来调节润滑频率和润滑剂的量, 以优化润滑剂消耗。BMV机器能够长时间工作, 不需要操作员。垂直BMV机器能够与不同类型的编带系统整



○ Niehoff制造的BI 124系列新型机器

合, 因此, 编织和编带能够在单一的操作中进行。与单独分开的流程步骤相比, 简化了加工过程, 减少了所需的空, 提高了产品质量。

许多电缆制造商的经验表明, 一台BMV机器可以代替两到三台旧款编织机。该编织机能够加工铜、铝和不锈钢为原料的裸或涂层圆线和扁线, 单丝直径0.05-0.3毫米, 以及塑料纱线和纤维。

机器可用于生产数据电缆、控制电缆和同轴电缆, 以及用于编织电池电缆、绞合带和压力管机械加固。

**Maschinenfabrik Niehoff GmbH & Co KG – 德国**  
网址: [www.niehoff.de](http://www.niehoff.de)

## 基于Web的打印监控和配置平台

Wiedenbach Apparatebau推出远程控制功能作为标准功能的CS/WP系列打印机。新的命令控制系统 (CCS) 是一种基于web网络的控制和配置平台, 在任意地点, 通过任何一台PC、平板电脑或智能手机, 无需复杂的PC安装程序, 都可以远程控制打印机。

新软件使得用户能够控制与监控一至一百台打印机并获得实时生产信息。由于打印机的警告和报警信息可以在整个打印机网络中同时查看, 因此, 用户可以减少代价高昂的错误和停机时间。

该系统也可在产品更换过程中, 快速和无差错调整打印机的设置。

位于生产线上难以接触区域的打印机更容易监视和控制。

CCS是所有CS/WP系列打印机的标准功能, 已经安装有该功能的机器能够使用最新软件进行升级。

**Wiedenbach Apparatebau GmbH – 德国**  
网址: [www.wiedenbach.com](http://www.wiedenbach.com)



○ CS 407型喷墨打印机可以通过新的命令控制系统进行控制

## 新的TRI引领潮流

Violi Srl公司开发了一系列拉丝机，用于加工金属型材，以及有色与黑色金属管道、棒材或线材设备。尖端产品TRI系列，该完整系列液压设备用于拉伸圆形横截面或复杂轮廓的管道与棒材。由于采用优质元器件和创新设计解决方案，因此，技术非常先进，TRI拉床完全PLC控制，用于工作阶段和安全保护。卡车制动钳完全与拉伸孔一致，以便消除金属结构上任何形式的弯曲影响。牵引的速度可调节，拉床使用非常简便，只需使用控制面板上的一个操纵杆，允许操作者方便管理加工过程的所有步骤。

Violi还提供一系列连锁拉床，TR系列设计用于加工棒材和管材，最大直径为12毫米。锚钳带有可调夹爪，设置有一个锁定系统，由操作者手动管理。吸入泵电气控制返回。工作速度可以固定为一到两个级别，或由逆变器调节。

公司产品范围还包括许多附属设备，例如用于管道和杆的APT系列锥形机、用于线材的AP系列机器、手动或自动主轴锁定系统、用于液压拉伸的紧凑装置KTF10以及用于生产半成品管道或杆的非常紧凑装置。所有Violi机器符合适用的国际标准。

**Violi Srl - 意大利**  
网址: [www.violimacchine.it](http://www.violimacchine.it)



○ Violi提供的一部分新系列产品

## RT600取得巨大成功

Eurolls新型矫直与切割机RT600用于电极，能够以10米/秒的速度生产电极棒，自首推市场以来就引起了广泛关注。这种态势还将继续上涨，许多国际知名公司都安装了该机器。

机器的灵活性允许其直接连接到线材生产线。通过将传统模具更换为Eurolls冷轧辊模CL25C33，生产率显著提升。生产线允许进入低碳钢或不锈钢杆（直径5.5毫米），滚轧/拉伸直至最终输出线材制品（2—5毫米），以及清洁线材，矫直切割至最后的电极棒长度（通常两个主要产品长度 - 350毫米和450毫米）。

该机器的主要优点在于单一的加工过程，从输入材料到最终电极棒输出，全程高速生产并且保持表面光洁，满足行业对此类产品直径和长度精确性的要求。

为了证明这一点，Eurolls已成功投产Lincoln do巴西工厂；Eurolls总裁Renato Railz出席了运行仪式，组合生产线包括多道次滚轧机、清洗机和矫直切割机，用于生产低碳和不锈钢电极棒。同期，土耳其公司Kainak Teknigi Sanayi ve Ticaret AS (Lincoln Group土耳其合作伙伴)参观了Eurolls工厂；例行合同规定的装运前检验清洁、矫直与切割设备，用于生产低碳电极棒。毋庸置疑，检查验收没有任何问题，客户对设备完全满意。类似设备的需求主要来自焊丝材料制造商，甚至他们属于同一母公司的不同分支机构。相同系列机器已成功安装在土耳其、孟加拉国、秘鲁、保加利亚、伊朗、西班牙和德国。

**Eurolls SpA - 意大利**  
网址: [www.eurolls.com](http://www.eurolls.com)



○ 对新RT600的兴趣持续增长

## 生产力提高五倍

用于铠装光纤和特殊电缆的新型“大头”管状绞线机可替代传统的行星式或管式绞线机。

Caballé已经升级和改进了大头绞线机的现有技术，改进的主要方面如下：

- 钢丝总数达36
- 纺线线轴: DIN 500-630
- 中心管卷轴尺寸: DIN 1600-2500
- 通过电机/调节系统张力控制核心
- 双补偿机械系统让导线张力完全不变
- 主屏幕上最佳管理/信息警报，带有报警描述和位置 (n° 收益)
- 最大绞合速度: 500rpm

使用该系统，中央纤芯与光纤内完全笔直，产品中并没有扭曲发生，最终获得的品质与行星式绞线机相同，但是绞合速度更高。在这种生产模式下，机器的生产率比行星式绞线机高五倍。

高达36根线材一起工作的可能性，使得该机器变得万能通用，而且生产率非常高，能够铠装具有高抗拉强度钢丝光纤和特殊电缆。

“大头绞线机”已被设计允许广泛系列的工作张力，这使得它适合于内部有光纤的单独钢管，以及用于第一层为钢丝的铠装电缆。

**C M Caballé SA - 西班牙**  
网址: [www.cmcaballe.es](http://www.cmcaballe.es)

## 第二代超六类屏蔽电缆接插线

Reichle & De-Massari (R&M) 是瑞士网络布线解决方案的专家，最近推出新一代超六类屏蔽电缆接插线。自2010年推出第一代产品以来，被业界普遍认为是性能储备最多的高端模块。在第一代模块的基础上，第二代超六类EL模块在连接技术上设定了新标准。

新的RJ45插口采用短标识 Cat 6A EL (“简单锁屏”)，为本地数据网络安装铜布线提供了方便，并支持宽带应用，如10千兆以太网。新产品符合组件规格，根据IEC 60603-7-41/-51标准，适合于建立永久链路和信道，类属ISO/IEC 11801 Class EA标准。因此，R&M通过增加两个成熟的超六类电缆模块，成为唯一能够精确调整其范畴满足客户要求的供应商。

Cat 6A EL模块仅由两部分组成，安装方便，只需几个简单步骤，不需要特殊工具，就可以连接和安装。模铸型可屏蔽(STP)，特殊塑料型能够抑制外来的近端串扰，为非屏蔽(UTP)。IDC确保可靠终止电线。卡环缓解综合应变，不需要扭捏，修复所有类型的电缆。电缆结将成为过去式。屏蔽双绞线(STP)布线，电缆夹紧环完全环绕编织屏蔽，因此还提供360°屏蔽终止。

R&M首席营销官Andreas Rüsseler表示：“R&M目标是要发展Cat 6A EL，从而简化很大一部分工作的安装程序，也就是在多层建筑上连接RJ45模块。对R&M来说，可靠性和长久性至关重要，没有让步余地。”

每个模块针对回程损耗(RL)、近端串音(NEXT)和介电强度进行全面检测，以防止短路。

R&M将这种新产品安装在办公室、建筑物、工业和家庭的结构布线上，保证快速、高效的性能。使用Cat 6A EL模块，安装人员能够为客户提供高性能的铜布线，保证宽带服务符合相关标准。Cat 6A EL非常适合于办公应用，同时也满足工业场所和家庭布线对功能可靠性、机械稳定性、使用寿命和易于安装的要求。

Cat 6A EL模块是通用的。根据568A或568B系统，它终止了所有安装电缆、电线和多股软缆，这些电缆具有普通直径。Cat 6A EL模块兼容久经考验的R&M布线和安全系统及其它制造商生产的连接器。Cat 6A EL模块可用于R&M freenet系统中的插座或接线板，借助特殊适配器，同样适用于其它制造商生产的接线组合。安装者只需购买与存储一个模块，就可实现很多目的。

**Reichle & De-Massari AG (R&M) – 瑞士**  
网址: [www.rdm.com](http://www.rdm.com)

## 电缆复合技术

Borealis 和 Borouge声称，基于Borlink™技术，“高压直流创新取得了质的飞跃”。该重大创新成果与ABB公司合作开发，设计用于支持进一步整合可再生能源到电网和世界各地的基础设施项目中，各国之间建立更多的互连。

高级Borlink LS4258DCE于2014年8月在巴黎举行的国际大电网会议上推介给了行业合作伙伴。

高压直流输电支持长距离电力传输，无明显损失，提供更高的效率和增加可持续性。行业趋势走向为高压水平下大容量传输的需求将增加。

新的绝缘料，加上高压直流半导体Borlink LE0550DC，在显著提高的电压和传输水平下，纸电缆历来被使用的情况下，应用挤压电缆技术。

在国际大电网会议推荐的基础上，525kV Borlink LS4258DCE 和 Borlink LE0550DC成功获得了挤压电缆系统的型式测试资格。

Borlink LS4258DCE基于增强的基体树脂技术，是一种未填充的交联聚乙烯化合物Supercure。该化合物设计用于提供更高的电缆生产效率和缩短电缆生产周期，从而显著降低脱气负担和改善焦烧性能。

该化合物在瑞典斯泰农松德Borealis高压生产工厂生产。

**Borouge – 阿联酋**  
网址: [www.borouge.com](http://www.borouge.com)

**Borealis – 奥地利**  
网址: [www.borealisgroup.com](http://www.borealisgroup.com)

## 新一代火花机

Zumbach产品范围新增高压测试仪器DST 28A系列直流火花机和AST H 15A高频火花机。

这些新测试仪器满足所有要求，能够保持挤压或复绕过程中的质量标准。火花机及时可靠地检测电缆、管道、波纹管、软管和类似产品绝缘和护套的缺陷。

安装这些设备，避免有裸补丁、细小裂纹或针孔的次品陷入恶性循环。一旦检测到故障，系统触发报警，记录每一个故障。

一旦故障发生在电极外，火花机在短暂加载后继续运作，重置测试电压至默认值。在复绕设备中，故障被连续计算。故障检测中，测试电压被断开。警报信息经由接口发送，或潜在的自由报警接点被激活。

优势一目了然，包括：

- 最适合高容量负载能力
- 连续完美地检测电缆绝缘和护套的缺陷
- 检测由绝缘材料制成的管道、软管、波纹管等类似产品的壁厚缺陷
- 可调整调节输出电压高达 28kV DC (DST 28A)/15kV AC (AST H 15A)
- 完整系列的电极
- 检测电缆和管道上针孔和裸补丁的直径达70mm (DST 28A); AST H 15A 高达30mm



● Zumbach新产品系列之一

- 设计紧凑
- 设计符合各种标准，包括IEC 62230、UL 1581和UL 2556

Zumbach提供的完整系列产品，测试电压高达40kV，产品最大直径为200mm。

**Zumbach Electronic AG – 瑞士**  
网址: [www.zumbach.com](http://www.zumbach.com)

# India Insight

## Mumbai show success!

More than 380 exhibitors from 25 countries took part in WIRE & CABLE INDIA and the concurrent fairs Tube India International and Metallurgy India in Mumbai at the end of October.

Industry partners the IWMA, the International Wire and Cable Exhibitors Association (IWCEA), the Italian Wire Machinery Manufacturers Association (ACIMAF), Wire and Cable Industry Suppliers Association (WCISA), Steel Wire Manufacturers Association of India (SWMAI) and the ITA joined with representatives from organisers Messe Düsseldorf India and Messe Düsseldorf GmbH at the opening of the show.

Exhibitors took up 18,000m<sup>2</sup> of space during the three-day show.

**Messe Düsseldorf GmbH – Germany**

**Website:**

[www.messe-duesseldorf.com](http://www.messe-duesseldorf.com)



- Pictured at the opening are, from left, Dr Gerhard Bartz, VDKM; Dr Kurt Eder, VÖDKM/AWCMA; Peter Byroslawsky, ITA; Rahul Sachdev, WCISA; Erhard Wienkamp, Messe Düsseldorf; Steven Rika, chairman, IWMA; Jörg Dübelt, Messe Düsseldorf; Krishnendu Sanyal, Tata Steel Ltd, wire division; Udo Schürtzmann, Messe Düsseldorf India; Prashant Ursekar, Tata Steel Ltd, wire division; Stephen Loynes, ITA; Sachin Warang, Tata Steel Ltd, wire division; Lunia, SWMAI; and Tirthankar Banerjee, SWMAI



## Australia/India connection

An agreement between Telstra and Tata Communications will result in improved connectivity to and from India. The network-to-network interconnection (NNI) will utilise Tata Communications' 116 points of presence (PoPs), extending Telstra's reach to tier-2 and tier-3 Indian cities such as Jaipur, Surat and Trichy.

Bernadette Noujaim Baldwin, Telstra global enterprise and services, head of connectivity and platforms portfolio, said the new arrangement with Tata Communications was part of Telstra's broader MPLS strategy, which includes NNI agreements in emerging markets.

"The latest estimates from a PricewaterhouseCoopers report predict India is set to become the third largest economy in the world by 2030. When you combine this with its young and burgeoning working-age population, you've got a compelling consumption boom and a competitive edge that sets Asia's third-largest economy apart from many other countries."

Through the partnership, Telstra and Tata Communications have defined roles and responsibilities for the management of the NNI to ensure the seamless delivery and support for services in the region. By leveraging Tata Communications' domestic infrastructure and global subsea fibre network, users are expected to benefit from reduced latency and increased network availability.

### Tata Communications – India

Website: [www.tatacommunications.com](http://www.tatacommunications.com)

## Indian cable venture

Sterlite Technologies Ltd has entered into a joint venture agreement with VISCAS Corporation, a Japanese company that specialises in power transmission and distribution systems. As part of the agreement, VISCAS Japan will invest in the existing Sterlite power cable facility in Haridwar, which supplies medium and high voltage cable to customers in India. The venture's objective is to address the growing extra high voltage underground power cabling requirements in India.

### Sterlite Technologies Ltd – India

Website: [www.sterlitetechnologies.com](http://www.sterlitetechnologies.com)

## Wind expansion for Madhya Pradesh

With an aim to generate sustainable economic growth, Suzlon Group plans to construct 2,000MW of new wind energy projects in the Indian state of Madhya Pradesh over the next five years. Suzlon Group has deployed more than 50 per cent of total wind capacity in the state.

Suzlon Group chairman Tulsi Tanti said: "The MP government has an impressive track record of delivering 11 per cent all round economic growth in 2013-14, with a very impressive growth of 25 per cent in the agriculture sector, which is the highest in the world. This is indeed a testament of the state's progressive outlook and pro-industry policies that offer a conducive business environment."

"MP has not only emerged as one of the fastest growing states in the country, but is a power surplus state as well, with close to 14,000MW installed capacity. We are confident the MP government's thrust on enhancing its clean energy portfolio and industry growth will ensure sustainable growth across the state."

### Suzlon Group – India

Website: [www.suzlon.com](http://www.suzlon.com)

## One-stop solution

Rodents, termites, ants and other insect attacks have plagued the cable and wire industry for many years.

Rodents gnawing through wire and cable insulation cause breaks in the cables resulting in power outages and network failures. According to a recent blog by Level 3 Communications, rodents like squirrels caused 17 per cent of damage to fibre optic networks.

Rodents also caused nearly 50 power outages within a three-month period in the USA in 2013. There has also been widespread panic about the proliferation of fire ants that attack electrical equipment in the UK.

Power outages and damage to wires and cables can cost millions of dollars in monetary losses. A non-toxic, non-hazardous and effective long-lasting solution needs to be found to overcome this problem.

India-based C Tech Corporation, specialist in the field of non-toxic products, offers a wide range of non-toxic, non-hazardous polymer additives that can be incorporated in wires and cables. Rodrepel™, an anti-rodent additive, and Termirepel™, an anti-termite additive, can be incorporated in the cable insulation and sheathing to ensure protection against extensive damage caused by rodents and termites.



○ Repel rodents, termites and other insects with the newly launched Combirepel

Now there is a new product, Combirepel™, that works on a dual mechanism, by which it can be used against rodents as well as termites and other insects simultaneously. Combirepel is a special product that works on a mechanism of repellence by which it repels the target species like rats, squirrels, termites, etc, from cables without harming non-target beneficial species like bees and earthworms. Adhering to the principle of 'live and let live', these products do not kill the target species but repel them.

The products are RoHS, RoHS 2 and REACH compliant and can protect the cables for up to 50 years, providing a long-lasting solution. C Tech Corporation can provide products that can be customised according to the exclusive needs of the customer.

### C Tech Corporation – India

Website: [www.ctechcorporation.com](http://www.ctechcorporation.com)

## The traditional voice market may be in long-term decline, but growth in fixed VoIP is cushioning the fall

Research from the telecom market research and consulting firm *TeleGeography* indicates that, while the number of circuit-switched (PSTN) telephone lines is dropping steadily, much of the decline in switched subscribers can be attributed to the growth of fixed VoIP (voice over internet Protocol) service. ("Fixed-Line Telephony: A Far Cry From Dead," 15<sup>th</sup> October)

Tracking of landline, wireless and broadband competition found that the total (PSTN and VoIP) of global fixed-line voice subscribers peaked at 1.29 billion in 2008, and has declined at a compounded annual rate of 1.3 per cent since.

But according to *TeleGeography* the aggregate numbers "mask a large shift in market composition." Even as switched telephone lines have declined at a compounded annual rate of four per cent, VoIP subscribers have grown 18 per cent, helping to offset much of the decline in switched phone lines.

VoIP connections now account for 20 per cent of fixed lines worldwide, up from just eight per cent in 2008. This uptake is largely attributable to the rapid adoption of multi-play plans, which bundle fixed voice service with broadband Internet, TV, and sometimes mobile telephony services. *TeleGeography* cited the example of US telecom AT&T, which in June 2014 reported that 97 per cent of its TV customers subscribed to at least one other service, while two-thirds of these users subscribed to three or four.

"It will be decades before the PSTN disappears from all corners of the world, but the trend towards VoIP is inexorable," *TeleGeography* flatly declared – a conclusion supported by the statistics.

In 2013, 25 per cent of fixed lines in eastern Europe were IP-based, while 35 per cent of fixed voice lines in western Europe and 33 per cent in North America were IP. Some national incumbent providers are now transitioning to all-IP networks.

In 2014, Deutsche Telekom enabled Macedonia to become the first country to switch fully from the PSTN to an all-IP network, and the company aims to turn off its legacy TDM switches and completely convert its network in Slovakia to IP by the end of 2014.

- The projection has total global fixed lines falling to ten per cent below their 2008 peak level by 2018, at which point switched lines will have declined by 33 per cent. VoIP lines will have grown by over 250 per cent over the period to account for nearly one-third of phone lines worldwide.

*TeleGeography* sums up: "Fixed-line voice is a far cry from dead. But it is no longer synonymous with the PSTN."

## Projection to 2018: the smartphone triumphs absolutely over 'the lowly feature phone'

"CCS Insight in October released its latest Global Mobile Phone Forecast and it makes for fairly grim reading if you're a vendor.

"It's a slightly more welcome development if you're a user. If you're a Chinese user, even better."

IT journalist Ian Scales was parsing the finding of the British-based global technology analyst company that, after four years of growth, the ASP (average selling price) of a mobile phone is dropping. While some 1.94 billion were sold in 2014, that represents a growth rate of "only" ten per cent.

While that would be good in any other business, Mr Scales wrote in *TelecomTV*, mobile can now expect pressure on prices and profits across

all phone tiers. The outlook looks slightly better in emerging markets where a lively 33 per cent growth rate is expected – along with much lower ASPs. ("Smartphone Squeeze: Growth in Smartphone Sales Is Tailing Off in Europe," 15<sup>th</sup> October)

Isolate smartphones and things look up, Mr Scales wrote. CCS estimates that 1.3 billion smartphones were sold globally in 2014, an increase of 25 per cent year-on-year. However, this compares to a growth rate of 40 per cent in 2013. CCS expects the slowing trend to continue and year-on-year growth to drop to 15 per cent in 2015.

By 2018, the projection is for the smartphone to have triumphed absolutely. The "lowly feature phone," says CCS Insight, will by then account for just 17 per cent of the total mobile phone market.

Also according to CCS, Mr Scales noted in conclusion, by 2017 the bulk of 4G phone sales will be in China.

## Elsewhere in telecom . . .

- Telekom Austria announced on 16<sup>th</sup> October that its first customer in Vienna had been connected to "G.fast ultra-broadband" using Alcatel-Lucent kit. The technology reportedly has been demonstrated at data rates of more than 100Mbit/s per household using existing copper lines.

The company said that it plans to selectively deploy G.fast alongside, rather than in place of, fibre to the home (FTTH). It is described as a hybrid technology with fibre delivering high-speed broadband to the building (FTTB) and G.fast handling the final few hundred feet via the building's existing copper wiring, thus avoiding any costly rewiring. This would commend the method for use in larger, older European cities, such as Vienna, with many historic multi-dwelling buildings.

- The 16-member consortium behind the Europe India Gateway (EIG) submarine cable system has reported that Ciena has completed the first phase of its 100Gbps upgrade, and commenced work on the second phase of the project.

As reported in *TeleGeography* (17<sup>th</sup> October), Ciena is supplying optical transport equipment based on its GeoMesh undersea cable portfolio, as well as retaining the responsibility for project management and integration.

The 9,320-mile EIG runs from Britain to India, connecting 12 countries across three continents. The first phase of the 100G upgrade saw installation of the Ciena 6500 packet-optical transport system on the link between the UK and Djibouti, while the second stage will introduce 100G connectivity through to India.

- Discussing Trinidad and Tobago's telecommunications industry, the country's science and technology minister said that – at 146 per cent in 2013 – mobile penetration in the Caribbean nation off the coast of Venezuela is among the world's highest.

As reported by Leah Sorias in the *Trinidad Express* (10<sup>th</sup> October), Dr Rupert Griffith also noted that, in 2014, the World Economic Forum Global IT Report ranked Trinidad and Tobago first among 148 countries in mobile network coverage.

“And we expect domestic broadband penetration to reach 98 per cent by 2018,” Dr Griffith told delegates to the Americas Competitiveness Forum held on 9<sup>th</sup> October in the capital, Port of Spain.

To that end, Trinidad and Tobago will soon select a third mobile operator from among four companies that have applied for a concession and licence: Cable and Wireless, Columbus Communications Trinidad, Star Mobile Caribbean, and Telesur.

- Viettel Group on 15<sup>th</sup> October announced the launch of its Bitel mobile network in Peru. The Vietnamese telecom said that Bitel is the first mobile operator with a 3G-only network in Peru, with Internet mobile coverage in 80 per cent of the nation.

“In such a highly competitive market with a density close to 100 per cent penetration,

mobile Internet is the future of telecommunication,” said CEO Hoang Quoc Quyen.

Although Viettel has 68 million customers in 10 countries, Peru is the first of its overseas markets to have a considerably higher GDP than Vietnam.

The company has a presence in Cambodia, Laos, Timor, Haiti, Mozambique and Cameroon, and is preparing to expand into Burundi and Tanzania.

- With the launch of Arsat-1 on 16<sup>th</sup> October, Argentina became the first Latin American nation to build and operate a geostationary satellite.

Arsat-1 will be “parked” over Argentina but will enable coverage of Argentina, Chile, Paraguay, Uruguay, the Malvinas Islands, and Argentine bases in the Antarctic.

Rural areas within its orbit will benefit from improved Internet access and data, telephone and television services.

As noted in the *Buenos Aires Herald* (17<sup>th</sup> October), some 400 specialists have worked on Arsat-1 since 2006.

Geostationary satellites are considered the most complex to develop and operate as they are required to orbit at the same speed as the earth while maintaining sufficient distance to transmit over a wide area.

The first in a series of three satellites for the Argentine Geostationary Satellite Telecommunications System, Arsat-1 was designed for a working life of 15 years. Its estimated cost is \$270 million.

- According to a study reported in *Business News Americas* in October, two-thirds of Chileans – some 12 million people – consider themselves regular Internet users, and the proportion was expected to reach 70 per cent of the population by the end of 2014.

A survey conducted by Universidad de Chile and government researchers produced

statistics showing that 62 per cent of Chilean households have an Internet connection.

This is 12 percentage points below the average in the 34 member-countries of the Paris-based OECD (Organisation for Economic Co-operation and Development) but 27 percentage points above the South American average.

In urban areas of Chile, 65 per cent of households have Internet; in rural areas, 40 per cent.

To broaden coverage, the government has rolled out initiatives including its 2.6Ghz and 700Mhz programmes, which together will reach more than 1,700 isolated communities and over 500 schools.

The WiFi ChileGov programme will also provide free Internet connections to an additional 543 communities and introduce a fibre optic service in Chile's southernmost zone.

- President Barack Obama said on 9<sup>th</sup> October that the United States is “unequivocally committed” to net neutrality – the requirement that broadband network providers be altogether detached from what information is sent over their networks.

At a town hall meeting in California, Mr Obama said his administration would make certain that net neutrality remains untouched.

“It's what has unleashed the power of the Internet,” he said. “And we don't want to lose that or clog up the pipes.”

Mr Obama's statements to a group of tech entrepreneurs in the start-up community in Santa Monica strongly signalled to the Federal Communications Commission that it must heed the overwhelming public sentiment expressed in 3.7 million comments received by the commission.

A large majority of those comments, solicited by the FCC, came out against Internet fast lanes – the practice known as paid prioritisation.

## 传统的语音市场可能会长期性的缩减，但是固定VoIP（互联网语音协议电话）的增长将缓解颓势

来自电信市场研究和咨询机构《电信地理（TeleGeography）》的研究指出电路交换（PSTN公共交换电话网络）电话线数量逐步下降的同时，交换线路用户的减少很大部分可归因于固定VoIP（互联网语音协议电话）服务的增长。（固定电话：离死亡相去甚远，10月15日）

跟踪座机、无线和宽带的竞争发现全球所有（电路循环加互联网语音协议）固定电话用户顶峰是2008年的12.9亿，从此之后便以年均复合增长率负1.3%的速度下降。

但是根据《电信地理》的观点，该合计数“掩盖了市场构成的巨大转变。”即当电话线以每年综合速率4%的速度减少时，互联网语音协议电话用户以18%的速度增长，帮助抵消了很多交换线路电话的减少。

目前全球范围内VoIP连接占比为20%，自2008年起从仅8%开始上升。这次上升大部分归因于多重服务计划的快速应用，其将固定语音服务和宽带、电视以及部分移动电视服务捆绑在了一起。

电信地理引用了AT&T的例子，该公司与2014年6月报道其97%的电视用户订购了至少一种其他服务，同时这些客户中的2/3订购了3到4种服务。

“电路交换电话从世界各个角落完全消失还要过上几十年，但是向互联网语音协议电话转变的趋势是不可逆转的，”电信地理直截了当的宣布了——由统计数字支持的结论。

2013年，东欧25%的固定电话是基于IP电话的，同时在西欧35%，美国33%的固定语音电话为IP电话。一些国家的现任供应商正过渡到全IP网络。

2014年，德国电信（Deutsche Telekom）使得马其顿成为第一个由电路交换电话彻底转换为全IP网络的国家，同时该公司目标是关闭其传统的TDM交换机并在2014年年底前将斯洛伐克的网络彻底变更为IP网络。

➤ 推测全球全部固定电话线到2018年将降至2008年最高水平的10%，在该一时期交换线路将下降33%。在该时间段内VoIP线路将业已增加250%，占全球范围内电话线路的1/3。

《电信地理》总结道：“固定语音电话距死亡还相去甚远。但是不再与电路交换电话同义了。”

## 预测到2018年：智能手机绝对战胜“低功能手机”

“CCS视角公司（CCS Insight）10月发布了其最新的全球手机前瞻，如果你是手机供应商，会觉得该文相当冷酷。如果你是手机用户，会觉得少许有点可喜的发展。如果你是一个中国用户，那情况就更好了。”

IT记者伊恩·斯凯尔斯（Ian Scales）对这家位于英国的全球技术分析公司的调查结果进行评析，即在增长四年之后，手机的ASP（平均销售价格）下跌了。虽然2014年销售额大约19.4亿美元，意味着“仅仅”10%的增长。

虽然该数据对任何其他业务而言都属于良好，斯凯尔斯先生在《电信电视》中写道，目前能预期到全手机产业链的价格和利润压力。该前瞻认为在新兴市场中情况会稍微好点，预期会有生气勃勃

的33%的增长率——同时平均销售价格也会低很多。（“智能手机挤压：欧洲拖累了智能手机销售的增长，10月15日）

仅就智能手机而言前途一片光明，斯凯尔斯先生写道。CCS视角公司估计2014年全球有13亿台手机被售出，年同比增长25%。

然而，相比2013年的40%的增长率，CCS预测该趋势将继续，2015年年同比增长率将跌至15%。

该前瞻预测到2018年智能手机绝对已经取胜。CCS视角公司称“低功能手机”，到那时将仅占全部手机市场的17%。

同样根据CCS视角公司的观点，斯凯尔斯先生在结论中称，到2017年将会有大批量的4G手机在中国销售。

## 电信行业其他新闻.....

➤ 《奥地利电信（Telekom Austria）》于10月16日宣布其在维也纳的第一个客户使用阿尔卡特-朗讯公司（Alcatel-Lucent）成套工具已经接入了G速超宽带（G.fast ultra-broadband）。据报道该技术已经被证明数据速率每户超过100兆字节/秒，且使用现有铜缆。

该公司称其计划选择性的共同配置G速超宽带，而不是取代光纤到户（FTTH）。G速超宽带被描述为是一种光纤传输高速宽带至建筑（FTTB）的混合技术，同时G速超宽带通过建筑现有铜线处理最终数百英尺传输，这样可避免任何成本高昂的重新布线。这将成为应用在较大，较古老欧洲城市的推荐方法，例如维也纳，拥有诸多历史悠久住户众多的建筑。

➤ 欧洲印度通道（EIG）海底电缆系统背后由16个成员组成的财团报告称讯远科技（Ciena）已经完成了其100兆比特每秒（以下简称：GBPS）升级的第一阶段，且着手开始该项目第二阶段工作。如《电信地理》的报道（10月17日），讯远科技将供应基于其GeoMesh海底光缆组合的光传输设备，同时还担负着项目管理和整合的责任。

这条长达9,320英里的欧印通道将从英国运行到印度，连接遍布三个大陆的12个国家。第一阶段的100G升级已看到讯远科技公司在英国和吉普堤之间的链接上安装了6500组光纤传输系统，而第二阶段将通过印度引入100G的连通性。

➤ 特立尼达和多巴哥的科技部长谈及本国电信行业时称——2013年达到146%——这个委内瑞拉海外加勒比岛国手机普及率是世界上最高的。如《千里达快报（Trinidad Express）》（10月10日）的莉亚·索里亚斯（Leah Sorias）报道，鲁珀特·格里菲斯（Rupert Griffith）博士还称在2014年世界经济论坛IT报告上特立尼达和多巴哥被评为148个国家中手机网络覆盖率最高的国家。

“我们还预计国内宽带普及率在2018年之前将达到98%”，格里菲斯博士在10月9日在首都西班牙港召开的美洲竞争力论坛告诉与会代表。为达到此目的，特立尼达和多巴哥将很快从四家申请特许和牌照的公司中选择一家作为第三手机运营商；大东电报局（Cable and Wireless），哥伦布通讯特立尼达公司（Columbus Communications Trinidad），星移动加勒比海岸公司（Star Mobile Caribbean），及南方电视网（Telesur）。



THE 16th CHINA(GUANGZHOU) INT'L EXHIBITION ON PLATE METAL, BAR, WIRE, METAL PROCESSING AND SETTING EQUIPMENT

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## Steel

### World Steel outlook: demand is picking up in the developed economies, but rebalancing exerts a retardant effect in China

The World Steel Association (worldsteel) on 6<sup>th</sup> October released its Short Range Outlook (SRO) for 2014 and 2015. The SRO, issued twice a year, is informed by the chief economists of more than 40 worldsteel member companies.

(Projections from worldsteel consider both real and apparent steel use. Apparent steel use reflects deliveries of steel to the marketplace from domestic steel producers as well as from importers. This differs from real steel use, which takes into account steel delivered to or drawn from inventories.)

The worldsteel forecast for 2014 saw global apparent steel use increasing by two per cent to 1,562 Mt (megatonnes, equal to one million metric tons), following growth of 3.8 per cent in 2013. In 2015, world steel demand is forecast to grow by another two per cent to reach 1,594 Mt.

#### REGIONAL SRO FORECASTS

##### The Americas:

🌐 In the United States, after a decrease of -0.4 per cent in apparent steel use in 2013, steel demand is seen increasing by 6.7 per cent to 102.2 Mt in 2014 – a large upward revision helped by strong growth in the automotive and energy sectors. Steel demand is expected to increase by 1.9 per cent in 2015.

In Mexico, steel demand is expected to grow by 6.9 per cent in 2014 and moderate to 3.5 per cent growth in 2015.

In Central and South America most countries register negative growth in apparent steel use, expected to decline by -2.4 per cent to 48 Mt in 2014 from 4.2 per cent growth in 2013. Steel demand is expected to increase by 3.4 per cent in 2015. In Brazil, apparent steel use will contract by -4.1 per cent in 2014 to 25.3 Mt and will rebound by only 1.5 per cent in 2015.

##### Europe:

🌐 The recovery in the European Union having gained further momentum in 2014, steel demand has grown considerably by four per cent to 145.9 Mt after increasing by 0.8 per cent in 2013. The improvement reflects a pickup in steel-using sectors of most EU countries, notably the United Kingdom and Poland. Apparent steel use in 2015 is projected to grow by 2.9 per cent. In Germany it is expected to show 3.2 per cent growth to reach 39.1 Mt in 2014 and 2.3 per cent in 2015.

##### CIS:

🌐 Due to the crisis in Ukraine the outlook for apparent steel use in the former Soviet Republics of the CIS in

2014 has been lowered significantly by -3.8 per cent to 56.9 Mt following 2.8 per cent growth in 2013. In Russia the weak trend in steel-using sectors in the second half of 2013 continued, leading in 2014 to -0.5 per cent growth reaching 43.2 Mt. In 2015 this will recover by 1.1 per cent to reach 43.7 Mt. In Ukraine, apparent steel use is expected to decline by -19 per cent in 2014. In 2015, assuming a stabilisation of the political situation, CIS steel demand will grow by 1.9 per cent.

##### China:

🌐 Growth in apparent steel use in China is expected to slow to just one per cent in 2014 to 748.3 Mt as Beijing's efforts to rebalance the economy weaken business sentiment and curtail investment. Apparent steel use will grow by only 0.8 per cent to reach 754.3 Mt in 2015, although possible use of targeted stimuli in response to slower growth in GDP (gross domestic product) could improve the outlook.

##### India:

🌐 Steel demand in India is expected to grow by 3.4 per cent to 76.2 Mt in 2014, following growth of 1.8 per cent in 2013. A further six per cent growth in demand is a real possibility for 2015.

##### Japan:

🌐 In Japan, following a 2.1 per cent increase in apparent steel use in 2013, steel demand in 2014 is expected to increase by a further 2.3 per cent to 66.8 Mt. However, with the fading of the positive impact of "Abenomics" (increased government spending together with unprecedented monetary easing, as promoted by Prime Minister Shinzō Abe), steel demand is seen declining by -1.5 per cent in 2015.

##### Middle East and North Africa:

🌐 In the MENA region, steel demand has been revised downwards but is still expected to grow by 3.3 per cent to 67.6 Mt in 2014 and by 6.6 per cent in 2015.

### Favouring ingenuity over layoffs, a US West Coast steel company not only survived the hard times but is flourishing

"The 'made in America' culture that had some major corporations taking care of their workers from cradle to grave was shed like an old sweater in the Great Recession. Assembly lines were shaved to the bone. Layoff notices peppered lunchrooms."

Debra Gruszecki, a staff writer for the *Press Enterprise* (Riverside, California), had a purpose in revisiting the grim 2007-2009 period in US industry. A recent issue featured her profile of California Steel Industries, which laid off no one – even as output of its flat-rolled product plummeted from 2.1 million tons pre-recession to 800,000 tons in 2009.

Not only did the Fontana-based company survive: it was in fighting trim when steel orders began to snap back in 2010. Production for the year revived to 1.3 million tons.

The steel company that industrialist Henry J Kaiser founded in the early years of World War II has operated as California

Steel Industries since 1984. According to Toshiyuki “Ted” Tamai, its current president and CEO, a firm decision was taken early on that there would be no recession-related layoffs, furloughs, or base-salary cuts. (“California Steel Industries Weathered Recession with No-Layoff Policy,” 10<sup>th</sup> October)

How was this accomplished? Among the cost-cutting measures reported by Ms Gruszecki:

- ④ Reassigning 30 employees to a furnace construction project.
- ④ Taking in-house some services that had been contracted out.
- ④ For nine months, suspending the corporate matching contribution to employee retirement plans.
- ④ Permitting voluntary reduction in employee work hours.
- ④ Most notably, paying 100-plus employees for more than \$250,000 worth of community service work. Projects included cleaning up the San Bernardino National Forest, refurbishing a battered women’s shelter, rebuilding a burned-out ranch, and landscaping the grounds of a college.

Even as orders tumbled, one employee was paid an hourly wage for a five-week stint with the US Forest Service. “It saved my house,” he told the *Press Enterprise*. “It was a real morale booster.”

- ④ Mr Tamai noted that, during his company’s full-employment retrenchment, other steel companies across North America laid off 16,300 workers. In 2009 alone, he recalled, there were 7,765 jobs cut at US Steel.
- ④ California Steel is the only West Coast steel company that makes hot rolled, pickled and oiled, galvanised, cold rolled sheet. The largest industrial employer in the inland area of the state, it has seen its workforce grow by 120 since the downturn to 1,077 today.

## Aluminium

### In a brightening climate for aluminium, Alcoa ‘bets big’ on aerospace with the world’s largest aluminium-lithium plant

Aircraft manufacturers are increasingly turning to lighter and stronger aluminium-lithium alloys, which are less expensive than titanium and composites and afford better fuel efficiency and lower maintenance costs. To capture that demand, Alcoa on 2<sup>nd</sup> October opened an aluminium-lithium plant in Lafayette, Indiana, where it produces advanced third-generation aluminium-lithium alloys for the aerospace industry.

The \$90 million facility is the largest of three such projects for the company. New York-based Alcoa has also expanded its aluminium-lithium capabilities in Pittsburgh and at the Kitts Green facility in the United Kingdom.

The cast house at Lafayette has a rated capacity of more than 20,000 metric tons annually, making it the largest aluminium-lithium facility in the world.

The product line includes extruded, forged and rolled parts for aerospace applications: single-piece wing skins, fuselage skins, wing stringers, floor beams, seat tracks and other components. The company also has in development an aluminium-lithium forging for the front fan blade in Pratt & Whitney’s PurePower engines.

Shortly before publication of Alcoa’s third-quarter 2014 results, *Forbes* noted that the company has “bet big” on the aerospace segment in its strategic shift towards value-added products. Signs are strong that the big bet will pay off. (“Value-added Businesses to Boost Alcoa’s Q3 Results,” 2<sup>nd</sup> October)

Certainly the current outlook for aluminium is favourable to Alcoa’s business in general. Cuts in global smelting capacity in response to low prices have finally taken effect. *Forbes* reported that London Metal Exchange warehouse stocks of aluminium were down around ten per cent in mid-2014 from the start of the year. A poll conducted by Reuters in July found that the market for aluminium is expected to move from an oversupply of 235,500 tons last year to a deficit of 4,444 tons in 2015.

While that deficit will likely see some erosion from smelting capacity restarts, the tightening of the physical supply of aluminium has led to a recent rally in prices. LME aluminium prices averaged close to \$2,000 per ton in the third quarter of last year. They averaged roughly \$1,800 per ton over the course of the third quarter of 2013.

## Automotive

### An American steel-industry trade organisation predicts that aluminium use in cars will go into reverse around 2018

Alcoa may be setting its sights on aerospace (see “Brightening climate for aluminium,” above). But, as US carmakers work to meet stricter global emissions standards and to comply with Corporate Average Fuel Economy (CAFE) goals, automotive is the arena of the steel-aluminium faceoff. The domestic steel and aluminium industries both expect aluminium use in cars to grow. A study commissioned by the Aluminium Transportation Trade Group predicts that seven out of ten pick-up trucks will have aluminium bodies by 2025.

While steelmakers acknowledge that the automotive industry is using more aluminium all the time, a report from the steel-industry trade organisation World Steel Dynamics Inc (Englewood Cliffs, New Jersey) claims that the trend will be short-lived. Over 300 pages it argues that the weight advantage of aluminium will be neutralised by the arrival of more advanced, lower-cost and lighter-weight steels.

Reviewed by Stephen Edelstein in *GreenCarReports*, “AutoBody Warfare: Aluminum Attack” foresees aluminium use peaking around 2018, even as CAFE standards stipulate additional fuel-economy gains. (The mandated fleet average – the equivalent of around 42 miles per gallon on the window sticker – is 54.5 mpg by 2025.)

# From the Americas

The projected falling-off from that point is based on an expectation that – even though aluminium-sheet deliveries to automakers could reach 2.68 billion pounds in 2018, compared to 504 million pounds in 2014 – most of it will go into “closures”. These are hanging parts like doors, hoods, and trunk lids, as distinguished from vehicle body structures or frames.

In the meantime, according to analysts consulted by *GreenCarReports*, new high-strength steels currently under development are becoming ever more effective in cutting pounds from the car body, which accounts for most of the weight. (“Steel Vs Aluminium: Which Wins For Fuel Efficiency AND Cost?” 14<sup>th</sup> October)

These new materials will be available for the next round of car redesigns, giving engineers a lower-cost alternative to aluminium that will still keep weight down.

🌐 In fact, wrote Mr Edelstein: “Researchers claim use of new but less expensive high-strength steel could lighten future car structures enough that aluminium closure parts won’t be needed.”

This would, he said, potentially reduce the cost of cars and relieve the minds of buyers who may be concerned about aluminium’s durability and ease of repair.

## With the jury still out on its tilt toward aluminium, Ford will extend its use to the workhorse Super Duty pickup

“While Ford and General Motors trumpet their growth in China, neither would be profitable without the resurgent US market and, more specifically, Americans’ insatiable appetite for pickups.”

Having identified the principal factor in the remarkable success record of pickups from Ford Motor Co, business writer Alisa Priddle reported in the *Detroit Free Press* that the company is tinkering with a second winner. Ford has announced that it will use aluminium on the next generation of its hard-working and greatly prized Super Duty pickup. (“Ford Doubling Down on Aluminum Trucks with Super Duty,” 4<sup>th</sup> October)

Results from Ford’s earlier foray into aluminium, with the even more popular F-150 light-duty pickup, have been modestly encouraging. But the 2015 redesign of the F-150 will likely displace more steel with aluminium, and Wall Street expects slimmer profit margins than on its steel-body predecessor.

Five-year aluminium prices have averaged about \$2,200 per ton, while steel ranges between about \$300 per ton for sheet metal and \$500 for shredded auto scrap.

On 8<sup>th</sup> October, a Morgan Stanley analyst suggested that the new F-150 would drain short-term profitability. Adam Jonas wrote in a report to clients: “In short, we believe it’s a great product that may be far less profitable than the market anticipates.”

Mr Jonas estimated that more than 90 per cent of Ford’s global auto profits come from the F-150 and its larger

heavy-duty derivatives. Hence his warning: “Ford’s F-150 truck changeover is unlikely to go as smooth as investors anticipate.”

Moreover, as noted by Ms Priddle, new technologies and the addition of ever-more sophisticated features in the F-Series and other Ford models will entail higher warranty costs and greater danger of recalls.

🌐 But switching the Super Duty pickup to aluminium will add an estimated 350,000 heavy-duty pickups to 750,000 aluminium-intensive light-duty Ford pickups annually, promising economies of scale that will help offset the higher cost of aluminium.

However it weighed the various factors, Ford is committed to aluminium for its Super Duty workhorse pickup.

“Those on the outside would say it’s a big risk,” Matt O’Leary, vehicle line director for Ford North America trucks, told the *Free Press*. “We don’t say it’s a big risk. We did all our homework and it was a calculated decision.”

## The US economy

### Under a more effective president than his detractors concede, the budget shortfall has narrowed for five successive years

After rising to more than a trillion dollars a year at the height of the recent recession, the US federal budget deficit has fallen to pre-recession levels and is now lower than the annual average of the past 40 years.

Final figures for fiscal year 2014, ended 30<sup>th</sup> September, showed a shortfall of \$483 billion. That is \$197 billion less than in 2013 and \$165 billion less than President Barack Obama had projected in his annual budget request.

The improvement reflects the effects of economic growth, higher tax revenue, and lower-than-expected health care costs realised from the much-derided Affordable Care Act, or “Obamacare.”

But, as noted by Jackie Calmes, national correspondent for the *New York Times* (15<sup>th</sup> October), more significant than the dollar figures, to economists, has been the drop in the size of annual deficits as measured against the economy’s total output or GDP (gross domestic product).

The 2014 deficit was equal to 2.8 per cent of GDP, below the three per cent level that many economists consider the acceptable limit in a growing economy. The budget shortfall has now declined for five consecutive years, from a high of 9.8 per cent in the 2009 fiscal year, and is the lowest it has been since 2007.

Declining deficits have all but ended the budget fights that preoccupied Mr Obama and his opponents in Congress from 2011 through 2013. Indeed, Ms Calmes wrote: “The improved picture partly reflects the spending cuts that



resulted from compromises between the two sides, as well as higher taxes on wealthy individuals and temporary stimulus measures.”

Even so, many economists believe that the spending cuts dictated by the compromises exerted a fiscal drag that slowed the economic recovery and kept pressure on the central bank – the Federal Reserve – to maintain its expansive monetary policies to offset the austerity moves.

🌐 In a joint statement on 15<sup>th</sup> October, Treasury Secretary Jacob J Lew and Shaun Donovan, the budget director, reiterated the president’s call for additional government spending. The opposition Republican party has resisted that call, given its contention that Mr Obama’s 2009-10 stimulus package failed.

Clearly, it did not.

## Telecom

### Canadian regional carriers protest wholesale roaming rate caps that were intended to help them

MTS Inc, Saskatchewan Telecommunications Holding Corp and Tbaytel are asking the Canadian Radio-Television and Telecommunications Commission (CRTC) for an adjustment of wholesale roaming rates.

The three regional carriers say that fee limits imposed by the regulator allow dominant wireless service providers to take advantage of the networks of their smaller competitors.

The Canadian government capped the wholesale roaming rates at no higher than a given carrier’s charge to its retail customers. The CRTC has been looking into whether those rates (charged by mobile carriers to other wireless companies when their customers roam outside the home network) ensure adequate competition in the market.

The caps on roaming charges were meant to assist new entrants to broaden their coverage and negotiate lower roaming rates for use of the networks of larger players. But according to reports in the *Globe and Mail (Toronto)*, at a CRTC hearing on 2<sup>nd</sup> October the regional carriers argued that the caps are in fact hurting their business.

The dominant players – BCE Inc, Telus Corp and Rogers Communications Inc – have already built their own networks in territories where regional carriers operate.

Dan Topatigh, CEO of the Northern Ontario smaller carrier Tbaytel, pointed out that the Big Three are also now permitted to roam on the networks of the regional carriers at discount rates. For example, when a Telus customer roams on the MTS network, Telus pays a capped fee to MTS.

As reported by Nestor E Arellano of *IT World Canada* (3<sup>rd</sup> October), the regional carriers are asking CRTC to consider exempting operators with less than ten per cent of the national market share from having to offer BCE, Telus and Rogers the use of their networks at the capped rates.

For its part, BCE urged the CRTC to give up setting wholesale rates altogether.

### Broadband providers in Seattle, city of dark fibre, gain new freedom to challenge dominant operator Comcast

Seattle, Washington, will no longer put heavy restrictions on companies that want to implement fibre broadband access in that city in the Pacific Northwest.

The so-called “SDOT Director’s Rule,” now rescinded, had required utility companies to get permission from some 60 per cent of near neighbours before installing a telecommunications cabinet to support the fibre.

“That high bar made the city an unattractive destination for companies that wanted to offer services in Seattle,” wrote Rachel Lerman in the *Puget Sound Business Journal*. “Some even suggest it’s one of the reasons Google Fiber passed on setting up a service in Seattle.” (“Fibre Is Coming,” 30<sup>th</sup> September)

The high-speed Internet offerings in Seattle have been a disappointment to its residents, especially its multitude of high-tech start-ups. But the Seattle City Council is optimistic that removal of the restrictions will bring competition to the Internet scene there, which is largely dominated by Comcast.

According to Ms Lerman, who covers technology and retail for the *Business Journal*, the main beneficiary will be CenturyLink, whose plans to bring fibre broadband service to unserved and underserved neighbourhoods have been stalled by the rule on telecom cabinet placement. CenturyLink cited it in the cancellation of 60 projects between 2009 and 2011.

### Elsewhere in telecom . . .

🌐 Google has announced its participation in an undersea cable project for linking the United States and Brazil by the end of 2016.

The American search engine giant will partner with Brazilian ISP Algar Telecom, Uruguayan telecom ANTEL, and the Angola Cables consortium. The cable will be capable of carrying a total of 64Tbps of capacity over six fibre pairs.

The announcement, reported on 17<sup>th</sup> October in *TeleGeography*, marks the second time last year that Google confirmed its involvement in building a major submarine cable system. In August 2014 Google and five Asian carriers announced plans for the FASTER cable, slated to connect the West Coast of the US to Japan by the second quarter of 2016.

Previously, Google had said it was serving as primary investor in two other submarine cable system undertakings: one trans-Pacific, the other intended to link countries in Southeast Asia.

**Dorothy Fabian – Features Editor**

## 钢铁行业新闻

### 全球钢铁展望: 发达经济体的需求正在回升, 但是中国的再平衡发挥了阻滞效应

世界钢铁协会(以下简称为“世界钢铁”)于10月6日发布其对于2014年和2015年的短期展望(SRD)。该短期展望每年发布两次,信息由40多个世界钢铁成员公司的首席经济学家提供。(世界钢铁的预测综合考虑了钢材的实际和表面使用量。表面钢材使用量反映了钢铁从国内钢铁生产商以及进口商向市场的传输。实际钢材使用量与之不同之处是将钢材递交入库和提取库存考虑在内。)

2014年世界钢铁展望认为全球表面钢材使用量将增加2%至1,562兆吨(兆吨,等于100万公制吨),上一年度即2013年增长了3.8%。2015年,世界钢铁需求预计将再增长2%达到1,594兆吨。

### 区域短期展望预测

#### 美洲:

在美国,2013年表面钢材使用量减少了0.4%,2014年预计钢材需求将增加6.7%至102.2兆吨——得益于汽车和能源行业的强劲增长的大幅向上修正。2015年,钢材需求预计将增加1.9%。墨西哥预期2014年钢铁需求增加6.9%,并于2015年减缓至3.5%。

在中美和南美洲的大多数国家在钢材表面使用量登记为负增长,预计由2013年4.2%的增幅下降为负2.4%,达到48兆吨。预计钢材需求在2015年将增加3.4%。在巴西,2014年表面钢材使用量将收缩4.1%至25.3兆吨,2015年将仅回升1.5%。

#### 欧洲:

欧盟的复苏在2014年已经获得了更多的动力,钢材需求增长可观,达到了4%,至145.9兆吨,之前2013年增长率为0.8%。改善体现了大部分欧洲,尤其是英国和波兰的钢铁使用行业的崛起。2015年表面钢材使用量预计增长2.9%。德国预计2014年增幅为3.2%,达到39.1兆吨,2015年增幅为2.3%。

#### 独联体:

由于乌克兰危机,对前苏联的独联体地区的表面钢材使用量的预期大幅调低至负3.8%,至56.9兆吨,之前2013年增长为2.8%。俄罗斯2013年下半年在钢材使用行业的微弱趋势仍在继续,进入2014年,增长为负0.5%,达到了43.2兆吨。2015年增长将恢复至1.1%达到43.7兆吨。在乌克兰,2014年表面钢材使用量预期将减少19%。2015年,假设政治形势稳定,独联体地区的钢材需求将增长1.9%。

#### 中国:

中国2014年表面钢材使用量预期将减缓至区区1%,达到748.3兆吨,由于北京致力经济再平衡削弱了商业热情并缩减了投资。表面钢材使用量在2015年将仅增长0.8%达到754.3兆吨,虽然对GDP(国内生产总值)增长减缓采用针对性的刺激可能对该展望有所改善。

#### 印度:

印度的钢材需求预期增长3.4%,达到76.2兆吨,2013年增长为1.8%。2015年需求量再增加6%是完全可能的。

#### 日本:

在日本,在2013年表面钢材使用量增长2.1%之后,2014年钢材需求预期进一步增长2.3%至66.8兆吨。然而,随着“安倍

经济学”积极影响的衰退(由首相安倍晋三提出:增加政府开支并伴以史无前例的货币宽松政策),钢材需求可能在2015年下降至负1.5%。

#### 中东和北非:

在中东和北非地区,钢铁需求已经被下调但仍预期2014年增长3.3%达到67.6兆吨,2015年增长为6.6%。

### 亲睐别出心裁而非裁员,某美国西海岸钢铁公司不仅绝处逢生还繁荣发展

“在大衰退中,‘美国制造’文化即一些大公司对他们的员工从摇篮一直照顾到坟墓的理念就像一件旧汗衫一样被抛之脑后。装配线被削减到仅剩框架。休息室里贴满了下岗通知。”

黛布拉·古鲁哲奇(Debra Gruszecki),《企业报(Press Enterprise)》(加利福尼亚,河滨市)的职业作家,有重温处于2007-2009年美国工业阵痛期的计划。一个最近的案例为她的《加利福尼亚钢铁工业概述》增色,该公司无一人下岗——甚至当其平轧产品产量自衰退前的210万吨暴跌至2009年的80万吨的时候亦是如此。这家位于丰塔纳(Fontana)的公司不仅生存了下来:它还在2010年钢材订单开始迅速恢复中打败了衰退。当年生产量恢复到了130万吨。

这家由实业家亨利·J·凯泽(Henry J. Kaiser)于第二次世界大战早期创办的钢铁公司自1984年以来已加利福尼亚钢铁工业公司运营。根据其现任总裁和首席执行官森川·“泰迪”·拓麻(Toshiyuki “Ted” Tamai)的说法,早前就定下了公司决议不会有与衰退相关的下岗、休假、或削减基本薪资。(“加利福尼亚钢铁工业公司的无下岗政策经受住经济衰退的考验,”10月10日)

这是怎么做到的呢?古鲁哲奇女士报道了以下削减成本的措施:

- 重新分配30名员工到熔炉建设项目
- 将某些外包出去的业务重新由内部完成
- 暂停企业与贡献挂钩的员工退休计划长达9个月
- 员工工作时长可志愿减少
- 最引人注目的是,支付100多名员工超过25万美元价值的社区服务工作。项目包括清扫圣贝纳迪诺(San Bernardino)国家森林,重建受虐妇女庇护所,重建被烧毁的牧场,和美化大学场地。

甚至当订单大跌时,某员工仍然被收到了与美国森林服务有关的5周计划的小时工资。“它拯救了我的房子,”他告诉《企业报》“这真正的鼓舞了士气。”

拓麻先生评论称,在他的公司充分就业调整期间,全北美的其他钢铁公司下岗16,300工人。仅2009年,他回忆称,美国钢铁业削减了7,765个岗位。

加利福尼亚钢铁公司是西海岸唯一生产热轧、酸洗和涂油、镀锌、冷轧板的钢铁公司。这家该州内陆地区最大的工业企业,见证了该公司自衰退以来员工总数已经增长了120人,达到了目前的1,077人。

## 铝材行业新闻

### 铝的环境日渐明朗,美国铝业公司(Alcoa)通过全球最大的铝-锂合金厂在航空航天上“下重注”

飞机制造商正越来越多的改用更轻更牢固的铝锂合金,其比钛和复合材料更廉价并提供更好的燃油效率和更低的维护成本。为

了抓住这一需求，美国铝业公司于10月2日在印第安那州拉斐特(Lafayette)开设了一家铝-锂合金工厂；该厂为航空工业生产先进的第三代铝-锂合金。

该投资9,000万美元的厂房是该公司三个上述项目中最大的一个。位于纽约的美国铝业还在匹兹堡和英国的基茨格林(Kitts Green)工厂扩大了其铝-锂合金生产能力。

在拉斐特的铸造车间拥有每年超过20,000公吨的额定生产能力，使其成为世界上最大的铝-锂制造场地。生产线包括压制、锻造、及航空运用的轧制部件：整机机翼蒙皮、机身蒙皮、机翼纵梁、地板横梁、座椅导轨、及其它组件。公司也已经为普惠公司(Pratt & Whitney)的洁净动力引擎开发了一个铝-锂锻造的前置风扇叶片。

就在美国铝业公布2014年第三季度业绩不久之前，福布斯(Forbes)评论称该公司的高附加值产品战略转而已在航空领域下“重注”。有强烈迹象表明这笔赌注将获得成功。（“高附加值业务提振美国铝业第三季度业绩”，10月2日）

当然总体而言目前铝制品的前景对美国铝业的业务有利。削减全球熔炼能力以回应低价最终产生了效果。福布斯报道称伦敦金属交易所仓库铝库存2014年从开年至年中下降了10%。

月一项由路透社进行的民意调查发现铝材市场预计将从去年供过于求235,500吨变为2015年4,444吨的缺口。

虽然该缺口有可能会由于熔炼能力的再次开启而受到侵蚀，铝材实物供应的紧缩导致了最近价格的回升。

去年第三季度，LME铝材均价接近2,000美元每吨。2013年第三季度整季它们的平均价格约为1,800美元每吨。

## 汽车行业新闻

### 由于评判委员会仍旧倾向于铝材，福特延伸应用至高负荷的超重型皮卡

“虽然福特和通用均大肆宣扬其在中国的发展，但没有美国市场的复苏两家公司均不会盈利，更具体的说，是由于美国人对皮卡车永无止尽的爱。”

在确定了福特汽车公司的皮卡获得非凡的成功的主要因素之后，商业作家艾丽莎·普里德尔(Alisa Priddle)在《底特律自由新闻》报导该公司正在胡乱摆弄着第二个胜者。福特已经宣布其将会在下一代其吃苦耐劳和广受赞誉的超重型皮卡中使用铝材。（“福特加倍下注铝质卡车于超重型皮卡。”10月4日）

由于福特早先突击使用铝材，随着的F-150轻型皮卡更受欢迎，铝材的使用受到谨慎的鼓励。

但是2015年F-150的再设计将可能用铝取代更多的钢材，华尔街预期相比其之前的钢制车身，使用铝材的利润空间会更低。铝材5年均价为2,200美元每吨，同期钢材价格范围大约在薄板300美元每吨和汽车废钢碎片500美元之间。

10月8日，摩根斯坦利的分析师暗示新的F-150将会消耗短期盈利能力。亚当·乔纳斯(Adam Jonas)在给客户的一份报告中写道：“短期内，我们认为这将是款伟大的产品但获利可能远远小于市场预期。”

乔纳斯先生估计超过90%的福特全球汽车利润来自于F-150以及其更为庞大的超重衍生产品。因此他警告称：“福特的F-150卡车的转变不如投资者预期的那么顺畅。”

此外，如普里德尔女士所评论，F系列及其他福特车型中新技术和越来越复杂的功能的加入将带来更高的担保成本和更大的召回风险。

但是将超重型皮卡转换为铝制每年将增加大约350,000辆超重型皮卡至750,000辆高密度使用铝材的轻型福特皮卡，希望规模经济将有助于抵消铝材的较高的成本。

然而，综合各种因素，福特决心将铝应用于其超重型高负荷皮卡。

“那些外部人士将说这是一次大冒险，”马特·奥利利(Matt O'Leary)，福特北美公司卡车生产线主管告诉《自由新闻报》。“我们不认为这是一次大冒险。我们已经做了充分的准备工作，这是一个严谨的决定。”

## 美国经济

### 总统比其批评者所认为的更高效，预算缺口连续5年收窄

预算缺口在近期衰退中高点曾攀升至1万亿美元一年以上，之后，美国联邦预算赤字下降到衰退前的水平同时现在低于过去四十年的年度平均水平。

2014财政年度的最终结果，截止于9月30日，显财政赤字为4830亿美元。比2013年少了1970亿美元，比总统巴拉克·奥巴马的年度预算预期低了1650亿美元。

改善反应了经济增长的影响，更高的税收收入，以及曾备受嘲讽的《平价医疗法案》或“奥巴马医疗”实现了低于预期的健康医疗支出。

但是，如《纽约时报》的国家通讯员杰基·卡儿梅斯(Jackie Calmes)所评论(10月15日)，对于经济学家而言，比美元指数更有意义的是，用一直下降的年度赤字规模来衡量经济全部产出或GDP(国内生产总值)。

2014赤字等同于GDP的2.8%，比诸多经济学家所认定的一个成长经济中能接受3%的底线要低。目前预算赤字已经连续下降5年，从2009财政年度9.8%的高点，达到了自2007年以来最低的水平。

赤字缩减几乎结束了自2011年到2013年以来奥巴马先生和他在国会的对手所专注的预算争端。

确实，卡儿梅斯女士写道：“改善的景象部分反映了双方让步导致的削减开支，以及对有钱个人征收更高税率和暂时性的刺激措施。”

即便如此，很多经济学家认为因折中方案造成的削减开支导致了财政障碍，减缓经济复苏并对中央银行造成压力——美联储——维持其扩张性财政政策以抵消财政紧缩措施。

在10月15日的一份联合声明中，财政部长雅各布·J·卢(Jacob J. Lew)和预算主管肖恩·多诺万(Shaun Donovan)重申了总统对增加政府开支的呼吁。反对党共和党反对该呼吁，其观点是奥巴马先生2009-10年刺激政策的失败。

很明显，它没实现。

专栏编辑: Dorothy Fabian

# Developments in green technologies for power cables – using clean materials in the production process

By Sikora AG

## Introduction

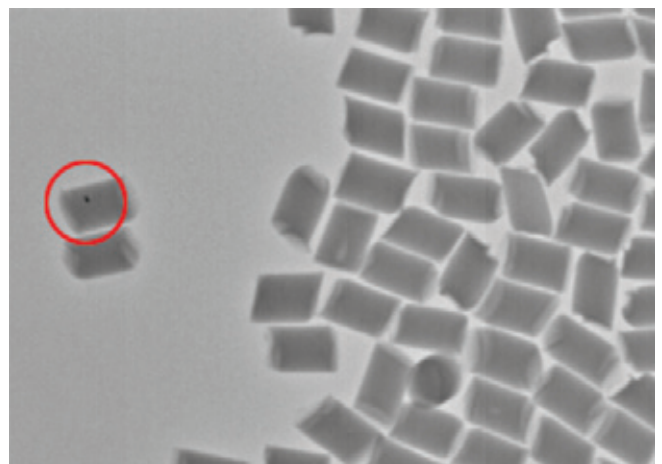
Green technology is a topic which plays an increasingly important role worldwide, especially in light of greater shortages of resources and increasing environmental pollution. Industry has an obligation to develop products and processes that are sustainable, energy saving and environmentally compatible. At the same time, these products and processes have to be highly profitable.

Crude oil is a basic irreplaceable resource. Oil is used in the form of plastic materials for cable insulation. Sikora's understanding is to provide technical solutions for online quality assurance of materials and cables to enable economic and ecological production processes. By integrating measuring and control as well as inspection and sorting technologies in the production line, the scrap rate can be reduced and consequently material saved. Every litre of oil that can be saved due to lower rejection rates and less material consumption also conserves the less available resource.

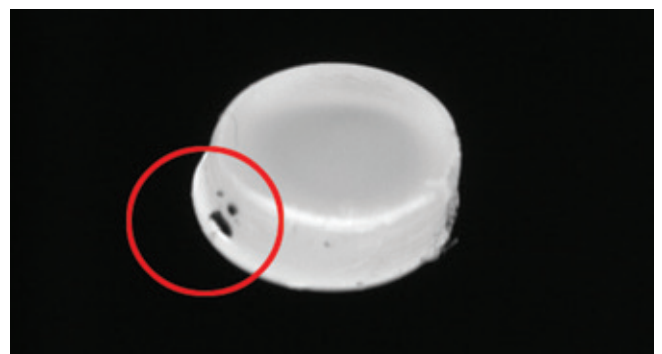
This article introduces a novel technological solution that inspects the purity of XLPE pellets that are used at the insulation process of power cables. It is the first system on the market that inspects pellets to 100 per cent and automatically sorts out contaminated pellets before they get into the extrusion process. By assuring absolute clean insulation material, the system supports the requirements of green technology within the process chain. The technology is the result of a development cooperation between Sikora and Maillefer.

## Necessity of clean XLPE compound for power cables

The purity of the XLPE compound that is used for the insulation of power cables plays a critical role. Perfectly pure compound reduces the risk of a breakdown.



○ Metallic contamination inside the pellet (X-ray)



○ "Black specs" on the pellet (big and small) (Optical)

Metallic impurities of 50µm may cause damage to the end product with high follow up costs that can easily run into the millions.

The repair of a defective submarine cable, for example, which has been damaged by contamination, can lead to weeks of downtime.

It is for that reason that the Chinese Standard for high voltage cables, for example, demands the exclusion of contamination from 75µm in the processed materials. Accordingly, it is necessary to inspect the material to 100 per cent before it enters the end product. Sample tests are a first step but not sufficient to exclude all contamination reliably.

Today, cable manufacturers use screens to catch impurities in the XLPE compound before they get into the cable. The screens are positioned directly in the melt flow after the extruder, before the crosshead. However, these screens can get clogged by scorches or excessive amounts of contaminants after a certain run time. Then the melt pressure in the extruder may increase significantly. Finally, the production has to be stopped in order to change the screens, which in turn means that later a joint is required at that position.

Joints where the cables are welded together are always critical, in particular when talking about power cables for offshore applications.

That is why cable manufacturers aim at delivering large cable lengths with only a minimum of joints as they contain a potential risk for breakdowns. This can be achieved by using highly pure raw material. As the integration of screens reduces the productivity of the line, an approach is to omit the screens.

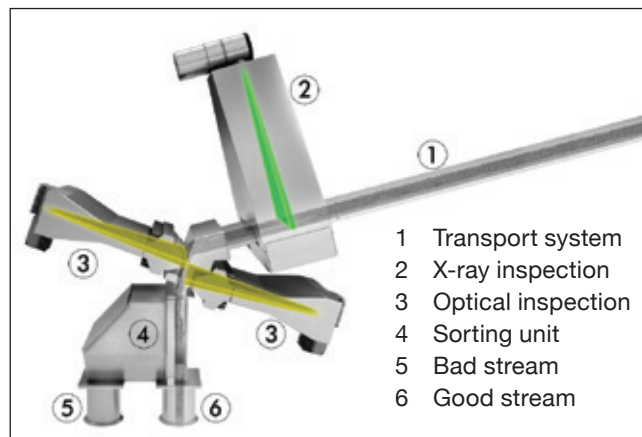
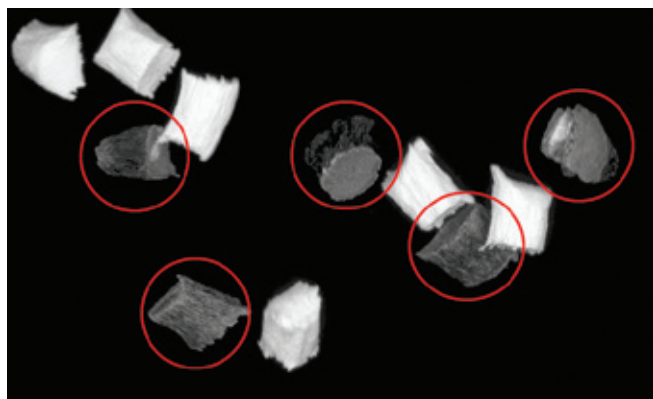
This requires, however, reliable alternative methods to detect and sort out contamination in the XLPE pellets at an early stage. Scorches can be avoided by temperature supervision and control of the melt flow by an ultrasonic-based temperature measurement.

## Green technology solution for clean material

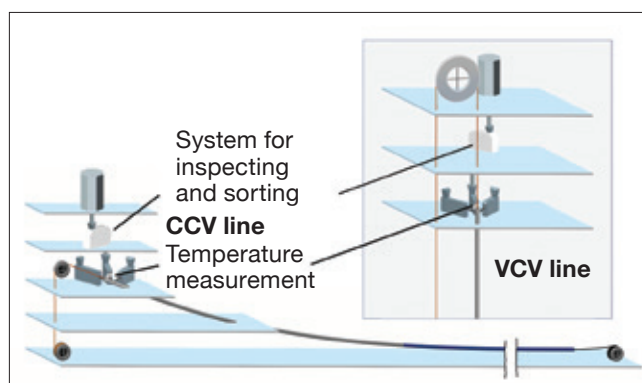
The new technology from Sikora inspects the material for purity to 100 per cent. The system combines X-ray technology with an optical system. This allows the detection of metallic and organic impurities of 50µm in the pellet itself and on its surface.

The combination of these two technologies is unrivalled on the market. The specially developed X-ray technology is able to inspect transparent and coloured (eg black) pellets as well as semi-conductive XLPE material for impurities.

- Foreign objects, foreign pellets or other organic contamination (Optical)



○ System for pellet inspection and sorting inside



○ Installation of the system for pellet inspection and sorting

Contamination that is detected by the X-ray or optical technologies is identified by image processing software, characterised as contamination and automatically separated.

The basic principle of the X-ray technology is the different attenuation of the material. XLPE mainly comprises two carbon and four hydrogen atoms. The carbon atom has six protons in its core while hydrogen has only one. A typical contamination would be steel particles from the extruder or granulator, which is mainly iron (FE).

Iron has 26 protons in its core. Because these 26 protons have a much higher X-ray attenuation than the six protons from the carbon it is possible to generate a contrast between the two materials in the X-ray image.

Regarding the optical inspection, the illumination plays an essential role.

By using a special diffuse light construction technique, the smallest contamination is detected, among others, foreign objects, foreign pellets or organic impurities. In order to allow an industrial throughput up to 2,000kg/h, modern camera technologies are used. They allow precise images of the pellets to detect contamination down to a size of 50µm.

In order to avoid contamination from the outside, the feeding of the pellets is carried out via a hermetically vibrating ramp.

This at first avoids contamination that might occur by conveyor belts, and secondly an over-pressure avoids contamination from dust of the ambient air.

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The system is installed after the XLPE transport box (ie octabin or bag), and a hopper, before the hopper of the extruder, whereas the compound is fed by gravity.

## Green technology for higher productivity of the production line

As explained at the start, green technologies have to provide both an environmental and financial benefit to the market. The following gives an example of how the green system also increases the productivity of the line.

A very important aspect is always the cable joint, specifically with regard to power cables for offshore applications. The joints where the cables are connected together are critical as each joint contains a potential risk for breakdowns.

Therefore, energy suppliers expect cable manufacturers to deliver large cable lengths in one piece with a minimum amount of joints. Consequently, the aim is to produce energy cables with long lengths with only a few joints while using highly pure raw material.

One solution is to omit the screens. However, this is not a suitable alternative for all cable manufacturers. But, even with the screens remaining in the production, the application of the newly developed inspection and sorting system will give manufacturers the benefit of keeping the screens clean for decisive longer production runs.

In order to catch possible impurities in the XLPE compound before they get into the cable, manufacturers use screens, which are positioned directly in the melt flow after the extruder, before the crosshead, and thus prevent contamination from entering the product.

But degraded XLPE, ie scorches or excessive amounts of contaminants after a certain run time, can clog these screens. Then the melt pressure in the extruder may increase significantly.

Finally, production has to be stopped in order to change the screens, which in turn means that later a joint is required at that position.

Therefore, the system supports cable manufacturers to produce long cable lengths in one piece to avoid cable joints which are the weakest link of the cable. It assures that contamination that would clog the screens is detected and separated before it enters the production process.

As a result, longer production cycles can be run and fewer cable joints are required. Thus, there is a minimised risk of breakdown as only pure material is used for the insulation.

## Conclusion

The introduced system for online inspection and sorting of material represents an innovative solution of green technology for power cables.

By assuring clean material for the production process, plastic material and thus crude oil can be saved, the productivity of the production line improved and the

lifetime of the cable extended. The short payback period of the technology also positively contributes towards consolidated earnings for the company. With this system the quality and functionality of end products in the cable industry is increased significantly.

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# 电力电缆的绿色技术发展——在生产过程中使用洁净耗材

德国西科拉工业电子公司供稿

## 引言

鉴于资源短缺和环境污染越来越严重，绿色技术已成为世界范围内一个日益重要的话题。工业有义务开发可持续的、节能及与环境相容性好的产品和工艺。同时，这些产品和工艺又必须能带来高收益。

原油是一种基础的不可替代资源，它以塑性材料的形式被用于电缆绝缘。西科拉的理念是提供材料联机质量保证的技术解决方案以及使得生产流程变得经济、生态的电缆。通过将测量、控制、检验及分选技术融入生产线，可降低废金属率，进而节省原材料。同时，报废率降低节省的每一升原油及更少的原材料消耗保护了日益减少的可获得资源。

本文介绍了一种检验交联聚乙烯造粒纯度的新型技术解决方案，这些造粒将被用于电力电缆的绝缘过程。在造粒进入挤压流程之前，对其进行检验达到100%纯度并自动筛选出污染颗粒，这在市场上是第一款系统。该系统确保绝缘材料的绝对清洁性，从而对工序链中的绿色技术需求提供支持。

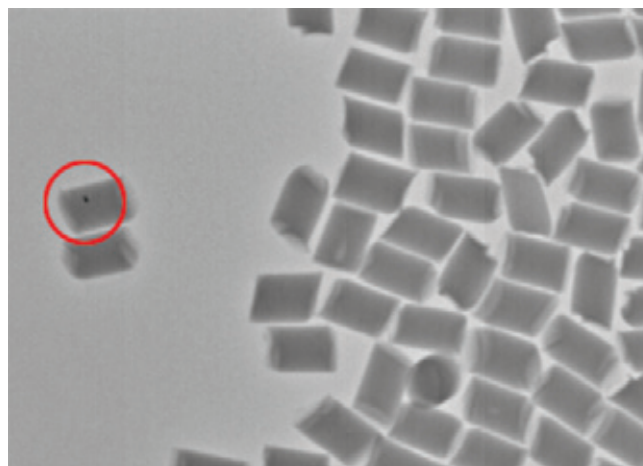
## 电力电缆采用洁净交联聚乙烯混合物的必要性

电力电缆采用的绝缘交联聚乙烯混合物的纯度起着至关重要的作用。绝对纯净混合物能降低故障发生率。50微米的金属杂质都可能造成最终产品的后续成本轻松超过百万。

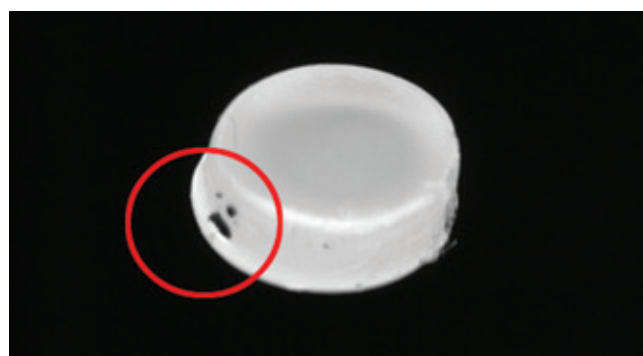
故障海底电缆，例如被杂质损坏的电缆，其维修可能导致停工数周之久。正因为如此，以中国高压电缆标准为例，已加工原材料杂质要求不得超过75微米。据此，在原材料成为最终产品之前，有必要对其进行100%的检测。抽样检验是第一步，但不足以可靠地排除所有的杂质。

今天，在绝缘交联聚乙烯混合物进入电缆之前，电缆制造商便采用筛分机来发现其中的杂质。筛分机直接安装在滑架之前、挤出机之后的熔化流体中。但是，运行一段时间以后，这些筛分机可能被焦痕或过量杂质阻塞。因此，挤出机中的熔体压力可能急剧上升。最后，不得不暂停生产以便更换筛分机，这反过来意味着之后那个位置需要一个新的接合点。

电缆焊接成形的接合点常常非常重要，尤其对海上应用的电力电缆更是如此。这就是为什么电缆制造商致力于供应节点最少的超长电缆，即使因此会引致潜在故障风险。此目标可以通过采用高纯度原材料达成。由于整合筛分机降低了生产线的生产效率，因此有一种办法就是省去筛分机。但这就要求在早期采用可靠的替代方法来侦测和分选出交联聚乙烯造粒中的杂质。使用基于超声波的温度测量来控制熔融液体和温度监控可以避免焦痕产生。



○ 造粒内部金属污染（X射线）



○ 造粒上的“黑斑”（或大或小）（遮光器）

## 洁净耗材的绿色技术解决方案

西科拉检验材料纯度的新技术可使纯度达到100%。该系统整合了X射线技术和一套光学系统。这使得检测出造粒内部及其表面50微米的金属和有机杂质成为可能。这两项技术的融合在市场上独一无二。专门开发的X射线技术能够检测透明和有色（如黑色）造粒以及半导体交联聚乙烯材料的纯度。一套图像处理软件能够识别X射线或光学技术侦测出的杂质，并描述杂质的性质，然后将其自动分离。

X射线技术的基本原理是材料的不同衰减性。交联聚乙烯主要由两个碳原子和四个氢原子组成。碳原子核有六个质子，而

氢原子核只有一个质子。典型的杂质可能是来自挤出机或造粒机的钢铁微粒，主要成分是铁 (FE)。

铁原子核有26个质子。与碳核的6个质子相比，这26个质子的X射线衰减要高许多，因此X射线图像上两种材料有可能形成对照。

至于光学检测，光照起着关键作用。通过使用一种特殊的漫射光营造技术，可以侦测出最小的杂质，其中包括异物，外来造粒或有机杂质。

为了使工业产量达到2,000千克/小时，采用了现代摄像头技术。它们能够拍摄造粒的精准图像，从而侦测出小到50微米的杂质。

为了避免外来杂物污染，我们采用一个密闭的震动坡道传输造粒。这不仅避免了传送带可能造成的污染，而且超压可以防止环境空气中的灰尘。

该系统安装在交联聚乙烯输送容器（如木托或袋子）和一个料斗之后，挤出机料斗之前，而混合物利用重力投料。

## 适用于更高产能生产线的绿色科技

正如一开始说明的，绿色技术必须给市场带来环境益处和经济效益。

下面举例说明绿色系统如何同时提高了生产线的生产率。

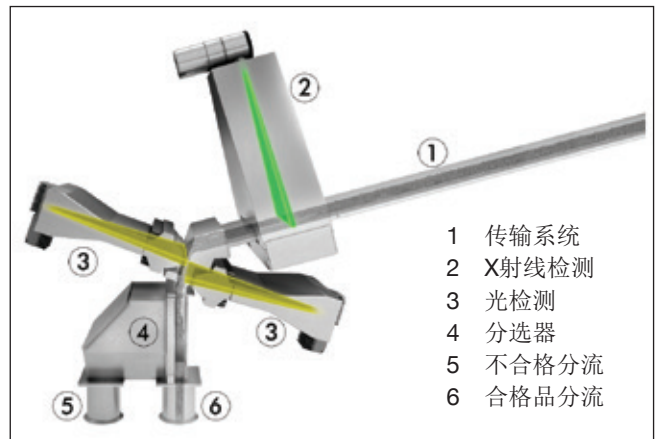
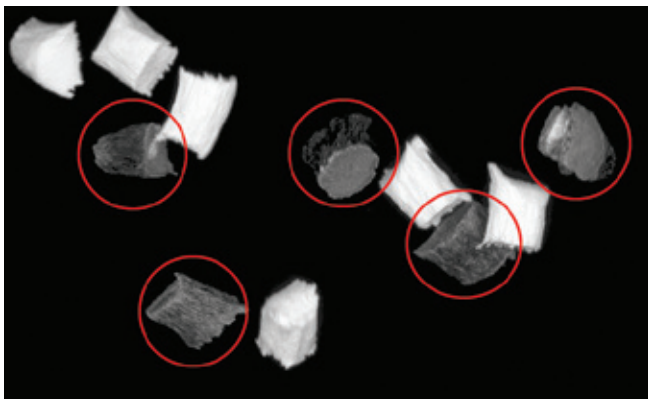
电缆接合点通常是一个非常重要的方面，尤其对海上应用的电力电缆而言。电缆联结成形的接合点之所以关键，是因为每个接合点都隐含潜在故障风险。

因此，能源供应商期望电缆制造商能生产接合点数量最少的完整超长电缆。因此，该目标即是利用高纯度原材料生产超长但接合点很少的电力电缆。

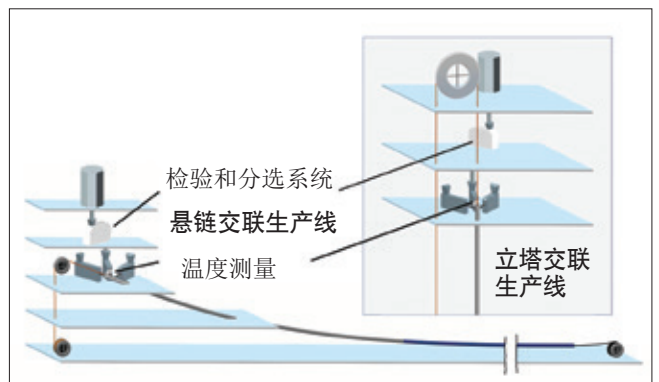
为了在交联聚乙烯混合物进入电缆之前捕捉其中的可疑杂质，制造商使用了筛分机，将其直接安装在滑架之前、挤出机之后的熔化流体中，以便防止杂质进入产品。但是被剥蚀的交联聚乙烯，也就是说运行一定时间以后，焦痕或过量杂质可能会阻塞这些筛分机。挤出机中的熔体压力可能随之急剧上升。最后，不得不暂停生产以便更换筛分机，这反过来意味着之后那个位置需要一个新的接合点。

因此，该系统帮助电缆制造商生产整件超长电缆，以规避电缆接合点——电缆最薄弱环节。它确保在可能阻塞筛分机的杂质进入生产流程之前，将其侦测和分离出来。结果是，生产线运行的生产周期加长，需要的电缆接合点变少。因而，只要使用洁净绝缘材料，故障风险就能降到最低。

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○ 颗粒检测和分选系统内部



○ 造粒检验和分选系统安装

## 结论

本文介绍的原材料联机检测和分选系统代表电力电缆绿色技术的一种创新解决方案。生产过程中确保采用洁净材料，可节省原油，提高生产线的生产率，延长电缆的生命周期。该技术的回收期较短，亦对企业综合收益有着积极的贡献。该系统极大地改进了电缆行业制成品的质量和性能。

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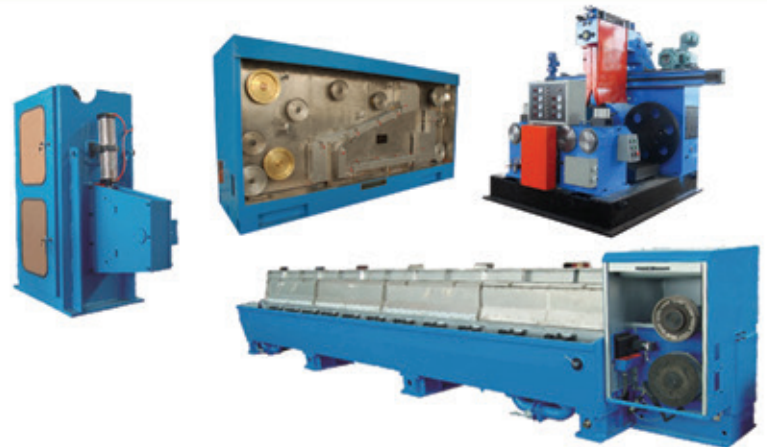
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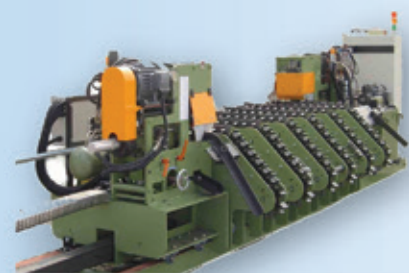
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