

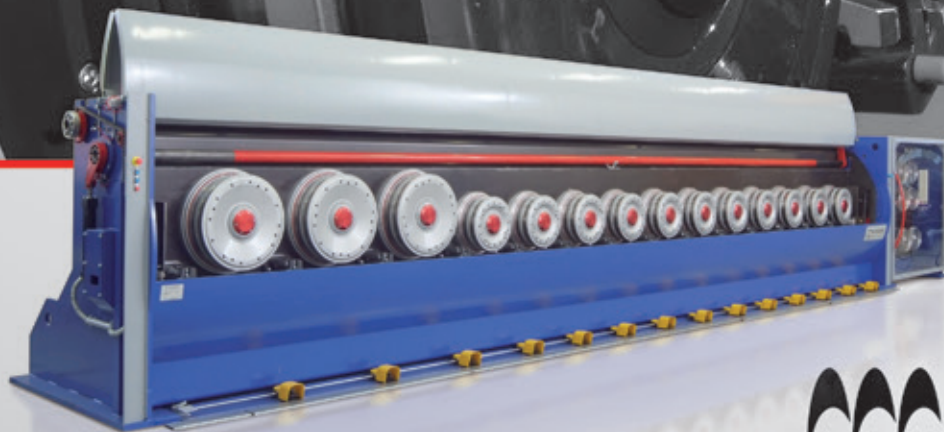
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# Wire & Cable ASIA 线缆

January 2013

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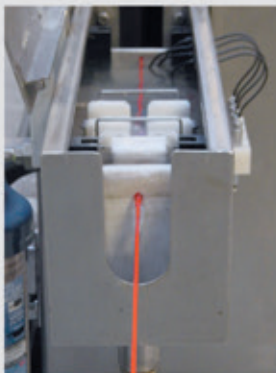
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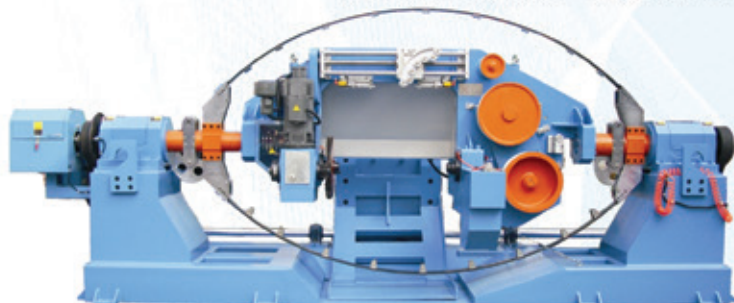
### Company Profile:

Jiangsu Handing Machinery Co., Ltd. Was founded in May 2, 2002. (abbreviation HD), which with an area of more than 16,000 square meters, 150 employees, and the registered fund is RMB 1668.98 million. The products of our company basically adopt and absorb technology of Europe, the innovation, high quality, high yield, and stability, energy saving, simple operation, win praise in domestic and overseas, such as Germany, the United States, India, Russia, Israel, Vietnam, Australia, Zambia, Japan, Iran, Turkey, Thailand and so on. It can also accord to the customers' request and solution, to cooperate and develop different kinds of high precision automation special production line. Our Company owns independent intellectual property and patents. Now we have 18 national patents, many of them are invention patents.

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**Patent no: 2010 2 0522064.5**



Dense type guide line    Roll-in shaped line    Roll-in device    Round guide line



**HD-012500 Double twist bunching machine**  
**Output value more than "tube-type wire-twisting machine" 4.5 times**  
 (aluminum Al) (copper Cu) Conductor diameter: 1.0-3.0mm  
 Stranding section (flexibility strand): 3.5-70mm<sup>2</sup>  
 Compact section (Cu): 3.5-50mm<sup>2</sup>  
 Compact section (Al): 3.5-70mm<sup>2</sup>  
 Max diameter: 10mm  
 Max line speed: 150m/min  
 Twisting diameter: Max Ø10mm



**HD-016000 Double twist bunching machine**  
**Output value more than "frame-type wire-twisting machine" 3 times**  
 (aluminum Al) (copper Cu) Conductor diameter: 1.5-4.8mm  
 Stranding section (flexibility strand): 16-240mm<sup>2</sup>  
 Compact section (Cu): 16-150mm<sup>2</sup>  
 Compact section (Al): 16-240mm<sup>2</sup>  
 Max diameter: 25mm  
 Max line speed: 170m/min  
 Twisting diameter: Max Ø25



**HD-020000 Double twist bunching machine**  
**Output value more than "frame-type wire-twisting machine" 3 times**  
 (aluminum Al) (copper Cu) Conductor diameter: 1.5-4.8mm  
 Stranding section (flexibility strand): 16-240mm<sup>2</sup>  
 Compact section (Cu): 16-240mm<sup>2</sup>  
 Compact section (Al): 16-400mm<sup>2</sup>  
 Max diameter: 35mm  
 Max line speed: 170m/min  
 Twisting diameter: Max Ø35mm



**HD-025000 Double twist bunching machine**  
**Output value more than "frame-type wire-twisting machine" 3 times**  
 (aluminum Al) (copper Cu) Conductor diameter: 1.5-4.8mm  
 Stranding section (flexibility strand): 16-240mm<sup>2</sup>  
 Compact section (Cu): 16-300mm<sup>2</sup>  
 Compact section (Al): 16-400mm<sup>2</sup>  
 Max diameter: 35mm  
 Max line speed: 200m/min  
 Twisting diameter: Max Ø35mm



HD-070+070+050mm PLC three layers co-extrusion extruder



HD-1630/800/1000/1250/1400/1600/1800/2000mm PLC High speed cantilever type single twister (cabler)



HD-0530/800/1000/1250 Taping machine (mica tape)



HD-0630/800/1000/1250C Vertical double-head taping machine



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» This innovation is highly electrifying. «

Stephanie Imöhl,  
Head of Procurement & Logistics at SIKORA AG



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SPARK 6030 HF



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**SPARK 6030 HF**

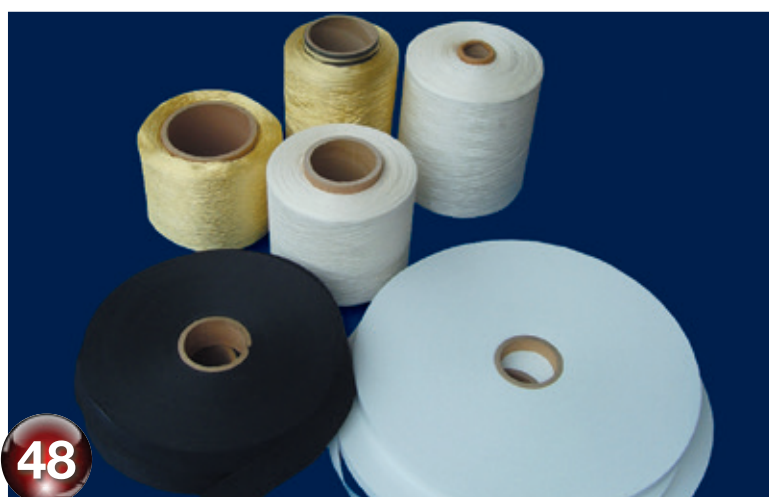
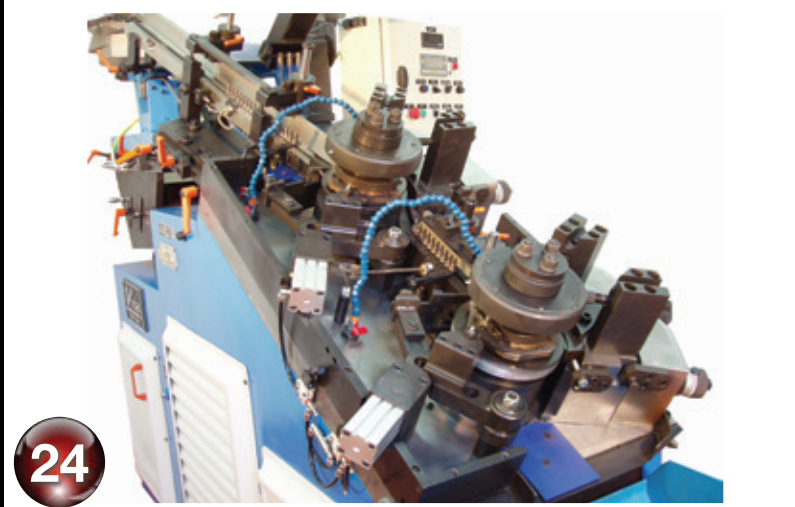
- Integrated display with keypad
- Integrated function test and calibration system for:
  - High-voltage accuracy
  - Max. short-circuit current
  - Function and sensitivity test
  - Corona level detection
- Log file for detected break downs and self-test according to ISO 9000

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## Technical Articles

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By L Caimi, D Ceschiati and M Maritano, Prysmian SpA, Milan, Italy, and E Consonni, Prysmian Cavi e Sistemi Italia Srl, Milan, Italy

**56** 耐火光纤电缆  
作者: 意大利米兰普睿司曼电缆制造公司L Caimi, D Ceschiati, M Maritano 和普睿司曼电缆及系统制造公司E Consonni

## Next Issue

### Features On

- Rod and bar processing lines, including cutting & straightening machines
- Interwire show issue 2013

### Getting Technical

Test methods for cables incorporating reduced bend radius fibres by Wayne Kachmar, ADC Telecommunications, USA

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# Looking forward to a bright 2013

There is a definite theme towards looking to the future in this issue of *Wire & Cable ASIA*, starting with our main story 'Cutting the wire on a new era for SAMP', on the opening of a new factory in Shanghai, China (page 8).

This multi-million Euro investment shows the Italian company's determination to do business with the Asian region, resulting in the building of a 4,500m<sup>2</sup> plant in Malu Town.

The investment continues on page 16 with the news that Datwyler has installed a new communications network in the office of Rathbones wealth management services in Mayfair, London, UK.

The deal saw the German company work for several months on the project.

Our technology section does not escape new themes either, with Videx launching new dual-spindle thread rollers (page 24), giving higher production speeds.

Zumbach has also been busy with the launch of the new Profilemaster PMM 30, 50 and 80 profile and shape measurement systems – the largest in the family (page 26).

New CNC technology also comes to the fore, courtesy of William Hughes (page 28), who has fully automated the production process of double torsion springs.

Many Far Eastern companies will also be keeping an eye on Interwire, the largest wire show in the US, which takes place in April this year in Atlanta, Georgia.

Look out for a special feature in our sister magazine, EuroWire, and don't forget to send in your editorials for the March feature in WCA, 'Rod and bar processing lines, including cutting and straightening machines'.

David Bell  
Editor







# *when and where*

'Skyline of downtown Atlanta, Georgia' [www.bigstockphoto](http://www.bigstockphoto.com) Photographer – Sean Pavone

## April 2013

23-25 April:  
**Interwire 2013** –  
trade exhibition –  
Atlanta, USA  
**Organisers:**  
WAI  
**Fax:** +1 203 453 2777  
**Email:** [info@wirenet.org](mailto:info@wirenet.org)  
**Website:** [www.wirenet.org](http://www.wirenet.org)

## June 2013

25-28 June: **wire Russia**  
– trade exhibition – Moscow,  
Russia  
**Organisers:**  
Messe Düsseldorf GmbH  
**Fax:** +49 211 4560 7740  
**Email:** [info@wire-russia.com](mailto:info@wire-russia.com)  
**Website:** [www.wire-russia.com](http://www.wire-russia.com)

## September 2013

17-19 Sept: **wire/Tube SE**  
**Asia** – trade exhibition –  
Bangkok, Thailand  
**Organisers:** Messe  
Düsseldorf Asia Pte Ltd  
**Email:** [wire@mda.com.sg](mailto:wire@mda.com.sg)  
**Website:**  
[www.wire-southeastasia.com](http://www.wire-southeastasia.com)

## September 2013

16-21 Sept: **EMO**  
**Hanover** – trade exhibition –  
Hanover, Germany  
**Organisers:**  
VDW on behalf of CECIMO  
**Fax:** +49 69 756081 74  
**Email:** [emo@vdw.de](mailto:emo@vdw.de)  
**Website:**  
[www.emo-hanover.de](http://www.emo-hanover.de)

# SAMP

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GRAND OPENING CEREMONY 2012-09-26  
开业典礼 2012-09-26



▲ Dignitaries mark the opening of the new SAMP plant

# Cutting the wire on a new era for SAMP

FORGET cutting the ribbon, cutting copper wire was the order of the day as SAMP Shanghai held a grand opening ceremony for its new plant in Malu Town.

The new plant, designed for manufacturing machinery and equipment for the wire and cable industry, covers an area of 4,500m<sup>2</sup> – doubling SAMP's presence in the region with the new state-of-the-art production unit.

The ribbon cutting ceremony was conducted in an unconventional way – with dignitaries declaring the building open by cutting copper wire, the final product of the machines manufactured in the Shanghai plant.

Several hundred guests from 20 different countries attended the evening, including Mr Wang Chun, Governor of Malu Town, Mr Vincenzo De Luca, Consul General of Italy in Shanghai, Mr Dominique Perroud, managing director of SAMP Shanghai, and Mr Antonio Maccaferri, president of the SAMP Group, who also made speeches to mark the

occasion. Mr Perroud's remarks highlighted the focus of the SAMP Group on the Chinese and ASEAN market: "In recent years, SAMP has experienced an exceptional period of development in China, thanks to our customers' continuous trust and the hard work of our employees, their dedication and expertise.

"Today, a large and absolutely avant-garde production plant brings in a new phase of growth. We aim at giving our customers what they most need and value, in a cost-effective and sustainable way. This new flexible plant will give us the capacity to realise our aggressive growth plans for the Asian market."

Following the ceremony, all guests took part in a gala dinner at the Marriott Hotel in Jiading, where traditional Chinese music shows and dances livened up the evening.

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

STIRRUP BENDER **WG-12D**



STIRRUP BENDER **WG-12B-2**



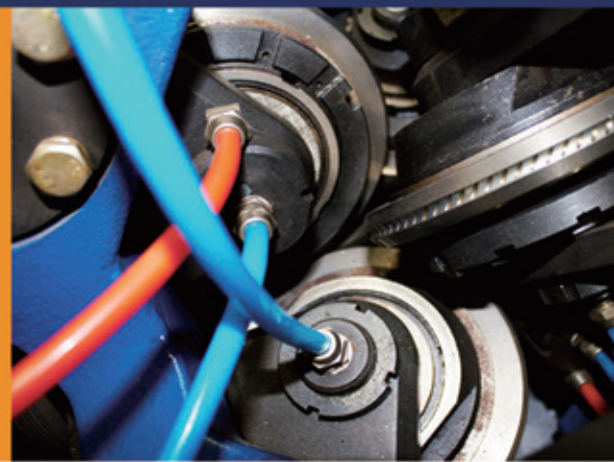
WIRE STRAIGHTENING AND CUTTING MACHINE **GT5-12**



REINFORCING MESH WELDING LINE  
**GWC2500, GWC2800, GWC3300**



WIRE COLD ROLLING MACHINE **LZ-9**



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## New vice president of global sales

Beta LaserMike has appointed Randy Luffman as vice president of global sales.

Mr Luffman will be responsible for further expanding worldwide sales for Beta LaserMike's line of gauging and testing systems. The company's regional sales directors will directly report to Mr Luffman.

Mr Luffman joins from RedZone Associates where he was managing partner for the company's business of designing, recruiting, training, and leading sales organisations for B2B clients.

"Randy brings a wealth of experience



▲ Randy Luffman

and an impressive track record in channel development and global sales growth," said Ken Wright,

president of Beta LaserMike. "He has extensive knowledge of technical sales leadership and possesses a strong background in general management.

"This is important as we continue to expand our commercial footprint across international markets for measurement and control solutions."

Mr Luffman holds a bachelor's degree in chemistry from East Carolina University and has obtained an Executive MBA from Harvard Business School.

**Beta LaserMike – USA**  
Website: [www.betalasermike.com](http://www.betalasermike.com)

## Sun becomes energy thanks to Belgian technology

CHINESE company Sichuan Ruiyu Photovoltaic Materials (ReneSola Group), a leading producer of solar wafers, is using two patenting lines from FIB Belgium with Ecoquench fluidised bed to produce sawing wires.

The results are expected to lead to an increase in production for the company in the near future.

FIB Belgium is a leading supplier of patenting lines within the framework of sawing wires.

New induction solutions are also available for the diffusion process, both in steel cord and in the scope of sawing wires.

**FIB Belgium sa – Belgium**  
Website: [www.fib.be](http://www.fib.be)



▲ The two lines from FIB Belgium

## Japan warned of power shortages

The Japan Times reports that Hokkaido Electric Power Co has estimated demand for electricity may exceed supply by up to 10.4 per cent this winter if the utility experiences problems at its major thermal power plant or other generation facilities.

The capacity of the power transmission line between Honshu and Hokkaido is limited. As a result, the government may introduce a power saving target of around 5 to 10 per

cent for households and businesses in the prefecture (based on peak winter demand in fiscal 2010).

Hokkaido Electric presented its shortfall projections at a government meeting on electricity supply and demand for this winter, when most of the country's nuclear reactors are expected to be offline in light of the Fukushima disaster.

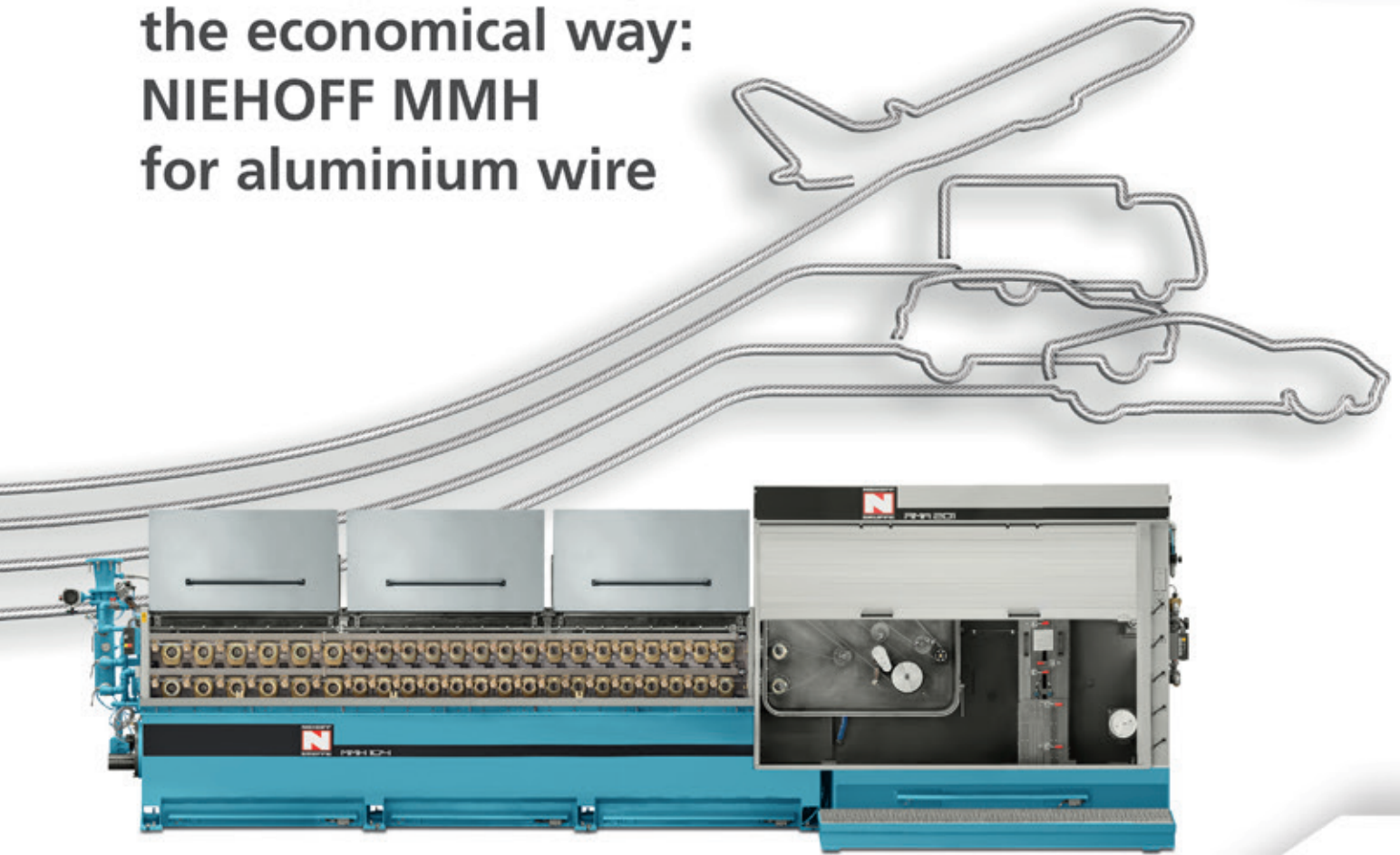
The utility lost an estimated

960,000kW of capacity in fiscal 2011 because of technical problems that affected power generation equipment.

If winter operations go to plan, however, supply is projected to exceed demand by 6.7 per cent in January and 5.8 per cent in February 2013, exceeding the generally accepted minimum of 3 per cent.

**Hokkaido Electric – Japan**  
Website: [www.hepco.co.jp](http://www.hepco.co.jp)

# Boosting efficiency the economical way: NIEHOFF MMH for aluminium wire



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service@niehoff.de

[www.niehoff.de](http://www.niehoff.de)

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## 450km cable link for Philippines

PHILIPPINE Long Distance Telephone Co (PLDT) group is constructing a fibre optic cable system linking Cebu, Bohol and Mindanao. The project will entail 450km of cable from Cebu to Cagayan de Oro City. A little over 300km will be inland, with another 150km of submarine links between Cebu and Bohol and between Bohol and Misamis Oriental.

The facility, initially equipped with 210 Gbps capacity, is due for completion in September 2013.

"We have fast-tracked this particular project because the demand for broadband services – both from consumers and businesses – is growing rapidly in the Visayas and Mindanao areas," said PLDT and Smart head of network and IP systems, Rolando G Peña.

"This will further strengthen our fibre advantage over other carriers. At this point, PLDT and Smart already have over 54,000km of fibre optic cable assets over the country – several times larger than the resources available to the competition," he added.

The project will add a third leg to the two fibre optic highways already connecting Mindanao to the rest of the country via PLDT's domestic fibre optic network.

"By adding a third fibre link to Mindanao, we will be able to continue providing service in Mindanao even if we suffer two breaks in our transmission networks connecting the island," Mr Peña explained.

"This significantly raises the capacity and resiliency of our network and ensures that our subscribers will continue to enjoy high quality service," he added.

**Philippine Long Distance Telephone Co – Philippines**

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

## HTS cable project in Germany

Sumitomo Electric Industries Ltd is producing HT-CA DI-BSCCO high temperature superconducting (HTS) wire for the AmapaCity HTS cable project in Germany.

The project is funded partly by the German Federal ministry of economics and technology, and led by German utility company RWE Deutschland, HTS cable manufacturer Nexans, and major research institution Karlsruhe Institute of Technology (KIT).

The cable to be used in the project is a 1km-long HTS cable with a rating of 40 MVA at 10kV, and will be installed in the downtown area of Essen, Germany.

The use of an HTS medium-voltage cable in Essen is a world first for connecting two transformer substations.

Nexans will complete the installation and commissioning of the HTS cable system at the end of 2013. The cable will then operate as part of the grid for at least two years and the respective experience gained.

This project will not only serve as the basis for continued use of the HTS technology used in a specific grid area, but also create a strong foundation for the expansion of the technology.

Sumitomo Electric has recently started the production of 80km of HT-CA DI-BSCCO wires, planning to deliver them to Nexans by the beginning of 2013.

Sumitomo Electric's HT-CA DI-BSCCO wires have already been used for many HTS cable projects across the world.

**Sumitomo Electric Industries Ltd – Japan**

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

## CMI to supply cold rolling mill to Tezcan

CMI FPE Ltd, one of CMI Industry's Indian subsidiaries, has entered into a new agreement with Tezcan Galvaniz AS, Turkey, for the design, manufacture and supply of a 6 Hi reversing cold rolling mill. This is the second 6 Hi mill of CMI FPE in Turkey.

The mill has a total capacity of 350,000 tons per year. It is suitable for 135 50mm wide coils and 1,400mpm process speed. The mill will be equipped with Level 2 automation and automatic flatness control system and will be commissioned within 17 months.

**CMI FPE – Belgium**

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

## Marine cable for Zanzibar

Ali Mohd Shein, president of Zanzibar, has described the laying of a 100MW submarine cable as a step nearer to resolving the power shortage problems faced by Tanzania's semi-autonomous region.

The 39km cable, stretching from Fumba of Zanzibar's Unguja Island to Kiromoni of Dar es Salaam, was financed by the US government and is part of \$206.5 million package for the Tanzanian energy sector.

Zanzibar's principal secretary of the ministry of water, habitation, energy and land, Mwalimu Ali Mwalimu, added that the project, consisting of 24 communication fibre optic lines and 400 reserved emergency wires, is anticipated to cost in excess of \$28.1m.

## Bahrain grant

The Kuwait Fund for Arab Economic Development (KFAED) has provided a grant of \$250m to the Bahraini government to fund a power project in the kingdom, Kuna has reported. The project involves expanding and upgrading Bahrain's electricity network to reduce power outages and facilitate linking of the network to the GCC grid.

**Kuwait Fund for Arab Economic Development – Kuwait**

**Website:** [www.kuwait-fund.org](http://www.kuwait-fund.org)

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## New plant opens its doors

▲ *The outside of Flymca and Flyro's new site*

FLYMCA and Flyro has opened its new plant.

The site includes new manufacturing facilities for the production of new rotating machinery as well as a stock of used equipment. With a total ground area of 5,000m<sup>2</sup> and also new offices, the company will be able to reach a much higher production capacity of high quality machinery.

Deeply involved in submarine, umbilical and off-shore rotating cable machinery either for power cables and steel ropes, the company still also produces its standard range of stranders such as rigid, tubular, skip, planetary, drum twister, bow cabler, and double twist bunchers.

**Flymca and Flyro – Spain**  
**Website:** [www.flymca.com](http://www.flymca.com)

## Broadband in Qatar

AMEinfo reports an agreement between Qnbn and Ericsson to supply the Qatari nation with high-speed broadband fibre access, and to see the deployment of a broadband network infrastructure using optical fibre (FTTx) in Qatar.

The agreement, signed during the ITU Telecom World event held in Dubai, is described as the largest of its kind for Ericsson in Qatar and will begin rolling out immediately.

Qnbn will deploy a passive network infrastructure, providing equal and open access to operators to offer choice for the end user and leveraging existing and new infrastructure in Qatar.

“Qnbn represents a bold step forward in Qatar’s drive to be a leading knowledge based economy and continuous access to a high speed network is essential for economic development and innovation,” said Mohamad Al-Mannai, Qnbn’s CEO.

“Together with Ericsson we hope to be able to enrich connectivity in Qatar and continue to provide an ideal environment for business development and economic growth.”

**Qnbn – Qatar**  
**Website:** [www.qnbn.qa](http://www.qnbn.qa)

## Wire company to be dissolved

Showa Denko KK (SDK) has announced that its affiliate, Tokyo Aluminium Wire Co Ltd, will be dissolved on 30<sup>th</sup> September 2013.

Tokyo Aluminium Wire Co Ltd has been producing and selling aluminium rough drawing wire for electric cables since April 1965. The company is to be dissolved because demand for aluminium electric cables is expected to remain at a low level.

A resolution to dissolve the company will be adopted at the end of September 2013, and liquidation of the company will be completed by the end of December 2013.

**Showa Denko – Japan**  
**Website:** [www.sdk.co.jp](http://www.sdk.co.jp)

## Software integration

High-performance lubricant specialist Metalube has gone live with SAP ERP. This globally renowned software solution integrates all core business functions across the entire company.

SAP is specifically designed for worldwide organisations such as Metalube and will encompass all areas of the business from accounts, sales and customer relationship management to material resource planning and quality control.

Robert Brown, Chairman, Metalube Ltd says: “This is a significant six figure investment for Metalube and is part of our overall 10 year growth plan, in which we aim to be industry leaders

in technology. SAP will also incorporate our subsidiary companies in Brazil, China and India all under one software umbrella – giving everyone who works at Metalube access to live, real time information.”

Live information will also give valuable benefits to customers with improved response times and up to the minute prices. Metalube will have access to instant traceability of all raw materials and finished products and operatives will now be able to access and process information at any time from hand-held devices.

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



# Roland's full programme on show

AT the EuroBLECH Exhibition in Hanover, Roland Electronic showed its complete programme of automation products for the sheet metal processing industry.

The highlights at the show were:

**UDK20:** Double sheet detection for all metals. UDK20 is especially in the focus of all automotive manufacturers which produce aluminium body parts.

Press shop managers prefer the easy Teach-In and the availability of all modern Fieldbus interfaces such as ProfiNet and Ethernet/IP.

**NS9N-AAD-SC:** Weld seam detection for narrow steel strips. This new sensor detects within milliseconds the arrival of a weld seam and thus protects the tools of fast going punching presses. A must-have for all makers of semi-finished products and metal fittings.

Exhibition innovation: A non-contacting double sheet detection system of new technology. Designed for operation in high-speed press lines with magnet conveyors. Sheets are checked at full conveyor speed and thus double sheet detection does not create any limitations to the press throughput.



**Roland Electronic GmbH – Germany**  
**Website:** [www.roland-electronic.com](http://www.roland-electronic.com)

▲ Both the UDK20, top, and NS9N-AAD-SC were displayed by Roland

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▲ Rathbones' new offices in Mayfair, London

## Laying the foundations for future growth

IN February 2012, Rathbones relocated its London offices to 1 Curzon Street in Mayfair.

The enlarged premises accommodate Rathbones' 300 London-based employees and offer improved facilities for a growing client-base.

The additional space also helped the company to meet the needs of the continued investment in technology and infrastructure, which is essential in providing operational efficiency. A new communications network from Datwyler is part of the improvements made.

Rathbone Brothers Plc is one of the UK's leading independent providers of high-quality, personalised investment and wealth management services for private investors, charities and trustees. This includes discretionary investment management, tax and financial planning and unit trusts. Rathbones has over 700 staff in 11 UK locations and Jersey, and has its headquarters in London.

The new Mayfair offices cover some 44,200ft<sup>2</sup> split over two floors – a 10 per cent increase in floor space on the company's previous premises. The enlarged premises offer improved facilities for a growing client-base, underlying a commitment to the highest levels of client service.

In autumn 2011, Datwyler was asked to supply a Category 6 U/UTP copper and an OM3/OS2 fibre optic solution for this project. Datwyler provided a solution using CU 662 cables and Category 6 KU-T modules for the copper part of the new network. The backbone cabling was realised with high-grade Datwyler FO Indoor fibre optic cable terminated onto LCD patch panels.

The consultant was PTS (Planned Telecom Systems) who specified Datwyler and worked closely with the UK Datwyler team during the installation. Able Data, one of Datwyler's global partners, carried out the work.

The project ran for several months and involved the installation and commissioning of more than 1,000 Category 6 cabinet links and 2,000 RJ45 telecommunication outlets. The fibre backbone links include OM3 Multimode and OS2 single-mode cable, LCD panels and other FO components.

"I was happy with the continued support offered by Datwyler and the assistance in overcoming various challenges on site," said Alex Hudson, Able Data project manager.

**Datwyler – Germany**  
**Website:** www.datwyler.com

# New anti-theft cable solutions

NEXANS has launched its new anti-theft cable solutions at InnoTrans – which promises to help network operators reduce the high volume of copper cables theft along their railway networks.

The solution comprises two approaches to help combat the predominant theft of earthing cables. One focuses on cables that are harder to steal and less financially appealing to thieves, but which maintains full compatibility with the latest industry standards.

The other uses a sophisticated fire resistant copper-tape marking system that helps alert the supply chain to theft. Anti-theft grounding cable is protected by steel and copper mix. Most cables – earthing cables in particular – are constructed entirely from copper, making them extremely valuable and appealing to thieves (due to the high resale value of plain copper).

Nexans' first approach involves reducing the recycle value of the cable whilst maintaining the

performance of the cable. The standard-sized copper core conductor is protected by an outer layer of alternating copper and galvanised steel wires, with a rugged PE (polyethylene) outer jacket.

The steel wires greatly complicate cable cutting with conventional tools, making it harder to steal, while the near impossibility of separating copper from steel reduces its value on the black market to a fraction of pure copper.

These new patented anti-theft earthing cables are fully compatible in size with existing copper cables of equivalent performance, utilising the same tools and cable lugs and with excellent bending properties and form stability.

Typically, after cables have been stolen from railway tracks, thieves burn them to remove the insulation before selling the copper back into the supply chain. Normally, this will destroy all identification markings of the cables, making them impossible to trace.

To counter this problem, Nexans has developed a cable (patent pending) that incorporates a coded fire-resistant copper tape that is intertwined with the cable cores.

The markings make it easy to trace the origins of the stolen copper when it is brought to a scrap dealer. Since the tape is embedded along the length of the conductor, it is virtually impossible for the thief to remove it.

“Copper theft is a worldwide concern that creates serious safety and operational issues for railway networks across the globe, and Nexans is working closely with its customers to develop solutions that can significantly help to address this problem,” said Jean Fehlbaum, vice president marketing infrastructure and industrial projects at Nexans.

Nexans' anti-theft cables are currently being piloted in Europe by a number of network operators.

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



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○ 政府官员宣布新的SAMP工厂开幕

## 切割线迎来新时代

忘记剪彩，切割铜线，正是上海SAMP举行盛大开幕庆祝其马陆镇新厂的特别仪式。

新工厂将为电线电缆工业设计生产机械和设备，占地面积4,500平方米-是SAMP之前占地的两倍，新工厂拥有最先进的生产设备。

剪彩仪式以特殊的方式举行 - 政要宣布以切割铜线的方式开幕，机械生产的最终产品在上海工厂。

来自20个不同国家的数百名嘉宾出席了晚会，包括马陆镇镇长王春(音译)，意大利驻上海总领事，SAMP上海总经理Dominique Perroud先生，SAMP集团总裁Antonio Maccaferri先生，总裁作了发言来纪念这个日子。

Perroud先生的讲话强调了SAMP集团高度重视中国和东盟国家市场。

“近年来，SAMP在中国经历了一个发展的特殊时期，感谢我们客户一如既往的信任，感谢我们的员工努力的工作，他们的奉献精神和专业的业务知识。”

“今天，一个规模和绝对先进的生产工厂将带来新的发展阶段。我们致力于以成本经济和可持续发展的方式，为客户提供他们最需要的和最具有价值的。”

“这种新型灵活的工厂将让我们有能力实现亚洲市场增长的计划。”

仪式结束后，所有客人在嘉定万豪酒店参加了盛大的晚宴，举行了的中国传统的音乐表演和舞蹈使晚会增色不少。

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

### 电线公司将被解散

昭和电工(SDK)日前宣布其附属公司-东京铝线有限公司将在2013年9月30日解散。

东京铝线有限公司自1965年4月以来就一直为电缆生产和销售铝粗拉丝线。

由于铝电缆的需求预计保持在较低水平，所以公司将被解散。

2013年9月底将通过一项决议解散公司，2013年12月底完成公司的清算。

**Showa Denko - 日本**  
网址: [www.sdk.co.jp](http://www.sdk.co.jp)



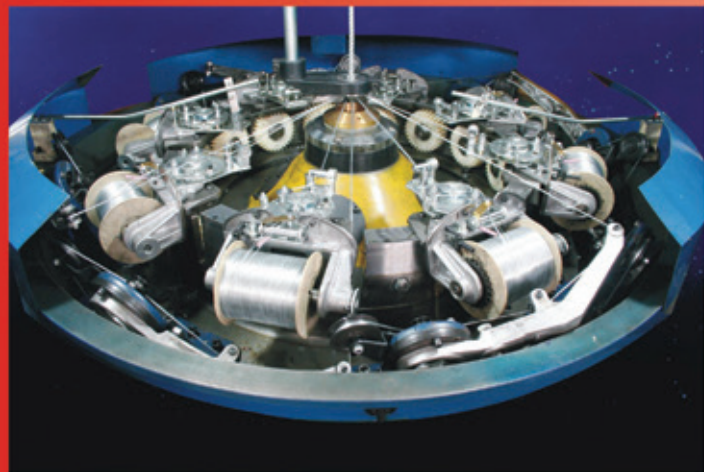
# NYDG

上海南洋电工器材有限公司主要从事于电线电缆机械的设计和制造，现主要产品为编织机，绕包机，印字机。其中，编织机按编织线径由小到大分为：轻型、标准型、重型。



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GSB-1Q型16锭高速编织机是目前我公司的最新产品。该机型适用于编织极细丝，应用行业包括微型电脑，移动通讯设施，航天航空及军事领域等。该机型的主要技术指标达到国内领先水平，接近国际先进水平，每分钟转速范围0~120米，无极调速；由交流伺服系统控制牵引。编织节距可在2~60mm范围内以精度0.1mm无级任意选择；可编织0.03~0.05mm的极细铜丝；恒张力收放线机构确保编织过程中的张力均衡；机器工作噪音 $\leq 75$ 分贝。



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○ Flymca and Flyro新工厂室内外一览

## Flymca and Flyro新开工厂

工厂包括新型旋转机械的生产设施和二手设备的存放。包括新建的办公室，总占地面积达5,000m<sup>2</sup>，公司高质机械的产能将得到显著提高。公司专业生产海底、地面和离岸电缆机械，用于生产电力电缆和钢丝绳，公司还生产标准系列绞线机，比如，管式、跳跃式、行星式和工字轮捻线机，弓型成缆机，双捻束线机。

**Flymca and Flyro – 西班牙**  
网址: [www.flymca.com](http://www.flymca.com)

### 软件集成

高性能润滑剂专家Metalube和SAP ERP建立合作关系。SAP ERP，全球闻名的软件解决方案集成了整个公司所有核心业务的功能。SAP专门服务于世界各地的组织，比如Metalube，涵盖所有的业务领域，从财务、销售和客户关系管理，到物料资源规划和质量控制。Metalube 公司主席Robert Brown说：“对Metalube 来说，这是有着重要意义的六位数投资，也是我们10年整体增长计划的一部分，我们将致力于成为行业技术的领导者。SAP将整合我们在巴西、中国和印度的子公司，在同一个软件包下运作 - 让每个在Metalube工作的员工能够访问实时信息。”

实时信息能改进响应时间，甚至能实现分钟价格，因此会给客户带来有价值的效益。Metalube能够即时追踪所有原料、成品，操作工任何时候使用手持式装置都能够访问和处理信息。Robert Brown补充说：“优势是显著的 - 我们现在可以追踪批号；谁签订了什么；在何时何地；库存什么产品；什么正在生产，什么可用，只需简单触摸一个按钮。最终，我们的供应链无缝对接。”

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

## 新任副总裁

Beta LaserMike已任命Randy Luffman为全球销售副总裁。Luffman先生将负责为Beta LaserMike系列测试和计量系统扩大在全球的销售。公司的区域销售总监直接向 Luffman先生汇报。

Luffman先生加入RedZone联营公司，他管理公司的设计、招聘、培训，并负责服务于B2B客户的销售部门。

“Randy带来了丰富的经验，在渠道开发和全球销售增长方面业绩喜人，” Beta LaserMike总裁Ken Wright说。

“他拥有广泛的技术销售领导经验，在一般管理方面具有强大的背景，这对我们继续扩大测量控制解决方案在国际市场的商业足迹是至关重要的。”



○ Randy Luffman先生

Luffman先生持有东卡罗来纳大学化学学士学位，并获得了美国哈佛大学商学院的工商管理硕士学位。

**Beta LaserMike – 美国**  
网址: [www.betalasermike.com](http://www.betalasermike.com)

## 日本警告说电力短缺

日本时报报道称，北海道电力公司估计如果公用电站在大型火电厂或其它发电设施遇到问题，今年冬天电力需求量将超过电力供应量10.4%。

本州和北海道之间的电力传输线的容量是有限的。因此，政府可能会在县范围内推出5到10%的家庭、企业节电目标(根据2010年冬季需求高峰)。

北海道电力公司在政府会议上提出了今年冬天电力供给和电力需求之间存在一个差额矛盾，同时，由于福岛灾难，国家的大多数核反应堆预计都离线运作。公用电力在2011年由于技术问题影响了发电设备，失去了约96万千瓦的能量。如果冬季运营进入计划，那么2013年一月份供给将超过需求6.7%，二月份超过5.8%，超过普遍接受最低的3%。

**Hokkaido Electric – 日本**  
网址: [www.hepco.co.jp](http://www.hepco.co.jp)

## 再分配生产线交付英国公司

PCT最近向英国一家公司提供了30吨的托轮再分批生产线，该英国公司是全球主要地面线缆供应商。托轮再分批生产线能够在两个卷轴之间复绕软管，允许用户提供从一个工字轮到另一个工字轮的特定长度，或者重绕严重受损的工字轮。该生产线包括两个面对面的收/放线装置，一个单独的移动装置控制收线工字轮上的产品搓捻。生产线能够两个方向运行。

托轮能够从一台机器到另一台机器智能化交换导线装置，因此，任一机器都可以成为收线装置。导线装置还包括磁带拉力自动调整装置，为调整放线装置的速度提供反馈。该装置适合于直径达4米，宽度2.6米，重达30,000千克的工字轮。再分配生产线完全符合欧盟卫生和安全标准，具有诸多安全特征。

这包括安全栏，完全包围生产线和入口点的传感器，自动降低缠绕速度，保证操作者在工作区域内的安全。PCT总部设在英国的纽卡斯尔，在美国和中国拥有子公司，是一家私营独资企业。公司设计和供应卷绕、处理和包装解决方案，用于柔性产品，如塑料管、海底管状电缆、电力电缆、输油管线和钢丝绳。

**PCT Ltd – 英国**  
网址: [www.pipeoil.co.uk](http://www.pipeoil.co.uk)

# 新的电缆防盗解决方案

耐克森在InnoTrans展会上推出其新型防盗窃电缆解决方案 - 将帮助网络运营商降低铁路沿线大量铜缆被盗窃的风险。

该解决方案包括两种方法, 协助打击猖獗盗窃地面电缆的行为。方法一: 致力于电缆很难被窃取, 经济收益低, 对盗贼来说不具有吸引力, 但保持完全兼容最新的行业标准。

方法二: 使用复杂的防火铜胶带标记系统, 为盗贼供应链提供警示。防盗接地电缆通过钢和铜混合提供保护。大多数电缆 - 特别是地面电缆 - 完全由铜构成, 这使得电缆价值高, 很吸引盗贼(因为普通铜的转售价值就很高)。

耐克森的第一种方法包括降低电缆的回收价值, 同时保持电缆的性能不变。标准尺寸铜芯导体由铜和镀锌钢丝交替的外层保护, 并且有坚固的PE (聚乙烯) 外护套。

钢丝大大复杂化了使用传统工具的电缆切割, 使得电缆很难被窃取, 而且从钢中分离铜几乎不太可能, 一小部分纯铜在黑市上所获取的利益也甚微。

这些新的专利防盗地面电缆完全兼容目前同等性能的铜缆的尺寸, 使用相同的工具和电缆接线片, 具有优异的弯曲性能和形

状稳定性。通常情况下, 铁轨上的电缆被盗之后, 盗贼在出手之前都会将绝缘层烧毁。一般情况下, 这会破坏所有的电缆的识别标记, 无法追查。

为了解决这一难题, 耐克森开发了的新电缆(专利申请中)含有电缆芯交织在一起的编码防火铜带。当被盗电缆一旦被卖给废品商, 很容易追踪到铜的来源。因为沿着导线长度嵌入了铜带, 盗贼几乎不可能将其去除。

“铜盗窃是全球共同关注的问题, 造成了全球铁路网络遭受严重的安全和运营隐患, 耐克森与客户紧密合作, 开发能解决此难题的解决方案,” 耐克森基础设施和工业项目营销副总裁Jean Fehlbaum先生说道。

“回收是铜供应链的重要环节。但很难追溯回收铜的来源。然而, 我们相信这些新技术具有很好的潜力, 能够让铁轨上的电缆减少被盗的可能, 同时, 一旦被窃取的铜进行交易, 提供强大的新型识别工具。”

耐克森的反盗窃电缆正被欧洲的一些网络运营商试用。

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


## HTS电缆项目落户德国

住友电气工业有限公司为德国AmapaCity HTS电缆项目生产HT-CA DI-BSCCO高温超导线(HTS)。项目部分资金来源于德国联邦经济和技术部, 由德国公用事业公司RWE Deutschland、HTS电缆制造商耐克森和主要研究机构卡尔斯鲁厄理工学院(KIT)共同负责。

用于该项目的电缆为1千米长的高温超导电缆, 功率10千伏40兆伏安, 将安装在德国埃森市中心。使用在埃森的中压HTS电缆世界一流, 连接两个变电站。耐克森将在2013年底完成HTS电缆系统的安装和调试。电缆将作为电网的组成部分至少运行两年, 并获得相关经验。该项目不仅可以作为HTS技术在特定电网领域继续使用的根据, 还可以为技术的扩展开创坚实的基础。

住友电气工业有限公司最近开始生产80千米的HT-CA DI-BSCCO电线, 计划在于2013年初交付给耐克森。住友电工HT-CA DI-BSCCO电线已被应用于世界各地许多HTS电缆项目。

**Sumitomo Electric Industries Ltd**  
- 日本  
网址: [www.sumielectric.com](http://www.sumielectric.com)



## 上海申辰线缆设备有限公司

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Shanghai Shenchen Wire & Cable Equipment Co., Ltd(SCH) is located in the city of Shanghai in China, we are a world wide leader in the manufacture of cold welding machinery. Our products are sold internationally including Germany, Brazil, Britain, Russia, Turkey, India, Indonesia, Malaysia, Thailand, Vietnam, Japan, Korea, Egypt and the USA. Our customer service and products are provided to the highest standards. Our products are approved by Safenet Limited and have conferred the CE certificate.

Our products can weld Copper(Cu)wire from Ø0.06 -Ø25mm, Aluminum (AL) wire from Ø0.08-Ø35mm; and flat strips maximum width 33 mm, minimum thickness 0.45mm.

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○ Rathbones伦敦梅费尔新办事处

## 为未来发展奠定基础

2012年2月, Rathbones将其伦敦办事处迁移至梅费尔柯曾街1号。扩容后的办事处能够容纳Rathbones 300名伦敦员工,并为不断增长的客户群提供更完善的设施。额外的空间也将有助于公司满足在技术和基础设施方面持续投资的需求,对于提供运营效率来说这是必要的。向Datwyler购买的新通信网络也是所做的改进之一。

Rathbone Brothers Plc是英国领先的高品质独立供应商之一,为私人投资者、慈善机构和信托机构提供个性化的投资和财务管理服务。这包括全权委托投资管理、税务、财务策划和单位信托基金等服务。Rathbones在英国的11个地点和新泽西州拥有超过700位员工,其总部设在伦敦。

新的梅费尔办事处分为两层楼,面积共计44,200平方英尺-建筑面积较之前增加了10%。扩大的办公地点为不断增长的客户群提供更好的设施,为更高水平的客户服务奠定了基础。2011秋天, Datwyler为该项目提供了6类U/UTP铜和OM3/OS2光纤解决方案。Datwyler供应的解决方案使用CU 662电缆,6类KU-T模块用于新网络的铜件。高级Datwyler FO室内光纤电缆,到达LCD配线架的终端实现主干布线。顾问PTS (Planned Telecom Systems)指定Datwyler,在安装过程中与英国Datwyler团队紧密合作。Datwyler的全球合作伙伴之一Able Data开展这项工作。

该项目历时数月,涉及超过1,000个6类箱式链接和2,000个RJ45电信网点的安装和调试。光纤骨干网链接包括OM3多模和OS2单模电缆、LCD面板和其它FO组件。

“我和高兴, Datwyler继续为我们提供支持,为我们在现场克服种种困难提供援助,” Able Data项目经理Alex Hudson说。

**Datwyler – 德国**

网址: [www.datwyler.com](http://www.datwyler.com)

## 海底电缆供应给桑给巴尔

桑给巴尔总统Ali Mohd Shein描述道, 100MW海底电缆的铺设意味着我们向解决电力短缺的目标迈进了一步,目前坦桑尼亚半自治地区正面临缺电。39千米长的电缆,从桑给巴尔的安吉迦岛Fumba延伸到达累斯萨拉姆的Kiromoni,由美国政府资助,部分资金大约2.065亿美元用于坦桑尼亚能源部门。

桑给巴尔水、生活环境、能源和土地部门首席秘书Mwalimu Ali Mwalimu补充说,该项目包括24个通信光纤线路和400个预留的紧急电线线路,预计成本超过2,810万美元。

## 卡塔尔宽带

AMEInfo报道称, Qnbn和爱立信签署协议,向卡塔尔国家提供高速宽带光纤接入,共同见证卡塔尔宽带网络基础设施采用光纤到户(FTTx)。

该协议是在迪拜举行的ITU世界电信展期间签署的,作为爱立信在卡塔尔的最大项目,将立即启动。Qnbn将部署一个被动的网络基础设施,为运营商提供平等开放的接入,为最终用户提供更多选择,在卡塔尔充分利用现有的和新的基础设施。

“Qnbn表示卡塔尔大胆向前迈进了一步,以知识为本,经济和持续进入高速网络时代,这对于经济的发展与创新也是必要的,” Qnbn公司CEOMohamad Al-Mannai说。

“与爱立信一起合作,我们希望能够丰富卡塔尔的连接,为企业的发展和经济的持续增长继续提供一个理想的环境。”

**Qnbn – 卡塔尔**

网址: [www.qnbn.qa](http://www.qnbn.qa)

## 巴林获补助金

科威特阿拉伯经济发展基金(KFAED)给巴林政府一笔2.5亿美元的赠款,以资助该王国的发电项目,库纳报告。项目涉及扩充和升级巴林的电网,以减少停电,方便网络和GCC电网的连接。

**Kuwait Fund for Arab Economic Development – 科威特**

网址: [www.kuwait-fund.org](http://www.kuwait-fund.org)

## CMI提供冷轧机给Tezcan

CMI FPE Ltd是CMI Industry的印度子公司,与土耳其Tezcan Galvaniz AS签署了新合同,为其设计制造和供应6辊可逆冷轧机。这是CMI FPE在土耳其的第二台6辊压机。该机器年产能350,000吨,适合于135 50毫米的宽线圈和1400mpm的加工速度。机器将配备等级2自动化和自动平直度控制系统,将在17个月内投产。

CMI FPE Ltd总经理Jean Gourp说:“在土耳其,6辊轧机的第二份合同证明了土耳其市场对CMI FPE 轧机生产的冷轧钢可靠性和品质的认可。这也是CMI和Tezcan良好业务关系的开始。”

**CMI FPE – 比利时**

网址: [www.cmigroupe.com](http://www.cmigroupe.com)



# 完整的程序化产品亮相EuroBLECH展会

在汉诺威EuroBLECH展会上, Roland Electronic展出其完整的程序自动化产品, 用于钣金加工行业。

参展亮点:

**UDK20:** 双张检测适用于所有的金属。UDK20受到生产铝车身分件的汽车制造商的特别关注。

冲压车间管理人员更喜欢简单的示教和在场的所有现代Fieldbus总线接口, 如ProfiNet和Ethernet/IP。

**NS9N-AAD-SC:** 焊缝检测适用于窄带钢条。这种新的传感器在几毫秒内探测焊缝的到达, 从而保护工具快速持续冲压。NS9N-AAD-SC是所有半成品和金属配件制造商的必备产品。

**技术创新:** 非接触式双张探测系统的新技术。设计用于带有磁铁输送机的高速冲压生产线。金属片在完全的输送速度下检测, 因此双张检测对冲压的吞吐量没有任何限制。

**Roland Electronic GmbH – 德国**  
网址: [www.roland-electronic.com](http://www.roland-electronic.com)



○ Roland 展出UDK 20和NS9N-AAD-SC

## 菲律宾电缆

菲律宾长途电话公司(PLDT)正在建立一个光缆系统, 连接宿雾、薄荷岛和棉兰老岛。项目将使用450千米电缆, 从宿雾连接到卡加延德奥罗市。大概300千米多一点使用在内陆, 其余的150千米用于从宿雾到薄荷岛, 从薄荷岛到东米萨米斯的海底连接。该设施初始阶段具有210 Gbps的容量, 计划于2013年9月完成。

“在米沙鄢群岛和棉兰老岛地区, 由于个人消费者和企业对宽带服务的需求快速增长, 因此我们快速跟踪了这一特定的项目,” PLDT和Smart网络与IP系统负责人Rolando G Peña说。

“这将进一步强化我们的光纤比其他运营商更具有优势。在这一点上, PLDT和

Smart在全国各地已拥有超过54,000千米的光纤 - 数倍于现有的竞争对手,” 他补充说。该项目将为PLDT国内光纤网络, 目前已连接棉兰老岛到该国其它地区的两个光纤高速公路提供第三站。

“通过增加第三条光纤连接棉兰老岛, 我们将能够在棉兰老岛提供服务, 即使我们连接岛屿的传输网络遭遇两次中断, 也能够继续提供服务,” Peña解释说。“这大大提高了我们网络的容量和永续性, 并确保我们的客户将继续享受高品质的服务,” 他补充说。

**Philippine Long Distance Telephone Co – 菲律宾**  
网址: [www.pldt.com](http://www.pldt.com)

## 新炼炉销往 Arcelor Mittal

Tenova Melt Shops与Arcelor Mittal 签署合同, 负责提供300吨的钢包精炼炉, 设备将在位于比利时根特的Arcelor Mittal工厂(ex-Sidmar)复合循环运行, 专注于为汽车工业生产高品质钢材。

该交钥匙项目于2013年12月投入运营。

2006年Tenova Melt Shops就向Arcelor Mittal 波兰栋布罗瓦工厂提供了320吨的双钢包精炼炉, 巩固和提高了Tenova Melt Shops的技术。

**Tenova – 意大利**  
网址: [www.tenovagroup.com](http://www.tenovagroup.com)

## 比利时技术让阳光变成能量

中国公司四川瑞昱光伏材料有限公司(浙江昱辉集团)是领先的太阳能硅片生产商, 正使用来自比利时FIB的两条带有Ecoquench流化床的专利生产线, 生产切割线。

预计在不久的将来公司的产能将有显著提升。

比利时FIB是切割线专利生产线的领先供应商。新的感应解决方案也可用于扩散加工, 无论是钢帘线还是切割线。

**FIB Belgium sa – 比利时**  
网址: [www.fib.be](http://www.fib.be)



○ 比利时FIB提供的两条生产线



▲ The Videx dual-spindle thread rollers

## Dual-spindle thread rollers

THE new Videx dual-spindle thread rollers are designed to roll threads above and below the shoulder. The threads can be either different or similar.

The two heads are independent, eliminating influence of one on the other, enabling use of simple and economical rolling dies.

Advantages include:

- Independent adjustments assure better quality of each thread
- Higher production speeds. The second operation does not slow down the machine
- Less handling, eliminating possibility of mixing parts
- Inexpensive tooling and full control of the quality of each rolling operation. Tools are replaced in minutes.

Both stations have controlled thread rolling start, hydraulic clamping, zero-taper mechanism for parallel threads and micrometric thread pressure screws as well as an AC speed controller, automatic air

shut-off and two operator control panels.

**Videx Machine Engineering Ltd – Israel**  
**Website:** [www.videx.co.il](http://www.videx.co.il)

### Upgrade to software series

General Inspection, LLC has released an update to its software for the Gi-360 sorting machine. This new 3600 Virtual Tilt virtually corrects for the cosine error as a result of the relationship of the head to the shank and length of the part as it slides down the V-Track.

This allows for more accurate images of the part to catch smaller defects and measure more features. This is state-of-the-art software, and is not available on any other sorting machine. All new Gi-360s will have this new software feature as standard and current customers can call to schedule their upgrade.

**General Inspection LLC – USA**  
**Website:** [www.generalinspection.com](http://www.generalinspection.com)

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▲ The latest addition to the Profilemaster family

# In-line profile and shape measurement and monitoring

THE new Profilemaster® PMM 30, 50 and 80 profile and shape measurement systems are the latest models available in Zumbach's Profilemaster® family, enabling measurement systems using light section principle and machine vision.

The design is focused to achieve the best price/performance ratio for all profiles, tubes, cables made of plastic, rubber, metal, steel and other materials.

Additionally, the Profilemaster® PMM 30/50/80, fulfils the demands of the market for compact, industrial-proof and cost-effective systems.

As a pioneer of on-line measurement committed to extensive research and development activities, Zumbach Electronic has continuously grown as a worldwide manufacturer of on-line measuring and control systems.

Top priority at Zumbach Electronic remains customer relationships through local presence combined with proven high quality products, services, personal consultations and support.

Customer benefits include:

- Increases the accuracy of end product
- Improved process control
- Scrap reduction
- Savings on raw material and post processing costs
- Increased product quality = higher customer satisfaction
- Quick and easy installation on existing production lines
- Seamless integration of the PC-based system with user's network

**Zumbach Electronic AG**  
– Switzerland  
Website: www.zumbach.com

# Insulating and sheathing lines from India

SUPERMAC Industries (India) Limited is a leader in manufacturing extrusion lines. Since 1974 the company has manufactured different kinds of insulating and sheathing lines for various cable sectors (power cables, optical fibre cables, house wiring, control cable, etc).

Supermac specialises in providing customised solutions, taking care of all sorts of customer requirements, and has maintained a leading edge in technology by meeting customers' demand for processing new materials.

Supermac has in-house automation, software developments, panel making and testing facilities for extrusion of cable sheathing. Its qualified engineers are fully equipped in installation and commissioning of plants.

The state-of-the art facilities are equipped with international and indigenous machinery to carry out the process of manufacturing as per the customer requirements.

It has implemented a customised ERP system to achieve increased productivity, lower costs, and satisfied customers.

Recently Supermac has gained product approval for the CE Mark, enabling it to export to European market.

The company is fully geared up to manufacture the next generation cable extrusion lines by adopting new techniques to manufacture the latest machinery, comparable with the best in the world.

The product range includes:

- Insulation line for house wiring and control cables
- Insulation line and sheathing line for power cables
- Triple extrusion line for SIOPLAS (XLPE) cable
- CCV line for LV/MV power cables up to 132 KVA
- HCV line for rubber/EPDM/silicon cables
- Extruders from 30mm to 175mm
- Cross-head
- Haul-off caterpillar
- Capstan
- Take-up and pay-off from 630mm to 4,500mm

**Supermac Industries (India) Ltd – India**  
Website: [www.supermacindia.com](http://www.supermacindia.com)



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# The next generation

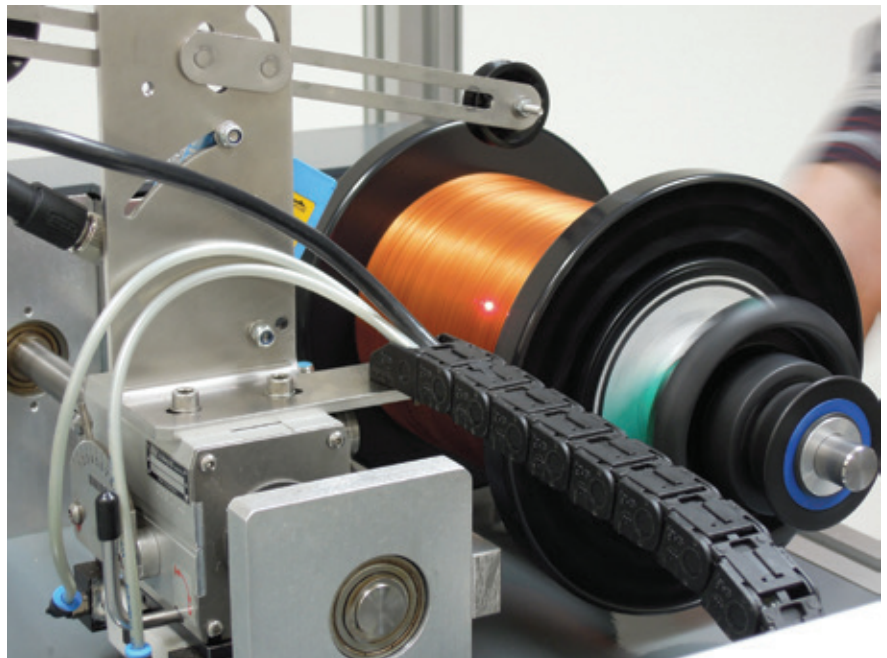
IN 2004, Uhing added the non-contact FA flange detecting system for rolling ring drives to its product range. This economically priced solution that automatically corrects the reversal points of rolling ring traversing gears relieves the employees in production companies of manual adjustment work and thus reduces time requirements and costs.

Uhing has now launched the second generation of this product – equipped with new sensor technology and expanded function range.

It often happens that a new spool is not in exactly the same position as the previous one although it has the same width, or that the spools have wide width tolerances. The non-contact FA flange detecting system corrects the reversal point of the traversing system automatically. This function soon made the FA an indispensable device for companies whose products have to be wound – in particular wire or cable producing companies.

A new feature is the product's ability to automatically detect the width of spools and the flange type – straight or other than 90 degrees. The flange detecting system adapts to the new position and width if a spool with a different width is used after spool change.

The most significant novelty of the FA II



▲ Second generation from Uhing

is the laser sensor. It replaces the previously applied light barrier detection system. The sensor detecting the flange is mounted on the traversing system. Within a specified range, it captures the offset between the surface of the spool core and the maximum permissible height stored in the system software.

During winding, the flange detecting system continuously measures the

respective offset and compares it with the reference offset. A reversal is triggered when the permissible height deviation also stored in the system is exceeded. A display indicates the measured height or the permissible height deviation.

**Joachim Uhing KG GmbH & Co – Germany**  
**Website:** [www.uhing.com](http://www.uhing.com)

## Latest CNC technology for double torsion springs

While some spring manufacturers struggle with the complex shape of double torsion springs, William Hughes has invested in the latest CNC technology machines to fully automate the production process.

For many applications, double torsion springs perform better than single and as a result, they are widely used in the automotive industry. Typical applications include door handles, seat adjustment mechanisms and console lids.

When a manufacturer of seat and car interior parts needed a double torsion spring for the door handles of a popular small car, it approached William Hughes as one of its preferred suppliers. The application engineers at William Hughes used their knowledge



▲ A range of springs from William Hughes

and expertise to design the spring to meet the exacting specification of the car manufacturer, whilst ensuring that the spring would be easy to manufacture using its CNC machinery.

The spring is used inside the car to return the handle to its normal position and is specially designed to make

assembly into the car mechanism easy. Despite the complex shape of the central section of the double torsion spring, very little tooling was required.

By making the spring in two fully automated stages, the difficult central section was easily formed to provide a spring that is compact, cost effective and which encompasses the right performance characteristics and durability.

The final stage of the process is to finish and protect the springs using an organic and environmentally friendly anti-corrosion paint containing zinc flake.

**William Hughes Ltd – UK**  
**Website:** [www.wmhughes.co.uk](http://www.wmhughes.co.uk)

# Cables

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# CrimpCenter 36 S: Better than before

THE Schleuniger CrimpCenter 36 has brought new technologies to the high precision stripping and crimping market resulting in high performance and flexibility at a competitive price.

The new CrimpCenter 36 S replaces the CrimpCenter 36 with improvements and a stylish new look. Systems throughout the machine have been upgraded to enhance precision and

performance. The design has been refined for better appearance and functionality.

The CrimpCenter 36 S still accommodates up to six processing stations to give application flexibility. Efficient motor programming and internal ethernet communication coupled with a maximum feed rate of 8m/sec results in some of the highest production rates on the market.



▲ The new CrimpCenter 36 S from Schleuniger

The machine features a touch screen monitor and the intuitive Easy operating software. The combination makes programming simple enough so that even novice operators quickly feel comfortable. New quick-change mechanisms, wire feed assist and integrated lighting make set-up times fast and simple. The CrimpCenter 36 S is compatible with Schleuniger's innovative ToolingShuttle system for fast change-overs of the applicator and terminals.

As with all CrimpCenter models, the CrimpCenter 36 S boasts standard TCP/IP protocol for easy machine networking. The optional Easy ProductionServer software can help optimise order processing and allows clients to monitor and gather production data from practically anywhere in the world.

Service is made simple with online documentation, standard components, and an enhanced version of Schleuniger's Easy ErrorExpert. All product documents can be accessed from the touch screen monitor saving valuable time for service technicians. Standard components keep costs low and availability high.

For troubleshooting, Easy ErrorExpert provides detailed pictures and helpful hints on how to resolve any issues. When necessary the Schleuniger service team will be there to help.

**Schleuniger Inc – USA**  
Website: [www.schleuniger-na.com](http://www.schleuniger-na.com)

## Lightweight and robust

Tsubaki Kabelschlepp offers the lightweight and low-noise all-round 1320 cable and hose carriers from the Uniflex Advanced series as a particularly robust version for rough application environments.

This cable and hose carrier with interior widths of 38mm and 50mm offers extra flexibility wherever extremely high torsion rigidity and stress-resistance is a must. The plastic carrier, which was awarded the Eco-Link label, fulfils the most stringent of environmental-compatibility standards set out by Tsubaki Group.

The 1320 models of the Uniflex Advanced series were originally developed as a custom solution to safely route bend-proof hydraulic hoses through the extendible supports of a concrete transporter. The limited construction space required a particularly compact cable carrier with small bend radii and a favourable ratio of interior to exterior width.

**Tsubaki Kabelschlepp – Germany**  
Website: [www.kabelschlepp.com](http://www.kabelschlepp.com)



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# Development project for pellet inspection

THE cleanliness of PE material is gaining in importance at higher cable voltage classes. In particular, alternative wind energy generation in the off-shore area requires a cable network with the minimum number of joints. In order to achieve this goal, long production cycles should be run. Where production lines formerly ran from Monday to Saturday, now a continuous production run of 10 to 20 days is common.



▲ Sikora's development project "Pellet Inspection" ensures flawless pellets before starting production

Long production cycles are achieved, for example, by leaving out the screens before the crosshead in order to ensure a constant material flow. However, the manufacture without screens also results in contaminations passing directly into the cable insulation rather than being caught.

Hence there is the need for other measures to detect possible contaminations in the pellet and to remove them.

A special challenge is the contaminated pellet itself. Contaminations are most often not only on the pellet surface, but they are also melted down in the pellet. By means of optical testing systems these contaminations cannot be detected.

That is the reason why Sikora is currently developing a completely new system that differs in two ways from existing but flawed solutions: The Sikora system is based on X-ray

technology and detects also contaminations in the pellet. The smallest detectable particle size is 50µm, at a throughput of up to 500kg/h. Higher throughputs are possible by installing several units in parallel.

In addition, the pellet inspection is installed directly in the joint tube between the silo/octabin and the extruder. The system is consequently hermetically sealed and there is zero risk that dust particles get into the material flow.

The Sikora solution for pellet inspection is suitable for both manufacturers of energy cables and pellet manufacturers within the plastics industry.

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

## Two portable non-destructive testing instruments

Expanding its non-destructive testing (NDT) techniques and complementing its existing array of advanced instruments, Keighley Laboratories has invested in a portable conductivity meter, which measures the electrical conductivity of non-ferrous metals employing the eddy current method, and a pocket instrument for convenient and fast coating thickness measurement, using magnetic induction and eddy current technologies.

Both measuring techniques are applicable to the aerospace, automotive, petrochemical, engineering, heat treatment and other fields and complement the specialist NDT services Keighley Laboratories already offers to industry clients.

Through its technical services division, Keighley Labs covers many of the mainstream NDT methods, notably magnetic particle crack detection, dye penetrant testing, ultrasonic flaw detection, magnetic permeability, positive material identification, residual magnetism and ferrite determination, as well as radiography on a sub-contract basis.

**Keighley Laboratories – UK**

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

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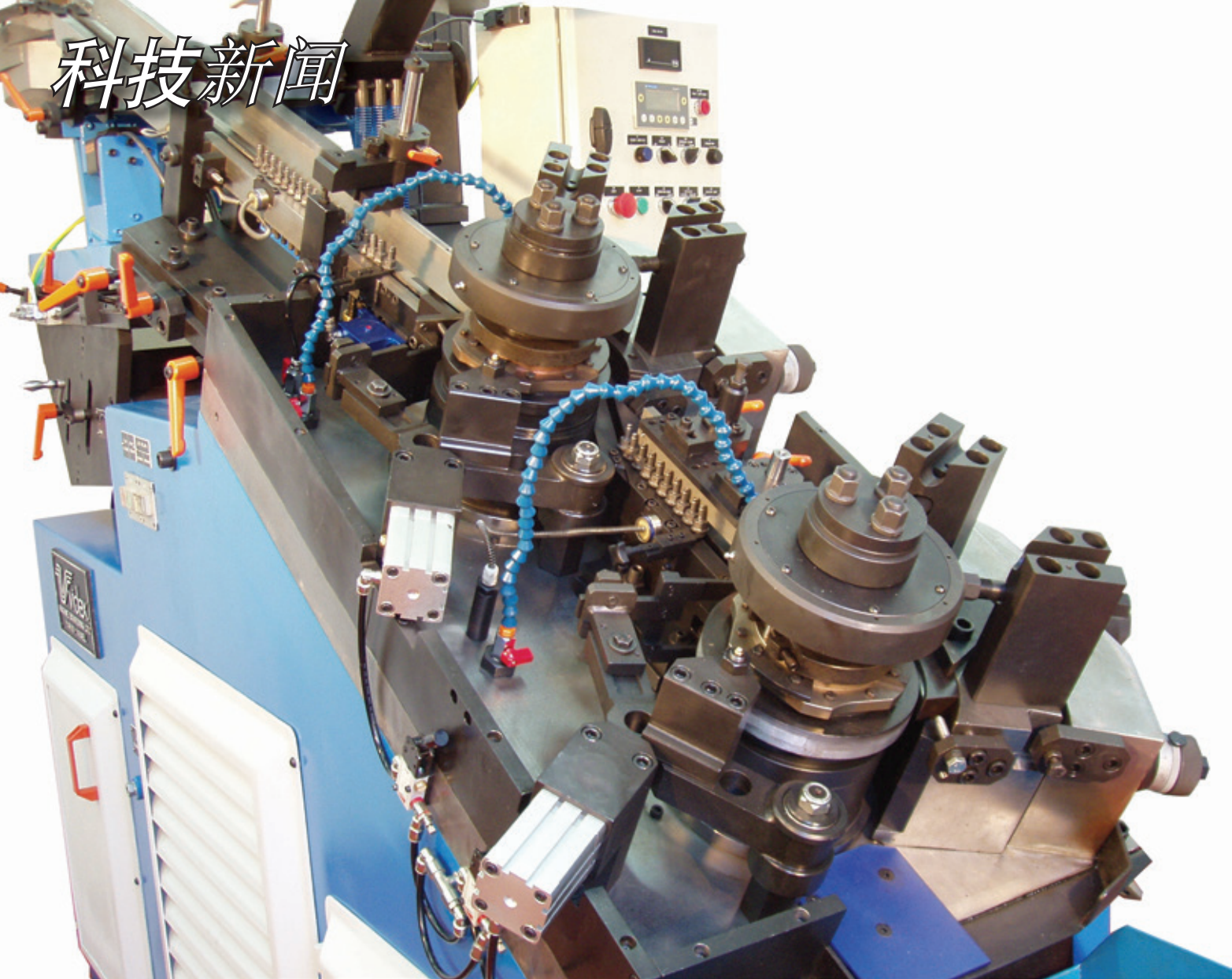
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○ Videx双主轴螺纹辊

## 双主轴螺纹辊

新的Videx双主轴螺纹辊设计用于滚肩上方和下方的滚压螺纹。螺纹可不同或类似。两个头是独立的，消除了一方对另一方的影响，从而能够使用简单经济的滚模。

优势包括:

- 独立的调整保证螺纹质量更好
- 更高的生产速度。第二次操作不拖慢机器速度
- 更少的处理，消除了混合零件的可能性
- 廉价的加工，全面控制每一个滚压操作的质量。工具在分钟内更换。

两个站控制滚丝起动、液压夹紧、零锥度机制平行线、微米级螺纹压力螺丝和交流调速控制器，以及空气自动关闭和两个操作员控制面板。

**Videx Machine Engineering Ltd - 以色列**  
网址: [www.videx.co.il](http://www.videx.co.il)

## 升级软件系列

General Inspection, LLC公司最近宣布, 对其 Gi-360分拣机的软件系统进行了升级。新的3600 Virtual Tilt实际校正了余弦误差, 当向下滑向V-Track时, 头部的柄和部件的长度就形成一个结果关系。

这样部件就可以更准确地成像, 捕捉更小的缺陷和测量更多的功能。

这是当今最先进的软件, 其它任何分拣机无可比拟。所有新的Gi-360分拣机都将拥有该新软件, 目前客户可致电安排升级。

General Inspection完整系列计量、分拣和检测系统包括: 激光、电涡流、视觉和声学技术, 用于三维测量和为实现零缺陷的方法确定冶金缺陷。

**General Inspection LLC - 美国**  
网址: [www.generalinspection.com](http://www.generalinspection.com)

## 双扭簧

当许多弹簧制造商正在为双扭簧的复杂成型绞尽脑汁的时候, William Hughes 已经投资于最新的电脑数控技术设备, 进行完全自动化的加工。对于许多应用, 双扭簧的成型要比单扭簧理想, 因此, 双扭簧正被广泛应用于汽车行业。典型的应用包括: 汽车把手、座椅调节机制和控制台盖。

因此, 当座椅和汽车内饰件制造商需要双扭簧来生产小型流行汽车的门把手时, William Hughes 当然是首选供应商之一。William Hughes 的应用工程师们用自己的知识和专业经验设计的弹簧符合汽



最新型Profilemaster产品系列

车制造商严格的规格要求, 同时保证弹簧使用电脑数控机械方便生产。弹簧用于车内, 将把手返回到正常位置, 设计独特, 便于安装到汽车机械。尽管双扭簧的中心

部分形状复杂, 但需要很少的工具作业。通过将弹簧的生产分成两个全自动化阶段, 比较困难的中心部分容易成型, 使得弹簧紧凑、成本经济, 其中包括适当的性能特性和耐久性。加工的最后阶段, 使用含有锌片的有机环保抗腐蚀涂料处理和保护弹簧。

William Hughes 专业设计生产所有类型的压缩、拉伸和扭转弹簧, 以及弯曲的电线部件, 应用于汽车、航空航天和工业等。严格的质量检查ISO 9001:2008和TS 16949, 结合最新的设计、生产和分销技术, 保证所有系列产品连续性供应、交货及时和价格具有竞争力。

William Hughes Ltd – 英国  
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## CrimpCenter 36 S: 精度和性能更佳

Schleuniger CrimpCenter 36为高精度剥皮和压接市场带来了新技术, 从而在成本经济的基础上取得了高性能和高灵活性的成效。新改进、具有时尚外观的CrimpCenter 36 S取代了CrimpCenter 36。整个机器的系统已经升级, 精度和性能更佳。更好的外观和功能设计得到了改善。

CrimpCenter 36 S最多可容纳6个工作站, 具有令人难以置信的应用灵活性。高效电机编程和内部以太网通信, 加上最大馈送率达8米/秒, 结果在某些市场上达到了最高的生产速度。

该机采用触屏显示器和直观易于操作的软件。优化的组合使得编程足以简单, 即便是新手操作者也很快地感觉很舒适。新的快速更换的机制、送线辅助装置和集成照明使得设置时间更快更简捷。CrimpCenter 36 S与Schleuniger创新ToolingShuttle系统兼容, 能够以惊人的速度转换涂抹器和终端。

在所有的CrimpCenter型机中, CrimpCenter 36 S拥有标准的TCP/IP协议, 方便机器网络。可选的EASY ProductionServer软件能够帮助您优化订单处理, 允许客户在世界的任何角落监视和采集生产数据。在线文档、标准件和强化版本的Schleuniger EASY ErrorExpert 使得服务非常简单。

所有产品的文档都可以从触摸屏显示器进入, 为技术服务人员节约了宝贵的时间。标准组件保持成本低、可用性强。

对于简单的故障诊断, EASY ErrorExpert提供关于如何解决问题的详细图片和有用提示。在必要的时候, 世界一流的Schleuniger服务团队将随时提供帮助。

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## 在线轮廓与形状测量监控

新的Profilemaster® PMM 30, 50和80轮廓与形状测量系统是Zumbach Profilemaster®系列的最新产品, 测量系统使用光切原理和机器视觉。

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## Uhing下一代法兰测试系统启用于滚圈驱动器

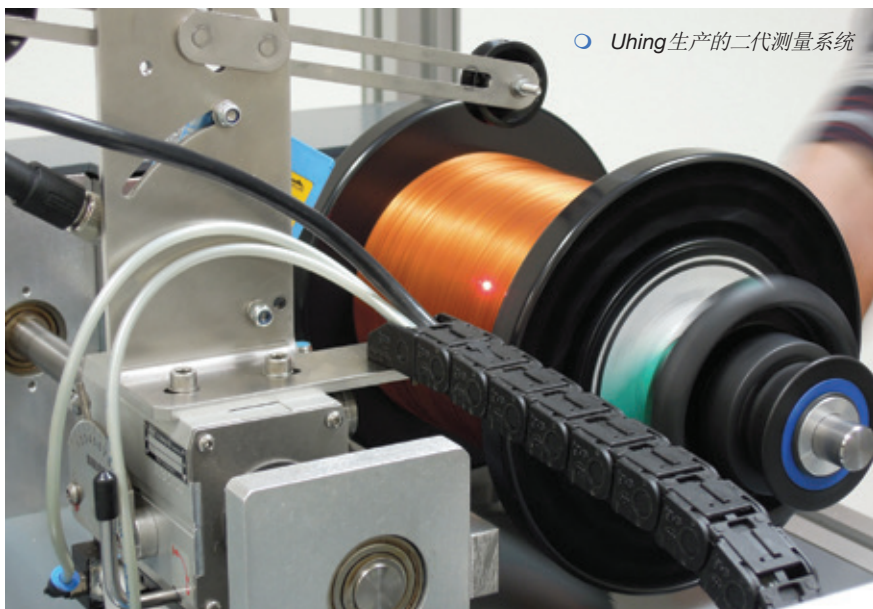
2004年, Uhing产品范围增加了非接触式FA法兰检测系统, 用于滚圈驱动器。这一成本经济的解决方案能自动校正滚圈穿越齿轮的逆转点, 减轻企业员工手动调节的工作, 从而降低了时间需求和成本。Uhing现已推出二代产品 - 配备有新的传感器技术和扩大了功能范围。通常会出现这样的情况, 新的阀芯与之前的不在完全相同的位置, 虽然二者的宽度相同, 或者新的线轴具有宽的宽度公差。

非接触型FA法兰检测系统自动校正导线测量系统的逆转点。该功能很快使得FA成为公司缠绕加工不可缺少的设备 - 尤其是电线电缆生产企业。产品新的特征是能够自动检测线轴的宽度和法兰的类型 - 直型或超过90度。法兰检测系统

能适应新的位置和线轴更换后线轴宽度的变化。FA II最显著的创新在于其激光传感器, 它取代了之前应用的挡光板检测系统。检测法兰的传感器安装在导线测量系统上。在特定的范围内, 它能捕获轴芯表面之间的偏移量和存储在系统软件中的最大允许高度, 并保存该值, 作为每一新层的基准偏置。

在卷绕过程中, 法兰检测系统连续测量各自的偏移量, 并与基准偏移进行比较。当存储在系统中的允许偏差超过时, 会触发拨回。显示器表明测量高度和允许的高度偏差。

Joachim Uhing KG GmbH & Co - 德国  
网址: [www.uhing.com](http://www.uhing.com)



Uhing生产的二代测量系统

## 来自印度的绝缘护套生产线

印度Supermac Industries Limited公司是挤出生产线制造领域的领军企业。自1974年以来, 公司一直从事生产不同种类的绝缘与护套生产线, 应用于电缆行业(电力电缆、光缆、室内布线和控制电缆等)。

Supermac专门提供定制的解决方案, 充分考虑客户的各种需求, 在满足客户对新材料的技术处理要求方面一直保持着领先的优势。

Supermac拥有内部自动化、软件开发、面板制造和测试设备, 应用于挤压电缆护套。经验丰富的工程师团队负责安装和调试设备。最先进的设施配备了国际和本土化的机器, 能够根据不同的客户需求进行加工。该生产线运行定制的ERP系统, 以达到提高生产率、降低成本和提高客户满意度的目的。

最近Supermac产品获得了CE Mark批准, 能够出口到欧洲市场。公司已做好充分准备, 采用新技术制造下一代最新电缆挤压生产线, 堪称世界一流。

产品系列包括:

- 室内布线和控制电缆绝缘生产线
- 电力电缆绝缘与护套生产线
- SIOPLAS (XLPE) 电缆三挤出生产线
- LV/MV 电力电缆CCV生产线, 最高达132 KVA
- 塑料/EPDM/硅电缆HCV生产线
- 30毫米到175毫米挤出机
- 十字头
- 牵引履带
- 绞盘
- 630毫米到4,500毫米收线、放线机

Supermac Industries (India) Ltd - 印度  
网址: [www.supermacindia.com](http://www.supermacindia.com)

## 洁净工业: 颗粒检测的发展项目

PE材料的洁净度在更高的电缆电压等级领域变得越来越重要。特别是在离岸区域, 可替代的风力发电需要一个接合处最少的电缆网络。为了实现这一目标, 生产周期运行要长。生产线以前从周一运行到周六, 现在连续生产10到20天很常见。

为了确保恒定的材料流通, 长的生产周期比如在十字头前离开屏幕而实现。然而, 生产没有屏幕画面也会导致污染物直接传送到电缆绝缘层, 而不是被捕获。因此, 必须采取其它措施发现可能的污染颗粒, 并将其去除。

一个特殊的挑战来自受污染颗粒本身。污染不仅在颗粒表面, 而且在熔化的颗粒里。光学测试系统并不能测试到这些污染物。



Sikora的开发项目“颗粒检测”, 确保生产前完美的颗粒

这就是Sikora目前正在开发一个全新系统的原因所在, 与现有系统不同的是缺陷解

决方案: Sikora系统基于X射线技术检测颗粒中的污染物。在生产能力高达500kg/h的情况下, 检测到的最小颗粒尺寸为50µm。通过安装几台机组并联, 可以实现更高的产能。

另外, 颗粒检查直接安装在silo/octabin和挤出机之间的连接管上。

该系统因此密封的, 绝不会出现灰尘颗粒进入材料流动。

颗粒检测的Sikora解决方案完全适合于能源电缆的生产 and 塑料工业颗粒的制造。

Sikora AG - 德国  
网址: [www.sikora.net](http://www.sikora.net)

# India

# Insight

## State-owned SAIL is off course!

Steel Authority of India Ltd (SAIL) missed expectations despite a 12 per cent rise in quarterly profit, as lower sales and higher input costs capped gains.

SAIL, the largest steel producer in India, has seen sales impacted as demand cools in India's auto, consumer goods and construction sectors, which count among its major customers.

The economy's budgeted growth rate for 2012/13 was expected to be 7.6 per cent, but it only achieved 5.5 per cent in the June quarter, the slowest in three years.

The state-owned steelmaker, which manufactures a range of products such as cold rolled coils and sheets, pipes, wheels and axles, reported a decline in net sales to 106.63 billion Indian rupees from 108.37 billion a year earlier.

Increased fuel costs and other expenses plus higher wage expenses, from a new salary agreement applicable since 1<sup>st</sup>

January, also contributed to lower operating margins.

SAIL said net profit rose to 5.43 billion rupees in the three months to end-September from 4.85 billion rupees a year earlier. A Reuters poll of brokerages had estimated on average net profit of 7.3 billion rupees for the quarter.

Most analysts had expected the company to report higher sales volumes for the quarter and benefit from a decline in coking coal prices globally. SAIL imports 75 per cent of its coking coal requirement.

SAIL reported sales volume of 2.26 million tonnes compared with 2.81 million tonnes a year ago. Earlier, it had reported a 4 per cent increase in saleable steel output at 3.18 million tonnes.

SAIL is the largest steel producer in India, and under an ongoing expansion programme the company expects to increase capacity to 18 million tonnes by the end of March.

## Single frequency across India by 2014

Power Grid Corporation of India (PGCIL) plans to maintain a single frequency across the country by early 2014. Chairman and MD, R N Nayak was quoted by The Hindu Business Line as saying that the southern grid is not interlinked with the national grid and requires manual management.

“With commissioning of Raichur to Solapur transmission line by January 2014, we will have a totally synchronous grid across the country,” Nayak said. “This will enable the entire country to have one frequency and the power transmission will be seamless between various regions including the south.”

Union power minister, Veerappa Moily laid the foundation stone for the project in Raichur, Karnataka on 12<sup>th</sup> October 2012. Speaking during the foundation-laying ceremony, Nayak noted that within 15 months the nation will have one frequency.

The commissioning of the transmission line and 765kV substation in Raichur will enable better management of power supplies between regions across India.

The Raichur-Solapur power line, which is being set up with an investment of \$365.5m, is expected to be ready by December 2013 for synchronisation with the national grid by January 2014.

**Power Grid Corporation of India – India**  
**Website:** [www.powergridindia.com](http://www.powergridindia.com)

## 700MW hydro project

Anil Dhirubhai Ambani Group company Reliance Power has secured clearance from the Central Electricity Authority for its 700MW Tato II hydro project in India. The project will be built on River Siyom in the state of Arunachal Pradesh, and will entail an investment of \$1.1billion, reported the Hindu Business Line.

Employing four units of 175MW each, the project is expected to generate about 3,000MWh of energy per year with an annual load of about 50 per cent.

The electricity produced at the project, to be developed by Reliance Power subsidiary Tato Hydro Power, will be sold to BSES Rajdhani Power and BSES Yamuna Power under a power purchase agreement to be supplied to the Delhi region.

Reliance Power is currently developing a cumulative 4,620MW of hydroelectric power capacities at seven locations in the country, which are expected to be completed over the next decade.

**Reliance Power – India**  
**Website:** [www.reliancepower.co.in](http://www.reliancepower.co.in)

## Tata's exit from wire harness business

Tata AutoComp has announced its exit from a joint venture wiring harness business. Tata Yazaki Autocomp Ltd was set up by Tata and Yazaki Corporation of Japan in 1998 to manufacture wiring harnesses for the automobile sector. The company has plants in Pune, Sanand, Pantnagar, Jamshedpur and Bangalore.

On 17<sup>th</sup> November the company announced that its partner Yazaki Corporation will be acquiring its 50 per cent stake in Tata Yazaki. The final transfer will take place after completion of all the formalities in a couple of months.

According to a report by rating agency CRISIL last year, Tata Yazaki is the second-largest manufacturer of wire harnesses in India, with a share close to 16 per cent in the domestic market. Tata Motors contributes to around 46 per cent of Tata Yazaki's revenues, with Toyota Kirloskar, Volkswagen, Fiat India and Honda SIEL Cars Ltd together contributing about 50 per cent.

**Tata Yazaki Autocomp Ltd – India**  
**Website:** [www.tacogroup.com](http://www.tacogroup.com)

## Trans-border power transmission line

India, with its high power demand in one side and Nepal in the other end with high power potential, have come closer with the recently agreed planning for a new major trans-border 400 KVA power transmission line that can handle 1,200MW power.

The other upcoming major Indo-Nepal power transmission line is expected to be operational by 2015 between Dhalkebar in Nepal and Muzaffarpur in India.

According to Mr Koirala, secretary, Energy Department of Nepal, a new cross border transmission line will be set up from west Nepal to India. After having the issue discussed with the Indian authority through Nepal's External Affairs Ministry, both countries have come to a final agreement on the matter in a recently concluded meeting of Energy Group under the South Asian Sub-Regional Cooperation.

As per the feasibility study, the new transmission line is going to be 125km long between Butwal in West Nepal and Gorakhpur in the state of Uttar Pradesh in India. As estimated the line needs a financial support of around INR 300 Crore.

More than five big hydropower projects with a collective capacity of around 20,000 MW are under feasibility study in West Nepal at present. Nepal cannot consume the output of those. On the other side, export of the surplus power generated out of these projects with renewable source of the country to India, can get the financially crunched Nepal into a more comfortable situation.

## Credit Suisse: The coming roll-out of Ultra HDTV will benefit satellite operators

Test channels for ultra-high definition TV (Ultra HDTV, or U-HD), the next-generation broadcasting standard, will likely be launched in 2012, according to Credit Suisse. Having examined the state of health of Europe's satellite industry, the Zurich-based investment bank said in a recent report to clients that transmissions of 3,840 x 2,160 pixels (8.3 megapixels) would raise demand for satellite bandwidth.

This is good news for satellite operators. As noted by Chris Forrester of London-based Advanced Television Ltd, which serves the broadband media industry, Credit Suisse expects broadcasters in Europe and the US to be starting their roll-out of U-HD in 2015/2016.

"We forecast five Ultra HD (4k) channels in 2013 (estimated), growing to 135 by the end of 2017 (estimated)," the client report reads. "From the HDTV launch in the late 1990s/early 2000s the number of HDTV channels grew to 548 in 2010, after roughly 10 years, and reached 797 by the end of 2011. ("Ultra-HD: 135 channels by 2017," 4<sup>th</sup> October)

On advanced-television.com, Mr Forrester cited the Credit Suisse view that the roll-out (plus take-up) is likely to be speedier with U-HD than with HDTV. In the early 2000s, when HDTV was launched, many consumers were still watching analogue TV. Analogue customers cannot watch HDTV, even if they have an HDTV set.

This, according to the bank's report, reduced both customer uptake and initial willingness among broadcasters to invest in HDTV. As to what is different this time: "We believe that all SD [standard-definition] TV customers will be able to add Ultra HD programming if they have an Ultra HDTV set in the same way as they can currently watch HDTV programming."

According to Credit Suisse, the replacement cycle of TV sets is now around six years, shorter than the ten-year replacement cycle when HDTV was launched at the end of the 1990s and in the early 2000s. Accordingly, this could drive a quicker uptake "as the penetration of Ultra HDTV sets of households will be quicker."

Recent jamming has also come from within Bahrain, Syria, Jordan and Saudi Arabia: each, Mr Forrester said, targeting the signals of channels which local authorities find offensive, or which are "transmitting information or programming deemed controversial by one or other ministry."

The ITU statement appeals to all its 193 Member States "to exercise the utmost goodwill" in the matter.

However, Mr Forrester observed, "The problem with the ITU and its dedicated Radio Regulations Board is that there are no penalties or sanctions that [they] can apply for transgressions."

Iran and Syria are full members of the ITU.

## Carriers, doing well out of their fixed broadband networks, are slow to invest in next-generation fixed access technologies

Investment in next-generation wireless networks is seen by operators to cut into the funding available for their broadband wireless networks.

This is the conclusion reached by Infonetics Research and presented in its latest Global Service Provider Survey, which explored operators' plans for next-generation fixed access technologies.

"It's become a challenge for operators to know how much to invest in fixed broadband networks and services," Jeff Heynen, directing analyst for broadband access and pay TV at the Campbell, California-based market research firm, said. "On the one hand, fixed broadband is among the most profitable services a provider can offer. On the other, the investment required to roll out or upgrade mobile networks is eating into their available capital."

What the survey results disclose to Mr Heynen is that the transition to next-generation fixed access technologies (10G EPON, XGPON1, variants of WDM-PON) will take longer than many in the industry had hoped.

### Of related interest . . .

Ⓒ SES has commissioned Boeing Corp of the US to build a new communication satellite to serve the Luxembourg-based satellite operator's Asian markets. The spacecraft – ordered through the SES Satellite Leasing affiliate – will expand SES capability in communications services in Northeast Asia, South Asia, and Indonesia, and in maritime communications for vessels in the Indian Ocean.

The new satellite, SES-9, will be positioned at the orbital slot of 108.2 degrees East and provide incremental as well as replacement capacity to the established SES slot over Asia, in a co-location with the SES-7 and NSS-11 satellites.

Ⓒ In response to complaints of satellite jamming in the Middle East, the International Telecommunications Union on 26<sup>th</sup> October issued a strong condemnation declaring all "harmful interference" to be an infringement of the ITU Constitution.

Ⓒ As reported by Chris Forrester of Advanced Television Ltd (29<sup>th</sup> October), the jamming has reached proportions described by one local broadcaster as "catastrophic."

The London-based site for the broadband media industry noted that the BBC, France 24, Deutsche Welle, and Voice of America are among the channels affected by jamming originating in Iran and affecting incoming satellite feeds.

The fundamental drivers are there, but they are not pressing enough to force a wholesale shift in deployment timelines; and they do not outweigh the higher costs of next-generation equipment.

Accordingly, most of the operators interviewed plan to wait until next-gen pricing achieves parity with current generation technologies before investing heavily.

Highlights of the Infonetics Research survey, published in October, include the following:

- ① About 40 per cent of the operator respondents said they plan to offer 100+ Mbps connections by 2015, but there is no corresponding interest now in investing in the next-gen technologies that enable those speeds
- ② Some 78 per cent of respondents have already deployed 2.5G GPON, and this is expected to grow to 87 per cent by the end of 2013
- ③ Around 40 per cent of service providers interviewed plan to deploy VDSL2 system-level vectoring
- ④ Paris-based Alcatel-Lucent was named as the top FTTH vendor by 70 per cent of the operator respondents
- ⑤ Service providers gave the highest marks to FTTH vendors Alcatel-Lucent and Calix (Petaluma, California) for technology innovation, product reliability, and management software

### A US transparency-centred policy review will likely have a strong impact on how carriers approach spectrum acquisitions

The US Federal Communications Commission (FCC) will examine its rules on how much spectrum a carrier should be able to hold, a move hailed by wireless operators that want more transparency in the agency. The review, authorised by unanimous vote of the five commissioners on 1<sup>st</sup> October, will consider proposed rule changes and be open for public comment.

The FCC regulates interstate and international communications by radio, television, wire, satellite and cable in the 50 states and in all US territories.

As noted by Phil Goldstein of the industry daily *FierceWireless*, the review of FCC policies related to spectrum holdings – the first in a decade – will likely have a large impact on how carriers approach spectrum acquisitions.

Industry executives have spoken approvingly of rule changes proposed by the FCC, on grounds that a more transparent process will benefit carriers. Public-interest groups have also pushed for a review.

The agency will consider the “spectrum-screen” it uses when reviewing spectrum transactions. If a carrier acquires too much spectrum and violates the screen, the deal is more closely scrutinised. Currently, the screen is different for each prospective transaction.

FCC officials will look at whether “bright line” limits are needed on how much spectrum a carrier can hold. They will also consider which spectrum bands to include in the review, as well as how the various geographic areas or markets should be evaluated. Additionally, the rulemakers will explore whether to treat spectrum below 1GHz as a different category from higher-band radio waves; and, if so, precisely how to do so.

① While the commissioners are presumably comfortable with the prospect of greater transparency, Mr Goldstein called attention to a reminder from the chairman of the FCC that the commission is not prejudging the outcome of the review, whose stated goal is to spur more innovation in the wireless market. Nothing in the proposed rule changes, Julius Genachowski said, would alter FCC policies or views.

Commissioner Ajit Pai said he was worried that any proposed rules affecting the spectrum screen could discourage participation by carriers in the auction of broadcast TV spectrum.

Yet another commissioner, Robert McDowell, rejected the suggestion

that the current case-by-case FCC approach is faulty, and said that reviving the idea of spectrum caps “would create unnecessary and harmful uncertainty” in the mobile market.

② For their part, several smaller carriers are increasingly concerned about the spectrum that large carriers – AT&T and Verizon Wireless in particular – are acquiring.

The Competitive Carriers Association (CCA) has urged the FCC to combine AT&T’s various spectrum purchases into one comprehensive transaction that the agency could more effectively review.

CCA is also pushing the FCC to place stipulations on the spectrum if it approves of AT&T’s purchases. These would include 700MHz interoperability and data roaming regulations.

Mr Goldstein noted that AT&T has staunchly argued against such an FCC move, contending it would “introduce delay that is contrary to the public interest.”

### In brief . . .

① South Korea’s Samsung shipped a record 56.3 million smartphones in the third quarter of 2012, representing almost double the market share of its US rival Apple with a total of 26.9 million sold.

Mobile analyst firm Juniper Research on 29<sup>th</sup> October also estimated that Samsung sold 18 million units of its flagship device, the Galaxy S3, in the quarter.

Apple’s latest iPhone model appeared at the very end of the quarter, prompting expectations of a sales surge in the fourth quarter.

Even so, the Galaxy S3 in its various versions was on course to be the phone of the year, and certainly showcased the Android operating system.

Another winner in the third quarter of last year was China’s ZTE, which shipped almost 20 million smartphones in the year to that point.



## 瑞士信贷集团 (Credit Suisse): 即将登场的超高清电视 (Ultra HDTV) 将使卫星运营商收益

根据瑞士信贷集团 (Credit Suisse) 发布的消息称, 新一代的电视播放标准——超高清电视 (Ultra HDTV或U-HD) 的测试频道将于2012年开通。

在对欧洲卫星行业的发展状况进行评估之后, 这家位于苏黎世的投资银行在其近期面向客户的报告中称, 3,840 x 2,160像素 (即830万像素) 的传送将增大对卫星带宽的需求。

这对于卫星运营商来说是一个好消息。位于伦敦的先进电视有限公司 (Advanced Television Ltd) 是一家提供宽带媒体服务的企业, 该公司的Chris Forrester指出, 瑞士信贷集团希望欧洲和美国的广播公司可以在2015或2016年推出他们的超高清电视。

“根据我们的预期, 到2017年年末为止, 超高清电视 (4K) 的频道将由2013年的5个 (估计值) 增长至135个 (估计值), ” 报告书指出: “自90年代末至00年代初高清电视 (HDTV) 诞生以来, 到2010年的10年中, 高清电视的频道数量已经增长到了548个, 预计到2011年年底可达到797个。 ( “超高清电视: 2017年频道数量将达到135个, ” 10月4日)

在advanced-television.com网站上, Forrester先生援引了瑞士信贷集团的观点: 超高清电视的推出 (包括提升) 速度可能快于高清电视。

在00年代初高清电视刚推出之时, 很多消费者还在继续使用虚拟电视。即使拥有一台高清电视机, 虚拟电视用户也不看高清电视。

银行报告显示, 这一现象降低了消费群发展以及广播运营商投资高清电视的最初意愿。这次的不同之处在于: “我们确信如果拥有一台超高清电视机, 那么所有标清 (SD) 电视用户都能添加超高清电视节目——就像他们现在看的高清节目一样。”

根据瑞士信贷集团的报告, 电视机的更新周期目前约为6年, 少于90年代末和00年代初高清电视推出之时的10年更新周期。相应地, 这将使提升速度更快, “因为超高清电视为家庭所接受的速度会更快。”

### 相关信息.....

① 美国工程科学学会 (SES) 任命美国波音公司 (Boeing Corp) 建造一个新的通信卫星, 用以辅助卢森堡卫星运营商发展亚洲市场。通过SES卫星租赁分公司定制的航天器, 可以扩展SES在东北亚、南亚以及印度尼西亚的通信服务和印度洋区域的船舶海事通讯。

新卫星SES-9将运行于东经108.2度的轨道中, 为亚洲上空的SES站点提供增量和置换功能, 并与SES-7和NSS-11卫星一同运行。

② 为了回应中东地区卫星干扰的投诉, 国际电信联盟 (International Telecommunications Union) 在10月26日发表了强烈谴责, 其中声明所有的“危险干扰行为”都是违反国际电信联盟 (ITU) 法令的。根据先进电视有限公司的Chris Forrester 的报告 (10月29日), 该干扰已经达到了如当地广播运营商所描述的“灾难”程度。

这家位于伦敦的宽带媒体企业指出, 英国广播公司 (BBC)、法国24小时 (France 24)、德国之声 (Deutsche Welle) 以及美国之音 (Voice of America) 等频道都受到了源于伊朗的干扰以及输入卫星的影响。

最近的干扰也来自于巴林、叙利亚、约旦以及沙特阿拉伯境内, Forrester说, 它们都瞄准了被当地政府认为是具有攻击性的频道信号, 以及“由一个或其他机构认定为有争议的信息或节目传播。”

ITU在在声明中呼吁所有的193个成员国在该事件上能“表现出最大的诚意”。

但是, Forrester先生注意到, “ITU和其所有的无线电视监管委员会所面临的问题在于, 对于这些侵权行为没有处罚或制裁的措施。”

伊朗和叙利亚也是ITU的正式成员。

## 运营商的固定宽带网络运行良好, 计划延缓新一代固定接入技术的投资项目

在新一代无限网络方面, 运营商将缩减其无线宽带网络的资金投入。

Infonetics 调查公司 (Infonetics Research) 将这一结论发布在了其最新的全球服务供应商调查报告中, 其中包含了运营商对于新一代固定接入技术的计划。

“对于运营商来说, 确定固定宽带网络和服务的投资数额成为了一项挑战, ” 总部位于加利福尼亚的市场调查公司驻堪培拉的宽带接入和付费电视分析主任Jeff Heynen说: “一方面, 固定宽带是服务商所能提供的收益率最大的服务之一。另一方面, 推出或升级手机网络所需的投资占用了可用资金。”

在Heynen先生看来, 该调查结果表明比起该行业中的期望值, 向新一代固定接入技术 (10G以太无源光网络EPON、XG-PON1以及WDM-PON的变体) 的转移将花费更多时间。

基本导向已经确定, 但是缺少时间部署上批量转移的推进力量; 同时也未超过新一代设备的较高成本。

相应地, 大多数的运营商计划在在进行大笔投资前保持观望, 直到新一代技术的价格与目前的技术价格持平为止。

10月发行的Infonetics调查公司的调查报告还包括以下重要信息:

- ① 大约有40%的受访运营商表示到2015年为止, 计划提供100Mbps以上的连接速度, 但是通过投资新一代技术无法获得相应地利润以达成这一速度。
- ② 78%的受访者已经推出了2.5G的吉比特无源光网络 (GPON), 并且到2013年年末为止这一比例预计可达到87%
- ③ 大约40%的受访服务提供商计划推出VDSL2系统水平的导航设备。
- ④ 位于巴黎的阿尔卡特朗讯 (Alcatel-Lucent) 被70%受访运营商评为第一位的光纤接入 (FTTH) 供应商。
- ⑤ 在技术创新、产品可靠性和管理软件方面, 服务提供商给予FTTH供应商阿尔卡特朗讯和Calix (加利福尼亚, 柏城) 很高的评价。

## 美国一项以透明度为中心的政策评估将可能对运营商获取频谱的途径产生重大影响

美国联邦通信委员会（FCC-Federal Communications Commission）将对其现有规定进行审查，用以确定运营商能够持有频谱的数量，这同样也是回应了无线运营商希望该机构信息更加公开化的呼声。10月1日，该审查决定由该委员会五名委员一直投票通过，该决议将提出相关规定的变更并对大众公开。FCC将对50个州以及所有美国领土内通过广播、电视、电信系统、卫星和光缆途径的洲际或国际通信进行监管。

正如行业日报FierceWireless记者Phil Goldstein所指出的那样，FCC对于频谱持有量政策的重审——十年来的首次——将可能对运营商获取频谱的途径产生重大影响。

行业高管对于FCC提出的政策变更表示赞许，原因在于一个更为透明化的流程将使运营商受益。一些公共利益群体也在积极推进重审计划。

委员会将用“频谱过滤器”作为审查频谱交易的标准。如果一个运营商持有过多频谱而超过了过滤器的标准，那么将会对其进行更为仔细的审查。目前，该过滤器会根据潜在交易而有所不同。

FCC的官员正在商讨是否需要给运营商可以持有的频谱数量制定一个明确的界限。他们也将商讨该审查中应包括何种频谱波段，以及如何评估不同地理区域或市场。此外，规则制定方将研究是否需要将低于1GHz的频谱列入一个不同的类别，用以与较高波段的电波区分开来；以及其具体的操作方法。

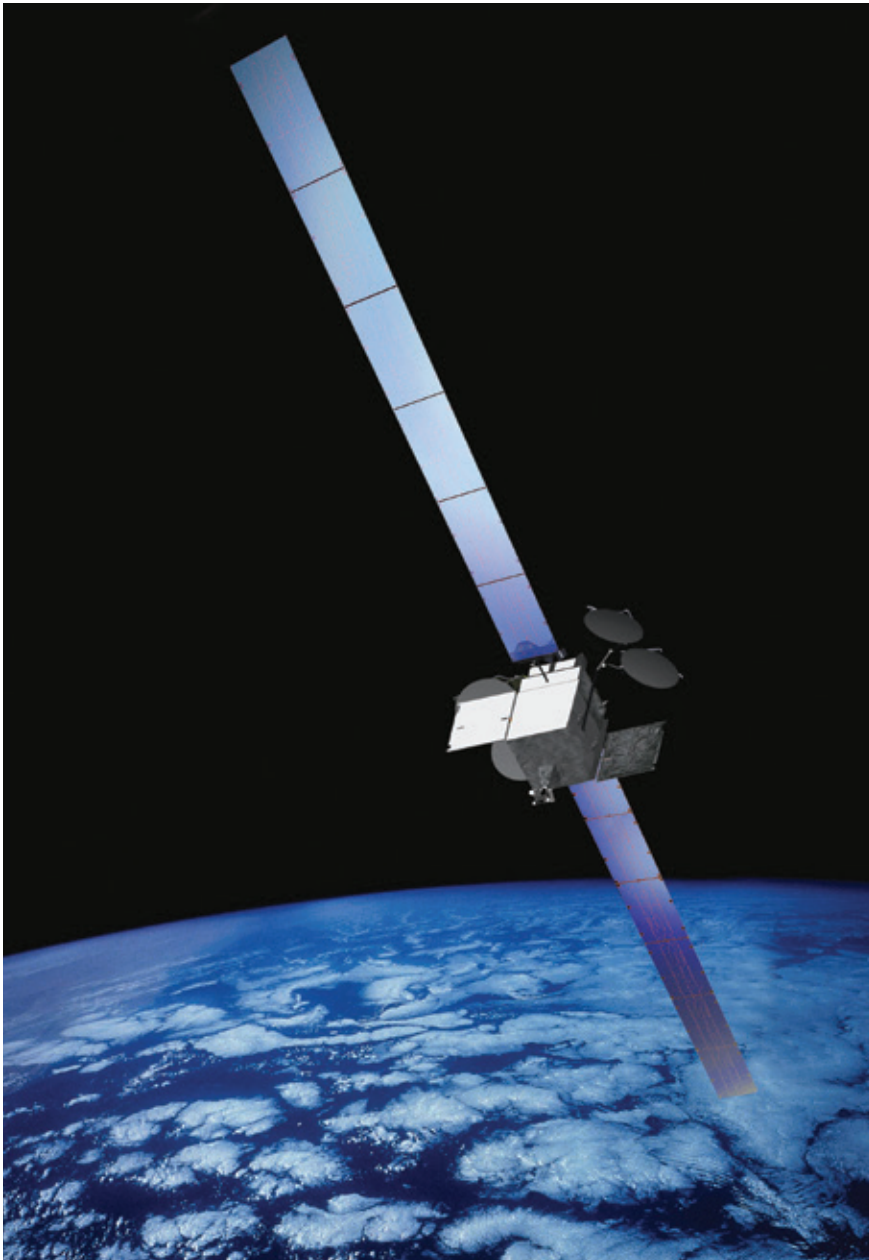
④ 尽管委员会成员很看好更为透明化的前景，但Goldstein先生却指出，FCC的主席表示委员会并非要对审查结果预先做出判断，其既定目标在于刺激无线市场内更多的创新。Julius Genachowski说：“任何提议的规则变更都不会改变FCC的政策或观点。”

委员Ajit Pai担心提议的规则将会影响到频谱审查，从而降低运营商参与广视频谱竞拍的积极性。而另一位委员Robert McDowell却反驳了当前FCC实例是个失败的这一说法，他说这是恢复了频谱在移动市场中“将导致浪费和有害的不确定性情况”的名号。

④ 在这一方面，一些小型运营商正越来越关心大型运营商——特别是美国电话电报公司（AT&T）和威瑞森电信公司（Verizon Wireless）——所持有的频谱数量。竞争运营商协会（Competitive Carriers Association——CCA）已督促FCC将AT&T不同的频谱采购合并入同一个综合交易项目中，从而使委员会能更有效地对其进行审查。

如果FCC批准AT&T的采购计划，那么CCA也将督促FCC对频谱制定相应规则。这其中也包括700MHz的互通性和数据漫游条例。Goldstein先生指出，AT&T坚决反对FCC的这一计划，主张“延迟引进违背公共利益。”

SES-9卫星将扩展覆盖面遍及东北亚、南亚和印尼（见第39页波音文章）



### 简讯.....

④ 2012年第三季度，韩国三星公司（Samsung）装运了5,630万部智能手机，这一数量约为其美国对手苹果公司（Apple）2,690万销量所占市场份额的两倍。移动行业分析Juniper 调查公司（Juniper Research）于10月29日发布的报告中预计，三星将在本季度中售出1,800万部其主打产品——Galaxy S3。苹果在本季度未发布的最新iPhone预计将在第四季度使其销量猛增。尽管如此，拥有不同型号的Galaxy S3系列智能手机已注定成为本年度的主要产品，安卓（Android）操作系统也是如此。去年第三季度另一位赢家是中国的中兴通讯集团（ZTE），今年同期共装运了2,000万部智能手机。

## Telecom

### The approaching death of US polar satellites portends a major storm-damage threat to life, property, commerce

“Predicting a satellite’s lifetime is like guessing when a light bulb goes out. The most likely timing of a gap in coverage is between 2016 and 2018, according to the best official estimates.”

The estimates referenced by John H Cushman, Jr in the *International Herald Tribune* (26<sup>th</sup> October) were derived from independent reviews – by the Commerce Department inspector general, the Government Accountability Office, and a blue-ribbon team of outside experts – published summer 2012.

All three were sharply critical of a federal satellite programme for monitoring storms and called for urgent remedies.

The “gap” is the period of at least a year during which the US will likely be without crucial satellites that provide invaluable data for predicting storm tracks. (“Aging Satellite Fleet May Mean Gaps in Storm Forecasts”)

Over the past two years experts have grown increasingly alarmed because the existing polar satellites are nearing or beyond their life expectancies, and the next replacement, known as JPSS-1, is not due for commissioning until early 2017.

The probable absence of coverage will be no small thing. As described in the *Herald Tribune*, the endangered satellites fly pole-to-pole orbits and cross the Equator in the afternoon, scanning the whole planet one strip at a time. Along with orbiters on other timetables, they are among the most effective tools used to predict the paths of major storms up to five days in advance.

With Hurricane Sandy gathering strength in the Caribbean, the publication date of Mr Cushman’s article was timely. Throughout the previous week, forecasters had been relying on satellite observations for almost all of the data needed to refine preliminary (and widely divergent) computer models of Sandy’s intentions: To explode against the northeastern seaboard? Or to veer harmlessly away into the open Atlantic?

Experiments show that without this kind of satellite data forecasters would have underestimated by half the “Snowmageddon” blizzard that struck Washington, DC in 2010.

Other disasters recalled by Mr Cushman were Tropical Storm Irene in 2011 and, in a longer view backward, the great hurricane of 1938 which hit New York without warning and killed hundreds on Long Island.

Said Craig J Craft, the current commissioner of emergency management for the Nassau County area of Long Island, “We cannot afford to lose any enhancement that allows us to accurately forecast any weather event coming our way.”

❖ The problematic satellite project is run by the National Oceanic and Atmospheric Administration (NOAA), a Department of Commerce unit, together with the National Aeronautics and Space Administration (NASA). The scathing analysis of NOAA’s performance cites years of underfunding, questions the government’s cost estimates for the programme, and deplors the failure of those in charge to think through their alternatives when the gap arrives.

Alleged mismanagement of the \$13 billion programme, which goes back a decade, was recently described as a “national embarrassment” by a top official of the Commerce Department. The outside review team, led by A Thomas Young, an aerospace industry leader, called the management of the programme “dysfunctional.”

A remedy may be in the pipeline. Top Commerce and NOAA officials have ordered an overhaul of the programme. Mr Cushman reported that they have moved quickly to nail down the specific designs of JPSS-1 components, many already partly built. And they have promised to quickly complete a new independent cost estimate to clarify the programme’s budget.

“There is no more critical strategic issue for our weather satellite programs than the risk of gaps in satellite coverage,” wrote Jane Lubchenco, the under secretary of Commerce responsible for NOAA, in a recent memorandum ordering the urgent restructuring of the programme. The Obama administration, Ms Lubchenco asserted, has been trying all along to fix “this dysfunctional programme that had become a national embarrassment due to chronic management problems.”

### Pole-to-pole satellites: silent, unblinking sentinels

One of the experts interviewed by the *Herald Tribune* (See “Aging US satellites,” above) is Dennis Hartmann, the chairman of a broad review of earth-observing satellite programmes released in May by the National Research Council. It discloses, Mr Hartmann said, “a long, sad history.”

The Hartmann findings caused Mr Cushman to reflect on what the US stands to lose by the decline of one of “the crown jewels of modern earth and atmospheric science.” The Joint Polar Satellite System (JPSS) includes important sensors for studying global climate. As difficulties at the National Oceanic and Atmospheric Administration (NOAA) have affected the programme, this capability is now at risk.

But the main JPSS satellites, about the size of small school buses, are most notable for the instruments for sensing atmospheric moisture and temperature that they put into the “polar pm” orbit.

This is a passage from lower altitude that provides sharp and frequent images of weather patterns spanning the globe. In contrast, Mr Cushman pointed out, other satellites stare continuously at one part of the globe from farther off, for short-term forecasting.

Polar satellites provide 84 per cent of the data used in the main American computer model tracking the course of an approaching hurricane. For years, as the accuracy of this kind of forecasting has steadily improved, the pm polar satellites maintained by NOAA have served a crucial function: “like the centre on a basketball team,” according to the *Herald Tribune*.

But the suspension of this surveillance for a year or more – which some experts now view as almost certain to occur – looms.

Wrote Mr Cushman, “All the while, despite many warnings, the gap in coverage has grown ever more likely.”

## Renewable energy

### Chinese solar panel makers, awash in product, implicate US and EU trade investigations in their ‘green glut’

“The result is a looming financial disaster, not only for manufacturers but for state-owned banks that financed factories with approximately \$18 billion in low-rate loans and for municipal and provincial governments that provided loan guarantees and sold manufacturers valuable land at deeply discounted prices.”

Writing from Beijing, Keith Bradsher of the *New York Times* might have been concluding a lecture on the perils of overreaching. China has quickly established itself as the world’s leader in renewable energy, forcing many foreign rivals out of business. But over the last five years of rapid growth in worldwide demand for solar panels and wind turbines, Chinese manufacturing capacity has grown even faster, creating enormous oversupply and an intensifying price war.

Mr Bradsher, who is Hong Kong bureau chief for the *Times*, summarised the situation at the end of the summer. Solar panel prices having fallen by 75 per cent since 2008, China’s biggest panel makers were suffering losses of up to \$1 for every \$3 of sales to that point in 2012. Even as the cost of solar power has fallen, it remains triple the price of coal-generated power in China. This requires substantial subsidies through a tax imposed on industrial users of electricity to cover the higher cost of renewable energy. (“Glut of Solar Panels Poses a New Threat to China,” 4<sup>th</sup> October)

Chinese solar company executives blame their difficulties at least in part on the decision of the United States last spring to impose anti-dumping and anti-subsidy tariffs on solar panel imports, and on the European Union’s recent decision to start its own anti-dumping investigation of such imports from China.

“It is not a Chinese industry problem, it is a global solar industry problem,” Rory Macpherson, a spokesman for Suntech Power, one of the largest Chinese solar panel manufacturers, told the *Times*. “It is primarily the result of an imbalance between supply and demand, and the US and EU trade investigations.”

❖ Li Junfeng, a long-time director general for energy and climate policy at the National Development and Reform Commission, China’s top economic planning agency, places the blame elsewhere. In an interview with Mr Bradsher he said the domestic solar industry’s problems were the result of overcapacity in China, and not the fault of trade restrictions.

The problem lies in the eagerness of Chinese businesses to rush into any new industry that looks attractive and swamp it with investments, Mr Li said. In his view, Chinese companies and their bankers are then far more reluctant than Western companies to admit defeat for investments that prove unprofitable.

❖ What can be said with certainty is that, until recently, Chinese policy makers were hailed by environmentalists around the world as visionaries. Now, given the glut of output from its solar power companies, China’s strategy of global dominance in ‘green’ technologies has apparently hit a wall.

❖ Even as solar panel makers in China trolled for customers, the US doubled down on its efforts to keep Chinese product out. Claiming that Chinese manufacturers and exporters have sold solar cells in the US at dumping margins ranging from 18.32 per cent to 249.96 per cent, the Commerce Department on 10<sup>th</sup> October said it would impose countervailing duties against those imports in the range 14.78-15.97 per cent. That compares with the preliminary duties – ranging from 2.9 per cent to 4.73 per cent – announced in March.

China’s state-run news agency Xinhua promptly quoted China’s Ministry of Commerce spokesman Shen Danyang as saying the US decision “signals protectionism” and “hinders the development of new energy.” In an editorial published 11<sup>th</sup> October, Xinhua asserted that the Commerce Department’s decision will benefit neither the US nor China but would “escalate trade tensions between the two countries.”

### As the US pushes ahead on renewable energy, an ambitious solar power project starts up in California

In mid-October, US Secretary of Interior Ken Salazar announced that the government had established a preliminary set of 17 solar energy zones in Arizona, California, Colorado, Nevada, New Mexico, and Utah.

The programme sets up a blueprint for utility-scale solar power projects in the west of the country. The department said as much as 23,700 megawatts of solar energy could be developed on the sites.

On 25<sup>th</sup> October it was announced that about 10 per cent of a 250mW solar power project in San Jose – 100 miles north of Los Angeles – had begun delivering electricity to the state’s electricity grid. NRG Energy and SunPower said the first 22mW of its California Valley Solar Ranch entered the grid from its site in San Luis Obispo County. Electricity from the project is contracted by state utility Pacific Gas and Electric (PG&E) for 25 years.

The entire project was expected to be online by the end of 2012. When fully operational it could provide enough solar power to meet the annual energy demands of 100,000 homes. Fong Wan, a PG&E senior vice president, said in a statement, "This project will play an important role in our efforts to meet California's 33 per cent renewable portfolio standard and make progress toward a clean energy future for all Californians."

## Automotive in brief . . .

- ❖ Chrysler on 8<sup>th</sup> October said it was recalling Dodge Ram 1500 and Dodge Dakota trucks from the 2009-2010 model year because a lack of adhesive could cause the rear axle pinion nut to loosen. According to the National Highway Traffic Safety Administration (NHTSA), the vulnerable axle can lock up, causing the driver to lose control and the vehicle to crash. The recall involves 44,300 units manufactured from 1<sup>st</sup> July to 30<sup>th</sup> November, 2009.

Government and company officials say there had been 15 reports of such rear axle failures, including four that resulted in a loss of vehicle control and one in which the driver crashed into a concrete barrier. Chrysler was to notify owners that its dealers would install a retainer to secure the pinion nut free of charge.

- ❖ Nissan Motor is recalling almost 14,000 of its Altima sedans for the 2012-2013 model year because of a steering defect that could cause the driver to lose control of the vehicle, according to a report the Japanese auto maker filed with the National Highway Traffic Safety Administration on 22<sup>nd</sup> October.

Nissan told the US safety agency that bolts for the power steering rack and transverse link were not torqued to the proper specification. This could allow the bolts to loosen, causing rattle and vibration on start-up.

Nissan told NHTSA that it found a loose transverse link bolt late in July "during a routine dynamic driving evaluation." In early August, loose bolts were identified in vehicles at a Nissan assembly plant in Canton, Mississippi. The auto-maker, which requested that its dealers check vehicles for the condition, said it did not conclude until 3<sup>rd</sup> October that a recall was needed.

NHTSA also announced an investigation into the possibility of "a complete loss of steering capability" on 70,000 Hyundai Santa Fe crossovers from 2011. The investigation into the Santa Fe involves a concern over a loose fastener in the steering shaft of 2011 models.

- ❖ In other news of Nissan Motor – and a first for its Smyrna, Tennessee, assembly plant – the company on 19<sup>th</sup> October announced that it was adding a third shift at the facility. The expanded work hours brought the total of Nissan new jobs in the state to 2,000 since mid-2011. Bill Krueger, the Nissan Americas vice chairman, said, "By 2015, 85 per cent of Nissan vehicles sold in the US will be built in North America."

Some 5,600 people now work at the Smyrna plant, which started up in 1983 and makes Nissan's most

popular car, the midsize Altima, among other models. Production of the company's all-electric Leaf was scheduled to begin at Smyrna in December, with assembly of the Rogue compact SUV to begin there this year.

## Steel

### A number of steel expansion projects in northeastern Ohio are nearing completion – or already there

"Steel producers have started and, in some cases, completed several large expansions in the region in the past two years."

Robert Schoenberger, who is the automotive reporter for the *Plain Dealer* (Cleveland), wrote this on 15<sup>th</sup> October. The information in these status reports, summarising some major developments in northeastern Ohio, was current as of that date:

**Project:** ArcelorMittal in January 2012 announced plans to reopen the west side of its Cleveland steel mill.

**Progress:** Work resumed in May with 150 new employees. The west side includes a basic oxygen furnace that utilises steel scrap, a ladle metallurgy furnace that further refines the steel, and a caster that converts the molten steel into slabs. Total employment at the plant is 1,800.

**Project:** In early 2011, Republic Steel said it would add a new line at its Lorain plant to increase oil and gas tubing production. The company also announced plans to expand its Pro-Tec joint venture with Japan's Kobe Steel. That plant, near Toledo, galvanises steel mainly for automakers.

**Progress:** The new Lorain line started production late in 2011, adding 100 jobs. At Leipsic, the Pro-Tec plant has begun an 80-job, \$400 million expansion planned to be ready in 2013.

**Project:** In early 2012, Republic Steel said it would build a new electric arc furnace at its Lorain plant.

**Progress:** Marketing manager Mark Huemme told the *Plain Dealer* in October that crews were pouring cement for the foundations of the furnace. The new equipment should be in place early in 2013 and producing steel by midyear, adding 450 jobs.

"It's not just a simple matter of turning an electric furnace on," Mr Huemme said, when asked about the delay between installation of the equipment and commencement of service. "It's going to be supplying continuous casters that haven't been used in several years."

**Project:** Timken Co in April 2012 broke ground on a \$225 million expansion of its Faircrest steel plant. The three-phase project was to add a forging press to shape steel, a ladle refiner to purify it, and a massive continuous caster intended to improve productivity and cut waste as the molten steel hardens.

**Progress:** The forging press has been installed and production set for early this year.

The building that will house the ladle refiner is in place and some equipment has arrived. Additional equipment is expected by midyear, and production should start in 2014.

Site preparation and building construction for the vertical caster have begun, Timken spokesman Dan Minnich said. Equipment will have arrived by midyear, and production should start in 2014.

**Project:** Charter Steel said in October that it would expand the electric arc furnace at its Cuyahoga Heights mill by about 25 per cent.

**Progress:** Construction was set to start in January during regularly scheduled downtime. The expanded furnace should be running before the end of this year.

## The World Trade Organization hands the US a victory over China in a case involving Chinese duties on speciality steel exports

The World Trade Organization on 18<sup>th</sup> October barred China from imposing duties on US exports of grain-oriented electrical steel, used in the cores of high-efficiency transformers, electric motors, and generators.

The WTO sided with Washington in a dispute with Beijing over the speciality steel, produced by AK Steel Corp of Ohio and ATI Allegheny Ludlum of Pennsylvania.

The US brought the case in September 2010, after China accused American exporters of dumping the steel on the Chinese market and levied punitive duties on the imports.

The tariffs, which AK Steel said averaged about 19.5 per cent on its products, potentially affected hundreds of millions of dollars' worth of grain-oriented electrical steel.

China imposed the duties after state-owned steel firms Baosteel Group and Wuhan Iron and Steel Group complained about material coming in from the US and Russia, which was not yet a WTO member and not involved in the case.

The Chinese companies objected to "Buy America" provisions of the American Recovery and Reinvestment Act of 2009 and to various state government procurement laws.

The WTO appeals judges on 18<sup>th</sup> October upheld an original ruling, published in June, rejecting China's claims that the three-person panel judging the case at that time had misinterpreted the WTO rules.

As noted by Reuters, the decision of the earlier panel, which was chaired by New Zealand's ambassador to the WTO, John Adank, received one of the most ringing endorsements by the appellate body in recent years.

❖ Reuters also observed that, although the speciality steel case is "tiny" compared with other trade disputes

between Washington and Beijing, the WTO ruling gave President Barack Obama a timely win as he defended himself against accusations by his Republican opponent, Mitt Romney, that he is soft on China.

In fact Mr Obama had already won WTO victories against Beijing in areas ranging from intellectual property rights to financial services to raw materials trade, and launched several other challenges – including a case against Chinese export restrictions on rare earth materials.

Mr Obama also created an interagency trade enforcement unit to devote more resources to ensuring that China and other countries abide by global trade rules.

## Elsewhere in steel . . .

❖ In other news of AK Steel, the West Chester, Ohio company raised its spot market base prices for all carbon flat-rolled steel products by \$40 per ton, effective 17<sup>th</sup> October. The company produces flat-rolled carbon, stainless, and electrical steels, largely for the automotive market.

❖ Scrap steel prices in the US were down last year – some 26 per cent through late October. But on 26<sup>th</sup> October a risk manager at INTL FCStone Inc told *Bloomberg News* that he saw a rebound dead ahead.

In a telephone interview from New York, Spencer Johnson said, "Mills are already raising prices for finished steel, and part of the reason may be that they're expecting higher costs" for scrap metal.

Mr Johnson reasoned that producers, having met with at least some success in a bid to charge more for finished steel, were likely to renew the push for higher prices as early as November.

Citing Steel Business Briefing data, *Bloomberg* reporter Joe Richter noted that the US average price of shredded steel scrap fell 3.7 per cent in September to \$392.50 a long (2,240lb) ton. Recycled metal surged 12 per cent last year, after a 40 per cent increase in 2010.

❖ McNeilus Steel Inc (Dodge Center, Minnesota), a full-line steel distributor and processor, broke ground in October on a \$15 million coil processing facility in Fond du Lac, Wisconsin. On completion by August 2013, the 96,000-square-foot addition to an existing service centre will deliver steel coil to Minnesota via CN Railroad.

Greg Head, the company's general manager, said that the Fond du Lac expansion would make that location "self-sufficient", processing coil product from 16 gauge to 5/8-inch thick. It will also, he told the *Fond du Lac Reporter* (8<sup>th</sup> October), "save us on freight from the mill and from processing the coils in Minnesota."

In addition to Dodge Center and Fond du Lac, McNeilus Steel has a service centre in Fargo, North Dakota.

**Dorothy Fabian**  
Features Editor

## 电信

### 美国极地卫星寿命临近终结，预示着美国面临暴风雨对生命、财产和商业造成损害的威胁

“预测一个卫星的寿命就像猜测一个灯泡何时会熄灭一样。根据最佳官方预测，最有可能的覆盖面空白期是在2016年和2018年之间。”

该预测由小约翰·H·库什曼引自《国际先驱论坛报》(10月26日)，来源于独立消息——由政府问责办公室、商务部监察长和一个蓝丝带外部专家团队——于今夏发布。

这三个消息来源均对监控暴风雨的联邦卫星计划提出了尖锐的批评，并呼吁进行紧急补救。

“空白期”是在这样一段至少一年的时间里，美国很可能没有为预测暴风雨路径提供非常宝贵的数据的关键卫星。(《老化的卫星队伍可能意味着暴风雨预测的空白期》)

过去两年中，专家们变得越来越担忧，因为现有的极地卫星已经接近或超过他们的预期寿命，下一批名为JPSS-1的替代卫星直到2017年初才能开始服役。

可能发生的覆盖面空白期可不是一件小事情。正如《国际先驱论坛报》中所描述的，濒危的卫星环绕极地—极地的轨道飞行，午后穿过赤道，可一次性扫视整个地球。该卫星与其他时刻点上的人造卫星一起，构成了提前预测长达5日的重要暴风雨路径的最有效的工具。

随着飓风“桑迪”在加勒比海域积聚能量，库什曼先生的文章发布得很及时。整个上周，预报员始终依赖卫星观察获取几乎所有初步(和全面)改进桑迪的本来路径的计算机模型所需要的资料：它会突然向东北部海岸移动？还是会调头转向开放的大西洋，从而不会危及人类？

实验证明，如果没有这类卫星数据，预报员可能会将2010年袭击华盛顿·DC的暴风雪“雪魔”的威力低估一半。

库什曼先生回忆的其他灾难包括2011年的热带风暴艾琳，以及更早以前的1938年的强飓风，在没有任何先兆的情况下袭击了纽约，夺取了长岛数百人的生命。

长岛拿骚县地区现任突发事件应急管理专员的克雷格·J·克拉夫特说：“失去任何能让我们精确预报来袭的任何天气事件的改进机会，我们都承受不起。”

❖ 备受质疑的卫星计划由美国国家海洋和大气管理局(NOAA)执行，NOAA与美国国家航空航天局(NASA)均是商务部的部门之一。对NOAA的表现的严厉指责包括多年的资金不足，对政府对该项目的成本预测的质疑，对主管人员没有在空白期来临时通盘考虑他们的替代方案这一失误的谴责。

据称，对这130亿美元项目的管理不善可追溯到十年前，最近一位商务部高级官员形容其为“全国的头疼事儿”。由A·汤姆·杨(一位航空航天业的佼佼者)领导的外部审查小组称该项目的管理为“混乱不堪”。

补救办法可能正在酝酿中。商务部和美国国家海洋和大气管理局(NOAA)高级官员们已经下令对该计划进行改革。库什曼先生报道说他们已经采取快速行动，以便确定JPSS-1零件的细节设计，其中很多已经部分建造完成。且他们已经承诺很快制订一项独立的新成本预测，来厘清该计划的预算。

“对我们的气象卫星计划而言，没有比卫星覆盖范围出现空白期的风险更重要的战略问题，”美国国家海洋和大气管理局(NOAA)负责的商务部副部长简·卢布琴科，在最近的一份备忘录中要求对该计划进行紧急重组时写道。卢布琴科女士肯定地说，奥巴马政府一直在尝试补救“这一混乱不堪的计划，该计划由于长期的管理问题已形成我们国家的一件头疼事。”

### 极地到极地卫星： 安静的，彻夜不合眼的哨兵

《国际先驱论坛报》(见上述“老龄化的美国卫星”)采访的专家之一丹尼斯·哈特曼，是对美国国家研究委员会于五月份发布的地球观测卫星计划进行全面审查的主席。哈特曼先生说，它揭示了“一段漫长的、令人悲伤的历史。”

哈特曼的发现促使库什曼先生反省如果失去“现代地球和大气科学皇冠上的宝石”之一，美国还将失去什么。联合极地卫星系统(JPSS)包括研究全球气候的重要传感器。

由于美国国家海洋和大气管理局(NOAA)遇到的困难影响了该计划，美国现在面临丧失这项能力的危险。

但是，JPSS的主要卫星约为小型校车大小，以检测放入“极地pm”轨道的空气湿度和温度的方法最为著名。这种卫星在更低的海拔高度上运行，可高频、清晰地拍摄全球各地的气象状况的图像。相反地，库什曼先生指出，其他卫星不间断地从更远的地方盯着地球的一个位置看，只能用于短期预测。

美国追踪逼近的飓风路径的主要计算机模型所使用数据的84%由极地卫星提供。多年以来，随着这种类型预测精度的稳步提升，美国国家海洋和大气管理局(NOAA)维护的pm极地卫星已经发挥了一项关键作用：“就像篮球队的中锋一样，”《国际先驱论坛报》如是说。

但是，一年甚至多年的缺乏监管——现在许多专家视其为几乎肯定会发生——正在逼近。

库什曼先生写道，“虽然一直以来只是有很多警告，但现在覆盖面的空白期已经变得越来越有可能。”

## 可再生能源

### 中国太阳能帆板制造商的产品大量涌入，卷入美国和欧盟“绿色供应过剩”贸易调查

“不仅对制造商而言，而且对以低利率向工厂融资将近180亿元的国有银行，以及对提供贷款保证和以很低的折扣价向制造商出让宝贵的土地的省级和市级政府而言，结果都是即将来临的金融危机。”

《纽约时报》凯斯·布拉德什(Keith Bradsher)在一次演讲结束时有些超越演讲范围、可能招致麻烦的言辞。他写道，中国已经快速成为再生资源领域的世界领军者，迫使许多外国竞争者破产。

但是全世界对太阳能帆板和风力发电机组的需求经过最近超过5年的迅速增长以后，中国制造能力增加得更为迅猛，造成了大量的过度供给和一场欲演欲烈的价格战。

《纽约时报》香港分社社长布拉德什先生在本夏末总结了这种情形。自2008年以来，太阳能帆板的价格下跌了75%，2012年，中



国最大的帆板制造商承受着每卖出3美元就亏损高达1美元的损失。虽然太阳能的成本下降了,但在中国还是维持在燃煤发电价格的三倍。这就要求对工业用电者征收高额的税收,用于对太阳能进行大量的补贴,以弥补再生能源的高成本。(“太阳能帆板过剩对中国造成新的威胁,”十月四日)

中国太阳能企业高管将他们的困难至少部分归咎于美国去年春季对太阳能帆板进口征收反倾销和反补贴税的决定,以及欧盟自己对从中国进口的这类产品发起反倾销调查的最新决定。

“这并不是一个中国行业问题,而是一个全球太阳能行业问题,” 罗里·麦弗逊(Rory Macpherson),无锡尚德太阳能电力公司(中国最大的太阳能帆板制造商之一)的一位发言人告诉记者。“这主要是供求失衡以及美国和欧盟贸易调查的结果。”

(中国最高经济规划机构)国家发展和改革委员会能源和气候政策的长任总干事李俊峰(Li Junfeng)将问题归责于其他地方。在与布拉德什先生的一次访谈中,李俊峰先生说国内太阳能行业的问题是产能过剩的结果,而不是贸易壁垒的过错。

问题在于中国企业急于涌入任何看起来有吸引力的新行业,造成过度投资,李先生说。他认为,中国企业和他们的银行远不如西方企业更愿意承认已经被证实不盈利的投资失败。

❖ 可以肯定地说,直到最近,中国政策制订者仍被全世界的环保主义者大呼为具有远见卓识。如今,在中国太阳能企业的产出过剩的情况下,中国在“绿色”科技中成为全球主导者的战略显然已经碰壁了。

❖ 虽然中国太阳能帆板制造商急切地寻找客户,美国却投入了双倍的将中国产品拒之门外。美国商务部10月10日声称中国制造商和出口商在美国以18.32%至249.96%的倾销幅度出售太阳能电池,因此它将对这类进口征收14.78-15.97%的反补贴税。这与之前三月份公布的关税——2.9%到4.73%——形成鲜明对比。

中国国营通讯社新华社及时引述了中国商务部发言人沈丹阳对美国决定的评论“标志着保护主义”和“阻碍新能源的发展。”新华社在10月11日发表的一篇社论中断言,(美国)商务部的决定对美国、对中国都没有好处,只会“加剧两国的贸易摩擦。”

## 随着美国可再生能源的推进,美国将在加利福尼亚启动一个雄心勃勃的太阳能发电项目

十月中旬,美国内政部长Ken Salazar局长宣布,政府已经在亚利桑那州、加利福尼亚州、科罗拉多州、内华达州、新墨西哥州和犹他州等17个地区初步圈定了一批太阳能区域。该项目为该国西部的公用事业级太阳能发电项目设计了一份蓝图。该部门说这些地区可制造多达23,700兆瓦太阳能。

10月25日,据称,一个位于圣何塞(洛杉矶以北100英里)的250兆瓦的太阳能工程的大约10%的部分已经开始向美国国家电网输送电力。NRG能源和太阳能公司称美国加州峡谷太阳能牧场的第一批22兆瓦电力从圣路易斯 - 奥比斯波县区域汇入电网。该项目与国家实用太平洋天然气和电力公司(PG&E)签订了25年的供电合同。

预期整个工程将于2012年底上线。全面运营后它提供的太阳能将能满足100,000家庭的日常电力需求。国家实用太平洋天然气和电力公司(PG&E)的一位高级副总芳苑(Fong Wan)在一份声明中说:“该项目将在我们满足加州33%的可再生能源配额标准以及为所有加州人创造一个清洁能源的未来而努力的过程中起到重要作用。”

## 汽车业简讯……

❖ 10月8日,克莱斯勒公司称,由于粘合不足可能导致后轴齿轮螺母松动,该公司将召回2009-2010款的道奇公羊(Dodge Ram) 1500和道奇达科他(Dodge Dakota)卡车。据美国国家公路交通安全管理局(NHTSA)称,车轴脆弱可致使汽车锁死,导致司机失控,发生事故。本次召回涉及到从7月1日至11月30日制造的44,300辆汽车。

政府和公司高级官员说,已经出现了15起这类后轴故障的报道,其中,有四起是导致汽车失控,一起是司机撞上了一个水泥墩。克莱斯勒公司通告车主,其经销商将为车主免费安装固定器,以确保齿轮螺母安全。

❖ 根据尼桑汽车10月22日向美国国家公路交通安全管理局提交的一篇报道,该日本汽车制造商将召回将近14,000辆2012-2013年车型的阿蒂玛(Altima)轿车,因为其方向盘缺陷可能导致司机对车辆失去控制。

尼桑汽车告诉美国安全机构,动力转向齿条和横向连接螺栓没有按照适当的规范旋转到位。可能致使螺栓松动,进而造成在启动时的噪音和振动。

尼桑汽车七月底报告美国国家公路交通安全管理局(NHTSA)说,他们在“在一次例行的动态驾驶测评中”发现了一个横向连接螺栓出现松动。

八月初,尼桑公司设在广州和密西西比的装配车间在汽车上发现螺栓松动。该汽车制造商要求经销商检查其汽车是否存在这种情况,直到10月3日它都没有做出必须召回产品的决定。

美国国家公路交通安全管理局(NHTSA)也宣布开始调查从2011年起,有70,000辆现代圣达菲交叉车型存在“完全丧失转向功能”的可能性。对现代圣达菲的调查涉及到对2011款车型的转向轴有一个紧固件松动的问题。

❖ 另外一则来自尼桑汽车的消息——对美国田纳西州士麦那组装厂来说是第一次——该公司于10月19日宣布,它将在该工厂安排三班倒。自从2011年年中以来,工作时间延长为该州带来了2,000份尼桑公司新工作。尼桑美国副总裁比尔·克鲁格说,“截止2015年,美国销售的85%的尼桑汽车将在北美生产。”

士麦那工厂(开办于1983年,出产尼桑所有车型中最流行的车型——中型阿蒂玛)现在约有5,600人在那里工作。该公司的全电动叶片计划于12月在士麦那工厂投产,而Rogue紧凑型SUV将于今年在士麦那工厂开始组装。

## 钢铁业

### 美国俄亥俄州东北部大量的钢铁扩建项目已接近尾声——或者已经竣工

“该地区有一些钢铁业生产商过去两年中已经启动和完成几项大规模扩张。”

《克里夫兰老实人报》(Plain Dealer (Cleveland))的汽车行业记者罗伯特·斯库恩伯格(Robert Schoenberger)10月15日写道。这些概括俄亥俄州东北部主要进展的现状报道所提供的信息截止当日有效:

项目: 2012年1月,安赛乐米塔尔公司(ArcelorMittal)宣布重新启动其位于克里夫兰西部的钢铁厂的计划。



**进展:** 五月份已有150位新工人开始工作。西部工厂包括一个充分利用废钢的基础氧气顶吹转炉, 一个进一步提纯钢铁的钢包精炼炉, 和一个将钢水转换成钢坯的铸机。工厂共有工人1,800人。

**项目:** 2011年初, 共和钢铁 (Republic Steel) 称, 将为其洛雷恩 (Lorain) 厂增加一条新生产线, 以扩大石油和天然气管材生产。该公司也宣布扩张其与日本神户制钢 (Japan's Kobe Steel) 的 Pro-Tec 合资企业的计划。

**进展:** 新的洛雷恩 (Lorain) 生产线于2011年底投产, 新增就业100人。在Leipsic, Pro-Tec工厂已经启动一个4亿美元的扩张项目, 可创造就业80人, 预计2013年完工。

**项目:** 2012年初, 共和钢铁 (Republic Steel) 称其将在洛雷恩 (Lorain) 厂建造一个新的电弧炉。

**进展:** 十月, 营销经理马克·休米 (Mark Huemme) 告诉《克里夫兰老实人报》, 工人们正在往熔炉地基上浇筑水泥。新设备将于2013年到位, 2013年中可开始炼钢, 增加就业450人。

“这不仅仅是启用一个电炉这么简单,” 当被问及安装设备和开始服务于生产之间的延迟时, 休米先生说。“我们将供应多年未使用过的连铸机。”

**项目:** 2012年4月, 铁姆肯有限公司 (Timken Co) 的Faircrest钢铁厂2.25亿美元扩张项目破土动工。该三阶段项目包括增加一台使钢铁成形的模锻压力机, 精炼钢的钢包精炼机, 和一台大型连铸机, 目的是提高生产力, 减少钢水凝固时的浪费。

**进展:** 模锻压力机已安装完毕, 预计今年年初可投产。

放置钢包精炼机的厂房已建成, 一些设备已经到位。预计其他的设备年中可就绪, 2014年可开始生产。

安放垂直连铸机的现场准备工作和厂房建设已经开始, 铁姆肯有限公司的发言人丹·明尼克 (Dan Minnich) 如是说。设备年中就能到位, 2014年可投产。

**项目:** 十月份, Charter钢铁公司称其将把凯霍加高地厂 (Cuyahoga Heights mill) 的电弧炉扩建25%。

**进展:** 项目建造计划在1月份的定期预定停机时间开始。扩能后的电弧炉将于今年年底开始运行。

## 世贸组织 (The World Trade Organization) 在一起涉及中国特种钢材出口税的案件中裁定美国胜出

10月18日, 世贸组织禁止中国向美国出口的晶粒取向性电工钢征收关税, 这种钢被用于高效变压器、电动机和发电机的铁芯。

世贸组织支持华盛顿与北京关于俄亥俄州的AK钢铁公司和宾夕法尼亚州ATI阿勒格尼卢姆生产的特种钢的纠纷中站在了华盛顿一边。

继中国申诉美国出口商在中国市场上倾销钢铁并对进口钢铁施加惩罚性关税之后, 美国于2010年提交此案。AK钢铁公司所谓的对其产品征收的平均19.5%的关税潜在地影响了晶粒取向性电工钢数亿美元的价值。

在宝钢集团、武汉钢铁集团、钢铁集团公司等国有钢铁企业抱怨来自美国和俄罗斯 (还不是世贸组织成员, 没有卷入纠纷之中) 的原料之后, 中国开征这项关税。中国企业目的是“利用美国”2009

年《美国复苏与再投资法案》的规定, 促使州政府采购法更为多样化。

10月18日, 世贸组织上诉法官维持6月份公布的原有裁定, 驳回中国“3人小组曲解WTO规则, 不恰当地审理了本案”的主张。

正如路透社所说, 由新西兰驻世贸组织大使约翰·阿丹克 (John Adank) 领导的原小组做出的决定受到了近年来上诉机构最高度的认可。

❖ 另据路透社观察, 虽然与华盛顿和北京的其他贸易纠纷相比, 特种钢铁案件是“小菜一碟”, 但是, 在共和党对手米特·罗姆尼 (Mitt Romney) 指责总统贝拉克·奥巴马 (Barack Obama) 对待中国软弱之时, 世贸组织的裁定使奥巴马成功地为自己进行了辩护, 获得了及时的胜利。

事实上, 在世贸组织中华盛顿与北京从知识产权到金融服务到原材料贸易等领域的纠纷中, 奥巴马先生都已经赢得了胜利, 并且发起了其他的一些挑战——包括对中国出口稀土材料进行限制的案例。

他还成立了一个跨部门的贸易执法单位, 以确保中国和其他国家遵守全球贸易规则。

## 钢铁业其他消息……

❖ 其他关于AK钢铁公司 (位于俄亥俄州西切斯特) 的消息: 该公司所有碳扁钢产品的现货市场基准价格从10月17日起提价40美元/吨。该公司生产平轧碳钢、不锈钢、电工钢, 大部分用于汽车市场。

❖ 从去年至今今年10月底, 美国废钢价格下降了约26%。但是在10月26日, INTL福四通公司 (INTL FCStone Inc) 一位风险经理告诉彭博社记者, 他认为价格很快会反弹。

斯宾赛·约翰逊在纽约接受的电话访谈中说, “工厂的成品钢都在提价, 部分原因可能是他们预期废钢的成本会升高。”

据约翰逊先生推断, 制造商们在提高成品钢价格的竞价中至少已经取得了一些成功, 制造商很有可能在十一月初就开始新一轮的提价。

援引《钢铁商务简报》的数据, 彭博社记者·李希特说, 9月美国碎废钢的平均价格降至392.50美元/长吨 (2,240磅), 跌幅3.7%。再生金属价格继2010年上涨40%后, 去年又飙升了12%。

❖ 十月, McNeilus钢铁公司 (道奇中心, 明尼苏达), 一个全行业钢材经销商和加工企业, 在威斯康星州丰迪拉克市动工安装1,500万元的线圈加工设备。预计2013年8月份完工后, 原有的服务中心将扩张96,000平方英尺, 届时将通过CN铁路把钢线圈运往明尼苏达州。

该公司总经理格雷格·赫德 (Greg Head) 说, 丰迪拉克扩张后将使该地区实现“自给自足”, 生产直径在16英尺到5/8英尺厚的线圈产品。他告诉《丰迪拉克报道》 (Fond du Lac Reporter, 10月8日), “它也将为我们节省从明尼苏达州的工厂出厂的运费和加工线圈的费用。”

除了道奇中心和丰迪拉克, McNeilus钢铁公司还在北达科他州法戈市拥有一个服务中心。

专栏编辑:  
Dorothy Fabian

# Cable sheathing, armouring and taping materials and machinery

## Environmentally friendly

Established in 1995, Guangzhou Li Chang Fluoroplastics manufactures fluoroplastics raw materials and is the first company in mainland China manufacturing environmentally friendly coloured fluoroplastics.

Operating under the ISO9001 quality system, Li Chang annually produces 2,600 tons of FEP (F46), 100 tons of ETFE (F40), 400 tons of PFA and 80 tons of PVDF. The company is a supplier for more than 130 heat resistant fluoroplastics electric wire factories and fluoroplastics injection moulding factories.

With the hope to actively respond to the EU RoHS direction and to reduce electric manufacturers' concerns on environmental pollution, a tremendous investment was made to upgrade the checkout and test facilities. In October 2005, the company became the first to launch mass production of FEP environmentally friendly coloured granules, which are thoroughly inspected before delivery. The proportional data of the hazardous material is specified on each packing bag, which will reassure customers about product safety.

Based in the Baiyun District, Guangzhou, the company's modern factory covers an area of more than 10,000m<sup>2</sup> and has 22 assembly lines.

Raw material imported from Japan, America and Europe is used, and advanced techniques of production and processing are adopted in the production process.

### Products introduction

**FEP (fluorinated ethylene propylene).** Characteristics: Fine lubricity, insulation, high temperature resistance, flame retardant, and radiation resistance. There are 13 series products with 10 colours available including black, white, blue, brown, red, yellow, green, grey, orange and transparent. Application: It is widely used in high-temperature resistance and corrosion-preventative products such as electric wire, cable, cover, tubular products, valve lining, etc.

**PFA (polytetrafluoro ethylene).** Characteristics: Fine heat resistance, cold resistance, chemical durability, mechanicalness, insulation, lubricity, breaking and cracking resistance. There are three series products with nine colours available for injection, extrusion and moulding. Application: It is widely used in acid resistance, alkali resistance injection and valve lining products, high-temperature resistance electric wire and cable.

**ETFE (ethylene-tetrafluoroethylene).** Characteristics: Similar to FEP. There are three series products with seven colours available for injection, extrusion and moulding. Application: widely used in acid resistance and alkali resistance injection products, electric wire, cable, valve lining and spray-painting.

**PVDF (polyvinylidene fluoride).** Characteristics: Strong obdurability, low friction coefficient, corrosion prevention, aging resistant, climate resistant and radiation resistant. There are three series products with seven colours available for injection, extrusion and moulding. Application: Used in acid and alkali resistance, corrosion prevention, friction coefficient products such as injection, electric wire, cable, cover, etc.

**Guangzhou Li Chang Fluoroplastics Co Ltd – China**  
Website: [www.gdlichang.com](http://www.gdlichang.com)

○ FEP from Guangzhou Li Chang Fluoroplastics



## 20 years in the making

Established in 1990, Shenyang Tianrong Cable Materials is a major global supplier of water blocking materials and semi-conductive shielding materials for optical fibre cable and power cable.

After 20 years of development, Tianrong offers an extensive range of cable-use water blocking tapes, water blocking yarns, semi-conductive wrapping tapes and other taping materials. Its products demonstrate some of the most important features in cable industry – high-performance, process-friendliness, consistency in quality and cost-effectiveness.

These features are maintained by ISO9001 certified plants, reinforced by the strong R&D team, guaranteed by advanced production lines and furnished with effective customer service. Nowadays, Tianrong's innovation, vitality, commitment to high quality and sincerity have made a refreshing part in the cable world, and have helped establish partnerships with many leading cable producers, including Furukawa, Fujikura, Prysmian, Phelps Dodge, Corning, and Nexans.

Occupying 50,000m<sup>2</sup> of land, Tianrong boasts three modern plants in Shenyang Technical and Development Zone. The three plants house 14 production lines for tapes and yarns, slitting facilities and one weaving plant with 22 weaving units.



○ Tianrong's third plant in the Shenyang Technical and Development Zone

Total capacity of Tianrong reached 5,000 tons in 2009 and the figure is growing very quickly as new investment has been made to further increase efficiency and productivity.

**Shenyang Tianrong Cable Materials Co Ltd – China**  
**Website:** [www.tianrong-tape.com](http://www.tianrong-tape.com)

## Emphasis on quality and satisfaction

Centran Industrial is a global supplier of excellent raw materials for the cable and wire industry. One of the biggest manufacturers of water-blocking tape, water-blocking PET & E-glass yarn, polyester yarn and flame retardant and marking tape in China, the company was formed in 1997.



○ Tapes and yarns from Centran

With manufacturing facilities in Chengdu and Wuxi, the total capacity is 5,000m for water-blocking tape and yarn. With strong emphasis on quality and customer satisfaction, the company is ISO 9002 certified and has become one of the most reliable sources of quality products in the international market, already exporting to more than 45 countries worldwide.

Its tapes and yarns have been used for power cable, optical cable, copper telephone cable, data cable, submarine cable, etc as binding, bedding, barrier and separating function. Centran supplies tape in flat pads or traverse spool from 8 to 40km in length, which is good for cable makers to use with high production speed, good efficiency and reduced labour costs. For water blocking yarn, the company uses cylindrical or conical cardboard tubes to meet any size requirement.

Continual investment in research and development has seen Centran develop new types of single-side water blocking tape with spraying technology, which is totally different from the traditional laminated process. This gives good swelling property and less weight while the surface is even without observe particles, and thickness is stable. SAP powder won't drop off during slitting and processing, etc.

Centran has invested much in research and development of new products and will continuously seek to make the most reliable and excellent quality products to give satisfaction to all of its customers.

**Chengdu Centran Industrial Co Ltd – China**  
**Website:** [www.china-centran.com](http://www.china-centran.com)

## Manufacturing complex data and special cables

As cables must meet ever more demanding tasks, cable design is continually becoming more complex. In order to keep pace with this development, cable manufacturers need manufacturing lines which are technically mature, operate economically and can be used to produce reliably and efficiently today's as well as tomorrow's cables.

The machines and lines built by Maschinenfabrik Niehoff meet these requirements, for example the DSI double twist stranding machines and the lever arm rotary braiding machines of the BMV series with their taping devices.

About ten years ago, Niehoff began to develop both the data and special cable stranding machines of the DSI series with ancillary equipment and the BMV type braiding machines.

The DSI stranding concept is based on the successful design of Niehoff's D series double-twist bunching machines, which represents a well-established experience in the design of wire bunching and cable stranding machines dating back to the early 1970s. Similarly the BMV type braiding system has been developed by specialists with a long-standing experience in building this type of machinery.

The field proven double twist stranding machines of the DSI series, DSI 631 and DSI 1001, are designed to manufacture insulated conductors into pairs or quads or to strand conductor pairs into special cables with or without foils. With diverse components the DSI machines can be configured into complete lines, perfectly adapted to the requirements of the users.

Depending on the configuration, a DSI stranding line can apply up to three foils inline on a cable under controlled foil tension in the multi taping process. One of the several DSI application examples is the manufacturing of instrumentation cables for the petrochemical industry. During the stranding process, the inner part of the cable has to be covered with three film layers.

All elements of the cable are assembled in one process on a stranding line which is composed by three tangential pay-offs type ATP 630, three longitudinal tape pay-offs type ALB 600, a pre-twister type VVD 180, and a DSI 631 type double twist stranding machine.

The 12, 16 and 24-carrier lever arm rotary braiding machines of the BMV series are mainly designed to apply an EMC shielding onto cables. With an integrated central taping device, the braiding and the subsequent taping processes are completed in one step under constant and uniform haul-off tension. In this case, considerable cost savings result from eliminating intermediate rewinding and WIP storage, from requiring less shop floor space and from a higher product quality. The applications of the BMV machines include the manufacture of data, control and coaxial cables, hollow braids for battery cables, stranded braids, and mechanical reinforcements for pressure hoses and medical catheters.

The BMV braiders and the DSI machines with their ancillary equipment are part of the modular Niehoff machinery programme which covers all operational steps from rod wire drawing to fine wire drawing and to data and special cables manufacturing.



○ BMV 16 type lever arm rotary braiding machine

By means of several quality control systems BMV braiders can work for a long time unattended and without operator intervention. With DSI lines all types of the above-mentioned cables – and even cables of future categories – can be manufactured with high speeds and the utmost precision and quality. Another advantage for the users of Niehoff systems is that Niehoff supports customers with comprehensive process knowledge, reliable technical assistance and a worldwide customer service, which is always ready for action. The users of Niehoff technology therefore have the ideal tools at hand to benefit from the further development in the cable sector.

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

# 电缆护层、铠装、包带材料和设备

## 环保

广州立昌氟塑料有限公司成立于1995年，专业制造氟塑料原料，是中国大陆第一家生产氟塑料环保彩色粒的厂家。

立昌严格执行ISO9001质量体系的标准，年生产2,600吨FEP (F46)，100吨ETFE (F40)，400吨PFA和80吨PVDF。公司生产稳定，供货及时，是130多家高温氟塑电线厂、氟塑料注塑制品厂的首选供应商。

为积极应对欧盟RoHS环保指令，解决各电子厂商的后顾之忧，公司投入巨资，完善检测设备。2005年10月，在同行业中率先进行了FEP环保彩色粒的批量生产，并对出厂原料实行全检制度。在每个包装袋上均注明有害物质的含量数据，以便客户放心使用。公司的现代化化工厂位于广州市白云区，占地面积一万多平方米，拥有22条流水生产线。公司选用日本、欧美优质的原材料，引进国外先进的生产技术和加工工艺。

### 产品介绍

**FEP (聚全氟丙烯)特点:** 润滑性优良、电荷载绝缘性优异、耐高温、阻燃、耐辐



○ 广州立昌氟塑料有限公司生产的FEP (聚全氟丙烯)

射。立昌氟塑料有限公司开发有黑、白、兰、棕、红、黄、绿、灰、橙、透明等十种颜色十三款环保系列产品。适用范围：目前国内广泛应用在电线、电缆、护套、管材、衬阀等耐高温，耐腐蚀领域。

**PFA (可溶性聚四氟乙烯)特点:** 耐热、耐寒、化学稳定性、机械性、绝缘性、

自润滑性、耐折性、耐开裂性优异。立昌氟塑料有限公司开发有注塑、挤出、模压三大系列九种颜色二十二款产品。适用范围：目前国内主要用于防腐防酸碱注塑件、高温电线电缆、防酸碱内衬件，吹塑制品等。

**ETFE (乙烯、四氟乙烷共聚物)特点:** 电化学特性和FEP相同，但具有更优异的机械特性。立昌氟塑料有限公司开发有注塑、挤出、模压三大系列七种颜色。适用范围：目前国内主要用于防酸碱注塑件、挤出电线电缆、内衬、喷涂、吹塑方面。

**PVDF (聚偏氟乙烯)特点:** 在氟塑料中具有最强韧性、低摩擦系数、耐腐蚀性强、耐老化性、耐气候，耐辐照性能好等特点。立昌氟塑料有限公司已开发有注塑、挤出、模压三大系列七种颜色产品。适用范围：各种防酸碱防腐蚀、耐磨的注塑件、电线电缆、护套、模压内衬件。

**Guangzhou Li Chang Fluoroplastics Co Ltd - 中国**  
网址: [www.gdlichang.com](http://www.gdlichang.com)

## 20年专注电缆材料生产

沈阳天荣电缆材料有限公司成立于1990年，是国内外电缆用阻水材料和光纤电缆、电力电缆用半导体屏蔽材料的专业供应商。

天荣公司经过20年的发展，能够提供广泛系列的电缆用阻水带、阻水纱、半导体阻水带以及其它带材料。其产品具有高性能、加工环保、质量稳定和成本经济等优势，因而在业界享有盛名。

公司通过了ISO9001质量管理体系认证。公司拥有强大的研发团队，先进的生产线，以及高效的客服支持。

如今，天荣的创新、活力、品质和真诚奠定了公司在电缆界的影响力，公司与诸多领先的电缆生产商建立了伙伴关系，包括Furukawa、Fujikura、Prysmian、Phelps Dodge、Corning和Nexans。

天荣总占地面积达5万多平方米，在沈阳技术开发区现有三个生产厂区。这三个厂区拥有14条带、纱生产线、分切设施和具有22台编织设备的编织厂。2009年，天荣年生产能力达到5,000多吨，随着新的投资促使生产率和生产力的提高，产能还在迅猛增长。

**Shenyang Tianrong Cable Materials Co Ltd - 中国**  
网址: [www.tianrong-tape.com](http://www.tianrong-tape.com)

## 关注质量和满意度

腾华实业是一家全球性的电线电缆优质原料供应商。公司成立于1997年，是中国规模最大的阻水带、阻水PET & E-玻

璃纤维纱、涤纶纱、阻燃和标识带生产商之一。

公司在成都和无锡拥有生产设施，年生产阻水带和纱的能力达5,000吨。公司高度重视质量和客户满意度，已获得ISO 9002质量管理体系的认证，成为国际市场最可靠的高质产品来源之一，其产品远销全球45个国家。

公司的带和纱应用于电力电缆、光纤电缆、铜电话电缆、数据电缆、海底电缆等，具有捆绑、铺盖、阻隔和分离功能。

腾华供应的带使用平垫和横向卷轴包装，长度范围为8-40km，是电缆制造

商高速高效生产和降低人工成本的理想选择。

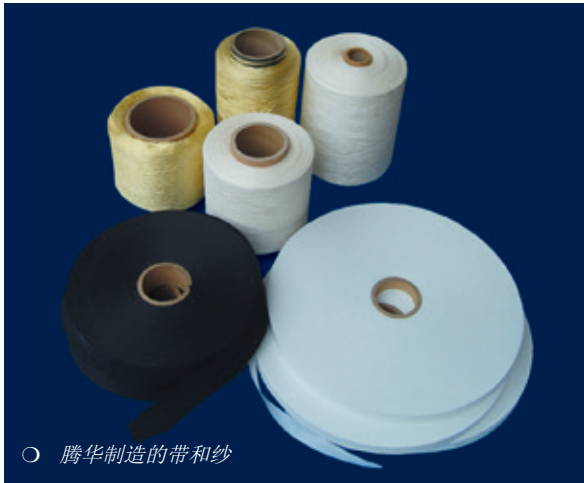
阻水纱，公司采用圆柱形或圆锥形纸管包装，以满足任何规格的要求。

腾华持续投资于研发，应用喷涂技术推出新型单面阻水带，完全不同于传统的层压加工，因此，表面具有良好的溶胀性和较轻的重量，并且没有可视颗粒，厚度也稳定。

SAP粉末在分切和处理等过程中不会脱落。

腾华大量投资于研究开发新产品，将不断创造最可靠、最优质的产品，以满足客户的所有需求。

**Chengdu Centran Industrial Co Ltd**  
- 中国  
网址: [www.china-centran.com](http://www.china-centran.com)



○ 腾华制造的带和纱

## 制造复杂的数据和特殊电缆

随着电缆应用的要求越来越苛刻，电缆设计相应地变得越来越复杂。为了紧跟发展的步伐，电缆制造商需要技术上成熟、运行成本经济、并且可靠和高效生产当前和未来电缆产品的生产线。

Maschinenfabrik Niehoff制造的机器和生产线满足这些需求，比如，DSI双捻

绞线机和BMV系列杠杆臂旋转式编织机，及其成带装置。

大约十年前，Niehoff就开始开发带有配套设备的DSI系列数据、特种电缆绞线机，以及BMV系列编织机。DSI绞线机的设计理念基于成功设计了Niehoff D系列双捻绞线机，这意味着公司20世纪70年代初在线聚束和电缆绞线机设计方面拥有了一套行之有效的经验。同样，BMV系列编织机也是由行业经验丰富的专家研制而成。

经过实地验证的双捻绞线机DSI系列DSI 631和DSI 1001设计用于生产绝缘导线对、四边形线或绞线对，以及带或不带箔的特种电缆。由于各种组件，DSI机器能够配置成完整的生产线，完全胜用户的各种要求。

根据配置不同，在多个编带加工过程中，在可控的箔张力下，DSI绞合线可应用于三种箔平行排列在一种电缆上。DSI的应用领域之一包括，为石化行业生产仪器仪表电缆。在绞合过程中，电缆的内部必须覆盖三个薄膜层。

电缆的所有元素都集中在一条绞合生产线上，该生产线包括三台切向放线装置ATP 630，一台纵向带放线装置ALB 600，一台预捻丝机VWD 180，以及一台DSI 631型双捻绞线机。

12, 16和24-承载杠杆臂旋转编带机BMV系列其设计主要将EMC屏蔽应用到电缆上。

利用一个集成中央成带装置，编带和随后的成带工序在恒定和均匀的牵引张力下一步完成，因此，避免了中间复绕，WIP存储空间减少，并且产品质量更高，从而节约了大量成本。

BMV机器适用范围包括生产数据、控制和同轴电缆，用于生产电池电缆的织带，绞线带，压力软管的机械强化，以及医用导管的制造等。

BMV编带机和DSI机器，及其附属设备，作为Niehoff模块化机械程序的组成部分，该程序包括所有的操作步骤，从棒材拉丝到细拉丝，再到数据和特种电缆的制造。

通过几个质量控制系统，BMV编带机能够在无人值守的情况下连续工作很长一段时间，无需操作员干预。利用DSI生产线，所有类型的上述电缆 - 甚至未来类别的电缆 - 能够最高速度、最大精度和最佳质量地生产。

Niehoff系统的另一优势在于Niehoff为客户提供全面的工艺知识，可靠的技术援助和即时的世界范围内的客户服务。Niehoff技术解决了用户的后顾之忧，他们将受益于公司在电缆领域的不断创新发展。

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



○ BMV 16型杠杆臂旋转式编带机

# Fire resistant optical cable

By L Caimi, D Ceschiati and M Maritano, Prysmian SpA, Milan, Italy, and E Consonni, Prysmian Cavi e Sistemi Italia Srl, Milan, Italy

## Abstract

A new family of optical fire resistant cables has been developed, used to provide the necessary levels of safety in critical environments as public buildings, subways and also in industrial areas.

These new cables maintain their optical transmission characteristics with very limited change in attenuation for a long time in compliance with international standards.

This innovative cable design, using special ceramifiable compound and appropriate flame shields allow control of heat release and to guarantee the right level of mechanical protection for the optical fibres during the burning phase, limiting in this way any variation in attenuations and avoiding transmission interruptions.

## 1 Introduction

Low-Smoke-Zero-Halogen (LSZH) flame-retardant and fire-resistant cables, both copper and optical, are widely used to provide the necessary levels of safety in critical environments such as public buildings, ie hospitals, nursing and rest-homes, cinemas and theatres, sub-ways, railway tunnels, and also in industrial areas.

With regard to optical cables, when a fire occurs, the additional attenuation of the optical fibre directly affects the signal transmission performance and hence the effectiveness of the security systems where uninterrupted transmission is needed for operation of emergency devices such as phones, closed-circuit television, automatic doors, building management systems and fire alarms.

The functionality of the optical cable must be maintained during the fire occurrence and usually also for a predetermined period of time.

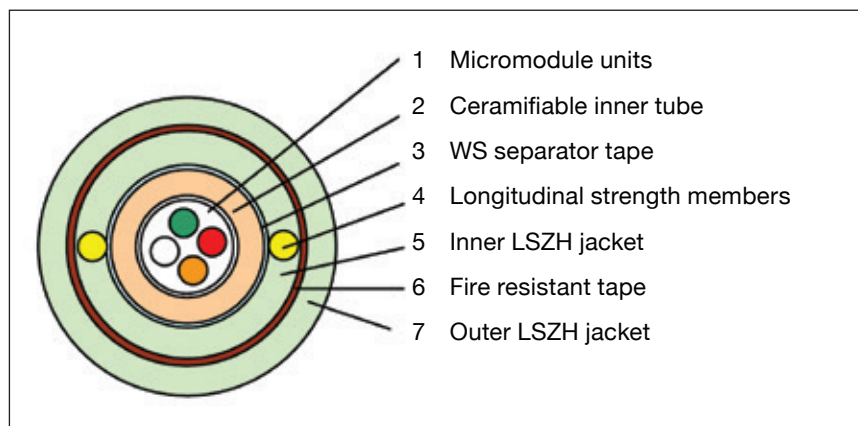
Starting from this scenario a fire resistant cable family has been developed with a high fibre count in a compact design, all dielectric or metal armoured constructions.

## 2 Fire resistant optical cable: new cable family solution

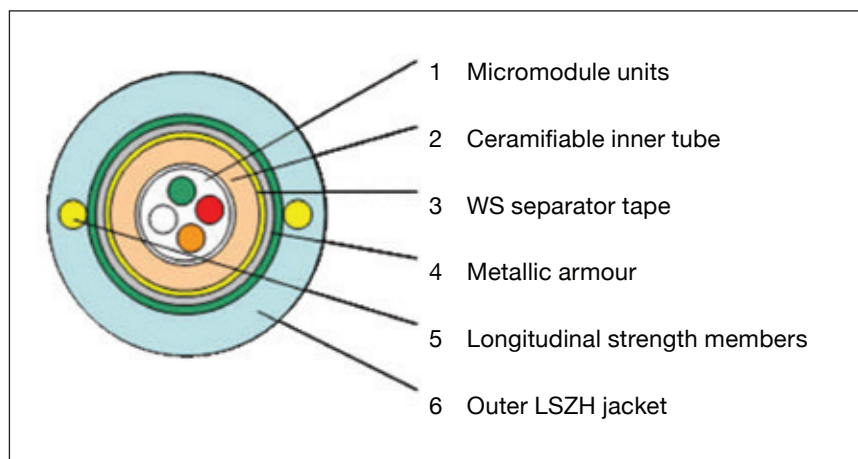
The conventional fire resistant cables are not able to completely avoid the attenuation increase of the optical signal during a fire exposure; but, what is worse, the optical performances fully vanish when the fire is off and some mechanical breaks of the brittle glass fibres occur.

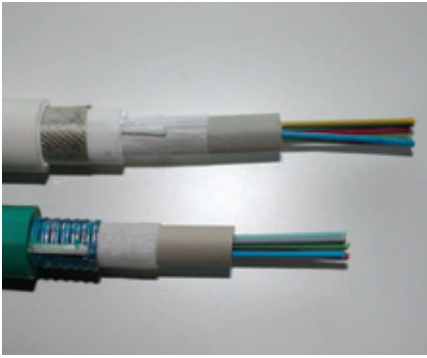
In fact in the transition areas between the cable portions directly exposed to flame and the contiguous parts not burned, especially during the cooling phase, the materials still surrounding the fibres cool down and shrink causing local pressure on the fibres that, without the coating protection, can break or can increase dramatically the signal attenuation.

○ Figure 1: All dielectric cable design



○ Figure 2: Metallic armoured cable design





○ **Picture 1:** Metallic and all dielectric cable version



○ **Picture 2:** IEC 60331-25 fire test



○ **Picture 3:** EN 50200 fire test

The typical fibre organisation in an optical cable is based on multi-loose stranded plastic tubes; the present trend is to increase the fibre count, reducing or at least not increasing the size of the final cable. For the above reasons a different cable design has been developed to increase the density of fibres and to facilitate the fibre access.

Depending on the application sometimes the fire resistance requirement is combined with barriers to animal attacks and superior mechanical performance, so a metallic protection is needed; in other cases the problems induced by magnetic or electric interference lead to an all dielectric solution.

Both constructions have been developed taking care to meet needs of the diversified installations and markets. Therefore the developed cable family has been designed to match the following requirements:

- maintain the optical transmission capability during the fire
- avoid breaks of the optical fibres after the fire extinguishing
- increase the fibre count in a more compact design
- have a metallic protection or a full dielectric design

As a consequence of the above requirement the new cables have been designed with a construction based on:

- optical fibres organised in bundles in the form of micromodules
- a surrounding tubular layer made of a special ceramifiable material
- a supplementary flame shielding, metallic or dielectric
- a flame retardant LSZH sheath

### 2.1 Ceramifiable layer as first absolute fire barrier

In order to ensure an absolute protection to the optical fibres during fire, it is important to build around them an impassable barrier.

Whilst a metallic tube could represent an obvious solution, different shrinkage behaviours between metal and glass and some manufacturing limitations can make this way not so viable.

Moreover plastic materials are not suitable to resist temperature up to 800-1,000°C, and also if in flame

retardant version with proper mineral additives, fully disappear reduced in brittle ashes.

The solution is a material that is able to withstand the flame action without burning or collapsing for a sufficient time to allow the formation of an underlying layer of a ceramifiable material to complete the ceramisation.

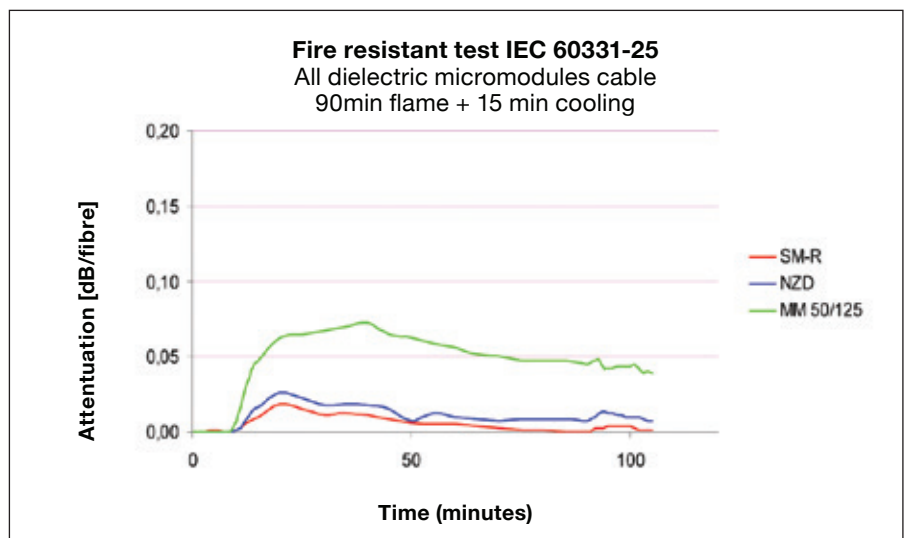
A special compound has been developed based on a mixture of inorganic fillers characterised by different behaviour in temperature progressively melting and controlling the viscosity and the sintering ability.

It is helpful to introduce a second flame shielding layer in the design of the cable, in order to avoid a direct contact of the ceramifiable tube with fire; in fact the shielding layer allows a more homogeneous and progressive compacting process of the ceramifiable special compound, obtaining a final solid tubular element which protects uniformly the optical fibres. In this case the type of shielding can be quite conventional, ie made by mica tape or steel tape.

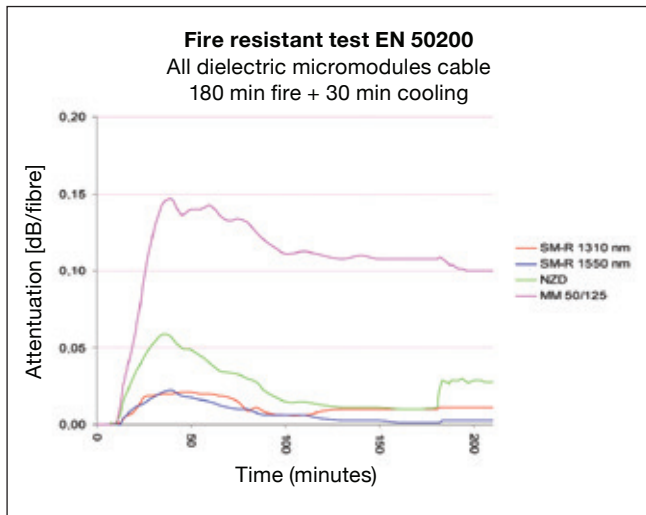
### 2.2 Cable design

Starting from the idea of a fire resistant cable based on a ceramifiable tube surrounded by an external fire shielding that protects from direct contact with fire, the other elements of the cable design are driven by the mechanical and optical requirements based on the installation and operating conditions.

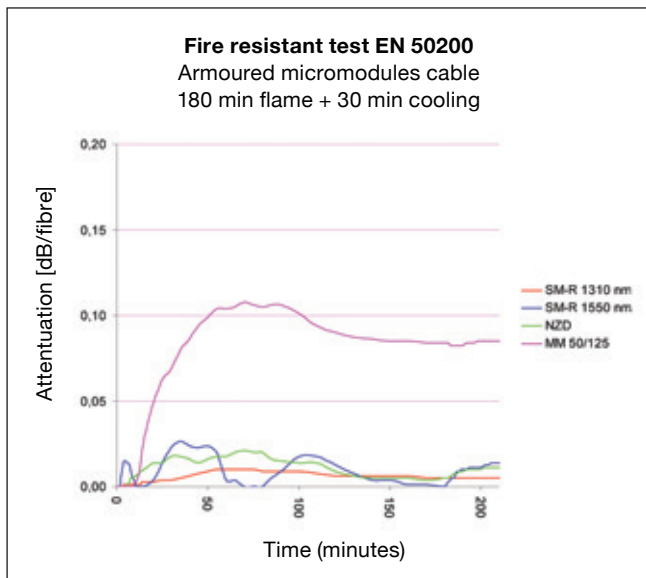
○ **Figure 3:** Fire resistant test of all dielectric versions according to IEC 60331-25







○ **Figure 4:** Fire resistant test of all dielectric versions according to EN50200



○ **Figure 5:** Fire resistant test of the armoured version according to EN50200

For the dielectric version, over the central ceramifiable inner tube an intermediate flame retardant sheath is applied reinforced by two glass rods longitudinally embedded into the wall of the jacket; the glass rods withstand both tensile load and low temperature shrinkage. Then some fire resistant tapes are applied together with the outer LSZH sheath. The cross section of the all-dielectric version developed is shown in *Figure 1*.

For the metallic armoured version, the corrugated steel tape is applied over the ceramifiable tube followed by an outer HFFR sheath reinforced by two glass rods with the same function described above. The cross section of the armoured version developed is shown in *Figure 2*.

### 2.3 Cable trials and production

Cables in all dielectric and metallic versions have been developed from 48 to 144 fo.

Many experimental trials have been carried out before the production of the final versions; then the cables have been fully characterised for optical, mechanical and thermal

performances, together with the fire behaviour as reported in the following. In *Picture 1* two cable samples are shown.

### 2.4 Cable characterisation

The two cable designs have been manufactured with three different types of optical fibres, ie SM-R, NZD and MM. The cables have been tested according to the main international fire tests, ie IEC 60331-25 and EN50200.

In *Pictures 2* and *3* the fire tests performed on the cables are shown. Each type of fibre has been closed in loop and connected with a Led-Power meter, measuring the increase of attenuation at 1,310 and 1,550 nm in the circuit with SMR fibres, at 1,550 nm with NZD fibres and at 1,300 nm with MM fibres.

The fire lasted 90 or 180 minutes and the recording of the attenuation values has been extended up to 15 or 30 minutes later. Examples of some test results are collected in *Figures 3* to *5*.

All the results are positive with very limited attenuation increase (less than 0.2 dB/fibre) for any of the fibre types tested. This really confirms that the ceramifiable protection, in combination with an appropriate cable design, is able to preserve the fibre performance from fire load also in cable solutions with high fibre density.

## 3 Conclusion

The cable family developed with a special protective layer to preserve the fibres transmission performances from fire action is particularly effective when the application of flame is turned off and the material contractions start.

The cables have been developed in metallic armoured and all dielectric version with the optical fibres organised in micromodules up to 144 fo with a very compact design, and are now available on the market.

## 4 Acknowledgements

The authors would like to thank their many colleagues within Prysmian who have contributed to this work, and in particular Paolo Marelli and Gianluigi Radaelli for the helpful support.

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# 耐火光纤电缆

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## 摘要:

一种新型的耐火光纤电缆系列产品已于近期问世，它们可以在重要环境中，比如公用大楼，地铁和工业区等，为信号传输提供必需的安全保障。

这种新型电缆能够在很长时间内保持其光学传输特性，期间变化非常有限，符合国际标准。

这种创新的电缆设计使用的是特殊的可瓷化化合物和适当的防火屏障。

在燃烧的情况下，本产品能够控制热量的释放，保证为光导纤维提供恰当水平的机械保护，这种方式限制了信号的衰减并且可以避免信号传输的中断。

## 1 介绍

在公共建筑，比如医院，疗养院和养老院，电影院和剧院，地铁，铁路隧道和工业区等至关重要的环境中，铜制的和光导的低烟无卤阻燃防火电缆（LSZH）被广泛运用，它们提供了必要的安全保障。

这里要介绍光导电缆：发生火灾时，光导电缆的特性会有额外的衰减，这些衰减直接影响信号传输性能，会破坏需不间断运作的系统的有效运行，各种应急设备如电话、闭路电视、自动门、楼宇管理系统和火灾报警器等就属于上述安全系统范畴。

所以当火灾发生时，光导电缆的功能就必须在预设的一定持续时间内保持在一定的水准。基于这种情况，一种抗火电缆的系列产品已得到开发，其设计紧凑，电缆里面的光纤束由绝缘体或者全金属外壳结构包裹。

## 2 耐火电缆：电缆家族的新型出路

在燃火的环境中，传统的耐火电缆无法完全避免光信号的持续衰减；更糟的是，当火熄灭之后，一些脆性玻璃纤维会发生机械断裂，电缆的光学性能会完全消失。

事实上，在电缆直接暴露于火焰的部分和没有被燃烧到的部分之间有一过渡区，由于没有涂层的保护，尤其在冷却阶段，此区域中电缆周围的纤维材料会冷却和收缩，从而造成的局部压力可以中断信号传输或大大增加信号衰减的强度。

光纤电缆典型纤维组织的基本构造是使用多松散层滞留塑料管；目前的趋势是在增加纤维数量的同时，电缆最终的尺寸能够减少或至少不增加。基于上述原因，一种与众不同的电缆设计已得到开发，以便增加光纤的密度和方便光纤接入。

根据使用的需要，有时候电缆除有防火要求之外，还应该可以防止动物的攻击，并且具有优越的机械性能，所以电缆有金属的保护是必要的；在其他情况下，磁场或电场干扰引起的问题会导致电缆的彻底绝缘。

为了满足多样化设施和市场需求，目前符合以上要求的两种构造的电缆已得到开发。

此类光缆产品的设计已按下列要求进行：

- 在燃火境况下保持光信号的传输能力
- 灭火后避免光学纤维的断裂
- 在更紧凑的设计中增加纤维数量
- 有一个金属保护或全绝缘设计

鉴于上述要求，新型电缆结构设计的基础如下：

- 以微型组件的形式将光学纤维组织集成束
- 用一种特殊的可瓷化材料制作周围的管状层
- 用金属或绝缘体组成补充的防火屏障
- 使用阻燃低烟无卤护套

### 2.1 可瓷化层为第一层彻底防火屏障

发生火灾时为保证对光纤的绝对保护，在光纤周围建立一个不可逾越的屏障是重要的。

图1: 全绝缘体电缆设计

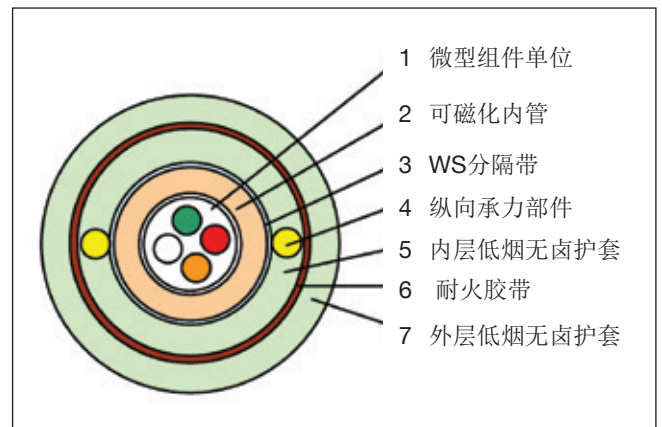
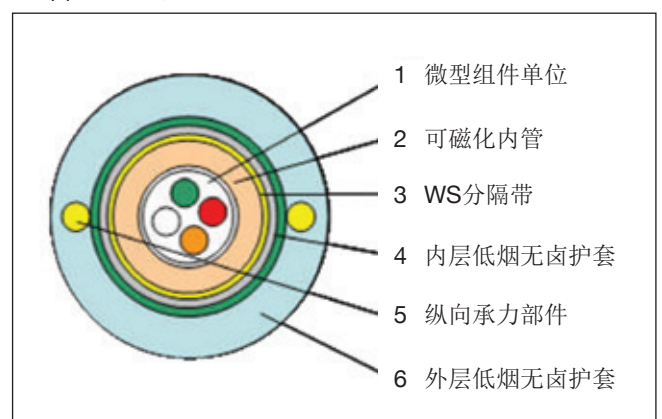


图2: 金属电缆设计



很明显，金属管可能是一个解决方案，但金属和玻璃不同的收缩表现以及一些制造工艺的限制可以使得使用金属管这个办法变得不可行。

此外，塑料材料的最高耐温极限是800 - 1000°C；如果在阻燃层中还加入了适量的矿物添加剂，高温中塑料材料就会完全消融，最终变成易碎的灰粒。

解决上述问题的方案是能使用一种材料，它能够承受火焰的同时它自身不会燃烧或被毁坏，这样就能保证有足够的时间形成可瓷化材料的一个基本层，最终可完成瓷化过程。

在使用各种无机填料的混合物的基础上，一种特殊的化合物已经被研制出来，它的特点是：在不同温度下可以逐渐熔化，并且还可控制自身的粘度和烧结度。

在设计电缆时，为了避免可瓷化管直接接触火焰，引进第二个防火屏障层是有帮助的。

事实上，屏障层允许可瓷化的特殊化合物有一个更均匀和逐步压缩的过程，以期最后获得一个坚实的管状元件来均匀保护那些光学纤维。

在这种情况下，屏障材料的类型可以是相当传统的，即采用云母带或钢带。

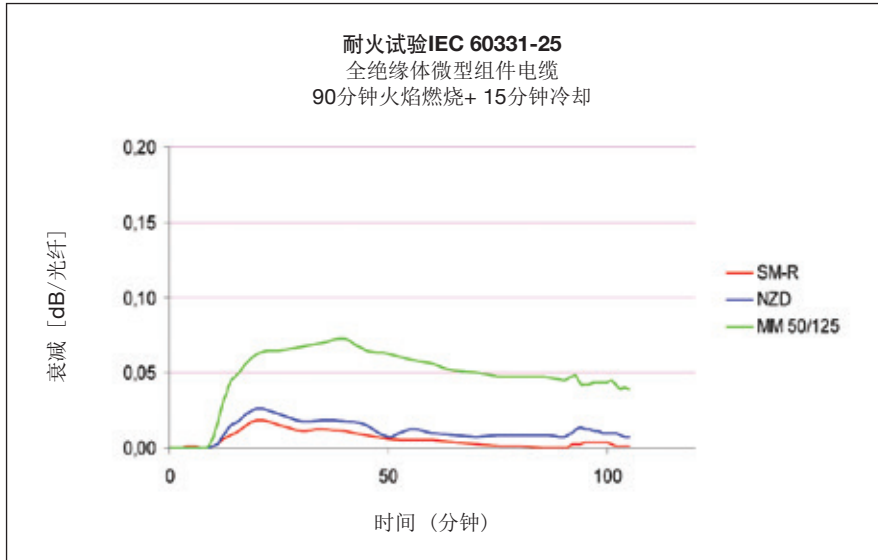


图3: 根据IEC 60331-25标准对全绝缘体电缆进行的耐火试验

## 2.2 电缆设计

耐火电缆设计的基本出发点是：使用一种可瓷化管，最外层有一种防火屏障，避免电缆和火焰的直接接触；其他应该考虑的因素是在适宜安装和操作条件下，电缆可以满足机械和光学的要求。

全绝缘体电缆的设计为：在可磁化内管的中心要有一个中间阻燃护套，护套被纵向嵌入这个夹层的两只玻璃棒加固；他们可以承受拉伸负荷和低温收缩；与低烟无卤阻燃防火电缆（LSZH）的外层同时使用的还有一些抗火材料带。

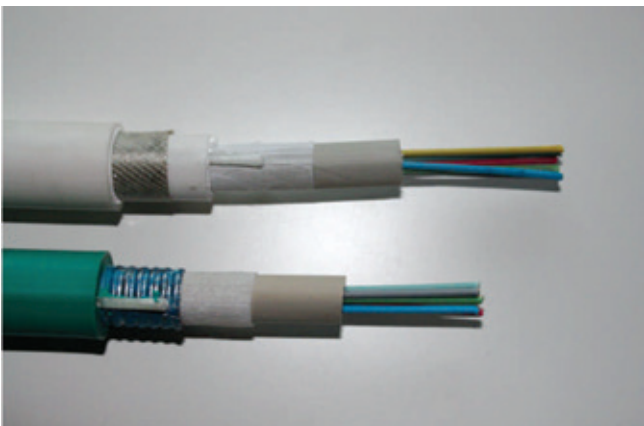
全绝缘体电缆的截面图如表1所示。

全金属电缆的设计为：用波纹钢带包裹在可瓷化管上，外加一层卤阻燃（HFFR）护套，护套也是由上述的具有同样功能的两只玻璃棒加固。

全金属电缆的截面图如表2所示。

## 2.3 电缆试验与生产

全绝缘体电缆和全金属电缆内光纤数量从48根增加到144根。在最终产品问世之前进行了许多次实验性试验；最后，电缆充分具备了光学，机械和热性能的各项特性，同时也具备以下所述的抗火功能。两种电缆的样品如图片1所示。



图片1: 金属和全绝缘体电缆



图片2: 根据IEC 60331-25标准设计的耐火试验



图片3: 根据EN 50200标准设计的耐火试验

## 2.4 电缆特性

制造两种上述设计的电缆使用了三种不同类型的光学纤维，即SM-R， NZD 和 MM，并且已根据 IEC 60331-25 和 EN50200等两种主要的国际耐火测试标准对电缆进行了测试。

对电缆实施的耐火试验如图片2和3所示。

每种光纤都被封闭在环状物内并且和一个发光的二极管表相连，在使用SMR型光学纤维的电路中，二极管表测量的信号衰减的增加值是

1310纳米和1550 纳米，如使用NZD型光学纤维，二极管表能测量的信号衰减的增加值是1550纳米，如使用MM型光学纤维，二极管表能测量的信号衰减的增加值是1300 纳米。

火焰的持续时间是90至180分钟，衰减值的记录延长至上述时间之后的15或30分钟。

一些试验结果的实例如表3-4-5所示。

对于任何一种受测试的光纤，所有的试验结果都肯定地显示了信号衰减的增加强度是有限的（小于0.2 dB/光纤）。

这的确证实了在火灾情保下和高密度电缆中，可磁化保护加上一个适当的电缆设计就能保持光纤的功能。

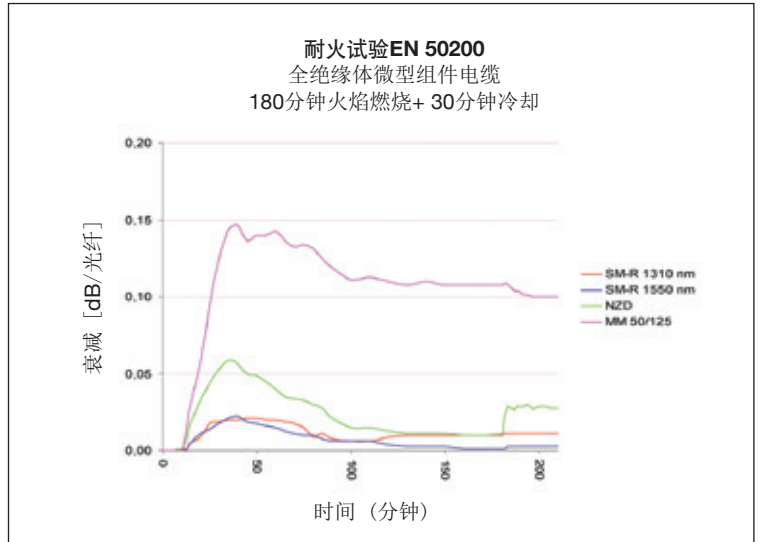
### 3 总结

当火焰熄灭，材料开始收缩的时候，这种用特殊保护层来保持光纤传输性能的电缆系列产品显示出特别的功效。

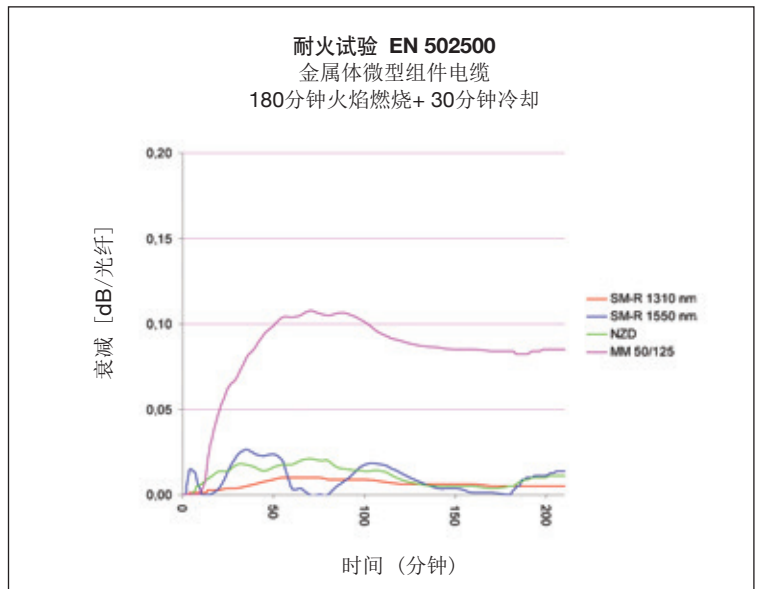
电缆光纤全部由金属或者绝缘体包裹，在微型组件结构中光纤的数量凭借紧凑的设计可以高达144根，产品已经在市场上销售。

### 4 鸣谢

本文作者在此衷心感谢普睿司曼公司的同事们以及他们所做出的贡献；并特别感谢Paolo Marelli 和 Gianluigi Radaelli的大力支持。



○ 图4: 根据EN50200标准对全绝缘体电缆进行的耐火试验



○ 图5: 根据EN50200标准对金属电缆进行的耐火试验

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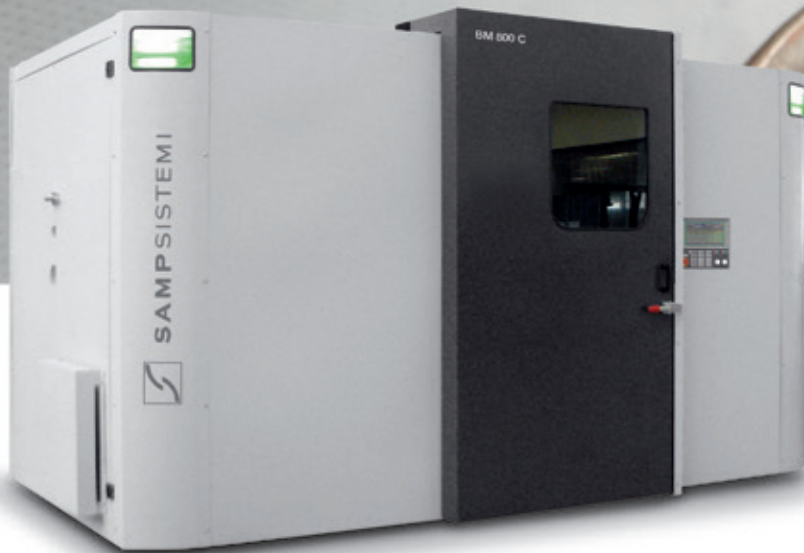


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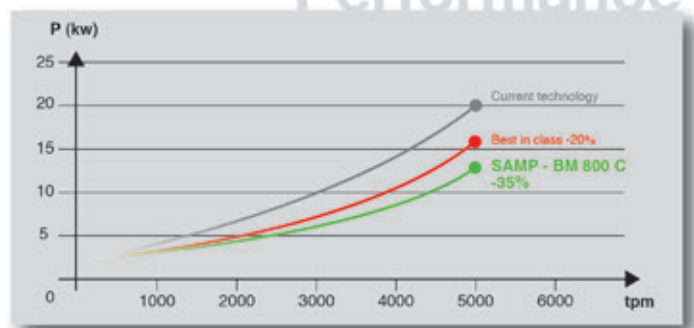
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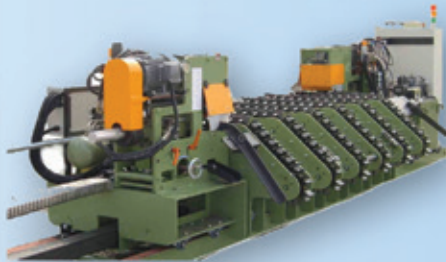
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