

TRATOS TECHNOLOGY MAGAZINE - THE VOICE OF TRATOS INTERNATIONAL CABLE



magazine

www.tratosgroup.com

August 2017



**CPR is now law,
don't risk it.**

*To reduce the spread of fire,
your cables must comply
to the Construction
Products Regulation*

By your side... every step of the way

Engineering, Procurement & Construction

Tratos can carry out the detailed engineering design of a project, procure all the equipment and materials necessary, and then construct the installation to finally deliver a functioning asset to clients. We also supply a full after-sales support service following completion.



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Tratos Technology "TT" Magazine is the brainchild of Tratos' international sales department. The goal is simple, to share knowledge and promote awareness of new and emerging technology in the cable industry. Literally to inform, educate and maybe even entertain.

Our contributors are a cross-section of Tratos staff from across the world from England, Germany, China, Italy, Spain; combining their expertise and wealth of experience from a company with over 50 years of outstanding research, development and investment in cable making technology. TT Magazine is where Tratos will announce our latest developments in order to share our research with the world and offer the benefits of our cutting edge technology. We feel that the sharing of knowledge is vital to the ethical and responsible development of society. For over forty years Tratos have been developing the latest generations of hi-tech cables whilst never compromising on either our responsibility to the environment or our respect for the ethics and ideals of humanity.

It is with this in mind that TT Magazine is setting out to acknowledge the creation and development of new technology and how it can benefit people worldwide, to be one of the guiding lights en route to a brighter future.

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Investments

It is Tratos' considered investment that has resulted in the company's exponential growth internationally. Both its Italian and UK manufacturing bases have benefited from recent funding of new infrastructure, machinery and jobs. Its facility in Pieve, Tuscany received an additional £6 million while the company's Knowsley operation, in Merseyside, received a further £10 million, creating 40 new jobs. It is this investment which is helping to speed up and increase capacity at Tratos - one of Europe's largest independent cable manufacturers.



Italian investment delivers better solutions

A multi-million Euro investment by Tratos has extended the cable company's capability in the manufacture of long length cable for offshore and Oil & Gas industries. The **€21 million** investment in **5,000 sqm** of new machinery at its Pieve factory in Santo Stefano, Italy, was completed in the summer and will enable Tratos to produce longer length umbilical and submarine cables.

The investment in Italy includes the purchase of a planetary layout machine, a new cable strander which will enable lengths **up to 20 km** (can we have a figure here) to be produced, primarily for use in the offshore wind farm industries

Ennio Bragagni Capaccini, Vice President of Tratos Group said: "We live and work in a small village in Tuscany but we export our products all around the world. This year we made a large

investment in new plant, in new stranding machinery, putting all of our knowledge and technology into stranding cables".

According to European Wind Energy Association, offshore wind farms have moved further from shore and into deeper waters. At the end of 2015, the average water depth of grid-connected wind farms was 27.1 m and the average distance to shore was 43.3 km. Tratos' Offshore and submarine cables are longer, stronger and flexible - resisting mud, fire, extreme temperatures, water and impact.

Tratos continues to invest and expand its UK and Italian manufacturing facilities and in doing so the company has seen significant growth in its resource and capability and the opening up of new market sectors for the company's advanced cable. [T](#)



Sustained **Investment** Reshapes **Tratos** for **World** **Markets**

The successful delivery of a five-year plan for investment and expansion at Tratos' UK manufacturing facilities has seen significant growth in resource and capability – and the opening up of new market sectors for the company's advanced cable.

In addition to increasing production efficiencies, with faster machines and a purpose-built factory, the company has been careful to invest in the professional development of its people.

During those past five years Tratos has transformed itself to cope with the speed of its own cable innovation – rapidly

accepted by customers – and seen turnover and market share rise significantly. With a growing reputation for quality, service, health and safety and bespoke solutions with additional benefits for customers, the company's new corporate video sets out the new-look company and explores the changes and challenges for Tratos across domestic and global markets.

INVESTMENT:

- £20m investment at Tratos' UK base in Knowsley created 40 new jobs
- £15m of this investment pledged to facilitate new state-of-




the-art machines and equipment to speed up and increase capacity

- Additional investment in equipment has seen a rise in turnover to £200m
- At its facility in Pieve, Tuscany, an additional £6m funded new machines and infrastructure, creating another 40 new jobs in Italy
- The Tratos Academy to share best practice and develop its best people with a focus on product knowledge and customer service that is second to none and encouraging innovative thinking.

The Knowsley factory has also benefited from investment to develop production lines to embrace medium as well as low voltage cable, expanding market opportunities still further.

Maurizio Bragagni, CEO of Tratos UK said: *“The level of investment we’ve dedicated within the UK, and particularly Knowsley, is a clear sign of our future commitment to the country. We continue to put our customers at the heart of our business, innovate products and invest in our staff – all of which has had a positive impact on growth. Knowsley is now part of the Tratos family, and is benefiting from the company’s expansion programme. It was important to*



reposition Tratos UK in line with the growth in capability and the resource available to customers. The video allows customers and contracting partners to quickly grasp the shape of our business. We now sell to around 50 countries worldwide and remain ambitious for positive development.” 



Tratos remain committed to UK cable manufacturing

Following the British public's decision to vote to leave the European Union, global cable manufacturer Tratos has reaffirmed its commitment to UK manufacturing.

Tratos' £10m investment plans, which will create 40 new jobs, remain on course at its Knowsley factory in Merseyside.

Tratos, a company with a Pro Euro stance, had an unusual perspective on the UK Referendum – with one foot in mainland Europe – Italy – and the other in the UK, where some of its manufacturing bases are located.

Maurizio Bragagni, CEO of Tratos Ltd said: "This is a momentous day for the UK and Europe. The European Union map will be very different moving forward and we look forward to the challenges this may present.

As a 50 year old family business, Tratos was an early adopter of a pan-European and now global view of the market place for our cable. The company remains fully committed to cable manufacturing in the UK, for us it is business as usual."

Structural expansion work at Tratos' Knowsley plant, completed late last year, has enabled the company's Merseyside operation to grow four-fold and has seen turnover increase 50% in the past twelve months. An additional £4m will facilitate new machines to speed up and increase capacity for the UK's second largest cable manufacturer.

As Tratos continues its exponential growth internationally, its UK business aims to achieve a turnover of £100 million by the end of 2018 which is an increase of £70 million over four years with further planned expansion into railways, medium/high voltage energy cables in the utility and oil and gas sectors.

Tratos is one of Europe's largest independent cable manufacturers. Celebrating 50 years in business this year, the company has five manufacturing facilities in Italy and the UK and employs more than 400 people worldwide producing electrical, electronic and fibre optic cable solutions [\[i\]](#)





Construction Products Regulation is now law.

Tratos is compliant

*Find out more visiting our website:
www.tratosgroup.com/quality/cpr*





Innovation

At Tratos, Innovation is one of the pillars around which our business has grown and flourished for the past 50 years. By talking to our customers and dealing with them directly, we know their needs.

As a result, Tratos stopped selling a cable product, and began selling innovation-led solutions.

Tratos delivers **paper** for IET digital library



A tried and tested solution that can be used to replace existing overhead conductors with new, more efficient ones is the subject of a Tratos technical paper that has been accepted by the Institute of Engineering and Technology's (IET) digital library.

The reference article entitled Overhead conductors – High Voltage was written by Peter Waterworth, Tratos' Technical and Development Director and Fellow of the Institute of Engineering and Technology. Commissioned by the IET in 2016, it was made available for download from the organisation's website in April.

The reference article looks at the rapid growing demand for electrical energy which has meant a search for technical innovations to increase power transmission and improve efficiency within tightly constrained budgets.

With few solutions to this complex problem Tratos explored many options including constructing completely new lines along existing routes or replacing existing conductors with

new more efficient ones.

The attraction of simply replacing only the conductors in an existing line led Tratos to draw upon more than 40 years of experience and investment in R&D to develop a completely new, more efficient, hybrid load carrying conductor for overhead lines.

Tratos' OHC-HV (overhead conductor – high voltage), represents the state-of-the-art in overhead line designs. Based on composite carbon fibre core, acting as a support element and thermal resistant aluminium alloy as a conductor, the tailor-made design of the product meets or exceeds the performance of conductors currently available.

Mr Waterworth has more than 50 years' extensive knowledge and experience of the cable industry worldwide including standards and regulations. Previously he was a member of several National and International Standards Bodies, including BSI, CLC and IEC [↗](#)

The paper is available for download from The IET's digital library at: <http://digital-library.theiet.org/content/reference/10.1049/etr.2016.0104>

Powerful innovation in action at **Tratos**



The rapidly growing demand for electrical energy, due to massive population growth, has led those responsible for electrical transmission systems to search for new technical innovations. But the criteria is tough. Such innovations need to work hard; not only increasing the amount of power transmitted, with improved efficiency, but also work within tight budgetary constraints.

Simply increasing the current carrying capacity of a traditional conductor will lead to an increase in the operational temperature - damaging the conductor and increasing sag. While two obvious solutions exist - the construction of completely new lines, along existing routes or the replacement of existing conductors with new, more efficient ones - they bring with them their own set of problems.

As a responsible future-focused company Tratos has placed a considerable amount of research and effort into finding a reliable, green solution, which saves time and money. The result is a hybrid conductor that reduces costs, eases installation and its increased power is set to advance the overhead cable sector.

Yet it was in considering replacing only the conductors in an

existing line that Tratos arrived at the development of this completely new, more efficient, hybrid load carrying conductor for overhead lines and, further, to explore new routes to enhanced performance systems.

Hybrid conductors

The new hybrid conductors feature a high load carrying carbon fibre core and two compact, space-saving segmental thermal resistant aluminium alloy (AT1) wire layers, in accordance with IEC 62004, which are applied helically around.

Tratos' prototype used a hybrid high strength composite material core, based on a special carbon fibre and extruded aluminium sheath. The company wanted to develop the best hybrid metallic material possible as a constituent part of a conductor operating at high temperatures.

This advanced overhead conductor features a central core of pure carbon fibres, an outer layer of high modulus glass yarn and a seamless aluminium sheath - extruded over the nucleus as a plastic material (high pressure, low temperature). Impregnation is achieved using a specially developed non-migrating, high temperature resistant compound.

Perfect Elastic Material

A study to evaluate the elastic behaviour of this hybrid core proved that the new cabling is completely free of hysteresis, behaving as a perfect elastic material.

Aluminium Zirconium (Al-Zr) has been used for high strength and conductivity. The alloy has a maximum tensile strength comparable to pure aluminium and retains the integrity of this strength, even at high temperatures. Using this alloy Tratos was able to build a conductor with high thermal limits, working at temperatures beyond those of traditional conductors.

Four kinds of Al-Zr alloys have been developed, with the percentage of zirconium determining their thermal resistance. Of these four, the two most widely used are AT1, called TAL (Thermal resistant Aluminium alloy) and AT3, ZTAL (Zirconium ultra-Thermal resistant Aluminium alloy). With a continuous operation life of more than 40 years at 150°C (TAL) and 210°C (ZTAL) these materials are included in BS EN 62004.

New Conductor design

Tratos' new conductors were designed using a spatial distribution optimisation technique.


This technique - making maximum use of the conductive section - is achieved by removing the free space between the wires. To do this Tratos used sector-shaped wires.

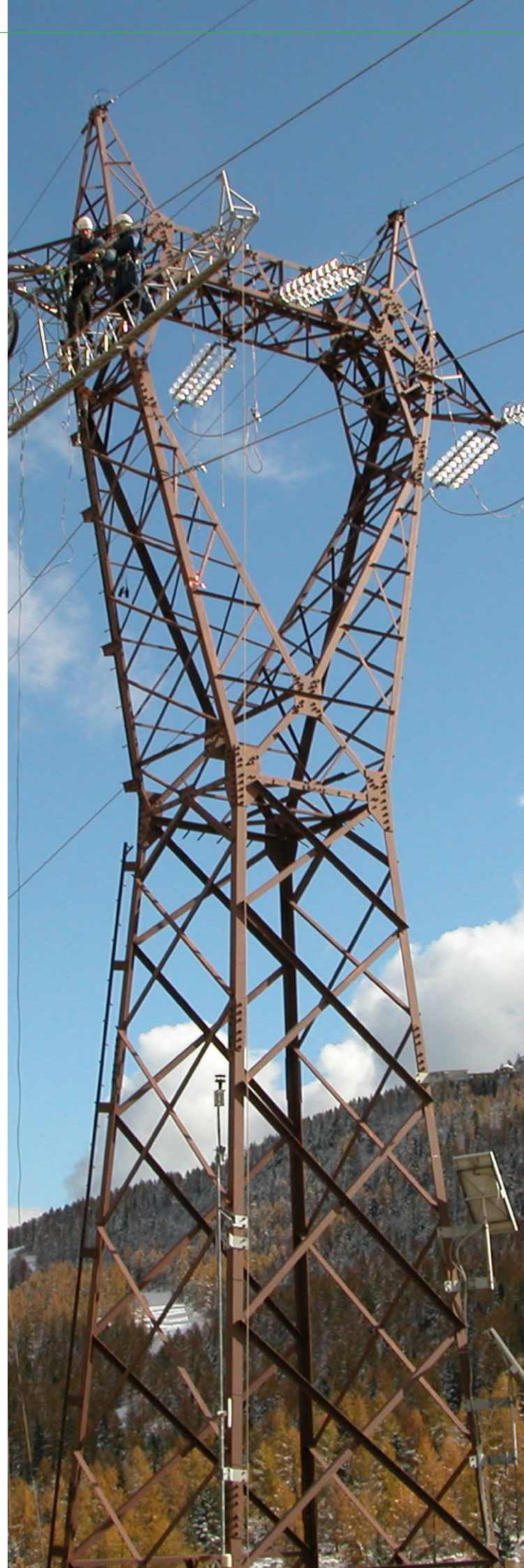
This new breed of conductors are characterised by an electric resistance lower than that of conventional compacted conductors of the same overall diameter. When compared with traditional conductors, Tratos' higher-performance alternative increases the current-carrying capacity by up to twice that of an equivalent-sized traditional design.

Importantly existing pylons and installation techniques can be used, thanks to reduced weight and strain. The new conductors' greater tensile strength will withstand snow, ice and wind loadings, reduce sag and increase ground clearance at maximum current rating. It is fully compatible with existing ACSR and AAAC networks.

Testing

Tratos' prototypes for high load-carrying and low sag conductors were designed, built and rigorously tested at its laboratories and at the institute of RSE. This was followed by a trial installation, in the Alps, which resulted in positive results which were fully in line with expectations. The conductor was installed in the Alps, on a 132 KV overhead line - the installation being comparable with those of a traditional conductor of a similar size.

A report prepared by an engineer for the project states: *"The installation of the line at high altitude (2000 meters above sea level) is a severe test for the conductor: in fact, at low temperatures the mechanical load is transferred from the carbon core to aluminum alloy coats, determining a state of high stress for the latter."* 



TRATOS SUPERCONDUCTOR CABLE FUSION FOR ENERGY

Tratos Italy is currently in the process of producing a contract worth €49 million for the supply of a superconductive cable, encapsulated in a flexible conduit tube, for the world ITER reactor project and the Japanese JT60SA reactor. ITER is an International lead project for the design and build of an experimental fusion reactor which will be capable of demonstrating the feasibility of energy generation via controlled thermonuclear fusion.

Learn more at
www.iter.org

Tratos helps drive two decades of game changing technology



Tratos An Anglo Italian cabling company at the forefront of **superconductor** development is among a group of world innovators investing heavily in game-changing technology that is set to mature in the next 20 years.

Tratos Ltd, which develops and manufactures high-performance cable in both countries, and has bases worldwide, was one of the first to recognise the importance of committing to a long-term focus on superconductivity.

Today, alongside fellow producers in China, Japan, Korea, Russia, the US and across Europe, Tratos is a pivotal driver of some of the industry's most exciting technology.

In the years that development work has been underway, significant landmarks have already been reached with production lengths of toroidal field conductor coming off jacketing and compaction lines and poloidal field copper dummy jacketed for Russia.

Tratos' team has been a fixture at the industry's conductor ignition meetings. The events are designed to bring together members of the magnet teams from ITER* and the Domestic Agencies, ITER Organisation contractors, and industrial suppli-

ers from the six producing ITER Domestic Agencies.

These stakeholder organisations play an important part in the review of the status of magnet qualification activities, strand production, cabling, and jacketing; Tratos is part of the ICAS consortium (ENEA, Tratos Cavi, Criotec).

The **ENEA** Superconductivity section plays a very important role in all the experimental campaigns for the characterisation of ITER conductors and magnets and for various superconducting/cryogenic components of LHC of CERN. It also monitors the manufacturing of conductors and magnets carried out by LUVATA (ex Europa Metalli, EM) and ANSALDO Superconductors (AS), which are the two industries in Italy most heavily involved with the production of strands, cables and magnets.

Already active in delivering today's forerunner technology, Tratos has been working, as part of the consortium, on superconducting wire for the €49m world ITER reactor and the Japanese JT60SA. Tratos has produced the superconductor that makes Tokamak work; producing the cabling solution that delivered the required results.

The four year contract saw the company contracted to provide

the superconducting Cable-In-Conduit used in the construction of magnets for these projects. Tratos has already supplied the first order, on a contract that runs through to 2017.

**ITER is an international project to design and build an experimental fusion reactor based on the “tokamak” concept. The project, which is currently under construction in the South of France, will demonstrate the feasibility of energy production by controlled thermonuclear fusion.*

NOTES TO EDITORS

The International Thermonuclear Experimental Reactor (ITER) project represents the next step in the development of fusion energy. ITER will be the first fusion plant to have almost the same dimensions as a conventional electric power station.

ITER’s mission is to demonstrate the scientific and technological feasibility of fusion as an energy source. The detailed design of the reactor has been thoroughly tested through intense R&D activities carried out by hundreds of researchers and technicians at numerous laboratories, universities and industries all over the world.

The European Union, Japan, Russian Federation, United States, the People’s Republic of China, the Republic of Korea and India officially signed the agreement to realise ITER at Moscow on 28th June 2005.

Construction began in 2007 at the European site of Cadarache in the south of France.

Sidebar for superconductivity piece

(NB please note that the following information enables the story to have some current information included although Tratos’ input may not be so new)

Superconductivity Development Achieves Huge Gains through the summer

Late summer 2015 saw huge strides forward for the project Tratos is a major stakeholder in.

August saw the first Fusion for Energy (F4E) component for the Neutral Beam Test Facility (NBTF), the SPIDER High-Voltage Deck (HVD), delivered and accepted at the NBTF at the Consorzio RFX site in Padova, Italy.

The HVD is now ready to host the Ion Source and Extraction Power Supplies (ISEPS) which are necessary for feeding the ion source of the Neutral Beam injector. The SPIDER Transmission Line (TL) is the component on which work will focus during the coming months with the manufacturing stage of the TL coming to an end by November this year and anticipated site installation before the end of 2015.

August also saw work on JT-60SA take a rapid step forward with the final acceptance tests of the quench protection circuit (QPC) for the successful completion of the superconducting coils.

In **September** an imposing steel structure rose to overlook the Tokamak complex. The Assembly Hall building is where the high-tech components of the biggest-ever fusion device will be put together.

The building is 100 metres long, 60 metres wide and 60 metres high. Its construction started seven months prior with a workforce of 50 on site to tackle challenges on a scale to match the building itself including building the roof on the ground from where it would be eventually lifted. A team of engineers worked round the clock, and, in the days and nights proceeding the lift they had to fix more than 65,000 bolts. Thanks to creative planning, the mammoth undertaking was completed three months earlier than planned. [\[1\]](#)



CABLES FOR A MOVING WORLD

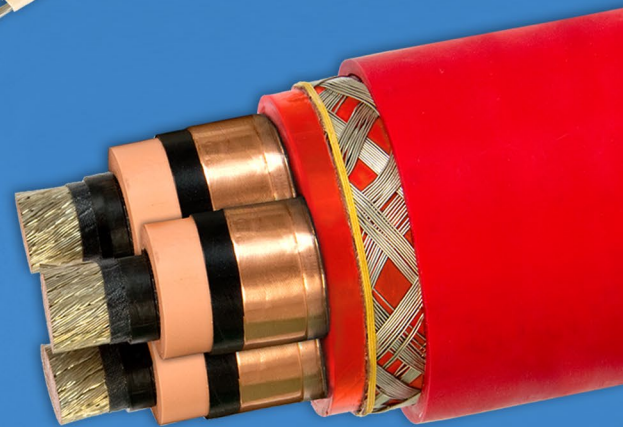
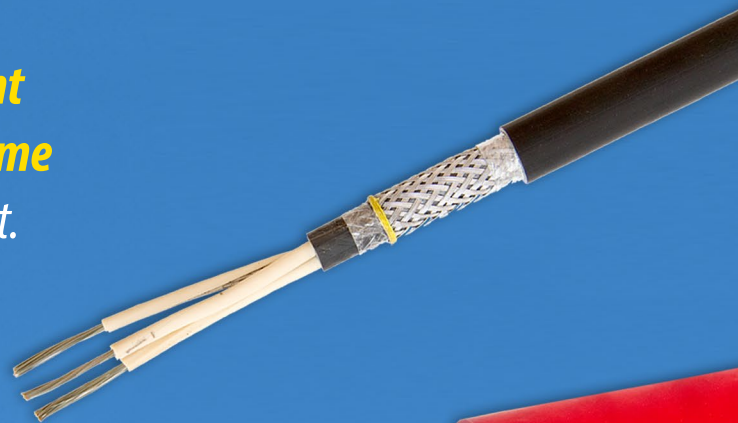
TRATOS OIL&GAS JBA[®]

based on BS6883 - IEC 60092-353

JBA[®] is our special cable range specifically designed and manufactured for the Oil&Gas market to meet the necessary test requirements.

JBA[®] are **mud resistant, fire resistant** to **extreme temperatures** and **extreme conditions** including water and impact.

Lloyds approved.



Case study: **Jasmine (UK)**
£5 million supplied to ConocoPhillips
for specialist fire resistant cables
for Phase 1 of the Jasmine development in
the Central North Sea



Our Quality System management includes two certificates: Basec (UK) and AENOR-IQNET (E), in accordance with ISO 9001:2000 covering the production, purchasing of raw materials design and final test including various document types. Tratos Quality System management is under constant control by inspectors working for the certification bodies. Tratos JBA is also Lloyds approved.

Quality

The biggest Faraday Cage in Europe

Tratos is home to the largest Faraday cage test site in Europe at the company's Headquarters in Pieve Santo Stefano, Italy. Measuring 24m x 16m and standing at 14m high, the Faraday cage enables Tratos to effectively carry out AC resonant tests on site, allowing testing of up to 220 kV of nominal voltage cables, of up to 20 km in length. The cage enables vital AC resonant tests to be carried out in a controlled environment.

The facility incorporates an innovative locking system to ensure perfect shielding from external interference. Inside the cage there are state-of-the-art instrumentation and equipment for testing along with an adjustable high voltage reactor which, together with the exciter and the regulator, create the heart of the system.

This allows incredibly precise measurements to be recorded, ensuring that the cables meet the exacting test parameters as specified in IEC 60228, 60840 and 60811.

Tratos HV cables are recognised for their advanced technology and construction. Their construction makes them flexible, light, strong and low maintenance and the HV cables range is supported by a range of simple accessories. All Tratos quality systems and procedures are BASEC approved to ISO 9001 and ISO 14001 standards.

Investment in the Faraday Cage, has enabled Tratos to produce cable, tested at its own facilities, that meets the exacting standards demanded by industry **T**



Tratos is the first to achieve **BASEC approval** for medium voltage

Tratos has become the first and only cable manufacturer in Europe to achieve BASEC approval for medium voltage cables to BS 7870-4.10. The company's medium voltage range has also been awarded KEMA, VDE, Lloyd's Register, Aenor and Cesi approval.

The company, with medium voltage manufacturing facilities in the UK and Italy, is committed to rigorous independent testing and focuses on the quality of its products, quality system and employees.

Tratos' medium voltage cable, which has been produced by the company for more than 30 years, is specifically intended for a wide range of cable applications between 6.35 and 33kV for power distribution and is found in installations throughout the world.

Tratos CEO Maurizio Bragagni, commenting on the latest achievement said: "At Tratos we produce a broad range of ca-

bles for different markets and that meet many standards. These approvals from many different independent testing houses demonstrate that our medium voltage cables fully meet the requirements of the standard.

That is the point the unicity of the large variety and equipment to test all those standards.

The cables are specified for utilities, industrial plants, highways, mining and tunnelling and Oil & Gas installations. The complete MV cable range is manufactured to the most exacting and restrictive national and international standards such as those required by London Underground.

Supplying MV cable to ENEL, ENDESA, British Utilities and EON, Tratos' technical team is committed to providing the very best client support working with engineers, consultants and installers to achieve cable solutions for all situations [↗](#)



British Approvals Service for Cables (BASEC) - an independent and non-profit accredited certification body
KEMA Type Test Certificate, containing a record of a series of type tests carried out in accordance with a recognised standard. The object tested has fulfilled the requirements of the standard and the relevant ratings assigned by the manufacturer are endorsed by DNV GL.
VDE - Association for Electrical, Electronic & Information Technologies, responsible for testing and certifying tools and appliances in Germany.
Lloyd's Register - a global engineering, technical and business services organisation providing compliance, risk and technical consultancy services
Aenor - Spanish Association for Standardization and Certification
CESI - an independent centre of expertise and a global provider of technical and engineering services.

Bringing **clarity** with **cable Q&A**

A range of short informative talks have been developed by Tratos as part of its Academy learning programme to bring a clearer understanding to some important issues affecting the UK cable industry today.

The five talks, available for download from Tratos' YouTube channel look at a number of key cable industry topics and discussion points – all subjects around which Tratos believes there is an array of misleading information. By asking those in the 'driving seat' for their answers, Tratos aims to bring clarity to its employees, customers and other cable industry stakeholders.

The five minute talks feature Peter Smeeth General Secretary of the BCA and Approved Cables Initiative, Dr Jeremy Hodge CEO of BASEC and Neil Ancell, Non-Executive Director of Tratos UK.

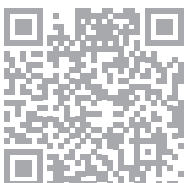
Peter Smeeth talks about the role of the BCA -www.bcauk.org what it was set up to do, how it has evolved and its future plans. He also looks at substandard cable – how it remains a problem for the UK cable supply chain, the ACI's Lobbying of Govern-

ment and how it is educating the supply chain to spot a sub-standard cable.

Jeremy Hodge looks at standards, testing and certification – why standards are important and needed, independent third party approval, BASEC's quality mark and product approval certification. He also outlines the most important development for improving cable safety in the UK. In addition, Jeremy explains the importance of the Low Voltage Directive (LVD) and what it means for the cable industry. As well this he looks at CE Marking, some unscrupulous manufacturer practices and outlines how important it is to check cable markings.

With regards CPR, Jeremy details what it is and why Construction Product Regulation is important to cables. He explains how it links to CE Marking and Declaration of Performance and outlines the timescale for its delivery.

Tratos' Neil Ancell provides commentary on all the issues highlighted and spells out Tratos' view on each subject areas [▶](#)



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Tratos invests in in-house CPR testing



Tratos experts joined representatives from VDE Offenbach for a facility visit at Taurus instruments in Germany and to see a demonstration of a new fire testing machine designed for the upcoming Construction Products Regulation (CPR).

The company's Ennio Bragagni-Capaccini, Vincenzo Bellini and Rainer Pollmann partnered Detlef Stämmeler from VDE Offenbach during the visit to meet Taurus Instruments' CEO, Stephan Heise.

VDE in Offenbach is Germany's only BauPVO test facility. Among a wider-range of testing it tests single-cable to EN60332 and carries out bunched-cable fire testing to EN 50399.

Tratos' strategic aim was to buy the same Taurus Instruments machines used at VDE Offenbach to ensure its products are ready-tested for CPR compliance. VDE Offenbach hosted Tratos and Taurus later the same day where a more detailed explanation of the testing equipment's operation was provided.

Choosing this test machine will allow Tratos to respond faster to CPR requirements. The company's cables can be tested in its own laboratories to give greater customer confidence and quicker response to orders covered by the new requirements [\[1\]](#)



ACI highlights issue of golden samples

Approved Cables Initiative (ACI) believes the practice of testing golden samples and ignoring the value of third party approval and independent testing risks flooding the market with substandard cable.

The ACI understands that not only are some manufacturers producing golden samples* to meet specifications and standards and in some instances to obtain a third party test report, but this summer, a cable manufacturer secured an order by supplying golden samples from another legitimate cable producer.

Once these trade samples were accepted, the manufacturer then supplied its own sub-standard cable to complete the order. None of the substandard cable was sold or installed, as the importer carried out its own in-house cable checks once delivery was received to ensure they were of the same quality as the original samples.

All cables supplied as part of the final order failed due to high resistance and in some cases sticking cores because of uncured rubber insulation. The original trade samples were clearly golden samples supplied with the intention to deceive.

“As with the recent VW emissions deception, it is clear that there are those who are prepared to bend the rules by producing isolated samples to deceive the unwary; they will also pass off other manufacturers’ products as their own in order to gain a sale, said Peter

Smeeth of the Approved Cables Initiative.

“This case, which has been reported to Health & Safety Executive and Trading Standards, demonstrates the lengths some fraudulent manufacturers and suppliers are prepared to go to and it should be a wake-up call to those purchasing cable and importing into the UK.

“Without rigorous third party approval, where not just the cable but the cable manufacturer themselves have been regularly audited more frequently than annually, including completely unannounced visits, and products periodically re-tested several times each year, importers and distributors are leaving themselves wide open to the dangers of deception”, continued Peter Smeeth.

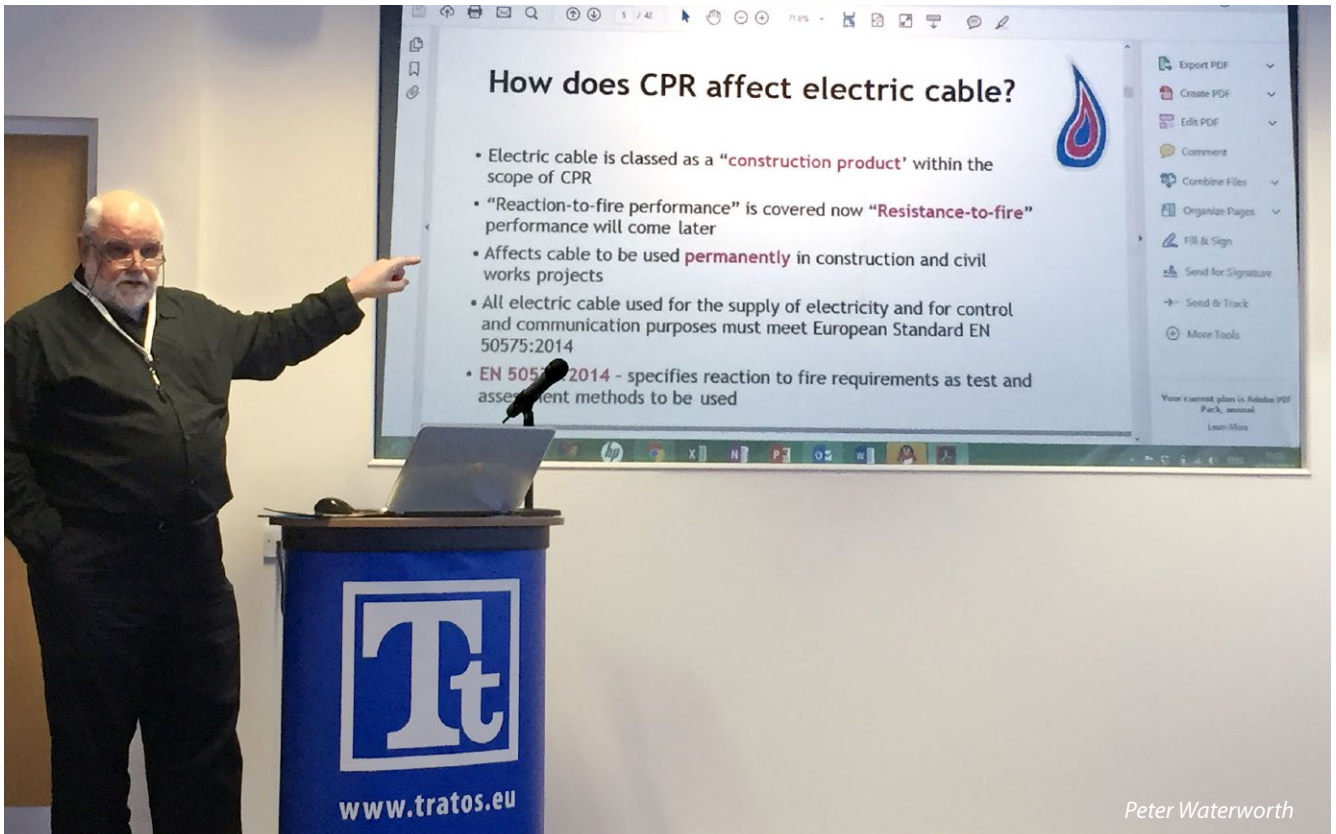
Regulators within the car industry are now seeking to tighten up on vehicle assessment systems and the transport secretary has said that the priority is to protect the public and give them full confidence in diesel tests, with the focus on laboratory and real world testing.

The ACI would also urge Government to accept that there are other industry sectors that are feeling the full force of the golden sample deception and need a much tighter approach.

*a random cable sample taken from a manufacturer’s normal production run that is produced to standard and selected by the third party for independent testing [↗](#)



CPR Workshops prove a successful formula



Earlier this year, Tratos hosted to a number of Construction Products Regulation (CPR) workshops in London and Merseyside for those wanting to understand better the details of CPR and how it may affect them.


The Construction Products Regulation assesses the performance of construction products throughout the EU enabling their comparison from different manufacturers in different countries. It deals with the way a product is placed on the market, how its performance is declared and the conformance system of assessment.

The half day workshops were designed to be informative industry events and aimed to help attendees prepare for the 1st July deadline.

Delivered by Tratos' Technical and Development Director Peter

Waterworth, the workshops were extremely well attended with many positive responses from the audiences on the detail of the content and relevance to their specific business.

Peter Waterworth said: "The workshop programme was one of a number of communication tools that Tratos employed as part of its CPR campaign, but ultimately probably one of the most valuable. We have felt for many months that there was a lot of confusion surrounding CPR. The workshops enabled us to tailor content to suit the audience, highlighting their responsibilities to ensure they are CPR compliant.

"The audience was encouraged to raise and discuss issues and concerns in an open forum and I believe attendees appreciated the valuable content, going away more confident in what they needed to know and where gaps existed in their own CPR preparations," continued Peter 

Health & Safety

Employees need to know they are working in a safe environment. By implementing a rigorous programme of continual improvement, with board level responsibility for its delivery, we believe we will reach ever higher safety standards at Tratos.



Ing Elisabetta Bragagni Capaccini, Health & Safety Director

High Standard of **Health & Safety** confirmed by **BASEC**



Since its decision to create a board post dedicated to furthering best practice for Health and Safety, international cable manufacturer Tratos is celebrating receipt of **BS OHSAS 18001**.

The Italian-owned UK-based cable innovator appointed **Ing Elisabetta Bragagni Capaccini** as **Health & Safety Director** with a brief to get tough on root and branch health and safety.

A fully qualified electrical engineer, Ing Elisabetta Bragagni Capaccini is granddaughter of the company's founder, Egidio Capaccini, and stepped up from her role as the company's health and safety officer at its Knowsley factory in Merseyside in 2016.

BS OHSAS 18001 sets out the minimum requirements for occupational health and safety management best practice and helps companies achieve the maximum return for employees, operations and customers.

Working alongside UK health and safety consultants, ELAS, Ms Bragagni Capaccini, 33, was tasked with overseeing the implementation of a rigorous programme of continuous improvement at Knowsley. The aim was to reach ever higher safety standards that would be mirrored in Tratos' factories in Italy. From her appointment, she began working towards OHSAS 18001 at the company's UK and Italian operations, and received the news that the Certificate of Conformity had been confirmed by **BASEC** just a few weeks short of the end of the year.

The company is committed to this rigorous independent testing regime in line with its focus on the quality of its products, quality system, employees and over-arching health and safety practices.

The British Approvals Service for Cables (BASEC) accreditation provides assurance of independent cable testing and approval. Leading non-profit making independent certification body BASEC has a reputation for quality, clarity and safety, and its services cover electrical cables, data and signal cables and ancillary products providing reassurance for cable specifiers.

Tratos UK CEO **Dr Maurizio Bragagni**, said of Ms Bragagni Capaccini's role: *"We believe the whole of the Tratos board should be responsible for setting the standard for effective health and safety management but we recognised that the fastest gains for everyone would be achieved by one person having sole focus, ownership and understanding of the issues involved."*

"We take our responsibilities seriously, we invest time and money in ensuring safer working practices for everyone. So we've invested heavily in better facilities, equipment and infrastructure to ensure our people are working safely in a healthy environment. We've also pushed to educate staff further, to highlight best practice and develop a culture that includes looking after each other in the workplace. These accreditations are there to be achieved and exceeded. They're there for everyone's benefit."

"The decision to create this role has proven to be the right course of action for the company and we're delighted with the accreditation," continued Dr Bragagni. **Ing Elisabetta Bragagni Capaccini** said: *"The position of Health & Safety Director is a pivotal role in any manufacturing company and it will only get more important as our business continues to grow globally. It is my role to ensure best practices are stringently upheld and cement their place throughout the organisation. It is very rewarding to have our efforts recognised."*

Railways & Mass Transit

Working with some of the largest rail sector companies in Europe, Tratos specialises in the production of digital-ready signalling, power, control and telecommunications cables - bringing technological innovation and innovative cable design to all its products.



Tratos hosts **Rail Industry** technical group seminar



Railway Industry Association (RIA) members toured Tratos' manufacturing facilities in June to see the production of compliant cables for railway applications as part of the group's Traction & Rolling Stock Technical meeting.

RIA chose to hold its meeting at the company's Knowsley factory and attendees took the opportunity to tour Tratos' cable manufacturing facility and view the copper-winding, insulation and sheathing processes involved in cable production.

Anglo-Italian company Tratos has manufactured cables for Rail and Mass Transit applications for more than ten years, specialising in the production of signalling, power, control, fibres and telecommunications cables for the railway sector.

The company is often called upon to develop products that meet high quality industry as well as specific client specifications. Tratos has a reputation for providing customers, some of the largest rail sector companies in Europe, with innovative cable designs.

Chris Harris, Tratos UK Sales Manager, Mass Transit said: *"We are very pleased to have hosted this event today. Tratos is an innovative and a quality cable manufacturer with a growing reputation but in addition to this we are a company that is investing in UK cable manufacturing and the tour of our facilities today demonstrated that point."*

The event also included presentations from:

- **Dr Jeremy Hodge**, Chief Executive of British Approvals Service for Cables (BASEC) on fire testing of materials to EN45545-2
- **Neil Ovenden**, Railway Delivery Group Supply Chain Lead presented information on the RDG Supply Chain Forum activities and ReFocus, the RDG and TOCs' initiative for working with the supply chain to improve fleet reliability
- **Bridget Eickhoff** of RSSB who provided a T&RS Standards & Research Update
- **Ian Dolman** of Faiveley Wabtec who updated the group on activities and opportunities for suppliers of the North-West Rail Industry Leaders' Group

Tratos **Rolling Stock** cable chosen for **UK train** network

Cable company Tratos has secured new orders to supply its RS high temperature, extra flexible power cables, tested and approved to EN45545-2 (R15-HL3), for a new fleet of trains which will operate on the East Anglia train network.

Designed and manufactured for long service life and harsh external environments, Tratos' rolling stock cables, with special fire performance characteristics, will be supplied to a Tier one global train manufacturer who will build and supply the train fleet in Derby in the East Midlands.

The company's rolling stock halogen free cable with flexible copper conductors, silicone insulation and outer sheath LSZH (Low Smoke Zero Halogen) elastomeric compound has been subjected to a programme of extensive fire (single and bunched), smoke density emission and material toxicity testing.

The cables were awarded IMQ approval according to EN45545-2 (R15-HL3 maximum hazard level) from Italy's principal certification body in April this year. The testing by IMQ, to EN45545-2:

2013+A1 2015 Railway applications – Fire protection for railway vehicles, achieved notable results. Further testing saw the cable meet all the requirements for fire behaviour of materials and components.

Anglo-Italian company Tratos has manufactured cables for rail and mass transit applications for more than ten years. Specialising in the production of signalling, power, control and telecommunications cables for the railway sector. It aims to bring added value to all its products – providing its customers – some of the largest rail sector companies in Europe – with technological innovation and innovative cable designs.

By designing innovative, fire resistant products for high speed applications, Tratos is often called upon to develop products that meet high quality industry as well as specific client specifications.

A supplier to Ferrovie Dello Stato, Alstom, Bombardier, Ansaldo Breda and Hitachi solutions, Tratos has DVE, Lloyds Register, IMQ, PT and LUL approval 



Case Studies

TRATOS ON TRACK WITH ITALY AND UK MANUFACTURING

A framework contract worth up to three million euros to supply railway signalling and power cables for Rete Ferroviaria Italiana (RFI) has been awarded to Tratos.

The company's hard-surface, high resistance, ultra-flexible cabling is built to withstand abrasion and high stress-levels, so is ideally suited for rail applications. The combination of the Tratos' standards, high performance and the cable's generous bending radius for easier installation won particular favour over imports from the Far East and the company will supply the special 3kv cable over the next five years.

Albano Bragagni, President of Tratos said: "This order is evidence that we can be competitive even though we produce in Italy and UK. In a straight comparison we succeed thanks to the high quality of our products, and the support and service that goes with them." [↗](#)

TRATOS DUAL FIRE BARRIER INCREASES STANDARDS

Tratos has achieved product approval from Italy's principal certification body, IMQ*, for its new Tratos Dual Fire Barrier, fibre optic communications cable.

The small, compact, lightweight cable, meets several exacting industry standards and has been designed specifically for underground and metro systems, and London Crossrail. With its ease of installation the cable, with ZHLS (Zero Halogen Low Smoke) sheathing, was tested in February and is one of the first products to have achieved the requirements of LU1-085, BS EN 187000:1994 and IEC 60794-1-2.

Tratos has manufactured cables for Rail and Mass Transit applications for the past ten years. Designing innovative, fire resistant products for high speed applications, the company is often called upon to develop products that meet high quality industry as well as specific client specifications [↗](#)

* IMQ is a European leader in conformity assessments and laboratory tests for the electrical, electronic, gas and energy industries.



Ports & Maritime

Tratos is an international manufacturer and supplier of Special Cables for mobile applications. Its Tratosflex range includes cables for mono-spiral and multi-spiral reeling; coiling in baskets, festoon systems and spreaders. Our cables can be used to supply power, control and signalling functions including fibre-optic cables and cranes operating on high speed applications up to 300 mt/min.

With many years of experience, the company has several case studies in the industry.



BARCELONA PORT AUTHORITY, TERMINAL CATALUNYA S.A (TERCAT)

Konecranes awarded cable manufacturer and supplier Tratos the contract to supply medium voltage rubber insulated and sheathed drum reeling cables for its Automated Stacking Cranes (ASC), used at the Muelle Prat container terminal in Spain.

Following the takeover of the Muelle Prat container terminal from the Barcelona Port Authority, Terminal Catalunya S.A (TERCAT) (a member of the Hutchison Port Holdings (HPH) Group) construction started on a 1,000-metre-long quay featuring 18 container stacking blocks with 36 one-over-five ASCs. The ASCs were supplied by KoneCranes with Tratosflex cable, specifically designed for high speed reeling.

Tratosflex features a unique internal cable design, with the structure tightened against the internal relative movement, preventing the cable from twisting which can in turn lead to a breakage – extremely dangerous when reeling at speeds up to 300m/m.

As a result of this sophisticated, reliable design, Konecranes now regularly specifies Tratosflex cable for its ASCs worldwide. [T](#)

CRANE CABLE CONTRACT AWARDED TO TRATOS FOR HPH NEW AUSTRALIAN CONTAINER TERMINALS

Tratoflex reeling cable has been specified by Konecranes and installed in Automated Stacking Cranes (ASC) at two Hutchison Port Holdings (HPH) container terminals in Australia.

Tratosflex medium voltage rubber insulated and sheathed drum reeling cables, specifically designed for high speed reeling, are regularly incorporated into Konecranes ASCs worldwide due to their reliability.

Tratosflex is in use within Konecranes ASCs at HPH's container terminal in Sydney's Port Botany, New South Wales' premier port and one of Australia's major international container ports. The terminal began initial operations early November 2013 and has four shipping berths with a 1,300 metre quay and a total capacity of more than 1 million TEU per annum. HPH's Brisbane terminal, which opened in 2014, has a total area of 26 hectares, a total quay length of 660 metres and a depth alongside of 14 metres. Brisbane port is Australia's fastest-growing container port [T](#)



Qingdao Qianwan Terminal, China

Eight years not out for Tratos' **Euromax** innovation



Euromax Terminal, Rotterdam

Cable manufacturer Tratos is marking eight years continuous running of its ground-breaking high-speed medium-voltage reeling cables at Euromax in Rotterdam, Holland, when the average lifetime of equivalent type of products you can find on the market is 2 years. The cables were installed in what was at the time, one of the fastest automated rail mounted gantry cranes (ARMGs) in the world, where containers are transported from the stack to the truck at a speed of up to 270m/min.

In 2008, when first installed, there was no benchmark for the anticipated lifespan of cables running at such high speeds, 24/7. Tratos installed TRATOSFLEX ESDB 6/10kV cable which it developed specially for the needs of the terminal.

Many different factors influence cable life span, but TRATOSFLEX ESDB cable has continued to perform consistently in an unbroken run since its installation.

The Italian-owned British manufacturer says the eight-year landmark is a defining one for Tratos – and one of the best references in the world, particularly as Euromax was one of the first terminals to operate at those speeds.

TRATOSFLEX ESDB was developed to resist high pulling tension

and abrasion of the outer sheath – rubber insulated copper cable can fail when these two materials are wrapped around each other.

During the cable's life, its tough environment – the constant reeling application – is a constant challenge and cable is generally the weakest point of any crane and relies on regular maintenance to preserve its integrity.

At the time, Tratos' task was to produce a super-tough outer-sheath and make the inner construction as strong as possible for client ZPMC, the largest heavy-duty equipment manufacturer in the world.

TRATOSFLEX ESDB was the result. It's modified cable structure tightens the components against internal movement to accommodate the stresses involved in high speed applications.

This prevents the most common problem of twisting, leading to possible breakage that affects cables reeling at high speeds. High quality compounds also ensure the cable operates in temperatures from -20°C to +60°C.

Tratos' high-performance cables are now installed in more than 300 ports around the world [T](#)

Super-fast **reeling cables** win Tratos favour with **China**



Tratos China engineers have been at work on site at Qingdao Qianwan Container Terminal (QQCTN) in China, commissioning and carrying out system checks before its reeling cables, 38 ASC, go into commission. QQCTN Container Terminal in Qingdao is a joint venture funded by Qingdao Port Group, Dubai DPworld, China COSCO, Danmark A.P.M Maersk and China Hong Kong CMT.


Tratos supplied 38 lengths of newly-developed ESDB high-tension reeling cables, which run at a maximum speed of 270m per minute, and have been very quickly accepted by most of the world's automatic container terminals.

As part of Tratos' client service, a dynamic interrogation, testing and commissioning programme is implemented before the opening of the terminal, to provide smooth running from day one.

Cosco XOCT (Xiamen) and QQCTN (Qingdao), two leading automated container terminals in China, chose Tratos' innovative ESDB cables for their Automatic Stacking Cranes (ASC).

Rainer Pollmann from Tratos Germany worked alongside the terminal's technical team to measure static parameters and monitor the dynamic performance of the whole reeling application.

Joined by **Philip Zhao** from Tratos China, Mr Pollmann has maintained practical dialogue with XOCT's engineering team, so that they could benefit from the experience of running with Tratos' successful automatic reeling application at other international container terminals.

Tratos' Chinese customers pronounced themselves satisfaction on both cables' excellent performance and the company's professionalism in setting up and introducing the system 



Ports need to get smarter as globalisation slows



PEMA president Ottonel Popesco, UK Minister for Transport, Rt Hon John Hayes CBE MP, Dr Maurizio Bragagni MBA

International port equipment manufacturers point to challenges outside changing trade horizons outside Brexit and The Trump Effect.

UK Minister for Transport, Rt Hon John Hayes CBE MP, joined port equipment manufacturers from all over the world in London to hear first-hand how industry experts plan to handle the squeeze as globalisation slows.

Industry leaders predicted a growth in protectionism and a slowing down for globalisation, but, they say, it's a result of the market's maturity rather than the uncertain climate for trade across the UK, Europe and in the US.

Delegates at the Port Equipment Manufacturers Association (PEMA) AGM 2017, which finished on Friday, heard that demand for container shipping had plateaued and that considerable vessel scrapping initiatives were expected over the next few years.

Mega ships and strategic alliances are behind the consolidation, say industry experts, and the focus on big players is escalating with more shifts to economies of scale in the past 12 months than in the past 12 years.

Other game-changers include the Panama Canal opening, uncertainties around new trade deals and new, faster rail services (China to Russia – 17 days by rail compared with 40 days by sea).

PEMA president Ottonel Popesco said: *“To function more effectively, port equipment manufacturers, ports and shippers need to establish an open dialogue in which challenges are tackled holistically.*

The industry needs a platform from which it can effect change and PEMA should be that platform.”

The Transport Minister was invited to attend the event by PEMA director, UK cable manufacturing company Tratos' CEO Maurizio Bragagni, who pushed for London to host the event.

Dr Bragagni, whose Italian-owned business manufactures in Italy and the UK and trades worldwide, said he felt it was imperative that there was Ministerial representation at this landmark event as new trade agreements are constructed.

During opening remarks the Minister, Mr Hayes, forecast an “era of investment” in port equipment, adding that “deep sea ports are ever more important.”



This was the first time a UK government minister has addressed a PEMA audience.

The PEMA forum saw a push for intelligent cross-industry discussion to agree on the best size for ships, expectations for delivery times and supply chain strengthening.

At a House of Commons dinner for PEMA members and guests, Dr Bragagni also welcomed Alberto Costa MP – who hosted the dinner – and George Howarth, MP for Knowsley, home to the company's UK manufacturing base.

During the two-day event at London's County Hall speakers urged port manufacturers to agree a common position on optimal sizes of ships for given routes and customer's delivery-time expectations, to optimise the supply chain.


Delegates heard that while ultra- large container vessels had brought operational efficiencies for shipping lines, such vessels had, in essence, been introduced without full consideration of the cost for ports and terminals and impact on local transport infrastructure.

Tratos was the main sponsor for PEMA AGM 2017 

About PEMA

Founded in 2004, PEMA provides a forum and public voice for the global port equipment and technology sectors.

The Association has seen strong growth in recent years, and now has more than 100 member companies representing all facets of the industry, including crane, equipment and component manufacturers; automation, software and technology providers; consultants and other experts

PEMA members re-elected Ottonel Popesco and Mika Mahlberg from Konecranes president and vice president respectively; and Michael Eckle (Conductix Wampller), Achim Dries (Vahle) and Jens Koering (Treasurer) were elected to the PEMA Board. Maurizio Bragagni (Vice president), and Mike Dempsey confirmed members of the PEMA board 


Find out more: www.pema.org

TRATOS CABLES CHOSEN FOR THREE CONTAINER SHIPS

Tratos has supplied cables for three container ships: MSC Tamara, MSC Angela and MSC Kim, used to deliver a wide variety of goods to ports worldwide.

Tratos Marine cables were selected due to their high quality manufacture and competitive pricing, as well as accreditations that ensure optimum safety, making them the perfect choice for a variety of vessels.

Tratos Marine is a range of quality, cost-effective shipboard cables designed specifically for ship and navy vessel installation. The cable design enables installation and operational costs to be kept low and components used with the cables reduce dimension and weight by approximately 20%.

Tratos Marine cables exhibit reduced flame propagation and flame spread when tested in accordance with IEC 60331-1-2 and IEC 60332-3-22. Limited circuit integrity cables have been tested in accordance with IEC 60331-1, IEC 60332-2 or IEC 60331-21 as applicable. In line with the company's dedication to developing environmentally friendly solutions, the cables produce very low smoke and corrosive gas emissions. This range has been approved by the Italian Military Marine and NATO 



TRATOS SUPPLIES TAKRAF WITH TRATOS MTO®

Tratos is a specialist supplier of mining and tunnelling equipment used in applications worldwide. The group is one of the most trusted suppliers of cables with long-standing relationships with major global mining groups.

Recent work has seen Tratos supply cable for the TAKRAF company in KOSOVO. Tratos supplied Takraf with 2100m of Tratos MTO® ES3 - a 30 kV flexible and reelable rubber hose cable with a diameter of 70mm and a reel of 3m inner diameter and 8.5m length.

TRATOS MTO® are specifically made for the mining market; TRATOS MTO® is designed to resist sunlight, water, extreme temperature, chemical, oil and abrasion, while performing consistently in tough mining environments.

The voltage range for Tratos MTO® is between 600V and 35KV 



Let's take another turn

Our cables have been continually working for many years with high speed applications all around the world.

Virginia (USA)

Throughput: 1.745.228 teu

Speed 300 m/m

Tratos cables have been working since 9th March 2010

Rotterdam (Holland)

Throughput: 9.743.290 teu

Speed 270 m/m

Tratos cables have been working since 3rd March 2008

TratosFlex ESDB

Fibre To The Home

Tratos believes Britain's broadband is in danger of developing into a block on the country's economy as alternative routes to high speed connectivity and huge gains in download pace – available now – are ignored.

As a global player in fibre optic cable, Tratos wants to be part of the UK's solution. It is one of a number of smaller, more agile and innovation-focused companies that could be instrumental in making the change. With more than 20 years' experience in the UK and Europe, Tratos has the 'smart' fibre cables that shoot down some of BT's arguments on installation expense/disruption as copper gives way to fibre.



Tratos Partners Prysmian for FTTH Push in Europe



Tratos, Italy's leading manufacturer of optical fibre and copper telecom cables and energy and special cables, has signed a deal to guarantee optical fibre supplies for the development of ultra-broadband and FTTH networks in Italy and abroad.

With more than 20 years experience in optical fibre technology, Tratos has entered into an agreement that will see Prysmian, world leader in the energy and telecom cable systems industry, supply standard and special optical fibre to Tratos. The fibre will be manufactured at Prysmian's Fibre Ottiche Sud plant in Battipaglia, Italy.

The levels of supply are expected to increase as greater needs are generated by the Italian government's plans to develop the country's own ultra-broadband network. Growth prospects in Italy's broadband network have been boosted with investments in FTTH and next-generation technologies (5G) by manufacturers and the Ministry of Economic Development. The European Commission's Digital Agenda 2025 set a goal of 2025 for connections of at least one Gigabit per second.

Increased download speed is marked out by the Agenda for all schools, libraries, research centres and public administration offices. The Agenda goes on to target uninterrupted 5G coverage in all urban areas for all European households, and connections that offer download speeds of at least 100 Mbps in rural and urban areas (which can be upgraded to Gigabit speeds). Fibre optic networks are currently the only possible technological solution to achieve these ambitious targets.

Albano Bragagni, Chairman and President of Tratos, comment-

ed: *"The agreement between our company and Prysmian Group is founded on a strong desire for an ongoing, long-term partnership, supported by the experience and mutual esteem built on the two companies' 30+ year relationship, with the aim of making a shared contribution to Italy's digital development and growth."*

Tratos's Vice President **Ennio Bragagni** added: *"This partnership highlights the importance of collaboration for the growth of Italy's broadband network. As a company with UK interests too, we would like to hope there will be a similar development of the country's ultrabroadband and FTTH networks soon. There is a real opportunity to get Britain back on track, and among those at the head of the list of economies benefitting from high speed broadband. The country has had to wait for the break-up of a monopoly in order to move forward, but with enlightened manufacturers creating partnerships like this one, the speed of the change could increase, and that can only be good for business and public sector organisations."*

Carlo Scarlata, Chief Commercial Officer at Prysmian Cavi e Sistemi Italia said: *"This contract represents an important collaboration between the two major Italian firms producing passive telecommunications components. This is a way for Italy to show that it can act independently in building the infrastructure needed to achieve European goals."*

This agreement showcases Italy's technological expertise and production capacity to develop broadband telecommunications network projects fundamental to the development and increased competitiveness across Europe [T](#)

Tratos hosted the “2017 Metropolitan Cabling and FTTH Conference”



In its 12th year, Tratos hosted the ‘2017 Metropolitan Cabling and FTTH Conference’ for leaders in the Fibre Optic Cable industry. The Conference took place at the company’s birth-place Pieve Santo Stefano, in one of the most beautiful parts of Italy. Tratos demonstrated its commitment to retaining its place as a European leader in the production of cables and fibre optics, research and the continuous development of new technical solutions. The company has grown to more than 400 employees, fostering trade relations with 52 countries around the world and developing manufacturing sites in Italy and England. The Conference was divided into two parts: a strategic view, where leading members of the National Telecommunication Operators presented their insights in the field of broadband networks and ultra, and a second that had a technical focus and included analysis of field-proven solutions.

Tratos Cavi showcased its new FTTH (Fibre to the Home) range, focusing on underground cabling and FTTH networks. The conference also explained the far-reaching benefits of Tratos’ work as a critical enabler for the industry.

Albano Bragagni, President of Tratos and mayor of Pieve Santo Stefano said: “FTTH is the future. As a leading producer of fibre optic cable we are pushing to see the last mile of cable turning from copper to fibre now and for FTTH to be available across cities and rural communities alike.

“To this end, we are proud to have signed a deal to guarantee optical fibre supplies for the development of ultra-broadband and FTTH networks across a number of countries. We hope this event

will bring together world telecom leaders to discuss strategies that will benefit everyone.”

Albano Bragagni was also on hand to welcome leading experts and representatives of the telecommunications industry in Italy and from across the world at Teatro Comunale, the Pieve venue. Speakers at this one day event included:

- **Luigi Cudia** of Infratel Italia SpA: “Infratel – Fiber to the Building, the public intervention in market failure areas. Current situation and future developments”.
- **Paola Regio** of Open Access: “01/07/2017 CPR (EU) 305/2011 on the eve of the entry into force of the European Legislation, what changes in the TLC market”.
- **Jacopo Giorgetti** of Tratos: “CPR (EU) 305/2011 The cables manufacturer point of view”
- **Giorgio Prioietti Silvestri** of Fastweb: “Stock if the situation and future strategies for Fastweb’s FTTX network in Italy”

Tratos Cables’ twelfth annual event confirmed it as a signature event in the world of telecommunications, with participants gathered to discuss growth prospects for Italy’s broadband network with investments in FTTH and next-generation technologies (5G) and The European Commission’s Digital Agenda 2025. To increase innovation innovation and competitiveness of Italy, to strengthen the economy, attract investment and develop exports. It was discussed that fibre optic networks are currently the only possible technological solution to achieve these ambitious targets [↗](#)

TRATOS' NEXT GENERATION FIBRE CABLE TO SPEED BROADBAND

A new series of optical fibre cable has been designed by Tratos Ltd specifically to increase domestic broadband speed and reliability. It's faster and easier to install too.

Its last-mile network fibre optics hold the potential for significantly faster response to the demand for development of broadband connectivity and Tratos predicts it will be a key facilitator for this, one of the most rapidly developing sectors in the next few years.

With its FTTH (Fibre-to-the-Home) range, Tratos has developed a super-simple solution for different installation systems.

These cables can be used inside buildings to connect individual flats. Run from the bottom to the top of the building, one or more of the cables in the bundle can branch off at any point and connect in end users' homes.

The new wiring, for single and multiple-dwellings, also incorporates a complete indoor fibre solution.

Part of the challenge for FTTH is the diverse range of environments presented by the diversity of buildings' infrastructure. In existing structures FTTH wiring is very often installed as the third network infrastructure in a building where, in the past, twisted pair copper and coax cabling would have been installed.

The sleek new cabling solution offers big gains:

- Very compact to fit into small conduits and building floor access points
- Extremely flexible small diameter cables used with miniaturised cable accessories;
- Reduced need for on-site pre-audits
- Reinforced horizontal drop cables are tough enough to be pulled through existing ducts
- A reduced amount of connectivity points (splices, connectors) shortens installation time
- The time spent inside customers' premises is much reduced
- Optimized for brownfield construction networks.

Tratos' new bespoke TRATOSMICRO® and TRATOSPICO® cable has been produced using advanced-performance materials from OFS, a leading designer, manufacturer and supplier of innovative fibre optic network solutions.

Tratos was quick to enlist OFS' AllWave® FLEX and AllWaveFLEX+ Bend-Optimised Single-Mode Fibre with a 200 micron coating for cables with higher fibre counts and micro-cables where diameters must be minimised.

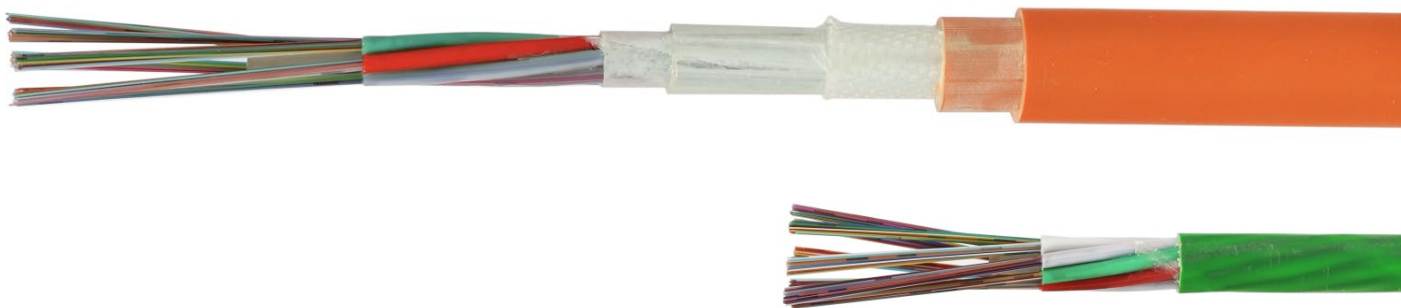
The fibre's bend-optimised design enables tight, low loss bends without risking fibre strength and long-term reliability. These fibres occupy 46 percent less area than conventional 250 micron coated fibre, packing smaller diameter cables with a greater number of fibres per tube.

The 200 micron AllWave FLEX Fibre supports higher density and lower diameter cables, providing outstanding macro-bend and micro-bend performance, perfect for Fibre-to-the-Home (FTTH) installations.

Tratos' Mirko Gori, Sales Area Manager, said: "OFS' 200 micron AllWave FLEX+ fibre offers enhanced bend performance, low diameter and full compatibility and compliance with the installed base of conventional G.652.D single-mode fibres. It is an excellent choice for higher density cables for our customers' access networks and high-density Fibre-to-the-Home applications."

OFS maximises the reliability of its bend-optimised single-mode fibres through the use of synthetic glass and its highly protective D-Lux® acrylate coating. This enables significantly smaller bend diameters with lower loss, improved fibre strength and long-term reliability.

The products retain all the performance benefits of OFS' All-Wave Zero Water Peak (ZWP) Fibre, the first fibre to eliminate the water peak defect found in conventional fibre, due to OFS' patented ZWP fibre manufacturing process, which eliminates hydrogen-aging defects. The ultra-low fibre Polarisation Mode Dispersion (PMD) enables speed and distance upgrades and the cables meet and exceed both ITU-T G.657-A2 and G.652.D recommendations and International Standard IEC 60793-2-50 specifications [\[4\]](#)



Firesafe

The Tratos range of Firesafe cables is designed specifically to comply with the latest requirements of the construction industry. Installed in flagship developments including Wimbledon's Centre Court, Caerphilly Hospital, Villa Park and London Underground's Kings Cross St Pancras station, Tratos Firesafe cables are a trusted brand.

Tratos Firesafe cables meet the latest standards for fire detection and alarm systems in BS5839 Part 1 and for use in emergency lighting in BS5266 Part 1. Manufactured and tested to BS7629, available in both Standard TW950s and Enhanced TW950e according to your requirements.





TRATOS FIRESAFE CABLE AUTHORISED FOR USE BY LONDON UNDERGROUND

Tratos Firesafe TW950e cables have been approved to London Underground Limited (LUL) standard 1-085 A3 and are authorised for use in subsurface locations, including tunnels and underground stations.

An enhanced fire resistant cable Tratos Firesafe TW950e is appropriate for systems needing to operate fully during a fire for longer periods than those normally required for single phase evacuation; these include fire detection, alarm and emergency voice communication systems.

Commenting on this latest development, **John Light**, Director of Tratos Ltd, said: *"Achieving compliance with this LUL standard is a significant achievement as the tests are rigorous and stringent, as they should be for a potentially life-saving product. Organisations the World over recognise this LUL standard as a benchmark for fire safety."*

In addition to subsurface locations, Firesafe is also suitable for use in high rise buildings that do not have sprinkler systems and have passed evacuation arrangements, or large premises where areas remote from the fire could remain occupied on the condition that the fire does not damage cables serving the alarm system in those locations. [T](#)

TRATOS JBA BASED ON BS6883 - IEC 60092-353

Tratos JBA® is a special cable range specifically designed and manufactured for the Oil&Gas market to meet necessary test requirements. Lloyds approved JBA® cables are mud, fire and extreme temperature resistant. They are also resilient to water and mechanical impact. JBA® cables were supplied recently to the North Sea Jasmine platform project where the company was awarded a contract by Conoco Phillips to supply £5 million worth of specialist fire resistant cables for Phase 1 of the development.

Here Tratos was the only cable manufacturer able to satisfy the stringent application, specification and standardisation requirements for the project. [T](#)



Oil & Gas

Tratos has been involved in the oil and gas industry for more than 40 years, manufacturing and supplying Control, Power and Fibre Optic cables, and more recently with our partners MFX, Subsea cables for upstream, midstream and downstream projects.

Our Aberdeen office is an essential requirement for business - ensuring Tratos remains at the hub of the UK oil and gas industry. Supported by its business development and sales teams in London, the company works closely with existing customers and new clients worldwide - introducing them to the wide portfolio of Tratos group products including BS6883, NEK606, MUD Resistant and the Tratos JBA Offshore range.





CLIPPER SOUTH PLATFORM BENEFITS FROM TRATOS OIL & GAS CABLES

Tratos has fulfilled a multi-million Euro contract to supply Oil & Gas Cables to the Clipper South gas field wellhead platform, located off the coast of East Anglia in the North Sea.

Clipper South is a substantial gas field with a wellhead platform tied by a 12" pipeline to Conoco/BP's LOGGS Platform from where gas is exported onshore to Theddlethorpe Gas Terminal, 100km away.

As part of ongoing development work, including new production wells, Tratos Oil & Gas Cables have been used extensively throughout the field to supply power, control and signalling. Cables supplied include low and medium voltage power, control and instrumentation cables, including fire resistant variants, plus submarine and umbilical cables.

Renown for quality, durability and innovation within the oil and gas industry, in which it has operated for more than 40 years, Tratos cables meet numerous standards, including Lloyd's, as well as American, British and European standards BS6883, NEK 606 & UKOOA.

Tratos Oil & Gas cables have been used extensively across the globe in offshore and on-shore applications, such as Phase 1 of the Jasmine discovery in the UK, Kashagan Oil Fields in Kazakhstan, Alba Marina FSO vessel and Rospo Mare B Platform in the Adriatic Sea. [T](#)



NORWEGIAN RIG GETS NEW LEASE OF LIFE WITH TRATOS OIL & GAS CABLES

SDR Scarabeo 5, an Italian built rig designed specifically for Norwegian conditions, has received a multi-million Euro upgrade with Tratos Oil & Gas Cables by Saipem. Operating successfully on the Norwegian Continental Shelf since 1990, Scarabeo 5 is a 5th generation vessel with large capacity, advanced performance and strong technical capabilities. It features a dynamic positioning (DP) system, allowing drilling depth of up to 2000 metres.

As part of its ongoing maintenance programme, Saipem – a world leader in the oil and gas contracting services sector – contracted Tratos to supply several million Euros worth of oil and gas cables to supply power, control and signalling throughout the rig.

Tratos Oil & Gas Cables were specified due to their quality design and construction – essential in such a demanding offshore application. Tratos, has a thorough understanding of this market and designs its cables to withstand these harsh environments.

Many of the cables supplied to Saipem for Scarabeo 5, for example, feature a longitudinal double aluminium tape barrier to combat the problem of corrosion caused by many of the substances that cables come into contact with such as acids, solvents, hydrocarbons and moisture, all of which can cause significant damage if allowed to seep through the cable. This solution is far lighter and more effective than that used by alternative manufacturers, such as corrugated metal tapes and lead sheaths. [T](#)

Tratos has an enviable track record

Major projects

Conoco Phillips Petroleum:

Jasmine - Central North Sea - United Kingdom

Tratos UK has supplied a £5 million order for specialist fire resistant cables to ConocoPhillips for Phase 1 of the Jasmine discovery in the UK, Central North Sea. Jasmine, one of the UK's largest exploration discoveries since the mid 1990s, is the result of a ConocoPhillips-operated exploration well in 2006. Tratos supplied medium and low voltage cables, designed and manufactured by the company to meet the necessary test requirements of this project especially for the exceptional fire resistance properties demanded. Tratos was the only company able to fully meet ConocoPhillips' rigorous spec for this specialist cable

Edison: Alba Marina and Rospo Platform - Adriatic Sea

Tratos has supplied 1830 metres of Trato Submarine medium voltage cable to energy company Edison for use in its Alba Marina floating storage and offloading vessel (FSO) and Rospo Mare B Platform, located in the Adriatic Sea.

Manufactured to IEC 60228 and IEC 60502-2, IEC 60840 to 26/45 KV, the Trato Submarine cable comes with a copper or aluminium circular stranded conductor, extruded semi-conducting layer, HEPR insulation and a special hygroscopic PE innersheath and oversheath. It features double galvanised steel armouring for exceptional durability, making Trato Submarine ideally suited to the oil and gas and utilities markets. The TratoSubmarine power cable replaced the existing Tratos cable which was fitted at the Alba Marina and Rospo Mare B Platform in 2004.

Baghdad Refinery Cable contract

Tratos supplied Iraq's state-owned Midland Refineries Company (MRC) with cables for installation at the Daura Refinery in Bagh-



Conoco Phillips Petroleum: Jasmine - Central North Sea - United Kingdom

dad. A range of power, high temperature and fire resistant cables were supplied to MRC as part of the modernisation process of the Refinery. The Daura refinery, located in the south of Baghdad, was constructed in 1953 and started operations in 1955. It produces daily 3 million litres of gasoline, 1.5 million litres of kerosene and 2 million litres of gas oil, along with other products going to local power plants and industrial use.

€15 million oil and gas cable contract

Tratos received a €15 million contract for the supply of oil and gas cables to the Sannazzaro Refinery, owned by energy company ENI, in the Po Valley, Italy. The Sannazzaro Refinery is one of the most efficient and flexible in Europe, supplying markets in North-Western Italy and Switzerland, including Italy's most highly industrialized area - the Turin-Milan-Genoa industrial triangle.

Nigerian Onshore Gas Plant Upgrade

Tratos supplied Saipem S.p.A. – an international turnkey contractor in the oil and gas industry – with instrumentation and low voltage power cables for installation at the Nigerian Agip Oil Company's on shore Gas Plant in Obiafu/Obrikom and nearby Flow Station in Irri as part of an upgrade to the facilities.

Shuaiba II Project

As part of a €2.2 million contact, Tratos Cavi S.p.A supplied The Kuwait Olefins Company with medium and low voltage power cables for the new Ethylene Glycol Plant II, part of the Shuaiba II Project in Kuwait. The cables were installed by The Kuwait Olefins Company throughout the Plant, including the two storey substation building, and were used to supply power to a wide



Edison: Alba Marina and Rospo Platform - Adriatic Sea

in supplying Oil and Gas Cables

range of equipment including reactors, vessels, heat exchangers, pumps, motors and transformers.

Italian Refinery cable contract

Tratos has supplied Snamprogettisud S.p.A, a subsidiary of oil and gas contractor Saipem, with a range of instrumentation cables for installation at the Taranto Refinery which began operation in the late 1960s. The Refinery continues to adapt to meet the needs of the ever changing oil market, and mainly produces fuels for the automotive and residential heating markets in Southern Italy. The contract to supply instrumentation cables was awarded to Tratos based on keen pricing, service, reliability and product quality.

Azzawiya Oil Refining Company contract, Libya

Tratos has supplied Oil and gas cables to the Revamp of the Gas-Turbine Plant, Azzawiya, Great Jamahiriya in Libya. The AZZAWIYA REFINERY CO. (ARC) awarded a \$300,000,000 refinery upgrade contract to France-based TECHNIP-COFLEXIP.

Cables for NGL Train at Ruwais

One million Euros' worth of Tratos instrumentation cables have been installed by Snamprogetti SpA in Gasco's third Natural Gas Liquids (NGL) Train Project in Ruwais, Abu Dhabi. The third NGL Train at Ruwais is designed to process an additional 24,400 tonnes TPD of natural gas liquids produced from OGD-111, AGD-11 and other projects and to produce about 6,400 TPD of Raw Ethane for transfer to the petrochemical plant at Ruwais. The Tratos instrumentation cables have been installed throughout the site to carry signals between various system components. 18km continuous length of subsea fibre



Sannazzaro Refinery, Italy


Tratos supplied a 24 Optical Fibre cable suitable for sub-sea installation up to 200 metres in depth for the Adriatic LNG Terminal which required a continuous length of 18km. The Adriatic LNG terminal is a liquid natural gas offshore terminal nine miles offshore near Rovigo, Italy in the northern Adriatic. It is the world's first offshore LNG terminal.

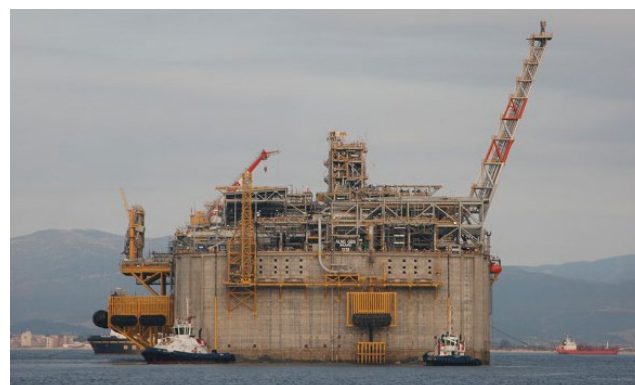
Arzew Train De GNL, Algeria

Tratos has supplied cable to Eni Saipem for the Arzew train de GNL. The contract included Energy cables from 1 kv to 33 kv, armoured and unarmoured, fire retardant, and fire resistance, from 1.5 To 300 cross section, single, 3 core, 4 cores, multicores. Instrumentation cables, single, and double screened, armoured and unarmoured, fire resistance, and no fire resistance, pair, multi pairs.

An onshore contract worth €2.8bn involved the construction of a new LNG liquefaction train on a brownfield site in the industrial zone of Arzew adjacent to the existing refinery.

The work was awarded to a joint venture of Saipem / Snamprogetti and Chiyoda on a turn-key basis. The contract involved the engineering, procurement and construction for a 4.7-million-ton-a-year liquefaction train and associated infrastructure.

Tratos has also supplied energy cables (1 kV to 33 kV), armoured and unarmoured, fire retardant, and fire resistance, from 1.5m To 300m cross section, single, 3 core, 4 cores, multicores; and instrumentation cables, single and double screened, armoured and unarmoured, with or without fire resistance, pair, multi pair; Control cable, multi pairs, fire resistance or flame retardant, armoured and unarmoured to: Agip Kazakhstan, North Caspian, Kazakhstan Burinsky, Kazakhstan Petroleum, Ruwais, Emirates of Abu Dhabi Gasco, The Kuwait Olefins Co 



Adriatic LNG Terminal

Tratos applauds **tidal turbine industry first**



Bespoke cable solutions provider Tratos has welcomed news of the world's most powerful tidal turbine hitting peak power last month (April 2017).

The tidal turbine, developed and manufactured by Scottish Engineering Company ScotRenewables Tidal Power Ltd, which employs a bespoke Tratos cable solution, reached full rated power at the European Marine Energy Centre, Orkney.

Tratos originally supplied its cable system for ScotRenewables' SR2000 2MW tidal turbine testing programme in 2015. After undergoing grid connected commissioning works prior to Christmas last year, the SR2000 was re-connected to its subsea cable and, following energisation, the 500-tonne floating tidal turbine commenced generation of power export to the local Orkney grid.

Since then the turbine has been undergoing a phased testing programme leading to full, 2MW rated export capacity being achieved on 12th April.

Tratos' cable system integrates existing power and communications technologies into a combined, robust solution for challenging tidal environments.

The innovative system sees power and fibre optic cable combined to power the tidal system hook-up.

The system consists of a 6-10kV, 3 core, armoured cable, designed to maintain integrity while being moved around in harsh conditions, including bend restrictions to prevent damage under the sea.

All cable meets IEC standards 60228 and 6052-2 and is manufactured in Italy.

ScotRenewables' SR2000 tidal turbine is a leading floating tidal technology designed around the use of low cost vessels for all installation, maintenance and decommissioning operations. All offshore operations were delivered with small crew transfer vessels or locally based workboats [T](#)

Tratos: the ‘Company to Watch’ in 2016

Tratos has once again received the “Company to Watch” award from CERVED, the leading information and statistics source in Italy and one of Europe’s major rating agencies. The award recognises organisations which stand out within their sector for their economic and financial performance. Winners are also judged on their commitment and dedication to the rules and ethics of business. CERVED supports companies that promote innovation and investment, using research and development to benefit and grow their own business and their market sector as a whole.

Just over two years ago Tratos received an Award from the UKTI for its substantial investment in the redevelopment of its manufacturing facilities in Knowsley, Merseyside.

Tratos’ acquisition of its factory in Knowsley, an area of high unemployment, and subsequent investment in its refurbishment, development and staffing has resulted in a rise in employment figures in the area and an increase in highly sought-after,

skilled manufacturing personnel available to the region.

Commenting on the award, Chairman of Tratos SPA, Albano Bragagni, said: “We are delighted to have received this award. Being a ‘Company to Watch’ reaffirms that Tratos’ strategy and goals are right. We aim to improve not only the organisation, but the surrounding areas, the cable industry itself, and indeed the European economy as a whole”.

CERVED offers the most comprehensive range of information for financial institutions, insurance companies, public authorities, business and professionals. Founded in 1974 as a computing agency distributing statistical information, the organisation, which has ECAI (External Agency for Evaluation of Creditworthiness) recognition by the Bank of Italy, now provides evaluative data to more than 34,000 customers. These companies and individuals rely on CERVED for evaluation of financial security; in terms of credit risk-management, non-performing loan management, etc [IT](#)



Tratos **director** to enhance global **view of BCA**



Neil Ancell, non-executive director of Tratos UK, has been appointed vice president of the **British Cables Association (BCA)**, the trade association for British manufacturers of insulated cables, wires and associated products.

Mr Ancell will take on this newly created post as the BCA plays an influential role in not just promoting the interest of UK cables and associated companies throughout the world, but also campaigns through the Approved Cables Initiative to improve the overall quality of cable on sale in the UK today.

Mr Ancell's cabling career spans 49 years, joining Tratos UK in 2008 following the company's purchase of North West Cables. Tratos is an Italian-owned electrical, electronic and fibre optic cable manufacturer with its head office in London and UK manufacturing facilities in the north-west of England.

The company has been a member of the BCA for seven years. Commenting upon his appointment Mr Ancell said: "Having been an active member of the BCA for the past 40 years, I relish this opportunity to have a greater involvement in helping to shape the association. It comes at a time when we are facing the possibility of very different trading environments for many of our members.

"My perspective has been broadened by working with an Italian-owned, family run cable company – UK Investment has served us well over the past eight years. Tratos is now the UK's second largest cable manufacturer with active markets such as power, telecommunications, rail, oil & gas and construction. Our UK and Italian manufacturing facilities and bases worldwide enable us to have a more global view of the market, something we can share with our membership."

As well as being a trade association, the BCA represents its members on relevant major policy issues across four product sectors – energy cables, communications cables and power accessories.

Peter Smeeth, spokesperson for the BCA said: "BCA promotes the interest of UK cables and associated businesses world-wide and provides services which contribute to the commercial success of the industry and is represented on more than 70 BSI committees. It also runs a forum for discussion on environment and Health & Safety matters. "BCA examines what is being considered in fire safety, electric cars, umbilicals and rail infrastructure for example. We co-ordinate the efforts of our members, gather their comments and then promote agreed solutions to BSI" [TS](#)

Knowsley MP welcomes Tratos investment

George Howarth, MP for Knowsley, received a warm welcome last week (Friday 16th June) when he visited Tratos' Knowsley factory, Merseyside, UK to witness the multi-million-pound investment by the company.

Tratos, which began structural expansion work at the plant in 2015, has extended the factory four-fold, bringing an additional 150,000 sq ft of new industrial and office space into use. The investment has resulted in **40 new jobs**.

The visit by Mr Howarth coincided with the completion of the work and included a tour of the factory to view additional investment in new equipment for cable making and testing. Mr Howarth took time out to speak with staff and understand more about cable manufacturing.

Tratos' cable manufacturing now benefits from a large specialist drum twister for making steel wire armour cables – capable of twisting cables up to 400sqmm; a further extrusion line for outer sheaths and an insulation line.

The new equipment was installed, commissioned and commenced operation at the end of 2016.

The British factory is also home to the company's UK technical facilities comprising standard tests for voltage, spark test and resistance, as well as more complex testing for elongation, heat

shock, shrink back and vertical flame tests. A new Faraday cage at the site will complete the test equipment installation.

Commenting upon the visit Mr Howarth said: *"Today's visit provided an opportunity to return to the Knowsley factory which I last visited in 2013. I was interested to understand how the factory has expanded over the past two years and to learn more about modern day cable manufacturing in our region. It is welcome that this investment has also led to further jobs in Knowsley."*

Kevin Martin, Tratos Finance Director said: *"The level of investment we have made within the UK demonstrates our commitment to this country. For Tratos it's about investing in our products and our people and keeping our customers at the heart of all we do. We are delighted to welcome Mr Howarth to Knowsley today. He was interested in what we have built and our plans moving forward for the business. As always we appreciate his time and support."*

The quality of the Tratos development was recognised by the Knowsley Business and Regeneration Awards in November 2015 where the company received the award for Commercial Development of the Year.

Tratos' UK business aims to achieve a turnover of £100 million by the end of 2018 which is an increase in £70 million over four years with further planned expansion into railways, medium/high voltage energy cables in the utility and oil and gas sectors [↗](#)



The **future** coming from **the past**

By Dr Maurizio Bragagni

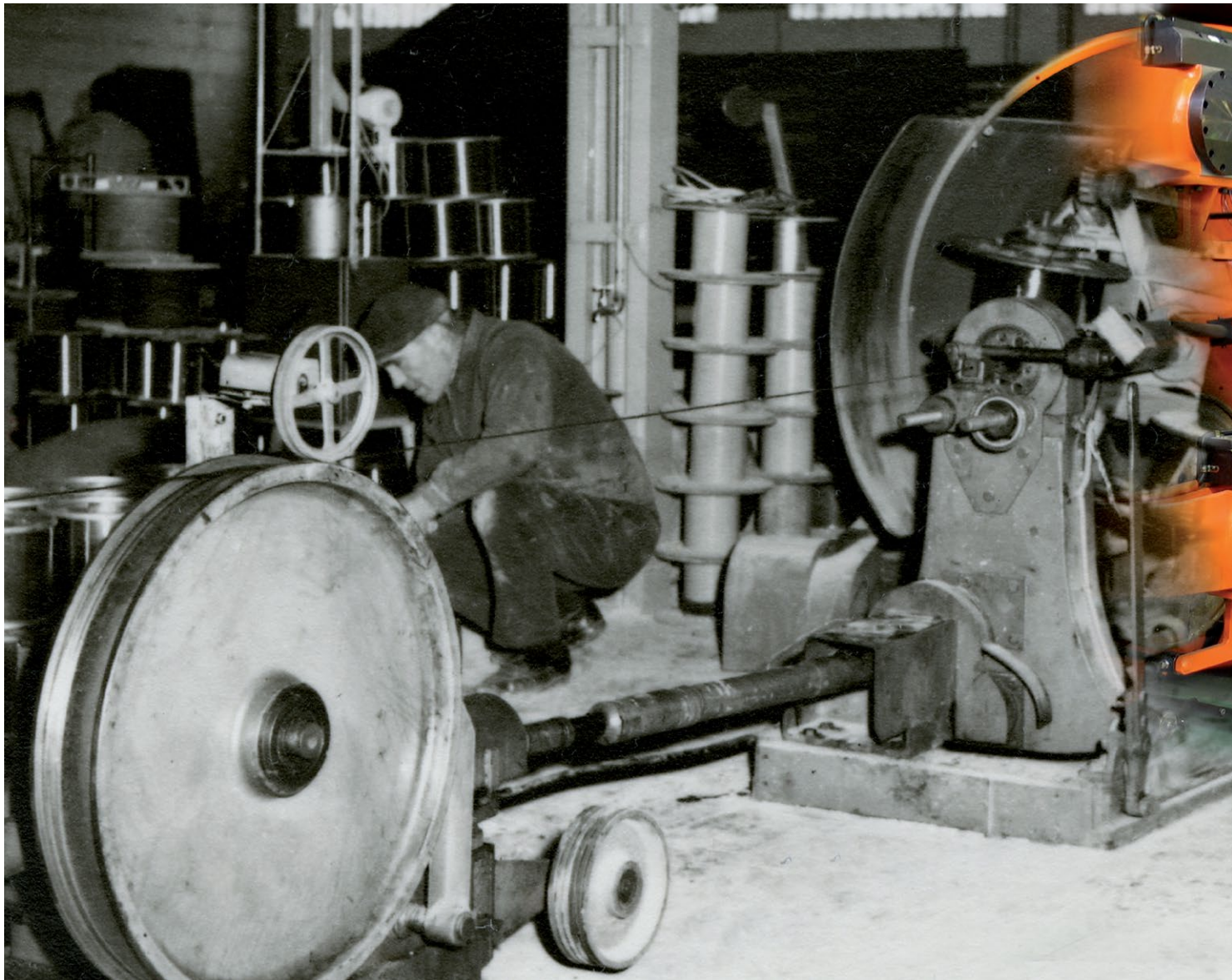
Tratos is a traditional family-owned company that is very successful in exporting its products to 36 countries, (more than 80% of the production is export-dedicated). The company has a strong executive team, mostly family members, who make it their business to listen to senior team members so that decision-making is well informed and better-placed to drive implementation.

Tratos had to break with traditional marketplaces and products to grow - by building unique business modules, forging direct

stakeholder relationships (customers, suppliers) and refusing to deal with distributors or agents. In short it has survived and flourished for 50 years thanks to a focus on innovation.

As CEO, I lead a business that is part of one of the fastest-moving commercial environments; a sector that is driven by innovation and repeatedly defined by the art of the possible.

The business is cable manufacturing, but at Tratos, we do it differently. Innovation is one of the pillars around which the business has grown. There's still much to do - to find out more about



innovation in business, and how a culture of innovation can be nurtured. The best way to do this was to look at best practice and apply the thinking to Tratos to establish how deep innovation was ingrained and what more could be done to encourage it. In addition, we talk to our customers: we deal with them directly.

That means we can establish, first-hand, their technical needs. This direct line to customers' technical people creates the opportunity to produce radical technological solutions alongside our clients. As a result, Tratos stopped selling a cable product and began selling innovation-led solutions (#TratosInnovation).

By identifying the hot spots for innovation within Tratos earlier, and facilitating an easier route to possible change, how might that accelerate the business? The company survey results "How

Innovative Is Your Company's Culture?" carried out earlier this year, provided a clear path to better innovation. The employees, who took the survey, gave the company high marks on external success.

They recognised that customers perceived Tratos as an innovative organisation and, as a consequence, Tratos' performance is much better than other firms in the industry, and in particular positive financial results are driven by the Tratos innovation efforts.

Tratos treats change as a long-term strategy, steering a comprehensive and disciplined approach to innovation, developing new capabilities.

Employees ranked the company's individual component of success poorly. Individuals felt a lack of participation in the innovation initiatives. We are working on the solutions.

To survive and flourish, in the most challenging of environments, Tratos has focused on niche markets and on that all-important innovation. In the 1900s it developed optical fibre products (#TratosOpticalFibres), in the 2000s, it produced cables for mobile applications, such as reeling cables for port cranes, and specialised in high-speed products (#TratosFlex). In the 2010s, Tratos won an innovation award for supplying the Superconductor cables for the world-stage Energy Fusion project (#TratosFusion).


Innovation around the way we choose to run our business as well as the cable technology we deliver has been pivotal to the company's success.

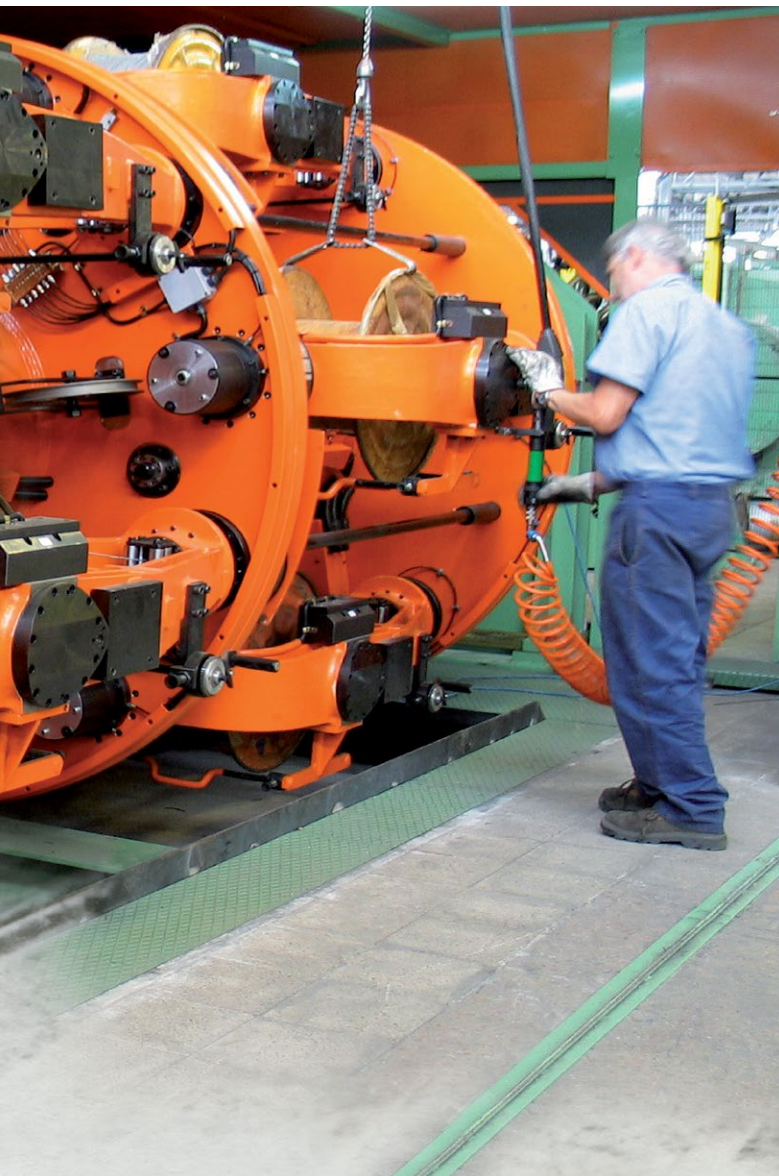
Cables are made from raw materials and compounds managed and controlled by large organisations, so the bargaining power of the suppliers is significant.

To control its own raw materials' supplies Tratos invested in its own compounds to achieve additional competitiveness. This fuelled diversification and dominance in niches by investing heavily in alternative products.

Tratos' decision to engage on a differentiation platform included introducing radical technology to previously uneconomical markets. Due to years of competition on price, several markets had become innovation wastelands. Companies were losing money, and the markets were in decline. Tratos turned this to advantage, revitalising the most depressed markets with carbon fibre innovation for overhead conductors (#TratosOHC), overtaking existing players.

Based on the previous analysis and my experience of the industry, I can identify two principal ways to achieve success in the cable manufacturing industry: large economies of scale or innovation.

Add to this, access to a highly-skilled workforce and real insight into your business and you have something powerful to bring change and step up to even greater innovation. 



Where does the Tratos story start?

A family tradition & a great history

So where does the Tratos story start? Who better to tell us than Dr Ennio Bragagni Capaccini, Vice President, who remembers the story of his late Grandfather, Egidio Capaccini, and how he came to be the founder of Tratos Cavi spa.

"It is said that every end marks a new beginning. For my Grandfather, Egidio Capaccini, that time came at the culmination of the Second World War. His home town in Southern Tuscany had been almost completely destroyed by the Germans and, with little or no work available, he packed his bags and travelled to Argentina to find employment. After taking work in a new company as a

General Worker for a year, fate stepped in and Egidio was offered a job in a factory making cables. With his passion and natural aptitude for business, he swiftly rose up the ranks to become the General Manager, as well as a shareholder in the company.

In 1961, Egidio returned to Italy to recuperate after suffering a heart attack. However, rest was not the only thing on his mind. Egidio had bigger dreams - dreams of setting up his own company. When he was back to full strength, he began working as a consultant, which gave him the chance to earn money and travel the world, meeting many different people and learning



more about the cable industry. Five years later, with enough funds and a great deal more experience under his belt, he returned to Italy and finally fulfilled his dream by establishing Tratos Cavi Spa. He found employees from the remnants of the textile industry that had once flourished in Southern Tuscany, whose experience proved useful when it came to covering the cables with textile, as was the practice at that time. The business expanded over the years and Tratos cables quickly gained a reputation for being exceptionally well-made and at the forefront of innovation.


“Egidio enjoyed running the business for more than 13 years until his health began to decline and, sadly, he passed away in 1974 after suffering another heart attack. His daughter, Marta Capaccini and her husband, Albano Bragagni, subsequently took on the business and Tratos has continued to expand whilst remaining a family-owned business.”

The company is now an international cable manufacturer of repute, selling an extensive range of cables to 52 countries worldwide with manufacturing facilities in Italy and the UK. Strong ties also remain with IMSA, the factory in Argentina where it all started.

Much of the company’s success since 1974 can be attributed to the master plan of Albano Bragagni, the current President. With his commitment to developing innovative new products and responding intelligently to opportunities in growing markets, Albano has expanded the business exponentially.

Thanks to his passion in driving the business forward, Tratos now has a worldwide reputation as a leading specialist cable manufacturer within a large number of industries and, as renowned experts in the development of bespoke cables to suit exact specifications, have formed a strong reputation as a reliable consultative source, offering unrivalled expertise.

Ennio is proud to be a part of the Tratos story. He adds, “My Grandfather was a man of vision, dedication and commitment and these are qualities that have become synonymous with the Tratos name.

Along with Albano Bragagni and my sister Elisabetta, I am pleased and excited to carry on building Egidio Capaccini’s dream of making Tratos a world renowned, expert cable manufacturer, a dream which began over fifty years ago in a small village in Tuscany.” 



C A B L E S F O R A M O V I N G W O R L D

TRATOS MTO[®]

Based on AS/NZS, VDE, BS, UL, CSA, MSHA, OSHA

Specifically customised for the mining market; TRATOS MTO[®] is designed to **resist sunlight, water, extreme temperature, chemical, oil and abrasion**, while also performing **consistently** in tough mining environments. The voltage range for TRATOS MTO[®] is between **600V** and **35KV**.



Case study: **TAKRAF** (Kosovo)

Tratos MTO[®] ES3 - 30 kV cable of flexible and reelable rubber hose cable with a diameter of 70 mm and a length of 2100 m. The reel has an inner diameter of 3 m. Speed: 9m/min

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