

Record depths JFD breaks depth records with the first sea trials for the Indian Navy: Page 3 **Growth in the Gulf** Subtech experiences significant recent growth in the Middle East: **Page 4** Bridges in India Strainstall wins a series of scour monitoring contracts for the Indian rail network: Page 5

Bubbling up

Advanced underwater sound proofing from Scan Tech AS in Norway: **Page 7**



New contracts at London Array wind farm James Fisher Marine Services has secured a trio of new contracts to provide a five-year turnkey asset management maintenance solution for the London Array offshore wind farm incorporating the high voltage expertise of EDS HV which recently joined the James Fisher group. Situated off the Kent coast, London Array is the second largest offshore wind farm in the world. **FULL STORY PAGE 4**

Extending nuclear clean-up expertise across the USA





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registration to receive up-to-the-minute news and information about James Fisher companies straight to your inbox. Using existing technology to solve remote access problems at the high profile Hanford Site in Washington

James Fisher Technologies (JFT) is currently completing a series of projects at the Hanford nuclear reservation in Washington state (USA) as part of one of the largest nuclear clean-up efforts in the world.

The team has been tasked with the final design and adaptation of the specialised equipment (pictured left) necessary to ensure safe and environmentally sound removal of highly radioactive soil beneath one specific building (facility #324).

As the US arm of James Fisher Nuclear (JFN) which is based in Colorado, JFT has been offering similar decommissioning services at the major nuclear sites in the North American region for the last three years. However, this multi-layered Hanford Site contract with a US Department of Energy contractor represents the team's biggest win, and one that marks its strong position in this growing field.

The 586-square-mile Hanford Site sits on the banks of the Columbia River in the state of Washington and is home to a number of nuclear reactors, waste storage tanks and the processing facilities involved with the testing and production of radioactive materials from the 1940s until the 1980s. Plutonium manufactured there was used in the first nuclear bomb, and during the Cold War reactors produced plutonium for most

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JFT USA Continued from page 1

of the US nuclear arsenal.

In 2010 during preparations for demolition, highly radioactive contamination was discovered in the soil beneath facility #324. The discovery of the contamination and its proximity to the Columbia River and nearby city of Richland makes the project a clean-up priority.

Although much of the equipment needed for the job had been detailed in a previous design cycle, JFT was called in earlier this year after suggesting a solution based on the use of existing remote-control demolition equipment to provide power to the excavators. The JFT team was able to help simplify the design and improve the controls of the remote excavator arms by adapting readily available demolition robots – thereby saving the cost and time which might be incurred in manufacturing one-off specialised machinery.

JFT's chief executive officer, Scott Adams, explains that the same principles were

also applied to the request for radiationtolerant lighting and cameras to help the remote operators guide the excavators, and subsequently to the most recent contract to supply specialised ventilation ducts to allow the encapsulation of reclaimed soil.

'The success of this series of design projects is a great testament to the skills and expertise of the JFT team,' says Scott.

His team has designed and delivered four robotic excavators to remove and contain the contaminated ground material from under the building for safe removal and storage. The first version has been onsite since June, and is used for testing and to train personnel. A second version was delivered in August.

'The team's pragmatic approach to solving the challenges (often finding ways to adapt existing solutions rather than trying to design new equipment from scratch) and our resultsoriented method of project management puts us on the map as a major supplier of remotely operated equipment,' Scott adds.

Prolec systems go stateside

James Fisher Prolec has teamed-up with JFT to deliver construction vehicle safety systems across the USA.

Prolec's safety guidance systems have been expanding fast into new markets internationally and a surge in demand for safety and control systems among North American rail customers was identified.

A subsequent partnership with JFT has led to a trial of Prolec's PME400 (HS Pro) safety guidance system with a leading US rail and highway contractor. The collaboration offers US customers access to synergies provided by the James Fisher group.

The customer is currently testing Prolec's machine safety system, with dual height and slew limitation and full envelope control, with a view to installing the solution on its entire fleet of excavators.

Fenders-to-fit for Japanese defence force

Fendercare Marine is continuing its reputation as the leading Yokohama fender specialist with the supply of mooring equipment to the largest vessel in the Japanese defence force.

The team was tasked with supplying a fendering solution at very short notice for the Destroyer, JS Kaga which was completing a tour of the Indo-Pacific region. The order included two 3.3m x 6.5m and eight 2.5m x 5.5m fenders on short-term hire for the

250m-long air-craft-carrier to facilitate its stay at the Changi Naval Base in Singapore.

This is the second contract Fendercare Marine has completed for the Japan Maritime Self-Defence Force (JMSDF).

Charmaine Wong Beardsworth at Fendercare Marine Asia Pacific says:

'We're used to getting last minute orders but were both surprised and delighted to get this job. Fendercare has previously supported the JMSDF on manoeuvres and we were pleased to once again be able to deliver everything required on time.

'Our on-site team went the extra mile during mobilisation and demobilisation, putting in extra hours to get everything ready within tight operating windows.'

As Japan's largest serving military ship since WW2, the JS Kaga was visiting Singapore as part of a wider tour of the region which also included stays in the Philippines, Sri Lanka, India and Indonesia.

JFD's Indian Navy contract reaches major new milestone

Third generation submarine rescue system achieves record depths in deep-sea trials

Just over two years into the major £193 million contract with the Indian Navy, the JFD team has reached a significant milestone and is already breaking new records with its cutting-edge subsea technology. This is one of the largest contracts ever won by any company in the James Fisher group, and was secured after an unprecedentedly rigorous negotiation process.

The contract will see JFD supply two third generation submarine rescue systems plus a full programme of ongoing maintenance and training, but the team has already successfully completed sea trials for the deep search and rescue vehicle (DSRV) part of the first submarine rescue system. This means it is now ready to be fully mobilised and provide rapid rescue to submarines in distress.

Early conversations between JFD and the Indian Navy began back in 1982 and continued on and off for over thirty years. 'Negotiations were complicated,' explains Ben Sharples, India DSRV project director at JFD, 'but we persisted because we knew this contract would confirm JFD as a true world leader in submarine rescue.'

'We continually upgraded our marketing offering as the Indian Navy's requirements developed, and as its need for a rescue capability emerged, so did our ability to deliver.'

'The decision to entrust JFD with the supply of two submarine rescue systems



'As the Indian Navy's requirements developed, and as its need for a rescue capability emerged, so did our ability to deliver'

Ben Sharples

India DSRV project director at JFD

is testament to the breadth and depth of our engineering expertise, and the diligence with which our submarine escape and rescue teams deliver these services,' he adds.

For the sea trials, the DSRV carried out underwater mating with a bottomed submarine at a depth of over 300 feet. JFD and the Indian Navy then carried out a safe transfer of personnel from the submarine to the DSRV.

During the trials, the teams conducted two record dives: the deepest ever hatch

opening (at 655msw) and the deepest ever rescue submersible dive (at 666msw). This means that JFD can safely rescue submariners stranded at depths that would once have been considered unattainable and shows why JFD is widely thought of as the world's number one for submarines in distress.

For the trials, the Indian Navy provided the commercial mothership and associated trials consort vessels. Its West Coast-based rescue team, which will operate the system when in service, actively participated throughout this phase of the trials. The Indian Navy's fly away configuration can be rapidly mobilised from the naval base at Mumbai by air, land or sea, and this direct involvement at trial stage ensures everyone is equipped with the skills and expertise to conduct safe and efficient submarine rescue operations, should the need arise.

The two systems form a central part of the huge Indian Navy contract which also includes launch and recovery systems equipment, transfer under pressure systems, logistics and support equipment, as well as a 25-year all inclusive annual maintenance contract.

A spokesperson for the Indian Navy says: 'India now joins a select league of nations with the capability to search, locate and provide rescue to distressed submarines.'

STOP PRESS: The second submarine rescue system has passed pre-delivery inspection and is being shipped to Vizag on the South East coast of India for trials early in 2019.



Trio of wind farm contracts

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London Array, the second largest offshore wind farm in the world, has selected James Fisher Marine Services (JFMS) to provide a complete maintenance solution over the next five years.

A trio of contracts combines inspection of the substation and 175 turbines at the wind farm which is located off the Kent coast, plus a complete suite of topside, subsea and high voltage (HV) management services (cable repair and support) provided by sister company, EDS HV. This significant maintenance contract brings all JFMS services together under one umbrella to create the first significant maintenance/ asset management contract for the group. It confirms the company's status as a leading provider of integrated systems to the offshore renewables sector.

'When London Array Limited originally put the work out for tender it comprised 11 different scopes of work within three packages, but the operations and maintenance team at JFMS put great emphasis on the benefits of providing a group package,' explains Jennie Kevis-Stirling, key account manager with Sharing skills and resources to provide a complete above and below surface maintenance solution for offshore wind farms

What is London Array?

The London Array wind farm is a 175 turbine 630 MW Round 2 offshore wind farm located 20km off the Kent coast in the outer Thames Estuary.

JFMS who co-ordinates group activity on London Array.

'Having one contractual entity like this makes optimising scheduling so much easier and more efficient,' Jennie says, adding, 'this cross-group work is built upon the whole ethos of JFMS – it is what the company has evolved to do. The London Array trio of contracts is precisely what we have been building towards for the last five years – it is the culmination of all those efforts coming together.'

JFMS beat off stiff competition from other global companies to win the business

Fergus Graham, executive director at James Fisher says: 'This award demonstrates the value of our integrated service offering and our capability to manage every phase of a wind farm's life cycle from construction support through to decommissioning.'

The high voltage services provided by EDS formed an important part of the contract win. Ryan Henderson, executive director at EDS explains: 'Our specialism in high voltage engineering combines effectively with the group capabilities both topside and subsea and has helped enable James Fisher to provide this truly turnkey solution which reduces risk and increases efficiency for clients,'

'This contract shows the strength that EDS has added to the James Fisher group, enhancing its strategy of being able to provide full turnkey asset management solutions to the industry,' he adds.

'Plus, joining the James Fisher group has helped EDS to fulfil its ambition of becoming a prime contractor in the operations and maintenance market.'

On the back of this win, the JFMS team is now involved with and bidding for similar topside type contracts (plant repairs, wiring and subsea services) at other wind farms.

Expansion in the Middle East

James Fisher is fast expanding into Middle Eastern offshore and subsea markets with a comprehensive range of equipment and services now offering fully integrated solutions to support major oil and gas contractors in the region.

As part of this regional focus, Subtech recently signed multi-million dollar contracts to work on numerous projects in the Arabian Gulf.

The work, which also involves resources from the wider James Fisher group under one umbrella operation, includes the installation of flexible pipelines, umbilicals and power cables, combined with pipeline demolition works in the Safaniya and Manifa fields in the Arabian Gulf.

The integrated approach signals a new way of doing business in the Middle East for James Fisher and has been implemented thanks to feedback from clients which increasingly demand the option to access additional services via their established and trusted contractor.

Subtech's contract is one of many in the region now covering a range of works from installation and maintenance to demolition

and decommissioning as James Fisher's operations continue to grow, which are increasingly drawing upon further equipment and personnel from the James Fisher group to offer a seamless, integrated full service solution.

Paul Whiley, managing director at Subtech Group says: 'Access to a comprehensive array of offshore equipment and skilled personnel within the James Fisher group allows us to offer a single point solution that many other service providers in the region simply cannot match'.

'Subtech can now provide major contractors with single source supply, so effectively streamline the supply chain and make customer operations more efficient.' he adds.

Not only does the extension of regional capabilities like this allow for the provision of a rapid and responsive mobilisation of services, but it also benefits the local economy as the teams employ local subsea and offshore professionals with expert knowledge of the oil and gas sectors in the region.

Faisel Chaudry, regional director at James Fisher explains that the team has been



involved in a wide range of projects over the last 12 months, in a bid to boost group presence in the Middle East: 'Over the last year, we have seen a sharp increase in demand for our services in the oil and gas sector here. We plan to deploy even more of our resources and expertise, establishing a permanent presence so we can offer unrivalled support and truly integrated subsea service solutions,' he says.

One such example of the new regional efficiencies is the sourcing and delivery of a heavy duty 500 tonne linear winch along with tension spooling equipment, diamond wire saws and ancillary equipment by JF Offshore. The equipment is on route to the Gulf in preparation for new pipeline projects there.



Monitoring water erosion on bridge foundations

Wireless scour monitoring systems will extend the safe life of key rail bridges across rivers in India

Strainstall has opened up a rich new seam of potential work across the Indian subcontinent with a series of bridge monitoring contracts for the Indian Railway Board (IRB). This means working with a significant new customer in a completely new market.

Work has begun on installing structural health monitoring systems on a series of river and sea bridges across India. These new contracts come as part of a recent push into the Indian market by Strainstall with Indian partner, Tranz Rail Solutions.

The IRB, which manages around 150,000 bridges, of which 50,000 are more than 100

years old, is keen to deploy scour safety systems on its river bridges to provide real-time alerts in the event of heavy rain or flooding. Scour is the primary cause of bridge failure around the world, occurring when strong currents alter the river or sea bed around a bridge pier, potentially undermining foundations, and destabilising and weakening the structure.

The first installation will be on India's second longest rail bridge; a two kilometre structure linking the Pamban Island in Tamil Nadu to the mainland's rail network. A further three bridges in Assam, two in the Mumbai area and two in north of Delhi

How Strainstall's scour monitoring works

- A solar-powered autonomous real-time river bed depth monitoring system is installed on each bridge.
- A sensor uses sonar acoustic technology (a 'ping') to regularly measure the river bed depth on both upstream and downstream piers.
- This information is processed by an integrated data logging system which uses high frequency wireless transmission to send information about the varying depth of each pier and 3G/4G data transmission to take the information to Strainstall's cloud server.
- Data is channelled through a dedicated and specially configured SAMS web portal which gives the customer real-time information on river or seabed depth.
- Data can be viewed in real-time, or can be analysed to determine long term trends in order to inform planned maintenance programmes.
- Automated alerts are sent when significant changes in river bed levels are detected, enabling rapid inspection and emergency repair if needed.

are also planned to have Strainstall's scour monitoring system installed.

In combination, scour sensors and Smart Asset Management System (SAMS) software will enable bridge managers to effectively target resources to the bridges deemed to be at greatest risk.

'We are excited to be working closely with such a large organisation which means our monitoring systems will have a positive effect on passenger safety,' says Damian Griffiths, regional monitoring solutions manager at Strainstall Malaysia. 'Several recent bridge collapses could have been prevented through real-time monitoring.'

Exciting new offshore applications for Strainstall

Strainstall has identified a new application for its wireless data logging technology in a move that opens up new opportunities for offshore markets in the Middle East.

The wireless data loggers which record and analyse movement and load have been used for many years on bridges, roads and large buildings worldwide. But now the team has adapted the technology to monitor the movement on self-lifting vessels used by the oil and gas industry.

Earlier this year, Strainstall was approached by a major marine services company in the Middle East to create a wireless system which could monitor the performance of jack-up rigs and provide an early Wireless load monitoring system finds new safety role on self-elevating jack-up rigs

warning system during jacking operations.

Jack-up barges are self-lifting vessels fitted with retractable support legs which elevate the hull above the surface of the sea to provide a stable offshore working platform.

The Strainstall team designed a monitoring solution by retro-fitting its wireless data logging system to provide a clear, real-time illustration of the rig's performance during jacking and give an early warning of potential overloading. The system offers improved safety and effectively extends the life of the rig by preventing overloading and possible buckling of its legs.

'This is the first time our system has been used offshore,' says Mark Boyle, business development manager at Strainstall Middle East. 'There are over 150 jack-up vessels in one gas field alone – with hundreds more operating across the Gulf, all of which would benefit from this technology.'

'Wireless instrumentation is ideal for offshore applications because it offers reduced costs and installation times, while providing an ideal solution where access may be difficult and safety is a concern,' Mark adds.

Tell us a bit about yourself

I was born and brought up in Glasgow, Scotland, went to University in Aberdeen (studying biomedical sciences) and spent the early part of my career working there, but I have travelled widely, and since 2014 I've been permanently based in Houston, Texas with Return To Scene Ltd.

I thrive on challenges, and outside of work adrenaline sports are my passion – whether it's scuba diving (including diving with great white sharks, albeit in a cage), bungee jumping, sky-diving, snowboarding, white-water rafting, kite-surfing or kickboxing. If there's a danger disclaimer to sign, I'm up for it! And I've travelled to 38 different countries to get my fix.

How did you come to join the James Fisher group?

I've had an eclectic career path spanning customer service and scientific based roles (including pharmaceuticals). After a time spent working as regional manager for a weather data visualisation software business, my combination of skills, training, and travel experience came together when I joined Return To Scene in 2012.

R2S is our flagship software. It is an asset visualisation technology which provides a navigable, visual (usually photographic) interface for multi-source, complex data. The team was confident the product could completely transform operations and maintenance for the oil and gas industry, so I was brought in as international business manager with a brief to expand that message worldwide.

Tell us a bit about your job?

Within weeks of arriving at Return To Scene I found myself in the US presenting the concept of R2S to the IT board of BP. The growth of the business with global clients there led to the setting up of an office in Houston.

Now, as global accounts manager, the biggest part of my job is looking after our multi-region clients, like BP, and working across every region where these clients have assets. I'm both extending those relationships (having recently returned from working with a client in Indonesia) and managing other projects too.

The job brings together key aspects of my customer service background (as it requires me to consultatively help solve problems and build successful partnerships), my science and digital data







Under the surface with: Catriona Johnston

We meet Catriona Johnston, global accounts manager with Return To Scene who is tasked with expanding R2S regionally across the Americas and beyond

knowledge (allowing me to understand and apply complex technologies and explain intricate concepts), and international experience, often communicating with people for whom English is not a first language.

It's as if my eclectic range of work and life experiences have now come together in a perfect storm for this role.

What do you enjoy most about your job?

R2S has revolutionised the energy industry by enabling clients to visualise their offshore assets accurately without the need for multiple site visits. It's been amazing to have the chance to introduce such an innovative solution to an industry that never knew such capability existed. It is hugely satisfying to be able to secure large contracts for the group, to be involved in hands-on consultancy with our clients, and to be able to deliver cutting-edge solutions to meet our clients' specific needs.

Working collaboratively as part of the James Fisher group enables us to create truly unique combinations of products and services, and I'm excited about how we can further grow these joint projects.

What does the future hold?

I will continue to expand our digital solutions across our global energy clients and regionally in North and South America. I'm very excited by the everexpanding potential for R2S worldwide, and the opportunities that can be achieved by combining the James Fisher group capabilities. I'm looking forward to this journey and taking on the challenge.

Safeguarding Norway's salmon farms from construction noise

High-performance bubble curtain technology uses self-sinking pipes to offer significantly improved sound protection for sea life

Scan Tech AS in Norway has developed a new high-performance bubble curtain technology designed to protect marine life from the noise produced by underwater seismic testing and construction activities.

Bubble curtains are commonly used underwater to protect marine life during subsea operations: a perforated hose is tethered to the sea floor, through which air is forced, rising - as a curtain of tiny bubbles - to the surface. Most systems successfully reduce noise by 11-15 decibels (maximum 18 decibels) but Scan Tech's new system has been independently proven to be able to reduce noise by 35 decibels.

'This is a significant improvement over any other system' says Chris Stevens managing director at Scan Tech, 'it also uses only a quarter of the air - which is an additional environmental saving."

Eighteen months ago, the Scan Tech team was asked to provide bubble curtain technology for the Norwegian Department of Environment and Roads which has commissioned an undersea tunnel network to replace the ferry crossings which link parts of the coast. This powerful bubble curtain has been designed to minimise the impact on local salmon farms of the seismic shocks produced during construction.

Ordinary construction noises and pressure waves travel much more easily underwater and do so without losing much of their energy. This can be enough to harm and even kill marine life. However, air bubbles compress in response to sound, absorbing acoustic energy and when formed into a curtain, they reflect and refract the sound, effectively keeping it within the curtained area (see below).

Chris explains: 'Traditional bubble curtains can be difficult to deploy as the hoses need to be tethered to the sea bed with chains and concrete weights which are prone to being shifted by currents. Accurately placing the hoses can lead to costly extra vessel-days on any project. However, our system does not use chains, just a special self-sinking hose.'

He says its superior performance is linked



to the unique array and size of the bubbles it creates and the extent to which they absorb and reflect/refract the sound waves.

'The technology was monitored by an independent research institute associated with Norway's national technical university (NTNU) which measured the level of noise reaching the fish farm, and to everybody's surprise and delight, the system showed the best protection of any other system by a large margin.'

The system takes air from Scan Tech's specially designed low emission offshore compressors which can be adapted to ensure only air of medical cleanliness passes into the sea.

As a result of this performance, Scan Tech has been approached by potential clients in the oil and gas and renewables markets keen to protect marine life from noise associated with subsea construction. The team has begun work with a renewable major, scaling-up the technology for use around turbines off the coast of Norway and worldwide.

'Scaling up brings with it the challenges of handling a couple of kilometres of hose, as well as storage, deployment, and recovery,' Chris adds. 'Happily, Scan Tech's lifting division has years of experience in deploying wires and hoses, buoys and clump-weights, so we can contribute to making this a complete system for our clients.'



Two new tankers for JF Everard

James Fisher Everard has purchased two tankers, the Dee Fisher and the Corrib Fisher as part of its fleet renewal strategy which demonstrates its commitment to providing an excellent coastal tanker service to its customers.

The Dee, named after the Aberdeenshire river and the Corrib, named after the River Corrib which flows through to Galway Bay,

are both classified as IMO 2 chemical tankers designed to carry clean petroleum products and 'easy' chemicals.

Managing director, Fiona Everard says: 'We are pleased to welcome the Dee and the Corrib to our fleet of 14 tankers servicing the UK and Irish coast and transporting c. 4m tonnes of clean petroleum products every year for our customer base.'





Metal drinking bottles help cut plastic waste

Sustainability and environmental awareness is an ever-growing focus for James Fisher companies. One recent example is the JFMS decision to produce personalised steel (refillable) water bottles for offshore personnel in a bid to cut back on the quantities of plastic regularly being taken out to wind farms.

The idea was initiated by James Fisher Marine Services operations team which was keen to cut down on the pallets of plastic water bottles which are shipped offshore.

'Everything we can do as a business and as an industry to reduce the amount of plastics being used is a good thing,' says JFMS director of strategy and business development, Martin Dromfield. 'Although this endeavour is in its infancy, we've already had very positive feedback from crews and hope to expand the scheme in the future.' The first batch of metal drinking bottles has been shipped out to London Array.



Strainstall-sponsored pilot smashes 14-year old world speed record

Hot on the heels of his world speed record success last year (as reported in Winter 2017 Pelican), Strainstall's business development manager, Frank Rose, has broken new speed records with his race boat, Vintage Torque at this year's Coniston Powerboats Records Week.

The existing world speed record for the ProVee series that his boat was designed to race in, has stood as 94mph for the last 14 years, but Frank and his team were delighted to smash that record by reaching 101mph in difficult conditions.

'The event draws competitors from all over the world with vintage boats and oneoff vessels built just for record breaking. It is steeped in the history of British speed record-breaker, Sir Donald Campbell and his boat Bluebird . Every shop or pub has a photo or piece of memorabilia,' says Frank, 'it is a privilege to take part.'



A new minibus for Barrow special school

Every year, the Sir John Fisher Foundation makes donations to worthy causes in the Barrow-in-Furness area, and one of the latest organisations to benefit is Sandside Lodge special school in Ulverston which recently received a new minibus (above).

The charitable trust was established in 1980 by Sir John and Lady Maria Fisher and Sir John gave a substantial proportion of his shares in James Fisher and Sons plc to The Foundation so it could continue to support charitable causes across the areas of maritime, medical and disability, education, music, arts and local community projects around Barrow and South Lakeland.

In the last year it has distributed £2.15m for a variety of good causes, 75% of which has been in the area local to Barrow-in-Furness. This includes Furness Carers, Barrow Foodbank, St Mary's Hospice in South Cumbria, Blackwell Sailing, and Mind in Furness as well as Furness schools and Duddon Inshore Rescue.

This year the Rumic Foundation Trust received £17,500 enabling it to purchase the second-hand minibus for Sandside Lodge school which caters for pupils aged 2-19 with learning difficulties, autism, physical disabilities and sensory impairments.

Best wishes for Christmas and the New Year!

As we reach the end of another great year for the James Fisher group we would like to pass on a heartfelt THANKS on behalf of the management teams for the hard work and dedication put in by everyone in the company which has seen us win numerous new contracts, accreditations and widespread praise.

Wishing you all a very merry Christmas and a happy New Year!



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