



THE IPLOCA NEWSLETTER

JUNE 2017



Annual Convention - Mexico City

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BENDING HISTORY



This is what experience looks like

POWER: The Maats bending machine program ranges from 16 to 60 inch. The robust and reliable Maats bending machines have the capacity to bend pipes up to 1 inch wall thickness x100 of the maximum loadable pipe-size. The Maats bending machines are the strongest available in the market.

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IPLOCA Mission

To provide value to members through a forum for sharing ideas, engaging the industry and its stakeholders, facilitating business opportunities and promoting the highest standards in the pipeline industry.

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Letter from the President

A copy of the Mexico City Convention brochure was mailed out to many of you in May and online registration opens on Thursday, 1 June.

We are excited about this convention, which will have a distinctive Mexican flavour. When partaking in the week's programme, you will be able to get a taste of Mexico City's deep history, its culture, music, great food and beautiful buildings.

A few sponsorship opportunities are still available, so don't hesitate to contact our Convention Manager, Caroline Green, if you are interested.

We will be presenting three awards at the convention:

- the 2017 IPLOCA Health and Safety Award, sponsored by Chevron
- the 2017 IPLOCA Corporate Social Responsibility Award, sponsored by Total
- and the 2017 IPLOCA New Technologies Award, sponsored by BP.

In addition to these three awards, the recipients of the 2017 IPLOCA Scholarships will be announced.

During the AGM, amendments to the By-laws will be presented for approval, and members will be called upon to ratify the newly elected Board of Directors. Information on the election process and the vacant seats for our 2017-2018 Board of Directors can be found on page 24.

During the first quarter of this year, we uploaded many new H&S shared experiences on our website for your benefit. We were also pleased to welcome eight new members to the association and some of the profiles appear on pages 8 and 9. The Spring Novel Construction meeting in Amsterdam was very well supported and articles on some of the presentations that were made can be found on pages 18 to 23. I hope many of you have downloaded the Road to Success app to see the progress made by the work groups.

Also covered in this newsletter is a review of the Regional Meeting for Europe Central held in Berlin on 2 May.

I very much look forward to meeting many of you in my home town, Mexico City, in September.

Best regards,

Rubén Kuri

IPLOCA President 2016-2017

News from Geneva

Meeting Space in IPLOCA Secretariat Offices

The IPLOCA Secretariat is situated on the second floor of the "Geneva Airpark" building, just 15 minutes' walk from the airport or a short bus ride.

We have a large meeting space (seating 12 persons comfortably) with projection facilities, natural daylight, and a beautiful view of the Mont-Blanc, which is available to all members to use for free. Don't hesitate to let us know if you would like to reserve it, by writing to info@iploca.com.



IPLOCA on LinkedIn

IPLOCA can now be found on LinkedIn. Keep a look out for posts on our events and initiatives. There are already more than 100 followers. We encourage you to "Follow" IPLOCA, "Like" our posts and/or "Share" them on www.linkedin.com. All comments are welcome.

Sister Associations

IPLOCA Executive Secretary, Juan Arzuaga and his wife, Alejandra, attended the PLCAC (Pipe Line Contractors Association of Canada)'s 63rd Annual Convention which took place in Banff, Alberta, Canada from 14 to 18 May.

A meeting of the World Federation of Pipe Line Industries Associations was held on Monday, 15 May.

They discussed the current status of pipeline work and the problems that the industry is facing. Experiences were also shared on the respective scholarship programmes.



Pipeline Being Installed in Lake Geneva !

Switzerland's biggest lakes have a high potential for creating energy. Their waters can cool structures in the summer and heat them in the winter. Not far from the IPLOCA Secretariat, Juan Arzuaga photographed this pipe ready to be laid in Lake Geneva.

The lake is a source of heat and cold for several large buildings in Geneva, including the International Committee of the Red Cross, the International Labour Organisation and the United Nations. Water is sourced at a depth where the temperature is fairly constant and is piped through the buildings. Then it is piped back into the lake, reportedly with a very low impact on the environment and substantial cost savings.

Membership Payments by Credit Card

IPLOCA membership fees may now be paid via credit card. Further information will be provided to you with your next membership invoice.





Board Meeting Update

Toronto

The first Board of Directors meeting of the year was held in Toronto, the most populous city in Canada, and the following summarises the main discussions and outcomes.

HSE Committee

At this year's convention, IPLOCA awards will be presented for Health & Safety and Corporate Social Responsibility, along with the New Technologies Award.

The directors were reminded that the Health & Safety Workshop would be taking place in October (Tuesday 24 October), the day before the Novel Construction sessions of 25 and 26 October. As part of IPLOCA's HSE efforts, directors have been asked to include a speaker on Health, Safety and the Environment in the programme for regional meetings.

Client Engagement Committee

A target of five new Corresponding Members has been set for 2017. The invitation package has been updated to include a Benefits of Membership document which is also available on the IPLOCA website. Directors were reminded that, as per the By-laws, all prospective Corresponding Members require the support of two Regular Members.

Since Corresponding Members do not currently come under the responsibility of a particular Director, it was agreed that a Board Director would be allocated to each Corresponding Member to act as a reference person within the association and to support the relationship with the member.

New Technologies Committee

The Committee confirmed that the Spring Novel Construction session was taking place in Amsterdam from

5 to 6 April and that close to 70 participants were expected. The committee's Chairman, Scot Fluharty of Mears Group, said it was important to encourage Corresponding Members to get involved in this initiative, in particular in providing their knowledge to the workgroups for "The Road to Success", but also in the form of information sharing on the content of this reference document.

He also encouraged more Regular Members to send representatives to the workgroup sessions, which are currently predominantly populated with Associate Members. He said that the Novel Construction Initiative and "The Road to Success" create value for our members and that, through his experience, members can get even more value by contributing.

Scholarship Committee

A total of 20 scholarships will be awarded this year out of a pool of 139 completed applications that fulfilled the eligibility requirements. A disparity in the numbers of candidates from each Geographic Region was noted and a discussion took place on the cultural differences between candidates applying from across the globe, as well as how to ensure information on the scholarship programme is disseminated internally within each member company (perhaps via HR contacts).

Some ideas for future funding of the scholarship programme were put forward, including a proposal from an IPLOCA member that has recently developed an education programme to assist in transferring knowledge from generation to generation within the pipeline industry. The committee will present future funding ideas to the Board at their next meeting in June.

A questionnaire had been sent out to all 2016 scholarship recipients to receive their feedback on the programme. (A summary of the responses can be found on page 15.)

Temporary By-laws Committee

Several operational manuals have been created from the original "Aide Memoire" document, including those on Board Administration, Regional Meetings and the Convention. Further work is being undertaken on the format and content of the Secretariat or Office manual, containing, but not limited to signature procedures, accounting procedures, contract renewals, IT requirements, etc. Particular thanks go to MMEC Mannesmann GmbH for loaning a staff member to assist with the review of the Secretariat manual.

The Board unanimously voted in favour of recent amendments to the association's By-laws as proposed by the Committee. These include certain clarifications regarding Corresponding Members and the requirement that nominations for election to the Board of Directors be delivered at least 30 days preceding the AGM.

A clause on signature rights has also been added. The membership will be asked to approve these changes at the AGM to be held on Friday, 29 September in Mexico City.

Treasurer's Report

The Treasurer, Jan Koop, presented the unaudited annual report for 2016 and the annual budget for 2017. He said that, as Treasurer, his main concern for 2017 was receiving membership payments.

There ensued a discussion on how to better communicate the benefits of membership, including the numerous, valuable initiatives undertaken by the association on behalf of and for the members. It was noted that membership fees have not been increased since the AGM in Athens in 2008.

The possibility of making membership payments via credit card will be available upon request.

Conventions

Following a question on security, it was confirmed that when the convention is being held in the country of the president, advice on security is sought from the president's company and the hotel.

There was an excellent response to the Call for Speakers for the convention in Mexico City and, after much deliberation, eight presentations were selected from close to 20 received.

Membership

At the time of the meeting, there were a total of 246 members (of which 101 Regular Members, 131 Associate Members, 8 Corresponding Members, 4 Academic Members and 2 Honorary Members).

The following applications for membership were approved:

- **The Pipeline Engineers and Associates Limited (PEAL)**, Bangladesh (Regular Member)
- **Romana Costruzioni S.p.A.**, Italy (Regular Member)
- **Metal One Corporation**, Japan (Associate Member)
- **NOKSEL España, S.A.**, Spain (Associate Member)
- **Valspar**, U.S.A. (Associate Member)
- **Eni Gas Transport Services Srl**, Italy (Corresponding Member)
- **Snam Rete Gas S.p.A.**, Italy (Corresponding Member)
- **Total E&P Italia S.p.A.**, Italy (Corresponding Member)

The following name change was received and accepted:

- Mannesmann Engineering & Construction to **MMEC Mannesmann GmbH** (Regular Member)

A resignation was received from:

- **L&T Sapura Shipping Private Limited**, India (Regular Member – Offshore)

Resignation decision reversed:

- **Saipem S.p.A.**, Italy (Regular Member – Offshore)

Honorary Members

The IPLOCA By-laws state the following: "Any individual who has performed distinguished service to the onshore or offshore pipeline industry and/or to the Association may be invited to take up Honorary Membership of the Association if such a proposal is sponsored in writing by at least five Regular Members each having at least five years Regular Membership and subject to a two-thirds Majority Resolution of the Board of Directors with such resolution to be by secret ballot: an Honorary Member is not eligible to be elected to the Board."

The President has asked the Board to propose eligible individuals to be considered as candidates for honorary membership, at the next board meeting in June.

Regional Meetings

A regional meeting was being organised for the Europe Central Region and held in conjunction with the 12th Pipeline Technology Conference in Berlin, on 2 May.

The possibility of holding a Regional Meeting for Middle East & Africa members was discussed and a proposal made to hold such a meeting around the time of the ADIPEC in Abu Dhabi in November.

Media Partners

The directors were reminded that IPLOCA's contracts with the Media Partners include the possibility of free editorial opportunities for IPLOCA and/or its members.

Next Board Meeting

The next board meeting will be held from 6 to 9 June.

Membership Centre

New Regular Members



The Pipeline Engineers and Associates Limited

(PEAL) is a private limited company established in 1983 working in the

oil and gas, power and water sectors and is one of the major contractors in the industry in Bangladesh. As an engineering and construction company they provide services for project advisory, engineering, construction and project management for major energy infrastructure projects for government and subsidiary companies, international oil companies and major foreign EPC companies. The scope of work spans pipelines, civil and mechanical construction, buildings, electrical and instrumentation.

The Pipeline Engineers and Associates Limited (PEAL)

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**ROMANA
Costruzioni**
S.p.A.

Romana Costruzioni has many years of experience in building pipelines and plants and is able to offer turnkey solutions providing engineering services, project management, procurement, construction, commissioning and maintenance. Romana Costruzioni uses highly specialised equipment for the execution of crossings through Horizontal Directional Drilling (H.D.D.) and jacking.

Romana Costruzioni S.p.A.

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New Associate Members

Metal One

In January 2003, the steel product business divisions of Mitsubishi Corporation and Nissho Iwai Corporation (now Sojitz Corporation) established a new company, **Metal One Corporation** for the purpose of creating a solid platform and enhancing capacity and capabilities. Metal One Corporation has built up more than fifty years of history and has approximately JPY 2,000 billion sales annually. As an integrated steel trading company and a leader in steel distribution, Metal One guarantees that it will be the customer's strongest partner due to its ties to steel manufacturers and the distribution industry as well as its two shareholding firms and approximately 140 domestic and overseas group companies. Through the supply of line pipes and other related steel products worldwide, Metal One Corporation contributes to the economy of each country and/or region.

Metal One Corporation

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www.mtlo.co.jp/us/index.html



Noksel España, S.A. is experienced in manufacturing and delivering spiral welded steel pipes for water,

oil and gas pipelines, and for piling/ structural purposes. The company distributes products to domestic and international markets, meeting the requirements of international standards such as ISO 3183/API 5L. Its production range covers pipes up to 1" wall thickness, API X80 PSL2 quality and 120" diameter. The company is majority owned by Noksel Steel Pipe, whose shareholders are Nokia Corporation, Finnfund and Çukurova Holding. Noksel España, together with Noksel Steel Pipe Co., has a capacity to manufacture around 500 000 tons of spiral welded steel pipes in three different production centres. Noksel España's pipes are already being used for pipelines in Europe, Africa, the Middle East and South America.

Noksel España, S.A.

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Valspar is a leading global manufacturer of coatings used on the exterior and interior of pipelines for the oil and gas industry. The company's products cover over 200,000 km of pipelines in operation across the world. The company's protective coatings, both powder and liquid, are used in the exploration, production and transmission of oil and natural gas, both onshore and offshore. Valspar was founded in the early 1800s, and has been providing the oil & gas industry with specialised coatings for over 50 years. Headquartered in the United States, the company operates 17

technology centres globally and has a commercial presence in 62 countries.

Valspar

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New Corresponding Members



SNAM RETE GAS

Snam Rete Gas S.p.A. is one of three wholly-owned operating companies of Snam, a leader in Europe in the construction and integrated management of natural gas infrastructures. Employing about 3,000 people, Snam is active in natural gas transportation (Snam

Rete Gas), storage (Stogit) and regasification (Gnl Italia). It manages a national transportation network that is more than 32,500 km long, including nine storage sites, and one regasification plant. Additionally, through associated companies Snam operates in Austria (TAG and GCA), France (TIGF), United Kingdom (Interconnector UK) and is a shareholder of the TAP project. Since 2001 Snam has been listed on the FTSE MIB index of the Italian Stock Exchange.

Snam Rete Gas S.p.A.

Piazza Santa Barbara,7
20097 San Donato Milanese (MI)
Italy
www.snam.it/en

TOTAL E&P ITALIA

Total E&P Italia S.p.A. is the Italian subsidiary of the TOTAL group, operating in oil exploration and

production. Over the past 50 years, the TOTAL Group, through its Italian subsidiaries, was a partner or operator in over 300 exploration permits or exploitation concessions. The TOTAL Group has participated in the acquisition of 50,000 km of seismic lines and the drilling of about 500 wells, of which 200 as an operator in the southern Apennine region where the company currently has concentrated its activity, and specifically in Basilicata, where Total E&P Italia has six exploration licences and / or concessions including five as an operator.

Total E&P Italia S.p.A.

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00166 Rome
Italy
www.it.total.com

All IPLOCA members and their addresses & contacts can be found at www.iploca-yearbook.com

Regional Meetings

IPLOCA Directors regularly host regional meetings which are an opportunity to meet association colleagues in a smaller forum than at the convention, to invite clients to discuss their proposed projects and to engage potential members of the association in addressing topics of particular relevance to their region.

Berlin, Germany

IPLOCA Regular Member, MMEC Mannesmann GmbH, with the support of Maats Pipeline Equipment and PPS Pipeline Systems, organised a Regional Meeting for the Europe Central region on 2 May at the Estrel Convention Centre, Berlin, in conjunction with the 12th Pipeline Technology Conference. This event was attended by 44 participants.

The day's programme included presentations on IPLOCA HSE and Novel Construction initiatives by Mesut Sahin and Jan Koop, Europe Central Directors, and the opportunity to visit the PTC Exhibition during the morning and for an evening reception. Local speakers also participated, presenting on "The New Open Grid Europe Purchasing



Concept – Optimisation and Monitoring of Construction Processes" (Klaus Link, Open Grid Europe); "Challenges in a Multinational Pipeline Project" (Michael Kessel, Uniper); and, "Alternative Fuels – Facts and Figures" (Markus Reher, Noortec). Copies of the presentations made are available on the IPLOCA website.

Member News

Mears HDD Simulator – Real World Drilling Meets Virtual Drilling

Mears Group, Inc., a leading provider of Horizontal Directional Drilling (HDD) and Direct Pipe® services, has developed an integrated HDD simulator that works with actual HDD drilling controls showing the interaction between driller and the drilling rig. The first of its kind, the HDD, maxi-rig, simulator was an idea that the Mears' Research and Development team pursued with the help of Intuitive Machines (an engineering design and development think tank comprised of former NASA engineers). There was a need for a more safe and efficient way to train and prepare potential HDD drillers before they went into the field to operate an actual maxi-drilling rig. The HDD simulator allows the drilling trainee to virtually see the rig in operation as they manipulate the controls, making it much easier to train than ever before.



The simulator allows the ability to have access and operate the controls without prior knowledge or experience minus the risk or danger to others. This is a huge step in producing more qualified and competent operators.

The HDD simulator program has completed its first phase modeling the beginning stages of drilling. The second phase is simulating the pilot hole process – which is the most complicated because it requires modeling the mud circulation, hole cleaning, and how the drill cuts into whatever soil types are being modeled.

Fluor Awarded Offshore Compression Platform FEED by BP

Fluor Corporation has been selected by BP Trinidad and Tobago (BP) to perform the front-end engineering and design (FEED) for the Cassia Compression Project off

the east coast of Trinidad and Tobago. Fluor booked the undisclosed contract value into backlog in the first quarter of 2017. Fluor's scope includes the design of a new offshore gas compression platform, new connecting bridge and modifications to the existing Cassia hub. The platform will compress gas produced from the existing Cassia platforms. Fluor has 50 years of experience developing some of the world's most complex offshore projects, including several BP facilities in Trinidad and Tobago.

As the project advances, Fluor will use its integrated solution model to support the project. Benefits of this model include an improved design through fabrication and maintenance team engagement in the design process, reduced costs through the global sourcing of major equipment and improved execution through Fluor and Stork's extensive in-country experience and use of local resources. FEED activities are expected to be completed in 2017 with first gas expected in 2020.

Worldwide Machinery Working With Major Saudi Contractor

Last year, leading Saudi EPC company Saudi KAD Contracting Co. (now Arkad Engineering & Construction Co.), was selected as ARAMCO's contractor to execute several pipeline projects linked to the Master Gas Program Phase II expansion and Fadhili Gas Program in Saudi Arabia. This expansion will increase the Master Gas System capacity to 12.5 billion standard ft³ per day when it is completed in 2018. The primary consumer of the gas will be several electric power-generating plants in the Kingdom. The project has a total length of approximately 1,300 km., the bulk of which will be 56" pipe. For this project, Arkad has purchased from Worldwide Machinery Pipeline Division (a wholly-owned subsidiary of the Worldwide Group) a package of 64 major items of equipment, supplied from Worldwide's facilities in Germany, Italy, Australia and the United States. The equipment is mostly Worldwide's



SUPERIOR brand and includes 50 pipelayers, 11 padding machines and 2 pipe bending machines. The project called for two pipe benders capable of handling pipes up to 60". The SUPERIOR SPB 48-60, was chosen as it can bend robust pipes up to X-80 and X-100.

Worldwide has provided a team of specialists to assemble the pipe benders and the other equipment and they will remain in the Kingdom for 12 months to train the workers. The pipelayers consist of a mix of 90-ton and 60-ton units, some of which are Caterpillar 594's and 583's which have been converted to fully hydraulic single-lever joystick machines utilising a SUPERIOR hydraulic conversion kit. These kits have all of the safety and operational features found on brand new SUPERIOR machines. ARAMCO requirements on the padding phase of operations resulted in Arkad utilising two models of padding machines: the SPD-450 — the largest model in the SUPERIOR line-up, and the top-loading SPD-160, a specialty remote-controlled padder used to meet specific challenges. A total of 11 units were provided.

Gulf Interstate Engineering's FEED Services for East African Crude Oil Pipeline

Gulf Interstate Engineering Company has been selected by Total Exploration & Production Uganda (TEPU) and its partners China National Offshore Oil Corporation (CNOOC) and Tullow Oil to provide front-end engineering and design services for the East African Crude Oil Pipeline, a 1,445-km pipeline running from Kabaale in the Lake Albert region of Uganda to Chongoleani near the port of Tanga in Tanzania to export crude oil to world markets. A number of concept and feasibility studies performed by multiple international engineering firms considered various routes through Kenya and through Tanzania for the export pipeline. Since late 2014, Gulf has assisted TEPU and its partners with conceptual design and other pre-FEED support services to evaluate the various pipeline route options and to develop the selected Tanzania route. In 2016, the Uganda and Tanzania governments approved the route through Tanzania to Chongoleani, Tanga.

On January 9, 2017, representatives of the Governments of Uganda and Tanzania Total, CNOOC, Tullow Oil and Gulf Interstate Engineering commenced the FEED phase. The components of the East African Crude Oil Pipeline Project (nicknamed "EACOP project") include systems to accommodate a design flow rate of 216,000 bbls/day; feeder pipelines; up to six pump and heater stations; up to two pressure reduction stations; an onshore storage tank farm ; a marine terminal pump station; and, a 1.7-km

offshore trestle to a single berth load-out platform. The EACOP project FEED phase will have to address a number of technical and execution planning challenges including designing an insulation and heat tracing approach for the pipeline due to the high wax content of the crude oil; local power generation options; and, planning for early construction works to accommodate pipe deliveries, coating and storage in advance of pipeline construction, construction of access roads, construction camps and other logistical requirements to facilitate construction of the pipeline and facilities. The FEED phase is scheduled for completion in August 2017.

Laurini Officine Meccaniche Presents a Revolutionary System for Automatic Pipe-laying



The new Laurini Laying System (LLS) of Laurini Officine Meccaniche was presented during IPLOCA's Novel Construction Initiative Spring Plenary Session. This new generation of pipe-laying equipment overcomes many of the difficulties encountered with traditional pipe-laying machines, starting with safety on the job. The LLS eliminates the risk of overturning due to an unprecedented structure equipped with two separate crawlers: one that works in the excavation and one on the track. This structure ensures greater stability of the machine, thereby doing away with the mechanical arm and cables required to raise projecting suspended loads. It is a safer laying system that will also simplify bureaucratic and safety certification procedures.

The LLS is a significant step forward in the field of environmental eco-sustainability: due to the fact that it works closer to the excavation, reducing the workspace by at least 3 metres, and consequently reducing the size of the area to be cleared and replanted. Another advantage is the ease of transportation: the LLS is modular and can therefore be disassembled and reassembled at the site, with a reduction in logistical and shipping costs by about 70% for overland transport and 90% for ocean freight.

Prioritising Safety and the Environment: Conduto's Role in the ITT Pipeline - Block 43, Ecuador

Completed on time and under budget in April 2017, Conduto Ecuador S.A. successfully developed and built the challenging ITT (Ishpingo –Tiputui - Tambacocha) Block 43 pipeline system located at the boundary of the Yasuní National Park in the Amazon rain forest region. The historic contract was signed on July 16, 2015, with Petroamazonas EP. Despite the environmental and logistical challenges, the primary objectives of protecting the vast and delicate flora and fauna indigenous to the region and working hand in hand with local communities were achieved. In addition, Conduto Ecuador S.A. demonstrated unyielding commitment to personnel safety by achieving an unprecedented record of zero lost time accidents and over 2.5 million man-hours of work activity, through the establishment of a comprehensive programme of induction, training and supervision of all personnel.



This construction project encompassed the construction of 53 km of 24 " X-70 pipeline with only one access to the 10m wide ROW at the beginning and end of the job. It involved the installation of 53km of fiber optic cable and the construction of a 12km collection system of 18" flow lines. In addition, the project included the installation of a buried 750 MCM power cable providing power to the 4 well pads, and a 600m sub fluvial river crossing (HDD) of the Tiputini River, 18" and 24 " pipeline installation of mainline valve and automated control facilities on both sides of the Tiputini River.

MRTS JSC Constructing Deep-water Seaport of Sabetta, Yamal Peninsula, Russia

In 2011 PJSC NOVATEK decided to build a large-scale LNG plant in the Arctic on the Yamal peninsula to liquify the gas from the South-Tambey field. Yamal LNG is the first such project being implemented within the Polar circle. MRTS JSC was appointed to build the main elements



of the Sabetta seaport. The Sabetta seaport is a peerless project, a key logistics centre for Yamal LNG and a basis to develop the largest gas-condensate fields of Yamal and the Gulf of Ob. The artic climate is extremely severe: strong winds, rough weather and low temperatures. The uniqueness and complexity of the project is that construction began from the most rudimentary point: there was no infrastructure on the shore. The navigation season is just 3-4 months, and only during this period is it possible to transport heavy cargoes.

The project execution was divided into two stages. During the preparatory stage in these permafrost conditions, MRTS JSC built a moorage wall which is 975 m long and has four berths for different purposes, to accept lift on/ lift off (Lo-Lo) and roll-on/roll-off (Ro-Ro) vessels. The first berth will accept river-marine class vessels with construction cargoes, the second will accept multitask semisubmersibles and multipurpose vessels, the third one is for open deck semisubmersibles and the fourth one will provide a place for harbour vessels. During the second stage, MRTS JSC built the main port, the process rack and the ice protective constructions. The seaport is designed to transport 16.5 mmtpa of LNG and 1 mmtpa of gas condensate. In 2017, Yamal LNG accepted the first LNG ice-class tanker. The first train of Yamal LNG plant producing 5,5 mt of LNG will come on stream the same year.

PIH Completed Offshore Field Joint Coating on Shah Deniz IMPP

PIH has recently successfully completed the offshore field joint coating on the BP Shah Deniz project for Saipem. PIH coated over 21,000 field joints offshore in the Caspian Sea on board the newly refurbished Israfil Guseynov lay barge. HSS (Heat Shrink Sleeve) and Foam infill were applied to the concrete weight coated lines as well as IMPP (Injection-Moulded Polypropylene) to the insulated lines. Due to the joint volume and cycle



times required PIH's largest capacity extruder, capable of processing 1400 kg of material per hour, was utilised. Installing the large extruder into the vessels limited space required significant design work for which PIH's Design Engineering team relocated to Saipem's offices in Croatia for two weeks.

The upfront collaborative approach to the pre-build design work was taken based on previous success with Saipem on the Southstream project. Once the equipment was built, significant testing was carried out including simulating the firing line incline to ensure all factors were considered in order to minimise the risk of issues offshore. Following on from successful PQT's (Procedure Qualification Trials) in the UK, the equipment was shipped to Azerbaijan and installed on the vessel prior to the start of field joint coating.

PipeLine Machinery International (PLM) Introduces the PANTHER T12 Auto Tie-In Crane Configuration

New in 2017 is the PANTHER T12 Auto Tie-In Crane configuration. The PANTHER T12 crawler carrier has a payload of 25,000 lb. (11 340 kg) and a ground pressure

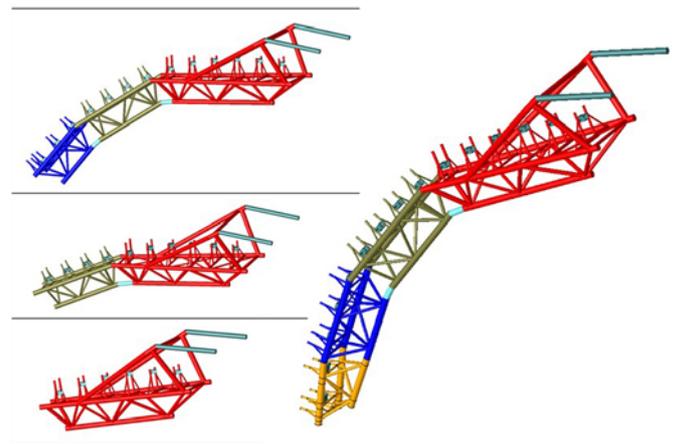


of 5.95 psi. The new Auto Tie-In Crane configuration is a purpose-built solution that has resulted from the collaboration of Vanguard Equipment, Inc., PRINOTH and PLM. This configuration consists of a Vanguard Weld Deck (Continuous Powered Welding) solution that is installed on the deck space along with an Auto Crane straight-type crane that lifts a maximum of 12,000 lb. at a distance of 4 ft. and has a slewing radius of 370 degrees.

The Auto Tie-In Crane configuration has already been put to work on projects in the U.S.A. with positive results. This solution makes it possible to lift and manoeuvre half-shacks (welding shacks with canvas walls), which are much lighter and it provides a resting area on the additional deck space at the rear of the carrier. Onsite continuous powered welding is provided by the Weld Deck and then the half-shack can be lifted and easily moved to the next tie-in site. Additional safety features to this configuration include the large, adjustable obstruction mirror to see around the front mounted bottle rack and an egress ladder for easy access to the Weld Deck.

Stinger Design and Fabrication by Goriziane Group

Goriziane Group S.p.A. has recently been awarded the contract for the design, manufacture and supply of a Stinger and Stinger Handling System for the Pipelay Vessel YS5000, for which Goriziane Group had already delivered a complete Pipe Handling System.



The Stinger Handling System will be made up of a "push-pull" machine, linking beams and a hydraulic power unit, whereas the 3-ramp stinger will be made up of a steel frame structure, roller boxes and vertical rollers, linkages of variable length with a movable hydraulic power unit, and all those special tools required for its installation on the vessel. Goriziane will produce the Stinger in China.

Vacuworx Honoured with 2017 Governor's Award for Excellence in Exporting

Vacuworx received the 2017 Governor's Award for Excellence in Exporting for the second time in four years. Steve Smith, Director of International Sales, accepted the award on behalf of Vacuworx President Bill Solomon, presented April 13 at the 34th Annual Oklahoma World Trade Conference at the Oklahoma City University Meinders School of Business. The export award was created to recognise the achievements of Oklahoma-based organisations that have successfully entered the worldwide marketplace. Tulsa-based Vacuworx was nominated based on its commitment to investing in logistical, environmental and cultural resources and meeting



fast-growing worldwide demand for reliable and economical material handling solutions. With offices located in Australia and the Netherlands, as well as a growing global dealer network, Vacuworx had a 26% increase in export sales in 2016.

Walter Surface Technologies Opens New Distribution and Training in Dallas, Texas

Walter Surface Technologies, the global industry leader in surface treatment technologies, is pleased to announce the opening of a 22,000 ft² distribution and training centre in Dallas, Texas. Located at the Freeport Corporate Center, the new facility directly serves 20 states throughout the Southern and Western U.S.A. A direct answer to customer needs, the distribution and training centre is centrally located and is representative of Walter's commitment to providing only the best. To further support the growth of the Walter business, part of the facility will be a dedicated advanced training centre for Walter's distributor metalworking specialists and sales teams. Local training facilities make it easier for national distributors in the South and West to gain hands-on access to Walter trainers and products. To improve pipeline welding efficiency, Walter Surface Technologies has created products specifically designed for the field. Its Pipefitter wheels are specially developed and reinforced for grinding joint welds between passes in pipeline construction and pipe fabrication.

Health, Safety and the Environment

Health & Safety Shared Experiences Platform

The HSE Committee is pleased to advise that close to 130 documents have been uploaded to the IPLOCA H&S Shared Experiences platform, which can be accessed on the IPLOCA website. The platform showcases lessons learned, safety alerts and best practices from members and non-members alike.

Particular thanks go to SICIM who have sent in more than 20 lessons learned and safety alerts, covering a variety of situations which are clearly documented: describing the event, the causes and consequences, and indicating corrective actions to be taken.

Take a look at www.iploca.com/safetyplatform to view all the uploaded documents sorted into various categories, such as falling/moving objects, hand tools, lifting operations, etc. It is estimated that there is an average of 500 visitors per month on the platform page. However,

we would like to encourage more companies to take advantage of this initiative and to share their experiences as contributions or safety alerts.

Our aim is to have 250 documents uploaded by the end of this year and 500 documents by the end of 2018.

Notification Service

To keep you up to date on new documents that have been uploaded, we have created a notification service for our members, which is free of charge and can be subscribed to by simply sending an email to hse@iploca.com.

Currently all IPLOCA Key Representatives, Training and Health & Safety representatives receive notifications, but soon the service will only be available to those who request it. We would encourage at least one representative from each member company to sign up to receive notifications.

Should you have questions or comments on this platform, please write to hse@iploca.com.

2017 Health & Safety Workshop: “Humans and Machines: The Hidden Hazards”

Save the Date !

Tuesday, 24 October 2017 in Geneva, Switzerland

The date for the next Health & Safety Workshop has been moved to combine it with the Novel Construction Initiative meeting which will take place on Wednesday 25 and Thursday 26 October. The idea is to encourage participants coming from pipeline operations to attend the workshop, as well as making it easier for the HSE specialists to actively participate in the Novel Initiative.

Taking into consideration the reports received by IPLOCA on fatalities recorded in 2016, this workshop will focus on the interactions between equipment and personnel and

the programme is currently being finalised. Attendees will have the opportunity to ask questions, identify good and bad behaviours, and get ideas on how to improve job safety through shared experiences and case studies. There is no charge for attendance as this is a benefit of membership, but we would ask you to register. Invitations will be sent out by the end of July. Look out for more information on www.iploca.com/hseworkshop and via email.

IPLOCA HSE Awards

Two HSE Awards will be presented at the annual convention in Mexico City: the 2017 IPLOCA Health & Safety Award sponsored by Chevron and the 2017 IPLOCA Corporate Social Responsibility Award sponsored by Total. Information on initiatives submitted and the winners will be published on our website and in future editions of this Newsletter.

Scholarship Programme

Update

This year IPLOCA's Scholarship Programme once again attracted a high number of applicants. The programme was launched in 2016 to assist children and grandchildren of employees of IPLOCA member companies who plan to continue their education in college, university or vocational school programmes.

IPLOCA Scholarship Program

Eligible candidates are invited to apply online at:
www.scholarsapply.org/iploca



Close to 200 candidates had applied by the 27 January 2017 deadline, of which 139 met the eligibility requirements. Scholarship Management Services, a division of Scholarship America, who administers the programme on behalf of IPLOCA, ranked the applicants and then, as far as possible, two highest ranking applicants are selected from Regular Members in each IPLOCA Geographic Region and four chosen from Associate Members.

Twenty scholarships of USD 4,500 will be awarded this year as a financial contribution to full-time study at an accredited institution of the student's choice. The successful candidates will be announced in the September edition of this Newsletter and at the annual convention in Mexico City.

Feedback from IPLOCA Scholarship Recipients

All respondents confirmed that the application process took some time to complete, but that it was clear and methodological. Those who had questions said they had communicated successfully directly with Scholarship Management Services.

Although the chosen fields of study are very varied, a number of award winners said that in the future, they would like to work in the energy industry often directly or indirectly related to the pipeline industry.

All respondents stated that they had heard about the Scholarship Programme:

- through their parents, and
- half of the respondents confirmed their award had been publicised within their parent's company.

All students said that the value of the scholarship was:

- not only a financial help towards the ancillary costs of their studies (such as acquiring textbooks, paying for memberships, research, and other personal expenses),
- but also allowed them to concentrate more on studying since they could reduce the time spent earning money for extra costs.

The prestige of gaining such a scholarship was also mentioned as a key value to scholarship recipients.

More information at www.iploca.com/scholarship.

Annual Convention Mexico City

The IPLOCA Convention is an ideal forum for members and guests to gather together for five days to share experiences and hold business meetings.

It's time to register ! Online registration is open at www.iploca.com

The Open General Meetings on Thursday and Friday include the election meetings for the Board of Directors, the Annual General Meeting and presentations from high profile speakers on topics ranging from safety culture and risk management, current and future large projects, to trends in the economic environment.

In addition to the tours included in the convention programme, our ground agent, Amstar, has created optional two and three day pre- and post- convention tours for participants who wish to explore beyond the city itself. Details of the business meetings, social functions and all the tours can be found in the convention brochure which is available at www.iploca.com.

Altitude and Security

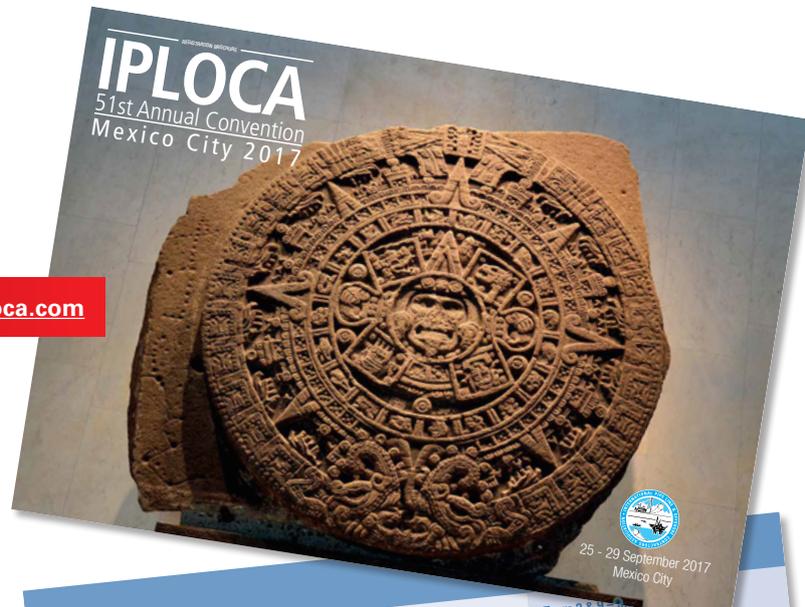
It is important to know that Mexico City lies at a height of 2,200 m (7,200 ft) above sea level and that care should be taken if you are sensitive to altitude.

First-time visitors to Mexico City are often surprised at how safe the city feels, compared to its reputation. Like in any big city, a few precautions can reduce the possibility of an unpleasant incident, so be on your guard for pickpockets, particularly in crowded areas and avoid carrying ATM cards or large amounts of cash. Although not so prevalent as in the 1990s, taxi assaults still occur. The recommendation is to request a "radio taxi", rather than hailing a cab in the street or from a "sitio" (taxi stand). The Uber app is also reliable in Mexico City.

Getting to the Hotel from the Airport

Shuttles will be running at regular intervals from terminals 1 & 2 of Benito Juárez International Airport for IPLOCA convention attendees arriving on Saturday, 23 and Sunday, 24 September. Hostesses holding IPLOCA signage will meet participants in the arrivals hall of both terminals for your complimentary transfer to the hotel Camino Real Polanco. Complimentary transfers back to the airport will be available on Saturday, 30 September and Sunday, 1 October.

Note: You must reserve your transfer to and from the hotel via the online convention registration system.



Tours 1 & 4 – Teotihuacan Pyramids
Monday 25 September AND Tuesday 26 September
09:00 – 16:00 including lunch
Travel time from hotel to pyramids is approximately 1h15 depending on traffic.

Located 40 kilometres (25 miles) northeast of Mexico City, Teotihuacan is the largest city of the pre-Columbian Americas and the site of many of the most architecturally significant Mesoamerican pyramids. Its Aztec name means 'Place where Gods were born'. At its zenith in AD 450, Teotihuacan is estimated to have had a population of at least 125,000 and possibly as much as 250,000. Recent scholarly research has found evidence that the city's decline began around the 6th century, possibly brought about by internal unrest that consisted of lengthy droughts related to the extreme weather events of 535-536. The most severe and protracted short-term episodes of cooling in the Northern Hemisphere in the last 2000 years.

The site covers a total area of 83 sq km (32 sq miles) and was designated a UNESCO World Heritage Site in 1987. It is the most visited archaeological site in Mexico.

After the visit to the pyramids, participants will board the coaches for the short ride to La Gruda, a truly unique restaurant located inside a cave that was originally used for the cold storage of corn back in 1928. A traditional Mexican pre-Hispanic show will keep everyone entertained during lunch.

IMPORTANT: we advise you to bring a warm jacket with you as it is cool inside the cave.

Tours 2 & 3 – La Gruda
Monday 25 September* 10:00 – 13:00
AND
Wednesday 27 September 13:30 – 16:30

Shopping/Museum Shuttle

Shuttle buses will be running every 30 minutes to and from the hotel to the Antara Fashion Hall and the Soumaya Museum between 13:30 and 16:30 on Tuesday, Wednesday and Friday afternoon. A detailed schedule will be available in the pocket programme on-site as well as on the convention mobile app.

The Antara Fashion Hall opened in 2006 and is considered to be one of the most exclusive shopping destinations in Mexico. It offers a unique outdoor space with a balance between beauty, glamour and style that makes it a unique shopping experience. There are more than 140 stores including the well-known brand names of Adidas, Armani Exchange, Burberry, Coach, DKNY, Pique Water, Pull&Bear to name a few, and also has great restaurants, bars and coffee shops. Fashion shows and exhibitions are presented throughout the year.

For those who are not in the mood to shop, just across the street is the Soumaya Museum, a striking landmark made of telecommunications metal and one of the richest men in the world, engaged Mexican architect Fernando Romero to create a museum to showcase his extensive art collection.

Opened in 2011, the museum houses almost 70,000 prices acquired by Rodin outside of France, as well as paintings by European artists including Salvador Dalí, Pablo Picasso, the circle of Leonardo da Vinci, Pierre-Auguste Renoir, Juan Miró, Vincent van Gogh, Henri Matisse, Claude Monet, Bartolomé Estéban Murillo, El Greco, and Tintoretto. Admission is free.

In addition to the outdoor swimming pool, garden and 24-hour gym, there are 10 restaurants inside the hotel, many of which have private dining rooms for small groups.

Amongst the variety of culinary options available are:

The Blue Lounge is a water-based bar in a contemporary setting where guests can enjoy a variety of cocktails. There is a live DJ on Tuesday, Wednesday and Thursday from 19:00 onwards.

Beetle is THE place to go for Premium Black Angus. The beefsteak has a wine cellar with approximately 2,000 bottles and a wine menu of 300 labels. The restaurant also offers a variety of ceviches, carpaccios and tartar.

Maria Bonita, an original concept for those who enjoy classic Mexican cuisine, in an environment filled with tradition. Enjoy the evenings with live music from Wednesday to Friday.

Centro Castellano makes good use of its Segobian-style furnace that is used to prepare traditional Spanish specialities such as pork, lamb, veal breast, as well as delicious seafood dishes.

La Huerta, a place to enjoy an extensive variety of international dishes of the highest quality in breakfast and buffet meals, a la carte dining and the famous Sunday brunch. Open daily 24 hrs.

Convention Sponsorship as of 22 May 2017

Many thanks to the members listed below who have already confirmed sponsorship for this year. Sponsorship is the ideal way to enhance your company's visibility at the convention. If your company is interested in sponsorship, please contact caroline.green@iploca.com as soon as possible.

Items are allocated on a first-come, first-served basis, and companies contributing USD 15,000 and above, receive one complimentary convention registration and an invitation to attend the President's Dinner on the evening of Tuesday, 26 September.

Worldwide Group Welcome Dinner

Worldwide Group

CRC-Evans Luncheon

CRC-Evans Pipeline International Inc.

Caterpillar Party

Caterpillar

PipeLine Machinery International Cocktails

PipeLine Machinery International

Amusements at Caterpillar Party

Laurini Officine Meccaniche

Maats/Liebherr Golf Tournament

Maats Pipeline Equipment & Liebherr

Ladies Brunch

Pipeline Inspection

co-sponsorship available

Gulf Interstate Cocktail Party

Gulf Interstate Engineering

IPLOCA Membership Lunch - Buffet

Fluor

IPLOCA Membership Lunch - Wine

Magnatech Group BV

Directors & Wives Dinner

Ritchie Bros. Auctioneers / Tekfen Construction and Installation Co., Inc.

Audio Visual at Final Banquet

Euro Pipeline Equipment

Welcome Cocktails

SCAIP / Vermeer

Audio Visual for Open General Meetings

Volvo Construction Equipment

Band at Final Banquet

Available

Entertainment at Final Banquet

Euro Pipeline Equipment

Wine at Final Banquet

Precision Pipeline

Photographers at the Convention

MMEC Mannesmann GmbH

IPLOCA Membership Cocktails

Zakhem International Construction Ltd.

Convention Mobile App

Spiecapag

Registration Desk

Herrenknecht

Registration Bags for the Men

Shawcor

DJ & Lights for Dancing 'til Dawn

American Augers

Open Bar for Dancing 'til Dawn

Specialty Polymer Coatings, Inc.

Decoration for Dancing 'til Dawn

Available

Meet & Greet

Available

Transfer Back to the Airport

G.D.I.

Tour Programme

Monday, 25 September

Tour 1 - Teotihuacan Pyramids

Bonatti S.p.A. / Erciyas Steel Pipe

Tour 2 - Mexico City Tour

MAX STREICHER GmbH & Co. KG aA

Tour 3 - San Angel

China Petroleum Pipeline Engineering Co., Ltd. (CPP)

Tuesday, 26 September

Tour 4 - Teotihuacan Pyramids

Consolidated Contractors Company (CCC) / National Petroleum Construction Company (NPCC)

Tour 5 - Anthropology Museum

Lincoln Electric

Tour 6 - Chapultepec Castle

Mears Group, Inc.

Wednesday, 27 September

Tour 7 - Xochimilco & Dolores Olmedo

Museum
Available

Tour 8 - Anthropology Museum

Available

Tour 9 - Mexico City Tour

Stroygazmontazh LLC

Russian Translation at OGMs

Available

Registration Bags for the Ladies

Available

Coffee Breaks at Open General Meetings

The C.A.T. Group

Bottled Water

World Pipelines

Convention Photo USB

Available

Flowers at Final Banquet

Ledcor Group of Companies

Welcome Drinks at Registration (Sat/Sun)

Available

Registration List

Available

Printing of Pocket Programme

Gorziane Group S.p.A.

Podium Flowers at Open General Meetings

Available

Printing of Final Banquet Menu

Gorziane Group S.p.A.

First-time Attendees Reception

Pipeline & Gas Journal / VACUWORX

Shopping/Museum Shuttle

HABAU / PPS

Gifts

DENSO GmbH, Liebherr, SICIM S.p.A.

New Technologies

Novel Construction Initiative

The Novel Construction Initiative (NCI) Spring Plenary Session took place at the Hotel NH Amsterdam Centre on 5 & 6 April.

During the first morning's plenary sessions, more than 70 delegates listened to a number of new technology-focused presentations from guest speakers. Some delegates from our Corresponding Members such as BP and TransCanada also attended these productive sessions. The presentations are listed below and the slides can be viewed on www.iploca.com/novelplenarysession.

- **Spacebug 113px, Presentation of New Orbital Welding Carriage** – Michael Kett, S/P/A Welding Systems *
- **The XROK Granite 400 Padding Machine: Innovation and Safety** - Macarten McGroder, Delta Machinery *
- **Enhanced Trenching Performances with New Tesmec Technologies in Tough Conditions** – Francesco Morosini, Tesmec S.p.A.

- **New Future Advances in Geophysics Subsurfaces Mapping** - George Tuckwell, RSK *
- **New Methods and Innovative Approach in “Right of Way” Clearing on Large Pipeline Projects** - René Albert, Vermeer
- **Laurini Laying System - Project Progress** - Giacomo Baione & Paolo Garbi, Laurini Officine Meccaniche

*NOTE: Articles on the presentations marked with an * follow this report.*

Following the plenary sessions, “The Road to Success” working groups convened to edit current content, explore possible future chapters and discuss how to take full advantage of the potential of the 4th edition's new format as a mobile app. As announced in the March edition of this newsletter, the 4th edition is available to IPLOCA members only. For further information on “The Road to Success”, please write to roadtosuccess@iploca.com.

Should you wish to contribute to the working groups for future editions, please contact the relevant group leader, as indicated below.

Working Groups	Leader (Company)	Email
Planning & Design	Criss Shipman (G.I.E.)	cshipman@gie.com
Earthworks & Crossings	Paul Andrews (Fluor)	paul.i.andrews@fluor.com
Welding & NDT & Testing	Jan Van Der Ent (Applus RTD)	jan.vanderent@applusrtd.com
New Trends & Innovation	Mustafa Abusalah (C.C.C.)	mabusalah@ccc.net
Coatings	Frits Doddema (Seal for Life)	frits.doddema@stopaq.com
Environment	Sue Sljivic (RSK)	ssljivic@rsk.co.uk
Logistics	Bruno Pomaré (Spiecapag)	bruno.pomare@spiecapag.com
Pre-commissioning	Vincenzo Calabria (SICIM)	v.calabria@sicim.eu
Bending	Geert Dieperink (Maats)	dieperink@maats.com
Health & Safety	Alain Gauthiez (Spiecapag)	alain.gauthiez@spiecapag.com

SPACE BUG 113px

New Automated Orbital Welding System

Michael Kett, S/P/A Welding Systems, Germany

Due to S/P/A's long history and experience in producing guide rings and tracks for all major automated orbital welding systems on the market, the idea was to develop and improve a system for the user by optimising the overall pipe welding process, resulting in a system that provides improved productivity, reduced downtime and a positive customer experience at a competitive price.



The core element of the Space Bug 113px is the integrated aluminum spaceframe which offers an easier handling, improved protection and economy compared to conventional pipe welding systems.

All components engineered into the Space Bug 113px are premium products selected to optimise the system and are the best options available today. Examples include Maxxon motors, electronic components, etc. In cases where conventional components were not adequate to meet our performance requirements, S/P/A developed and integrated its own innovative solutions. The Space Bug's intelligence (electronics, software, PCB's, etc.) is integrated "on-board". Compared to other welding heads on the market today that include integrated electronics, the modular, upgradeable Space Bug 113px is the most advanced, state-of-the-art system available.

Better Handling

The Space Bug sets new standards when it comes to the ergonomic handling of a welding bug.

Optimised Process: Our 4-handle aluminum spaceframe allows ergonomic, comfortable transport and handling in any position. Optimised distribution of the weight and centering of the mass makes the unit particularly easy to handle compared to conventional options.

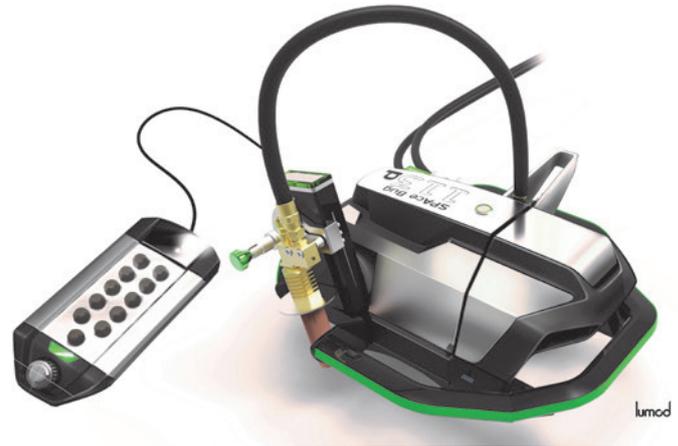
Easy Handling: The Space Bug 113px can be handled like a suitcase and is protected by its aluminum welded frame. Sensitive parts i.e. the adjustable welding torch are mounted on the upper part of the frame. The wire feeding unit also works as an integrated pedestal on the opposite part of the frame, ensuring a comfortable, stable maintenance position.

Intelligent: Intelligent, intuitive and logical arrangement of all operating elements prevents misuse and guarantees process stability such as spool-holder, torch positioner, release lever, disengage device, etc. This also speeds up work flow and creates a positive product experience.

Lightweight: Weighing only 12.4kg makes S/P/A's Space Bug 113px one of the lightest compared to other welding bugs in the market. This makes the set-up and release much easier for the operator and offers additional benefits through the reduction of equipment abrasion and wear & tear.

Optimal Maintenance

The integrated pedestal is designed so that bug placement allows easy access to all areas on the carriage i.e. exchange of drive wheels, guide wheel or adjustment to different pipe diameters. Core elements are completely



enclosed to keep components clean and safe from damage. A minimal number of moving parts are left open for practical reasons. When maintenance is required, the modular design allows quick replacement of complete components, ensuring that the Space Bug 113px is quickly ready for use again.

Safe Process

The optimised wire feeding unit minimises the twist of the wire. Less service or maintenance is needed since the intelligence is in the unit and "on-board" failures due to transmission errors are eliminated. An optional process control by sensors & data logging will be available soon.

Economics

The configuration is such that one device is necessary for clockwise or counter-clockwise welding, root, filling and capping passes. There is no need for different configurations, therefore less back-up units need to be kept. Upcoming product updates i.e. GPS tracking, different welding methods, data logging etc. are already in the planning phase. A high degree of functional integration of the frame reduces assembly and part costs. Also the complete demand-oriented development of new electronics and mechanics ensures a long product life. Patent protection of key elements ensures competitive differentiation, providing an excellent long-term market position.

S/P/A Brand

The bug has a fundamentally new innovative design approach. When developing the Space Bug the operator always was our focus. Handling, ergonomics and operating logic ensure product safety and serve to avoid errors. Patents granted and patents pending contribute to the strengthening of the brand. The device is designed for the needs of the user and has been developed to fulfill the requirements and demands of today's market.

Further information and specifications can be found on the S/P/A Welding website: www.spa-welding.com.

The Xrok Granite 400 Double Deck Padding Machine

Innovation and Safety

Macarten McGroder, Delta Machinery

Delta Machinery, global supplier of used, refurbished and new earth moving and quarry equipment plus machinery related to the oil and gas industries, launched the XROK Granite 400 double deck padding machine at the IPLOCA Novel Construction Spring Session in April.

Contemporary screening technology

Using the technical expertise gained from supplying screening equipment to mining and quarrying projects and mindful of deficiencies in the current screening equipment used on pipe padding machines, Delta Machinery utilised proven, scalping technology in the development of their padding machine.



Excavated material

Materials mechanically excavated from trenches are a mixture of varying sizes and wet sticky soils. Impact and abrasion from large stones fed directly on to a single deck screen mesh causes irregular wear and perforations of the screen media with possible costly consequences while wet sticky materials plug and blind the screen open areas and minimise the panel efficiency and life expectancy.

XROK Granite 400

The XROK Granite 400 is a modern, innovative and compact tracked padding machine with a uniquely designed, patent pending, high energy two deck scalping screen-box. The total screen area of 11.52m² facilitates inter-changeability between various screen media configurations, enabling the user to pursue a wide array of screening applications and screen any type of material. The XROK Granite 400 is remote controlled, which places the operator outside the danger zone and has been tested and certified to perform safely on grades up to 20° incline and

10° lateral tilt. The screen box sub frame can be hydraulically adjusted to operate at variable angles which facilitate operating on sloping terrain. The integrated chute ensures efficient discharge of all materials onto the variable speed conveyor which can operate and discharge to either side.

Two deck screen

The two deck screen is the main feature which distinguishes the XROK from other padding machines on the market. The top deck takes the abuse from the aggressive materials with the grizzly finger option specifically designed to eliminate clogging and withstand harsh screening demands. This protects the bottom deck by filtering less robust material on to the processing deck. The pre-treatment of the feed material results in greater segregation of padding/backfill material which greatly increases screening efficiency and production and lowers the cost per m³.

Safety

Delta Machinery engaged and worked with independent safety experts to carry out a risk analysis and assessment of the XROK Granite 400. They identified the hazards arising from the design, assessed the risks and assisted in eliminating or reducing these risks. The experts were also tasked with ensuring compliance with all global directives, standards and regulations. This resulted in a number of safety features being included in the design such as the sloped shape of the hopper sides to improve operator visibility of the machine operation, strategically located emergency stops, safety beacons, audible warning alarms, night lights, battery isolator, umbilical control system and easily accessible grease points. There are also a number of safety features built into the operation of the remote control.





BS14120

This is a new global standard for fixed and movable guards which introduces the concept of the “foreseeable misuse and defeat of guards” and moves beyond previous standards which took into account probability, potential consequence, intended use, hazards present on the machine and the frequency of access. Mindful of the number of fatalities caused by conveyor belt accidents and of a tendency by operators to try to clean belts and rollers while they are working, BS14120 caused the XROK

designers to particularly focus on the nip point between the belt on the discharge conveyor and the head and tail drums. It was considered reasonable to assume that sometime in the future the robust guarding placed on the outside could be bypassed.

Guarding

Effective guarding of this hazard is particularly problematic on a padding machine for operational reasons. This belt is operating close to ground level, can travel at speeds up to 3m per second in either direction, can be shuttled back and forth and folded for transportation. An inventive nip point guard was designed and fitted which effectively isolates this nip point without interfering with the operation of the padding machine.

Customers

Delta Machinery (www.deltaheavymachinery.com), currently has two XROK Granite 400 padding machines working on the Trans Adriatic Pipeline project in Greece and one on the GRTgaz project in France. At the time of writing this article, two more machines with Tier 4 Final engine technology are on route to Texas in the U.S.A. for the North American market.

New Advances in Engineering Geophysics

Prof. George Tuckwell, RSK, U.K. and
Dr Nicole Metje, University of Birmingham, U.K.

Unforeseen ground conditions

Geophysical methods provide a suite of techniques for engineering investigations. They determine the location and arrangement of materials and features in the subsurface by remotely detecting their physical properties and/or contrasts in their physical properties with the surrounding ground. Acquiring and interpreting geophysical data is just one part of an integrated ground investigation to obtain information across large areas of a site and/or to provide targeted information on areas of concern.

Boreholes and trial pits provide direct information on a tiny fraction of the ground area. Any risks to the client therefore exist in some engineering variation, problem or obstruction in the remaining spaces, whose later discovery could cause expensive investigation and redesign works and delays. To reduce the risk of unforeseen ground conditions, choosing the correct geophysical method or combination of methods is essential.

For more information on geophysical techniques and applications, see RSK’s published reference manual.

Detection capabilities

The ability of each geophysical technology to detect a particular target depends on the physical contrast that the target provides against the surrounding ground; other variations in physical properties above and below ground that affect the measurements; the particular instrument’s sensitivity and repeatability; other sources of signal noise;

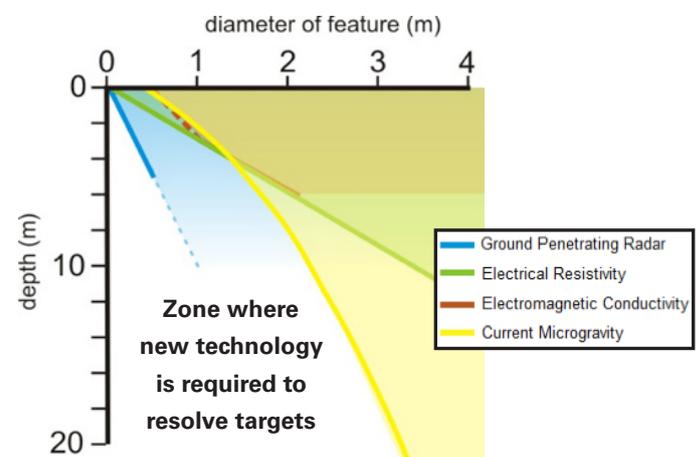


Figure 1: Best theoretical detection capability of existing geophysical technologies for spherical objects of different diameters and depths.

and the ability to distinguish the signal of interest from the total signal field recorded.

Figure 1 summarises the detection capabilities of the most commonly deployed technologies for spherical features in the subsurface. It also highlights a significant area where current geophysical technologies fail even under ideal conditions. This gap in detection capability provides an opportunity to foster new instruments and technology.

Better use of existing technologies

Existing geophysical technologies have the potential, if modified, to provide improved detection capabilities. There have been extensive recent developments in multi-frequency, multi-antenna ground-penetrating radar (GPR) systems designed to enhance 3D imaging and for quicker detection of buried objects. However, these techniques collect large amounts of additional data that are never analysed. RSK and the University of Birmingham are together exploring the potential of extracting new information from high-density GPR survey datasets using novel post-processing algorithms. They are also exploring complementary geophysical measurements based on electromagnetic, magnetic and gravity measurements that could enhance the information obtained.

New physics for gravity measurements

Gravity sensing detects features through density contrasts. Its key advantage over alternative surveying techniques is that the intervening medium does not attenuate such contrasts, thus enabling the detection of features at greater depths.

It is possible to harness quantum technology interferometry to detect gravity. An atom interferometer traps atoms in a tiny cloud, releases the cloud and then controls it using precisely timed laser pulses as it falls. The atoms behave as waves that interfere with one another. The pattern this interference makes depends on the gravity the atoms experience and enables very precise gravity sensing; such instruments would be three times more accurate than currently achievable.

RSK and the University of Birmingham have assessed the potential for increased sensitivity to enable the resolution of either smaller or deeper features than possible with existing instruments. Hundreds of buried mine shafts in the UK whose precise location is unknown present a hazard to those using or developing land.

Mine shafts are typically 2 m in diameter and may be buried under several metres of spoil or made ground. Existing gravity instruments can detect shafts if they are in the upper 3–4 m of ground (Figure 2), but most are buried deeper. A factor of two increase in detectability would find features 5–7 m below ground level and thus bring “undetectable” mine shafts into the detection range of gravity instruments.

RSK, the University of Birmingham, Teledyne-e2v and Gooch & Housego currently have Innovate UK funding to produce and test a field prototype of a quantum technology gravimeter in 2018.

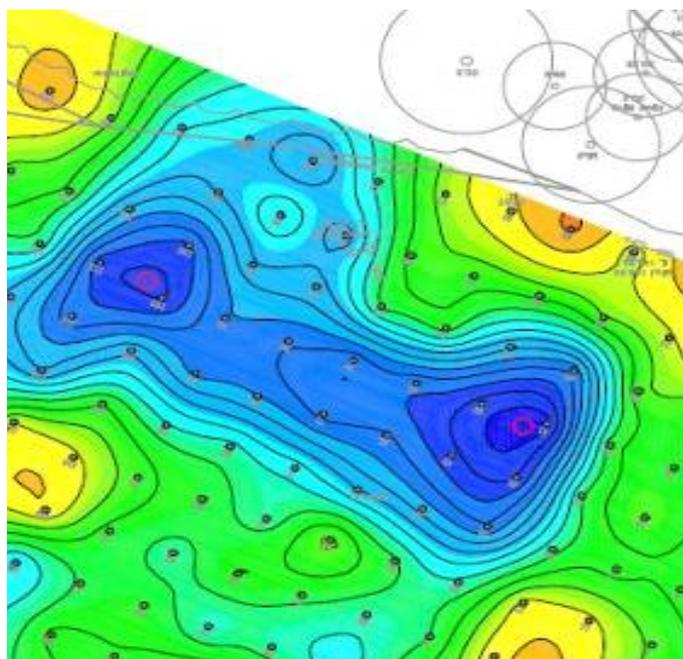


Figure 2: Gravity map showing two closely spaced mine shafts. Blue indicates the lower measured gravity at the surface due to the voids.



The FIDIC Yellow Book

For many years, IPLOCA has been discussing an industry standard form of contract for pipeline projects. As far back as 1971, the Board’s legal adviser recommended using FIDIC’s general terms and conditions.

It has been found to be difficult to implement the use of a standard form pipeline contract, but FIDIC (International Federation of Consulting Engineers’) continues to update its general conditions of contract which are frequently used on pipeline projects. Here is an article, sent in by one of our members, that describes a few of the latest planned updates to some of the FIDIC forms.

The Proposed Second Edition of the FIDIC Yellow Book

Adrian Elliott, Pinsent Masons LLP

The (second) edition of the FIDIC Yellow book (Condition of Contracts for Plant and Design Build) is finally due to be released in 2017, together with second editions of the Red Book (works designed by the Employer) and the Silver Book (turn-key contract). Earlier this year FIDIC made available a pre-release version of the new Yellow Book ('YB2'), which has been the subject of significant discussion and debate.

It prompted the presidents of the contracting organisations CICA, EIC, ICAK and OCAJI to write an open letter to FIDIC expressing their significant collective concern that FIDIC is continuing with a trend of seeking to impose further and unlimited risks upon contractors and that the YB2 contains an overly bureaucratic contract administration which will force the parties into time-consuming, costly and labour-intensive dispute resolution and arbitration.

Without commenting upon the underlying rationale for the various changes in YB2, what is clear is that FIDIC is used on major pipeline projects, typically in an amended form, such that these proposed changes will be of significance to many IPLOCA members.

As an initial observation, YB2 is considerably longer than the present edition, containing 50% more words and many additional defined terms. There is an increased emphasis upon active and timely contract management, with the inclusion of both shortened and additional time periods for various contract management tasks, and frequent use of "deemed acceptance" to avoid the lacunae and potential uncertainty caused by a party's inaction.

FIDIC has recently responded to the contractor organisations' letter, noting that it has received many comments from interested parties. In brief, FIDIC's response notes:

- the disturbing trends of increased risk, risk transfer and onerous contract terms and conditions. FIDIC stated its belief that FIDIC contracts continue to be fair to all parties;
- that the proposed requirement that the Contractor provide insurance for the fitness for purpose obligation will be removed;
- the (much criticised) proposal that a party giving a Notice Of Dispute of a DAB's decision must commence arbitration within 6 months, failing which the NOD "shall be deemed to have lapsed and no longer be valid" has been dropped;
- that whilst the time periods in the contract are ones which

FIDIC considers reasonable, these should be evaluated and, if necessary, amended for a specific project; and
- In light of the comments received, FIDIC has confirmed that it has undertaken a further review of clauses 17, 18 and 19.

There are a number of proposed changes which are very relevant to contractors, including:

Risk Allocation

Draft Clause 17 has been the subject of some restructuring, including a new Clause 17.7 which provides for an indemnity from the Contractor in relation to "any errors in the design of the works and other professional services which results in the Works not being fit for purpose". Importantly, this indemnity is not subject to the limitations of liability (as to the extent and type of loss) in Clause 17.6, although the new Clause 17.9 provides that a contractor's liability is reduced to the extent that it was caused by an Employer's Risk. This will be a clause to which Contractors should have very particular regard.

Employer's and Contractor's Claims

There is a major restructuring of the existing dispute resolution provision, which now aims to distinguish between a "Claim" (Draft Clause 20) and a "Dispute" (Draft Clause 21). The new Draft Clause 20 alone is now 5 pages long, and provides, amongst other things:

- That Employer's claims are now subject to the same time-bar provisions as the Contractor's claims; and
- Includes additional time-bar provision to Contractor's claims: "fully detailed claim" within 42 days of becoming aware of the event or circumstance.

Dispute and Arbitration

Draft Clause 21: includes a significant change by requiring the Dispute Avoidance / Adjudication Board ("DAB") members to be a 'standing DAB' for the duration of the project (rather than being appointed if, as and when required under the contract). The express reference to 'Dispute Avoidance' emphasises the duty of the members to avoid disputes. YB2 also seeks to address various problems regarding the application and enforcement of DAB decisions.

There are many other proposed changes of relevance within YB2, but they are beyond the scope of this short text. The 'New trends and Innovation' group would be interested to hear members' comments to the proposed changes. (Please send these to adrian.elliott@pinsentmasons.com).

Elections

to the 2017-2018 IPLOCA Board of Directors

Elections to the IPLOCA Board of Directors take place every year at the annual convention as seats become vacant. Most elected board members serve for two years.

Beginning September 2017, nine board seats become vacant:

- one in Middle East & Africa
www.iploca.com/middleeastandafrika
- one in America North
www.iploca.com/americanorth
- two in Latin America
www.iploca.com/latinamerica
- one in East & Far East
www.iploca.com/eastandfareast
- one in Europe Northwest
www.iploca.com/europenorthwest
- two in Europe Mediterranean
www.iploca.com/europemediterranean
- one for the Associate Members
www.iploca.com/associatemembers

The duties and commitments of Board Directors can be referred to on www.iploca.com/directorsduties. If you represent a Regular Member or an Associate Member and you would like to run for one of the vacant seats on the Board of Directors, please visit www.iploca.com/elections where you will find the necessary documents to be completed and returned to the IPLOCA Executive Secretary no later than **Monday, 24 July 2017**.

Voting

Each Member company is entitled to one vote. If no-one from your company is able to attend the convention in order to vote, one vote per member company may be made on a proxy form (also available on the website) and

As per the association's current By-laws (effective as of January 2016), the IPLOCA Board of Directors consists of a minimum of 12 and a maximum of 25 directors as follows:

1. Sixteen directors representing Regular Members (two per each of the 8 geographic regions as per our current membership), elected by the Regular Members
2. Three directors elected by and representing the Associate Members of the association
3. Five officers, appointed by the full board, form the Executive Committee and include the President, 1st Vice President, 2nd Vice President, Treasurer and Immediate Past President. (The Immediate Past President does not represent a region; the remaining officers are counted among the sixteen elected directors who represent the geographic regions.)
4. Up to five Directors-at-Large, appointed each year by the Board of Directors at its first meeting, make up the remainder of the board. The Directors-at-Large are nominated by the Executive Committee and appointed following the approval of the full board. They are selected based on their active involvement and engagement in the work of the association, including in committee work, to capitalise on their knowledge and ensure continuity of leadership in certain areas.

must be received by the Executive Secretary in the IPLOCA Secretariat, no later than **Monday, 28 August 2017** in order to be counted.

If you have any questions regarding the election process, please contact juan.arzuaga@iploca.com

Media Partners

Editorial Possibilities for IPLOCA Members

IPLOCA's Media Partners are well known to many of you through their ongoing commitment to the Association in general and their frequent presence and support of the annual convention.

Some of you may not be aware though, that the agreements with our Media Partners, which were

officialised in September 2010 (see next page for a list of the Media Partners), include IPLOCA visibility ads published throughout the year and up to three editorial opportunities per year for articles authored by either IPLOCA or its members.

Should you be interested in benefiting from this arrangement with our Media Partners, and wish to propose an article under your member company's name, please write to caroline.caravellas@iploca.com.

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Upcoming Events

IPLOCA Board Meeting (Board Members only)
6-9 June



"Unpiggable" – Pipeline Solutions Forum
14-15 June – Houston, TX, U.S.A.
www.clarion.org/UPS_Forum/ups2017

IPLOCA HSE Committee Meeting
(HSE Committee Members only)
27 June – Geneva, Switzerland



Pipeline – Pipe – Sewer Technology Conference & Exhibition
17-19 September – Cairo, Egypt
www.pipelinepipesewer.com

51st IPLOCA Annual Convention
25-29 September – Mexico City, Mexico



Offshore Energy
10-11 October – Amsterdam, The Netherlands
www.offshore-energy.biz

**APGA – Australian Pipelines & Gas Association –
Convention & Exhibition**
14-17 October – Cairns, Australia
www.apga.org.au

IPLOCA HSE Committee Meeting
(HSE Committee Members only)
23 October – Geneva, Switzerland



**IPLOCA Workshop on "Humans and Machines :
The Hidden Hazards"**
24 October - Geneva, Switzerland



IPLOCA Novel Construction Initiative Fall Session
25-26 October – Geneva, Switzerland



Pipeline Leadership Conference
8-9 November – Dallas, TX, U.S.A.
plconference.com

ADIPEC
13-16 November - Abu Dhabi, U.A.E.
adipec.com

Other Important IPLOCA Dates

IPLOCA Annual Convention
1 June – Registration opens

Member News for IPLOCA September Newsletter
14 July - Deadline for submissions
caroline.caravellas@iploca.com

IPLOCA Annual Convention
23 August – Cut-off date for registration

IPLOCA Board of Directors

2016-2017



Left to right front row: Jan Koop, Atul Punj, Andrew Ball, Rubén Kuri, Mesut Sahin, Juan Arzuaga. **Second row:** Doug Fabick, Jean Claude Van de Wiele, Georges Hage, Ma Chungqing, Oliviero Corvi, Bruno Guy de Chamisso, Alexander Kolikov. **Third row:** Adam Wynne Hughes, Brian Laing, Scot Fluharty, Bruno Maerten, John Tikkanen, Mark Barrows, Iosif Panchak, Steve Sumner. **Fourth row:** Albert Zakhem, Bill Partington, Bill Solomon, Fatih Can, Aqeel Madhi (resigned).

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