

# InSIGHTS

On Corrosion Prevention & Asset Integrity

THE OFFICIAL NEWS LETTER OF BSS TECHNOLOGIES | VOLUME 05 | ISSUE 2019-2020



A SAIT GROUP COMPANY



## CHAIRMAN'S MESSAGE

A dream of many ideas coming together, with great passion and an opportunity ceased is how BSS Technologies was born. Progress for me has never been a dream. It has always been a distant reality and once one milestone is achieved, there is always another one waiting to be crossed. More than being a global player, I always perceived my company as a unit that could make a difference with its quality and competitively priced products. Taking a path less traveled, we expanded BSS Technologies into a highly sensitive business that requires a high amount of technical know-how, expertise and specialized knowledge. Overcoming challenge after challenge with the support of the brilliant team, we have been successful in bringing BSS Technologies to

a new milestone of global recognition. The journey is never ending and with the support of the team and clients, we are confident that we will continue to scale milestones of excellence for years to come.

Our aim is to create an entity independent in all aspects of engineering. We have been developing our branches with immense speed and take great interest in the interests of our customers and understanding their requirements. We have designed our group to be customer oriented from the beginning. We are developing ourselves in order to be the one stop solution to every aspect of the Oil & Gas Industry. We have noticed major changes in our infrastructure, expansions and an increase in employee numbers.

These changes prove a positive motion which we continue to practice and achieve. A lot has been planned and a lot of it executed, we are a very subtle organization and we like to create examples from our work, we are more practical than any industry providing our scope of services. We are expanding and will continue to do so, we continue to add new partners to our business and we continue to improve our division services.

Over the 20 plus years that we have been in business, I would like to thank the Rulers of U.A.E. for providing world-class infrastructure wherein opportunities were plentiful. Their vision and support has played a vital role in our growth so far and will remain going forward.

**Faris Sari A.E. Al Mazrouei**  
Chairman BSS Technologies

## Pin Brazing - Zero Wastage Process

Pin Brazing is a metallurgically safe and easy process of making electrical connections to metallic structures, such as steel and ductile iron pipelines, which are needed to be electrically earthed or cathodically protected. The pin brazing system has some major advantages over alternative systems. In this process, operator training and equipment maintenance should be of high standard.

The Process: The technique of pin brazing is based mainly upon electric-arc silver soldering using a pin brazing unit, a hollow brazing pin containing silver solder and flux. The pin brazing technique is well designed for joints between insulated pipe sections, installation of sacrificial anodes, connection to measuring cables, and bonding zinc bracelets to offshore pipelines. It provides high mechanical strength, extremely low resistance, and easy and fast installation. A large number of connections are required for anode cables, measuring posts etc, within a cathodic protection system. The pin brazing system is ideally suited to this.



**...SAFELY CONNECTING THE WORLD®**

[www.safetrack.se](http://www.safetrack.se)



The leading manufacturer of electrical connection systems for Railways, Grounding and Cathodic Protection Industry. With systems such as Pin Brazing, SafePlug®, SafeBond® in assortment we can supply any of the modern cable application method to our clients. Safetrack provides the cathodic Protection, Ground Circuit and Railway Industry with modern technologies for connecting cables to steel structure.

**History:** A revolution in itself when first introduced way back in the 1950's, Pin brazing was basically developed to ensure safe & flawless electrical connection when applied to the varied types of steel structures, be it the attachment of rail bonds, joints between pipes, installation of sacrificial anodes, connection to measuring cables, test posts to name a few. Almost any electrical joint is possible within seconds by this automatic brazing method which has taken the industry by storm.

**Advantages:** There are innumerable advantages of using Pin brazing system because of its varied plus points which has made it one of the most sought after brazing solution. Let us take a look at the distinct salient features of Pin brazing.

- **Speed of Connection.** The pin brazing process is very fast and typically requires just one minute for any connection. Low Temperature. Both the low melting point of the solder (up to 650°) and short brazing time keep thermal effects on the metal to a minimum.
- **All-Weather.** Wind, rain and cold do not prevent the operator from working safely and effectively. Damp conditions pose no problem.
- **Easy to Use.** Operators can be trained to effectively maintain and use equipment in less than one hour.
- **Versatile.** The portable nature of the equipment means that connections can be made in almost any location above or below ground, even overhead!

Made In Sweden

# Training Centre - Offer Learning Opportunities

The UAE needs to produce 10 Emiratis with technical skills for every university graduate produced to achieve a sustainable and diversified knowledge-based economy. Therefore, it focuses on building a national system to ensure quality technical and vocational education and training system. The government prioritizes building relevant skills to coincide with new and emerging technologies, materials and systems, ensuring equal access for all women and men to affordable and quality technical, education materials and systems. It aims further to substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

BSS Technologies Dubai Training Centre which is dedicated to the nation, offers a variety of learning opportunities and skill development to the aspirants and encourages them to think critically about broader issues concerning the nation, society and the environment. Our Training Centre is a great platform for Emirati students who aspire to succeed but experience challenges with practical studies. An efficient, flexible training system is formulated to help young Emiratis build their technical skills to have a flourishing career.



*Engineers from Horizon Terminal taking CP Training and Factory Walk through for understanding of materials*



*Factory walk through during the training for Engineers from EPPCO & Kenya Pipeline Company*

The facility has a wide range of state-of-art equipment, from the huge furnaces, metal casting stations, to the fabrication yard, the Transformer Rectifier Manufacturing unit and sophisticated machineries and tools used in the manufacturing process. The training center can accommodate 25 students per session. The training includes classroom session and the technical workshop. The workshop provides hands-on-training in all CP product lines

Aspirants are given detailed knowledge on Cathodic Protection and Corrosion Engineering Products and Services, They are given in-depth knowledge on all the areas through intensive interactive session with the trainer. They are given hands on training in our factory where they are taken through manufacturing and assembling of materials and equipment's.

After successful completion of the training the engineers are given certificates for the successful participation on this program. BSS Tech management take pride to share knowledge any number of times to the client employees, young engineers and students for national benefit.



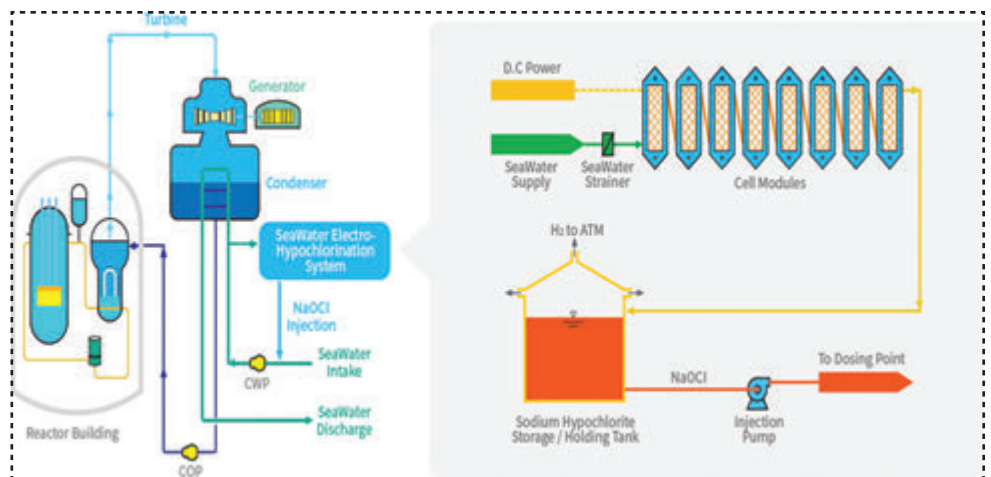
*Engineer from Dolphin Energy Limited accepting Certificate after Training Completion*

## Electro-Hypochlorination System

More and more engineering and purchasing managers have discovered a way to eliminate the difficulty in handling and storage of chlorine gas and are turning towards Electro-Hypochlorination System, a solution to these problems

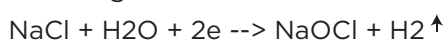
BSS Technologies long experience in Power supplies has helped them by developing and supplying the Hypochlorite Rectifier which is part of the Electro-HypoChlorination System.

- Optimum system design
- High efficiency cell module
- Concern for safety - no chlorine gas
- Long term reliability
- Vast experience



### Principle of Operation

In a typical Seawater Electro-Hypochlorination System, seawater is fed through a strainer, where particles are removed. From this point the seawater is fed to the electrolysis module by way of a flow controller. In the module, passage of direct current through the seawater converts a portion of the salt to hypochlorite by the following reaction:



### Applications

Disengaging/product storage tank at the tank, the hydrogen gas is separated and vented then, the sodium hypochlorite solution is transferred and injected into the points required. Due to impurities in seawater, the cells are cleaned periodically to remove deposits on the electrodes.

- Cooling water systems : Nuclear power plants, Thermal power plants, Combined cycle power plants, Desalination plants
- Evaporation systems : LNG receiving terminals

## Atmos International (Atmos) non-intrusive leak detection technology, a world class innovation brings leak detection to every pipeline.

Not every pipeline is the same. This may be an obvious starting point, but it is vital to factor in climate, operating conditions and the location of a pipeline. While technology has become more advanced than ever before, key challenges still exist – mainly in how to effectively monitor a pipeline network for leaks.

Regulations are rightly becoming more stringent and environmental protection is key. In addition, good operating procedures enable better efficiencies and effective decision making. This in turn brings in financial benefits too – less product lost or contaminated, less impact on the environment and potentially improvements in profits as well.

While new pipelines have been built in recent years, there are thousands of legacy networks with little or no instrumentation. This leaves pipelines vulnerable and operators limited in their knowledge of pipeline performance. Legacy pipelines are often unable to have modern leak detection systems applied – certainly not without stopping production and costing hundreds of thousands of dollars in lost revenues and manpower.

With these variables in mind, a flexible approach is required. Non-intrusive sensors now provide much higher levels of repeatability and data. Cost-effective applications of flow and pressure sensors along pipelines are now possible without drilling or cutting a pipeline – further preserving the integrity of the pipeline. Combining these with high-speed data collection and transmission devices makes effective leak detection feasible in remote areas.

With most legacy pipelines not designed to operate under the pressures currently used within modern

networks, this means additional monitoring and evaluation are necessary. Atmos is now able to deliver leak detection with high-speed data collection and communications in a single device – the Atmos Eclipse. The Atmos Eclipse provides network-enabled technology such as multi-channel data loggers, adaptable sensor inputs and onboard communications such as cellular and radio links. Atmos Eclipse can work independently or as part of a networked system. Atmos Eclipse conforms to ATEX/IECEX

directives, IP68 rated and can be used in subterranean environments. While the lack of power previously provided challenges, especially in remote areas, rugged solar panel technology is now providing pipeline leak detection and management for even the most hostile of regions.

Atmos Eclipse works seamlessly with Atmos' leak detection software including negative pressure wave, flow balance and rupture.

Atmos International (Atmos) provides pipeline leak detection and simulation technology to the oil, gas, water, and associated industries. The company was founded in 1995 in the UK by the inventor of the statistical pipeline leak detection system – Atmos Pipe, now one of a suite of leak and theft detection solutions from Atmos. These technologies are implemented on more than 1500 pipelines in over 60 countries, including major oil and gas companies such as Shell, BP, ExxonMobil, and Total.

With associated offices in the USA, UK, China, Costa Rica and local representatives, the multicultural and multilingual team can provide effective support all over the world.

### Atmos Eclipse



Low-cost installation

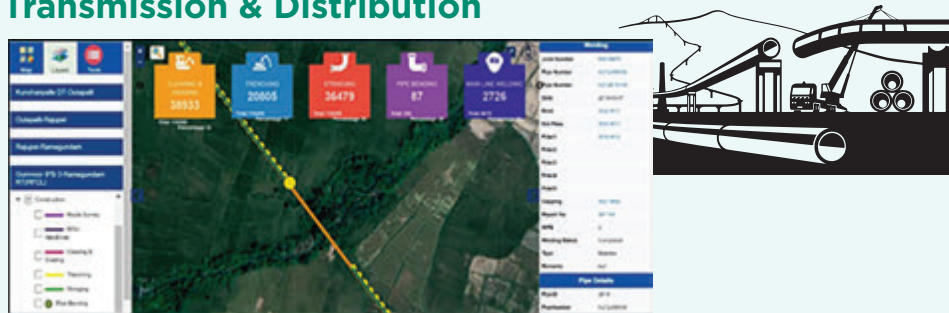
Rapid deployment

Integrates pressure, temperature and flow instrumentation

We at JPAC, a Software Solutions company have developed applications for Oil & Gas, Water and Utility Networks. Being associated with the industry since two decades, 75 projects and 700 months of project experience covering more than 26000KM of pipelines combined, has helped our applications evolve intrinsically to a very exhaustive and robust system. JPAC's solution PCMS (Pipeline Construction Management System) is a mandatory part of all major Pipeline Construction Projects across the globe.

Our well alloyed team of professionals comprising of specialists from Technology, Services, Operations and Projects have made the solution using cutting edge technology, robust architecture and simple design. This has helped our customers harness the infinite potential of Information Technology and Business Analytics to optimize their business growth and enhance Quality.

- **Hydrocarbon Pipeline Infrastructure**
- **City Gas Networks**
- **Water Transmission & Distribution**



### WEB & GIS Based Solutions;

- **PCMS - Pipeline Construction Management Solution**
- **PAMS - Pipeline Asset Management System**
- **SmartGasNet - City Gas Networks**

## PCMS

PCMS is an affordable, easy-to-use solution that integrates planning, GIS, construction, documentation and asset management into one program with a built-in interface to enter and retrieve information. Location and Status of each Pipe and Fitting gives the answers to when and where.

The system is designed to help you remember every single line item, right down to the last nail. Using a proven dynamic query generation method that's much faster than a traditional spreadsheet, PCMS draws from an extensive database of field data. Its flexible reports provide you with a number of ways to analyze construction progress linked with work procedures and material certificates

## SmartGasNet

- **Route Planning and BOQ Generation**
  - o Network Planning & Mapping
  - o Build BOQ
- **Construction Management**
  - o Handheld Application to capture the "As Constructed Features"
  - o Generate Pipe-Book with Linked Inspection & material documents.
  - o Dashboard having real-time construction progress.
  - o Maintain traceability of Assets
- **Asset Inspection & Maintenance**
  - o Line maintenance scheduling with Alerts
  - o Asset/Equipment maintenance with Alerts
- **Outage Management**
  - o Planned and Unplanned Outages
  - o Identify Affected Customers
  - o Send SMS to Affected Customers



### SALIENT FEATURES

- Hosted Application
- Pipe Tracking using BarCode
- Field Entry From Handhelds
- Handheld App with BarCode
- Instant Report Generation
- Report Approval System
- Generation of PipeBook
- Generation of Progress
- View Color Coded Activities
- Assets with Attributes
- Cut Pipe Nomenclature
- Linked Quality Reports
- Linked NDT Films
- Inbuilt Report QC
- Mechanical Completion
- Completions Management

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Tel-Fax : +91-22-2610 3337

E-mail: sales@jpactech.com | jpac@bsstechnologies.com

# Corporate Round Up



Great minds discuss ideas



Humble, with just a hint of kayne



Whatever you do in life, make sure it makes you happy



Appreciate good people, they are hard to come by



We give time, we conceive and then we deliver



keeping together is progress; working together is success



No individual can win a game by himself



Be with those that bring out the best in you



The power of imagination makes us infinite



Light tomorrow with today

**GGS Oil & Gas Systems** is a fully independent system integration company. Specialist in design, production and implementation of mainly complete integrated flow metering solutions for our custody transfer oil and gas projects, worldwide. Besides the flow metering solutions, GGS can also be your partner in gas filtration, pressure reduction, flow control or gas treatment installations



### From upstream to downstream

GGS Oil & Gas Systems delivers flow metering systems for offshore and onshore locations, from platforms to (off-)loading facilities FSRU & FNLG, for pipeline operations, and refineries. We work closely with our customers to provide the most cost-effective, highest quality solutions. Every solution we deliver is a tailor made job; designed, engineered and built based on the customer's specifications and requirements, as well as international industry standards and best practices.

### Liquid and gas metering systems

As part of the package GGS Oil & Gas Systems can provide turnkey flow metering systems including:

- **Fully integrated metering skids**
    - Flowmeters (Ultrasonic, Coriolis mass, etc)
    - Valves and piping
    - Instrumentation (Temperature, pressure, etc)
  - **Metering houses with**
    - Sampling systems
    - Analyser systems
    - Density, viscosity
    - Gas composition
  - **Supervisory and flow computer systems including**
  - **flow computers, control panels and customer interfaces**
  - **Validation systems**
- Meter prover systems (for liquid applications)**



### GGS follows a 360°-degree solution driven approach

Total commitment; support in every phase of the project



### Experienced project engineering

GGS has an experienced in-house team of specialists in mechanical engineering, (flow) instrumentation, electrical engineering and process automation. ( PLC, DCS/ SCADA ) From project definition to engineering and on site installation, quality assurance is the key to any project.

### Offshore Gas Metering Systems

Offshore Gas Metering Systems are characterized as the most challenging metering designs. To keep safety high and operating and maintenance costs low, special requirements for these offshore installations must be met. Robustness is key, corrosion resistance, minimum weight as well as space-saving designs for all equipment.

GGS Oil & Gas Systems is pioneer in offshore custody transfer gas metering packages having an offshore installed base of over 60 revamped and built measurement systems ( Send out, BOG, LNG, DFDE ... ect. ) on FSRU/ FLNG vessels. A metering skid that is installed offshore often has integrated facilities for proving, sampling and analysis and a common Metering Control System. GGS offers in-depth knowledge and experience of these applications to offer a "single-point responsibility" turnkey package.

### Turnkey solutions from concept to start-up

- Design and engineering
- Project management
- Manufacturing of complete skids
- Calibration, integrated testing, and certification
- Shipping and packing
- Start-up and commissioning, training and support



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## BSS Technologies's CSR Initiatives

### IT'S IN OUR BLOOD TO SAVE LIVES

Giving back to your community through volunteer groups, non-profit organizations, charity or other means does so much to help those in need and contribute to the common good. In addition to the health benefits, volunteering gives people a sense of purpose. The fulfilling feeling of giving back and contributing to society is unparalleled. Giving back is also a great way to get to know your community and its citizens. When you volunteer, you have the opportunity to meet lots of new people. You can give back in different ways, by giving money or giving your time.

One of the ways BSS Tech has chosen is through Blood donation. It is one of the most significant contribution that a person can make towards the society. We BSS Technologies conducted the Blood Donation drive in our Dubai Facility in association with "Dubai Health Authority" and "Model Service Society (MSS)" to support the "Year of Tolerance".

Every Blood Donor  is a HERO



*"To give blood you need neither extra strength nor extra food, and you will save a life."*  
*"If you're a blood donor, you're a hero to someone, somewhere, who received your gracious gift of life."*  
*"A bottle of blood saved my life, was it yours."*  
*"Every blood donor is a life saver."*



We are thankful to Dubai Health Authority and MSS for their support to make this a successful event and we are also thankful to the participant who took the initiative and donated blood.

## New laying method in water, Reliable pipeline protection.

Leverkusen, April 11th, 2019. For the rehabilitation of a drinking water pipeline in the district of Aalen, 200 km north-east of Munich, Germany, the DEKOTEC GmbH protects weld seams from corrosion very quickly and efficiently using a new laying method that floats in water.

For this method, the pipeline was first laid in the water: Just ten minutes after applying the BUTYLEN-AS50 tape system to the weld seam, the pipe was pushed into a tunnel flooded with water. The pipeline was then drained four months later. This is impressive as pipelines are normally not immediately and permanently exposed to corrosive media. The test results provided by the "Verband der Fernwasserversorgung" (Remote Water Supply Association) prove: The standard requirements of DIN EN 12068 for a high-quality protection of the weld seams are satisfied.

Direct flooding and extended operation in water are major challenges for field joint applications.

This unprecedented method shows: The three-ply BUTYLEN tapes fuse together very rapidly. A diffusion-resistant protective hose is quickly generated, with reliable



Floating pipe installation in water



Machine processing of BUTYLEN-AS50

performance even when permanently exposed to fluids. The single-tape system was applied in at least a three-layer wrapping using the engine-driven DEKOMAT®-11 application device.

The drinking water pipeline is one of the region's main arteries. One of the two steel pipelines, with a nominal diameter of DN 1200, was restored for long-term use. Water flows through two parallel tunnels over almost two kilometres at 1,800 litres per second. The construction measure is expected to be completed in the spring of 2019.

### DEKOTEC GmbH

For almost a century, DEKOTEC GmbH has built its reputation on high-quality and forward-thinking road building solutions designed for use on transport routes and construction sites, and for corrosion prevention on pipelines and installations. The company has developed into an international group of companies, with branches in six European countries and sales partners in over 100 countries worldwide. The Group is market leader in key Central European markets and is intensifying its dynamic growth in Eastern Europe, Asia, Africa and South America.



Secure coating  
for 3,000 weld seams.  
One thing will do.

BUTYLEN with DEKOMAT®-11

# Corporate Round Up



Positive Mind. Positive Vibes. Positive Life



Our success - based on partnerships



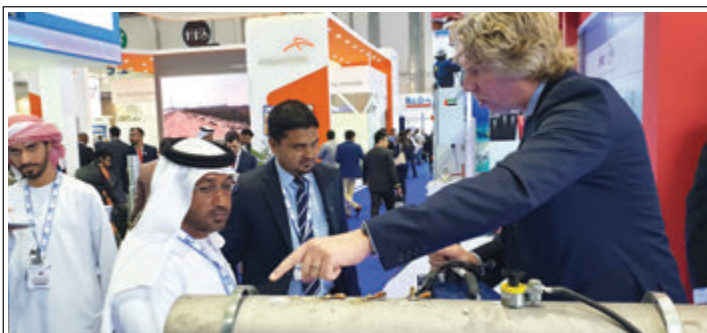
Your smile - our strength



I can show you the world



H.E. Sheikh Nahayan Mubarak Al Nahyan, Cabinet Member & Minister of Tolerance, UAE at BSS Technologies.



My time now



Individually, we are one drop. Together, we are an ocean

JEF Techno Solutions Pvt. Ltd., an ISO 9001:2015 certified company, is a pioneer in Asia in the field of EMI/EMC studies including root cause analysis, Safety Audits (electrical & Fire), Lightening Protection and Grounding Solutions. We have built a very strong and credible track record of providing effective and reliable solutions for issue related to grounding, lightening protection, emi/emc to various customers. We offer comprehensive solution for Electromagnetic Interference & Electromagnetic Compatibility for Oil & Gas, process plants and onshore & offshore installations. We have proven expertise in AC Interference study of high voltage transmission lines and burried pipelines-both safety & corrosion problems.



## EMI/EMC Services (For Oil & Gas)

- AC Interference Studies
- DC Interference Studies
- DC Stray Current Analysis
- EM Zoning, Matrix & Evaluation
- Electromagnetic Shielding
- Static & High Frequency Grounding
- Electro Magnetic Isolation

## Classic Signatures of EMI

- Unexplained Tripping
- Sensor/Valve Maloperation
- Process Interruptions



## FOR OIL & GAS



### Lightning Protection



In-house software for Comprehensive Lightning risk assessment and design as per IS/IEC 62305.

- Evaluates all risks R1, R2, R3 & R4
- Optimises Solution
- Automatically generates tentative BOQ



### Grounding



Conforming to IS 3043, BS7430, IEEE:80 & IEC 62561

## UNIQUE AUTOMATED SOLUTION

- UNMATCHED ACCURACY
- HIGH RELIABILITY
- ULTIMATE SPEED
- TRANSPARENCY & CLARITY
- TOTAL FLEXIBILITY
- CONSISTENCY & STANDARDIZATION

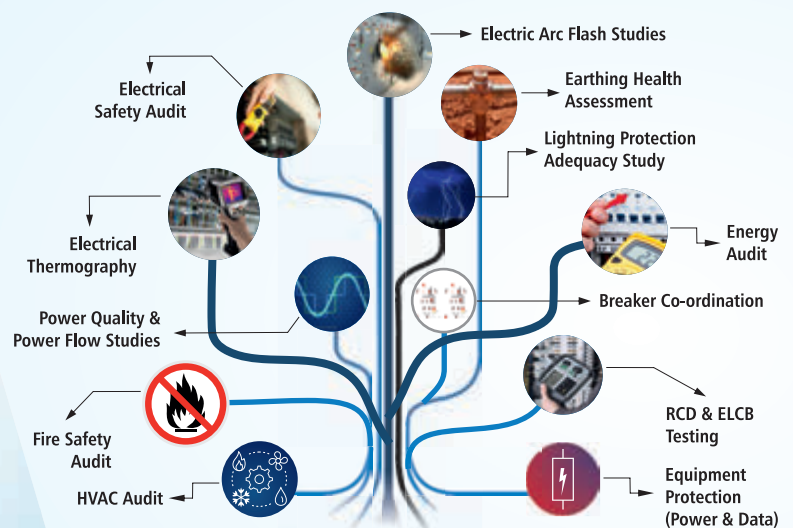


### ELECTRICAL SYSTEM STUDY

- Load Flow Studies
- Short Circuit Studies
- Motor Starting Studies
- Power Factor Compensation Studies
- Harmonic Studies
- Transient Stability Studies
- Motor Re-starting and Re-acceleration
- Load Shedding Studies
- Cable Ampacity Calculations
- Transformer Energization Studies
- Insulation Coordination Studies
- Ground Grid Sizing Calculations (CDEGS Software)
- Protection Setting and Relay Coordination Studies
- Lightning Protection Adequacy Study (as per IEC 62305)

## TECHNICAL SERVICES

### Electrical Health Assessment & Mitigation Services



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Made In India



## Remote Monitoring and Control

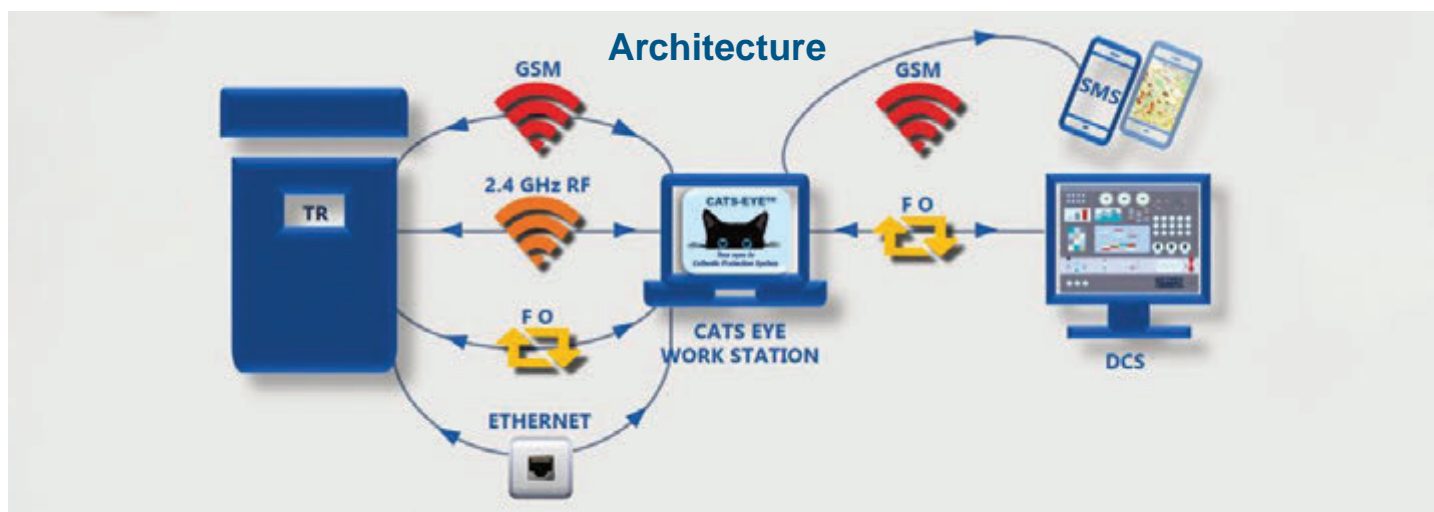
Cathodic Protection (CP) is an important method to prevent corrosion on buried metal pipelines and tanks. The collection and analysis of CP measurements (at transformer rectifiers and tests points) is labor-intensive, expensive and (still) reactive - problems can be undetected for long periods. The use of wireless remote monitoring and control technologies provide the ability to monitor "real-time" CP performances, reduce unnecessary costs and risks with travelling to remote locations and add the capability for instant notification thus increasing the lifetime of the structures being protected.

### Challenges

Collecting CP measurements for analysis is a time and resource consuming job; some installations are located in remote and difficult to access areas or under hazardous working environments. Additionally the incorrect monitoring and maintenance regime or operation of the CP systems can result in lack of protection and may even cause harm.

### Solution

The adoption of wireless smart sensor network technology will enable the automatic measurement, analysis, storage and transmission of real-time data. It is a proactive system - it supports the identification of potential problems wherever and whenever they occur and alerts the responsible entities immediately. BSS Tech solution includes smart units to collect field data and web-based software to monitor, control and report about the Cathodic Protection status of customer infrastructures. The software solution calculates the corrosion velocity of customer infrastructures, prevents potential accidents and indicates the critical points. It is an Automatic Control System for the Cathodic Protection.



Wireless communication (via GPRS/GSM) allows the corrosion monitoring parameter to be directly integrated in web-based software that stores, analyses and interprets the collected field parameters in an economical and easily way; providing enriched reports about the infrastructure health (Cathodic Protection level).

### Benefits

- Reduce data collection costs
- Reduce operator exposure to hazardous environments
- Access and integration of "real-time" corrosion monitoring parameters
- Improve data quality
- Generate automatic reports and alarms
- Increase efficiency of teams to timely and targeted maintenance tasks
- Evaluate and increase infrastructures lifetime



BSS Tech remote monitoring and control system for Cathodic Protection effectively improves the means of preventing corrosion on underground or underwater structures, pipelines and tanks. It is a proactive system that combines reliable hardware with powerful software to offer our customers a complete structure integrity monitoring solution.



Leading producer of cables and cable systems

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

Connecting globally

### High and extra high Voltage Cables

The group TELE-FONIKA Kable S.A (TF Kable) is a recognized and trusted provider of copper and aluminum cables and wires, optical fiber cables, used by the world's leading companies in Mining, Energetics, Renewable Energy, Railway industry, Automotive Industry, Telecommunication, Welding Industry, Shipbuilding Industry, Oil and Gas, Automatics. We offer a comprehensive assortment of wires and cables. Apart from the standard assortment of products, we also offer special cables made to meet individual customer orders. Our product assortment includes 25 thousand of cable types.

#### Types of Cables.

- High Voltage cables
- Marine and Offshore cables
- Oil and Gas / Offshore cables

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Hipolita Cegielskiego 1  
32-400 Myslenice, Poland  
Phone: +48 12 652 50 00  
Fax: +48 12 652 51 56

Made In Poland



## Thermopads

### Electric Heat Tracers

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

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Thermopads offers solution for every possible heating need – From comfort heating at homes to robust heating on driveways to utility heating in industrial applications. Thermopads is a multi-product, multi-service organization – one stop destination for all heating needs – with sales service points covering every part of India and overseas branches in U.K, Germany, Singapore and U.S.A. The array of company's products have applications in almost all industries – Petroleum, Power Plants, Metallurgical, Cement, Fertilizers, Textiles, Food and confectionery, Parma, Paints, Edible oils, etc. Thermopads manufactures/provides – Surface/immersion electrical heating equipments suited to hazardous and non-hazardous environments. Thermopads are leading manufacturers of heat tracing and heating cables in the world.

Electric Heat Tracers are specialized heating cables with low watt density for applications.

- To maintain temperature of fluids in pipelines at elevated temperatures for ease of handling, storage and transfer
- To heat-up process fluids in pipelines/tanks/equipment.



Electric Heat Tracers

#### Electric Heat Tracers/Heating Cables manufactured :

- Thermotrace -FTT
- Thermotrace - CTL
- Selftrace - ST
- Heating Cables - HC
- Heated Hose Floor
- Heating Cables & Mats

Made In India

**World Class Heating Systems to suit all your requirements**

# Workplace Health & Safety Prevention

Employers who consult their employees over health and safety issues involve the whole of their organization in a health and safety culture. Both in human and financial terms, this benefits everyone.

Health and safety legislation covers a wide range of work-related hazards. This may include standard office-based issues such as inadequate lighting or heating, unsanitary working conditions, improperly calibrated equipment (such as computer monitors/visual display units), dangerous electrical installations and so on. The health, safety and security of our members at work is a priority for BSS TECH and to achieve this BSS TECH organizes and trains Safety Representatives in the workplace.

Bss Technologies is very particular about the Health & safety of our employees. We believe in training staff in identifying and avoiding work site hazards as a vitally important way of reducing the number of incidents in manufacturing and service industries.

To ensure that all workers are fully knowledgeable on the risks posed on a daily basis and to create safety awareness we conduct “Emergency & Fire drill” in association with “Dubai Civil Defense” in our Dubai facility. Employees are given useful tips about do’s and don’ts in case of Emergency situation.

Employees are educated on use of Fire extinguisher and Fire Hose reel. They are also made familiar with evacuation plan in case of emergency. They are also given first aid and CPR Training.

We have trained persons in our facility who can be contacted in case of emergency.

We have in-house trainer to impart training and induction to the new and old employees on health & safety.



## ***EMERGENCY & FIRE DRILL BY DUBAI CIVIL DEFENSE***





## Drilling Rigs

www.prdrigs.com  
+91-97866 88799 | +91-4294 234482  
marketing@prdrigs.com

### Our Story and the Success

In 1992, PRD Rigs manufactured its first Hydraulic Rig. This was just the beginning of a long-lasting success story in the drilling rigs manufacturing industry. Innovation and strategy are our mantras. We strive to constantly learn, evolve and re-invent quality drilling rigs. We have substantially catered to the domestic market by providing nearly 2000 rig units since inception. Our commitment towards quality drilling rigs kept the ball moving further down the field and we penetrated the global arena in 1999. Consistent quality has been the key in sustaining our global presence. As a testimony to excellence, we are the first drilling rig manufacturing company with an ISO certification (9001:2015).

Our Story and the Success Diverse product range is another accomplishment of PRD Rigs. Drilling equipment for water wells, mining, exploration, construction and special purpose rigs form the PRD Rigs spectrum. Our R & D team keeps the innovation wheel rolling to provide economical but robust drilling rigs. Also, we recognize the need for providing adaptable solutions that suit specific regional needs. Therefore, we tailor-make drilling rigs to have every need covered.

**45+** years of legacy  
**60+** countries

**DESIGNED TO PERFORM**  
**BUILT TO ENDURE**  
**GOOD TO DRILL**

### Our Presence

We operate internationally with offices in Kenya, Tanzania, Cameroon, Nigeria, Ghana, Burkina Faso, Mali, Sierra Leone, Guinea and Sri Lanka. Our dealership network involves several locations around the globe spanning Asia, Africa, South America and Australia.



Water Well Rigs | Exploration Rigs  
Blast Hole Rigs | Drilling Accessories



United Arab Emirates, the people who model to welcome any colour / cast humans and festives ....



BSS Tech India Celebrating Diwali

## X'mas Celebration



Christsmas (Lunch) – Lets have the Party together....



*Life is about moments. Create them*

## “The Ramadan Experience at BSS Tech”

BSS Technologies organizes Iftar Party for its employees and clients. It is a month when the faithful fast between sunrise and sunset — is also a time for reflection, spiritual renewal and peace. It is a time to seek Allah’s forgiveness and share his blessings with family and friends. Ramadan is a time for renewing faith and purifying heart and soul for the millions who share in the Muslim faith around the world.



Iftar - Is it time now or more to wait !!!

## “BSS Tech Celebrates Onam”

Onam is the most popular festival in the state of Kerala. This ancient festival is being celebrated since ages. This festival is celebrated in the loving memory of King Mahabali. King Mahabali is known for his generosity and bringing prosperity. It is believed that King Mahabali will come on this day to bless the people with happiness and prosperity. It is also a harvest festival. It generally falls in the month of August or September. The 10 days of Onam festival is celebrated with great pomp and enthusiasm. Entire Kerala seem to be involved in festive activities. The first and the tenth day of the Onam Festival are most important. The rich culture of Kerala is widely reflected in BSS Technologies Onam celebration. Folk dances, games, songs, delicious foods were organized which is a part of the great festival.



Inhouse artists behind such a cute Foral art - Onam celebration in the traditional outfit ....



## Monolithic Isolation Joint.

Corrosion destroys approximately 30% of the world's annual production of steel. Where you find pipelines for gas an oil distribution system, you will also find a range of isolation joints. The correct location of a monolithic isolation joint results in saving overall cost of corrosion control systems. For onshore projects, an isolation joint is used to limit the spread and hence cost of cathodic protection current to those pipes that need to be effectively and economically protected by the main CP system. An isolation joint is used to electrically "split up" long pipelines into distinctive system. Or to isolate and ensure that CP or stray electricity currents do not cause increased corrosion. Or to provide protection against earthing currents at domestic and industrial premises where the PME (Protection Multiple Earthing) system is in use.

Monolithic Isolation joints shall be boltless and completely factory assembled in accordance with the appropriate requirements of ASME, ASTM, API, DIN, DEP, SHELL, NACE and BS codes. Insulation material is a thermosetting fiberglass epoxy material. NEMA G10/11. Sealing of Viton - AED "O" rings and specially designed all types of seal O rings to suit the different media & applications. Interior and exterior coating by epoxy with minimum 300 microns. - Dielectric Resistance @ 5 KV - Isolation Resistance >25 Megha ohms. All types of Insulation joints will be Designed According to ANSI/ASME B31.3/4/8 & ASME VIII Div.1 and we are having the design simulation for each IJ's including FEA analysis. An isolation joint is used to electrically "split up" long pipelines into distinctive system. Or to isolate and ensure that CP or stray electricity currents do not cause increased corrosion. For onshore projects, an isolation joint is used to limit the spread and hence cost of cathodic protection current to those pipes that need to be effectively and economically protected by the main CP system.



- INSTALLATION ABOVEGROUND / UNDERGROUND
- HYDROSTATIC TEST 1.5 Times the Design Pressure
- DIELECTRIC TEST 1.5 to 5 KV @ 1 minute AC 50 Hz
- ELECTRIC INSULATION TEST > 25 MΩ @ 1000 Volt DC
- Bevel Ends MPT /UT According to ASME Section VIII
- NDT: RT, UT, MPT & DPT.
- CERTIFICATION EN 10204 - 3.1 (EN 10204 - 3.2 if request)



APPLICATION: Suitable for flow media such as natural gas, crude oil, kerosene, gasoline, propane, butane, coal gas, ethylene, nitrogen and drinking water - Media such as sour gas and oxygen require special material.

Made In India

## Natural Gas Leak Detection System

Protecting People and the Environment by Embracing Safety and Encouraging Innovation



Your Safety...Our Commitment



Heath's innovative products have led to safer survey practices for both gas utilities and within our own domestic field services division. These breakthroughs in technology are due in large part to the efforts of our engineering and marketing experts who research and develop new products and services through strategic partnerships with well recognized research and development organizations and industry trade associations.

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

Made In USA

## A UAE initiative to improve conservation and sustainability of marine wild life in the UAE.

People need air to breathe, water to drink, food to eat, new medicines, a climate we can live in, beauty, inspiration and recreation. We need to know that we belong to something bigger than ourselves. We want a better future for those we care about. To survive and prosper, we need healthy oceans.

The ocean is the largest ecosystem on Earth, it is the planet's life support system. Oceans generate half of the oxygen we breathe and, at any given moment, they contain more than 97% of the world's water. Oceans provide at least a sixth of the animal protein people eat. Living oceans absorb carbon dioxide from the atmosphere and reduce climate change impacts. The diversity and productivity of the world's oceans is a vital interest for humankind. Our security, our economy, our very survival all require healthy oceans. Whether you live on the coast or far from it, whether you eat seafood or not, you and the future of all those you love depends on healthy oceans.

The Ministry of Climate Change and Environment has unveiled the National Plan of Action for the Conservation and Management of Sharks. The four-year plan has four main objectives including enhancing the knowledge of shark species and the ecosystem, implementing effective policy and legislation, creating a national and regional cooperation framework and enabling effective conservation. At present, there are 43 shark species in the waters of the UAE with 42 percent of these considered endangered, according to the International Union for Conservation of Nature's Red List of Threatened Species.

Identifying the challenges that have led to the decline in the shark population is key to the plan, including commercial and recreational fishing, changes to habitat, coastal development and climate change.

"A key objective of the plan is to enable effective conservation efforts through enhanced surveillance, capacity-building and public awareness, and to highlight the role that government, private and individual sectors can play in marine conservation."

Abu Dhabi is working to protect more of the emirate's natural environment and create opportunities for its enjoyment by residents. In early 2015, legal moves were made by the government to endorse the expansion of the emirate's protected areas, oversight of which falls under the EAD. Four additional marine areas were recommended for protected status. At present, the emirate has two marine protected areas, the 4255-sq-km Marawah Marine Biosphere Reserve, and the 2046-sq-km Al Yasat Marine Protected Area. With the proposed expansion, the share of protected marine area would increase from 12.9% currently to 13.5% in the next couple of years.



## OUR MAJOR ACTIVITIES

### Cathodic Protection & Corrosion Engineering

Anti Fouling

AC Mitigation Study & Modelling

Coatings & Field Joints

Leak Detection System

Software for Geoinformatics and Water Management

Wireless Remote Monitoring Systems

Electrical Grounding Backfills

Holiday Detection Systems

TR Units & RMCS

### Monolithic Isolation Joints

Gas Flow Measurement & Regulation

Pipeline Information Management System

Construction & Manufacturing

Marine Cathodic Protection

Aluminium & Zinc Casting

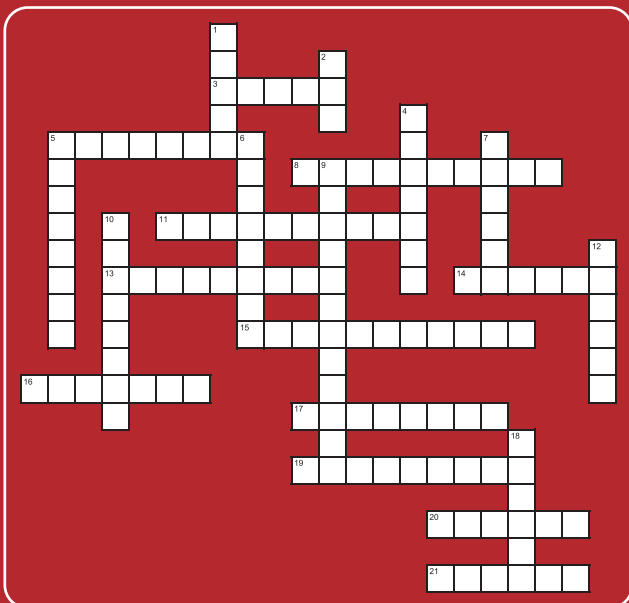
Calibration and Certification Services for Test and Measuring Instruments

Downhole Monitoring System

ESP Pumps of Permanent Magnet Motors

Well Head Remote Monitoring

## Frugal Innovation Crossword



### Across

3. to find an answer or solution to a problem
5. person interested in buying from a company
8. the practical application of science
11. developing new ways to do things
13. can be found and used, accessible
14. a major part or division (ex: of theeconomy)
15. wasteful, spending far beyond what is necessary
16. a new idea or product
17. a supply of certain materials or people available for a company or country to use when needed
19. guideline or basic rule
20. to plan (or a plan for) the appearance and use of something before making it
21. ability to reach or enter

### Down

1. to not make good use of limited resources
2. money charged for a service
4. to provide funding for a business
5. imaginative, able to come up with new ideas
6. to remodel or renew
7. origin, or place to get something
9. new business or start-up founder and owner
10. special qualities or characteristics of a product
12. careful with money, living simply
18. mechanical or electronic instrument with a specific function (designed to do one thing)

Solve the crossword using the list of words and the clues

Device | Frugal | Source | Solve | Sector | Finance | Fee | Design | Renovate | Access  
Entrepreneur | Resource | Creative | Customer | Technology | Available | Features  
Extravagant | Principle | Waste | Novelty | Innovation

بن ساري للتقنية المتخصصة  
متخصصون في أعمال التحكم في الصدأ والتآكل والوقاية الكاثودية

**B.S.S. Technologies**

Specialized in Corrosion Control & Cathodic Protection

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