

InSIGHTS



On Corrosion Prevention & Asset Integrity

Our Group, values the happiness of our employees and appreciation from our customers. As one of most important driving forces in developing modern society, SAIT Group have become the backbone of the communities they belong to. We strive to fully undertake our social responsibility, building a green and sustainable business, leading as an example of a happy business.

Nadeem Jaffer Sait, SAIT Group



CHAIRMAN'S MESSAGE

2018 marks the 20th anniversary of BSS Technologies. Established in 1998, the company has been developing by adopting a prudent and pragmatic manner in response to the needs of our country at different times. After decades of development, U.A.E has become an international metropolis and an important player in the global arena. And all this time, BSS Technologies has ventured out until it has become what it is today: a multinational SAIT Group Company.

The Group has been able to grow at a steady pace because we are steadfast in following our core values. I have to thank our strong workforce for aligning with our business philosophy. Within humanism, rationality and rules of oriental and ideology, the Group has devised a unique set of innovative culture and management mindset incorporating world-class best practices.

Since 1998, we have not for a single day forgotten the tradition of "Giving back to the society from which one is benefitted". In developing the business, we have always contributed to the community in areas from education, culture and sports, environmental protection to charity. One of the UAE's highest priorities has always been education. As President His Highness Sheikh Zayed Bin Sultan Al Nahyan, founder of the UAE, noted, "The greatest use that can be made of wealth is to invest it in creating generations of educated and trained people". In line with vision, BSS Technologies, offers a variety of learning Opportunities through its Dubai facility and



"The greatest use that can be made of wealth is to invest it in creating generations of educated and trained people"
H.H Sheikh Zayed

dedicated it's training center to the nation which will provide industrial training & skill development to the young Emiratis which will contribute to the world for a sustainable future, improvement in human welfare and promotion of positive energy.

At this juncture of the new era, the Group is making use of its most cherished assets— its 20 years' worth of experience, its brand, its trustworthiness and its spirit to expand and evolve the business, while at the same time serving the country, upholding Emirati heritage, devoting its efforts to the community, contributing and making an effort for the well-being of all mankind.

Life is a long lesson in humanity, and via our continual commitment to the society, we strives towards a better life, a better future.

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

BSS Technologies' Training Centre offer learning Opportunities for Emiratis

One of the UAE's highest priorities has always been education. As President His Highness Sheikh Zayed Bin Sultan Al Nahyan, founder of the UAE, noted, *"The greatest use that can be made of wealth is to invest it in creating generations of educated and trained people."*

The UAE has focused on educating both men and women and is a home to a wide range of universities, both public and private. UAE citizens can attend government institutions free of charge, and the UAE has one of the highest application participation rates in the world. New initiatives are being launched at all educational levels. In addition, some of the world's best universities are creating programs in the UAE, attracting talented students in the Arab world and globally.

In line with H.H. Sheikh Zayed's vision, BSS Technologies Dubai Training Centre which is dedicated to the nation, offers a variety of learning opportunities and skill development to the young local Emiratis.

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.



BSS Technologies giving On-site Training (TRANSCO)



Interactive learning methods feature prominently at the training, learning games and product touch & feel designed to engage trainee and enable them to explore real-life scenarios.

After successful completion of the training the engineers are given certificates for the successful participation on this program.

BSS Tech management takes pride to share knowledge any number of times to the client employees, young engineers and students for national benefit.



Engineers from SNOC interacting with BSS Tech CP- Trainer during walk-through session

HOW CORROSION AFFECTS POWER PLANT PERFORMANCE

Corrosion issues in power plants prolongs maintenance, increases operating costs, reduces efficiency and poses safety risks to workers. To optimize power-generating equipment, corrosion prevention is vital. This means ensuring the successful installation of insulation and protective coatings on items that are susceptible to corrosion.

Types of Corrosion in a Power Plant

Oxide corrosion: An electrochemical process on metal surfaces when oxygen molecules dissolve in water. This type of corrosion occurs when lagging isn't installed properly, or when protective surface coatings fail or were never applied.

Galvanic corrosion: A process that occurs when two dissimilar metals contact each other, creating an electrical reaction that promotes corrosion.

Hot corrosion: Accelerated corrosion due to the presence of salt contaminants that form molten deposits, which damage protective surface oxides.

Erosion: The combination of high fluid surface velocities and an aggressive chemical environment that wears away a surface's protective scale or coating.



The Consequences of Foregoing Corrosion Prevention in a Power Plant

Safety risks: When corrosion affects systems carrying steam or hot water—such as pipes—material or welds may fail, causing bodily injury or death.

Fouling: Power plant systems foul because of the ingress of moisture, dust or salt in the air.

Pipe corrosion: Insulating with an outer finish or jacketing keeps water from contacting tank shells or pipes, preventing corrosion, pitting, cracking and failure.

Contract-related fines: When corrosion affects a plant's system, it may not start up after a maintenance outage, leading non-delivery fees for being out of service.

Pollution control: Corrosion in tanks may hinder a plant's attempts to control sulfur emissions in the environment. Sulfur emissions lead to acid rain, which damages buildings and other structures in a power plant.

Boiler tube problems: Water, steel and dissolved oxygen within boiler units causes boiler tubes to oxidize and corrode. The corrosion forms grooves within the tubes that lead to cracks and boiler failures.

High maintenance costs: Corrosion can account for up to 75 percent of a plant's arrest time during maintenance and up to 54 percent of production costs.

Gas or air leaks: Unaddressed plate corrosion leads to air or gas leaks. The problem generally occurs when the lagging system fails.

Flue gas inlet duct problems: Gases within ducts attack the system physically and chemically.

Scrubber outlet duct moisture: Outlet ducts generally have a lower temperature than inlet ducts, making them more susceptible to condensation.

Flue liner failures: Freestanding stacks without windshields or protective liners suffer thermal shock and chemical attacks.

Low-temperature hot-corrosion in gas turbines: Transient metal oxides react with sodium sulfate, forming eutectic salts that prevent the formation of protective alumina or chromia.

Corrosion in power plants leads to costly repairs, prolonged maintenance, material losses, poor performance and, if left untreated, failure. Industry experts recommend corrosion prevention in the form of preventive and control strategies, such as regular inspections and the use of effective Cathodic Protection.

LATEST TECHNOLOGIES

ASSOCIATES

Pin Brazing 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.



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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

Electro-Hypochlorination System

Seawater Electro-Hypochlorination System

BSS TECHNOLOGIES

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.

Electro-HypoChlorination System advantages:

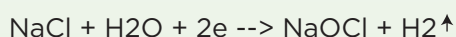
- Optimum system design
- High efficiency cell module
- Concern for safety - no chlorine gas
- Long term reliability
- Vast experience



Principle of Operation

Hypochlorite Rectifier

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

Made In UAE

LATEST TECHNOLOGIES

An inside story on Pipeline Leak Detection

Monitoring for pipeline leaks never stops. In previous posts we've talked about aerial surveillance pilots who fly the lines looking for issues; detector dogs who sniff for leaks; and a variety of sophisticated leak detection technologies. We've also met some of the control room operators who monitor pipelines 24/7 using Supervisory Control and Data Acquisition (SCADA) systems. That's a lot of activity going on outside the pipelines to monitor and inspect for leaks, but there's also a mine of data being received from right inside the lines.

Sensors placed at regular and strategic intervals along all pipelines measure everything from the wave patterns of the product in the line, to temperature, flow and pressure – and all this information is then shared, via SCADA, with control room operators.

A look at the science inside the pipes

To learn more about the sensors working inside pipelines, we spoke to industry expert.

“There are multiple software-based sensor systems, or computational pipeline monitoring (CPM) methods, that work with SCADA for detecting commodity releases. No two pipelines are the same and as such, different pipelines call for different types of CPM systems,” he said. These are the main ones:

- **Line balance:** Perhaps the simplest method, this measures any differences – for instance in volume, pressure, temperature etc – between product in and product out. It sounds simple enough, although pipeline operators keep in mind that there may be environmental or operating conditions, such as start-up and shutdown that can affect the figures.
- That's where volume compensated line balance comes in – it calculates the change in the contents of the pipeline, based on real-time pressures, temperatures and densities.
- Real-time transient model: Uses mathematical algorithms and basic laws of physics such as the conservation of mass, momentum and energy. By calculating the precise flow, pressure, density and temperature of the product at every point along the pipeline, in real-time, this method is able to accurately pinpoint anywhere that unexpected measurements might indicate a potential leak.
- Statistical analysis: Looks for data trends and patterns from different input points on the pipeline that might indicate a leak.
- Pressure/flow monitoring: A leak changes the pressure and flow behaviour of the product in the pipeline, so this method examines the relationship between the two variables at different points, and identifies changes. This is more effective in liquids pipelines than in gas.
- Acoustic/negative pressure wave: When a leak first occurs along a pipeline, it produces negative pressure waves that travel in both directions. The bigger the leak, the bigger the wave. Using mathematical algorithms, the sensors can identify the size of the leak, and its location to within less than 50 metres. But the waves are only produced when the product first starts to escape, so this method isn't helpful in pinpointing ongoing leaks.

“Small changes in flow, pressure or temperature could indicate a release, and if a release has indeed been recognized, the ability of operators to localize the problem or shut down the pipeline quickly is a key component of minimizing the impact of any leak,” explained by expert.

“Beyond pipeline integrity, the ability to quickly detect leaks means that operators can be prepared to respond promptly and effectively in the event of an incident.”



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A world Leader in pipeline leak detection

Atmos International (Atmos) provide pipeline leak detection and simulation technology to the oil, gas, water and associated industries, including aviation. The company was founded in 1995 in UK by the inventor of the statistical pipeline leak detection system - Atmos Pipe, now one of the suite of pipeline leak detection system from Atmos. Atmos can provide LDS based on all five leak detection methods as per API 1130 - Atmos Pipe LDS (SPLD), Atmos SIM LDS (RTTM), Atmos Wave LDS (NPW) and Atmos Wave Flow LDS (NPW+VB+RTTM).

Made in UK

ASSOCIATES

NATURAL GAS “LEAK DETECTION”

HEATH HAS BEEN A TRUSTED NAME SINCE 1933 AS THE LEADING PROVIDER OF SERVICES TO THE MID-STREAM, UPSTREAM AND DOWNSTREAM MARKETPLACES. IT OFFERS ADVANCED LEAK SCREENING SERVICES FOR THE DETECTION OF GREENHOUSE GAS EMISSIONS (GHG). SINCE OUR INCEPTION WE HAVE COMMITTED TO CONTINUALLY IMPROVING OUR FIELD TECHNIQUES WITH AN IN-HOUSE TRAINING DEPARTMENT FOCUSED ON PROVIDING THE BEST FIELD TRAINING IN THE INDUSTRY TO OUR TECHNICIANS.

HEATH’S HIGHLY QUALIFIED AND EXPERIENCED MANAGEMENT TEAM PROVIDES A STRONG DIRECTION THAT FOCUSES ON CUSTOMER SERVICE AND SATISFACTION AND HAS AN EXCELLENT TRACK RECORD WITH UTILITIES GLOBALLY. THEIR EXTENSIVE EXPERIENCE, LOCAL PRESENCE AND DEDICATED REGIONAL RECRUITERS ALLOW THEM TO MEET PROJECT COORDINATION, SCHEDULING NEEDS AND STAFFING REQUIREMENTS. CURRENTLY, HEATH EMPLOYS OVER 1,100 FIELD TECHNICIANS IN THE UNITED STATES WHO SPECIALIZE IN THE UTILITY SERVICES INDUSTRY.

INNOVATION AND AN ACTIVE RESEARCH AND DEVELOPMENT TEAM CONSISTING OF ENGINEERS AND MARKETING EXPERTS KEEP UP WITH THE EVER-CHANGING TECHNOLOGY DEMANDS TO PROVIDE STATE-OF-THE-ART PRODUCTS TO OUR FIELD TECHNICIANS AND CUSTOMERS ALLOWING THE MOST RELIABLE SURVEYS POSSIBLE.

HEATH NATURAL GAS DETECTION SERVICES INCLUDE:

- WALKING AND MOBILE LEAK DETECTION
- TRANSMISSION AND DISTRIBUTION PATROLS
- FROST AND WINTER PATROLS
- INDOOR METER SURVEYS
- PIPE/BRIDGE CROSSING INSPECTIONS
- LEAK CENTERING AND CLASSIFICATION
- LEAK PINPOINTING AND PURGING
- LEAK RECHECKS
- GREENHOUSE GAS EMISSIONS (GHG) DETECTION
- TRAINING PROGRAMS



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PRODUCTS AND SERVICE FOR THE UTILITY PROTECTION, ASSET MANAGEMENT AND DAMAGE PREVENTION MARKETS

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Made In USA

LATEST TECHNOLOGIES

Cathodic protection using SOLAR Power



Crude oil and natural gas transfer pipelines pass through desert areas where a frequent problem in Cathodic Protection (CP) is that extending the normal electric power supply from the utility grid would be very costly.

A BSS TECH solar power system provides a reliable solution for powering remote CP stations, enabling the placing of CP units in any location, thus ensuring optimal current distribution for the exact protection requirements.

BSS TECH's solar-powered cathodic protection systems consist of equipment using the latest technological achievements and the highest standard of materials.

A project is started by carefully analyzing the conditions and designing the system specifically suited to fit the exact requirements. Modern microprocessor-based control units and remote control facilities can be utilized to guarantee precise and smooth operation and monitoring of cathodic protection systems.



MPPT SOLAR CHARGE CONTROLLER

MPPT charge controllers, CC series developed by BSS Technologies, is for off-grid solar system and control the charging and discharging of the battery, especially suitable for Cathodic Protection Application. The controller features a smart tracking algorithm inside that maximizes the energy from the solar PV module(s) and charge the battery. CC series is very simple to configure and use. This series of charge controllers are optimized for long battery life and improved system performance.



Features:

- Intelligent Absorption charge time adjustment.
- Optimized battery charge protection
- Enhanced Sleeping & Power Save Mode
- Overcharging and Short circuit protection
- Remote Monitoring System

DC Controller

The cathodic protection current regulators are developed based on long term laboratory studies, and experiences from numerous demanding projects in many countries. DC-DC converters are used in CP application has control from 0 V to rated value, typically 25V. The input to DC-DC converter from solar panel / battery. DC-DC converters are manufactured with CVCC control, Auto PSP control and / or with RMCS features.

CORPORATE ROUND UP



Be with those that bring out the best in you



A happy soul is the best shield for a cruel world



Dr. V.K. Saraswat , Member NITI Aayog being introduced to BSS Tech



We are born to be real, not to be perfect



Live for the moments you can't put into words



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



Time has a way of showing us what matters in life



If an opportunity doesn't knock, build a door!



Dr. Ashutosh Karnatak, Director Projects, GAIL along with Narendra Kumar, ED GAIL, is being explained on BSS Tech product portfolio



Connecting globally

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Leading producer of cables and cable systems

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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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Made In Poland

Composite Repair Solutions

ASSOCIATES

IO Setia Ventures Sdn Bhd was established in 1996 providing pipeline rehabilitation and corrosion prevention services to the oil & gas industries. We offer proven, reliable and cost-effective solutions to our clients. Among our flagship solutions are the composite overwrap ProAssure™ Wrap, ProWrap™ and ProClamp™ for pipeline leak repair and strengthening, Corrocap™ and Flangeshield™ for total flange protection system and the Pile Protector™ for marine growth prevention. These products were developed in response to the industry's need for cost-effective, reliable and environmentally friendly solutions.

These products are manufactured with a stringent quality control at our manufacturing facilities and renowned for their durability, reliability and effectiveness.

- iowrap™
- ProClamp™
- CorroCap™
- Flangeshield™
- Pile Protector™

IO Setia Ventures

IO SETIA VENTURES SDN BHD

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71 800 Nilai, Negeri Sembilan, Malaysia

Phone : +60 6 7940961 / +60 6 7996963

E-mail : iosv@ssec-uae.com

www.iosv.com.my

Made In Malaysia

Giving Back To Society

BSS Technologies's CSR Initiatives

A global company, which by its definition is a collective of many individuals, has by its sheer size the opportunity to affect the world, be it in a good or bad way. If you have the power to make such an impact, you also have an obligation to act in a responsible way.

You have to be aware of the impact of the decisions you make and be sure that the communities affected by them – be they environmental or people related – improve by the way you do business. At BSS Technologies, we are taking a proactive approach to corporate social responsibility (CSR) through:

*** Sustainability * Education * our people**

When you have offices all around the world, the sheer size of your company can mean heavy use of resources such as electricity and paper. It also means long distances between colleagues and offices. In order to reduce travelling and waste of resources, smart technologies like online meeting tools and power saving utilities have been implemented throughout the company.



BSS Tech workforce are taking session on World Diabetes Day



Health Campaign organized at BSS Tech Camp



Desert cleanup and plantation campaign organized by BSS Tech & SSEC

Education is something that can make a real difference. As a large employer, we recognize the benefits that education can provide individuals, families and communities.

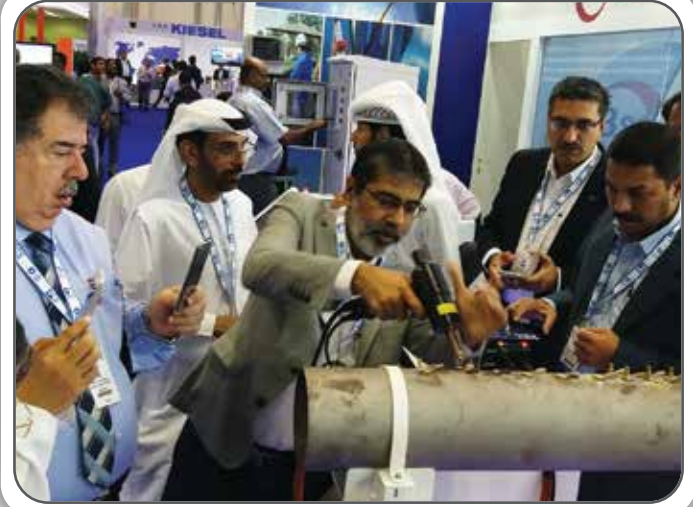
BSS Tech's training Centre in Dubai is a great example of how we approach by organizing Training, Health Campaign and Desert clean-up / green-up can be implemented to great effect.

Our employees comprise the community closest to our business. In fact, employees are the company. We have created a diverse workforce, where equality is promoted and people like coming to work. Our philosophy is that happy employees will run a healthy and successful business.

CORPORATE ROUND UP



Humble, with just a hint of Kayne



Admit it... Life would be so boring without me



*Great things in business are never done by one person.
They're done by a team of people*



*Truth is, I'm crazy for you.
And everyone can see that but you*



"We all have that one friend..."



Appreciate good people, they are hard to come by

COATING & WRAPPING



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HIGH QUALITY AND FORWARD-THINKING
"MADE IN GERMANY"

FEATURES

- Passive corrosion prevention on metal pipelines.
- Corrosion prevention and sealing on above- and below-ground installations.
- Polyurethane-compounds for pipeline construction.



Wrap-Around Corrosion is a method where buried and exposed metal is encircled by a corrosion-protective material. This material is wound over the metal, preventing the surface from physically coming into contact with the corrosive environment. The material used has an elastic protective adhesive which bonds to the metal substrates and common pipeline coatings. The materials come in many forms and designs, and have a strong outer covering which can withstand harsh mechanical and corrosive environment.



Wrap-around corrosion protection is simple and commonly used on pipelines where normal coatings are unable to offer adequate protection. This includes:

- Sections where there are bends or joints between pipes
- Welded or repaired sections
- Risers
- Pipe elbows
- Other irregular configurations



Thermopads

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ASSOCIATES

Electric Heat Tracers

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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/Heating Cables manufactured :

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



Electric Heat Tracers

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World Class Heating Systems to suit all your requirements

Awards & Recognition

Staff from BSS Technologies have been recognized for their commitment and dedication. We held a special presentation for five members of staff who have each completed more than 15 years' service.

The awards were made to Mohammed Arif K.A.H , (NACE Sr. Corrosion Technologist - Estimation team), Y. M Salim (General Manager Projects), Saju T. Thomas (Sr. CP Technician, Projects), Sidhic Oliyappurath Anathy (General Manager, Finance & Accounts), Ramesh Kumar Thekkinkattil (General Manager, Engineering) and Thar Mohammed (General Manager Operation).



Y. M Salim (GM Projects)

Their dedication ensures that our clients receive the very highest levels of customer service, and we are very grateful for their commitment to our business.

The group rewards its staff in three service categories - over 5 years, over 10 years, and over 15 years.

We believe it is important to recognize our staff for their efforts, as without them, our group could not possibly operate and it's thanks to them that the reputation of BSS Technologies, a Sait Group Company, continues to go from strength-to-strength."



Saju T. Thomas (Sr. CP Technician, Projects)

They all received memento and have been praised by senior management team for their loyalty and hard work.

Nadeem Jaffer Sait, Chairman of Sait Group, said: We are extremely proud of our long-serving members of staff and to celebrate with 16 more employees who have reached an important service milestone is great news.

Staff turnover in our practice is generally low and we have many employees who have been with us for over two decades.



Sidhic Oliyappurath Anathy (GM, Finance & Accounts)



Ramesh Kumar Thekkinkattil (GM, Engineering)

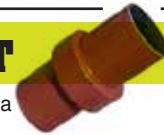


Thar Mohammed (GM, Operation)



MONOLITHIC INSULATION JOINT

IGP Engineers Private LTD #79, Valmiki street, Thiruvanniyur, Chennai, India
Tel: 91 44 2442 0608, igp@bsstechnologies.com



ASSOCIATES

WHY TO USE A 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.



ADVANTAGES OF USING

- Pre-assembled and Pre-Tested
- Saving on skilled on-site labour
- No maintenance required
- No Failure caused by improper installation.
- No Pipeline shutdown because of failure, replacement of leakage.
- Simplified serviceability and maintenance
- Increases the safety of the pipeline
- Increases the life duration of the pipelines
- Drastically decreases the OVERALL project LIFE CYCLE COSTS.

MONOLITHIC INSULATION JOINT

MONOLITHIC INSULATION JOINT IS A BOLTLESS STRUCTURE THAT PROVIDES ELECTRICAL RESISTANCE BETWEEN THE PIPELINE SECTIONS AND ADJOINING STRUCTURES, THUS IMPROVING THE EFFECTIVENESS OF THE CATHODIC PROTECTION SYSTEM.

Made In India



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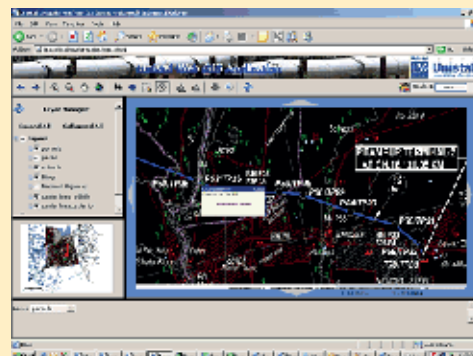
ASSOCIATES

www.jpactech.com

JPAC Technologies Pvt. Ltd. Along with its flagship solution “**Pipeline Information System**” has been serving the Oil and Gas Pipeline industry for the past 10 years. Versatile & supported Web-GIS base software solution are their forte. Delivering creative and affordable technology solutions for medium and large businesses and government organization. SOLUTIONS THAT DELIVER BEYOND EXPECTATIONS.

The Major areas of Specialization

- Pipeline Information Management System
- Document Management System
- Infrastructure Management Solution
- ERP & IT Solutions and Services
- Web GIS Solutions and Services
- Remote Sensing and Photogrammetry
- Civil Engineering & Real utility performance monitoring and controls management



Made In India

SUBSEA CABLE SOLUTIONS

SUBSEA division is experienced in submarine cable and umbilical supply, survey, installation, maintenance, repair and reporting services with our own resources in Abu Dhabi, or through our long standing trusted network of associates around the Region. Offering a comprehensive set of services and giving customers worldwide a total subsea engineering solution for the life of an underwater system is at the core of SAT SUBSEA's ethos.

We are actively involved in

- Engineering & Project Management Services
- Survey & Seabed Mapping
- Subsea Cable Installation-Recovery & Laying
- Subsea Cable Repair / Maintenance

All the above services are carried out with a multi skilled work force combined with the following resources as per requirement :

- A fleet of fully equipped purpose-built, Vessel / Barges for Survey, Diving, Cable installation
- ROV Services- equipment & personnel
- Diving Services-equipment & personnel
- Burial-Plough / Trenching- equipment & personnel



Our Specialized Services & Solutions:

- Turnkey EPC Contracts for Oil, Gas & Petrochemical Industry.
- Electrical & Instrumentation Services.
- Technical Manpower Sub-Contracting Services.
- Testing & Commissioning Services.
- Subsea Cable Solutions.
- Products Solutions.



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ANNUAL SPORTS EVENT



BSS Technologies
are using sports events to improve health and wellbeing, as well as influence engagement, culture and staff retention.

Remember the good old days of your School Sports Day? The fun, the competitiveness, and the glory! We re-live those days with your very own team building sports event.

Bring out our inner child with this blast from the sport event, which everyone really enjoyed and get stuck into.

All of the games and event ideas during the day are exactly how we remember - just without the grumpy teachers and the school bully. So this was our chance to take part in some competitive sporting activities with the aim of winning medals, prizes and pride. Our company sports day team building event was something that our colleagues will always remember.



Annual Gathering 2018



A cultural night was held on 24th March 2018. The event, which was both created and enjoyed by BSS Tech's and their family. The event slogan *"Celebrating 20th Year"* is a reference to our annual gathering. Cultural night is now a permanent fixture in the annual calendar of the events in SAIT Group and marks the start of the BSS Tech's cultural year.

The main objective of the cultural night is to encourage participants to deliver a diverse and rich offering with a taste of something for everyone and a few surprises too.

With about 300 guests, the event is the biggest and most popular festival of SAIT Group. The program offers a cross-section of all things culture, with a host of events ranging from games, musical performances to exhibitions of art and architecture, all delivered by BSS Tech's budding talent.

All festival events are offered free of charge, meaning everyone can take part and make the most of it together with nearest and dearest. It was an exciting, entertaining, inspiring and energizing event for all who attended.



*We didn't realize we were making MEMORIES
we just knew we were having FUN"*





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

Electric Heat Tracers

10

Pyramid Fun!

Study the first row and use its pattern to complete the other rows?

15	12	22	19	29	26
	71	81	78		85
33	30		37	47	
45		52		59	56
35	32			49	46
	14		21	31	28

For answer please write to bsstech@bsstechnologies.com

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