

InSIGHTS

On Electrochemistry & Asset Integrity



THE OFFICIAL NEWS LETTER OF BSS TECHNOLOGIES

VOLUME 09 | ISSUE 2023-2024

CONCRETE

Cathodic Protection
Empowering Infrastructure,
Ensuring Durability,
Extending Lifespan.

HypoKlor®

Empowering Water Treatment
for a Healthier Future

LPR Meter

A Portable Solution
for Corrosion Monitoring

OPzV Batteries

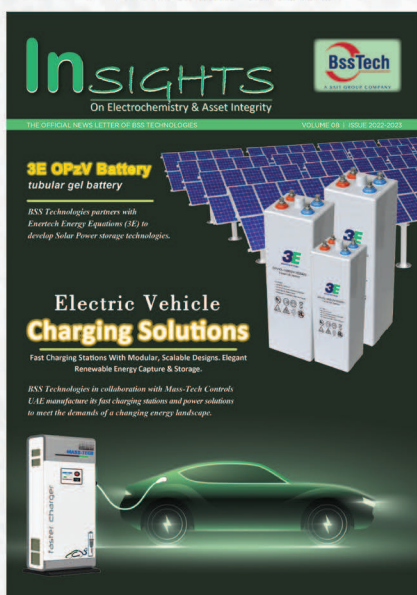
A Reliable and Versatile
Solution for Mission
Critical Backups

26
YEARS

Since 1998

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CHAIRMAN MESSAGE



Dear Valued Customers,

Being the chairman of Bin Sari Specialized Technologies (BSS Technologies), I honor the fact - wise investment will definitely pay you back. Only thing is to give a bit time to mature and nourish. No doubt that some matures little faster than others.

We have invested in educated and people with good attitude along with a sweet and mixed frosting of humanity and team working skills.

I observe, all are putting forward the best of them and time to time encourage and support those who are in need, voluntarily offloading the loads of the management and to make the whole team and the organization in an outstanding position of performance by proving –“any documents or products coming out of BSS Technologies is Engineered in detail”.

Never we could have proved right, without the trust given to us by our customers and suppliers, and not holding strong enough to our core values of integrity, excellence and innovation, we could have grew, diversified and lead to serve the industry with detailed technology.

We surely believe partnering in a long run and thank you for your partnership.

Sincerely,



Faris Sari A.E. Al Mazrouei
Chairman BSS Technologies

HypoKlor® Systems - Superior Electrochlorination Technology

HypoKlor® systems stand out as the ultimate electrochlorination technology, enabling efficient on-site production of Sodium hypochlorite through the electrolysis of seawater or brine.

Process and Applications

Electrolysis for Disinfection in Critical Applications: This advanced process utilizes direct current ranging from 1KA to 10KA, with power ratings of 100kW to 1MW, ensuring effective disinfection in critical environments such as Desalination Facilities, Power Plants, Liquefied Natural Gas (LNG) Terminals, Cooling Towers, Marine Ballast Water Treatments, and other coastal installations that rely on seawater for cooling and industrial processes.

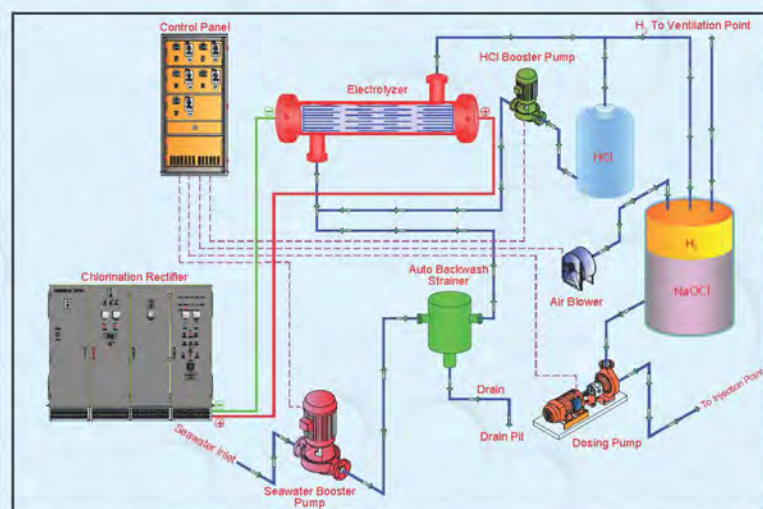
Extensively Used Chemical Disinfectant: Sodium hypochlorite, the main product of this process, is widely acclaimed for its extremely low toxicity, deodorizing power, long-lasting effect, and safe handling and storage capabilities. Its potency makes it an ideal choice for a diverse range of applications, catering to small, medium, and large-scale industrial needs.

On-Site Sodium Hypochlorite Production

Versatility in Industrial Applications: The HypoKlor® system facilitates on-site production of Sodium Hypochlorite solution through electrolysis of seawater or brine, serving various sectors such as desalination and marine facilities, wastewater treatment, and supplying processed water to Oil, Gas, and Petrochemical plants and power plants. Our packages are available in different flow rates, from low flow (2 kg/h) to high flow (900 kg/h) of Sodium Hypochlorite.

Core Components and Customized Packages

Efficient Electrochlorination System: The Electrochlorination system comprises core components, including Rectifiers and Electrolyzers, serving as the heart of the package, in addition to Booster pumps, Sea water filters, Acid and Degassing Tanks, Blowers, Dosing Pumps, and more. Our custom-made packages are not only economically viable but also ensure safety and user-friendliness, enabling the production of a powerful biocide and disinfecting agent for various industrial applications.



Process Flow

Electro-chlorination Process

Seamless Electro-chlorination Process: The seawater undergoes a carefully orchestrated Electro-chlorination process, starting with filtration to remove suspended solids larger than 0.5 mm. A flow control loop, equipped with a flow control valve and a flow transmitter featuring local indication and low flow shut-down protection, guides the seawater to the Electrolyzers. Within the electrolyzer cells, electrolysis occurs, yielding sodium hypochlorite solution and hydrogen gas as a byproduct. The produced sodium hypochlorite solution can be applied in continuous and/or shock-dosing modes, while the hydrogen gas is safely diluted and released into the atmosphere using air blowers.

Multiple Applications

Versatile Applications of Electrochlorination System The Electrochlorination System finds extensive utility across various applications, including:

- Prevention of Bacteria and Algae Growth
- Drinking Water Sterilization
- Sewage Water Disinfection
- Fouling Control in Water Cooling Systems
- Industrial Wastewater Treatment
- Pool and Aqua Parks Disinfection

Technical Consultancy and Training Programs

Expert Technical Consultancy: We offer expert technical consultancy to assist end-users in their in-house engineering work, whether establishing new EC Systems or refurbishing existing ones. **Client-Oriented Training Workshops** We conduct client-oriented training workshops, showcasing the unique advantages of easy-to-implement technologies available worldwide.

Applications



Fresh Water Generation



Marine Growth Prevention



Power Plant



LNG Terminal



Desalination Plant



Aqua Park

HypoKlor®

Empowering Water Treatment for a Healthier Future



Our own in-house development
Wide range of ratings available
Manufacturing on client specification
Refurbishing existing electrochlorination systems

The Science of Positive Psychology: Cultivating Happiness from within

In the fast-paced world of today, where work pressures and personal commitments often intertwine, the pursuit of happiness can sometimes feel like an elusive goal. However, positive psychology offers a fresh perspective on how we can cultivate happiness from within, especially in the context of our work lives. By understanding the principles of positive psychology and integrating them into our daily routines, we can foster a more fulfilling and joyful work environment.

Understanding Positive Psychology

Positive psychology is a branch of psychology that focuses on the study of human strengths, virtues, and factors that contribute to a meaningful life. Rather than merely addressing psychological disorders, positive psychology aims to enhance overall well-being and life satisfaction. In the workplace, this translates into a focus on employee engagement, satisfaction, and the creation of a positive organizational culture.

Fostering Positive Relationships

At the heart of positive psychology lies the importance of positive relationships. As we spend a significant portion of our lives at work, nurturing positive connections with colleagues becomes vital. Engaging in team-building activities, outings, and gatherings, like the ones depicted in the photos, not only strengthen relationships but also create a sense of camaraderie and support.



Harvesting the Power of Recognition

A simple yet potent practice, recognizing and acknowledging each other's contributions becomes a cornerstone. Encouraging employees to applaud each other's efforts not only nurtures a culture of support but also bolsters morale. The images exemplify these moments of acknowledgment, where a heartfelt thank you or a pat on the back illustrates the power of positive reinforcement.



Finding Meaning in Work

Engagement and satisfaction in the workplace are often closely tied to finding meaning in what we do. When employees understand how their efforts contribute to the larger goals of the organization, they are more likely to experience a sense of purpose and fulfillment. The photos of employees participating enthusiastically in various activities demonstrate how creating a sense of purpose enhances overall job satisfaction.

Embracing Challenges with Positive Psychology

In an ever-changing landscape, the ability to navigate challenges with resilience stands as a crucial attribute. Positive psychology, with its focus on fostering a growth mindset and bolstering psychological flexibility, provides a powerful framework for building resilience. By incorporating these principles into our organizational culture, we equip our employees with the tools to not only endure adversity but also thrive in the face of it.

In the realm of positive psychology, resilience is more than just bouncing back from setbacks; it's about bouncing forward. By encouraging a growth mindset that perceives challenges as opportunities for learning and personal growth, we empower our employees to approach difficulties with a sense of curiosity and determination. Psychological flexibility, another core concept of positive psychology, enables individuals to adapt to changing circumstances and emotions, fostering the capacity to navigate adversity with grace and courage. Through workshops, training sessions, and resources, we are dedicated to equipping our workforce with the skills to cultivate resilience and emerge from challenges stronger and more empowered than ever before.

The Role of Positive Emotions

Positive emotions play a significant role in shaping our overall well-being. Incorporating moments of joy, humor, and lightheartedness into the workday can have a profound impact on employee happiness. These snapshots of employees sharing laughter and enjoying themselves reflect the importance of a positive emotional climate in the workplace.



The Practice of Mindfulness

Mindfulness, a key practice in positive psychology, involves being fully present and attentive to the current moment. Encouraging employees to engage in mindfulness techniques, even in the midst of a busy workday, can reduce stress and increase overall well-being. The serene photos of employees participating in mindfulness sessions highlight the serenity that mindfulness brings to the workplace.

In conclusion, positive psychology offers valuable insights into creating a harmonious and fulfilling work environment. By fostering positive relationships, practicing gratitude, finding meaning in work, embracing positive emotions, and incorporating mindfulness, employees can experience greater happiness from within. The images of our employees' activities, gatherings, and outings serve as a testament to the power of these practices in enhancing the overall well-being of our work community.



3E Greenstack Series OPzV Batteries:

A Reliable and Versatile Solution for Mission Critical Backups

3E believe that lead-acid batteries are vital to a sustainable future for our planet. Lead-acid batteries are the only 100% recyclable energy storage solution that meets the sustainability challenge.

Lead-acid OPzV batteries, are high-end products, specially developed for applications that require frequent deep cycling.

They generally have a cell voltage of 2 volts and are connected in series to produce higher voltages. These types of batteries have valve regulated vents and are used in stationary applications like; solar, wind and backup energy storage. They contain a Gel electrolyte which is generally composed of diluted sulfuric acid, gellified with fumed silica dust.

OPzV batteries also feature High Capacity, Long lifetime, Low Self-Discharging, Maintenance free, Appropriate dimensions and weight etc.

3E designs Greenstack series OPzVs with an optimized tubular plate, which by far exceeds the DIN standards in vogue.

The advantages of the optimized plate are, they offer excellent cycling capabilities and long service life under float conditions. This is an energy-saving solution for energy storage. Even in remote installations that require long-term discharge and excellent charging performance, it can provide significant advantages in terms of single-cycle cost, the highest level of reliability and performance.

The Technology behind OPzV Batteries

The acronym "OPzV" originates from the German term "Ortsfest, Panzerplatten, Verschlussen," which roughly translates to "stationary, armored plates, sealed." This nomenclature highlights the battery's construction, featuring tubular positive plates and gelled electrolyte within a sealed housing made of reinforced plastic. The design ensures a leak-proof and maintenance-free operation throughout its service life.

Sealed and Maintenance-Free Design

OPzV batteries are classified as sealed batteries, eliminating the need for regular maintenance or water additions during their lifespan. This characteristic makes them an ideal choice for applications where routine maintenance is challenging or impractical. Moreover, their sealed construction allows for operation in any orientation without the risk of acid leakage.

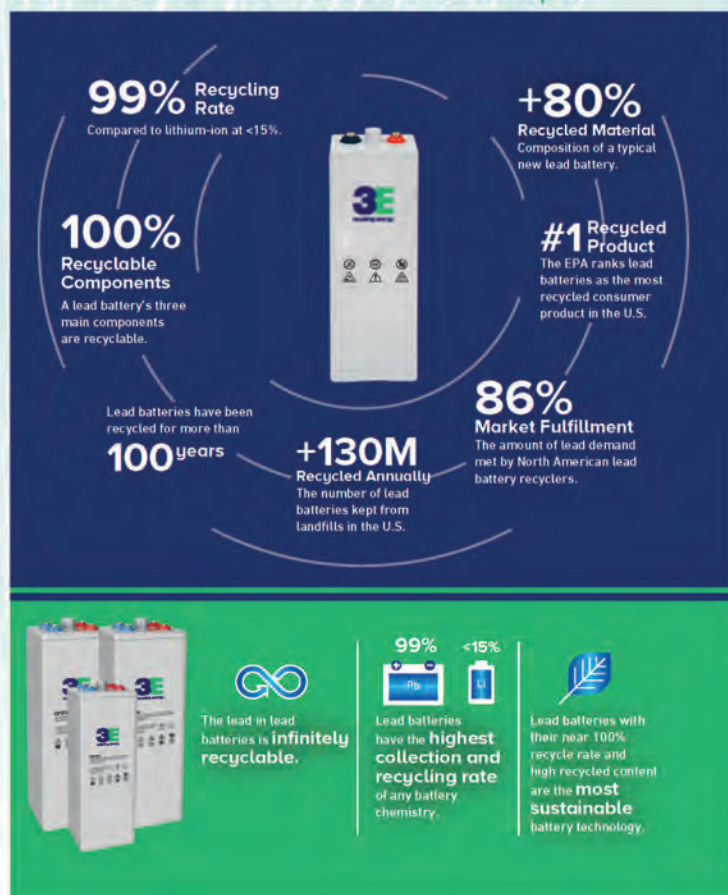
High Energy Density and Long Service Life

An outstanding feature of OPzV batteries is their high energy density, enabling them to deliver a substantial amount of power per unit of weight or volume. This makes them particularly advantageous for applications where space and weight considerations are critical. Furthermore, their extended service life, reaching up to 20 years, makes them a cost-effective solution for long-term applications.

Deep Discharge Cycle Capability

OPzV batteries excel in their deep discharge cycle capability, allowing them to be discharged to a much greater extent than other lead-acid batteries without damage or reduced service life. This characteristic makes them particularly suitable for scenarios where frequent power outages occur or where backup power is needed for extended periods.

OPzV batteries stand as a reliable, long-lasting, and high-performance option, well-suited for diverse applications. Their sealed design, maintenance-free operation, and ability to endure deep discharge cycles make them ideal choices for backup power systems, renewable energy installations, telecommunication systems, and many more applications. With their exceptional features and versatility, OPzV batteries continue to be a preferred solution for powering critical systems across various industries



OPzV Batteries



The lead in lead batteries is infinitely recyclable.

Lead batteries have the highest collection and recycling rate of any battery chemistry.

Lead batteries with their near 100% recycle rate and high recycled content are the most sustainable battery technology.

All-In-One Integrated CP & Coating Surveys (10-In-One)

SPECTRUM XLI (eXternal Line Inspection)

Spectrum XLI is a proprietary system for above-ground pipeline inspection. Allied Engineers has already performed XLI surveys in excess of 4,300+ Kms. The XLI equipment collects encrypted data with raw waveforms similar to ILI or a Hydrotest assessment. Performing XLI with simultaneous, continuous and encrypted "All in One" surveys, XLI collects up to ten (10) data sets by walking ONLY ONCE over the complete pipeline right of way. Those ten surveys with their recording frequencies are :

- DGPS/GIS (1 time per second)
- CIPS - DC (35 times per second)
- CIPS - AC (35 times per second)
- DCVG (35 times per second)
- ACVG (35 times per second)
- ACCA/CAT (7 times per second)
- Continuous Depth of Cover
- Gas Leak Detection (Up to 1 ppm)
- Continuous Soil Resistivity (Optional)
- Pipe Wall Assessment using the large standoff magnetometry method (Optional)



We are excited to present state-of-the-art "eXternal Line Inspection"(XLI) technology to Pipeline Integrity landscape.

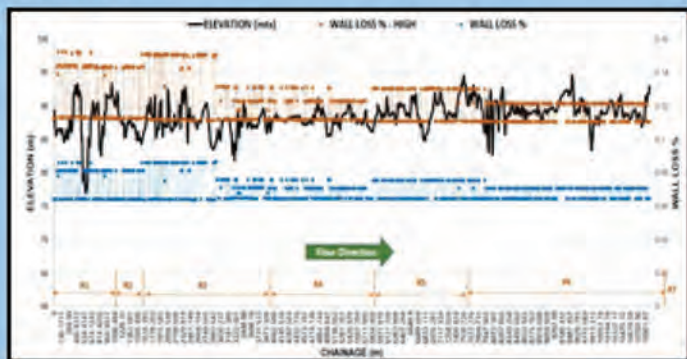
Now you can conduct extremely high-resolution multiple "auto-integrated" above ground CP and Coating surveys in **ONE SINGLE PASS** of the pipeline!

Internal Corrosion Direct Assessment (ICDA)

As per NACE SP0110-2018, SP0206-2016, SP0208-2008, SP0116-2016

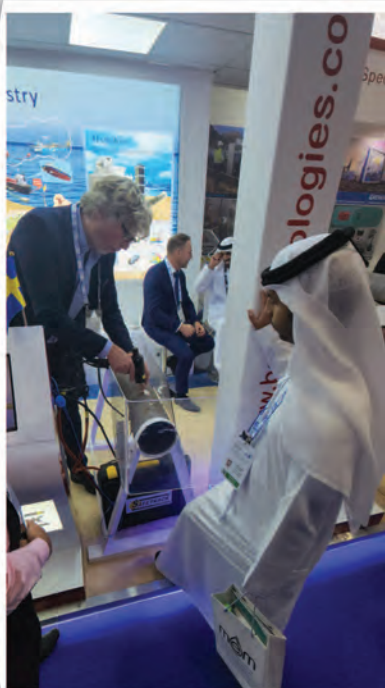
Internal Corrosion Direct Assessment (ICDA) is the most effective technique to identify, control and mitigate internal corrosion of pipelines. Allied Engineers is at the forefront of conducting ICDA with 300+ lines of 2,700+ km assessed by utilizing NACE cited Internal Corrosion Predictive Models (ICPM).

ICPM is able to accurately identify locations with the greatest likelihood of internal corrosion taking into consideration various influencing factors such as: liquid/solid holdup locations, flow velocities, temperature /pressure changes among a few. Applicable To - Scrapable, Non-Scrapable, Onshore and Offshore pipelines. Products Applicable - Dry gas, wet gas, crude oil, condensate, water, multiphase and all types of refined products



XLI		ILI		ECDA		ICDA		SCCDA		Dex		Total
Lines	KM	Lines	KM	Lines	KM	Lines	KM	Lines	KM	Lines	KM	Pipelines
369	4,300	53	6,619	488	4,578	307	2,725	238	10,260	1,600+		1,455

allied engineers
PIPELINE INTEGRITY
www.alliedengineer.com



Cathodic Protection Transformer Rectifiers: A Key Component in Effective Corrosion Prevention

Cathodic Protection is a crucial technique achieved through galvanic (sacrificial) or impressed current systems. The heart of the impressed current CP (ICCP) system lies in the Transformer Rectifier. At BSSTECH, we offer a diverse range of high-quality Cathodic Protection products that effectively meet various customer requirements in specific application scenarios.

Transformer Rectifier Series: Our Transformer Rectifier series can be categorized into two types based on the cooling system:

- **Oil Cooled Units:** Transformer Rectifier with oil tank is provided, power components are immersed in transformer oil which provides adequate cooling
- **Air Cooled Units:** Transformer rectifier panel conducts heat naturally to the surroundings to maintain temperature.

Based on type of control:

- **Variac:** Using a variac transformer at the input side, these units enable precise regulation of the TR output.
- **Tap Controlled:** These units utilize diode rectifiers and provide manual control options through taps and selector switches for regulating the output voltage.
- **Constant Voltage and Constant Current Units:** In this category, we offer Thyristor rectifiers with two options:
 - **CVCC Manual Units:** These units support both constant voltage and constant current modes, giving efficient control over CP power supplies.
 - **CVCC Auto Controlled Units:** Equipped with feedback from reference electrodes, these units automatically adjust voltage and current to maintain reference stability. Additionally, they provide multichannel capabilities for multiple structures, allowing remote monitoring and control for individual channels.
- **DC-DC Controllers:** In areas lacking normal electric power distribution, our DC-DC Controllers come into play. These units efficiently convert solar energy into regulated DC power supply for ICCP Systems.

All our transformer rectifiers and DC-DC Controllers are manufactured using top-quality components and undergo thorough and standard testing procedures to ensure trouble-free operation. Each unit is tailored to meet the end user's specifications. Our manufacturing process strictly adheres to standards such as IEC60076 and IEC60146. Moreover, we offer custom-made CP Power Supplies based on specific customer requirements. For hazardous areas, we provide transformer rectifiers with ATEX / IECEx certifications. Notably, our products come with features like interruption capability, manual or remote operation, GPS synchronization, and accurate GPS timers for reliable and precise functioning, remote monitoring and control.

Range of TR units

10V, 10A	20V, 15A
20V, 20A	25V, 15A
25V, 25A	25V, 50A
50V, 50A	50V, 75A
75V, 75A	100V, 100A
40V, 2500A	60V, 5500A

Additional varieties of Rectifiers exist.

- Cathodic Protection Rectifiers
- Remote Monitoring and control system for CP rectifier
- DC-DC converter
- GPS Current interrupter Timer
- Pulse Rectifiers
- IGBT Rectifiers
- Hydrogenation Rectifier
- Chlorination Rectifier
- Electroplating Rectifier
- Polarity Reversible Rectifier
- ED Coat Rectifiers
- Rectifier for furnace and other applications

*Rating can be customized as per client requirements

Features:



Advanced Silicon Technology for Pure Rectification.



Remote Monitoring And Control System



Advanced Surge Protection



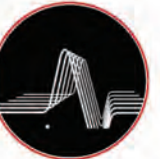
Low Maintenance



Over Voltage Protection & over Current Protection for both input side & output side.



Individual ON/OFF mechanism.



Reduced Ripple for better CP healthiness



Isolated Input using high efficient step down transformers. (Double wound Isolation)

At BSSTECH, we take pride in our ability to convert any energy into regulated ICCP essentials, providing comprehensive and efficient Cathodic Protection solutions. Our high-quality products, tailored solutions, and adherence to industry standards make us a trusted partner for all your Cathodic Protection needs.

Transformer Rectifier



Our own in-house development
Wide range of ratings available
Manufacturing on client specification
IECEX & ATEX certified

Monolithic Insulation Joints: Enhancing Pipeline Integrity and Safety

In the field of pipeline engineering, maintaining the integrity and safety of the infrastructure is of paramount importance. One key component that plays a crucial role in this regard is the monolithic insulation joint. Monolithic insulation joints are specially designed devices used to electrically isolate sections of pipelines to prevent corrosion and ensure the smooth flow of fluids.

Understanding Monolithic Insulation Joints:

Monolithic insulation joints are mechanical devices that provide electrical isolation between two sections of a pipeline while maintaining the mechanical integrity of the system. They are typically installed at strategic points along the pipeline, such as flange connections, valves, or pump stations, where electrical isolation is required to prevent the occurrence of galvanic corrosion.

Functions and Features:

Electrical Isolation: The primary function of monolithic insulation joints is to prevent the flow of stray electrical currents between different sections of a pipeline. By isolating the sections electrically, they eliminate the risk of galvanic corrosion, which can lead to leaks, reduced pipeline integrity, and environmental hazards.

Mechanical Integrity: In addition to electrical isolation, monolithic insulation joints also maintain the mechanical integrity of the pipeline. They are designed to withstand high pressures, temperature variations, and mechanical stresses, ensuring the reliability and longevity of the system.

Leakage Prevention: Monolithic insulation joints incorporate sealing mechanisms to prevent any leakage of fluids or gases from the pipeline. This helps in maintaining the efficiency of the pipeline system, preventing wastage, and reducing the risk of environmental contamination.

Cathodic Protection Integration: Monolithic insulation joints can be designed to accommodate cathodic protection systems, which further enhance corrosion prevention. By integrating with cathodic protection, the joints help create a comprehensive corrosion control strategy, safeguarding the pipeline against various forms of corrosion.

Advantages and Applications:

Corrosion Mitigation: Monolithic insulation joints play a vital role in mitigating corrosion, a significant concern in pipeline infrastructure. By effectively isolating sections of the pipeline, they prevent the occurrence of galvanic corrosion, thereby extending the lifespan of the pipeline and reducing maintenance costs.

Safety Enhancement: Electrical isolation provided by monolithic insulation joints enhances safety by reducing the risk of pipeline failures, leaks, and subsequent accidents. This is particularly crucial in industries such as oil and gas, where a breach in pipeline integrity can have severe consequences.

Versatility: Monolithic insulation joints can be customized to fit various pipeline configurations, including different diameters, materials, and operating conditions. This versatility allows for their application in a wide range of industries, including oil and gas, petrochemicals, water utilities, and more.

Installation and Maintenance:

The proper installation and maintenance of monolithic insulation joints are essential to ensure their effectiveness. Qualified personnel should handle the installation process, adhering to industry standards and guidelines. Regular inspections, testing, and maintenance should be conducted to identify any potential issues or degradation of the joint's performance.



**IGP
GROUP**
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Empowering Infrastructure, Ensuring Durability, Extending Lifespan.

Cathodic Protection is applied to both existing deteriorated structures to halt corrosion, and also to new structures to ensure that corrosion is prevented from ever occurring.



The inevitable end result of all rebar corrosion is concrete damage.

Concrete is a porous material, which readily absorbs contaminants from the surrounding environment. The contaminants, which lead to corrosion of the reinforcement are water, Oxygen and Chlorides in the form of salts. The water and oxygen in the presence of the chlorides, react with the iron to create corrosion products on the surface of the reinforcing steel. The growth in volume of these corrosion products exerts tensile stresses on the concrete, which eventually cause the concrete cover to crack, delaminate and become detached from the structure (spall).

The corrosion reaction of reinforcement is catalysed by the chloride ions although these take no part in the reaction itself. The potential differences between different parts of the reinforcement cage cause electrons to be released from the most negative areas. This in turn creates positive areas, i.e. ferrous ions, which dissolve into the pore solution. The electrons that were released are consumed by electrolysis of water and oxygen to make hydroxide ions.



The typical range of structures to which it has been applied is shown pictorially below.



Bridges



Culverts



Refineries



Docks



Power Stations



Pipelines



Power Lines



Marinas



Buildings



Villas

Generation Gap At Work, Insights And How To Improve



Workers of all ages, walks of life, and levels of expertise are increasingly blending together in today's modern workplace. Diverse perspectives are a strength, but they can also cause tension, especially when there is a large age gap.

Knowing How to Bridge the Generation Gap

In the workplace, members of different generations often have very different expectations of one another and approach problems in very different ways. The generation gap exists between the Baby Boomer generation (those born between 1946 and 1964), Generation X (those born between 1965 and 1980), and Millennials (those born between 1981 and 1996). New on the horizon is Generation Z (born between 1995 and 2004). According to a report by PwC, the priorities of the Millennial generation are different from those of the preceding generations, who placed a premium on security and predictability at work.

Problems Caused by the Age Difference

Misunderstandings, arguments, and decreased cooperation are all possible outcomes of the generation gap. According to research conducted by Deloitte, different generations approaches to technology, communication, and work ethics are the most difficult aspects of working together. Employee morale, output, and cooperation are all susceptible to these obstacles.

Methods of Expression in Conversation

The difficulty of communicating across the generations is a major barrier to overcoming. BridgeWorks discovered that people of different ages tend to express themselves in different ways in their conversations. Generation X is more likely to use electronic means of communication like email or texting than older generations like the Baby Boomers are. Younger generations, on the other hand, favor online channels of interaction like social media and instant messaging.

Ethics at Work vs. Personal Values

Conflicts between generations can also arise over work ethic. A Research study found that while Boomers and Xers value work over leisure time, Millennials place a premium on having a healthy work-life balance. As a result, there is a higher risk of misunderstandings and disagreements at work.

Suggestions for Enhancement

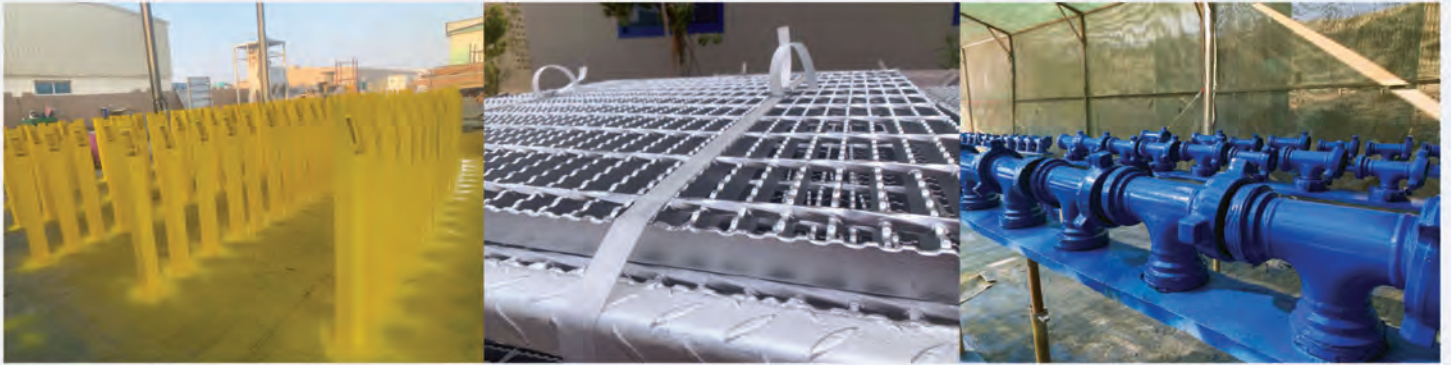
How, then, can businesses find common ground between workers of different generations in order to foster a more collegial and fruitful work environment? Here are some recommendations based on scholarly studies:

A Review study found that intergenerational mentoring and coaching programs enhanced teamwork, communication, and understanding. Companies can help bridge the generation gap and create a more positive work environment by pairing employees from different generations.

Promote diversity and inclusion because businesses that value and practice these values are 35% more likely to outperform their competitors, according to a study. By encouraging a wide range of perspectives and experiences to coexist in the workplace, businesses can ensure that all of their employees feel like they belong there.

A research study discovered that effective teams and collaborations are predicated on members having similar values and objectives. Companies can overcome the challenges of the generation gap and create a more united and productive workplace by aligning employees around shared values and goals.

Sait Specialized Metal Industries (SSMI) collaborates with **Sait Specialized Engineering and Contracting (SSEC)**, leveraging over 15 years of expertise, to bring advanced protective and industrial coatings technology to regional industries. SSMI aims to enhance industrial investments' lifespan, offering top-quality products and comprehensive services tailored to the region's specific needs. Their cutting-edge Paint shop, situated in Mussafah's ICAD 1 zone, prioritizes environmental friendliness and serves the oil & gas sector. SSMI employs a consultative approach to address clients' painting requirements, emphasizing aesthetics and safeguarding structures from corrosive conditions. Functioning as an extension of SSEC, SSMI excels in fabricating, blasting, and painting structural steel, storage tanks, pressure vessels, and more, adhering to the highest quality standards for various industrial applications. The company also undertakes custom fabrication work to meet clients' specifications.



The heart of the SSMI facility holds a secret world, a haven meticulously dedicated to the mastery of blasting and painting. Inside these chambers, cutting-edge airflow manipulation and contamination safeguards stand guard. Tailored to embrace structures of all dimensions, the facilities are orchestrated for seamless operations, leaving no room for imperfection. Beyond these confines, the skilled blasting and painting team ventures into on-site realms, ever-prepared to weave their expertise into projects of every nature.



Within the SSMI facility lies a realm of innovation, where a discreet haven is carved out for the artistry of blasting and painting. These specialized chambers boast state-of-the-art airflow orchestration and meticulous contamination guardianship. Designed to accommodate structures of any stature, these meticulously organized facilities ensure operations flow without a single ripple. Not confined to their sanctuary, the adept blasting and painting team ventures beyond, ready to embrace on-site endeavors with equal prowess.



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Our Services

Engineering Services
Fabrication of Steel Structures and Plates
Pipe Spool fabrication and Erection
Surface Preparation and Industrial Painting Works
Oil And Gas Skid Manufacturing works



SSMI

A SAIT GROUP COMPANY

Nurturing a Culture of Health, Safety, and Environment

Health, safety, and environmental (HSE) considerations are of paramount importance in any industry, and BSS Technologies, a prominent Electro chemistry Company, stands as a shining example of an organization that prioritizes a robust HSE culture. By integrating health and safety practices with environmental stewardship, BSS Technologies demonstrates its unwavering commitment to protecting the well-being of its employees, preserving the environment, and ensuring sustainable operations.

Employee Health and Safety:

BSS Technologies places the highest priority on creating a safe and healthy work environment for its employees. The company strictly adheres to industry regulations and best practices, implementing comprehensive safety policies and procedures. Regular training programs and awareness campaigns are conducted to educate employees about potential hazards and equip them with the necessary knowledge and skills to mitigate risks effectively.

Moreover, BSS Technologies promotes a proactive safety culture where all employees are encouraged to identify and report potential hazards, near misses, and incidents. Through ongoing communication, feedback, and continuous improvement initiatives, the company fosters an environment that prioritizes the well-being of its workforce.

Environmental Stewardship:

Recognizing the need for environmental preservation, BSS Technologies integrates sustainable practices throughout its operations. The company actively seeks ways to minimize its environmental impact, implementing measures to reduce energy consumption, waste generation, and emissions.

BSS Technologies invests in research and development to develop innovative cathodic protection solutions that minimize environmental harm. By offering products and services that contribute to the protection and longevity of infrastructure, the company supports sustainable development and reduces the need for costly repairs and replacements.

Compliance and Regulatory Adherence:

Compliance with relevant health, safety, and environmental regulations is a non-negotiable aspect of BSS Technologies' operations. The company maintains a comprehensive understanding of applicable laws and standards, ensuring strict adherence at all levels. Internal audits and assessments are conducted regularly to identify areas for improvement and maintain a culture of compliance.

BSS Technologies also actively engages in dialogue with regulatory bodies and industry organizations to stay informed about emerging trends, regulations, and best practices. By actively participating in shaping industry standards, the company demonstrates its commitment to continuous improvement and upholding the highest HSE standards.



Conducted Health Campaign and awareness on World Heart Day 29th Sep 2023 in association with Ahalia Hospital team, Mussafah. The aim of this campaign is to raise awareness about the Cardiovascular diseases (CVD), its symptoms and how to control it.

The awareness session was conducted by Dr. Bilal Kabeer Khan, Specialist Cardiology Ahalia Hospital Mussafah. Along with the vital and vision checkup, including the blood pressure and consultation.



In order to promote best health and safety practices among the employees, we organized a 'Beat the Heat' campaign. The objective of the campaign is to raise awareness on heat stress and how to reduce the risk of heat stress related illnesses.



Conducted Monthly & Yearly HSE Incentive Distribution Program



Conducted HSE awareness campaign on 'Safe Manual Handling'. The campaign was conducted to improve the awareness among the workers regarding the musculoskeletal disorders and other ill effects that can be caused by manual handling. The top management from ADNOC GAS and contractor attend the campaign showing their commitment and support towards Health and Safety.

BSS Technologies sets an exemplary standard when it comes to cultivating a culture of health, safety, and environmental responsibility. By prioritizing employee well-being, environmental stewardship, and regulatory compliance, the company showcases its dedication to protecting its workforce and the environment.

Through ongoing training, robust safety protocols, and sustainable practices, BSS Technologies ensures that HSE considerations are at the forefront of its operations. By integrating HSE principles into its corporate DNA, BSS Technologies not only safeguards its employees and the environment but also sets a benchmark for the industry.

ReKorr® Linear Polarization Resistance (LPR) Meter

A Portable Solution for Corrosion Monitoring

The hand-held corrosion monitoring equipment developed by BSS Technologies utilizes the linear polarization method to provide accurate corrosion rate readings. When used in conjunction with BSS Tech E4 probes, installed in concrete structures, the equipment can effectively analyze the corrosion rate of rebars. This innovative product is designed to provide a reliable and efficient method for monitoring corrosion in concrete structures, enabling early detection and intervention to prevent structural damage and ensure safety.

Corrosion is a pervasive problem that affects various industries, including oil and gas, manufacturing, infrastructure, and marine sectors. Timely detection and monitoring of corrosion are crucial to prevent equipment failure, increase safety and minimize maintenance costs. Linear Polarization Resistance (LPR) is a widely used electrochemical technique for corrosion measurement and the development of handheld LPR meters has revolutionized the field of corrosion monitoring in concrete structures.

What Is Linear Polarization Resistance (LPR) Measurement?

The linear polarization resistance method consists of applying a step of very small voltage variations ($\pm 20\text{mV}$) above and below the corrosion potential of the metal element under test. The polarization resistance (R_p), defined as the slope of this current-potential curve is inversely proportional to the corrosion rate.

Features of ReKorr:

The equipment is designed to provide a portable, user-friendly and accurate solution for corrosion monitoring in various environments. It offers several features that make it an invaluable tool for corrosion engineers and inspectors:

a. Portability: The equipment is compact and lightweight, allowing for easy transport and operation in the field. It can be used for on-site inspections, plant maintenance and remote monitoring of corrosion in hard-to-reach areas.

b. Ease of Use: The digital meters are designed with user-friendly interfaces and intuitive controls, enabling both experienced professionals and non-specialists to perform corrosion measurements effortlessly. The graphical display presents real-time element voltage measurement, temperature of the concrete etc. Transferring data to the PC for analysis is as easy as any standard flash drives.

c. Rapid Measurements: ReKorr offers rapid measurements, typically completes the test of one probe in 4 minutes, with standard settings. This capability is particularly critical for promptly assessing the effectiveness of multiple numbers of corrosion monitoring probes. It also checks the probe's readiness from the readings and provides adjustable parameter settings.

d. Software: The device incorporates specialized software that facilitates comprehensive analysis of the data obtained during the monitoring procedure. This software enables in-depth examination and

interpretation of the collected data, offering valuable insights into corrosion trends, potential risks, and the effectiveness of corrosion control strategies. With its user-friendly interface and powerful analytical capabilities, the software enhances the overall functionality of the device, aiding corrosion engineers and inspectors in making informed decisions and developing targeted maintenance plans.

e. Storage: The device features ample storage capacity with 32 GB of internal storage. This storage capability allows for the convenient retention of a large volume of data collected during corrosion monitoring activities. Additionally, the device offers the provision to store information for up to 50 different sites, each accommodating test results of 50 probes. This comprehensive storage capacity ensures that extensive data from multiple locations can be securely stored, facilitating efficient data management and analysis for corrosion monitoring and planning.

f. Battery: The device is equipped with an internal rechargeable battery that provides a backup power source for up to 12 hours continuous operation. This ensures prolonged operation and uninterrupted corrosion monitoring even in situations where external power sources may not be readily available. The long battery life allows for extended fieldwork, reducing the need for frequent recharging or battery replacements. With this reliable power backup, users can confidently rely on the device for extended periods, enhancing productivity and enabling comprehensive corrosion monitoring without the concern of power interruptions.

Applications of ReKorr:

Handheld LPR meters find applications across various industries where concrete rebar corrosion monitoring is critical. Some key applications include:

a. Infrastructure: The equipment plays a vital role in assessing the corrosion status of bridges, reinforced concrete structures Sea water intake structures and underground utilities. They assist in maintenance planning and the evaluation of corrosion protection measures.

ReKorr®

A Portable Solution for Corrosion Monitoring



Software

- IP 65 Rating
- High Quality ABS
- Alphanumeric Keypad
- User Friendly HMI
- Graphical OLED Display
- Rechargeable Battery
- USB Interface
- PC Software

Electric Heat Tracers

We take pleasure in introducing ourselves as a leading company in providing Electrical Heating & Heat Tracing Systems. Our products/systems are extensively used in various Fuel Oil installations/ process industries and are operating satisfactorily with impeccable record in more than 500 Public and Private Sector units.

The Quality Management Systems of the Company conform to the requirements of ISO-9001 – 2008 standard and certified by M/s Bureau Veritas Certification & had ISO 14001 & 45001 Certifications as well. Thermopads range of products have various certifications like UL, CSA, VDE, CE, EAC, BASSEFA, SIRA, ATEX, IEC Ex. Our qualified Engineering team well supported with full fledged computerized designing network ensures to provide best cost effective systems suitable for the project/process requirements and qualified project team guarantee timely execution and trouble free performance of the heat tracing systems.

World Class Heating Solutions to suit all your requirements

Thermopads Pvt. Ltd. is a complete turnkey solutions companies specializing in the field of turnkey installation comprising of Design, Engineering, Production/Procurement/Fabrication, Supply, Installation/Erection, Testing & Commissioning of Heat Tracing systems for various industries viz. Power Plants, Refineries, petrochemical plants, Metallurgical Industries, Oil Terminals, Cement, Sugar plants etc. exporting the products globally to almost 45 Countries.

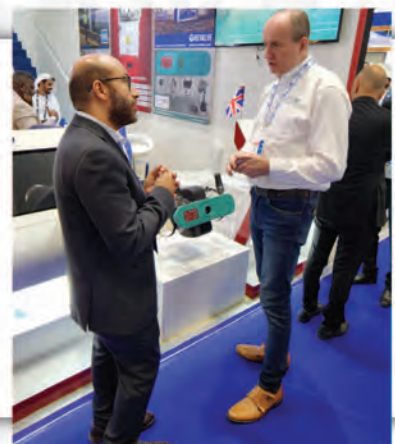
With in-house design and engineering facilities and a team of dedicated technical professionals Thermopads ensures world class services to its clients. Our project team ensures complete project planning and implementation to meet the toughest project schedules. The spirit of continual partnership with customers to offer state-of-the-art technological solutions is backed by our four decades of experience.

- ▶ Heating Cables
- ▶ Heat Tracers-Cut to Length
- ▶ Heat Tracers-Factory Terminated
- ▶ HTT - Power Limiting / Regulating
- ▶ Self Regulating Tracers
- ▶ Heated Hoses
- ▶ Hopper Heaters
- ▶ Heating Jackets
- ▶ Insulation Pads
- ▶ Drum Heaters
- ▶ Heating Mantles
- ▶ Thermo Heating Blanket / Blade Repair Mat
- ▶ Mould Plug Heating Cable HE1



Thermopads

www.thermopads.com



High and extra high Voltage Cables

Types of Cables.

- High Voltage cables
- Marine and Offshore cables
- Oil and Gas / Offshore 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 cable types.

TF Kable
www.tfkable.com

Made in Poland

Natural Gas Leak Detection System

Protecting People and the Environment by Embracing Safety and Encouraging Innovation

Heath has been a trusted name since 1933 as the leading provider of services to the midstream, 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 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.



RMLD CS
Remote Methane Leak Detector Complete Solution

Utilize laser technology to detect PPM-M up to 100 meters away.



DP-IR
Infrared optical gas detection system selective to methane.



ETHANE IDENTIFIER 5



SURE-LOCK® ALL PRO



Your Safety...Our Commitment

For Enquiries: heathconsultants@bsstechnologies.com | +971 4 886 7015

www.heathus.com

Made in India

Remote Monitoring & Control System

The CATS Eye Cathodic Protection Monitoring Unit is engineered for seamless integration into Transformer Rectifier (TR) units or effortless incorporation into existing units. By adding CATS Eye, you gain effective remote control and monitoring capabilities. It facilitates communication through Optical, RS485 and GSM channels, providing versatile connectivity options.

Key Features:

Integration Ease: Designed for manufacturing integration or retrofitting into existing TR units.

Remote Control: Enables efficient parameter control and monitoring from remote locations.

Multiple Communication Modes: Supports Optical, RS485 and GSM communication methods.

Dedicated Local Display: Provides on-site supervisory control and convenience.

Modbus Protocol: Utilizes the widely adopted Modbus protocol, an industry standard in automation and oil and gas sectors.



Hardware

Working Principle:

The CATS Eye unit boasts a dedicated and powerful digital signal processor (DSP) responsible for retrieving field signals, including DC Voltage, DC Current, and Reference Voltages. These data are transmitted to a remote computer equipped with CATS Eye Software for real-time monitoring and control. Remote monitoring is also extendable to customer's Distributed Control System (DCS).

Similarly, the unit seamlessly accepts control signals from the software and generates corresponding signals for the Transformer Rectifier to perform actions like setting DC Voltage & current. For tailored solutions and communication architecture, please contact our engineering department.

Additional Capabilities:

Dedicated Datalogger: Equipped with a local data storage feature for data logging.

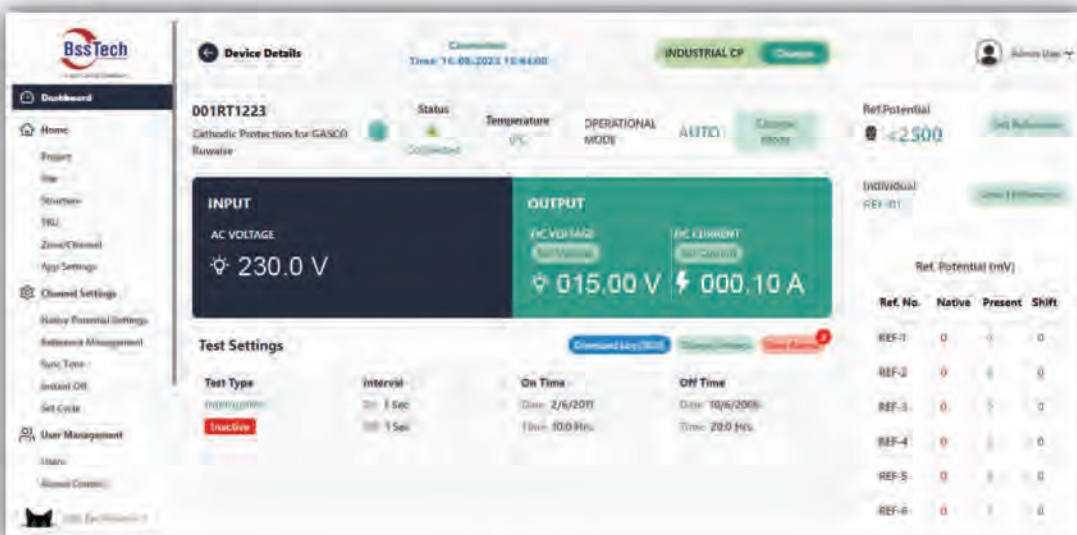
Remote Control Functions: Supports Remote Interruption cycle, Instant off and Depolarization test.

Alert System: Notifies operators about the range values affecting CP system parameters.

Data Management: Stores data in a dedicated database, allowing users to produce graphical and analytical reports for in-depth analysis.

Reduced Manpower, Enhanced Efficiency:

The CATS Eye software, when combined with the Cat's Eye hardware, streamlines operations, reducing the need for manual intervention. It provides timely alerts regarding any deviations impacting CP system parameters.



Software



POWERED BY
CATS-EYE™
Your eyes to Cathodic Protection System

Made in UAE

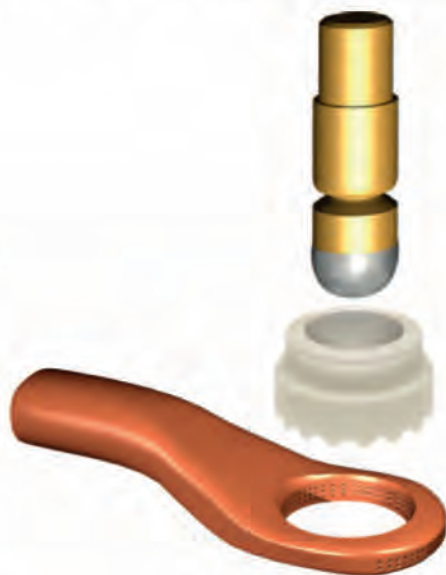
Digitized PinBrazing & Smart Cable Protection

Connect CP Cables fast and safe!

Safetrack® patented digitized PinBrazing system is an extremely efficient, low temperature arc brazing method used for attaching electrical connectors to steel structures within Cathodic Protection systems such as pipelines, vessels, reinforcement bars, wind power, grounding, etc, without the need for welding. No need for different carbon moulds for different wires. Safetrack® application methods always use materials of the highest quality to ensure the best electrical conductivity, corrosion resistance and strength



ECONECT® PinBrazing Unit - Lightweight, automated equipment



- High capacity
60 connections per charge
- Battery powered
Nano Li-Ion, long life
- Automated Gun
Self adjusting (patent)
- Digitized
Same perfect result everytime (patent)
- Lightweight
Only 9,8kg (21,6 lb)



Protectus Panzar™

Divisible subsea cable protection



SAVE OUR PLANET!

- Made from 100% recycled plastic
- Massive savings in oil
- Huge savings in CO2
- 80% lower environmental impact



Protectus Panzar™ is developed in close cooperation with experienced installers and is suitable for use in a wide area of conditions. Our own weights can be mounted in several ways and the construction makes it possible to fasten Panzar™ in rocks/mountains. Tool-less installations both in subsea applications as well as above water. The cables are 100% protected at all times

SAFETRACK
www.safetrack.se

Embracing Growth and Development: BSS Technologies' Training Centre Provides Learning Opportunities

BSS Technologies Dubai Training Center, deeply committed to the progress and welfare of our nation, extends a diverse array of learning opportunities and skill development programs to aspiring individuals. Our primary objective is to cultivate critical thinking and awareness among participants, encouraging them to deeply engage with and reflect upon pressing national, societal, and environmental issues. Our Training Center stands as a prominent platform for Emirati students who aspire to excel but may encounter challenges when it comes to practical studies. To address this, we've meticulously devised an efficient, adaptable training system, tailored to empower young Emiratis, equipping them with the technical acumen needed to embark on a prosperous career journey.

Within our state-of-the-art facility, an extensive inventory of cutting-edge equipment awaits, ranging from substantial furnaces and advanced metal casting stations to a fully equipped fabrication yard, a Transformer Rectifier Manufacturing unit, and an array of sophisticated machinery and tools integral to the manufacturing process. The Training Center is designed to comfortably accommodate sessions for 25 or more students, providing a dynamic learning environment that seamlessly integrates traditional classroom instruction with hands-on technical workshops.

Our workshops offer immersive, hands-on training across all CP product lines. Aspirants are immersed in a comprehensive learning experience that delves deeply into Cathodic Protection and Corrosion Engineering Products and Services. Through intensive, interactive sessions conducted by seasoned trainers, participants gain profound insights into a wide spectrum of areas. Practical experience is further emphasized within our factory, where participants actively engage in the manufacturing and assembly of materials and equipment. Upon successful completion of the training program, our engineers are conferred with certificates, formally recognizing their exceptional achievements.

At BSS Technologies, we take immense pride in our commitment to knowledge dissemination, making our expertise accessible to client employees, aspiring young engineers, and students for the betterment of the nation. Upon successfully completing our program, engineers receive certificates in recognition of their participation and outstanding performance in this invaluable initiative.





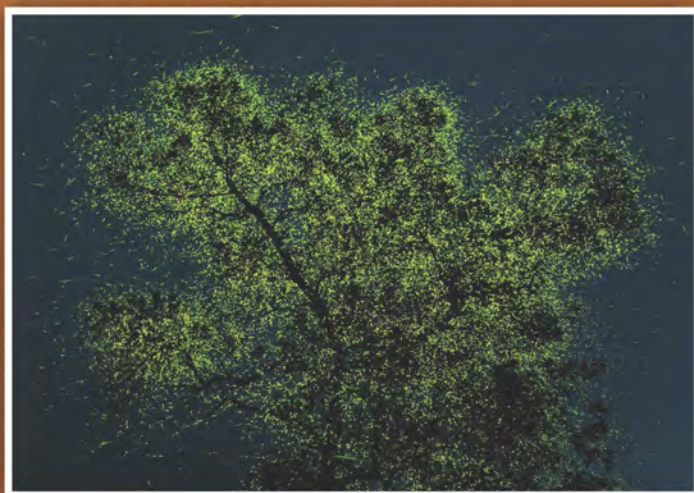
A diver swims among trash—including plastic bottles and medical masks—in the Bosphorus Strait in Turkey

A guide in the Sahara Desert dunes of Erg Chebbi, Morocco, struggles against a sandstorm

(Background picture)



A herd of wildebeests is photographed using a remote camera in the Maasai Mara National Reserve in Kenya



Fireflies congregate just before monsoon season begins in India. They gather on a single tree in an image made by stacking 32 photos taken over 16 minutes



In Poland, a field of sunflowers attracts birds looking for seeds



In the Ruta de los Cenotes near Puerto Morelos, Mexico, freedivers, scuba divers and swimmers enjoy a watering hole—one of thousands of cenotes on the Yucatán Peninsula



A farmer carries a weeding machine beneath an irrigation pump in Brahmanbaria, Bangladesh



The Serra do Mar, or "mountain range of the sea," in southeastern Brazil, rises above the clouds



Amid incessant and unseasonal rains, a coalition of male cheetahs—known as Tano Bora, or the "The Magnificent Five"—cross the flooded Talek River in Kenya's Masai Mara National Reserve

Solutions for Energy & Utilities

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.



WEB & GIS Based Solutions;

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

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

PCMS Pipeline Construction Management System

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.

Salient Features

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

SmartGasNet

- **Route Planning and BOQ Generation**
- **Construction Management**
- **Asset Inspection & Maintenance**
- **Outage Management**



www.jpactech.com

BSS Technologies through its two dedicated renewable energy arms contributed developments in professionally designed photovoltaic solar power systems. A comprehensive range of solar modules, charge controllers, telecommunication power supplies and custom made solutions.

Major Activities Include

- ◆ Solar power supply for Cathodic Protection Systems.
- ◆ Powering up of remote telemetry units (RTU) for pipelines and well heads.
- ◆ Powering up Instrument loads at well heads and unmanned locations.
- ◆ Powering up monitoring and control systems SCADA.
- ◆ Independent facilities. (site offices, labs, temporary structures etc)
- ◆ Customized controllers for solar application.
- ◆ Detailed engineering design and feed for new solar establishments.
- ◆ Operation and maintenance services for solar power plants/systems.
- ◆ Revamp and upgradation of existing solar facilities.
- ◆ Energy audits and energy saving feasibility study.



Atmos Eclipse: defying pipeline limitations while improving leak detection performance

Many pipeline companies are tasked with the challenge of working out how to provide a pipeline leak detection system to overcome limitations ranging from a lack of communication and power to a lack of instrumentation and housing for their equipment. Atmos Eclipse is an essential hardware that can provide the solution to these limitations while improving leak and theft detection performance in the process.

The technical details

- ATEX certified for Zone 1 in IP68
- 60 Hz data acquisition rate and scanning speed
- Inbuilt communication methods including TCP/IP, line of sight radio, GSM (3/4G) and Modbus
- Electrically isolated from the pipeline and does not affect the cathodic protection systems
- Non-intrusive pressure sensor so it can be retrofitted to operational liquid pipelines
- Works in both shut-in and flowing conditions
- Able to source power from wind and solar energy for zero downtime
- Measures bi-directional flow, speed of sound for product change and transmission amplitude for pig detection
- Can be fitted to pipelines with diameters ranging from 4" to 48"
- Measures pressure change down to 15mbar or 0.2psi, 24 Volts DC and line voltages from 90 to 250 Volts AC
- Configurable on slack pipelines, river crossings, urban areas and long-distance pipelines

Here's how Atmos Eclipse defies specific pipeline limitations in greater detail to provide improved leak detection performance which can also identify pipeline theft.

Powering remote communication for remote locations

It's not uncommon for a pipeline to run through areas with limited to no power or communications, but this often means pipeline operators have limited leak detection options.

Atmos Eclipse is able to collect onsite data by connecting to cellular, radio and standard communications to provide pipeline staff offsite with the data they need. It can remain operational when power is unavailable by connecting to wind and solar power while also being able to function as part of a networked environment.

Outsmarting thieves' techniques

Atmos Eclipse's high sensitivity to small internal pressure changes means it can detect even the most sophisticated theft detection techniques, such as the "try and remain hidden" approach typically used by organized crime groups.

TotalEnergies Marketing Belgium recently used Atmos Eclipse as part of a multi-method approach to detect over 12 theft events, with a theft location accuracy of 0.3% (within 40 meters).

Mitigating risk to the environment

All pipeline operators must meet the rules and regulatory requirements specific to their region because the consequences of a pipeline leak on the environment are equally as severe as the financial and reputational damage to a pipeline company.

Installing Atmos Eclipse causes minimal impact to the surrounding area due to its ability to be installed without creating new tapping points or welding, helping to reduce the risk of presenting a theft opportunity while protecting against leaks.

An example of a limiting environment where Atmos Eclipse has already been installed includes a tank farm, which used vertical fixings within tight spaces.

Futureproof your pipeline leak detection

Today, Atmos Eclipse is providing leak and theft detection coverage for thousands of kilometres of pipelines globally. To find out more about this valuable non-intrusive instrumentation, contact your local representative for Atmos International here.

ATMOS, with BSS Technologies (the local agent in the UAE), has successfully completed the Factory Acceptance Test (FAT) on-site for Anabeeb's Sharjah International Airport Jet Fuel Pipeline, which spans 40.5 kilometers and has an 8-inch diameter. The system comprises Atmos Pipe with Fast Scanning and Atmos HMI. The design, engineering, and in-house FAT were all successfully executed. Anabeeb is a joint venture between the Government of Sharjah and Air BP.



ATMOS
INTERNATIONAL
www.atmosi.com

Made in UK

Celebrating diversity through festivals at our company fosters unity and inclusivity.

Celebrating diverse cultural and religious festivities within a company is a wonderful way to foster inclusivity, strengthen bonds among employees, and create a vibrant workplace culture. At our company, we embrace a multitude of celebrations, including Ramadan, Onam, and Christmas, etc...



During Ramadan, we recognize the importance of this sacred month for our colleagues who observe it by hosting iftar gatherings that bring our team members together, fostering unity and mutual understanding.



Christmas infuses our workplace with a festive atmosphere through office decorations and secret Santa gift exchanges. We encourage employees to embrace the holiday season, regardless of their religious beliefs, and spread the joy of togetherness within our local community.



Onam, the vibrant harvest festival of Kerala, is a time for colorful decorations, traditional attire, and a sumptuous Onam Sadya feast. It's an occasion for all employees, regardless of their cultural background, to come together, enjoy the rich South Indian heritage, and savor the flavors of Kerala.

Composite Repair Solutions



COMPOSITE REPAIR & REINFORCEMENT

REINFORCEKIT® 4D



PIPE PROTECTION & REINFORCEMENT

REINFORCEKIT® 1D



SUBSEA COMPOSITE REPAIR

REINFORCEKIT® SUBSEA



PRESSURE VESSEL & TANK REPAIR

REINFORCEKIT® PATCH & TANKIT®



PIPE & SUPPORT PROTECTION

ROLLERKIT®



ONLINE LEAK SEALING

STOPKIT®



SF6 FLANGE REPAIR

REFLANGEKIT®



STRUCTURE PROTECTION

DKIT®



STRUCTURE REPAIR

REINFORCEKIT® BEAM



POWER



STRUCTURAL

Over 30 years of experience in Oil & Gas pipeline maintenance

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The relentless drive for success exerts an overwhelming influence in today's fast-paced environment. Navigating through extended working hours has substantially elevated stress levels among employees. At BSS Technologies, we are unceasingly devising strategies to safeguard our employees from burnout, ensuring their well-being and optimal performance. Amid the array of approaches to enhance employee wellness, prioritizing sports and well-being in conjunction with work emerges as a pivotal avenue to guarantee robust health and heightened employee productivity.



Engineered Solutions For Valve Maintenance and Calibration Workshop

• Why valve maintenance is the mandatory process?

In accordance with API statement, more than 2000 valve manufacturers have API monograms, and thousands more manufacture valves in accordance with other standards.

Annual worldwide Industrial valves market is valued at more than 50 billion Euros.

Based on our **60 years** of experience in field of designing and manufacturing of valve repair and testing equipment, valve bodies are still in suitable condition even after 20 years of their service life. However, they cannot provide required gate tightness or functionality any longer, because of natural wear of sealing elements, gaskets, bushings, and so on.

In above regards valve maintenance workshop is a business opportunity to decrease CAPEX budget, improve reliable facilities operation and eliminate delays in production cycle in case of valve multifunction and breakdowns for the end users. Same time it is perspective business field for service providers. As an example, in house overhauling of NPS 12" (DN 300 mm) high-pressure gate valve takes 1 – 3 days, depending on the nature of damage. Meanwhile purchasing and delivery of the brand new valve from OEM may take up to 6 months. Taking into account the significant difference in the cost of new valve with repair cost, there is no doubt that repair is the most preferable option. Isn't it?

For a 500 MW Power Station with an average tariff of 0.07 €/kWh the cost of lost production is 35,000 €/hour; a daily loss of approximately 840,000€, which adds up to 8,400,000 € over a 10-day period.

The Answer

The answer is — **REVALVE**, reputed manufacturer with more than 60 years of experience in manufacturing of equipment for full cycle valve maintenance.

REVALVE has vast experience in workshop designing, manufacturing, supply and startup of specialized equipment for valve repair and testing operations. The same is confirmed by worldwide supply references with track records of successful workshop projects execution at different industrial sectors, from private service companies to in-house maintenance facilities at Oil and Gas and Energy companies.

The Solution

Staying on the edge of industrial progress and having access to global demands in valve test and repair equipment, **REVALVE** engineering forces prepared ready for use integrated solutions for valve full cycle maintenance and are pleased to share the same with the world.

REVALVE is ready to provide a target focused project specifications for the Downstream Valves Maintenance Workshop able to cover full overhauling cycle of safety, isolation, control valves up to DN 800 mm (32") and Class 2500 as well as API 6A applications with pressure rating up to 30000 psi with top-level safety and performance.

All projects include machinery corresponding to the latest HSE requirements and industrial standards as API, DIN, ASME, ISO, EN, GOST, etc.

For Enquiries: revalve@bsstechnologies.com | +971 4 886 7015

• As known, valve maintenance is the must

So, the main question is — which company on the market has capabilities and expertise in turnkey workshop design and manufacturing of equipment for full cycle valve maintenance process?

Definitely, there is a variety of available solution providers and specialized equipment manufacturers. As found, no one has A to Z process required equipment under the one brand product line to guarantee that all process will deliver desired quality result. That means risk in building of diversified supply chains with different countries and manufacturers with hard-to-get after sale service and unpredicted valve maintenance process results as all sorted equipment has never worked in a process chain...

• Makes sense to decrease possible risks...

Required turnkey solution provider should be capable of designing valve maintenance workshop based on reliable heavy-duty equipment.

Mandatory requirement is the one-window after sale support, with fast track spare parts supply and services for trouble free workshop operation.

In conclusion, the workshop must deliver safety for operators, ultimate performance for a long-term operation and insure return of investments!



**GO AHEAD WITH REVALE!
WE WILL TAKE CARE ABOUT THE REST!**



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sales@revalve.com
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Made in Russia



INTEGRATING DIVERSE SPECIALIZATIONS FOR VALUE DELIVERY

POWER SYSTEM STUDIES

- Steady State Analysis
- Dynamic & Transient Stability Analysis
- Harmonic Analysis
- Resonance & Ferro-Resonance Studies
- Protection Coordination & Arc Flash Analysis
- Grid Integration Studies
- Grid Code Compliance Studies
- Insulation Coordination Studies
- Load Shedding & Blackout Studies

GROUNDING STUDIES

- Ensure Personal Safety
- Ensure High Reliability of the System
- Patented Methods to Identify Faults in Earthing
- Comprehensive Health Assessment of Buried Earthing Grid

EMI/EMC STUDIES

- Studies for Subsea Cables and Pipelines
- Zone Classification Studies
- AC/DC Interference Studies for Pipelines
- Studies for Metro Rail Projects

LIGHTNING PROTECTION DESIGN & STUDIES

- State of Art Automated Risk Assessment
- Design Validation & Gap Analysis
- Health Assessment of Existing Lightning Protection System
- Design, Supply and Installation of LPS

POWER QUALITY STUDIES AND ROOT CAUSE ANALYSIS

- Comprehensive Studies for Power Quality Issues
- 360-Degree Approach
- Validation by State of Art Simulations
- Waveform Signature Analysis
- Field Measurements by class A Analysers

SPECIAL STUDIES:

- IECEx Inspections
- Root Cause Analysis
- Seismic & Integrated Analysis of GIS
- NGR Sizing
- Fire & Electrical Safety Audits
- HVAC Audits
- Electrical System Health & Life Cycle Assessment and more....

LEVERAGING THE BEST TOOLS



PATENT APPLICATIONS IN THE US, UK, EU, GCC AND ASEAN



SAMEEKSHA - World's first automated safety audit tool, developed & patented by JEF.

Sameeksha® Patent No: 351736



System for detecting an Electrical Grounding Grid integrity.
Patent No: 392680

System and Method for detecting a faulty connection in an Earth Grid.
Patent No: 397329



JEF SHIELD - Automated lightning risk assessment & design tool.



E-BUILD - Advanced tool for remote guidance & Installation validation.



**SCAN HERE
KNOW MORE!**

JEF

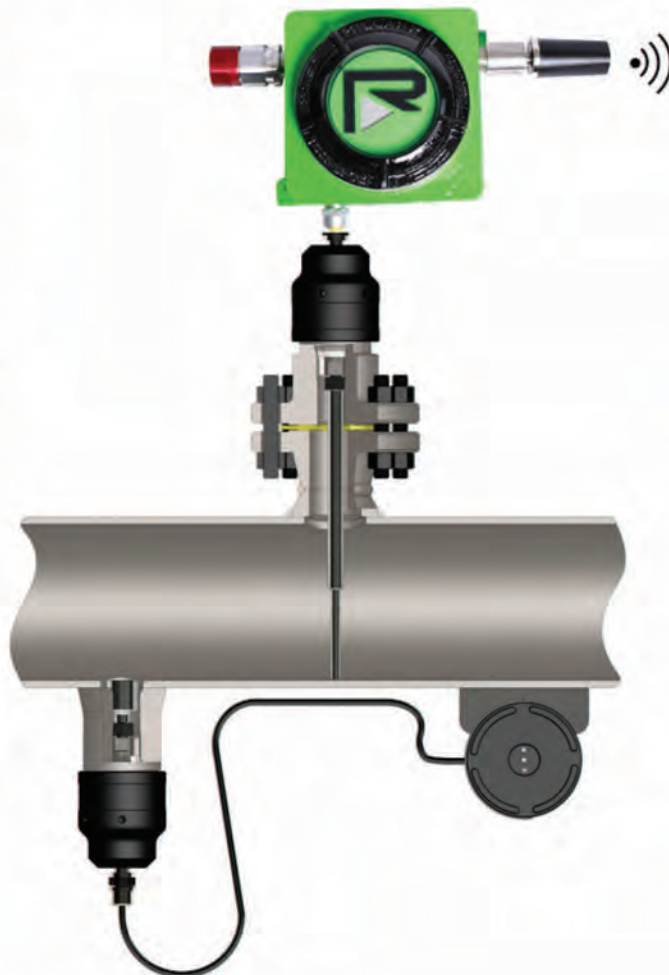
DELIVERING EXCELLENCE - SINCE 1994

Electrical Resistance (ER) Corrosion Monitoring Cellular Communication

Since 2007, Rysco Corrosion Services Inc has been a leader in corrosion monitoring services. With the manufacture of best in class equipment, supported by constant and ongoing research and development, you can be assured that a commitment to quality will always be of paramount importance.

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Rinu Sekharathil, Projects Manager - UAE

Thirteen years ago, as I embarked on my journey with our company, nobody could have foreseen the inspiring and impactful path that lay ahead of me. My narrative encompasses more than just a professional advancement; it also serves as a testament to the core values that underpin our organization.

Beginning my career as an Assistant Engineer and advancing to my current role as a Projects Manager, my path has been adorned with a rich tapestry of challenges and opportunities. Throughout this remarkable journey, my unwavering commitment to excellence and enthusiastic embrace of change have remained the driving forces behind my achievements.

Riyas A Sainulabdeen, Lead Engineer - Projects - KSA

Being a long tenured employee of BSS Technologies, I feel very privileged to have had the opportunity to write about career growth in our organization. I joined BSS Technologies 12 years ago and I was an amateur in the corrosion field then but now I can proudly say that I'm a professional in the field of Corrosion Technology.

The starting point of all achievement is desire and all of our dreams can come true if we have the courage to pursue them. The farthest you go, the more successful you will be. Strive for perfection and your efforts will show results and here at BSS Technologies all my desires and dreams are getting fulfilled.



Sunil Subash, Marketing Manager - Qatar

"10 years back, when I joined BSS Technologies as a Marketing Manager, I had a strong belief in company's mission and values and its work culture. Not only I gained deep knowledge and expertise under the visionary leadership of the company, but also witnessed how well and effectively the company managed the most difficult situation induced by a global Covid 19 pandemic through smooth transition without affecting the morals of the employees and keeping them as a strong team together and growing much faster overcoming all the challenges. I am committed to share the knowledge and collaborate with others both internal and external clients as well as all other stakeholders for company's future growth. I firmly believe, it is the company's work culture that keeps all of us together and the main reason for its success. TOGETHER WE WIN."

Sageer Kabeer, Store and Delivery in charge - UAE

Expressing my sincere gratitude for the opportunity to have worked with our company for the past 12 years. I started as a store keeper and have now risen to the position of Store and Delivery in Charge. I am grateful for the support and guidance that I have received from my managers and colleagues throughout my time here. I have learned a great deal during my time at BSS Technologies. I have gained a strong understanding of the inventory management process, and I have developed excellent organizational and problem solving skills. I have also learned the importance of teamwork and collaboration. Thank you again for your support and guidance. I look forward to continuing to work with BSS Technologies for many years to come.



Naveen.B, Team Leader - Engineering - India

It is a turning point in my career because prior to then I had worked for many other private companies and government sectors but was unsatisfied with my work and being unable to advance in my career I wanted to shift my career to work for an international corporates because of this, and BSS Technologies offered me the chance. As part of my jobs, I was privileged to visit more than 20 different countries and work with a wide range of international clients, which provided me the confidence needed to grow in my career. It's outstanding for newcomers and workers because there is an option in BSS Technologies to learn about every aspect of the entire profession if you are interested in doing so. I've been through every aspect of this sector during my 15-year experience, including estimation, design, site, marketing, business development, etc. As a worker, it is incredibly advantageous. Success doesn't arrive overnight. BSS Technologies is an illustration of how it requires a tremendous deal of hard effort and determination. I feel glad to be a part of its success.

Dinesh Surendran, Projects Manager - SSEC UAE

It's my privilege to be the part of this wonderful team and my journey with our company reaches a decade now. The challenges in the journey, the opportunity to learn and grow and the freedom to apply our skills and ideas, stretch me with professional and personnel growth in different areas. I feel passionate about the position that I handle in my journey and the management encourages and empowers me. I think that the culture that we've built in our company is what separates us from others. Being part of and working with such a wonderful team makes me enjoy my job profoundly and keeps me intent on moving forward.





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- AC/DC Interference and Mitigation Study & Modelling
- Internal Corrosion Monitoring
- Transformer Rectifier Units, RMCS & Wireless Remote Monitoring System
- Aluminium & Zinc Castings
- Advanced Pipeline Surveys
- Construction & Fabrication
- Coatings, Wrapping & Field Joint Sleeves
- Leak Detection System
- Pin Brazing Equipment & Services
- Pipeline Construction Management System
- Software for Geoinformatics and Water Management
- Electrical Grounding Backfills
- Monolithic Insulation Joints
- Solar System for ICCP and scada power supply
- Calibration and Certifications Services for Test and Measuring Instruments
- Electric Heat Tracer
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