Insights

On Electrochemistry & Asset Integrity



نحن ندعم الرؤيه المستقبلة لقيادتنا

WE SUPPORT OUR LEADER'S FUTURE VISION

BssTech

A SAIT GROUP COMPANY

25 YEARS
Serving Since
1998

Contents

Message From Chairman 5

Electrochlorination Solutions 6



New Venture – 3E 8

EV Charging Solutions 9

History of UAE 10

New Venture – SSMI 11

Monolithic Insulation Joints 12

Corporate Roundup 13

Transformer Rectifier 14













Digitized Pin Brazing 16



Why gratitude at work matters 17

All-In-One integrated CP & Coating Surveys 18

Remote Monitoring & Control System 19

Health, Safety & Environment Culture 20

Cathodic Protection of Reinforced concrete Structures 22

Corrosion Monitoring Equipment 23

Pipeline Simulation 24

Solar Power System 25



Valve Test & Repair Equipment 26

Metering System 27

Internal Corrosion Monitoring 28



Corporate Roundup 29

Make Everyday More Joyful! 30

Electric Heat Tracers 32

Sports 33

Composite Repair Solutions 34

The Celebrations are back 35

Solutions for Energy utilities 36

BSS Technologies Training centre 37

CPO changing methodologies 38

High Voltage cable 39

Natural Gas Leak detection system 39











Previous Issue



Editorial Team

Editorial Chief :
Sajid Haroon

Assistant Editor :
Arif Muhammed

BSS Technologies
Email: bsstech@bsstechnologies.com

Printed at
Pen Printing Press, Ajman
Tel: +971 6 743 9250 | Fax: +971 6 743 9260
Email: penprinting@gmail.com

Content source : In-house, principles, general public media



The answer to the most extreme conditions: **DEKOTEC® Shrink Sleeves**. Reliable corrosion protection even for largest pipe diameters and extreme temperatures. Meets ISO 21809-3 and EN 12068.

DEKOTEC GmbH is part of the company group headquartered in Germany. Innovative strength and quality leadership in corrosion protection and sealing technology characterize the corporate philosophy. This year, the company group celebrates its 100th anniversary.

DEKOTEC® Made for Extremes



A message from our Chairman

The key to achieve our corporate goals and to enjoy the pleasure of success is to fully accept and conceive the concept of Total Quality and Customer Satisfaction.

We encourage our Management team to look at the rearview mirror to see and observe the road, which we have come along, for the past two decades, to understand the pace we been driving the organization and to correct our speed and steer the wheel to help us reach our milestones.

Our Employees being the biggest success contributors, managerial and executive workforce have a clear understanding of the corporate culture and leave no stone unturned in their effort to sustain our success history.

In today's fast-paced market and equally fast-changing modern technology, BSS Tech's firm commitment to continuously enhance the efficiency of its services and quality of its products is making it stand out as a leader in the industry.

Our ears are open for critics and hold a will power to do the required corrective actions knowing the fact, that each critic, may that from customer, supplier chain or may in-house is raised to be us in the race of success and not to hurdle us. This always played a pivotal role in our success.

Together we lead.

Faris Sari A.E. Al Mazrouei
Chairman BSS Technologies

Electrochlorination System

HypoKlor® systems are the ideal electrochlorination technology for on-site production of Sodium hypochlorite by electrolysis from seawater or brine. This process is conducted using direct current ranging from 1KA to 10KA for power ratings of 100kW to 1MW for disinfection in Desalination Facilities, Power Plants, Liquefied Natural Gas (LNG) Terminals, Cooling Towers, Marine Ballast Water Treatments and all coastal installations using seawater for cooling or other process needs. Hypochlorite is the most extensively used chemical disinfectant recognized for its extremely low toxicity, deodorizing power, longlasting effect, safe handling and storage possibilities. This powerful germicide has proved ideal for wide variety applications, ranging from small medium & large scale industrial applications.

The system is used for on site production of Sodium Hypo-chlorite solution by electrolysis from seawater or brine, desalination and marine facilities, wastewater treatment to supply processed water to Oil, Gas and Petro-chemical plants and power plants. Our packages are ranging from low flow rate (2 kg/h) to high flow rate (900kg/h) of Sodium Hypochlorite.

Electrochlorination system consist of Rectifiers and Electrolyzers as the heart of package, Booster pumps, Sea water filters, Acid and Degassing Tanks, Blowers, Dosing Pumps and so on. We manufacture customized packages economically safely and user-friendly systems to produce a powerful biocide and disinfecting agent for relative industries.





*Supply of Electrolyzer Cells to **DEWA** – Jebal Ali Station*

Use of Electrochlorination System:

- **Prevention of Bacteria and algae growth**
- **Drinking water sterilization**
- **Sewage water disinfection**
- **Fouling control in water cooling system**
- **Industrial waste water treatment**
- **Pool, aqua parks disinfection**

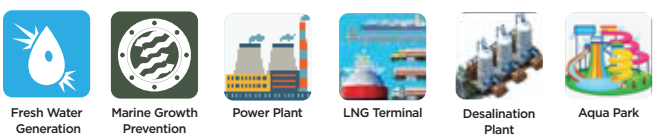
Technical Consultancy

We provide technical consultancy for end users to carry out their in-house engineering work, building a brand new EC System or refurbishing existing ones.

Training Workshop

We conduct training workshops for clients on unique advantages of easy technologies available across the globe.

Applications







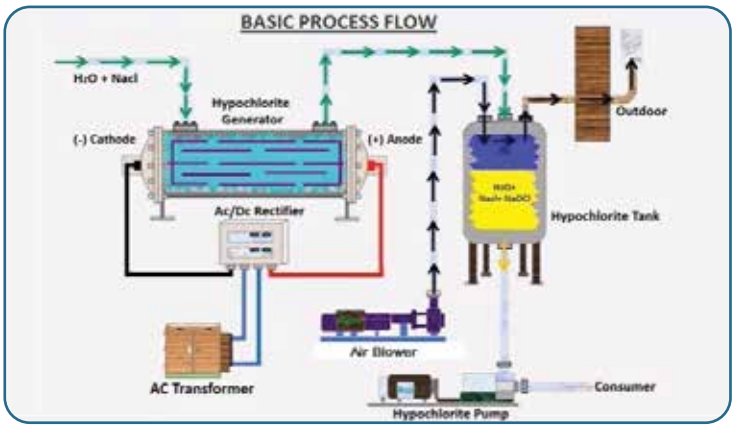
*FAT for the Supply of Electrochlorination Rectifier to **SEWA** – Layyah Power Station*

Electro-chlorination process:

Seawater boosts and delivers to the Electrolyzers after filtering to remove suspended solids larger than 0.5 mm. The seawater passes through a flow control loop normally including a flow control valve and a flow transmitter with local indication and low flow shut-down protection. The seawater electrolyzes by the electrolyzer cells and the output is sodium hypochlorite solution and hydrogen gas as the byproduct. The produced sodium hypochlorite solution is injected in continuous and/or shock-dosing modes and the hydrogen gas is diluted and released to the atmosphere by air blowers.

The overall reaction, sustained by electrical energy, is as follows:

$$2NaCl + H_2O \rightarrow NaOCl + NaCl + H_2$$



HypoKlor®



HypoKlor®

Our own in-house development

Wide range of ratings available

Manufacturing on client specification

Refurbishing existing electrochlorination systems

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



Sait Group, the global technology leader in Electrochemistry and Asset Integrity Management, has announced the introduction of a new product portfolio dedicated to its Power supply business by launching Enertech Energy Equations FZ L.L.C (3E) in Al Ghail Free Zone, Ras Al Khaimah, UAE.

3E, strive to grow and create a place in the Sustainable Energy Solutions industry by bringing together the best of technologies in battery manufacturing, battery charging etc. We manufacture Highly reliable, industrial grade, deep cycle, maintenance free OPzV batteries. These batteries are the most environment friendly, made from about 80% recycled components, including nearly 100% recycled Lead. OPzV batteries find application in Solar Power Systems, Telecom Towers etc.

OPzV Batteries

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 their green stack series OPzV series with an optimized tubular plate design, which by far exceeds the DIN standards in vogue.

The advantages of the optimized plate are to 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.



Advantages

- Maintenance free; can be mounted sideways; low self-discharge
- Long lasting due to its ability to transfer heat to the outside
- Performance stays high until the end of life, then drops rapidly
- Safe operation and forgiving if abused; less dry-out than AGM
- High cycle count, tolerance to abuse and heat
- Large variety of battery sizes available

EV Charging Solutions

BSS Technologies in collaboration with Mass-Tech Controls UAE.

Mass-Tech having a rich experience in Industrial Battery chargers and BSS Technologies having specialized experience in electrochemistry have teamed together to manufacture EV Charging units across UAE. BSS Technologies extensive knowledge and invaluable expertise in MENA business landscape shall further strengthen and meet the demand of changing energy requirements in the region. The facility in UAE shall produce a variety of charge stations ranging from 30kW to 360kW. These vandal proof designed chargers are field proven by deploying in extreme weather conditions like Heavy rain, High altitude and Hot weather.

By 2030, it is forecasted that the global energy demand will increase by 50% with a corresponding increase in $C0_2$ and greenhouse gas (GHG) emissions, because most of this energy demand will be met using fossil fuels. In order to reduce their external energy dependence and also for environmental reasons, governments around the world are promoting different actions to reduce their fossil fuels consumption.

EVs are more efficient than equivalent conventional internal combustion engines (ICE) vehicles and generate lower GHG emissions, although this reduction varies from one country to the other depending on their particular electricity generation mix. An additional benefit of EVs is the improvement of the air quality and noise in the cities. But EVs also have three important barriers: their total cost (mainly due to the battery cost), the time needed to be recharged and the most significant impediment: their limited range. Public policies have been mainly focused at two different features of the EVs: firstly, the increment of the demand of these types of vehicles through the establishment of fiscal incentives, free parking in the city center, avoiding congestion charge, etc. and,secondly, providing public charging infrastructure which is critical for the growth of the EV market and to avoid range anxiety. Charging points in home are inexpensive and public authorities can support their installation providing a line of credit to owners of EVs. By contrast, quick charging station requires an important investment. Therefore,it is important to assist public entities to allocate public charging infrastructure efficiently. There are different approaches in the literature to determine the charging point locations for electric vehicles. Now we develop an activity-based system for electric vehicle charging infrastructure deployment, but considering only three different type of activities: at home, at work and other situation.

There are two main types of EV chargers:

AC chargers and DC fast chargers.

Batteries can only be charged with direct current (DC) electric power, while most electricity is delivered from the power grid as alternating current (AC). For this reason, most electric vehicles are equipped with an onboard charger which has an AC-to-DC converter (a rectifier). In an AC charger,power is supplied to the onboard charger. DC fast chargers facilitate higher power charging, which requires much larger AC-to-DC rectifiers,so the converter is built as part of the charging station and DC power is supplied directly to the vehicle, bypassing the onboard converter. Most of the EVs can accept both AC and DC power. AC Chargers provide connectors that conform to a variety of international standards. DC charging stations are commonly equipped with multiple connectors to be able to charge a wide variety of vehicles that utilize competing standards.



MASS-TECH

P.O. Box: 52455, National Industries Park,
Jebel Ali, Dubai, UAE

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

History of UAE - How The Rich Country Came to Being

Before the British rule, the desert was inhabited with mostly Bedouins who traveled far and wide searching for food, water and shelter. Apart from that, merchant activities back in those days were at its peak. In fact, the history of UAE is rooted in trade and tied to Islam. In 1971, the formerly known 'Trucial States' liberated from the British treaty and formed the United Arab Emirates. Today, UAE is one of the few oil-exporting countries and has a highly diversified economy. UAE consists of seven different emirates Abu Dhabi, Dubai, Sharjah, Ajman, Fujairah, Umm Al Quain, Ras Al Khaimah, each with its own history. The traditional hospitality of the Arabs is quite well-known, with them being extremely warm, welcoming and hospitable towards their guests.



The Historical Importance of Trade in the UAE



The Gulf was seen to have a strategic location, located in the center of the world and hence used to connect the trade from Europe to Asia. The seven separate nations were occupied by the British for establishing faster trade with India, China, and a few other countries. Currently, a yearly festival held in Dubai known as 'The Global Village' which in a way still enhances the trade between the west and east. Various countries have set up their own 'stalls', with small merchants coming in from these countries and selling their items. While the Europeans were using the coasts, the mainland was still being used by the Bedouins and other tribes for trade in a rather more conventional way. Various artefacts that were discovered from the UAE suggest of a long trade with the Mesopotamia.

The Importance of the Pearling Industry For the History of UAE

During the nineteenth and twentieth century, apart from the trade, there was another industry that was thriving, the Pearling industry. With pearls being exported to India and several other South-Asian countries, it served as a major source of finance and employment. With the rise of artificial pearls manufactured in Japan, the Pearling industry saw a rapid decline. However, one can still experience the art of Pearl-diving in Yas Waterworld. The Deira Creek was a commercial centre in the earlier times; it still bustles with commercial activities. Taking a Dhow Cruise down the creek gives you a very calm and serene feel during the night, quite the opposite of how the primary functions during the day.



The history of the UAE showed that it was always a sought-after land by the Portuguese, English and the Dutch owing to its strategic location and being a trade hub, something that it still is. Later on, the English used this mainly to enhance trade with India and increase naval power in the Indian Ocean. The Portuguese initially maintained influence in the area and controlled the coastal areas, started building forts and thereby forming the human settlement in the land which initially was of the nomadic tribes. Though trade still flourishes in this part of the world, much of its former history is lost in ruins. Visit one of the many museums and forts built here, to reconnect with the former glory of the nation.



SSMI
A SAIT GROUP COMPANY

Sait Specialized Metal Industries (SSMI) enabling the industries in the region to access world class technology in protective and industrial coatings, SSMI marks yet another major stride in the country's progress towards industrial growth and development. Partnering with the Sait Specialized Engineering and Contracting (SSEC), who boasts over 15 years of eminence and expertise in this field, SSMI aims to create value for customers by extending the lifespan of industrial investments, offering comprehensive service with products of superior quality to serve the precise needs of the region. SSMI has launched the construction of its state-of-art Paint shop at Mussafah. Located in zone ICAD 1, it is an environmentally friendly painting and coating facility intended to serve the needs of the oil & gas industry of the region.

SSMI provides a consultative approach to our customer's painting needs. We not only recognize the importance of the aesthetics of your structure, but also the need to protect it from the harsh and corrosive conditions that may deteriorate the building or structure.

SSMI is an extended hand of SSEC, engaged in the field of fabrication, blasting and painting of structural steel, storage tanks, pressure vessels, piping, pipe spools, platforms, skids, ladders and handrails, offering highest quality standards in line with Oil & Gas, Marine, Power & Desalination and other allied industrial applications. We also undertake any type of fabrication work as per samples or customer drawing to meet the customer's requirement.

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

Blasting and Painting Works



SSMI facility encompasses a fully concealed and dedicated space for blasting as well as painting activities. These booths are equipped with advanced airflow management and contamination control. The facilities are sized to cater any type of structures or pipes and organized ensuring flawless operations. Our blasting and painting team may undertake the onsite projects too.

Metal Fabrication Works



SSMI also provides all kinds of structural and pipe fabrication activities. The specialized fabrication team is equipped with all the industry specific equipment and is experienced in customized fabrications. We have the capacity and knowledge to ensure Steel Fabrication project is successful and truly dedicated to the production of high-quality custom metal fabrication with on-time delivery that meets or exceeds our customer's satisfaction.

For Enquiries: ssmi@ssec-uae.com | +971 2 5533 233

Monolithic Insulation Joints

The purpose of insulating joints installation on gas and oil pipelines is to ensure electrical isolation among sections of pipelines and prevent detrimental electrochemical interaction among the sections themselves. Insulating joints are also used to ensure effective current spreading on cathodic protection systems. The insulating joint is suitable for installation either under, or above ground and it shall be installed on pipeline by means of girth welding it between two sections of pipeline itself.

The high insulation resistance is assured by three different parts of the Monolithic Joint. First of all the insulation gasket which prevents the metal-to-metal contact across the internal flanges, second the internal cavities filled with an high dielectric strength compound which prevents the dielectric arc across the collar and the pipe pup. Finally the internal and external surfaces are coated with a non-conductive epoxy paint.



Save money and prevent accidents by using the latest technology

Every monolithic insulating joint manufactured by IGP India can be fully customized for the needs of each client. They are adapted for both main and service line applications and come in a wide range of different diameters. The IGP factory fully tests each joint and the quality control procedures in use are ISO 9001:2008 certified to meet international standards. By installing a monolithic insulating joint at periodic points along the pipeline, firms can prevent leakages in pipelines carrying liquids such as water, liquid gas and petroleum which is caused due to conventional flange & kit Installation and also stop electric currents passing through the pipe casing, improving safety. They are a economical & effective solution to the problems faced by pipeline maintenance operations across the world. Previously, oil and gas firms have often relied on less effective and more expensive insulating flange kits in terms of periodical services & shutdown losses. With the need to avoid industrial accidents and financial losses through leakage greater than ever, it makes sense to invest in the most efficient way to safeguard pipelines against corrosion.



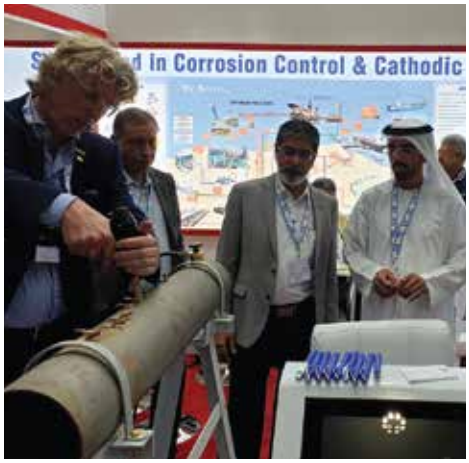


IGP GROUP

www.igp-group.com

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


Stand No.


in Corrosion Control & Cathodic


BSS Technologies
Specialized in Electrochemistry


BssTech









Transformer Rectifier

Cathodic Protection is achieved by means of a galvanic (sacrificial) or impressed current system and the heart of the ICCP system is the Transformer Rectifier. Impressed current CP (ICCP) system utilizes external power in the form of a rectifier or other voltage source that drives impressed current anodes (e.g., cast iron, graphite, and mixed metal oxide) to corrode in order to distribute protective current to the structure (cathode). BSSTECH offers variety of Cathodic Protection TR of high-quality products, which can meet the various requirements of customers in most application specified scenarios. The transformer rectifier series can be mainly divided into Oil Cooled and Air Cooled based on the cooling system and further as per below:

1. Manual TR Units –Diode rectifiers.
   - **Tap Controlled** - TR Units use taps and selector switches to control the output voltage of the TR unit.
   - **Variac Controlled** - TR units use a variac transformer at the input side to regulate the TR output.
2. Constant Voltage and Constant Current Units –Thyristor rectifiers.
   - **CVCC Manual** - In these units constant voltage and constant current modes are available for the efficient use of CP power supplies.
   - **CVCC Auto Controlled** - CVCC Auto Controlled units receive feedback from the reference electrodes and adjust the voltage and current proportionally to maintain the reference stability Multichannel units for multiple structures are also available. Each channel has the same capabilities of an individual unit. Individual channels can be monitored and controlled using remote monitoring and control.
3. DC-DC Controllers – In these units, the solar energy is converted to regulated DC Power supply for the ICCP System. This type of system is usually implemented in remote areas where normal electric power distribution is not available.

Each of our transformer rectifiers and DC-DC Controllers are manufactured using high-quality components, and are carefully tested for trouble free operation. Seamless protection is provided for each unit which can be tailored for end user specifications. Standards IEC60076 and IEC60146 are strictly followed in our manufacturing process. Custom made CP Power Supplies are also available in our product range based on the customer requirements. Transformer rectifiers suitable for hazardous area application with ATEX / IECEX certifications are also available. Features like interruption with capability of manual or remote operation, GPS synchronized interruption are available based on the requirements. GPS timers are designed with very good accuracy with quick synchronization for reliable and accurate operation.

"We convert any energy to regulated ICCP vitals "

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

*Rating can be customized as per client requirements

- Air Cooled
- Oil Immersed
- Explosion Proof
- Pulse Rectifier
- Special Purpose
- IGBT Rectifier
- Custom Design
- ATEX certified

Features:



Advanced Silicon Technology for Pure Rectification.



Remote Monitoring And Control System



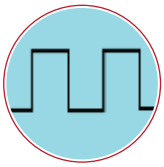
Advanced Surge Protection



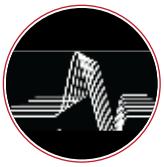
Low Maintenance



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)



Transformer Rectifier

Our own in-house development

Wide range of ratings available

Manufacturing on client specification

IECEx & ATEX certified

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

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 molds 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 every time (patent)
- Lightweight Only 9,8kg (21,6 lb)

Advantages

- No special training needed
- No waste of consumables
- Automated Gun
- Low temperature
- Low noise
- Fast & safe

Protectus Panzar™

Divisible subsea cable protection

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.







SAVE OUR PLANET!

- Made from 100% recycled plastic
- Massive savings in oil
- Huge savings in CO_2
- 80% Lower environmental impact

SAFETRACK®

www.safetrack.se

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

Why gratitude at work matters

Practicing workplace gratitude is about equipping leaders and employees with the strategies and mechanisms to cope with challenges and change.



When organizations analyze their culture and determine their values, 'gratitude' isn't a trait that is likely to appear, and yet it is increasingly evidenced as critical for well-being and success. In a working world that's constantly changing and throwing up obstacles and challenges, the ability of leaders and employees to withstand stress and adversity and be resilient is critical.

Practicing gratitude in the workplace isn't about ignoring emotions or feelings of stress, sadness or hurt. Instead, it's about equipping leaders and employees with the strategies and mechanisms to cope with challenges and change. So rather than letting a situation overwhelm or consume their every waking thought, they can progress through it.

What is gratitude

Gratitude is a virtue, a character trait and an emotion. At its core, it is a positive emotion that arises when you are aware of what you have and are thankful for it. Being grateful feels good. Research Professors Robert Emmons and Michael McCullough define gratitude as a two-step process. Firstly, you recognise you have obtained a positive outcome. Secondly, you know an external source is responsible for that positive outcome.

Adopting a gratitude mindset can also be viewed as a mental frame of reference, shaping how you see the world and, in turn, think and act.

Why it helps

Emotions are contagious, and so emotions in the workplace matter. Gratitude promotes prosocial behavior, which means that team members who are more grateful have a higher likelihood of helping their colleagues. There's even research that demonstrates that provoking feelings of gratitude in people resulted in more elaboration on ideas presented by their colleagues, resulting in more ideas with higher creativity.

How to cultivate

Grateful people have strong connections to the community, colleagues and good friends. As the leader, devote time to important relationships daily and create an environment where relationships are valued. For example, take the time to ring people and spend meaningful time with them.

When your team members have reached a significant milestone, congratulate them for their success and demonstrate your gratitude. This can be a hand-written note or phone call. Small gestures, when they are personal and genuine, go a long way to elevating relationships.

Build core practices

Establish core rituals in your team where team members are encouraged to focus on what they can do for others. When a person does something nice for someone else, it makes them feel good and helps them realize the positive forces they have in their lives.

As part of team meetings, build in reflective activities where the team reflects on what they are grateful for and why. Such action may initially be resisted, so you will need to role model the way. The achievement doesn't have to be huge. It can be as simple as – I had a good client meeting, meetings ran on time today, or I completed an essential task.

Talk to your team about gratitude's role as a guiding principle for how your team best works and connects. Ask them to consider how they can show appreciation for each other and how they would like their colleagues to express gratitude for their efforts too.

Practicing gratitude isn't a one-off activity. For best results, it's something that leaders and team members focus on each day.

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, and can be simultaneously used for GPS/GIS, depth of cover, depth of water, gas leak detection, cathodic protection survey (CP CIPS/CIS), direct current voltage gradient (DCVG), alternating current voltage gradient (ACVG), alternating current-current attenuation (ACCA), AC pipe to soil potential and soil resistivity measurements.

Measurements collected with XLI are recorded into secured encrypted raw logs that can be audited by a third party. Post analysis of inspection results are completed in XLI Falcon software, and done by NACE certified CP and corrosion specialists, ensuring that high quality and reliable pipeline integrity recommendations are made for each project. Spectrum XLI is an industry leading system for ECDA, ICDA, SCCDA, GIS Mapping, CP and CIS.



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)

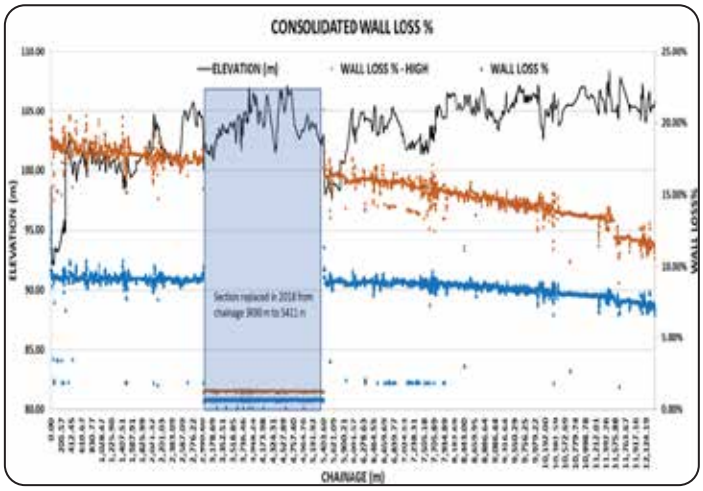
As per NACE SP0110-2018, SP0206-2016, SP0208-2008, SP0116-2016

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 250+ and 1,800+ km pipelines 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 and non-scrapable pipelines.

Products Applicable – Dry gas, wet gas, crude oil, condensate, water, multiphase and all types of refined products.







40+ PIPELINES	DIRECT EXAMINATION	ECDA	ICDA	ILI	SCCDA	XLI
320+ REPAIRS	DEX	442 PIPELINES	268 PIPELINES	51 PIPELINES	199 PIPELINES	252 PIPELINES
	1,509 SITES	3,712 KM	1,862 KM	6,556 KM	9,028 KM	3,015 KM

ALLIED ENGINEERS
PIPELINE INTEGRITY
www.alliedengineer.com

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

Made in India

Remote Monitoring & Control System

Why do we need Remote Monitoring for CP system

Millions of miles of metallic structures are buried underground around the world, providing essential transportation corridors to collect, convey and distribute many types of fluid assets, including petroleum products, natural gas, water, wastewater and much more.

Maintaining proper functionality and ensuring optimal protection for pipelines and storage tanks are key aspects of operating CP systems. Cats Eye cathodic protection monitoring system extends pipeline assets' lives, minimizes downtime, reduces maintenance costs, and protects the environment from line breaks and spills. There are also regulatory requirements for many industries requiring the collection and reporting of CP operational data.

How CATS EYE Works

CATS EYE unit can either be incorporated into the transformer rectifier or can be separately mounted (like an additional enclosure or as pole mounting unit). CATS EYE measures the DC Operating Voltage, Current & reference potentials of the unit and transmits to the RTU or Workstation using standard protocols (Modbus RTU). CATS EYE is powered by a dedicated microcontroller that precisely and efficiently monitors cathodic protection parameters.

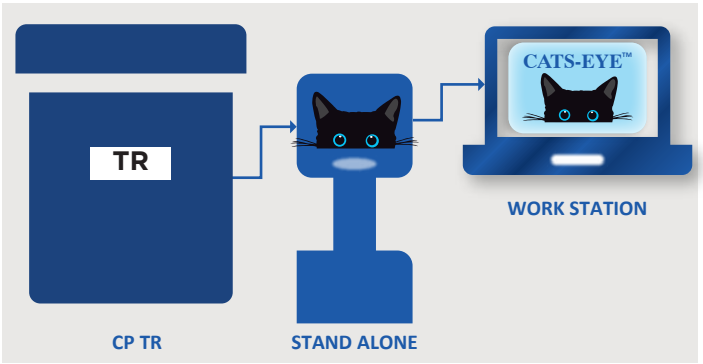
The CATS EYE unit reads the current feedback from the shunt and Voltage feedback from the Positive and Negative output terminals. The reference feedback will be sampled from the reference cells connected to the unit. These units are interfaced with DC-DC controllers and TRs. Anode currents are monitored with the help of signals from the Anode junction box.

Classification

We offer two modes of CATS EYE system.

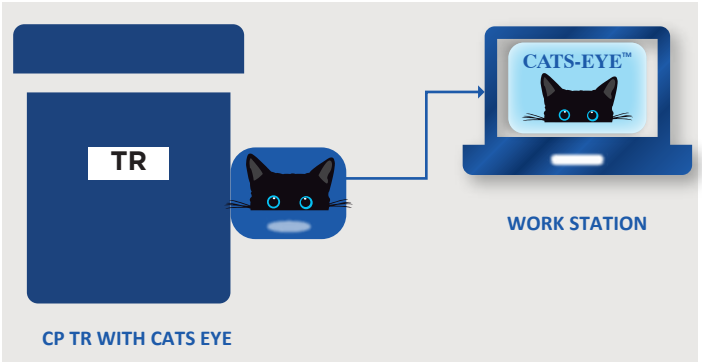
1. STANDALONE SYSTEM:

This RMU unit can be mounted on a frame adjacent to the TR. Interfacing between TR and the RMU unit will be through interconnection cables.



2. INTEGRATED SYSTEM:

In this case the RMU unit will be placed inside TRU. A study of the existing TR units and enclosure sizing is required for the implementation.



COMMUNICATION PROTOCOLS & MEDIUMS:

Recent years have seen very rapid developments in remote monitoring technologies. The Cathodic protection industry is also transformed by applying technology advancements time to time. We use various mediums and protocols for communication. Our CATS EYE units can communicate via wired, wireless, GSM, Optical and Ethernet. Based on distribution of TRs and central control room, BSS Tech can provide very cost effective and reliable communication solutions to meet customer's requirements.



Where are we now:

Upgraded RMCS

BSS Tech RMCS is under a significant makeover with several new cathodic protection specific functions & features. Focus is given on an overall user friendly interface & experience. New features include Geographic representation of Transformer rectifiers on a site map with alarms and notifications. Software has capability to expand to Cloud data management with access from anywhere using web based monitoring and control facility.

Upgraded RMS

Remote monitoring software features all the monitoring capabilities of RMCS software except the control features.

Corporate Social Responsibility

Established in the region for more than 25 years, we have more than 600 people in 12 countries across the MENA and APAC region, working to add value to our clients through fulfilling their business needs.

In modern management, human resources are the main axis of sustainable development.

- To achieve industrial world and sustainable development different approaches have been considered, but regardless of human resources, no process would move toward the desired results and even the best designed system will fall down.
- Modern organizations are in a competitive world, so in addition to a desire to promote customer satisfaction, they should seriously consider safety, health and welfare of their personnel as well as protection the environment.
- Obviously, according to the principles mentioned, these elements have been emphasized in national and international regulation and litigation.
- Furthermore, nowadays Safety, health, and environmental factors for customers, employees and other stakeholders are delicate subjects. Thus, observing these fundamentals can help organizations on the way to continuous improvement. In order to meet these necessities, Management Systems such as ISO 9001, ISO 14001, and ISO 45001 have developed.
- A major objective in implementation of such management systems is to ensure that safety, health and environmental issues are being addressed in organizations strategies.
- In each of the systems mentioned only one aspect of the organization is considered (e.g., quality in ISO 9001, protection of environment in ISO 14001 or safety and health in ISO 45001) and developed policies and strategies are just for that aspect of organization. Although the role of such systems in administering and directing activities toward organizations policies is undoubted, however, multiplicity of systems can cause complexity and confusion of organizations, resource waste, duplication, creating conflict between the policies and goals that are developed by each system, etc. Therefore integration of different systems in the organization is obligatory.
- Sait Group is very particular about the Health & Safety of our employees. We believe in training staff in identifying and avoiding work site hazards as a vitally important way of reducing the number of incidents in manufacturing and service industries.









We conducted Health Campaign on World Diabetic Day 14th of November 2021 in association with Al Reyyan Medical Center, Abu Dhabi. The main aim of this campaign is to raise awareness amongst our workers about the type of diabetic, its symptoms and how to control it. The awareness session was conducted by Dr. Zainab Shah GP. Along with the random blood sugar checkup, including the blood pressure and consultation.





As a part of our emergency evacuation preparedness and response, emergency drill was conducted with an objective to train the employees on how to respond on factual situation and to evaluate the effectiveness of the emergency arrangements within the organization.





A near-miss awareness campaign conducted to encourage and raise the awareness about reporting all near misses and discussed how these near misses and incidents could be prevented and identify ideas for improvement to overcome the potential barriers to making those improvements. Near miss reports enable early intervention, and are great opportunities to reduce the likelihood of workplace injuries and improve organizational safety performance.





We conducts various Road Safety awareness campaigns to capture the attention and influence the employees to create a safe road environment for all of us. Road safety campaigns play an important role in educating the employees about the dangers on our roads, in an effort to reduce motor vehicle incidents.

Sait Group committed to the prevention of injury and ill health at our offices for our employees, clients, contractors and visitors, where we undertake several occupational health and safety measures in order to guarantee the continual improvement of our occupational health and safety management system and development of a positive health and safety culture by engaging our stakeholders effectively. Moreover, we seek to take appropriate measures to continually improve our environmental performance by adopting and integrating recognized best practices into our business activities.

Cathodic Protection of Reinforced Concrete Structures

Cathodic protection is applied to reinforced concrete structures to either prevent or halt the problem of corrosion of the reinforcement.

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 inevitable end result of all rebar corrosion is concrete damage.

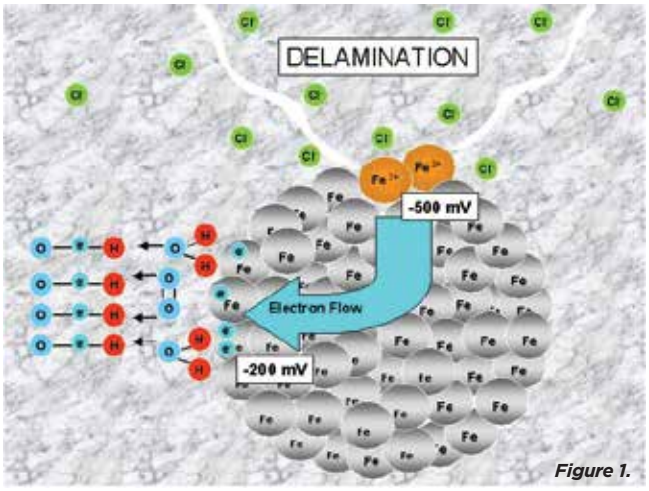


Figure 1.

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 electrolysing water and oxygen to make hydroxide ions.

The areas where ferrous ions are created are known as anodes or corrosion sites. The areas where electrons are released to form hydroxyl ions are called cathodes, i.e. non-corroding sites. This is shown pictorially in Figure 1.

Cathodic Protection

Cathodic protection is a technique dating back to the nineteenth century where it was used on copper clad sailing ships. Later it spread to be applied to pipelines, tanks, jetties and all manner of steel structures either buried in soils or immersed in waters. The technique was first applied to airborne concrete structures in1973 in California. Since then, it has been applied to over 3 million square metres of concrete around the Middle East alone. The typical range of structures to which it has been applied is shown pictorially below.



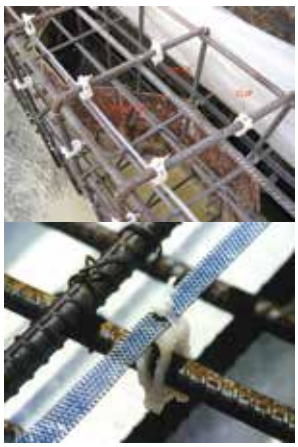
Bridges | *Culverts* | *Refineries* | *Docks* | *Power Stations* | *Pipelines* | *Power Lines* | *Marinas* | *Buildings* | *Villas*

In cathodic protection a new anode material is introduced into the concrete, which is artificially made more negative than any part of the reinforcement. This highly negative material releases it's excess electrons. These released electrons are spread to all areas of reinforcement where they electrolyse water and oxygen to make hydroxide ions. The anodic reaction on the new anode reverses this process to convert hydroxide ions back into water and oxygen.

Applications

Cathodic protection is applied under two distinctly different situations, i.e. where corrosion has actually already occurred and in new structures to prevent it from starting. Protection for existing corroding structures can either be by applying anode mesh and encapsulating it in an exterior overlay or by cutting saw slots into the concrete and grouting in a ribbon mesh. The case where CP is applied to stop corrosion from even starting is more properly known as cathodic prevention and this has a common approach.

The key component of any cathodic protection system is the anode material as this determines the lifetime of the applied system.



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



Hand held LPR Meter

BSS Technologies has indigenously developed a hand held LPR (Linear Polarization Resistance) meter for monitoring corrosion of Rebars in concrete structures. Product is expected to be available in the market by December 2022.

Handheld Corrosion Monitoring equipment uses the linear polarization method to record precise readings in conjunction with BSS Tech M3 probes installed in concrete structures and analyze the corrosion rate of Rebars using a dedicated software.

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

Supporting flow assurance throughout the lifecycle with pipeline simulation

Coined by Petrobras in the 1990s, flow assurance simply means 'guarantee of flow'. It includes the entire supply chain of the hydrocarbon industry, from source to end-user. Interruptions to fluid and gas flow are not only costly to pipeline operators, but also a safety concern.

Overcome flow assurance challenges with pipeline simulation

Flow assurance engineers provide predictions, prevention strategies and remediation methods to factors that might jeopardize security of supply. They are involved across the project lifecycle, from concept to front-end engineering and design (FEED), to commissioning and operations support.

Often, a pipeline simulator is used to carry out detailed analysis of the pipeline at all of the project stages. Using Atmos Simulation (SIM) Suite, this can be completed for both transient and steady-state conditions offline. Hydraulic simulators such as Atmos SIM present a virtual view of the pipeline during normal and abnormal operating conditions.

While in the design phase, Atmos SIM can be used by flow assurance engineers to explore various approaches to meet the intent of the design. These studies can cover a wide range of scenarios such as:

1. Flowsheeting - Laying out the network and finding operating conditions
2. Design specification - Selecting appropriate pipe material or equipment from vendors
3. Control philosophy - Defining a narrative for how best to operate

Once the pipeline moves into operation, simulation can assist with understanding key factors of concern, like interpreting flow hydraulics, flow characteristics and thermal behaviors. It can also assist pipeline controllers with routine and ad-hoc tasks such as scraper launches, flow meter readings and shift handovers.



Pipeline Simulation

The activities that can be carried out in a pipeline simulator to help with flow assurance include:

- Troubleshooting - Identifying issues and overcoming them
- Predictive analysis - Anticipating disruption and avoiding it
- Operations planning - Especially modifications to fluids and flows
- Expansion studies - Assess the retrofits involved in a proposal
- Operator training - Demonstrating their competency to regulators
- Optimization - Finding the best strategy or debottlenecking capacity

Safer and more efficient pipeline operations

From a safety point of view, using tools such as the look-ahead function in Atmos SIM to model risks will tell you what will happen in the future. This helps warn controllers of any operational or contractual violations that will occur unless the current operational plan is modified. Atmos SIM can also be used to answer important questions around capacity constraints, how to cope with unplanned events like compressor outages or supply failure.

Many customers are also using Atmos SIM to optimize their operations. One is predicting the future gas pressures of their pipelines based on demand, production and compressor operation up to 48 hours into the future. This helps to not only identify the most economic option while meeting all nominations but also the pre-validation of capacity to deliver nominations.

Although there are some areas outside of its control, pipeline simulation can be used to answer key questions around flow assurance for the entire lifecycle of the pipeline. This assists pipeline controllers by carrying out simulations that help them understand the health of the infrastructure, answer questions and optimize their operations.

ATMOS INTERNATIONAL

www.atmosi.com

Solar Power System

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.

SMART ENERSOL
Solutions for a Sustainable Globe

ENVOERA™
ENERGY FOR THE NEW ERA

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

Valve Test & Repair Equipment

Considering the overall market environment, the Oil and Gas industry was halted during the multiple lockdowns and it has negatively affected the industrial valves market. However, latest trends show that the market is expected to observe steady growth by the end of 2022.

The demands of upcoming projects in valve testing imply efficient and high performance solutions.

To meet constantly developing market demands REVALVE presents automated 3-station high performance test unit for shut-off valves NPS 1-12 (DN 25-300) PKTBA-S-3-300/160-3 with special software package designed to deliver automatic testing sequence.

Multi-station units are specially designed for the valve manufacturers and service providers to deliver ultimate performance in testing of bulk quantities of piping valves to be tested in a short time period. Those test units have enhanced automation technologies in relation to the single-station ones, ensuring great reduction of operation time and improving cost efficiency of test operations are made automatically: filling, pressurizing, pressure stabilization, holding and releasing, leak detecting, standard compliance, test report creation etc. For convenient valve mounting, the tables are retracted forward to free the space around the bottom test table for crane operation or hand loading the valve. Unique multi-self sealing test tables ensure absence of axial compression of the valve body during the testing process. This technology prolongs valve service life and corresponds to the latest API/ISO standard regulations.



To meet latest HSE demands and regulations applied for high-pressure testing, tested valve is isolated from all sides by stainless steel panels ensuring safe operation. Reinforced front safety screen goes up and down granting an access to the test area, but provides possibility for visual test observance.

PKTBA-S-3-300/160-3 multi-station valve test complex has already demonstrated its efficiency and will definitely broaden the horizon of valve test opportunities for our reputed customers in the Middle East.

REVALVE together with BSS Technologies being our local agent in the UAE, is at your disposal and ready to support your most challenging projects with high-end equipment and custom designed solutions for valve testing and repair operations.



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

Metering System

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



- Accurate and traceable determination of LNG compositions is crucial for custody transfer
- For natural gas, the most widely used method to determine the gas composition is using a calibrated gas chromatograph (GC),
- However, when it comes to sampling LNG the process has more than a few challenges.
- For a reliable and accurate LNG sampling system the expertise of GGS is required

- GGS designs and fabricates sampling systems for LNG sampling foron-shore & off-shore projects.
- GGS has the experience and know how to design and engineer complete Sampling systems to meet the customer's specific requirements and internationally accepted standards
- GGS provides LNG sampling and LNG analysis systems with a wide variety of gas analyzers and solutions.

GGS designs High Accuracy LNG sampling system

- Combined LNG probe/vaporizer for direct installation on LNG main line.
- NG sample line
- NG/LNG sampler
- Control system + fully integrated customized reporting system
- Intermittent and continuous sampling systems
- Vaporizer is integrated in sample take-off probe, sub-cooled to guarantee 100% LNG at vaporizer entrance.
- Suitable for any LNG pressure. Even extreme low pressures from 0,5 barg
- Fully automatic; from initial flush to operation
- 1 GC or 2GC's optionally combined with H2S + total Sulphur, mercury analyzers & oxygen analyzer
- No moving parts, no maintenance.
- Operational costs are kept to the bare minimum.
- The LNG sampling control is integrated in the metering control cabinet.
- One combined SVC/control & reporting system



Application:

Where high accuracy is essential

- Loading and unloading custody transfer LNG
- LNG ships/ LNG bunkering
- LNG intermediate and LNG long term storage tank control
- FLNG/FRSU/FSU/FRU/ Bunkership

GGS is specialist in design, production and implementation of complete integrated flow metering solutions for or custody transfer gas and LNG projects, worldwide. GGS can also be your partner in gas filtration, pressure reduction, flow control or gas treatment installations. For every on-shore and off-shore Gas Metering System GGS can offer objective advice and deliver a custom-built solution in accordance with project requirements. We are committed to achieving the highest standard of excellence in everything we do and we strive to maintain the trust and confidence of our customers and clients.

GGS OIL & GAS SYSTEMS

www.ggsoilandgassystems.com

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

Made in Belgium

Corrosion Monitoring

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.





The **RYSCO High Pressure Retrieval** tool is designed to safely allow the removal and re-installation of Internal Corrosion Monitoring, Erosion Monitoring, Chemical Injection, and sampling devices in pressurized process systems. This special tooling removes the need for costly shut downs and system outages.

- Maximum Operating Pressure of 3600 psig
- Maximum Operating Temperature of 232C
- Compatible with all mechanical access fitting manufacturers
- Meets NACE MR0175
- Proven pressure equalization design
- Optional kit with single isolation service valve and specialized tools

Electrical Resistance (ER) Transmitter - provides precise resistance measurements of electrical resistance for corrosion/erosion probes at set intervals. These resistance measurements are transmitted to a DCS using several available protocols such as 4- 20mA, HART, or modbus. Wireless options are also available.







Ensure the Integrity of your infrastructure

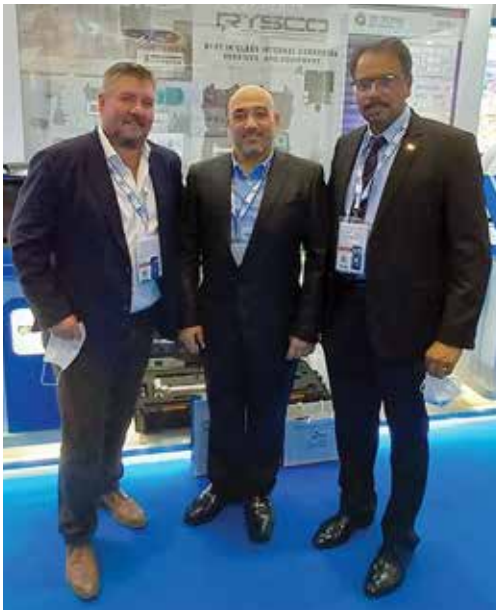
Best in class Internal/External Corrosion Services and Equipment

RYSCO CORROSION SERVICES INC.

www.ryscocorrosion.com

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


ONSHORE FACILITIES




ONE SOURCE, ONE SOLUTION


Specialized in Corrosion Control & Cathodic Protection










3M



MAKE EVERY DAY MORE JOYFUL



There's no shortage of people trying to tell you how to enjoy life. Your parents might say you need to get married, advertisers say you need to buy their product, and social media tells you to be more like celebrities. Here's the thing. You're not going to find happiness by listening to others. The trick is tuning out the noise and tuning into your values and what matters to you. That's easier said than done. But the sooner you live life on your own terms, the sooner you'll find the space you need to be happy. You'll also be more at peace with yourself, confident that your professional life and personal life are how they are meant to be today. And that you can make them better.

1. Develop a gratitude attitude

That's the power of gratitude. If you can find something to be grateful for every day, life won't feel as heavy. You'll start noticing all the good things that happen on a regular basis — even if they're just small things. Now is the perfect time to start your gratitude journal. Any type of journaling benefits your mental health, but gratitude journals will help you focus on positivity. This doesn't mean ignoring difficult truths. It simply means appreciating the good in the world while acknowledging the bad. This will help you have a more fulsome view of reality and enjoy your life more.





2. Find a reason to laugh

There's truth to the old adage, "Laughter is the best medicine." It reduces stress levels, fights disease, and improves your overall health. It's also a way to strengthen your connection with other people. Here are some tips to add more laughter to your life:

- Figure out what makes you laugh and make time for it
- Hang out with funny people as often as you can
- Try to make other people laugh with your own jokes

3.Take a nap (no, seriously)

Few things are as blissful as taking a short nap during the day. So why not make this a regular self-care habit? This will depend largely on your lifestyle, but if you have the time and flexibility, 20 minutes is all you need to wake up feeling "rebooted" and ready for a fresh start.







4. Exercise

Working out daily helps you be happier. When you go out for a run, do push ups, or dance like no one's watching, your brain releases "happy hormones" called endorphins. These are naturally-produced chemicals that help you experience joy.

5. Find out what makes you tick

Self-discovery and introspection will teach you what you need to be happy. When you have a handle on what you need, you can adjust your life to accommodate. Here are some examples:

- If you're not a morning person and love sleeping in, look for work with flexible hours
- If large group hangouts make you tired, prioritize one-on-one interactions with your friends
- If you don't like solitary exercise like running or lifting weights, try joining a sport or a dance class

6. Nurture positive relationships

As you reflect, identify the positive relationships in your life. Ask yourself:

- Who do you consult when you need support?
- Do you feel better or worse after talking to a certain individual?
- When you think about a certain person, are you excited or filled with dread?
- Is it easy to talk to this person, or does it feel like pulling teeth?

As you think about your answers, try to identify why you feel the way you do. If hanging out with a high-school buddy is draining, you can decide whether it's worth distancing yourself from this person.





7. Go out and meet people

You don't need to replace your current group of friends, but expanding your support network is never a bad thing. Meeting new people who fill you with joy will help you through tough times, enjoy life, and give you energy. By now, you should have picked up our overarching message for how to enjoy life: you have to work for it.

Enjoying life means you have to work for it

Happiness isn't a "thing" you can have as much as it's a garden you must cultivate. It requires constant time, attention, and prioritizing of what matters to you.

These decisions are sometimes not easy. Some will require you to step out of your comfort zone to make the impossible happen. Some people might also push back because they aren't used to your new boundaries.

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.



Electric Heat Tracers

World Class Heating Solutions to suit all your requirements

- ▶ 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 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.



Thermopads

www.thermopads.com

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

Sports



The urge to become successful is overwhelming in this fast-paced world. Dealing with long working hours has increased employee stress. We at BSS Technologies are constantly working out ways to ensure our employees are not burnt out and are fit to perform in the best possible way. Among the various ways of pushing for employee wellness, focusing on sports and wellness alongside work is one of the ways to ensure good health and employee productivity.



Composite Repair Solutions



Over 30 years of experience in Oil & Gas pipeline maintenance

3X ENGINEERING

INNOVATIVE REPAIR SOLUTIONS FOR YOUR INSTALLATIONS

ISO 9001:2015 CERTIFIED

www.3xeng.com



The celebrations are back; come and celebrate with BSS Technologies

After a COVID-19 pandemic pause for the last two years, BSS technologies has hosted its popular Ramadan, Onam & Christmas celebrations. After public health restrictions were lifted in April this year, the SAIT Group announced that they would resume the traditional events this year.



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.

SmartGasNet

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



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**

jpac

www.jpactech.com

Life is all about growing and developing.
BSS Technologies' Training Centre offer learning opportunities.





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

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 sessions and the technical workshop. The workshop provides hands-on-training in all CP product lines Aspirants are given detailed knowledge on Cathodic Protection and Corrosion Engineering Products and Services,






They are given in-depth knowledge on all the areas through intensive interactive sessions with the trainer.

They are given hands-on training in our factory where they are taken through manufacturing and assembling of materials and equipment. After successful completion of the training the engineers are given certificates for the successful participation in this program.

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

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

"Learning is a treasure that will follow its owner everywhere."

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



BSS Technologies – Central Processing Office (CPO) Changing methodologies of doing business.

CPO – A business concept pioneered at BSS Technologies.

Since the foundation of the company in UAE 25 years ago, BSS Technologies has strived to bring innovation and efficiency in the way business is done and is commendable successful in making BSS Tech, a brand in a short span of time. Once again, remaining ahead of the curve, BSS Technologies has pioneered a unique concept called Central Processing Office "CPO", in which various business processes of a company are carried out from multiple locations which offer low-cost and required skills for a particular function.

CPO is different from BPO as it is not just outsourcing of one function, but a whole set of functions including services, software, manufacturing, etc. The key innovation is in the seamless integration of all such back office processes. Such integration results in cost efficiencies and reaction time that cannot be achieved with multiple unrelated BPO vendors. CPO is an ONE-OFFICE.

The business environment is changing very fast. Now, it does not make sense to have all the functions under one control at higher costs when someone else specializes in those jobs and can do them at a fraction of the cost without compromising on quality." In the current global business environment, technology innovators or brand owners are focusing more and more on their core capabilities (which lie in R&D, Design, Innovation, Branding and Marketing) and are outsourcing non-core peripheral activities which are transactional in nature to get higher efficiencies.

With CPO, we can offer other big global companies a unique service where we take over their non-core functions and carry them out in an integrated fashion much more efficiently. In the process, we bring value in two ways: one is clearly the cost advantage; and the other is they just have to deal with one interface rather than multiple vendors. BSS Technologies offers unique outsourcing proposition with a comprehensive set of services, including global logistics & ware-housing, transactional services, sales support, reverse logistics and online B2B & B2C operations, to be delivered with a combination of back office capabilities and global infrastructure, including factories and warehouses. CPO enables companies not only to outsource processes one by one, but a complete non-core business function is outsourced. BSS Technologies plans to leverage its global footprint to offer some of the services like projects, procurement, logistics, delivery and transaction processing which require local presence.

CPO is the need of the hour. Before the flux of globalized business era, countries had created artificial barriers for labour movement, which made the skill sets immobile. In the current globalized business environment, new-age technology has broken these barriers and made the businesses mobile. Now, instead of getting the human resources to cross the borders and perform a certain function, whole business functions and in some cases whole business is brought to a place where skill sets, competencies and resources are available.

CPO is a structured way to approach offshoring of such business functions in an integrated manner which, unlike BPO, are not just software related but involve physical logistics, technology platforms and financial transactional services also. In fact, the concept of CPO can be extended to services like virtual receptionists and warehouse security where using VoIP and video technology multiple locations can be catered to by a far less number of personnel at much less costs, thus giving companies multiple level cost advantage.

BSS Technologies has started setting up its nerve centre in Dubai, UAE to carry out this concept.

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 cable types.

Types of Cables.

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



TFKable
www.tfkable.com

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

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.



RMLDCS™
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

HEATH CONSULTANTS
Your Safety...Our Commitment

www.heathus.com

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

Made in USA

InSIGHTS

On Electrochemistry & Asset Integrity

BssTech
A SAIT GROUP COMPANY

THE OFFICIAL NEWS LETTER OF BSS TECHNOLOGIES VOLUME 08 | ISSUE 2022-2023



3E OPzV Battery

tubular gel battery

BSS Technologies partners with Enertech Energy Equations (3E) to develop Solar Power storage technologies.

Electric Vehicle Charging Solutions

Fast Charging Stations With Modular, Scalable Designs. Elegant Renewable Energy Capture & Storage.

BSS Technologies in collaboration with Mass-Tech Controls UAE manufacture its fast charging stations and power solutions to meet the demands of a changing energy landscape.

