

InSIGHTS



A SAIT GROUP COMPANY

On Corrosion Prevention & Asset Integrity

VOLUME 03 | ISSUE 2017-2018

We continue to transform ourselves and take on new challenges to improve satisfaction among clients, stakeholders, and employees.

Nadeem Jaffer Sait, Chairman, SAIT Group

20 YEARS

Serving since 1998

Chairman's Message

BSS Technologies was started over twenty years ago with a singular vision: to create a business where the customer comes first and the knowledge is transferred. We've strived every day to meet this vision, and to build our team with this mantra always in mind. Looking back, we have built a business that has deep and lasting customer relationships, with the type of trust that can only come over time. Our customers know us, and our skills, and indeed engage us to guide them with key solutions. A business such as ours also depends on the people within, and we have always chosen to work with the type of people who share our philosophy and commitment, but also want to grow within the company.

Today we are a thriving team of professionals ranging from Projects, sales and marketing, to CP specialists such as Solutions Architects and Project Engineers. We are very selective when adding to our team, to ensure that we don't lose track of the purpose we started with. Our customers depend on us today for a range of services. As always we continue knowledge sharing program by training young local engineers. So far we have trained 32 young engineers out of one session was for the engineers of ADMA-OPCO.

My message would be lacking without a look forward to the future. As technology evolves, BSS Tech is working hard to keep ahead of the trends and solutions that can bring true value to our customers.

I look forward to building a lasting relationship with many more of you in the future.

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



Dr. Sultan Ahmed Al Jaber, MOS and ADNOC Group CEO, exploring the products offered by BSS Technologies

MAJOR PROJECTS 2017

- Dangote Refinery & Petrochemical Project- Nigeria
- Al Dabbiya Surface Facilities - Phase III - ADCO
- Reganne Nord Development - Sonatrach, Algeria
- Algeria CAFIC PJ(SITE) Algeria- Sonatrach/Daewoo
- GLL LNG Terminal at Mudra- Adani
- Power Plant Project at Rumaila Oil Field, BP Iraq
- Bu Haseer Field Development Project- ADMA- OPCO

BSS Technologies' Training Centre offer learning opportunities

BSS Technologies Dubai premises is equipped with a full-sized training room. These are standard features of the company's Training Centre, which offers a variety of learning opportunities and is dedicated to the nation which will provide training & skill development to the local Emiratis.

As a part of the UAE year 2017 "The Year of Giving", as declared by our president His Highness Sheikh Khalifa bin Zayed Al Nahyan. BSS Tech management has further extended the training program for our Clients, playing a valuable role in facilitating hands-on-training for the young engineers.

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



BSS Technologies giving On-site Training



Engineers from ADMA-OPCO interacting with BSS Tech CP- Specialist during training session

center can accommodate 25 students per session. The training includes classroom session and the technical workshop. The workshop provides hands-on-training in all CP product lines.

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

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

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



Engineers from ADMA-OPCO taking workshop session



BSS Technologies Employee in-house Training

LATEST TECHNOLOGIES

UNMANNED AIRCRAFT COLLECT CATHODIC PROTECTION READINGS ON REMOTE PIPELINES

Unmanned aerial vehicles (UAVs), sometimes referred to as drones, are being utilized more and more in various industries to safely and efficiently inspect critical assets and infrastructure that would otherwise be difficult to access. UAV aircraft have no pilot on board; they are controlled remotely by a pilot at a ground-based control station or flown autonomously with a preprogrammed flight plan.

Unlike their military counterparts that are used for reconnaissance and high-risk combat missions, commercial UAVs are designed specifically for civil applications, such as the inspection of oil and gas assets (offshore oil and gas platforms, drillings rigs, and pipelines), transportation infrastructure (bridges, roads, railways, and tunnels), and energy systems (power lines, wind farms, and solar parks). According to NACE International member Jorge J. Cantó, executive director of Corrosión y Protección (Cuernavaca, Morelos, Mexico), UAVs can be equipped with multiple technologies, such as cameras and state-of-the-art sensors, to gather a variety of data on the structures being inspected.

The UAVs can fly over the pipelines and collect CP readings on a regular basis, and essentially replace “walking the pipeline” every month or quarter (Figure 2). This ensures that readings are taken regardless of the season, time of day, accessibility of the pipeline, or any other obstacle that could be encountered. For many countries



and many areas, this technology is the only way to be able to actually get these readings in an economically feasible way. They are the vital signs of the pipeline. If you miss a check-up one year and the next year, and then the next year, you are literally operating blind, that the biggest onshore oil reserves in Mexico are in areas that are difficult to access.

Collecting data from the air is a breakthrough for ensuring pipeline integrity in remote locations. Because many remote areas do not have cellular network service, a radio frequency transmitter for application is used to send data to the UAV.

SAFETRACK [®] ...SAFELY CONNECTING THE WORLD[®]
www.safetrack.se | www.pinbrazing.eu



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



SOLAR POWER SYSTEM FOR INDUSTRIAL APPLICATION



Oil and gas exploration usually takes place in remote areas, far from the nearest utility lines. When power is required in these remote locations, solar energy is often the most reliable and economical source. Monitoring of gas and oil lines is now easy, reliable and inexpensive, thanks to solar power. Cathodic Protection (CP), a great way to protect your investment in equipment can easily be powered by a small photovoltaic array.

The communications aspects of oil and gas exploration, especially Remote Telemetry Units (RTU's) and Supervisory Control and Data Acquisition equipment (SCADA), are also excellent candidates for solar power. These systems require low power, usually at remote locations, so solar energy is often the most efficient source.

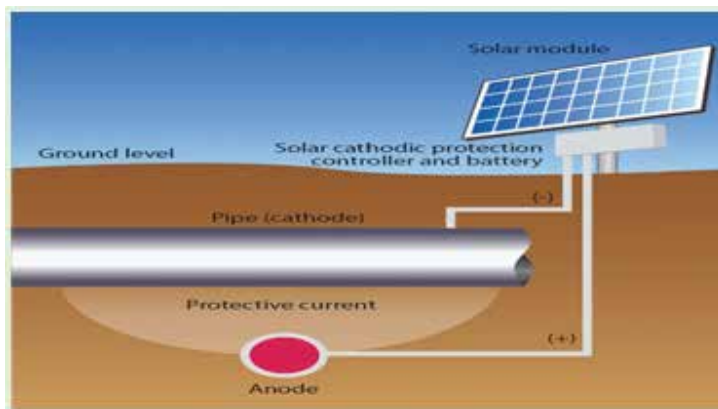
SMARTENERSOL has designed and successfully installed several Solar Power Systems required for Oil & Gas Applications in different countries like India, Qatar, Nigeria and other African countries.

Some of the applications of solar-powered systems include:

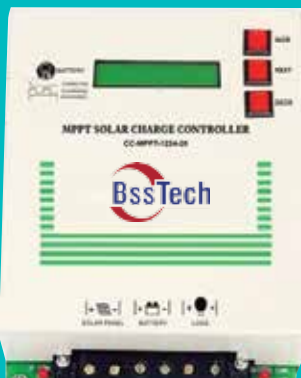
- RTU/SCADA • Flow Monitoring • Telemetry • Drilling
- Meters • Cathodic Protection • Natural Gas Automation
- Gas Flow Measurement • Data Recording • Control Valves
- Process Control Equipment • Lighting

SMARTENERSOL is a smart energy solution provider you can count on. It offer market leading renewable energy (RE) including micro hydel, wind and solar products and services that give you peace of mind and maximum benefits. From engineering solutions to energy audits, we give turnkey solutions for your RE requirements. Their capabilities extend into EPC (Engineering, Procurement and Construction) whereby we offer our clients a full turnkey solution, based on the best quality technology for their application. Working with the client's nominated project team; SMARTENERSOL designs, procures construction partners and commissions the smart power plant according to your requirements. Offering investors a complete turnkey EPC solution, SMARTENERSOL is able to oversee and implement each and every phase of an EPC project.

For Enquiries: bsstech@bsstechnologies.com



MPPT SOLAR CHARGE CONTROLLERS



For enquiries, please contact:
bsstech@bsstechnologies.com
 Tel: +971 4 886 7015

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

Features:

- Intelligent Absorption charge time adjustment.
- Optimized battery charge protection
- Enhanced Sleeping Mode
- Enhanced Power Saver Modes
- Overcharging and Short circuit protection
- Efficient Thermal Design and Cooling

ATMOS INTERNATIONAL'S TURNKEY LEAK DETECTION SYSTEM A BOON FOR PIPELINE OPERATORS AND THE GLOBAL ENVIRONMENT

Pipeline spills occur as pipeline infrastructure ages and more hazardous products are transported. In addition, no pipeline operator, no matter how efficient, is immune to leaks caused by third-party strikes. Regrettably, too many leak detection systems fail to detect these leaks, and other leak detection systems are ignored by the operators because they are unreliable. Thus, leaks that should have been small spills become disasters that cost pipeline owners millions of dollars.

Regulatory agencies worldwide are enforcing stricter regulations on the maintenance and safe operation of pipeline systems transporting hazardous materials and holding pipeline operators accountable for pipeline leaks in the civil and criminal courts. Installing effective leak detection to meet these standards has proven challenging, especially if measurement data is needed from remote areas that lack instrumentation, telecommunications or power. Conventional technologies have too often failed.

The Pipeline Guardian line of software and hardware from Atmos International is already operational and tested on pipelines around the world. Easy to install, the system has proven more sensitive and faster than conventional leak detection systems. The hardware options are ideal for pipelines where the absence of sufficient instrumentation, power, or telecommunications has previously complicated leak detection. Pipeline Guardian hardware assures sensitive,

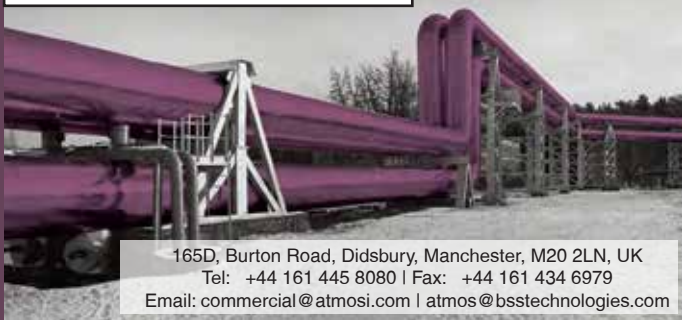


reliable, and accurate leak detection on high consequence areas such as river crossings and environmentally sensitive ecosystems. The system contains an onboard data storage back-up to prevent data loss during communication outages.

Solar panels are available for sites that lack power. Data can be processed locally when telecom is limited or sent back to the pipeline control center for processing. Communication options include TCP/IP, line-of-sight radio, GSM, and satellite. The combination of Pipeline Guardian hardware and software modules such as intelligent flow balance, negative pressure wave, dynamic pressure, flow rate modeling and acoustic noise correlation can improve leak detection sensitivity by as much as 50 percent and reduce leak detection time to minutes to help minimize the consequence of any leak.



www.atmosi.com

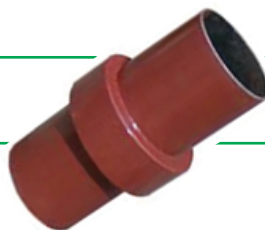


165D, Burton Road, Didsbury, Manchester, M20 2LN, UK
 Tel: +44 161 445 8080 | Fax: +44 161 434 6979
 Email: commercial@atmosi.com | atmos@bsstechnologies.com

A world Leader in pipeline leak detection

Atmos International (Atmos) provides pipeline leak detection and simulation technology to the oil, gas, water, and associated industries, including aviation. The company was founded in 1995 in the UK by the inventor of the statistical pipeline leak detection system – Atmos Pipe, now one of a suite of leak detection solutions from Atmos. These technologies are now implemented on over 700 pipelines in 55 countries. The multi-cultural and multilingual team can provide effective support all over the world.

MONOLITHIC INSULATION JOINT



WHY TO USE A MONOLITHIC ISOLATION JOINT?

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



COST AND PERFORMANCE ADVANTAGES OF MONOLITH JOINTS VS. FLANGES+KITS

MONOLITHIC ISOLATION JOINTS	VS	FLANGES & KITS
ADVANTAGES OF USING MONOLITHIC ISOLATION JOINTS		DISADVANTAGES OF USING FLANGE & INSULATION KITS
1. Pre-assembled and Pre-Tested		1. Has to be assembled on field
2. Saving on skilled on-site labour		2. Requires skilled knowledge to be installed
3. No maintenance required		3. It easily breaks during installation
4. No Failure caused by improper installation.		4. Failure may cause plant shut down and expensive leakages.
5. No Pipeline shutdown because of failure, replacement of leakage.		5. Does not grant the same level of electrical insulation as Monolithic Insulation Joints.
6. Simplified serviceability and maintenance		6. Water can sometime go thru the gasket isolation.
7. Increases the safety of the pipeline		7. Repairing a damaged or leaking Kit exceeds by far the initial cost of a Monolithic Insulation Joint
8. Increases the life duration of the pipelines		8. Has to be assembled on field
9. Drastically decreases the OVERALL project LIFE CYCLE COSTS.		9. Drastically Increases the OVERALL project LIFE CYCLE COSTS IN COMPARISON TO MONOLITHIC JOINTS

MONOLITHIC INSULATION JOINT

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



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



www.igp-group.com

IGP Engineers is the flagship company of the IGP group. A pioneer in sealing technology, IGP is a leading manufacturer and exporter of all types of industrial gaskets including Spiral Wounds, Ring Joints, Camprofiles, Insulation gasket kits and Monolithic Insulation Joints. Established in the year 1955, have more than 55 years of experience in the industry and are continuously growing and evolving with the most sophisticated technology.

COATING & WRAPPING



**Technology
for Pipelines**
Corrosion Prevention

Felderstraße 24, 51371 Leverkusen, Deutschland
Phone: +49 [0] 214 / 2602-0,
Fax: +49 [0] 214 / 2602-217
info@dekotec.net | www.dekotec.net

HIGH QUALITY AND FORWARD-THINKING
"MADE IN GERMANY"

FEATURES

- Passive corrosion prevention on metal pipelines.
- Corrosion prevention and sealing on above- and below-ground installations.
- Polyurethane-compounds for pipeline construction.
- Mechanical protection of welding seams of double wall plastics pipes

THE HISTORY – 1930 TO 1950:

**THE EVOLUTION OF
PIPELINE COATINGS**

The first steel pipelines were in the ground in the late 1800s, and owners realized then that burying steel pipe without additional corrosion protection was not an acceptable long-term strategy



because corrosion quickly caused pipeline leaks. From 1930 to 1950, industrialization in the Midwest and Northeast increased demand for energy, and oil and gas pipelines that originated in the Texas oil fields and refineries fulfilled a large portion of this demand. Their reliability depended on the effectiveness of corrosion control measures.

As the pipeline industry matured, so did the technology of protective coatings, and one of the early innovations was the use of a built-up system where the hot products (asphalt or coal tar) were reinforced by application of a tar-saturated felt mat that was worked into the hot matrix. The system was completed with a spiral wrap of kraft paper. Coating application typically took place over the trench. For many years, the built-up coal tar and asphalt coatings were the predominant systems used on buried pipelines. Another popular system was based on using petroleum-based wax coating reinforced with fiber mesh, and these two systems accounted for nearly all of the protective coatings applied to buried pipe from 1930 through 1950.



GLL LNG Terminal at Mudra, India - CP System Project successfully completed.

Adani Group and Gujarat State Petroleum Corp (GSPC) is setting up a ₹ 4,500-crore LNG import terminal at Mundra SEZ in Gujarat. GSPC LNG Ltd, a unit of Gujarat government, is a co-developer of the multi-product special economic zone (SEZ) being developed by Adani Ports at Mundra. The proposed facility to handle 5 million tonnes of LNG a year. LNG terminal is together with storage and re-gasification facilities over an area of 28 hectares.

BSS Tech CP (I) Pvt Ltd, a SAIT Group Company has successfully executed the Cathodic Protection System for Jettys at Mundra. Most of the installation was under water and our India Team completed the entire underwater installation work successfully.



BSS Tech engineers executing the CP system for Jetty at Mundra Site

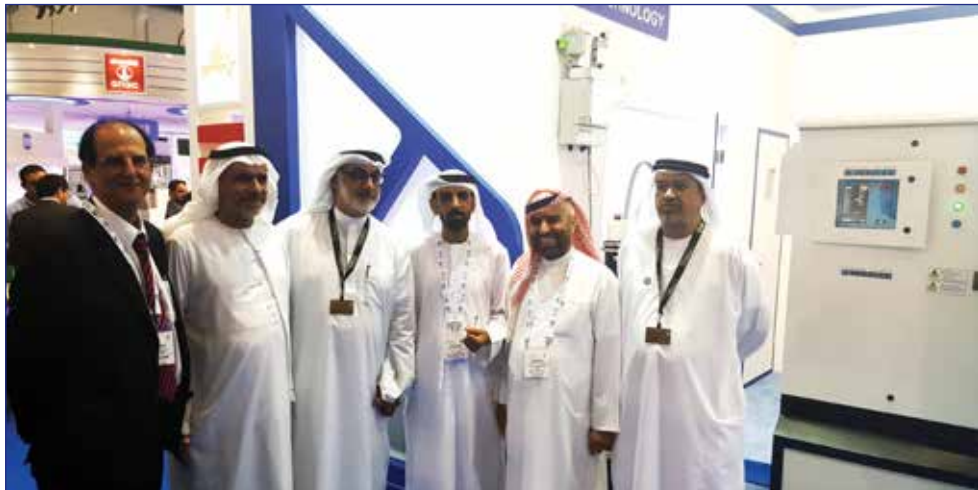
CORPORATE ROUND UP



Positive Mind. Positive Vibes. Positive Life



Business has only two functions — marketing and innovation.



Coming together is a beginning. Keeping together is progress. Working together is success



None of us is as smart as all of us.



On this team, we're all united in a common goal: to keep our job



Our success has really been based on partnerships from the very beginning.



If people like you, they will listen you, but if they trust you, they will do business



Nothing works better than just improving your product

Giving Back To Society

CORPORATE SOCIAL RESPONSIBILITY INITIATIVES

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

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

- * Sustainability
- * Education
- * our people

When you have offices all around the world, the sheer size of your company can mean heavy use of resources such as electricity and paper. It also means long distances between colleagues and offices. In order to reduce travelling and waste of

resources, smart technologies like online meeting tools and power saving utilities have been implemented throughout the company.

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

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

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



BSS Tech workforce are taking session on World Environment Day



Desert cleanup and plantation campaign organized by BSS Tech & SSEC



Health Campaign organized at BSS Tech Camp



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

WWW.HEATHUS.COM

CORPORATE ROUND UP



I like to pride myself on thinking pretty long term, but not that long term.



I'm type of man who has very limited friends but they are my life



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



I think you are lacking Vitamin me!



Take every chance you get in life because some things only happen once.



The greatest self is a peaceful smile, that always sees the world smiling back

SPORTS

BSS Technologies broader thinking on organizational benefits of health and wellbeing can be seen very clearly. The company's mantra is "More Is In You" and it describes itself as delivering breath-taking corporate challenges for people or companies looking to push themselves to greater things. These can be, as we shall see, anything from walks or runs, to cycle challenges, to "ultra-marathons". And while, of course, the health, wellbeing, fitness and activity dynamic of all this is important, it's also very much about employee engagement, team bonding and team building and corporate social responsibility, as BSS Tech HR Manager Nasser Sait explains.

"We find these type of activities really get employees engaged, especially around health and wellbeing. It is about shared endeavor – everyone from millennial up to the CEO and partners. It is a much more human, engaging experience than just a circular email around the organization," he says.

BSS Technologies

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



The harder the battle the sweeter the victory – Team BSS Tech



BSS Tech inter department table tennis championship

We are increasingly finding that CEOs and HR departments are seeing this sort of activity as a key part of their wellbeing strategy and solutions. It is, of course, not a silver bullet but it can help to create a calendar moment where people come together. What our leadership team has recognized is employee engagement can often come down to quite simple things like promoting wellbeing and encouraging people to be more active. We have always done this, but recently we've been taking it to another level," he explains.



BSS Tech Cricket Team- Second runner up for Intercompany Cricket tournament organized by DEWA

IT'S NOT THE
TEAM
WITH THE BEST PLAYERS THAT WIN.
IT'S THE PLAYERS WITH THE BEST TEAM
THAT WINS!!!

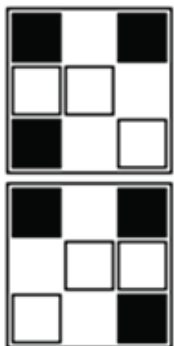




OUR MAJOR ACTIVITIES

- Cathodic Protection & Corrosion Engineering*
- Monolithic Isolation Joints*
- Anti Fouling*
- Gas Flow Measurement & Regulation*
- AC Mitigation Study & Modelling*
- Pipeline Information Management System*
- Coatings & Field Joints*
- Construction & Manufacturing*
- Leak Detection System*
- Marine Cathodic Protection*
- Software for Geoinformatics and Water Management*
- Aluminium & Zinc Casting*
- Wireless Remote Monitoring Systems*
- Downhole Monitoring System*
- Electrical Grounding Backfills*
- ESP Pumps of Permanent Magnet Motors*
- Holiday Detection Systems*
- Well Head Remote Monitoring*
- TR Units & RMCS*
- Calibration and Certification Services for Test and Measuring Instruments*

Which figure completes the statement?



is to

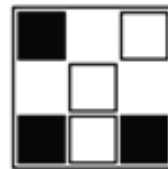


as

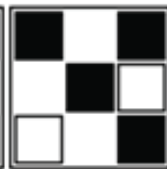
is to



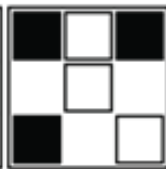
Options:



A



B



C



D

Hint: Begin by comparing the top figures. Does each one contain the same number of elements? If so, does each contain the same elements? If so, the elements must have been moved in some way. This is usually done by reflection or rotation.
For answer please write to sajidharoon@bsstechnologies.com

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

B.S.S. Technologies

Specialized in Corrosion Control & Cathodic Protection

A SAIT GROUP COMPANY

www.bsstechnologies.com

Sajid Haroon

Editorial Chief, BSS Technologies

Email: sajidharoon@bsstechnologies.com

Printed at: Pen Printing Press, Ajman

Tel: +971 6 743 9250 Fax: +971 6 743 9260 Email: penprinting@gmail.com

Designed by: Kamal Kishor