The new identity comes to confirm our commitment to our partners in the march of success; it is also focused on continuing to provide the global environment in the maintenance and reliability in ways that systematically advanced and comprehensive, with a pledge to continue the relentless pace in the care of maintenance professionals.

Gulf Society for Maintenance & Reliability (GSMR) Board of Directors had met H.E. Sh. Mohamed Bin Khalifa Al Khalifa, Minister of Oil on Thursday, 1st September 2016 at the Minister’s office, Manama. The GSMR, Board of Directors congratulated H.E the Minister of Oil on his new position and wished him all success and prosperity in fulfilling his role. Mr. Al-Shammasi, Chairman of GSMR discussed the credibility to increase the awareness of Maintenance & Reliability across the GCC and thanked H.E the Minister of Oil for his support for GSMR and Maintcon activities.

H.E. the Minister of Oil expressed his thanks for the hard work and dedication of GSMR to the region and encouraged to continue its efforts to share knowledge, best practices and networking in the region.

Before closing the meeting, Mr. Al-Shammasi expressed his gratitude to his H.E. Sh. Mohamed Bin Khalifa Al-Khalifa for his wise leadership and continued support and cooperation for GSMR growth and future activities.
Dear members and friends,

This year is a thrilling year for GSMR, with the society’s participation in past events and its preparation for future occasions.

As you may have perceived, the society’s new name evolved to the Gulf Society for Maintenance and Reliability (GSMR) from the former designation: Gulf Society for Maintenance Professionals (GSMP). Aiming to respect the distinction of the maintenance and reliability disciplines and sustaining their entwined relation to share knowledge and exchange experience among the broader range of the industry professionals.

Soon after, GSMR participated in the 14th Global Forum on Maintenance & Asset Management (GFAMAM), in June during the Institute of Asset Management (IAM) conference in Edinburgh, to discuss with partner member societies the maintenance and asset management best practices and ongoing improvement projects.

And on 1st of September, the board of directors met with H.E. Sh. Mohammed bin Khalifa Al-Khalifa, Minister of Oil, at his Excellency’s office. We congratulated H.E. Sh. Mohammed on his new position and expressed our gratitude for his support to GSMR’s mission and the upcoming Maintcon event preparation. His Excellency highlighted GSMR’s past efforts and the future responsibilities to share knowledge, best practices and networking platform in maintenance and reliability to the GCC region.

On December 12-15, the MaintCon 2016 will be held in the Kingdom of Bahrain’s Gulf Convention Center. The event theme is “Value Driven Maintenance and Reliability” and several exciting topics from professionals will be shared. In addition, GSMR will host GFAMAM 15th Council meeting during MaintCon2016, adding additional flavor to this year event.

I look forward to your continuous contributions to GSMR growth and hoping to see you during this momentous event of MaintCon2016.
Best Practices in Maintenance Management

Maintenance cost of equipment is rising day by day. In present day scenario in which there is increasing management pressure for optimizing production cost by reducing equipment maintenance and down time cost. It therefore becomes essential for any manufacturing organization to establish best maintenance practice to achieve this target. Establishing best practices in maintenance is an achievable goal but it is a goal which is difficult to achieve.

We normally blame rising maintenance cost for

- Age of manufacturing assets and repair each asset require.
- Stocking critical and expensive spares needed to sustain operation and continuous production.
- Operation and manufacturing pressure which does not allow for proper planning or time management.

Instead of blame game, let us concentrate on following steps which can be adopted to proactively reach world class maintenance.

- Collect as much data as possible on equipment downtime, meantime between failures (MTBF), spare parts consumed, technician utilization, technician response time and percentage of deliveries made on time. With these data we can calculate average cost of production per one hour of equipment down time.

- After knowing the average cost of one hour of downtime we can measure the effect of maintenance on production. If we can increase at least 5% of availability of equipment, it will be substantial saving.

There are other variable costs. By analyzing these variables we find some opportunities to add more value by more saving.

- By initiating a plan for critical spares.
- By increasing Technician response time on providing more equipment availability.
- By improving equipment uptime through work order systems.

- **Computerized Maintenance Management System:** Addition of CMMS has immense effect on virtually all variables. It is because CMMS system provides work order information, increase technician response time which lowers meantime to repair and reduces amount of down time. By raising work order through CMMS, every manufacturing asset in operation can be seen on touch of computer screen. Critical spare parts can be tracked. Preventive Maintenance (PMs) can be scheduled and check list generated.

- **Introduction of scheduler:** Moving from Reactive Maintenance requires planning for technician’s time as well as planning for having the right part at right time. Introduction of scheduler as planning function is one more way for driving out downtime by maximizing PMs.
• **Predictive Maintenance**: Maintenance has moved in recent days from a Reactive Model to more Proactive Model which is Predictive Maintenance. Along with a good PM check list it is very important to develop a predictive PM check list as well. e.g. Rotating equipment should be scheduled for vibration analysis, Electrical equipment should have a thermography PM included to look for overheating problems and Airlines need ultra sound scanning for detecting air leaks.

• **Total Preventive Maintenance (TPM)** takes maintenance to next higher level by involving operator in Maintenance. An operator knows the day to day operation of manufacturing asset better than anyone; hence some simple ways are created by which operator can assist Maintenance. Some simple steps are taken such as installing sight gauges to monitor fluid levels or cleaning and repainting the asset to makes leak and equipment mal function more visible.

• **Reliability Centered Maintenance (RCM)**: Now days Reliability Centered Maintenance (RCM) puts all these Maintenance techniques together. Through this concept individual machines are no longer brought down for scheduled PMs on scheduled basis. Rather, the equipment is run to threshold of failure to assure the most productivity possible. In some cases, run to failure is permitted based on cost and mean time to repair.

Changing people attitude form Reactive Maintenance to best practices in maintenance takes time since, it requires complete cultural shift and talented maintenance technicians are also required. In today’s skilled labor shortage, finding and retaining skilled technicians is difficult, so a third party agency –is consulted not only to find talented technicians but help to establish the proper metrics and procedure within Operation & Maintenance for starting this journey to Proactive Maintenance. It is an investment that will certainly pay hand some dividends for years to come.
GSMR’s initiative to create channels of communication with Bahrain Society of Engineers (BSE) marked an achievement to valuable knowledge exchange and collaboration. Giving way to another open channel of relations with the Saudi Society of Engineers - Alhasa branch that occurred in Bahrain during their official visit on April 30, 2016. GSMR will continue to seek out GCC professional societies to strengthen expertise collaboration and future development of professionals in the GCC region.

THE JOURNEY TOWARDS MAINTENANCE AND RELIABILITY EXCELLENCE

Wednesday, September 28, 2016
Education & Certification Committee

“SMRP Body of Knowledge by GSMR” on site for Saudi Electricity Company, Feb 28 - Mar 2, 2016

&

“Planning & Scheduling for Effective Maintenance” Workshop under the cooperation of Saudi Council of Engineers, March 13-16, 2016

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<th>Workshops</th>
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<td>Advanced Maintenance Management, 4 days</td>
<td>Aug 29, 2016 - Sept 1, 2016</td>
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<td>SMRP Body of Knowledge by GSMR, 4 days</td>
<td>Sep 4-7, 2016</td>
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<td>Managing Shutdown Maintenance, 3 days</td>
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<td>Certified Maintenance &amp; Reliability Professionals (CMRP)-Exam, 1 day</td>
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<td>Dec 26 - 29, 2016</td>
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Saudi Aramco is one of the largest oil production companies in the world, with a massive asset base and huge reserves. In addition, the company directly operates oil refineries, numerous gas plants and gas fractionation facilities. The company also maintains assets used in the support of oil and gas, including: marine barges, roads, cranes and heavy equipment, and residential and medical facilities.

Like any other major oil and gas company, Saudi Aramco oversees its assets in a long-term manner by implementing asset management, and proven best in class maintenance methodologies, technologies, procedures, and tools. Before the introduction of a unified reliability program, the implementation of these best in class procedures was scattered and not standardized across the company. There were many cases of each facility implementing certain aspects of reliability, but without an overall plan that encompassed the company’s needs. It was for this reason that the Saudi Aramco Maintenance Council, which is the central governing entity for maintenance in the company, decided to move from a nonuniform equipment reliability approach, which has scattered pockets of excellence, to a unified asset management approach, adopting the latest reliability concepts that provide a company-wide approach. This was also aligned with the company drive toward operational excellence, in which asset maintenance and reliability are major factors.

To achieve this, Saudi Aramco developed its own reliability program called Total Plant Reliability Management (TPRM). This program contains all processes, best practices and governance required to manage process plants reliability.

TPRM uses a holistic method to achieve, manage, and sustain the reliability of a facility. Figure 1 below show the driving concepts of this program.

![Figure 1: Saudi Aramco’s TPRM Concept](image)

TPRM’s framework incorporates all reliability work requirements necessary to achieve the aspired level of plant reliability. The model shown in Figure 2 sets the basis on which the concepts of TPRM are built.
The model is structured around the understanding that plant production reliability depends on the reliability of its assets, and that the reliability of the assets is dependent on the avoidance of unreliability events (i.e., defects, failures, and trips). Therefore, the reliability work requirements in the model are categorized into six reliability building blocks. These six building blocks act as the lines of defense to safeguard against unreliability events that can hinder the plant’s production reliability, production and safety.

Each building block is divided into corresponding requirements, which are broken into standardized procedures. Those reliability requirements, work processes, and procedures are encapsulated in the company’s TPRM manual, used as the company’s governing reliability guide. In addition, the power of the company’s CMMS is utilized to drive the related reliability work processes through the workflow and accountability features. With such a system in place, all plant personnel interact with plant assets through an integrated, reliability-based, system driven methodology.

The implementation of this program took a five phase approach. Phase I focused on foundational requirements such as, complete asset inventory, criticality assessment and preventive maintenance optimization. Phase II was designed to implement a selected number of operational best practices, reliability methodologies, engineering studies and the Failure Reporting Analysis and Corrective Action System (FRACAS), which is an in-house developed corporate end-to-end SAP based solution for capturing unreliability events and record findings, from root cause analysis and the resulting recommendations. Phase III consisted of assessments to ensure complete implementation of TPRM at each company facility and was done as part of the corporate Operational Excellence assessment. Based on the findings of these assessment, work would be performed to close the findings which is Phase IV. Finally, Phase V aims to sustain the achievements of the previous four phases The Implementation of TPRM Phase I Company-wide started in early 2013 at more than 40 facilities, Phase II started mid-2014 and Phase III in early 2016.

The journey to best in class maintenance and reliability is one that all forward looking organizations should make. It should be done with balance and cover all aspects of maintenance and reliability. All TPRM requirements must work together with adequate time and attention given to each to allow the changes to solidify and mature, to reach the desired level of excellence. Each contributing pillar of TPRM is vital, and if any one does not reach this desired level, an unbearable load will be placed on the other pillars, causing an unsustainable condition.

The reliability journey is still on-going in Saudi Aramco, however, many success indicators are already visible, in which significant improvements in maintenance practices, costs, and reliability. The company vision is one that combines profitability, efficiency, and reliability as core constituents of Saudi Aramco’s Operational Excellence model. TPRM is well placed to be the pivotal enabler that drives and sustains this vision.
In the current scenario, all manufacturing organizations need to contend with unprecedented levels of competition to gain or keep market share. The result of complex global supply chains, increasing customer demands, international regulatory issues, the speed of new product introduction cycles and managing aging and obsoleting Assets in the plants are the biggest challenges in this era.

But today, being a ‘good’ organization is not enough. To become a ‘great’ organization, you need to change the way you deliver value through your business operations.

Asset management can transform asset value by minimizing downtime, avoiding duplication of work, improving resource utilization and efficiency.

**Asset Vs Asset Management?**

According to ISO 55000, “An asset is an item, thing or entity that has potential or actual value to an organization. The value will vary between different organizations and their stakeholders, and can be tangible or intangible, financial or non-financial.” whereas asset management is not only about managing assets, but about delivering real business value.

**Asset Management Fundamentals:**

Asset management is based on a set of fundamentals such as:

- **Value:** Assets exist to provide value to the organization and its stakeholders. Asset management does not focus on the asset itself, but on the value that the asset can provide to the organization. The value will be determined by organization and its stakeholder in accordance with the organizational objectives.

- **Alignment:** Asset management translates the organizational objectives into technical and financial decision, plans and activities.
**Leadership:** Leadership and workplace culture are determinants of value realization, leadership and commitment from all managerial levels is essential for successfully establishing, operating and improving asset management within the organization.

**Assurance:** Asset management enables the assets to fulfil their required function. The need for assurance arise from the need to effectively govern an organization. Assurance applies to asset, asset management and the asset management system.

**More about ISO 55000**
ISO 55000 is a set of three standards or documents, issued by the International Organization for Standardization released its first series of standards on asset management in January 2014. These three documents are:

- **ISO 55000:2014**
  - Asset management – Overview, principles and terminology
- **ISO 55001:2014**
  - Asset management – Management systems – Requirements
- **ISO 55002:2014**
  - Asset management – Management systems – Guidelines for the application of ISO 55001

**Benefits of asset management**
Asset management enables an organization to realize value from assets in the achievement of its organizational objectives where as it supports the realization of value while balancing financial, environmental and social costs, risk, quality of service and performance related to assets.

- Improved financial performance
- Improved asset investment decisions
- Managed risk
- Improved services and outputs
- Demonstrated social responsibility and compliance
- Improved organizational sustainability
- Improved efficiency and effectiveness
14th GFMAM Meeting

GSMR being a member of the Global Forum on Maintenance & Asset Management (GFMAM), attended the 14th GFMAM meeting in the UK, having participated in approving the financial statements and the newly elected Executive committee. The Executive Committee members are:

- Nezar Al-Shammasi – Middle East (Chairman)
- Johannes Coetzee – Africa (Vice-Chairman)
- Edmea Adell – Western Europe (Secretary)
- Robert Lash – North America and the Caribbean. (Treasurer)
- John Hardwick – South Pacific Area
- Tsutomu Nakamura – Southeast Asia
- JR Lafraia – South and Central America

At the Annual General Meeting the Financial Statements were approved and a new Executive Committee was elected. The new Executive Committee is:

- Nezar Al-Shammasi – Middle East (Chairman)
- Johannes Coetzee – Africa (Vice-Chairman)
- Edmea Adell – Western Europe (Secretary)
- Robert Lash – North America and the Caribbean. (Treasurer)
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GSMR is a founding member of the GFMAM is an association of international professional maintenance and asset management societies working to share knowledge and exchange information with their members, in addition to joint projects to enhancing relative common topics.

bePARTof

As part of our Continuous Improvement initiatives, we would like to update our records with your data in order to compile a list of experts and specialties among its members in order to enable us to offer enhanced services to the members, including their ability to participate in following areas:

- To get involved in GFMAM Activity
- To hand in widespread of networking
- To collaborate in conducting specialized training programs
- To publish articles for “GulfMaint Newsletter”
- To engage in the upcoming conference “Maintcon 2016”

Hence, we would much appreciate your cooperation to update your data and email the same to:
info@gsmrgulf.org

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Suite 43, Bldg 1033, Rd 2721, A327 P.O. Box. 33770 Manama, Kingdom of Bahrain
MaintCon is a premier conference in the Gulf Region organized and conducted by the maintenance and reliability professionals of the GSMR supported by BSE designed for all maintenance and reliability professionals working in the GCC. The conference will include exhibits from service providers and vendors from around the globe as well as those in our region, adding value through diversity and exposure to recent developments in our profession. Top level keynote speakers will share their observations about maintenance and reliability trends in our industries and our region. MaintCon 2016 will deliver a wide variety of technical papers that provide you, as a maintenance and reliability professional, an opportunity to expand your knowledge and share your learnings with other professionals.

Don’t hesitate! Go to www.maintcon.org and register to join us, and please submit your abstract to share your knowledge and add value to the conference technical program.