



The Horizon

TOSL's OFFICIAL NEWSLETTER

I S S U E 1 5



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Power BI and Artificial Intelligence



Ravindranath Maharaj, Accounting Manager, TOSL

TOSL has recently implemented the use of Power BI dashboards and will soon adopt the AI aspect to further develop trends in our data for better decision-making. Some insights and analysis have been provided below that reflect the potential of using AI with Power BI.

Insights for Everyone with Artificial Intelligence in Power BI

Speed is defining everything for business in this digital era. Data is exploding everywhere, and companies are focusing on bringing in more agility in their insights process. Low-code, Artificial Intelligence and Machine Learning are transforming every business process. How about leveraging them to drill down your dashboards and make them more attractive? Can [Artificial Intelligence in Power BI](#) enable speed and insights for everyone? Users can leverage Artificial Intelligence in Power BI to explore data easily, answer your data queries, and observe patterns faster than before.

Pre-built AI is now accessible in many areas in Power BI to empower everyone for advanced analytics. These new AI features are easy to use for data scientists, BI professionals, data analysts and data modelers. In other words, these can be

termed as self-service AI capabilities for sophisticated data modelling and faster impactful insights. Power BI is no longer about simple dashboards for your business but about flexibility, interaction, intelligence, and insights to bring in agility.

What are the new features of Artificial Intelligence in Power BI?

- Image processing and text analytics
- Key driver analysis to drill down about the key business metrics in the dashboards
- Automatic Machine Learning Models – pre-defined and customized
- Automated Insights and Q&A

AI-powered analysis

Does it sound interesting to learn more about the underlying story from your dashboards? Rather than just observing the growth and decline in your sales, you get more value from the dashboards if you can understand its reasons. AI-powered analysis within traditional visuals provides you with the much-needed answers for your data queries. You can also uncover insights when your distribution varies. Often in your dashboards, distributions are not the same for various categories. Without wasting much time on the answers, Power BI provides you with the explanation in a few clicks.

Smart narratives provide you the much-needed impetus to quickly summarize the reports for your target audience. You can leverage this feature to outline your reports, trends, and key takeaways that can be customized too.

Agile Insights

Q&A feature powered by natural language processing is unique to Power BI, and it allows you to get your needed insights quickly. Apart from this, once you update the data in Power BI, you have a Quick Insights feature that runs various algorithms to identify trends in the data. This feature enables you to get a few dashboards without much effort. Power BI is not just a reporting tool anymore, it is the go-to for your analytics, automation, and conversational AI needs as well. Every feature that is updated in the new releases is aimed at adapting to the latest technology trends.

Company News

TOSL Brings Solar Power to Everyone



Michael Mandole - Automation Service Technician
IMPLEMENTING SOLAR POWER SYSTEMS FOR POWER GENERATION: PHOTOVOLTAIC INSTALLER
Level 1

In a strategic move aimed at enhancing our capabilities and expanding our market reach, TOSL has embarked on an ambitious solar training initiative this year. Five of our dedicated employees have undertaken specialized training programs to bolster our proficiency in solar energy systems. This initiative aligns with our vision of positioning ourselves as a frontrunner in the burgeoning solar sector, not only in Trinidad but throughout the wider region.

The decision to invest in solar training is rooted in our commitment to staying ahead of the curve in the ever-evolving energy landscape. We recognize the growing significance of renewable energy sources, particularly solar power, and believe that by equipping our team with the necessary expertise, we are positioning TOSL for sustained success in a changing energy industry landscape.

As we continue to expand our business horizons, it becomes imperative to diversify our skillset and remain adaptable to emerging trends and technologies. By fostering a culture of continuous learning and innovation, we are ensuring that TOSL remains at the forefront of the energy sector, both in terms of operational excellence and our ability to provide cutting-edge solutions to our clients.

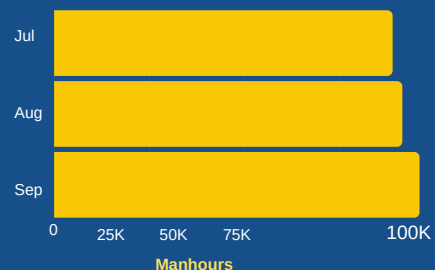
Our foray into solar training underscores our unwavering commitment to sustainability and our role in advancing the adoption of clean energy solutions in the Caribbean and beyond. TOSL is confident that this investment will not only benefit our company but also contribute to the wider environmental and economic well-being of our region. As we embrace this exciting new chapter in our journey, TOSL looks forward to collaborating with partners, clients, and stakeholders who share our passion for a greener, more sustainable future.

Together, we can illuminate the path to a brighter and cleaner energy landscape for Trinidad and the wider region. Stay tuned for more updates on our solar initiatives as we continue to lead the way in the energy industry's transformation.



HSSE STATS 2023 Q3:

- Jul - 88,686
- Aug - 91,236
- Sep - 95,742
- Total 275,663
- Restricted Work Cases - 6



HSSE Lessons Learnt

HSSE

FACTS

- 1
 - On June 27, 2023, the Security Officer at Building 2 saw smoke coming from the designated cigarette bin outside the Building 2 compound. The HSSE Officer investigated and found a burning cigarette pack inside the bin.
 - On August 7, 2023, the Security Officer and a Facilities Management employee saw smoke coming from the designated smoke bin along the front fence at Building 5. The Facilities Management employee investigated and found a burning napkin inside the bin.

IMMEDIATE ACTIONS

- 2
 - The fires were extinguished.
 - The contents of the bins were emptied.

LESSONS LEARNT

- 3
 - Post signage to indicate that no litter is to be thrown inside the cigarette bins.
 - Redesign the bins so that only cigarette butts can be put into the bins.

What we are doing differently

- 4
 - Look across the entire organization to identify other areas in our business where we can have similar incidents and implement CAs.
 - Increased HSE awareness and encouraged the reporting of incidents at work and home to identify trends.
 - Increased audits, inspections and focused leadership visits throughout the organization.

How am I affected?

- 5
 - An opportunity for improvement within the organization where we relook our processes and encourage behavioural changes of our people.
 - An opportunity to reevaluate with Management what we could have done differently to prevent the incident and implement the findings.

Product & Service Spotlight

Prevent Failures with B&K Vibro Monitoring Systems



Brüel & Kjær Vibro

For over 60 years, B&K Vibro has helped customers protect critical machinery. Our monitoring systems prevent catastrophic failure and optimize maintenance. With comprehensive hardware, software, sensors and services, B&K Vibro has delivered solutions for major companies across industries. We provide complete packages - from greenfield installations to retrofits.

As part of NSK, we combine decades of monitoring expertise with global resources. Rely on B&K Vibro for machinery health monitoring that maximizes uptime. Protect your assets with B&K Vibro. Contact us to learn more!

Avoid Costly Downtime with B&K Vibro Condition Monitoring

Machine protection alone cannot prevent losses from unplanned shutdowns. To get ahead of problems, you need health monitoring without compromising protective functions.

The solution?

Add B&K Vibro condition monitoring to your protection system. This small investment transforms vibration data into actionable insights that boost uptime, productivity, efficiency and reliability.

With minimal cost, our flexible monitoring integrates with existing systems or operates stand-alone. Easily expand coverage as needs evolve - from advanced diagnostics to plant-wide visibility.

Effective asset management via B&K Vibro monitoring improves profitability in competitive markets. For over 60 years, we've delivered strategic solutions tailored to diverse machinery like compressors, turbines, motors, fans and pumps. Don't just protect assets - optimize them. Partner with B&K Vibro for condition monitoring that maximizes uptime across your facility. The value of vibration starts here



VC-8000 Machinery Protection System

- Full API 670 compliance
- 56 channels in just 19" of rack space
- Dual- and even triple-redundant power
- Easy upgrade to condition monitoring with SETPOINT® CMS Software
- Embedded ultra-high resolution "flight recorder" to capture up to one full year of condition monitoring data – even without a Condition Monitoring server
- Machine states and multi-state alarming
- Fully remote access



VIBROTEST 80 & VIBROPORT 80 Backplano

- Overall values as function of speed $f(n)$ & time $f(t)$ - display measured values in X-Y-diagram or numeric view
- Up to 4 vibration channels plus rotational speed - high channel density and tri-axial support
- Multi-Channel views - choose 1, 2, or 4 channels simultaneously
- Two path A & B signal processing per channel - select 2 detection parameters like overall machine and bearing condition



B&K Vibro Accelerometers

- Wide range of quality accelerometers for vibration monitoring and machine protection
- Measure absolute bearing vibration and condition across broad frequency and amplitude ranges
- Operate on piezo-electric principle: seismic mass deforms crystal to generate electric charge proportional to acceleration
- Require external power supply, max 125°C operating temperature
- Variety of models suit different environments and applications



B&K Velocity Sensors

- Measure absolute vibration and magnitude/phase with trigger
- Rugged with high low-frequency sensitivity
- Operating principle: Vibration moves magnet through coil, inducing voltage proportional to velocity
- Measurement direction matters - vertical or horizontal mount
- Well-suited for low frequency monitoring

Bilal Baksh.
PDM Superintendent

+1 (868) 351 5099
+1 (868) 657 TOSL (8675) Ext 246

Bilal.Baksh@tosl.com
www.tosl.com

Product & Service Spotlight



UE Systems is a leading manufacturer of ultrasound inspection tools and condition monitoring solutions. Based in the United States, the company has been providing innovative ultrasound technology for various industries worldwide for over 50 years. UE Systems offers a wide range of portable ultrasound instruments such as the renowned Ultraprobe series, UltraView Cameras, and accessories and software for predictive maintenance and leak detection applications. Key products include the Ultraprobe 15,000 touchscreen ultrasonic leak detector, Ultraprobe 10,000 ultrasonic thickness gauge, and UltraView flexible borescope cameras for visual inspection. In addition to portable equipment, UE Systems also provides online continuous monitoring solutions including the UltraTracker series for 24/7 monitoring of assets. Customized online systems can be engineered to meet specific condition monitoring needs.

Key Advantages: Why Choose US Systems Technology

- Offers a wide range of ultrasound condition monitoring tools including the Ultraprobe series, UltraView cameras, and online monitoring systems
- Ultraprobe line includes advanced and standard models for different applications and budgets
- Products enable predictive maintenance, leak detection, lubrication management, etc.
- Expertise in various ultrasound inspection applications like bearing monitoring, leak detection, steam trap/valve inspection, etc.
- Ultrasound allows proactive maintenance and early detection of faults
- Helps improve reliability, efficiency, and safety
- Serve various industries like manufacturing, oil and gas, power generation, aviation, etc.
- Customized solutions available for different industry needs



ULTRAPROBES

- Ultraprobe is UE Systems' flagship line of portable ultrasound condition monitoring tools.
- Offerings range from basic analog models to advanced digital instruments.
- Advanced models like Ultraprobe 15,000 have touchscreen, frequency tuning, data syncing, onboard analysis etc.
- Standard models like Ultraprobe 10,000 have more basic features but still allow ultrasound inspections.
- Specific models for lubrication management, leak detection, corrosion mapping, thickness gauging etc.
- Features like onboard cameras, thermometers, long-range modules for versatility.
- Software integration for data management, reporting and smart device connectivity.
- Allow predictive maintenance, reduce downtime, improve reliability for various assets.



ULTRAVIEW

- UltraView is UE Systems' line of visual inspection cameras.
- Offerings include leak detection camera and partial discharge camera.
- Leak detection camera can pinpoint leaks down to 0.016 l/min.
- Displays leaks in real-time along with energy waste data.
- Partial discharge camera detects issues from a safe distance.
- Provides recommendations for corrective actions.
- Improves safety by avoiding close-up inspections.
- Cameras enhance ultrasound inspections and provide visual proof of faults.
- Allow early identification of problems before major damage/outages.
- Help reduce downtime and improve predictive maintenance.

Case Study

Success of Galley Maintenance Contract – East Coast Trinidad

Introduction:

The oil and gas industry is known for its complex and high-value contracts that are crucial for the exploration, production, and distribution of energy resources. This case study examines the success of a contract between an international oil and gas company operating offshore east coast Trinidad and a service provider TOSL Engineering Ltd. for offshore platform living accommodations and galley maintenance.

Background:

The Company, a major player in the oil and gas industry, planned to upgrade and maintain its offshore operations to have personal housing to an acceptable quality and reliability. To achieve this, they needed to secure the services of a service contractor with a strong track record in challenging environments.

TOSL Engineering, a well-established services provider, had a reputation for successfully executing projects in demanding conditions. The company awarded a contract to TOSL Engineering Ltd. for platform living accommodations and galley maintenance as it related to Electrical, Plumbing, and AC/Refrigeration. This contract initially started off very small with a roving two (2) man crew servicing the offshore assets. Based on the performance of TOSL Engineering Ltd. the contract eventually grew into having permanent works crews on every offshore asset on a full rotation basis mirroring that of the Oil and Gas company the the services were provided for. This contract was for a one-year period but was extended to a three-year contract which was successfully completed in 2020.

Due to the pandemic all contracts were suspended, however the services provided by TOSL Engineering Ltd. did not go unnoticed as this would have paved the way for another award of Electrical and Mechanical contract which was started of as a two (2) year contract and eventually grew into a five (5) year contract which started in 1st quarter 2021 and will be reassessed in 4th quarter of 2025.

Key Factors Contributing to the Success of the Contract:

Expertise and Experience:

TOSL Engineering Ltd.'s extensive experience as a service provider, particularly in challenging conditions, played a critical role in the success of the contract. The team of engineers, supervisors and technicians had the necessary knowledge and expertise to tackle the complexities of the offshore platform sites and provide solutions to resolve issues, also providing long term resolution that resulted in longer equipment reliability.

Safety and Compliance:

Safety is paramount in the oil and gas industry, especially in offshore operations. TOSL Engineering had an impeccable safety record and adhered to strict industry regulations and safety protocols. Our commitment to safety mitigated risks and ensured the well-being of all personnel involved.


THE HORIZON ISSUE NO. 15, SEPTEMBER 2023


THANK YOU

THE HORIZON IS THE OFFICIAL
QUARTERLY NEWSLETTER OF TOSL
ENGINEERING LIMITED. IF YOU HAVE
ANY QUESTIONS OR COMMENTS
PLEASE FEEL FREE TO CONTACT US

TOSL Engineering Limited

 +1 (868) 657-TOSL (8675)

 24/7 Hotline +1 (868) 355-7167

 +1 (868) 653-5404

 sales@tosl.com

 8-10 Maharaj Avenue, Marabella, Trinidad

 www.tosl.com

If you have a concern about TOSL
you can report it anonymously any
time, 24/7 in the following ways:

Toll Free Hotline: +1 800 872-2281

OR

+1 877 RPT-LINE

OR

Report Online www.tosl.com

username: tosltd

Password: reportit