Unlocking the value of contextualized data through IIoT, industrial AI, predictive and cross-functional actionable insights
With the advent of Industry 4.0, digitalization and digital transformation have emerged as the core drivers for industry. Digital transformation is driving key business outcomes to improve sustainability, environment, energy efficiency, health & safety, supply chain optimization and other strategic excellence drivers.
Data is at the heart of powering industrial analytics and the primary enabler in a solution that can collate, amalgamate and interpret data for real-time actionable insights. Although IIoT is poised to grow and has gained increased acceptance over the years, the challenge lies in managing and analyzing the sheer volume of data residing in disparate networks such as operations, IT, engineering and other systems, whether on premise or in the cloud. As enterprises embark on implementing digital transformation, they face a wide range of challenges.

**Enterprise visibility and efficient decision making**
With the increasing use of Internet of Things (IoT), organizations are facing difficulties in aggregating and analyzing data. They lack the capability to extract and analyze data being captured by various systems, which rest in silos. Therefore, organizations face the dire need to improve their data mining capacities to improve real-time decisions.

**Optimizing asset utilization**
Asset utilization is important to an organization because its success is often tied to its ability to manage and leverage assets. Maximizing asset availability, utilization and returns through failure prediction, lifecycle management and equipment-specific data models is a distinct challenge.

**Lack of internal resources / ageing workforce**
It is not enough to just have resources; they should also possess the skill sets and expertise required to successfully analyze the big data available in various systems across the landscape. Another significant challenge is the ageing workforce, which results in loss of knowledge base within the company. The number of people that can transfer their experience to younger generations is decreasing, while systems are getting more complex and lifecycles becoming shorter.

**Optimizing operations**
Organizations want to ensure optimized operational efficiency, throughput and quality with industry-specific data models and end-customer value.

**Ease to use while ensuring cybersecurity**
Organizations are on the lookout for easy to use and rapidly deployable solutions with different options to suit business considerations and preferences, interoperability, visualization and scalability. As there is a growing need to analyze data across organization networks i.e. operations, business, engineering, HR, and to leverage cloud infrastructure, it is becoming critical to ensure that cybersecurity and data integrity are inherently built into the platform and solution.
Need for a comprehensive digital program

Structured implementation of a comprehensive digital program is a significant business need since organizations realize that ad-hoc development of digital solutions, especially those developed as proprietary applications, isn’t necessarily delivering the desired results and is leading to higher total cost of ownership.

There is also a need for ease of data exchange across systems to make processes autonomous and establish cyber-physical systems to make Industry 4.0 possible and the smart factory a reality.

73% of data across enterprises not used for analytics

40% productivity gain through AI integration

80% effort spent on data integration in analytics projects

The pressing needs to accelerate digital transformation are easier data capture and doing more with data. Industry trends point to a few trends, addressing which is key to harnessing the power of data to transform. Firstly, a very low rate of data integrated with the analytics process and an inordinate effort on integrating this data with analytics.

Given the strong productivity gains that can be realized – up to 40% according to industry studies – through integration of AI, there is ample opportunity to gain the benefits of industrial AI and analytics to build competitive advantage.
Enterprise grade modular, open standards based, deployment across edge, on-premise and multi-cloud

ABB Ability™ Genix Industrial Analytics and AI Suite is a comprehensive yet modular big data analytics and industry AI suite for rapidly deployable industry value applications on an enterprise-grade industrial analytics platform. It unlocks the power of contextualized data amalgamated from operational, IT and engineering systems through a combination of deep domain expertise and advanced analytics, to accelerate Industry 4.0. It can be deployed and scaled seamlessly and securely on edge, on-premise, and on cloud in a SaaS model.

A wide range of features make ABB Ability™ Genix a powerful digital transformation offering.

- Automates data integration from operational, IT, engineering and geospatial systems together with unstructured streaming data
- Unlocks the value of contextualized data through IoT, industrial AI, predictive and cross functional actionable insights
- Pre-built Industry standards based and extensible industry cognitive model to provide deeper cross-functional insights
- Rapid and modular deployment, faster ROI through pre-built data model, adaptors, ML models, knowledge services
- Pre-packaged industry value applications mapped to industry value pillars and value drivers
- Addressing the cybersecurity and deployment complexities for enterprise digital implementations
- Open standards based architecture for greater interoperability
- Multiple deployment options – cloud, on-prem or a hybrid solution
- Rich analytics with real-time and predictive capabilities driven by AI / ML and reinforced learning with self-tuning algorithms for greater accuracy
- Role based analytics with multi-channel delivery
Key business value differentiators

- Next-gen industry analytics platform – comprehensive, enterprise-scale, open standards based, self-contained, aligned with business processes of focused industries
- Rapid ROI enabled by pre-built, modular and replicable solution with minimal configuration
- Comprehensive coverage of AI enabled analytics models across assets, operations, safety, supply chain, maintenance, reliability, etc.
- Rich analytics with real-time and predictive capabilities driven by AI / ML and reinforced learning for greater accuracy with self-tuning algorithms.
- Converged software-based solutions delivering operational excellence from operations, information, geospatial and engineering domains
- Support for self-service analytics
Key technology differentiators

- Modularized architecture for flexible roll-out of cohesive technology solutions. Deployable on public cloud / hybrid, on-premise - site-wise or centralized multi-site, and as SaaS. Contextual fusion hub comprising an omni-source integration platform for connectivity to a wide variety of sources covering sensors, real-time streaming data, OT data, IT/ business systems ETL and batch data, engineering as well as unstructured big data.

- Industry-specific cognitive data lake/ data model incorporating knowledge of industry processes for optimal persistence of data permitting high performance analytics.

- Integrated AI / ML model fabric for end-to-end self-service advanced analytics.

- Embedded collaboration tools to leverage experienced workforce, capturing enriched knowledge repository for future recommendations.

- In-built cognitive analytics apps platform to build and deploy value engineering applications as well as cross-functional analytics.

- System twin integrity hub to reconcile data across systems and build asset information model along with asset-IoT mapping and writebacks to source systems.
Unlocking the value of contextualized data through IIoT, AI and actionable insights

- **INTEGRATE** - automates Big Data integration of heterogeneous source systems (ABB & non-ABB systems)
- **CONTEXTUALIZE** - automates building enterprise and plant wide asset information model
- **MODEL** - pre-built & extensible industry standard system information model for advanced analytics
- **ANALYZE** - comprehensive environment for AI/ML models, 3D twins, analytics services and apps
- **DELIVER** - pre-built and self-service value driver applications and insights
- **OPTIMIZE** - operational excellence through integrated suites & deeper cross-functional actionable insights
Unique value proposition of ABB Ability™ Genix

Driven by analytics, AI and machine learning technologies, the ABB Ability™ Genix Industrial Analytics and AI Suite combines the power of data management, domain knowledge, technology capabilities and implementation expertise. It provides data-driven services and helps connect, collect, contextualize and analyze data from operational, IT and engineering and geospatial systems to optimize enterprise operations. The pre-built industry standards based cognitive data model provides actionable insights for achieving operational performance, asset integrity, energy efficiency, sustainability and safety, leading to improved productivity, quality, optimum utilization of plants and assets, process improvements and cost savings.