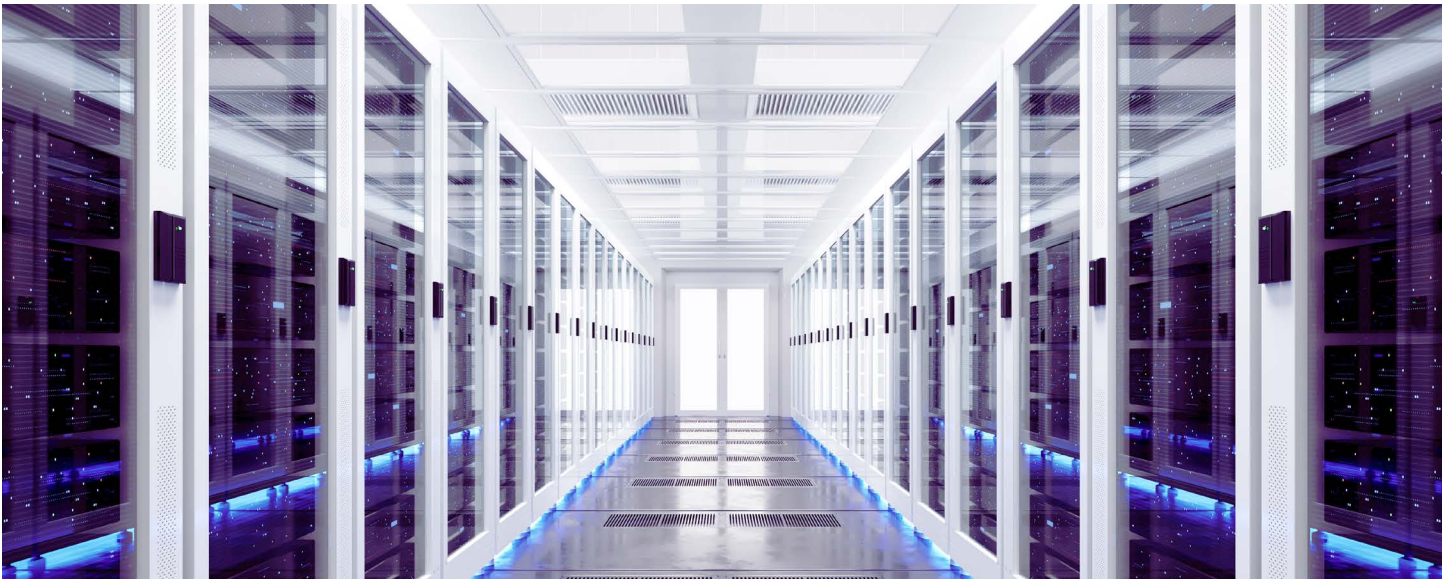


WHITEPAPER

The data-driven foundation: Why real-time contextualized insights are the key to operational intelligence

Executive summary:

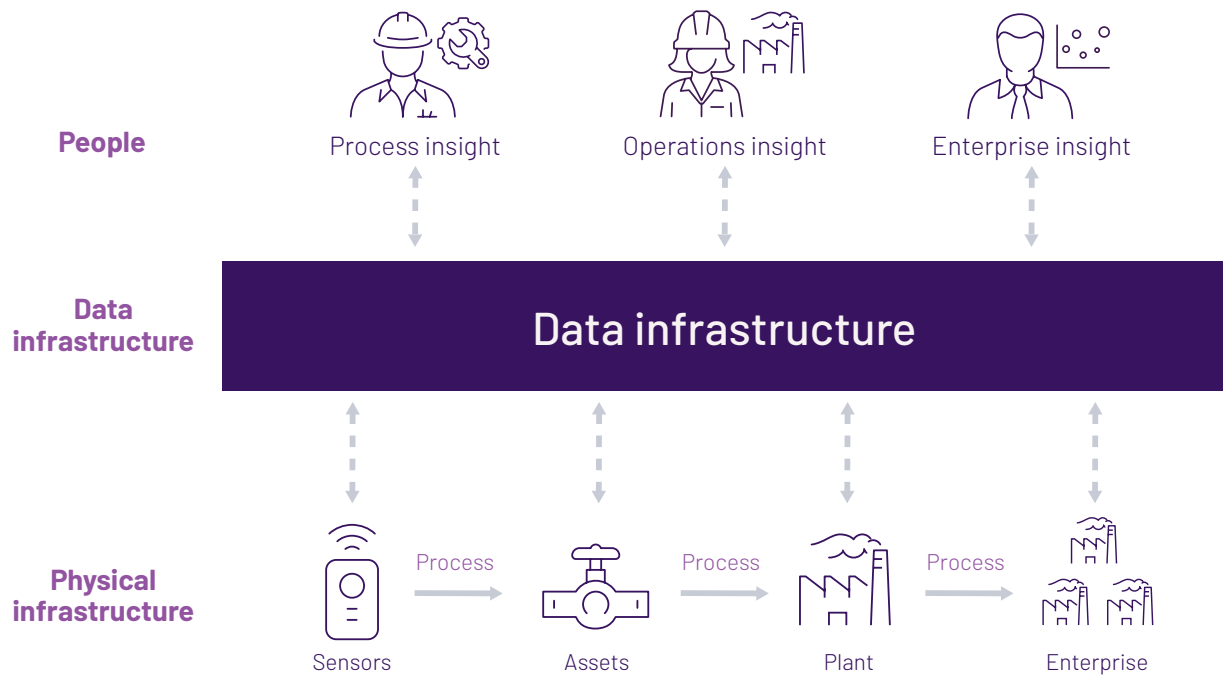
Every year, industrial companies invest billions of dollars in physical infrastructure, the backbone of overall business performance. Asset health, availability, and overall efficiency directly affect process efficiency, quality, and safety as well as over arching business outcomes. Organizations must balance risk, performance, and cost across the enterprise. Balancing these priorities requires the right people to have access to the right insights so they can make rapid, data-driven decisions. Operations data turned into contextualized insights becomes a powerful tool to optimize asset performance, streamline processes, and drive bottom-line results.



Data-management software

Now more than ever, companies are turning to industrial data-management software to complement physical infrastructure, which serves as a foundation, or a single source of truth, for all operations data. These solutions enable users across the organization to analyze large amounts of operations data

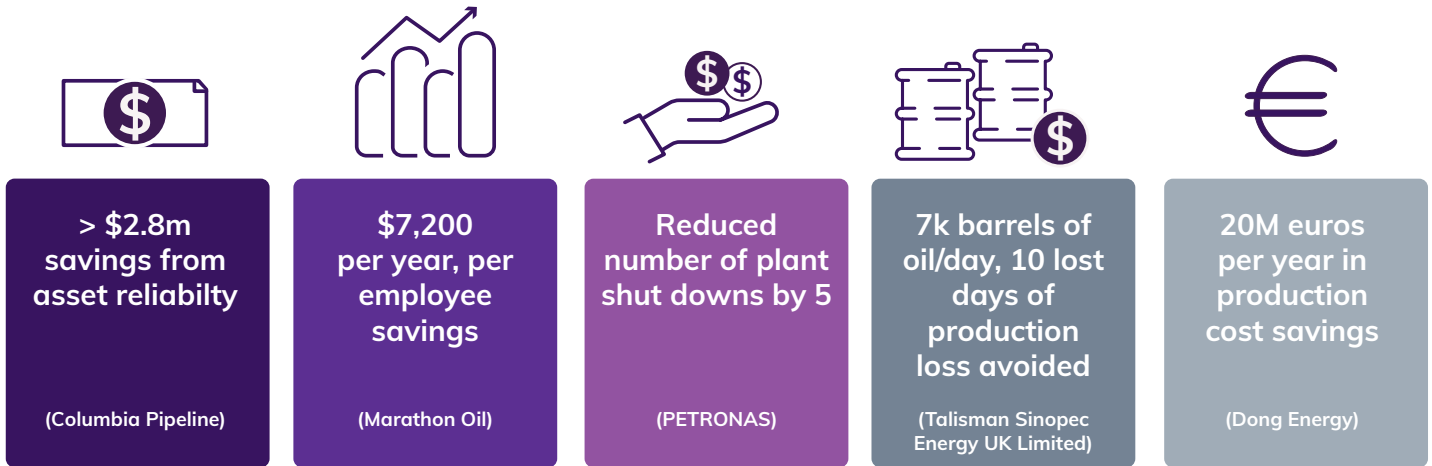
in context to make decisions at local, site, and enterprise levels. These democratized insights give users – operators, data scientists, site supervisors, and business managers – the information they need to drive continuous improvement along the path to operational excellence.

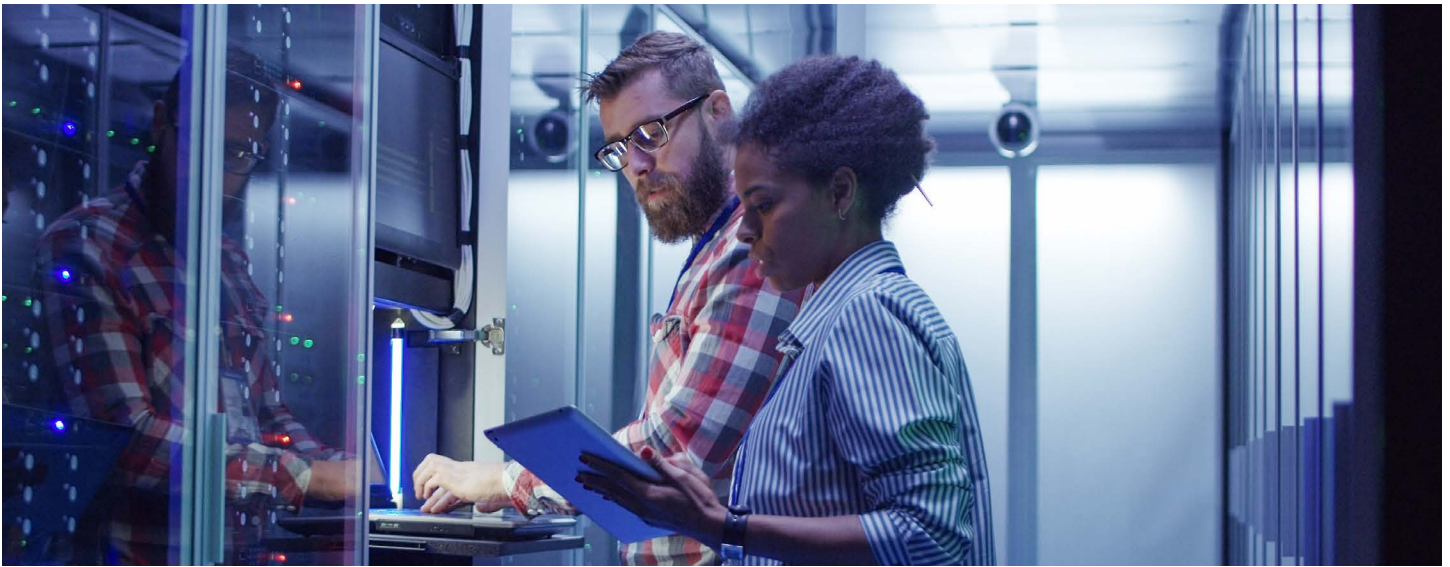


Operational intelligence benefits the enterprise

The benefits of operational intelligence are numerous, and those benefits impact the entire enterprise. With access to historical, real-time, and predictive insights delivered in context, end users have the power to optimize assets and processes, inform maintenance strategies, prevent failures, and improve overall efficiencies:

- Engineers or operators can see moment-by-moment trends and gauge asset or system health in real time. This situational awareness allows them to respond to state changes, operational limits, and failures and make decisions to improve production outcomes.
- Managers can analyze and compare high-fidelity data from multiple assets and systems to assess performance, productivity, and costs.
- Executives have access to high-level overviews of production health and efficiency. They can use this information to determine where to best deploy physical, human, and financial resources to meet corporate objectives.





Data-management software enables operational intelligence

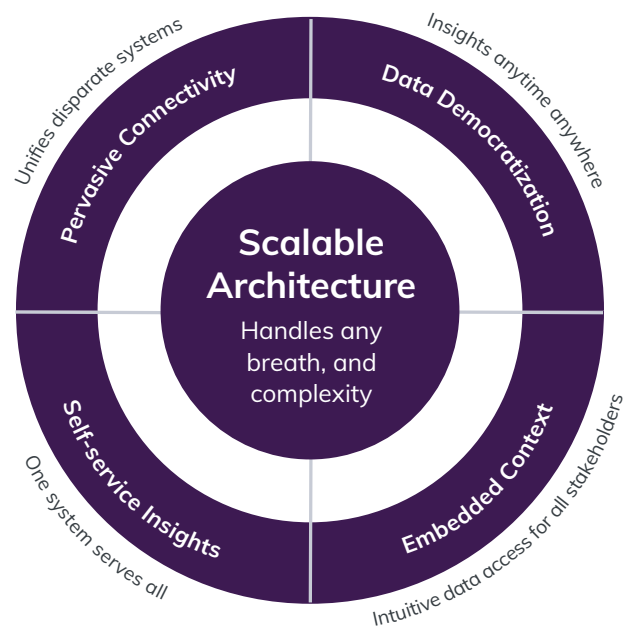
A single data-management software solution is the foundation of operational intelligence. This sensor-based solution connects systems and assets into one streamlined operations-data foundation to enable real-time decisions. Acting as a single source of truth, this software removes data silos, provides contextualized operations insights, supports data governance, and ensures data accessibility regardless

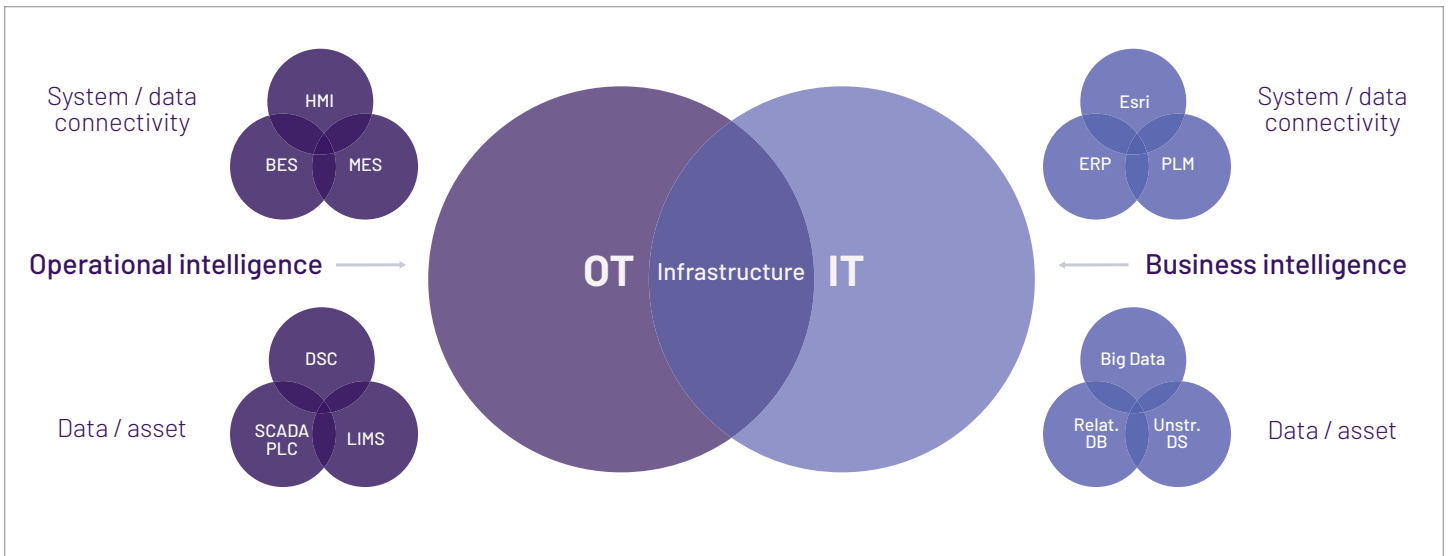
of asset or personnel location. With the ability to make decisions in real time, end users can generate the right insights to analyze ongoing patterns and predict future asset behavior. By equipping and empowering teams with real-time insights, data-management software maximizes the investment in both people and physical infrastructure.

The five key components of data-management

Five key components are imperative when deploying data-management software. The solution must be able to collect, aggregate, and normalize data from any type of sensor or system. It must also scale to accommodate unlimited amounts of data and sources.

Contextualization lays the foundation for humans, applications, and advanced analytics solutions, including artificial intelligence and machine learning, to extract relevant information to make better decisions. These insights must be available in a self-service format across the organization.





Operational intelligence goes beyond the production floor

Operational intelligence is critical for operators and engineers to run safe, efficient, and growth-oriented operations. However, the power of operational intelligence extends far beyond the production floor. While operations teams focus on production KPIs, the business itself focuses on revenue and profitability to deliver shareholder value. Real-time insights not only bolster production efforts but also enable operations to become a strategic entity that supports overarching business goals. When operations data is combined with business data, teams can make impactful decisions related to cost, value, and overall return on investment.

By adopting the right data-management software, organizations can lay the groundwork for operational intelligence. When the right data foundation is laid, these insights can be integrated with business information to democratize operations insights across the enterprise. With access to high quality and reliable insights, operations and business personnel have the power to make real-time decisions that optimize assets and processes and deliver tangible benefits and return on investment.