IMPROVE WITHOUT CHANGE

Extending Your Industrial Assets to Do More with What You Have

Connecting and collecting industrial automation data has evolved past workarounds, data gaps, and silos.

Best-of-breed industrial connectivity solutions provide manufacturers with a single source of integrated data collection, monitoring, and management across all disparate industrial assets.

Best-of-breed, integrated data connectivity solutions enable manufacturers to harness real-time data and analyze holistic operational information across the factory and throughout the global enterprise. The benefits are immediate and far-reaching: decreased downtime, improved data-centric decision-making, and faster adaptability to new challenges and opportunities. Integrated data—and the ability to seamlessly access, analyze, and act upon it—is the heart of today's productive and performant industrial ecosystem.

> The past five years have seen an inflection point in which fragmented efforts to connect machines and sensors in industry-specific ways are now coalescing into a comprehensive vision of connectivity permeating the global physical environment.
>
> *-IoT Platforms: Enabling the Internet of Things* white paper, IHS Technology

ptc

As it becomes increasingly easier and cheaper to customize industrial Internet of Things (IIoT) initiatives, integrated industrial data is even more valuable. And best-of-breed, single-source data connectivity solutions were created to make sure you get the most value out of that data.

The data you truly need—reliable, timely, and integrated across all assets—is available without workarounds or process changes. You can ensure your workflow is optimized without interruption, while laying the groundwork to efficiently meet any future data connectivity needs.

In this ebook, we'll explore the three key features of best-of-breed single-source, integrated data connectivity solutions and how they can help you improve without change by optimizing your operations to do more with what you have.
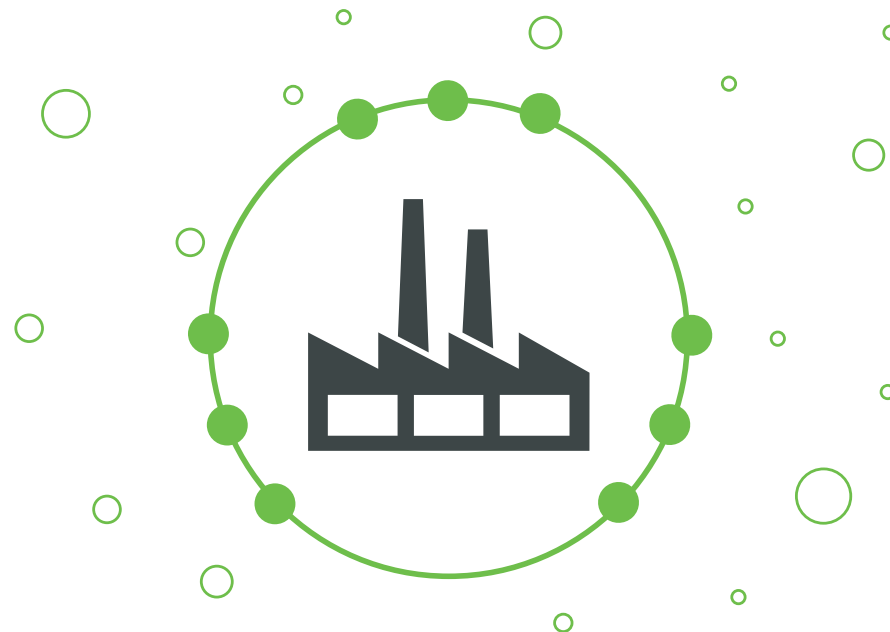
> While data exists in every organization, it is often not fully organized or understood. Rather, it may be housed in disparate sources, data marts and warehouses, trapped in systems, and in various formats with limited context. The challenge, then, for some companies is they may not know what data they already have, where it lives, what may be useful, or how to turn it into meaningful insights that they can act upon.

- Drowning in Data, but Starving for Insights, Deloitte

ptc

1. Wrap-and-Extend: More Data, Less Disruption

Best-of-breed, single-source industrial data connectivity solutions have an inherent wrap-and-extend approach. Also sometimes called a "retrofit," this approach gives you integrated visibility into all industrial automation assets—from your oldest legacy equipment to your sleekest IoT-enabled sensor.[1]

"Wrap" Your Plant Floor in Data Connectivity

The "wrap" part of a wrap-and-extend approach refers to how these solutions integrate data from all protocols used by equipment or equipment components—such as PLCs, control applications, and embedded sensors. You gain seamless interoperability with any industrial asset without having to write and compile code, install multiple connectivity servers, or learn new communication protocols.

Best-of-breed, single-source industrial connectivity solutions metaphorically wrap these machines—and your entire plant floor—with new connectivity, without requiring any internal changes to the machines or to production. They're simple to implement and can easily encompass new tool connectivity as your plant floor evolves.

"Extend" Your Data and Your Performance

The "extend" part of a wrap-and-extend approach applies to extending your data—and extending your performance. With customizable connectivity options, you can extend data access to any device, software, or data source in your industrial control system (or any that you might incorporate in the future). By extending this data access—without workarounds or cumbersome implementations—these best-of-breed solutions also extend your ability to do what you do best.

1 https://www.kepware.com/en-us/support/whitepapers/merging-legacy-equipment-industrial-iot/

Extend legacy machine value by pulling new data, better insights, and integrated views across all equipment.

Improve decision-making, with deeper, real-time insights into previously siloed data across the entire manufacturing ecosystem.

Optimize productivity, customize your KPIs, and make other performance adjustments derived from timely, integrated views of holistic plant floor data.

ptc

## 2. Integrated Connectivity for Improved Efficiency

Best-of-breed, single-source industrial connectivity solutions break down information silos by aggregating data connectivity and access across protocols, vendors, devices, machines, software applications, data points, and more. The result is complete enterprise-wide data accessibility. This extends to IT applications and across different business roles and locations for visibility into all industrial assets from anywhere, at any time. And that data is applicable for innumerable uses—from single-machine maintenance insights to enterprise-wide business strategies.

Actionable Data without Asset Intrusion

With access to real-time, integrated industrial data, decision-makers at all levels can swiftly identify and respond to any issues. You likely have baseline data management capabilities right now—such as siloed data access and basic data quality tracking—but the complexity of integrating data visibility and management across the enterprise has simply evolved beyond the scope of workarounds. Best-of-breed, single-source data connectivity solutions not only provide more robust and reliable integrated data, they give you the ability to take informed, immediate action across the factory and the enterprise.

Data Insights without Data Overload

When you first connected your machine data, your challenges likely shifted from collecting untapped data to managing the data influx. A best-of-breed, single-source industrial connectivity solutions enables you to not just connect, but also manage, monitor, and control your production, facility, and infrastructure data. With this integrated view, you can easily customize even the most complex, data-rich information to ensure it meets every user's unique requirements.
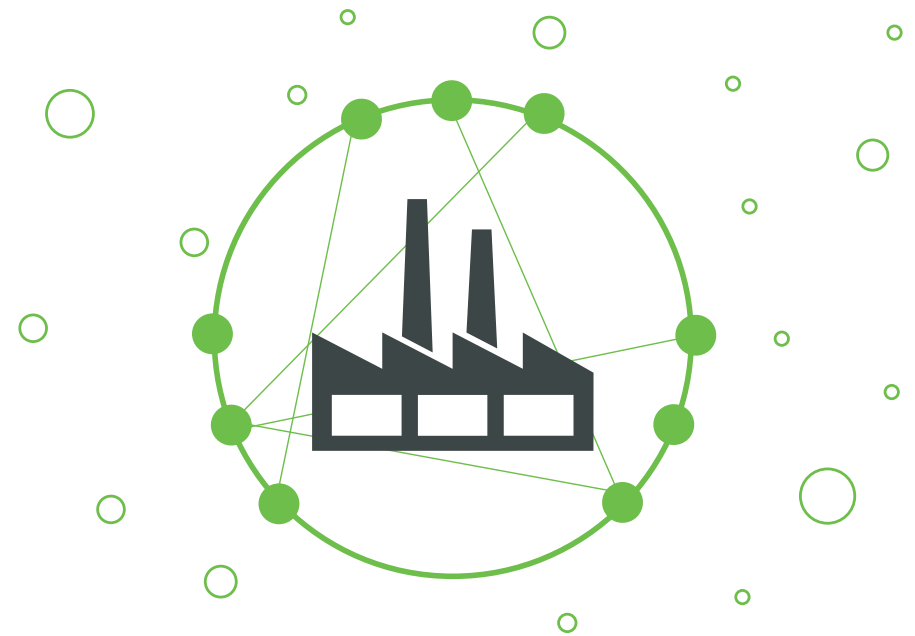
Improve uptime, machine performance, and operational productivity by providing immediate integrated data views of all asset performance—enabling immediate correction where needed.

Prevent data loss and increase data reliability through streamlined, resilient connectivity to all assets.

Use integrated real-time and historical data to inform decisions across all levels of the enterprise process, product, and assets.

ptc

3. Flexibility Today to Future-Proof Your Tomorrow

Best-of-breed, single-source, integrated data connectivity solutions not only help you do more with what you have—they also future-proof your connectivity beyond current requirements. Built by industry experts who understand the industrial automation market, these solutions were created to keep pace with industrial needs, ensuring that you stay innovative, tactical, and competitive. This is especially vital in today's industrial landscape, where IIoT technology and customer needs are evolving faster than ever before. Your current tools won't ever cause the same headaches as legacy equipment, with its limited data accessibility— with best-of-breed, integrated connectivity, today's equipment will continue to meet any future initiatives, with reliable, robust, and integrated data flows.

Scalability Across the Factory and the Years

And this scalability goes beyond the plant floor. Best-of-breed solutions create a future-proofed foundation for greater collaboration with IT and other departments as technology needs change and evolve. Your connectivity is covered from the oldest legacy machines to the ever-growing list of IIoT-enabled devices and applications.

Your time is too valuable to waste on workarounds. And your finely-tuned productivity is too important to interrupt with new technology that can't adapt to your needs. Best-of-breed, single-source data connectivity solutions are designed specifically to provide seamless, integrated data connectivity across disparate software applications, machines, devices, and protocols, giving you in-depth visibility throughout even the most demanding infrastructure.

Future-proof your enterprise through inherent scalability to address changing assets, market needs, and security threats.

Plan and prepare for upcoming challenges with a strong foundation of connectivity that can seamlessly scale to your needs.

Integrate connectivity without disruption through simple, user-friendly implementation and deployment.

ptc

Modern Manufacturing Plants Require Single-Source, Integrated Data Connectivity Solutions

Optimal production efficiency requires real-time data from all machines and equipment on the plant floor. The challenge in gaining and using this data comes from the very nature of the industrial ecosystem, which requires connection and communication with many different devices from different manufacturers across a myriad of protocols. When you can analyze integrated production data, you can optimize all the interconnected, complex processes across the supply chain to ensure maximum efficiency and productivity.

For more information on the benefits of integrated data, download the _More Data, More Sources, More Problems_ white paper from Kepware.

(A modern) factory can integrate data from system-wide physical, operational, and human assets to drive manufacturing, maintenance, inventory tracking, digitization of operations through the digital twin, and other types of activities across the entire manufacturing network. The result can be a more efficient and agile system, less production downtime, and a greater ability to predict and adjust to changes in the facility or broader network, possibly leading to better positioning in the competitive marketplace.

-The Smart Factory: Responsive, Adaptive, Connected Manufacturing, Deloitte Insights

Kepware is a software development business of PTC Inc. located in Portland, Maine. Kepware provides a portfolio of software solutions to help businesses connect diverse automation devices and software applications and enable the Industrial Internet of Things. From plant floor to wellsite to windfarm, Kepware serves a wide range of customers in a variety of vertical markets including Manufacturing, Oil & Gas, Building Automation, Power & Utilities, and more. Established in 1995 and now distributed in more than 100 countries, Kepware's software solutions help thousands of businesses improve operations and decision making. Learn more at https://www.kepware.com/.