Optimizing Asset Performance in the Food & Beverage Industry

Your assets speak volumes

Are you listening?

You've invested in assets, processes, and systems on a massive scale to meet increasing profitability pressures and growing consumer demands. Hundreds of thousands of assets produce enormous amounts of data every day—all with their own specific purpose. Data from sensors, recommendations from people, and information from a multitude of systems produce a relentless stream of asset data that can either keep you informed to help make smarter decisions or leave you vulnerable to blind spots and risk.

You need the ability to know what all that data means in order to determine which information is key to the health of your assets. Then you need to decide which assets are most critical to your business. Most importantly, you need an asset performance management solution to manage it all for you, automatically.

People

Assets

Systems

Typical value drivers from Predix APM implementation:

- 5- 10% reduction in reactive maintenance

- 5- 25% reduction in IT total cost of ownership

- 2-6% increase in asset utilization

- Reduced safety and environmental incidents

Predix Asset Performance Management (Predix APM) is a suite of software and service solutions designed to help optimize the performance of your assets. Predix APM increases asset reliability and availability while optimizing maintenance costs, mitigating operational risks, and reducing total cost of ownership (TCO). Predix APM answers essential questions that spreadsheets, ERP systems, and historians cannot.

01	**How critical is this asset?**
02	**What is the history of this asset, and what is its current health?**
03	**In what ways could this asset fail, how could I mitigate risk of failure, and what would it cost?**
04	**What would be the consequences of this asset's failure on my business?**
05	**What action should be taken now, and what should be our overall strategy to optimize business objectives?**

Improve Availability & Reliability
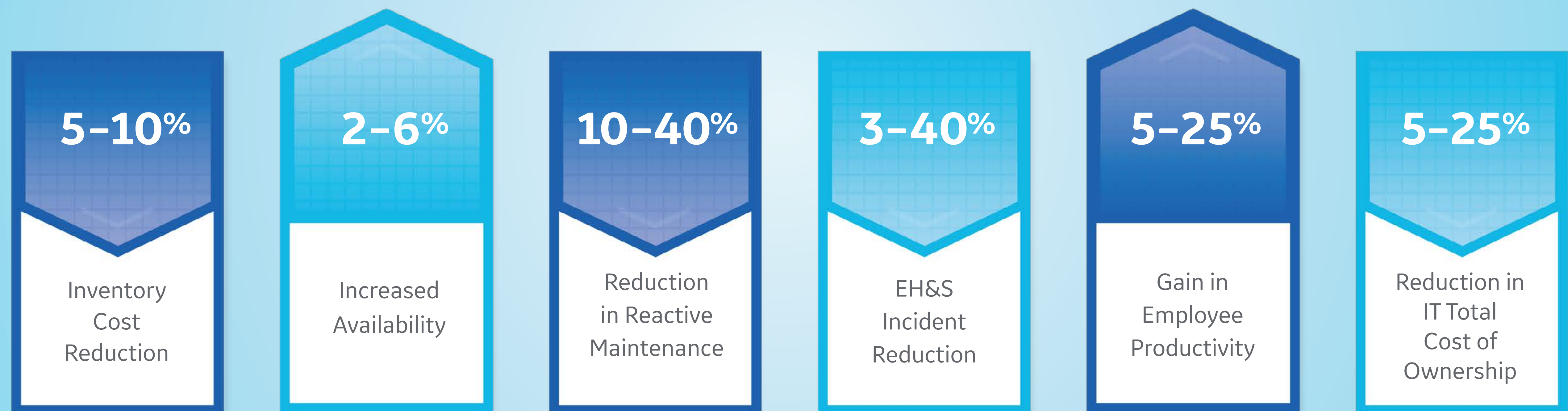
Outcomes

Reduce Costs

Manage Risk

By combining real-time data with human experience, operating parameters, analytics, and connectivity, your asset performance continues to improve over time. It's an automated loop of learning that can detect emerging threats for prevention and proper governance.
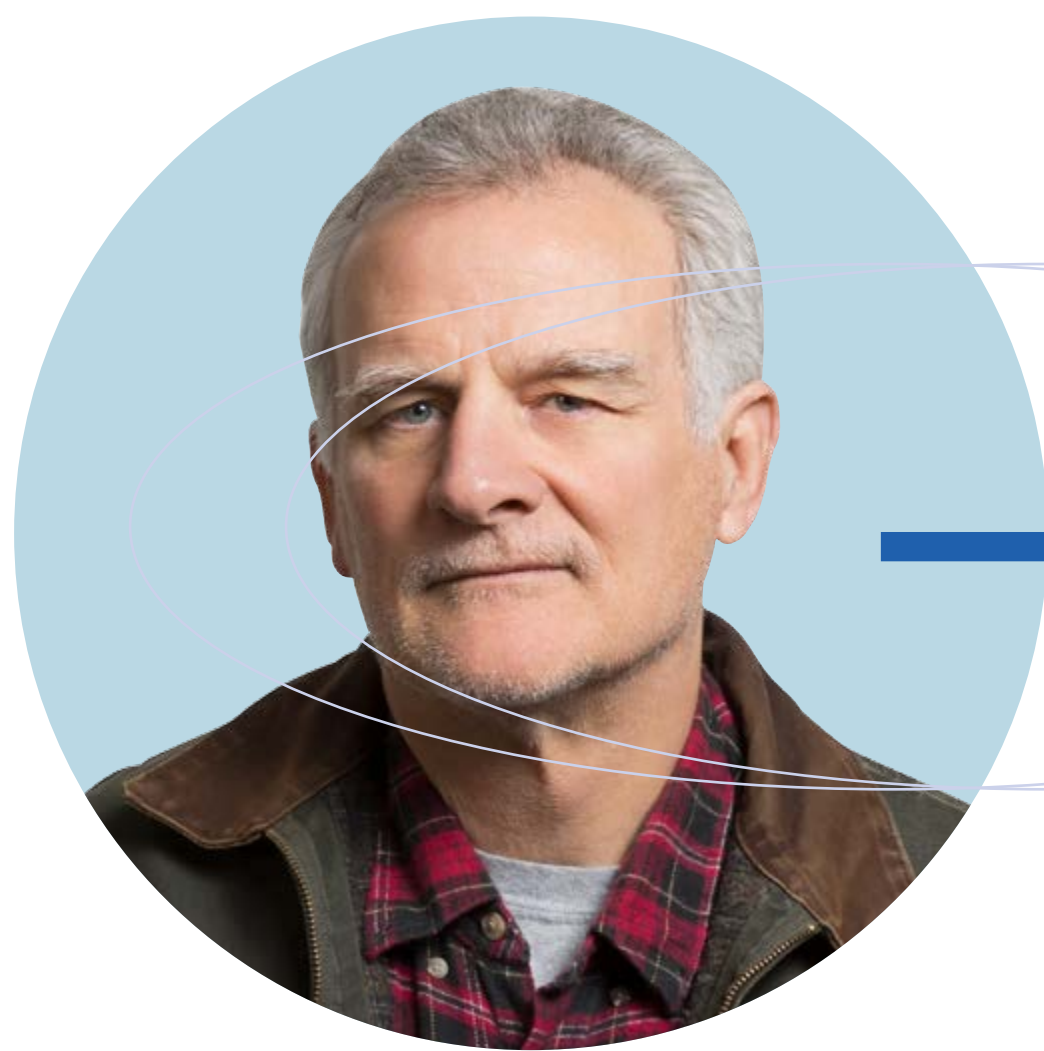
The benefits

Predix Asset Performance Management provides end-to-end value

| **5–10%** | **2–6%** | **10–40%** | **3–40%** | **5–25%** | **5–25%** |
| Inventory Cost Reduction | Increased Availability | Reduction in Reactive Maintenance | EH&S Incident Reduction | Gain in Employee Productivity | Reduction in IT Total Cost of Ownership |

Improve all aspects of your company

Your people are a wealth of knowledge and experience. Can you leverage their collective knowledge to contextualize information from physical assets and systems?

Modern sensors ensure your physical assets produce a huge amount of data. Does that information help you or put you at greater risk?

It takes a mixture of unique and complex systems and work processes to keep facilities and plants running. How can you aggregate the data they produce to see the big picture?

People

Protect your tribal knowledge

Your team has a wealth of knowledge that shouldn't go to waste

The way food and beverage (F&B) companies collect and manage information has evolved over time. Early on, people on the factory floor collected information on clipboards before entering it into historians. They relied upon experience to decide whether the data was worth recording. Today, we depend on technology and sensors to do most of that recording with a far greater degree of accuracy. However, a sensor cannot replace the critical thinking and judgment that only comes from an experienced employee. Unfortunately, due to an aging workforce and employee turnover, their knowledge and experience is often lost forever.

By using Predix APM, you can capture the expertise and perspectives of your team by recording human recommendations. Those recommendations contribute to an overall strategy that provides a better understanding of the big picture. Recommendations are continuously collected and balanced with operating parameters, analytics, data from systems, and data from physical assets. In this way, the information an employee contributes stays with the company long after separation, providing a seamless library of tribal knowledge and technical expertise that is passed along to the new generation.

Get the most from your asset data

- Only by using Predix APM can you safely and effectively reduce risk while optimizing cost

- Predix APM uses all asset related data to give you a clear picture of your organization's overall asset health

Assets

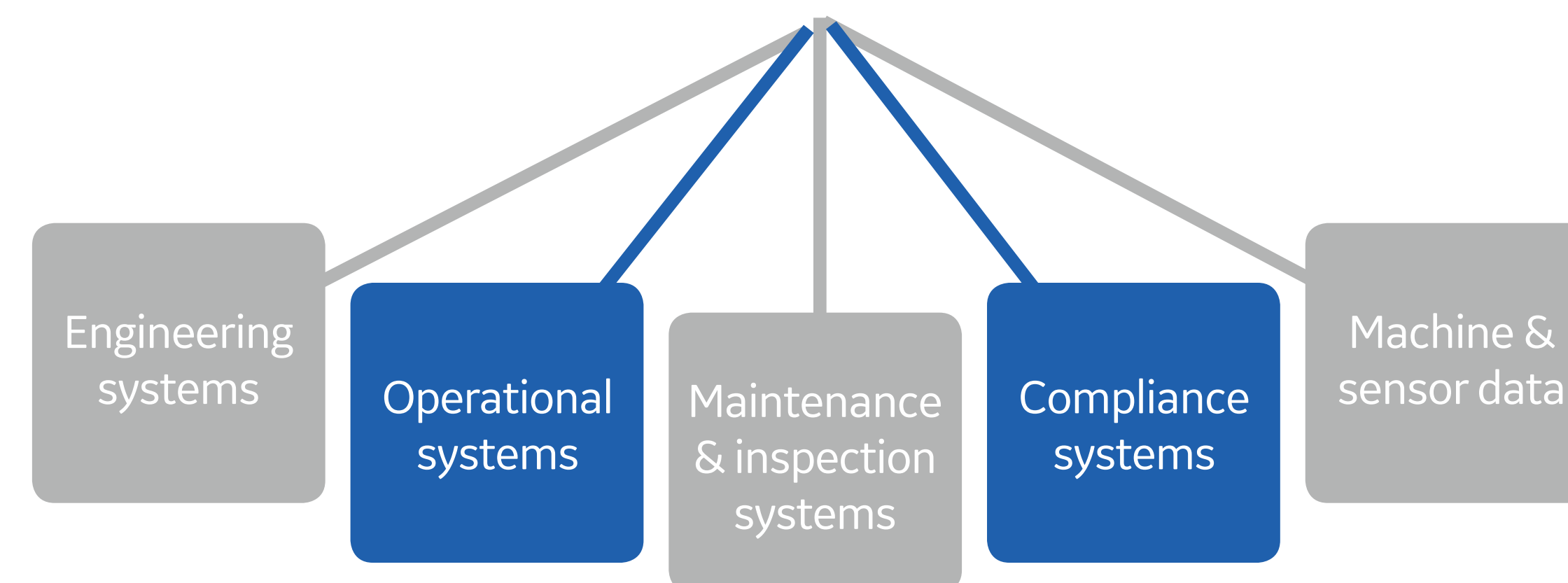# Harness the power of your asset data

Healthy assets help alleviate business issues

Your company has invested heavily in monitoring physical assets that produce millions of bits of data from various sources. Successful operations depend on a complex web of systems, people, processes, and data output. Predix APM bridges the gap between systems and transforms the information into valuable insight and perspective not possible with point solutions, giving you a true picture of your overall asset health while helping to reduce downtime and equipment failures.

It's time to put your asset data to work

- Discover valuable insight from your physical assets in real-time
- See how siloed systems to come together into a common view
- Get continuous and consistently automated evaluation of asset performance
- Achieve a true picture of asset health and performance

Engineering systems

Operational systems

Maintenance & inspection systems

Compliance systems

Machine & sensor data

Systems & Processes

Get more from your existing systems

Just because you have different systems doesn't mean they can't support a common purpose

It takes a complex and sophisticated web of systems, software work processes, and IT expertise to keep a F&B manufacturing facility running at full capacity. Although some of these systems work well together, each system is typically dedicated to performing a specific task. They could, however, work more productively and more efficiently. When multiple systems come together, the data can be combined with human experience and physical asset data to provide recommendations that continually improve over time. Plus, the insight gained can be used to optimize the very systems that are providing the data.

Only Predix APM can bring different data from various systems together into a single context to identify and understand the risk, enabling you to quickly derive what should be done to prevent failures. You will ultimately mitigate risks, increase asset availability, and optimize costs.
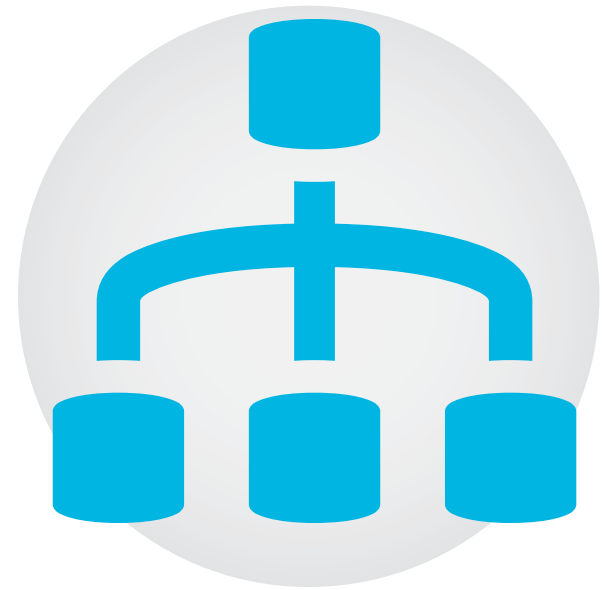
Get more from your systems than ever before

- Use and direct data from multiple sources to serve a common asset strategy
- Heterogeneous platform for data and analysis

Predix Asset Performance Management

The elements of Predix APM

Predix APM connects disparate data sources and uses advanced analytics to turn data into actionable insights while fostering collaboration and knowledge-management across the organization. Predix APM works across all equipment, all OEMs, and all industries, across the plant, and across the fleet.

Built on Predix Platform, Predix APM gives organizations the flexibility to develop new analytics and applications, making it versatile to meet changing needs.

1135%

Physical assets, sensors, people, work streams, and systems all contribute **data, readings, and recommendations** in real-time through a predefined strategy based on business and program objectives.

Serves as a way to **filter, evaluate, and categorize** readings and recommendations. Recommendations that do not adhere to business and program objectives are filtered and set aside by intelligent strategies, providing continuous optimization.

The solution uses sophisticated **parameters and context** to develop new recommendations and suggested actions that can be evaluated and deployed.

Once deployed to improve processes, systems, and Predix APM, additional data feeds back into the same the solution to create a **continual loop of improvement.**

See the big picture
in a whole new way

360°

Different views of asset data provide a 360º view of performance
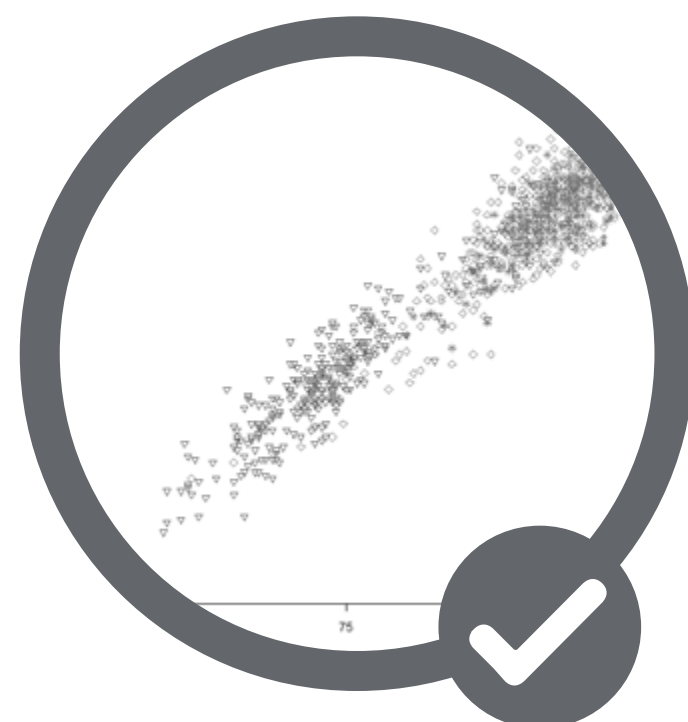

Transaction view

Bring your EAM or ERP system to life. Predix APM takes advantage of enterprise asset management systems like SAP, IBM, and Oracle in new and sophisticated ways to strategically manage it all for you, automatically.

Strategy view

Only GE Digital offers a complete range of perspectives from its Predix APM system while combining data from other data sources.

Trend view

Condition monitoring and process historians like GE, Emerson, SKF, Rockwell, OSI, Honeywell, and Aspen Tech all feed data into Predix APM that converts information into valuable insight.

Control view

Honeywell, Emerson, Rockwell, GE, and Siemens all integrate flawlessly with Predix APM and their data is leveraged to understand operating conditions that impact assets.

Picture view

Predix APM pulls key engineering data from systems like Intergraph and AVEVA to display information of drawings providing a unique visual perspective.

Regulation view

Global governmental regulations and standards bodies create requirements that dictate the way you conduct your business. Predix APM has the flexibility to configure your work processes to assure compliance with local regulations and global standards.
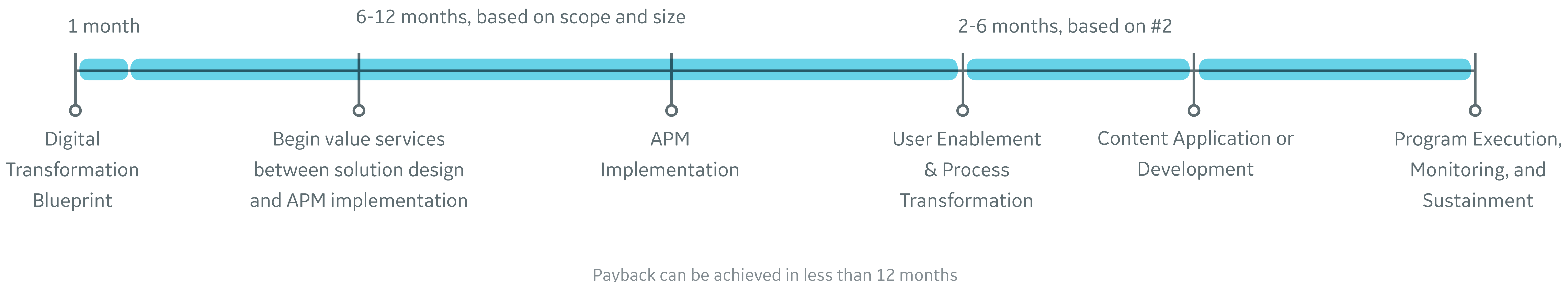
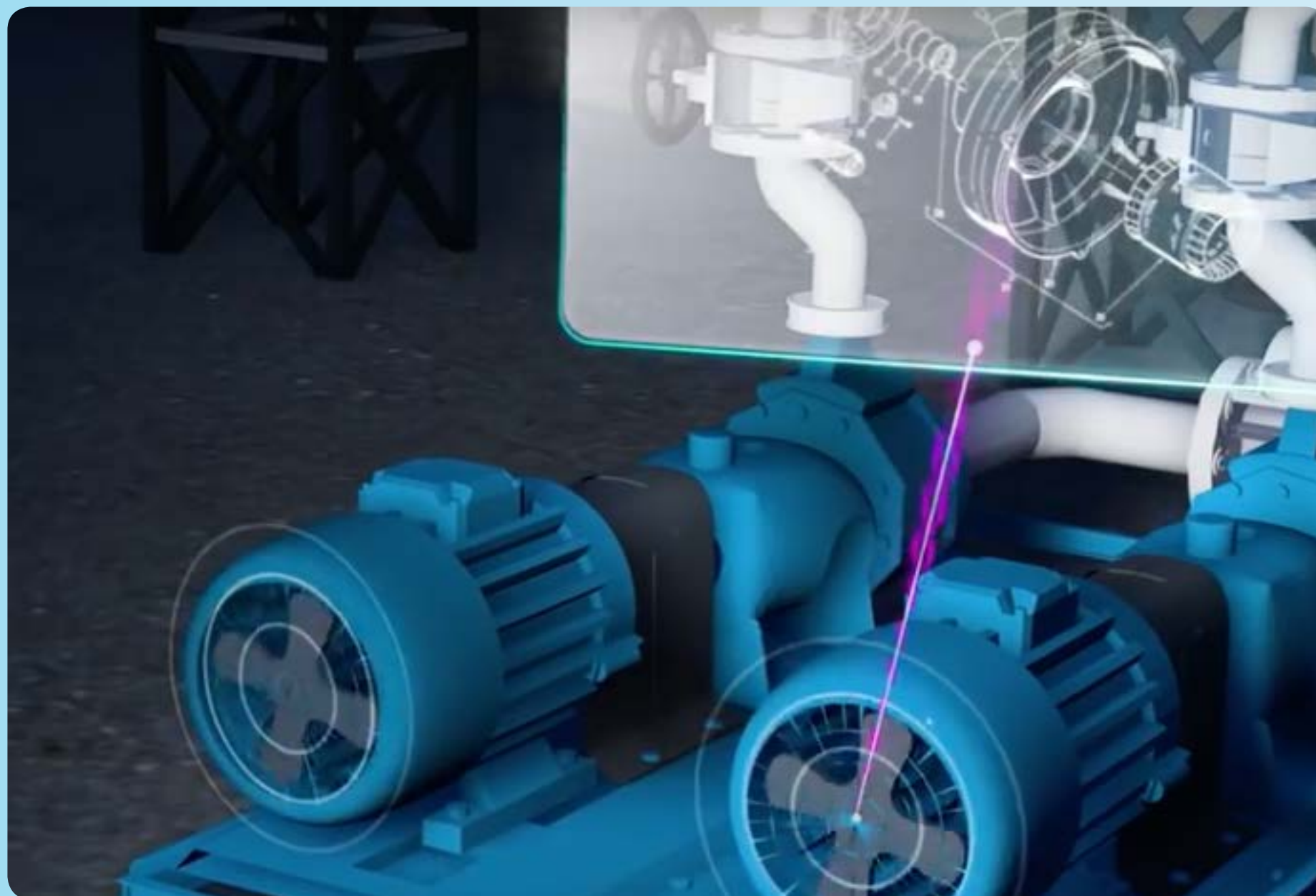# Different views of asset data mean you are always one step ahead

Assess key business risks and determine which assets should be the primary focus.

Most of your business risk will reside within a subset of your total asset base. Quantifying the risk an asset presents to business and focusing Predix APM efforts accordingly allows you to ensure that assets with significant consequences for failure scenarios or those assets subject to legal and statutory requirements have a complete and optimized management strategy.

1 month   6-12 months, based on scope and size   2-6 months, based on #2

| Digital Transformation Blueprint | Begin value services between solution design and APM implementation | APM Implementation | User Enablement & Process Transformation | Content Application or Development | Program Execution, Monitoring, and Sustainment |

Payback can be achieved in less than 12 months

More about Predix APM

Take the next step

To learn more about Predix APM,