

# Analyze streaming data from edge to enterprise to make intelligent decisions in real time



## Business Impact

“GE Transportation locomotives are equipped with edge devices that manage hundreds of data elements per second to optimize locomotive operation. Combining our best-in-class domain experience with best-in-class analytics from SAS gives our customers the ability to drive business value from analytics.”

Garrett Fitzgerald, General Manager of Transport Intelligence, Wabtec

## Challenges

- **Lack of real-time monitoring.** Asset behavior is constantly changing, so businesses that are slow to detect change are slow to take action.
- **Growing data volumes.** As IoT devices drive up data volumes, intelligent detection and filtering are needed at the edge to reduce transmission and storage costs.
- **Insight struggles.** Without the ability to convert streaming data into insights, businesses cannot make the real-time decisions needed to stay competitive

## The Issue

As the proliferation of sensors continues to drive up event volumes, the need to process data on the edge becomes critical for businesses. The volume and variety of sensor data is constantly growing, and the answer is not to blindly keep storing the data in hopes of needing it one day.

Businesses are seeking more intelligent ways to decide when and how to act – and they want to apply these decisions where the data originates. Decisions that affect customer interactions, supply chains, medical care delivery, transportation and other critical operations require an ecosystem of technologies that can sense, understand and act on data quickly. In some cases, real-time decision making is needed to ensure business continuity.

## Our Approach

Does your organization need a faster way to extract insight from IoT data? The answer is likely yes, but having the right tools and processes in place is essential for making real-time business decisions. We approach the problem by providing software and services to help you:

- **Make faster, more intelligent decisions** using advanced analytics and artificial intelligence (AI) at the edge of your environment. This allows you to understand events while they're in motion – also known as event streams – so you can act with confidence.
- **Accelerate results** by analyzing event streams the SAS way. SAS uses an innovative “stream, score then store” approach over the traditional “stream, store then score.”
- **Enable the edge to be both autonomous and smarter** by moving intelligence to where the data originates. SAS does this using neural nets, regression, classification, text analytics, audio processing and other AI and machine learning techniques.
- **Immediately capture value** that translates into competitive advantage – intelligence when and where you need it.

### Harness the power of streaming analytics and machine learning

By capturing IoT data at the edge, SAS helps you make real-time, intelligent decisions. Use SAS to:

- **Accelerate business impact** with a high-performance event stream processing engine designed for processing of millions of events per second and low-latency response times.
- **Consolidate streaming IoT sources** with an extensive suite of prebuilt connectors and adapters for consuming today's structured and unstructured data streams.
- **Get real-time results** with customizable alerts, notifications and updates so you can react appropriately to what's happening or predicted to happen.
- **Create a flexible, open modeling environment** with an intuitive visual interface that makes it easy to define, test and refine models without the need for specialized programmers.
- **Analyze data across multiple phases** by embedding SAS at the edge, in the fog or in data at rest – cleansing and analyzing data at each streaming event phase.
- **Combine streaming analytics, video and image ingestion** with powerful neural networks to process video and still image data, including image pre-processing and object detection and classification.
- **Interface with cloud technologies**, including Kubernetes and Docker, to ensure continuous, secure and stable event pattern detection at scale.

With SAS, you can gain insights for taking the right action, make data-driven decisions in real time and scale economically from edge to enterprise. Plus, SAS takes you the last mile with our proven deployment expertise.

### Wabtec is a global technology leader for the railroad industry

#### Situation

Rail companies lose money when trains operate inconsistently and outside their optimum fuel efficiency range. Wabtec was suffering from a lack of real-time intelligence, which resulted in inconsistent delivery estimates and disappointed customers.

#### Solution

An event stream processing solution from SAS enabled Wabtec to:

- Decipher locomotive IoT data and uncover use patterns that keep trains on track.
- Harness the power of streaming edge analytics running on board connected trains.
- Supply its customers with real-time insights for making decisions on the edge.

#### Results

- Reduced costs by optimizing fuel consumption.
- More accurate delivery estimates through real-time geospatial awareness.
- High performance in rugged, harsh and difficult environments.
- Streamlined regulatory compliance.
- Flexibility to adapt to future challenges including autonomous rail operations.
- Operational savings through predictive maintenance based on real-time sensor data.
- Improved supply chain operations with prepackaged event streaming rules.
- Less risk through real-time, context-aware location and safety intelligence.

### Make real-time intelligent decisions

What if you could use streaming data to make real-time decisions on the edge or in the cloud?

### Use the environment of your choice

What if you could create a flexible, open modeling environment so your teams can work in familiar programming interfaces?

### Extract value from IoT data through multiphase analytics

What if you could embed SAS at the edge, in the fog and in data at rest to clean and analyze data at each streaming event phase?

### Simplify and automate deployments

What if you could ensure the successful deployment of your IoT data initiatives?

You can. With SAS.

### SAS Facts

SAS is considered a best-of-breed champion for streaming analytics by Bloor Research.

SAS is a Leader in both The Forrester Wave™: Streaming Analytics and The Forrester Wave™: Real-Time Interactions

SAS helps customers at more than 80,000 sites improve performance and deliver value by making better decisions faster.

Learn more about how streaming analytics can help you make real time intelligent decisions for your business at [sas.com/esp](https://sas.com/esp)

