



machinmetrics

MachineMetrics is an AWS Industrial
Software Competency Partner



REINVENTING THE INDUSTRIAL IOT PLATFORM FOR MANUFACTURING

THE COMPANY

PROFILE



OVERVIEW

MachineMetrics is the industry's first Industrial IoT Platform designed for discrete manufacturing analytics. We are the machine data component of the Digital Factory. Combining the innovation enablement of a IoT platform with the rapid value creation of packaged SaaS service, MachineMetrics' optimal hybrid approach automates the collection and transformation of real-time machine data to provide descriptive, diagnostic, predictive, and prescriptive analytics through packaged SaaS services that provide immediate and continuous value for manufacturers.

AWARDS



Smart Manufacturing Product of the Year, 2018
IoT Breakthrough Committee



Top 10 Manufacturing Intelligence Solution Provider, 2017
Manufacturing Technology Insights



Massachusetts Techhub's Nextgen Technology Award



New England Innovation Awards Nominee, 2018
New England Business Association



Forbes Top 25 IoT Start-up

CUSTOMERS



FOUNDED IN MASSACHUSETTS



Headquartered in Northampton, MA
Offices in Boston and Detroit

INVESTORS



Tola Capital, Long River Ventures, Hyperplane,
Mass Ventures, Hub Angels, Bolt

THE PROBLEM

28.7%

AVG MACHINE UTILIZATION RATE OF MACHINES IN 2018

MACHINOMETRICS WAS STARTED TO SOLVE A PROBLEM:

- ▶ Most manufacturers are unable to use the data from their shop floor to drive continuous improvement.
- ▶ A lack of data-driven decision-making leads to massive inefficiencies that affect every component of a company's operations, from shop floor to the C-Suite.

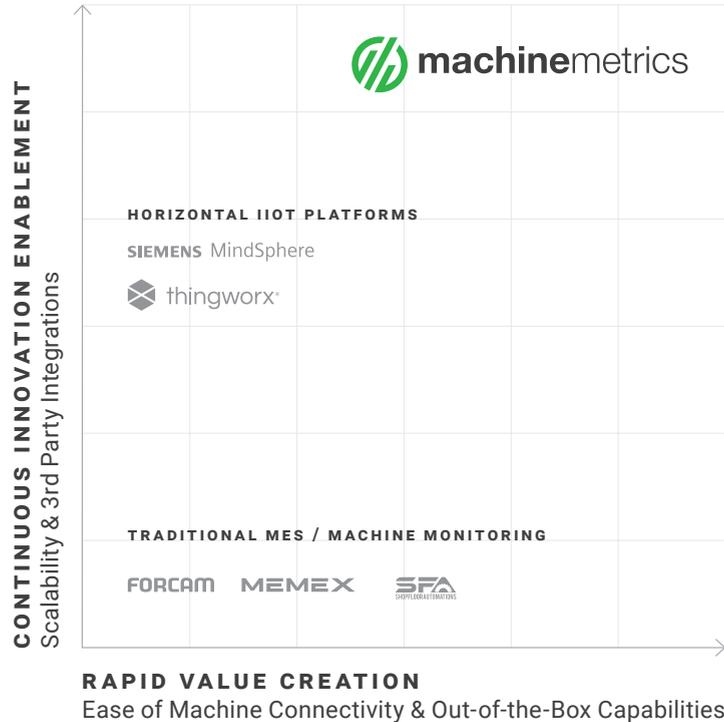
THE DISCRETE CHALLENGE

- ▶ Most plants have machines built by different manufacturers, each with a unique control system and communication protocol.
- ▶ Discrete manufacturing is a particularly challenging environment for generic IoT platforms.
- ▶ Machines range in age, from new with modern controls, to 20 or 30 years old with limited control capability.
- ▶ Standard software solutions are too limited to provide ongoing value to the manufacturer.

THE IDEAL SOLUTION FOR MANUFACTURERS

MACHINEMETRICS HAS DEVELOPED THE IDEAL SOLUTION FOR MANUFACTURERS, COMBINING THE INNOVATION ENABLEMENT OF AN IOT PLATFORM WITH THE RAPID VALUE CREATION OF A PACKAGED SAAS SERVICE.

MachineMetrics' optimal hybrid approach automates the collection and transformation of real-time machine data, augmented with data from people, other devices, and systems, to provide descriptive, diagnostic, predictive, and prescriptive analytics through packaged SaaS services that provide immediate and continuous value for manufacturers.



RAPID VALUE CREATION

- ✓ Universal machine connectivity
- ✓ Out-of-the-box analytics that identify manufacturing-specific problems
- ✓ Data-driven notifications enable real-time decision making

CONTINUOUS INNOVATION ENABLEMENT

- ✓ Connectivity to best of breed factory applications
- ✓ Extensible through API architecture
- ✓ Multi-tenant Cloud provides scalability and continuous enhancement

HOW IT WORKS



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MACHINEMETRICS PROVIDES AN EASY TO IMPLEMENT PLATFORM FOR CONNECTING TO, AND CAPTURING DATA FROM, ANY MACHINE REGARDLESS OF BRAND OR AGE.

MachineMetrics connects, captures, and transforms data to a standard format, through an edge device, shown here, that's plug and play with any modern machine type. Our customers have the option of secure Ethernet, WIFI, and cellular communication for enabling the cloud connection.

MACHINE CONNECTIVITY

For older machines that don't possess modern controls and protocols, we connect through digital and analog I/O using a simple labjack device and sensors

With a simple scripting language that's configurable in the web or mobile application, sophisticated logic can be used to integrate even the most challenging equipment. Consult with our documentation or integration specialists to connect to older equipment yourself, or our field integrators can come on-site for installation.

PROTOCOLS

Connect to any PLC supporting these protocols:

MTConnect®

OPC UA

Modbus

CUSTOM ADAPTERS

Built-in adapters for the following PLCs:

FANUC

HEIDENHAIN

SIEMENS

MITSUBISHI ELECTRIC

HANAS

DIGITAL AND ANALOG I/O

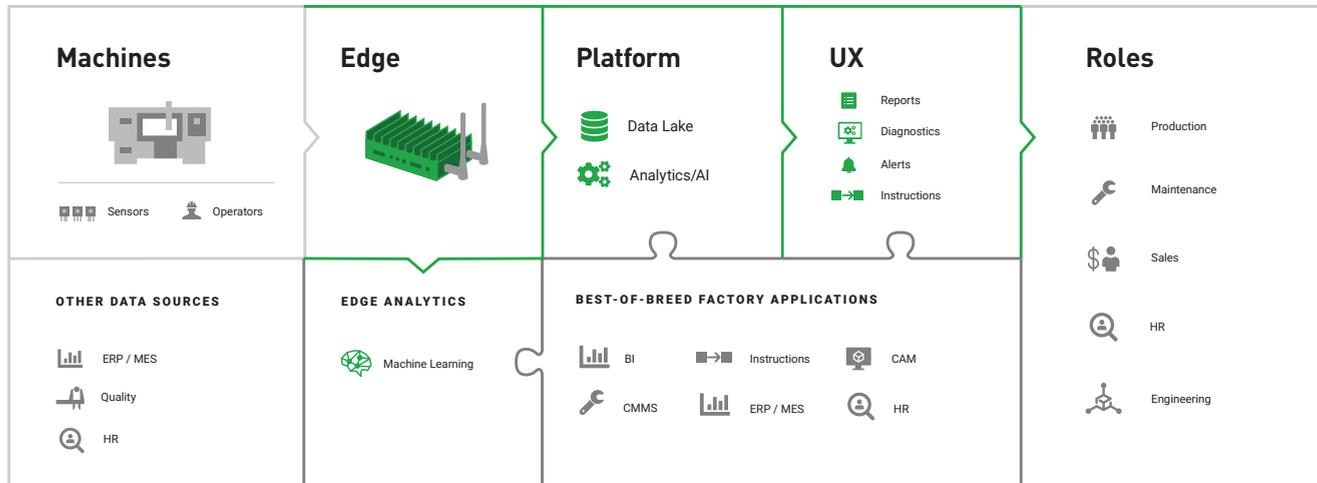
Connect to any machine input or additional sensor with commodity hardware and a simple configuration script that can be added online.

ARCHITECTURE & ECOSYSTEM

Data Sources



Consumers



ARCHITECTURE

Data is pushed in a secure manner to our cloud infrastructure, which resides in AWS. Analytics, including ML and AI algorithms, can be applied both at the edge and in the cloud, creating an opportunity for continuous value add and innovation for MM, our customers, and our partner ecosystem.

With this data, our platform then feeds it back to manufacturers and other consumers within the manufacturing lifecycle in ways that drive value all the way from the shop floor, to the C-suite enabling digital transformation.

USE CASES



MachineMetrics Production featuring simple “self-install” IIoT connectivity, our fully automated cloud machine monitoring & OEE software connects to all machine types to provide visualizations of real-time manufacturing production data.



MachineMetrics Health allows maintenance managers and process engineers to keep machines running with real-time condition monitoring. Manage your machine assets and view real-time equipment status and conditions



MachineMetrics Service transforms an OEM or equipment provider’s ability to service their customers by remotely monitoring machines, reducing on-site service calls and providing preventative and predictive maintenance.

MACHINEMETRICS & AWS

—
**AWS INDUSTRIAL SOFTWARE
COMPETENCY PARTNER**



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OVERVIEW

Leveraging the scalability, flexibility, reliability, security, and cost-effectiveness of the AWS technology Stack and Empowered by the AWS virtual private multi-tenant cloud, Machinemetrics has become the Machine Data component of the AWS Digital Factory.

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AWS TECHNOLOGIES LEVERAGED



AWS KINESIS

Easily collect, process, and analyze video and data streams in real time.



AWS ATHENA

Start querying data instantly. Get results in seconds.



AWS LAMBDA

Run code without thinking about servers. Pay only for the compute time you consume.



AWS CLOUDFORMATION

Model and provision all your cloud infrastructure resources

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A CASE STUDY ON NATIONAL OILWELL VARCO



**NOV discovers huge gains
with AWS Partner MachineMetrics**

NOV wanted to improve its operational efficiency using machine data. Using the MachineMetrics platform running on AWS, NOV improved its machine utilization 20 percent in three months.

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The MachineMetrics Solution

NOV installed MachineMetrics platform at their Completion & Production Solutions facility in Breen, TX and their Texas Oil Tools facility in Conroe, TX to collect production data from machine controls and machine operators for the entire production floor and used this data to monitor machine conditions and track the progress of jobs via OEE production efficiency.



DOWNLOAD THE FULL CASE STUDY

machinemetrics.com/hubfs/NOVCaseStudy.pdf



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