

Cloud Based Platforms for Industrial Applications

End Users
System Integrators
OEMs
Consultants

**Thank you for your
loyal partnership with
AutomaTech & CB Pacific.**



Safe Harbor Disclaimer

The information presented is intended to be an outline of general product direction and it should not be relied on in making a purchasing decision. The information on the roadmap is for information purposes only and may not be incorporated into any contract and is not a commitment, promise or legal obligation to deliver any material, code, or functionality. The development, release, and timing of any features or functionality described for our products remains at our sole discretion.

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Objectives & Topics

Objectives:

- Inform and educate on Cloud Based Trends
- Assist you in collecting knowledge to prepare your roadmap to the cloud
- Enjoy Bourbon Tasting

Topics:

- About Us
- Overview Industrial Cloud Based Solutions – Steve at AutomaTech
- Why & Trends Cloud Solutions – Dave at AWS
- Proficy Historian for Cloud – Steve at GE Digital
- Questions & wrap up
- Bourbon tasting - Richard Healy at Tech Talk Summit



GUEST SPEAKERS



Steve Szamocki

**VP & General Manager -
AutomaTech**



Dave Thielet

**Senior Partner Development
Manager - IoT - Amazon Web
Services (AWS)**



Steve Pavlosky

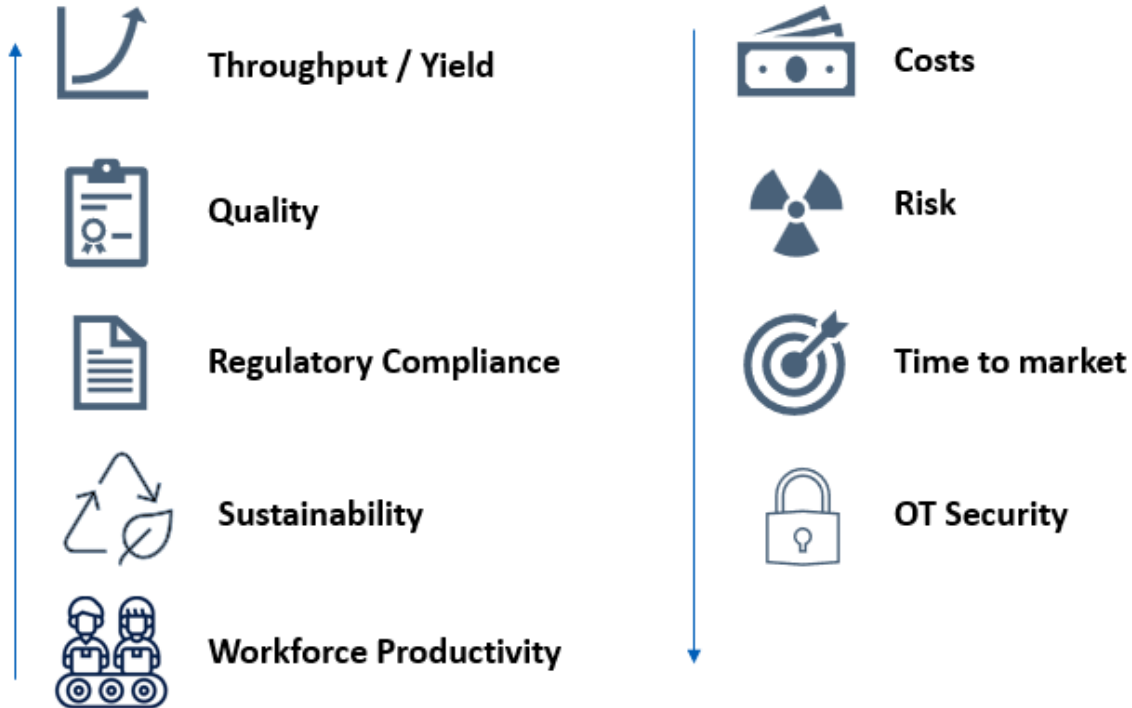
**Vice President of Product
Management -
GE Digital**

About Us



Steve Szamocki
VP & General Manager
AutomaTech

Solving Tough Problems



If you drove to work, used a computer, drank a glass of water or coffee, ate a cranberry, changed a diaper, ate a bowl of ice cream, bought composite wood, used something made of plastic, received a covid 19 vaccine, used perfume, drank cola, applied makeup, seen a solar panel, visited a hospital, flushed a toilet, ate a chocolate bar, turned a light switch on, or used a 5G phone then **you, your families, & communities** have benefitted from a AutomaTech & CB Solution.

Have a positive community impact... every time all the time

Supporting Customers



- CB Pacific & AutomaTech are part of Flow Control Group Automation spanning North America
- Part of KKR - 3rd largest private equity group - 665B of enterprise value
- 25 year + partner with GE - GE's largest license supplier of solutions globally.
- Comprehensive support services with **the most experienced Solution Architects, for industrial high availability, and cloud -based** Engineering support team in North America.
- Well-established network of Solution Providers to deliver a complete solution including design, installation and commissioning
- Certified training services, seminars & webinars, user conferences, workshops, and value added support services
- Local events and training (look for more micro training events)

Solutions We Provide



Controls & SCADA Automation

- PLCs
- HMI/SCADA
- Mobility & Remote Connectivity
- Automated Data Collection & Reporting
- Alarm Notification
- Enterprise SCADA Consulting



Manufacturing & Information Systems

- Manufacturing Execution Systems (MES) & Consulting
- Enterprise Data Collection, Reporting & Visualization
- Machine, Equipment, & Line Analytics & AI



Industrial Cloud Solutions

- IoT EDGE Connectivity
- Remote Monitoring & Diagnostics
- Equipment Optimization
- Asset Performance Management (APM)
- Information Analytics
- Backup & Disaster Recovery



Systems & Network Infrastructure

- High Availability & Fault Tolerant Servers,
- Virtualization, & Disaster Recovery
- Thin Client Infrastructure
- Industrial Networking



OT Cyber Security

- Cyber Security Assessments
- Intelligent Security Appliances
- Identify Defined Networking
- Industrial Firewalls & VPNs

Securely we help **connect** | **control** | **visualize** | **analyze** | **optimize**

Examples: Industrial Applications in the Cloud are Growing!!



Proficiency Historian for Cloud: The first Cloud Based OT Data Management to Enable Analytics & optimization running natively in AWS.

Monitor and enhance equipment performance, drive energy management, drive OEE



The world's first cloud-native platform combining Digital Twins with groundbreaking AI to drive continuous improvement



Self-Service Advanced Analytics for the Process Manufacturing Industry



Minimize downtime, reduce errors and increase safety in automated environments through better data management



Industrial Connectivity Servers to the Cloud

Most applications are migrating to the cloud.....are you?



Challenge: Right & Timely Information for Decision Support on any Device



A more connected workforce improves problem solving times!

- Operators
- Maintenance
- Engineering
- Quality
- Plant Management

Cloud platforms empower a connected workforce

Amazon Web Services



David Thielet

Senior Partner Development

Manager- IoT

**Amazon Web Services
(AWS)**

Industry 4.0

Data Driven Insights to streamline
Industrial Processes

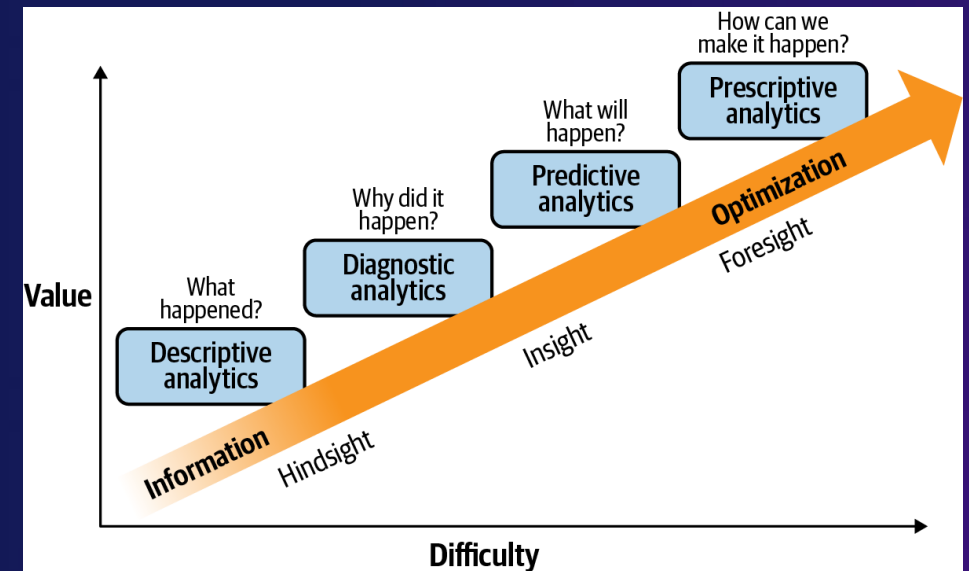
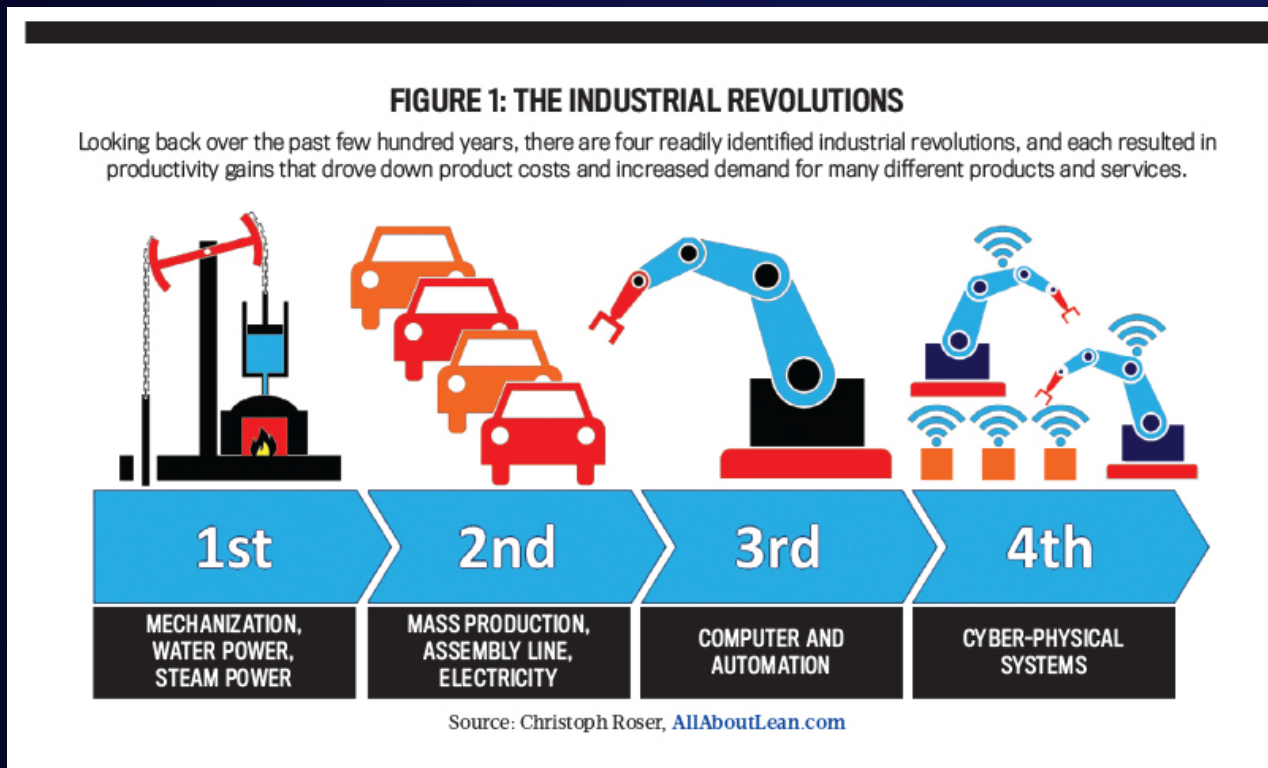


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Industry 4.0

Data Driven Insights to streamline Industrial Processes



Business drivers for cloud migration & modernization



AWS Migration & modernization business outcomes



31%

Cost savings over
comparable infrastructure



62%

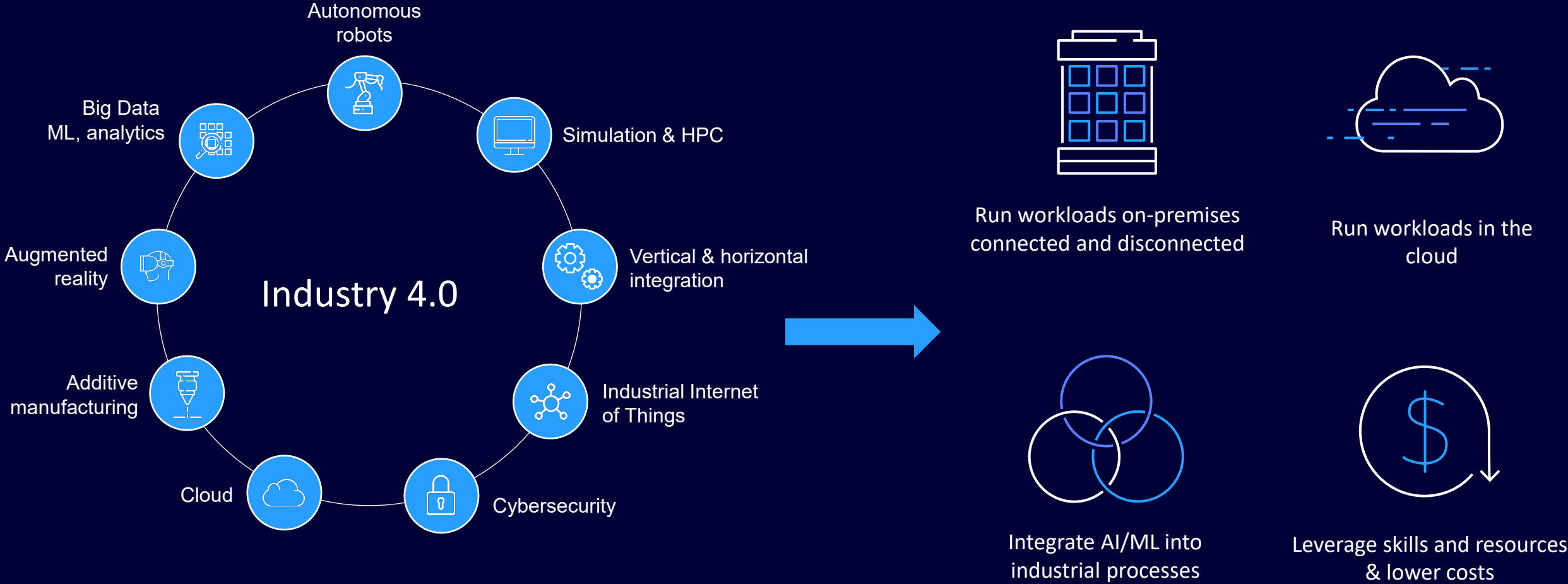
More efficient IT
infrastructure
staff



43%

Fewer security
incidents per year

Customers need hybrid architectures to drive Industry 4.0 initiatives



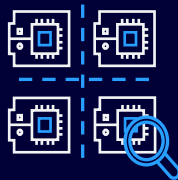
Key customer needs across common industrial workloads



Engineering & Design



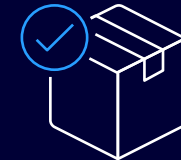
Production & Asset Optimization



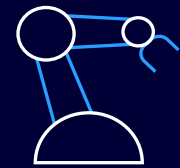
Quality Management



Worker Safety & Productivity



Supply Chain Management



Smart Products & Machines

Accelerate time to market

Lower infrastructure costs

Improve collaboration

Lower costs (energy, machines, labor)

Improve machine or asset productivity

Reduce production downtime

Automate quality inspection

Improve inspection accuracy

Reduce product defects

Improve employee productivity

Monitor safety

Reduce worker injuries

Improve forecast accuracy

Reduce inventory costs

Improve capacity utilization

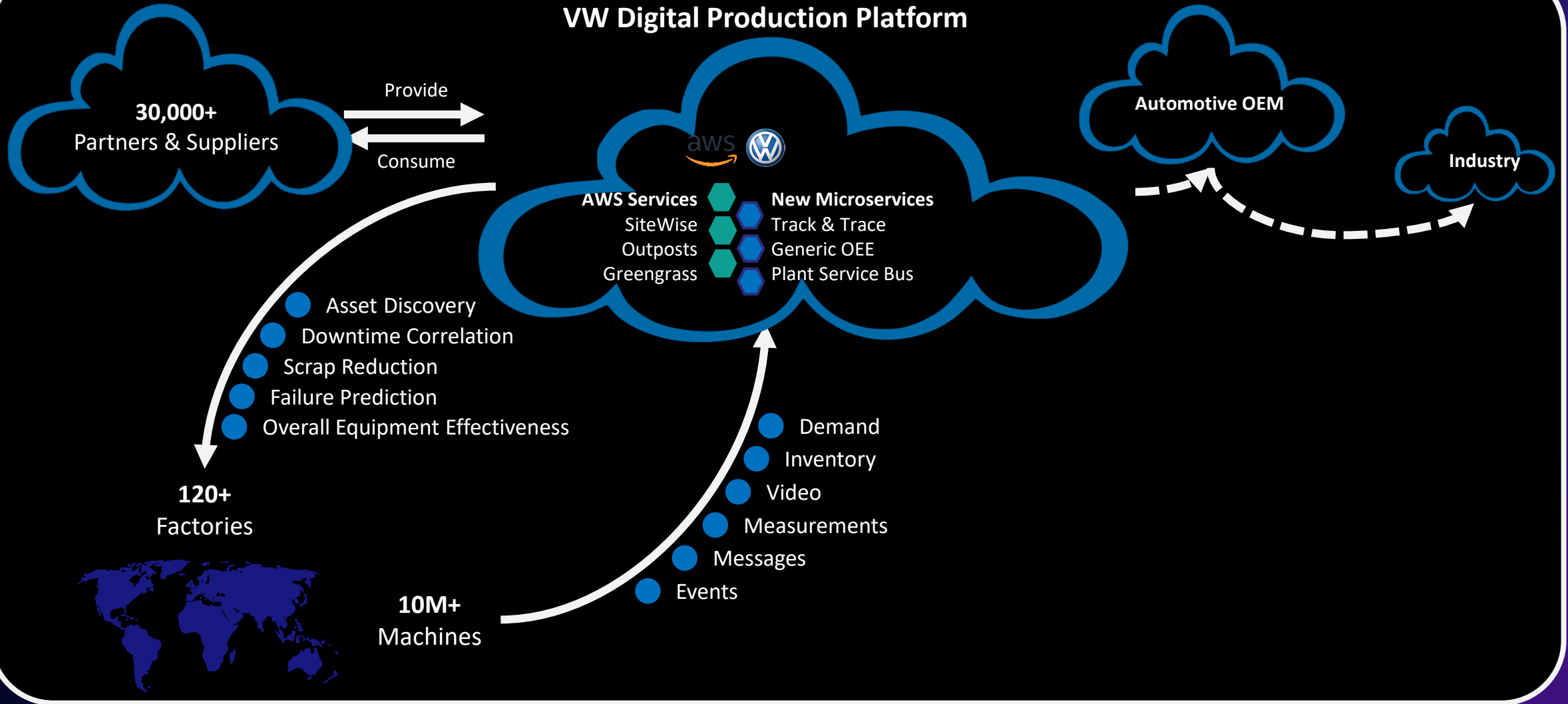
Enhance user experiences

Create new revenue streams

Improve product or service quality

VW Industrial Cloud - 30% improvement in efficiency

VW Digital Production Platform



Sustainability at AWS



Sustainability **OF** the AWS Cloud



AWS performs the same task with
an 88% lower carbon footprint

Source: 451 Research, 2021, all rights reserved

Sustainability **THROUGH** the AWS Cloud



Leverage cloud resources and
partner capabilities to
accelerate sustainability
outcomes

Global Top 10 Chemical Company

Problem

To achieve 2030 sustainability targets, this customer is transforming their team into an analytics organization where every chemist or chemical engineer is equipped with the capabilities of a data scientist.

Solution

TrendMiner now enables their engineers to optimise the process and energy usage across sites. While also enabling data scientists to train models that can be consumed by the rest of the organisation.

Benefits

TrendMiner has enabled them to reduce costs by decreasing amount of raw materials used in their plants globally, shortening the cycle time of their batches and decreasing energy consumption of energy intensive asset.

10%

Batch cycle time reduction = 1 extra / day

-9%

consumption by energy intensive assets

5%

increase in revenue

-30%

Time to roll-out to new sites



“This was the first time we were able to compare two sites, across continents and data sources in real time.”

Project Leader Digitization | Data scientist

Proficiency Historian Cloud

Data is the Lifeblood of Digital Enterprises



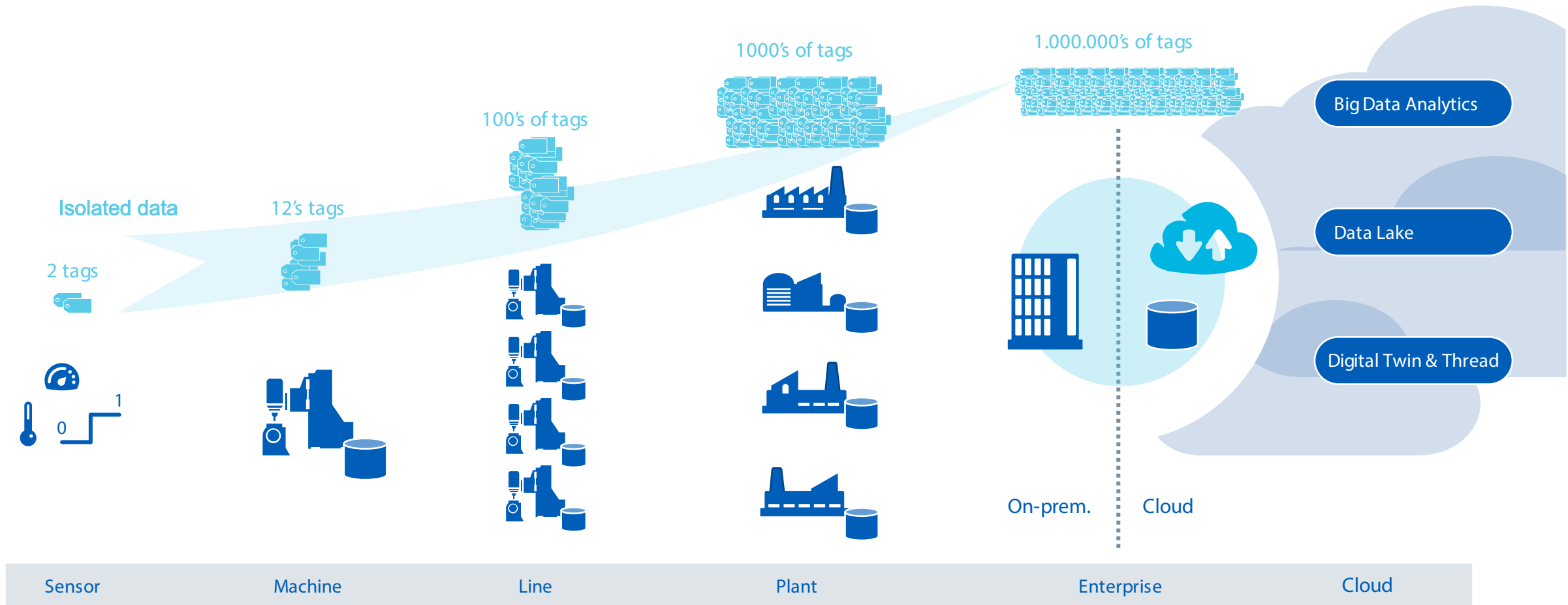
Steve Pavolsky

VP, Product Development

GE Digital



Enterprise optimization efforts have been slowed by the challenge of moving data from *heterogeneous* sources at high scale



GE Digital's cloud enabled portfolio



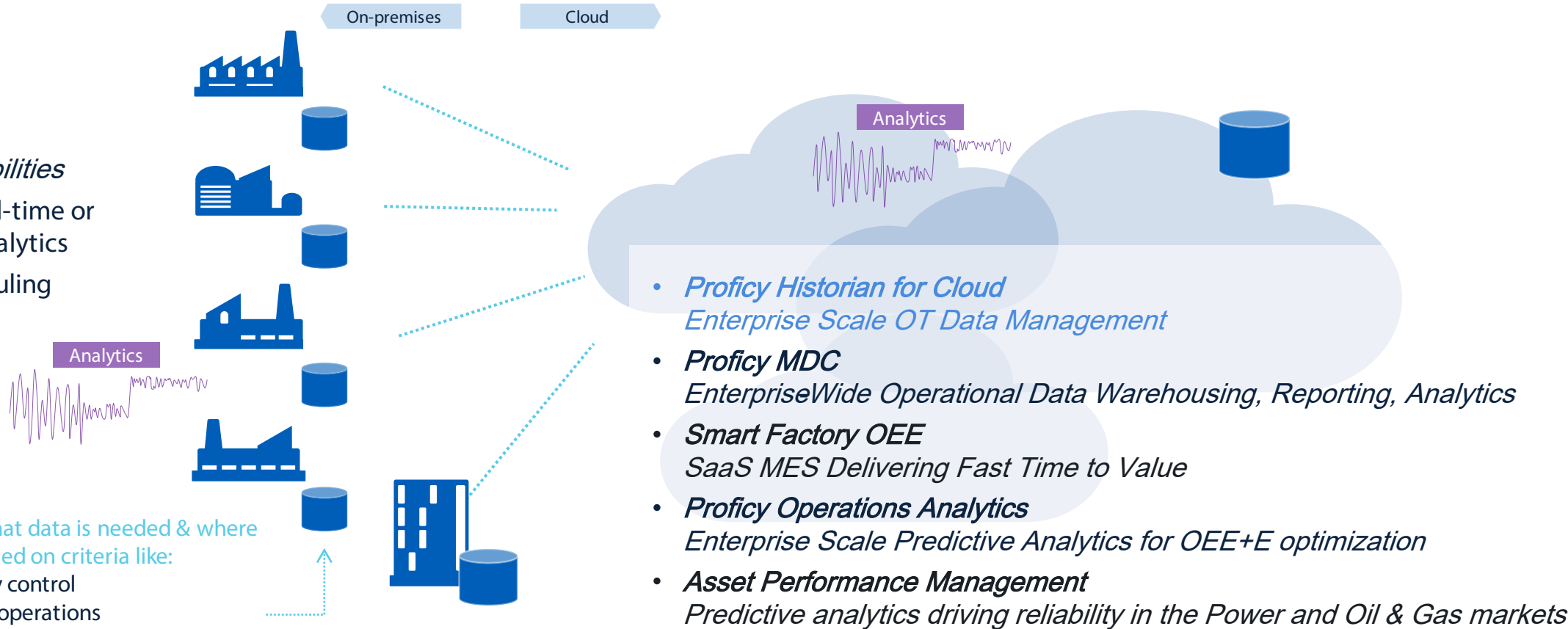
Enterprise-wide visibility & analytics, now enabled with a cloud native Historian

On premises

- *Critical capabilities*
- Plant level, real-time or closed loop analytics
- In-plant scheduling

Understand what data is needed & where to keep it – based on criteria like:

- Regulatory control
- Critical to operations
- Not required / long-term
- etc.



- *Proficy Historian for Cloud*
Enterprise Scale OT Data Management
- *Proficy MDC*
EnterpriseWide Operational Data Warehousing, Reporting, Analytics
- *Smart Factory OEE*
SaaS MES Delivering Fast Time to Value
- *Proficy Operations Analytics*
Enterprise Scale Predictive Analytics for OEE+E optimization
- *Asset Performance Management*
Predictive analytics driving reliability in the Power and Oil & Gas markets

Moving OT data to the cloud at scale – What solutions?



Traditional Operational Historians

- Enterprise scale on-prem deployments require major ongoing investment in infrastructure, people and don't solve the problem of moving data to the cloud at scale
- Not designed for cloud, deployment on IaaS expensive
- IaaS deployments don't address moving data to the data lake at scale

Hosted Industrial Data Solutions

- More difficult to integrate with customer data infrastructure
- Restricted to supplier's toolset
- Customers wary of sending data to a 3rd party provider
- Often come with data time-to-live issues
- SaaS models don't leverage customer volume agreements with cloud providers
- Are new tech stacks – don't plug and play with existing applications, especially 3rd party

Cloud Time Series Services

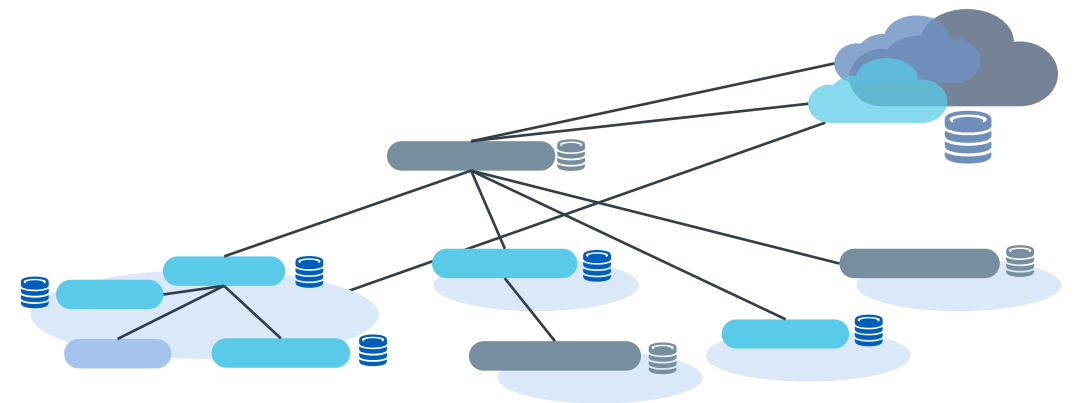
- Not designed for industrial time series data
- Expensive for long term storage, forcing multiple solutions for current data vs older data
- Require user to build complete solution on top of data store
 - Robust industrial data collection
 - User access control
 - Interfaces to existing on-prem applications, tools may not be possible

What is the problem we are solving?



The market is lacking a true cloud native enterprise historian that:

- Leverages cloud technology for deployment, data replication, scalability, zero downtime upgrades
- Maintains the interoperability with existing on-prem applications
- Simplifies moving mass scale data to the cloud and to the data lake
- Runs in the customer's VPC, giving them control over their data and simplifying integration with their choice of AI/ML and Analytics applications





Proficiency Historian

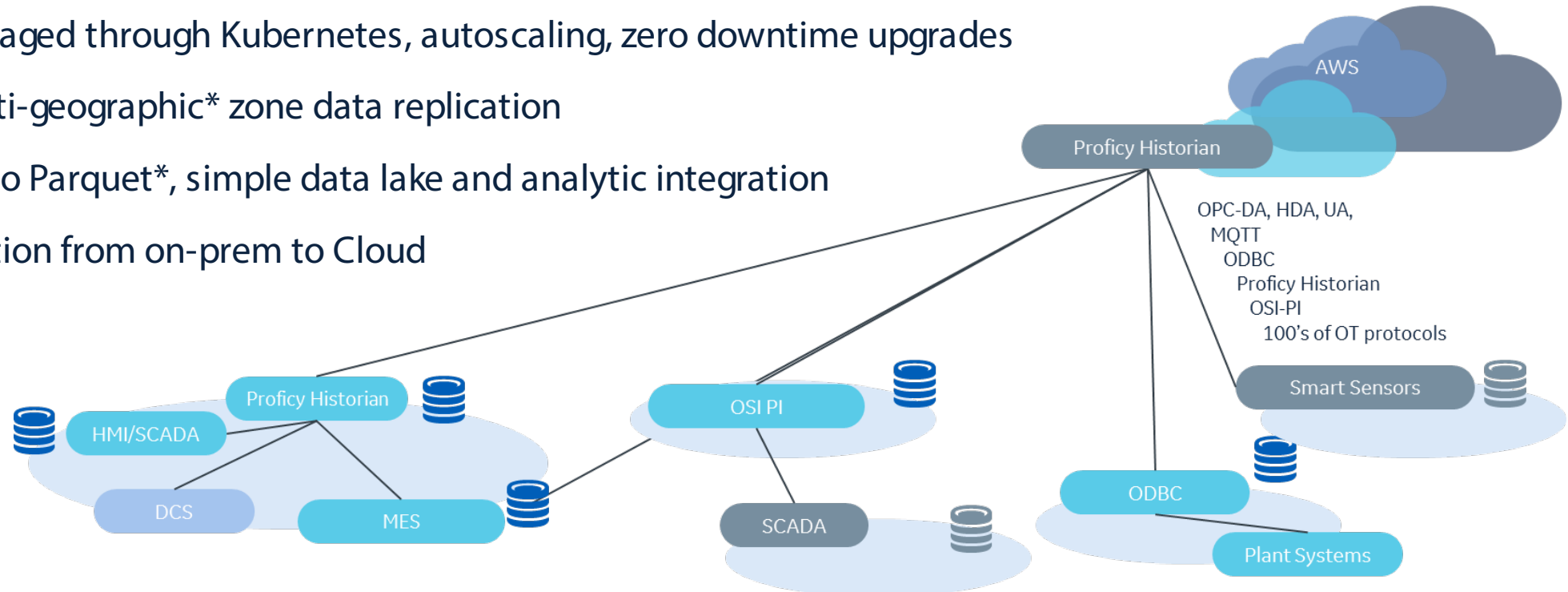
Enabling Enterprise Scale OT Data Integration

Proficiency Historian for Cloud

OT data from on-premise to the cloud in an hour



- Cloud native historian providing same APIs as on-prem. version, zero integration effort
- Simple to predict consumption pricing & fixed fee term license pricing
- 100's of protocols, encrypted data to the cloud, data governance
- Deployed and managed through Kubernetes, autoscaling, zero downtime upgrades
- Multi-pod and multi-geographic* zone data replication
- Scheduled export to Parquet*, simple data lake and analytic integration
- Legacy Data Migration from on-prem to Cloud



* Future

GE Digital Differentiation

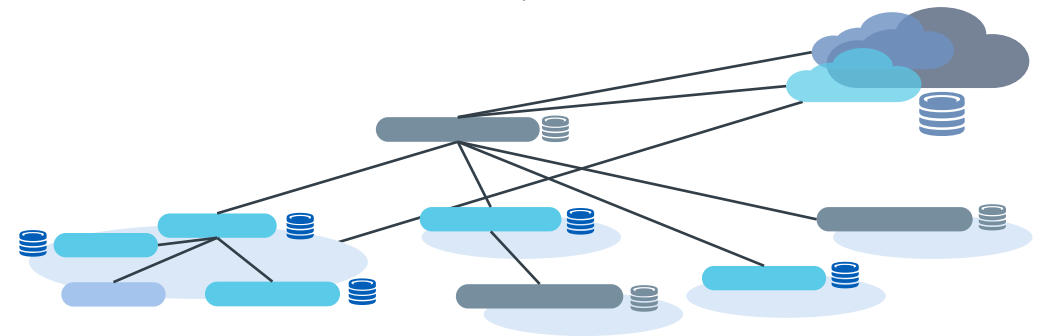


For Operations

- Fully functional Operational Historian
- From decision to data collection in an hour
- Consumption based pricing model makes collection of all data inexpensive – no longer need to make trade-off decisions
- No new technologies to learn – same tools for the users
- Built in high availability, zero down time upgrades

For IT

- Designed for cost efficiency with autoscaling and inexpensive cloud file storage
- Complete solution for Enterprise scale OT data integration into IT infrastructure
- Runs in the client's VPC – the client retains data ownership and control
- Consumption based pricing aligns cost with value and applies to AWS EDP contracts
- IT tool and process friendly



Typical Use Cases



Cloud deployed Historian for a plant

Industrial Plant

- Needs an Operational Historian
- Doesn't want to wait for a server, but needs local data access
- Wants to reduce IT costs, TCO
- Assume data needs to get to the cloud eventually
- Has legacy data to migrate

Aggregation across the Enterprise

Industrial Enterprise

- Several to many plants
- Different data sources per plant
- Enterprise scale data governance
- Needs ability to view aggregate data across the enterprise to do cross business analytics and optimization

Heterogeneous OT data at scale

Single or multi-site Industrial

- Large volumes of OT data from variety of sources (SCADA, DCS, Historians, IoT)
- Needs to get the right data into the data lake at high scale
- Needs a complete OT to data lake solution

Reducing costs by 20% with OT data in the cloud



Reducing Costs with Proficy Historian for Cloud

GE Aviation uses Proficy Historian to manage OT data in 32 manufacturing plants.

“Managing this amount of data is costly,” said Bill Andrews, Technical Product Manager, GE Aviation. “By moving from 32 distinct deployments to a single deployment of Proficy Historian on AWS, we can dramatically reduce management costs and downtime while improving value, scalability, and reliability.”

The company expects to:

- Reduce infrastructure costs by more than 20%
- Decrease annual resources by \$185K

The team will also improve system availability by:

- Eliminating more than a month of planned downtime
- Enabling a common data store accessible by thousands of enterprise-wide employees.

How to get started

It only takes 5 minutes

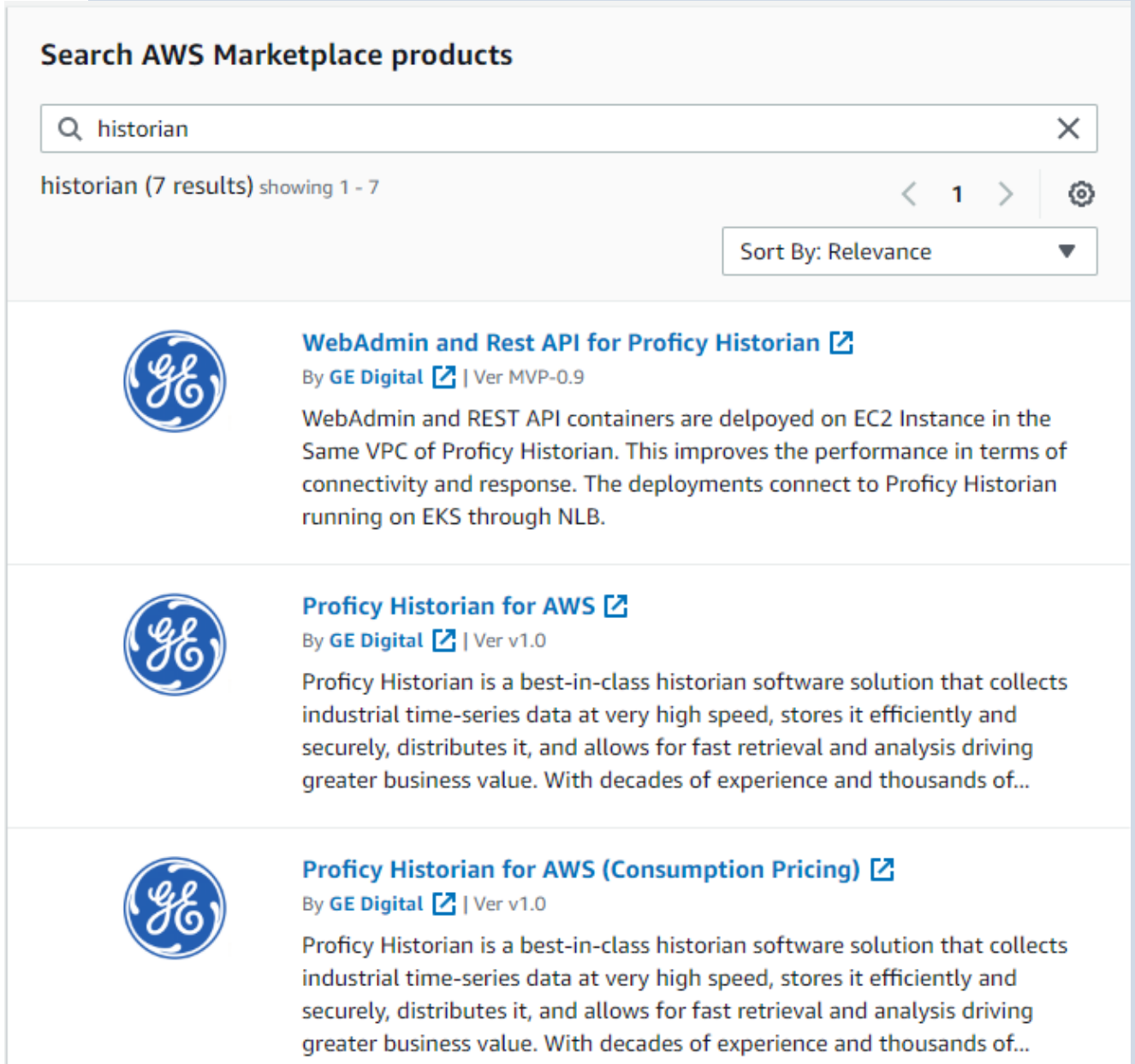
Navigate to the Amazon Marketplace
(<https://aws.amazon.com/marketplace>)

Search “historian”

Select which commercial model deployment you want

- Term License (BYOL)
- Consumption Pricing model

Start the subscription process






The screenshot shows the AWS Marketplace search interface. At the top, the search bar contains the text 'historian' and a search icon. Below the search bar, it indicates 'historian (7 results) showing 1 - 7'. To the right of the search bar, there are navigation arrows, a page number '1', and a settings gear icon. Below the search bar, there is a dropdown menu labeled 'Sort By: Relevance'. The search results are displayed in a list format, each with a GE logo icon, a product title, a provider name, a version number, and a brief description.

Search AWS Marketplace products

historian (7 results) showing 1 - 7

Sort By: Relevance

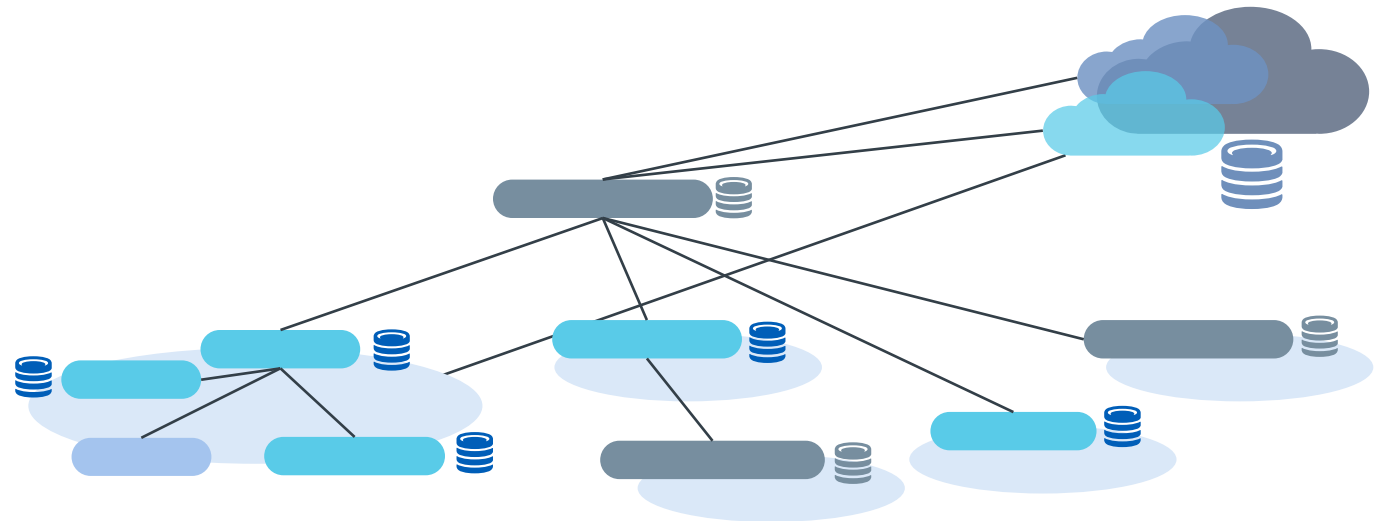
-  **WebAdmin and Rest API for Proficy Historian** [↗](#)
By **GE Digital** [↗](#) | Ver MVP-0.9
WebAdmin and REST API containers are delployed on EC2 Instance in the Same VPC of Proficy Historian. This improves the performance in terms of connectivity and response. The deployments connect to Proficy Historian running on EKS through NLB.
-  **Proficy Historian for AWS** [↗](#)
By **GE Digital** [↗](#) | Ver v1.0
Proficy Historian is a best-in-class historian software solution that collects industrial time-series data at very high speed, stores it efficiently and securely, distributes it, and allows for fast retrieval and analysis driving greater business value. With decades of experience and thousands of...
-  **Proficy Historian for AWS (Consumption Pricing)** [↗](#)
By **GE Digital** [↗](#) | Ver v1.0
Proficy Historian is a best-in-class historian software solution that collects industrial time-series data at very high speed, stores it efficiently and securely, distributes it, and allows for fast retrieval and analysis driving greater business value. With decades of experience and thousands of...

GE Digital Differentiation



- The efficient data collection, storage, normalization, and distribution of a true operational historian
- Architected for the cloud, runs in the customer's VPC
- Integrated with the data lake, AI/ML tools, Analytics
- A complete solution for sensor to cloud data collection at scale, retaining interoperability with on-prem applications

Proficy Historian for Cloud



What's Next & Questions



Steve Szamocki

VP & General Manager

AutomaTech



Whisky Experience



Richard Healy
Whisky Sommelier
Tech Talk Summits

Bourbon on the
way for those
who signed up
recently!