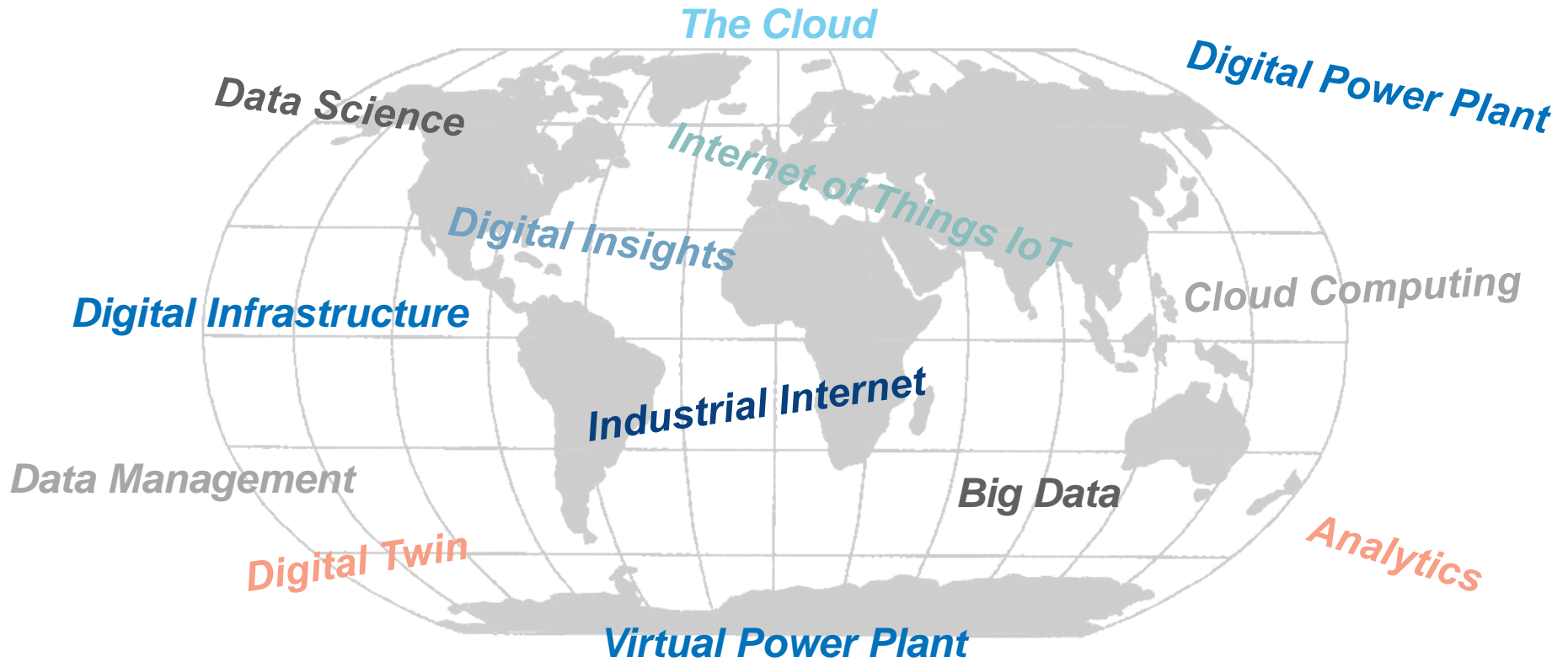# PI Cloud Connect and ORAP®

Reducing O&M Costs through Automation, Capital Parts-Life Tracking, and Business Analytics
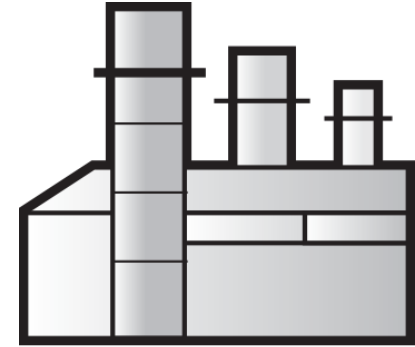
The Digital World

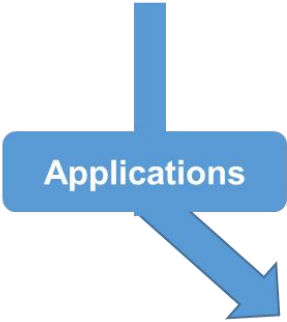# The World of a Typical Power Plant

- Impact of Renewables on Operation
- Shrinking Plant Staff Size
- Increasing Regulatory Requirements
- Aging Workforce
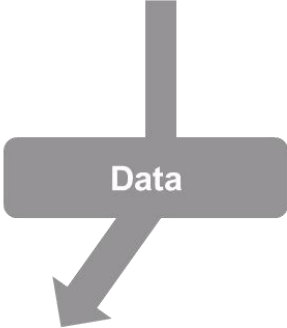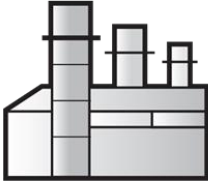- Increasingly Complex Technology
- Mergers & Acquisitions
- Others…

Plant

OSIsoft.

Convergence of Data and Applications

The Digital World

The Power Plant World

Applications

Data

?

How do we combine to provide value?

ORAP®

~3,300 units

Ansaldo GE Mitsubishi/Hitachi

Siemens Wartsila Other OEM's

SPS Funded by the OEMs
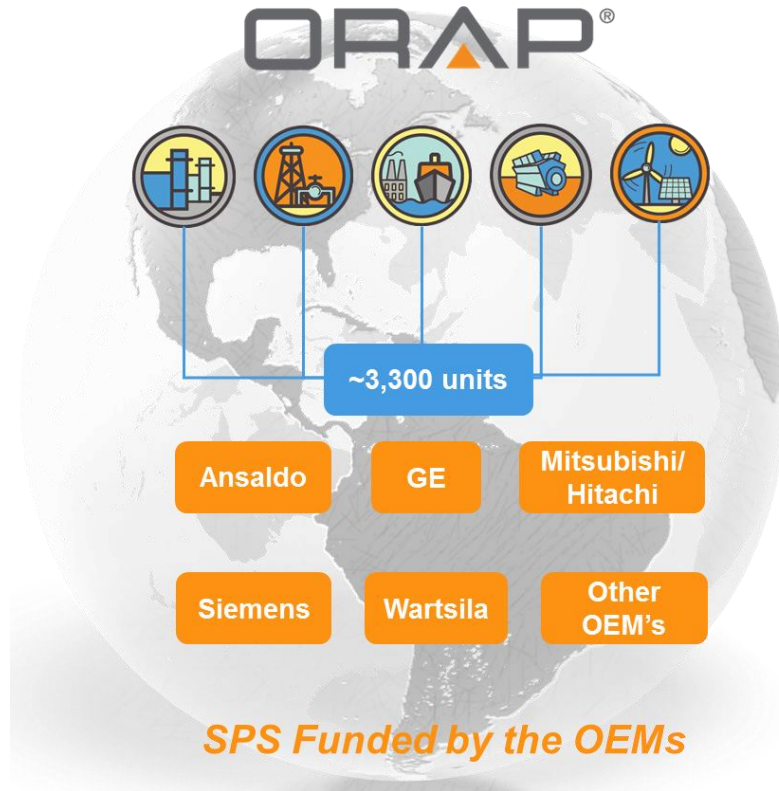
- A Global System

- Third-Party, Unbiased

- 30+ Years of Data

- RAM Data for Large-Scale Capital Equipment

- Multiple Technologies & Applications

- IEEE Standard 762 Compliant

ORAP Customer Feedback

- Reporting is Second, Third, Fourth Job
  - Reduce my manual effort
  - Improve data quality
- Big Data Generated Daily
  - Not enough hours in the day to review/use it
- Corporate and Regulatory Reporting Required
  - Automation and Standardization – Keys to Success
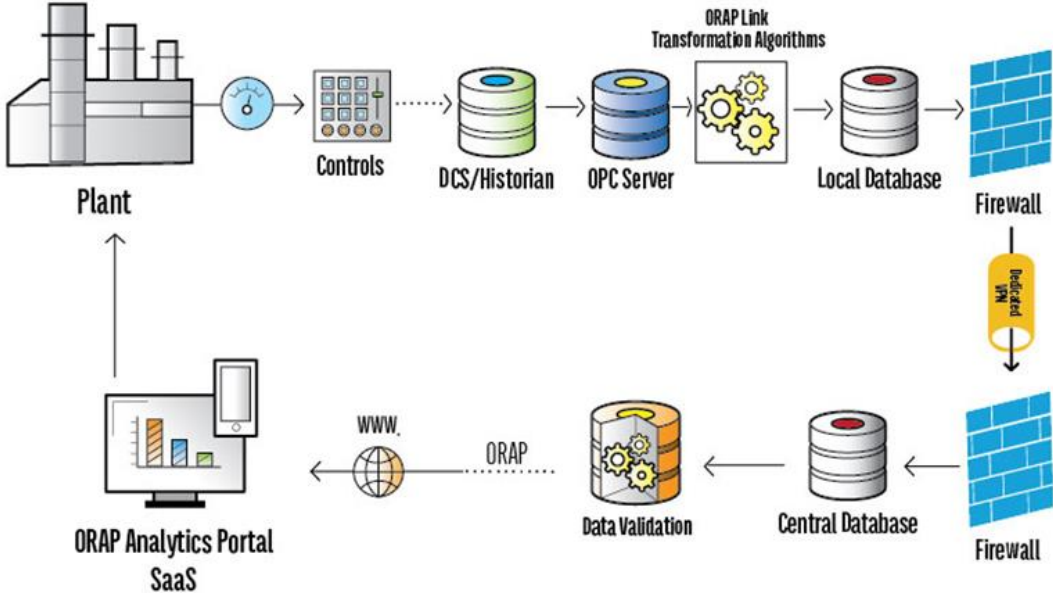- Data Security is Critical!

Data Driven Decision-Making

- Information on Demand - Analytics

- Automated Data Collection

- Transformation Algorithms

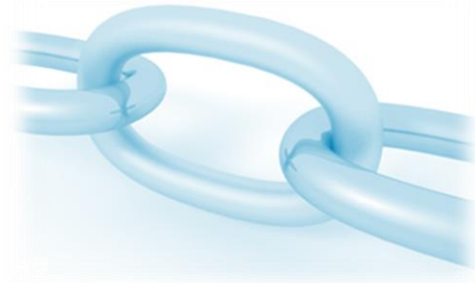- Data Validation

- Secure

ORAP Asset Insight™

OSIsoft.

ORAP before Digital was a thing….

ORAP Automation Circa Early 90's

Early Constraints & Barriers

- Hardware & Software – Local to Site
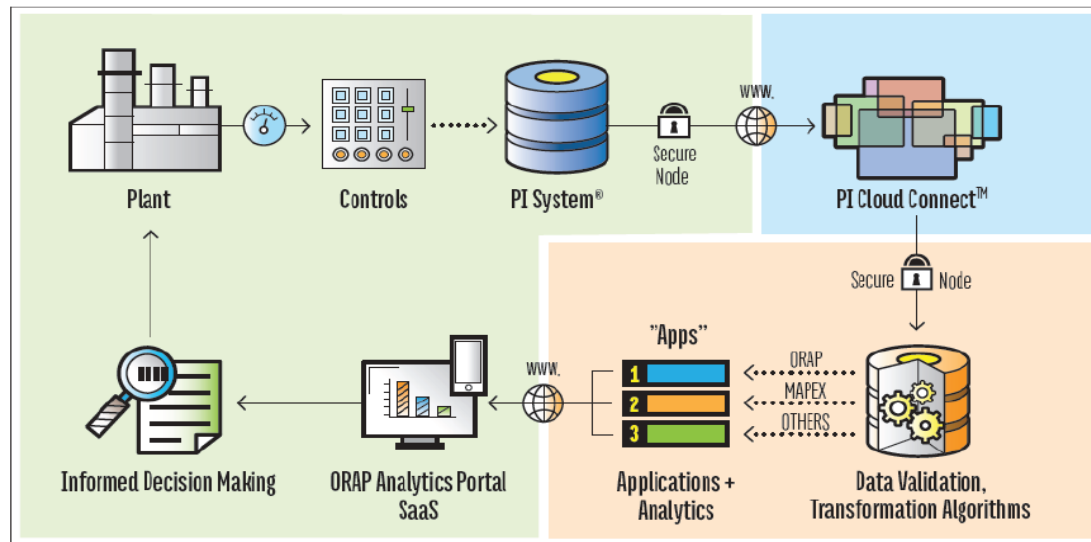- Onsite Installation - Custom Configuration
- Many different interfaces (Modbus, OPC, etc.)
- Dedicated VPN Required
- Lots of "Care and Feeding"
- Expensive to purchase and maintain

Streamlined Process – Partnership with OSIsoft

- PI Cloud Connect – CIP Compliant

- Scalable & Maintainable

- Leverage Existing PI System infrastructure

- Reduced Cost and Logistical Issues

ORAP Customer Case – Regulatory Reporting

GADS

- US Owner/Operator
  - 3 sites - Aeroderivative & HDGTs
- Submitting to NERC GADS
  - Manually Entering Approximately 1,800 Reserve Shutdown Events Each Year
- Solution = GADS "app"
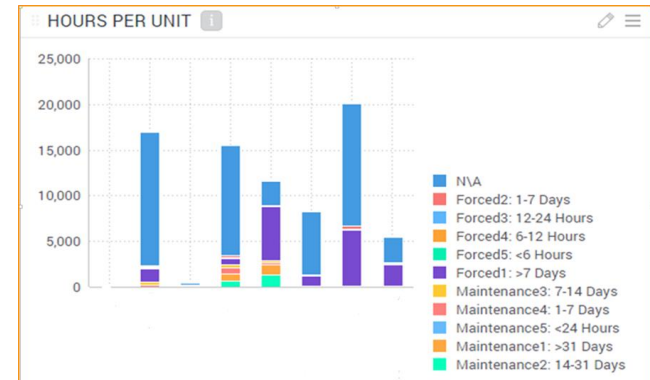
Productivity through Automation

Time to report reduced by >90%

ORAP Customer Case - Analytics

RAM KPIs

- Global Owner/Operator
  - 25+ sites - Aeroderivative, HDGT and Reciprocating Engines
- KPI Standardization Across Fleet
  - Benchmarking vs Fleet
  - Custom KPIs
- Solution = RAM KPIs "app"

Accurate, Timely, Consistent Reporting Across Company
NO Additional Work

ORAP Customer Case – Critical Parts-Life

Life Calculator

- US Owner/Operator
  - 3 sites with HDGTs & ST's
- Manually Tracking Parts Life in Excel
  - Limited Access to Records
  - Inventory value overstated by ~$5M
- Solution = Life Calculator "app"

All Capital Hot Gas Path Parts Life Tracked at a Serial Number Level
ROI <1 Year

Helping Plants Make Data-Driven Decisions

- "Run Your Plants – Not Reports"
  - PI Cloud Connect – CIP Compliant
  - Automated data collection improves productivity
  - Owner/Operators can focus on running the plant
  - Satisfies Corporate and Regulatory requirements
    - Benchmarking
    - NERC GADS reporting
    - All Standard Metrics
- Reduce O&M Costs
  - Accurately track Critical Parts Life
  - Improve Thermal Performance

Reducing O&M Costs through Automation, Capital Parts-Life Tracking, and Business Analytics

ORAP Asset Insight™

COMPANY and GOAL

SPS gathers data worldwide from power plants then provides reliability benchmarking statistics to help them make business decisions.
Optimizing data collection for plant staff
Reducing O&M costs through clear and timely information.

CHALLENGE

Plant personnel felt burden of multiple disparate reporting requirements with limited staff and saw this as a second, third, or fourth job.

- Reductions in Plant Staff
- Increasing Regulatory Requirements
- Aging Workforce

SOLUTION

Leverage OSIsoft's expertise and PI Cloud Connect technology combined with SPS' data validation and transformation algorithms to help streamline reporting

- Secure process with imbedded layers of security
- Scalable and maintainable
- Automated, Accurate Analytics

RESULTS

Allows customers to "Run Their Plants, Not Reports."

- Streamlined NERC GADS reporting
- Automated Incremental Parts-Life
- Custom KPI reporting

Contact Information

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Strategic Power Systems, Inc.®

Questions

Please wait for the **microphone** before asking your questions

State your
name & company

Please don't forget to…

complete the Post Event Survey

감사합니다

谢谢

Danke

Gracias

Merci

Thank You

ありがとう

Спасибо

Obrigado

Run Your Plants, Not Reports