Digital Transformation at Duke Energy

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VP & Chief Information Officer

Duke Energy

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Duke Energy – At a glance

7.5 M
ELECTRIC CUSTOMERS

FORTUNE 125
COMPANY WITH 150+ YEARS OF SERVICE

1.5 M
RETAIL GAS CUSTOMERS

50,200
MEGAWATTS OF GENERATING CAPACITY

3,000+
MEGAWATTS OF WIND AND SOLAR ASSETS IN 14 STATES

295,000
MILES OF ELECTRIC TRANSMISSION AND DISTRIBUTION LINES

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Redefining Duke Energy with Digital

Connected Customer

Proactive Digital Channels

Digital Home

Customer experience improves every two weeks

Intelligent Operations

Advanced Metering Infrastructure/ IoT Sensors/ Ops Data

Modern Grid / Distributed Energy Resources

Automated with Analytics

Digital Worker

Digital Tools

Task-relevant information

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OSIsoft's Reach into Duke Energy's Business

Regulated business

- Fossil and hydro operations
- Nuclear
- Solar
- Transmission and distribution
- Battery Storage
- Natural gas distribution

Commercial business

- Wind
- Solar
- Battery Storage

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OSIsoft's Footprint within Duke Energy

165
PRODUCTION PI SERVERS

900
INTERFACES

5,000
USERS

5M
DATA POINTS

70TB
OF ARCHIVED DATA

1984
EARLIEST PI ARCHIVES DATE BACK TO THIS YEAR

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Monitoring and Diagnostic Reliability Centers

- Improve long-term plant reliability and reduce potential costs for our fleet
- Utilizes equipment functional and health data
- Data fed to a predictive asset analytics solution
- Predict equipment problems before failures
- Over $ 130 million in cost avoidance to date

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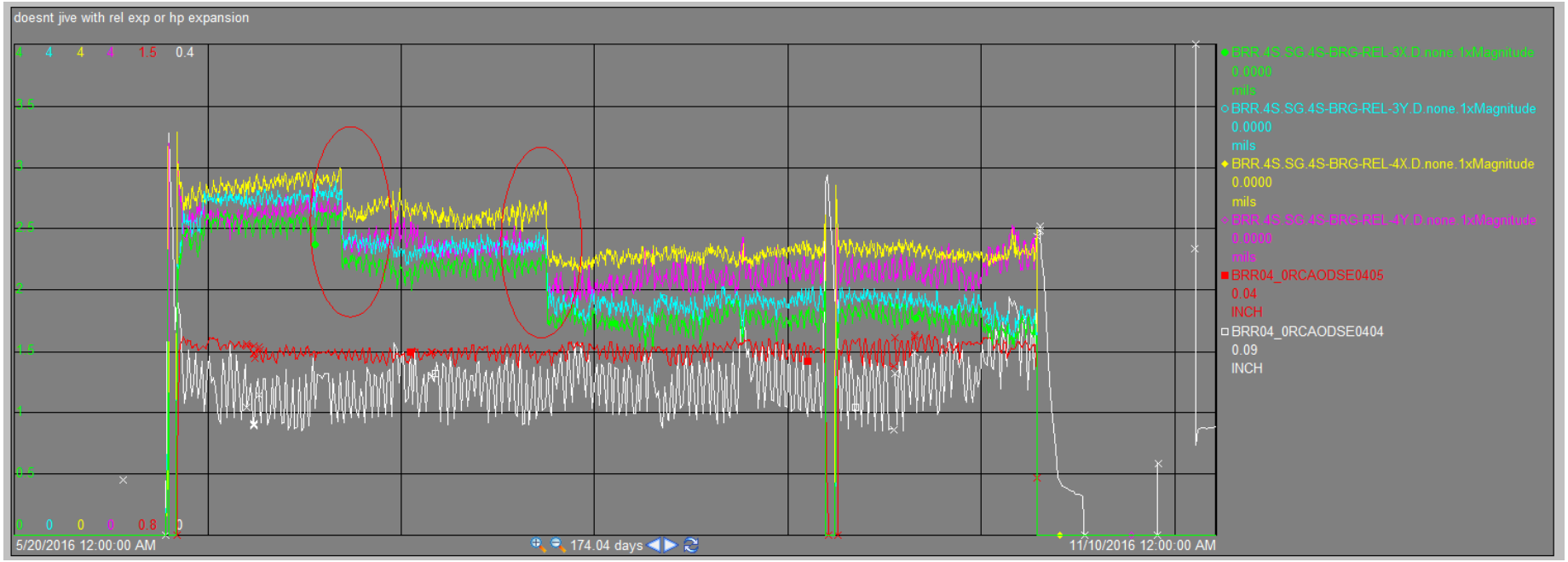
Detection Capabilities



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Condition-Based Maintenance

- Transmission substation transformers
- Average age 40 years
- Average cost $2.5 Million
- Approximate number 10,000
- PI Asset Framework is ideally suited for transformers

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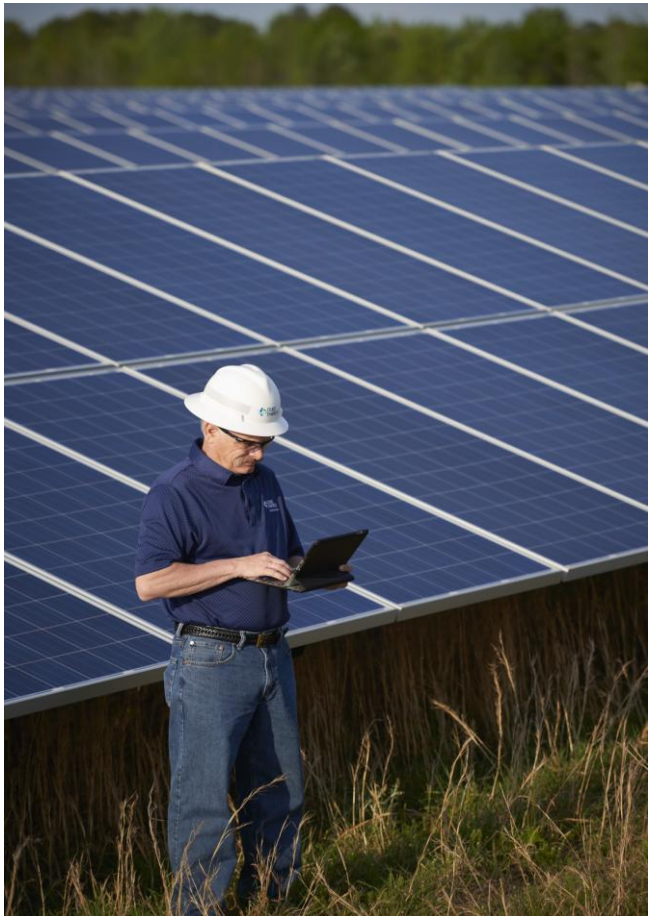
Next Wave of Digitalization

- Implement PI Asset Framework for regulated generation
- Leverage advanced analytics
- Deploy PI Vision to our mobile field workers



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Digital Transformation at Duke Energy

Building a Smarter Energy Future

Our Purpose: To power the lives of our customers and the vitality of our communities

Our Priorities: Customers, employees, operational excellence and growth.

CHALLENGE

Become a more digital utility in a rapidly changing environment.

- IT and Business are separated
- Resources are constrained

SOLUTION

Leverage OSIsoft's solutions to enable Digital Transformation

Become 100% Agile by 2020

Work as one with the business

RESULTS

Sustainable cost reductions

- Deliver tangible value faster
- Detect and address issues before failures
- Achieve greater value out of new business opportunities

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Merci

谢谢

Danke

Спасибо

Gracias

Thank You

감사합니다

ありがとう

Grazie

Obrigado

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