Cisco
Digitization in the Energy/Utilities Sector

Michael Dulaney, Director – Utility Vertical
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An Industry in Transition

New challenges for grid resilience (Variable Supply, Cyber Attacks)

Government regulation and new technologies driving infrastructure upgrades
2020 Vision and Key Investments for Utilities
Convergence to an “Intelligent Energy” Future…

Operational & Business Technologies
• Smart Meter
• Intelligent Grid & Demand Management
• Renewable energy

Information Technologies
• Mobility, Preferences, and Real-Time
• Big Data and Complex Event Processing
• New Service Models.. Cloud
• Cyber Security

Consumer Technologies
• Smart Phone and Tablet Technologies
• Affordability Information accessibility and sharing
• Internet of Things

Intelligent Energy Solutions and Services
Convergence is driving new thinking, strategies, and services - and requiring innovative approaches and technologies to define a new customer experience.
## Solutions To Accelerate Digital Transformation

**Solution Area**

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<thead>
<tr>
<th>Field Area Network</th>
<th>Use Cases</th>
<th>Case Studies</th>
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</thead>
<tbody>
<tr>
<td>• Advanced Metering</td>
<td>• Mobile Workforce / Fleet Management</td>
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<tr>
<td>• Distribution automation</td>
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<tr>
<th>Connected Workforce</th>
<th>Use Cases</th>
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<tr>
<td>• Collaboration</td>
<td>• Remote Expert</td>
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<td>• Mobility</td>
<td>• Incident Response</td>
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<td>• Remote Monitoring and Control</td>
<td>• Re-closer Control</td>
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<tr>
<td>• Volt/VAR Control</td>
<td>• Fault Location Isolation Service</td>
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<th>Substation Automation</th>
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<td>• MPLS / IP</td>
<td>• SCADA</td>
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<td>• Teleprotection</td>
<td>• NERC CIP</td>
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Delivered with Cisco IoT Technologies
Delivering Utility Benefits

Rich Purpose-built Connectivity
End-to-End architecture, multiple services

Industrial Security
Risk mitigation and compliance across IT/OT

IOx and Fog Applications
Distributed intelligence in the IoT network

Management and Automation
Scalable operations
Convergence of FAN Applications

Existing Proprietary Vertical Applications and Networks

Converged Network Based on Open Standards and Common Data Models

Business Application #1
Device #1
Network #1

Business Application #2
Device #2
Network #2

Business Application #3
Device #3
Network #3

Business Application #1
Device #1
Converged Application Infrastructure

Business Application #2
Device #2

Business Application #3
Device #3

Converged IP-Based Network

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DevNet Members To Date

IOT Endpoints

Borui Electric
Shanghai Runpower
Digitization Underway in Latin America
TOMORROW starts here.