

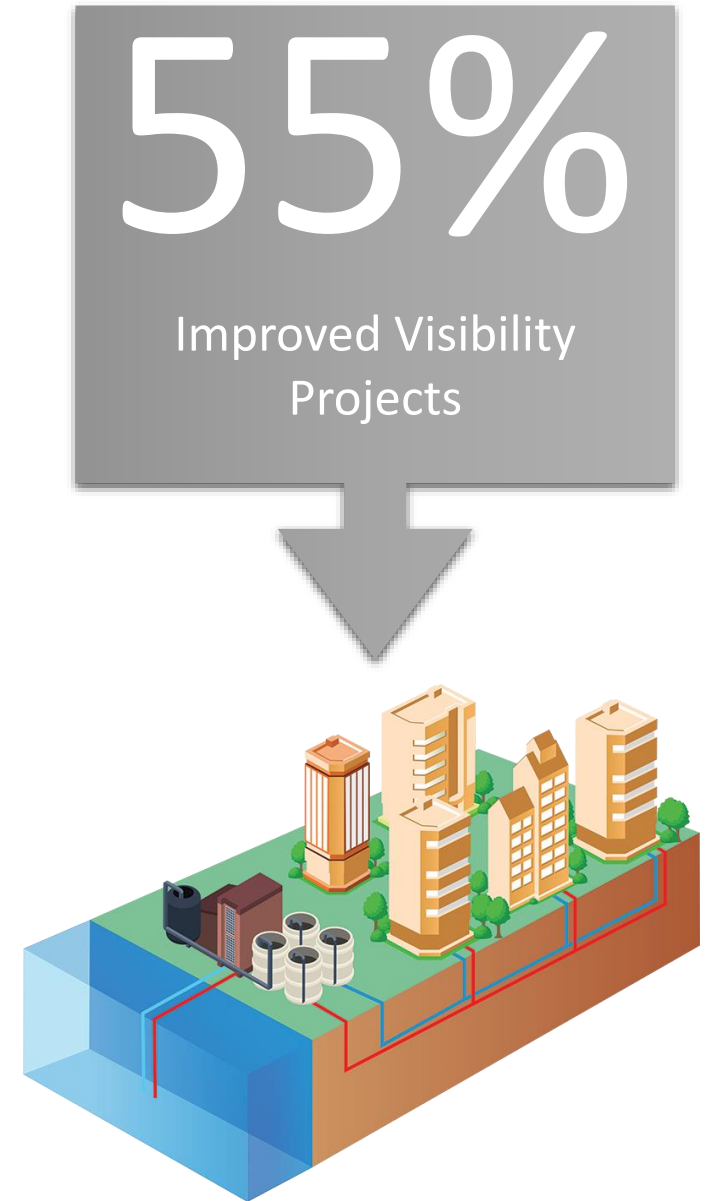
# Benefits of a Connected System

Adam Strynadka  
Booth 33



# Benefits of a Connected System

- Complements, and adds advanced functionality to existing infrastructure and systems
- Increased operational visibility
- Improved decision making
- Increased efficiency: reduces energy usage, costs, and CO2 emissions
- Provides predictive network behavior functionality
- Links usage data and billing to enhance customer experience
- Connectivity to additional systems & data sources
  - Sensors
  - Building automation systems
  - Business systems
  - Transfer data, reports to SCADA



# Success Story - UTA

## UTA – The University of Texas, Austin - 3<sup>rd</sup> largest university campus in the USA

### UTA Facts:

Consumers: 50,000

Campus Buildings: 160

Plants: 11

Chillers: 4

Piping: 9.7 km (~6 miles)

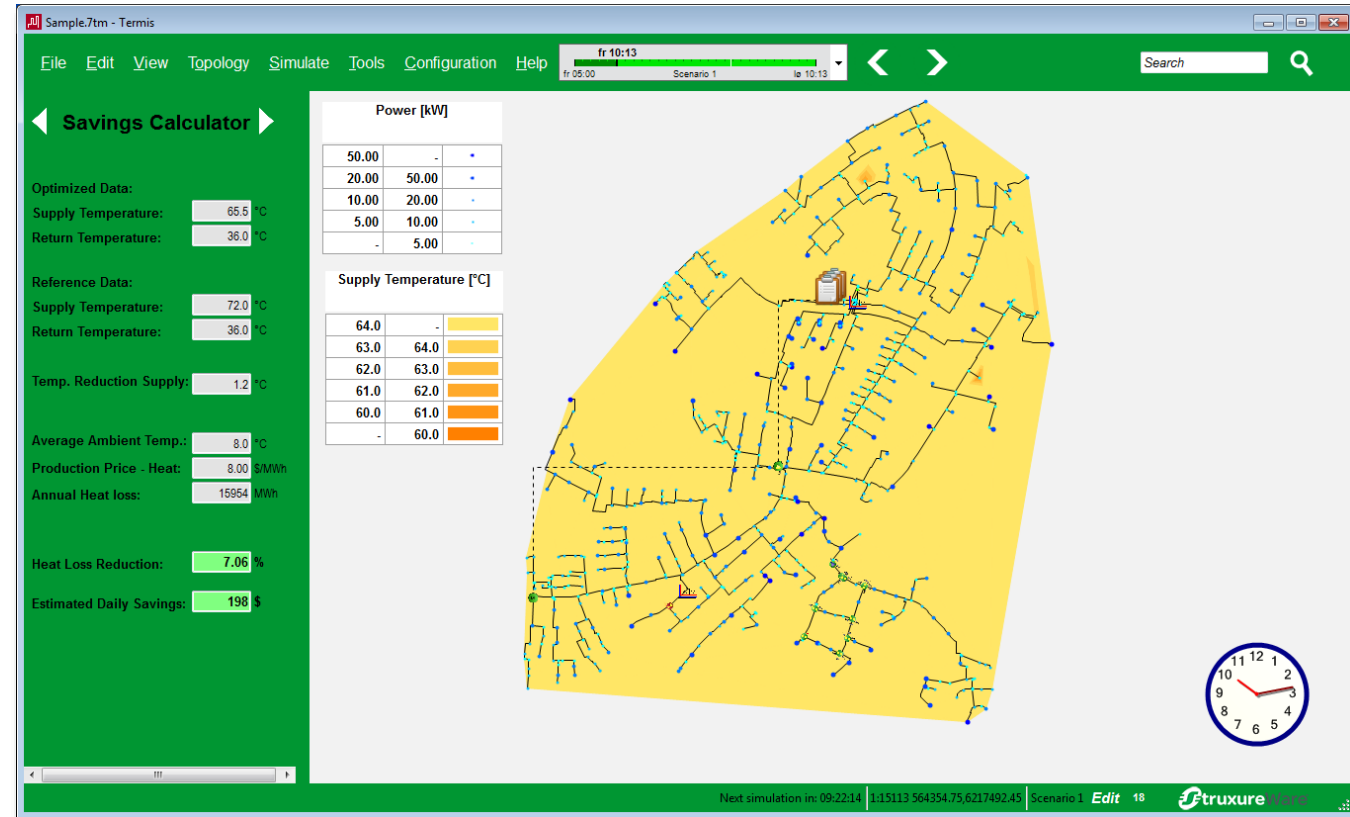
Temperature: 3.9 °C (~ 39°F)

### Project Goals:

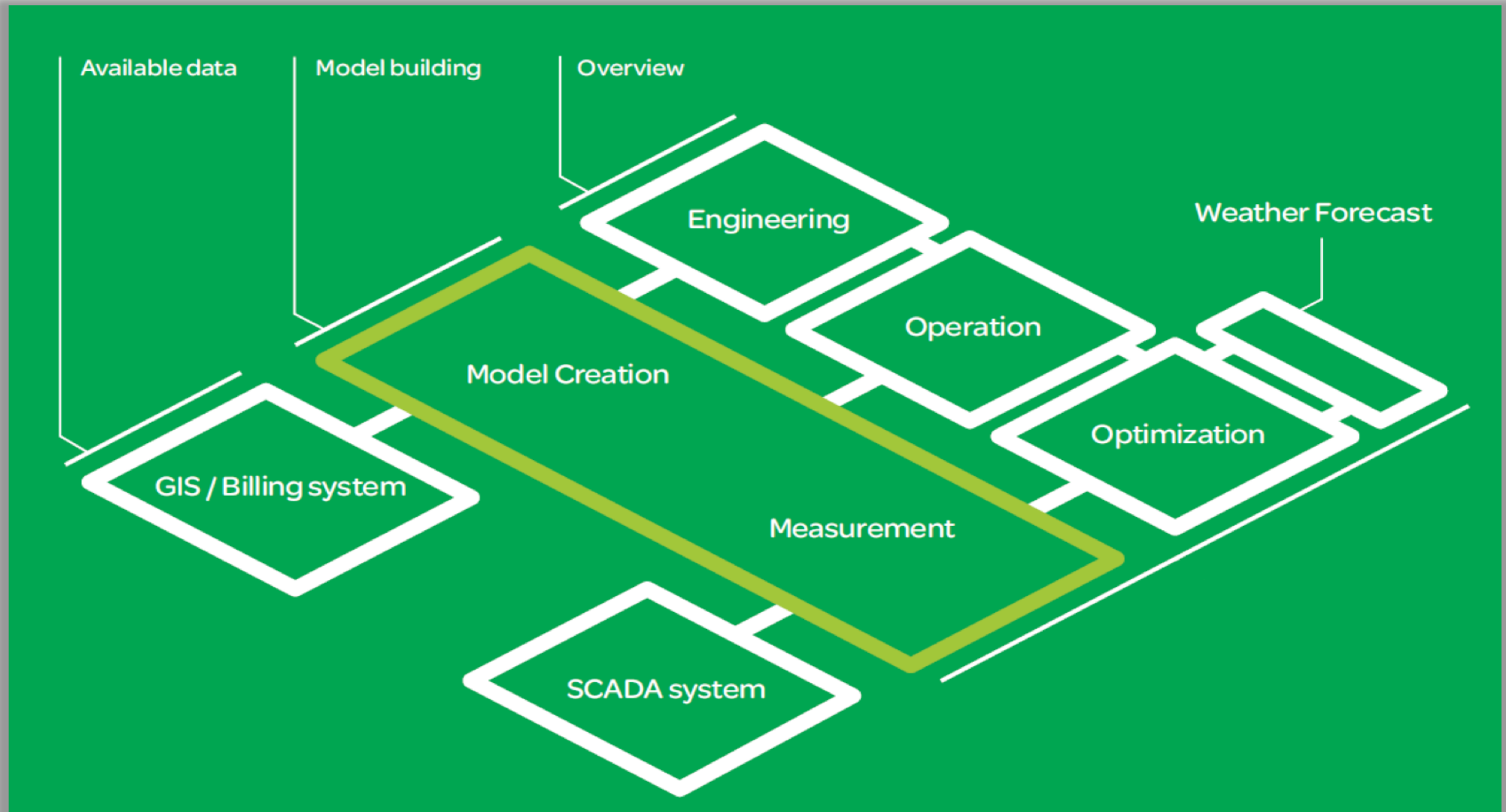
- Reduce energy consumption and environmental impact
- Improve contingency planning
- Optimize expansion and maintenance
- Ensure operational continuity and high level of reliability

### Solution: District Energy Platform with a Connected System

- Access to real-time application for prioritizing production
- Reduced overhead production costs
- Optimizing system pressures and temperatures
- Knowledge of impact of operational actions beforehand
- Decrease in operational man-hours



# Success Story - UTA





# Success Story – Creative Energy

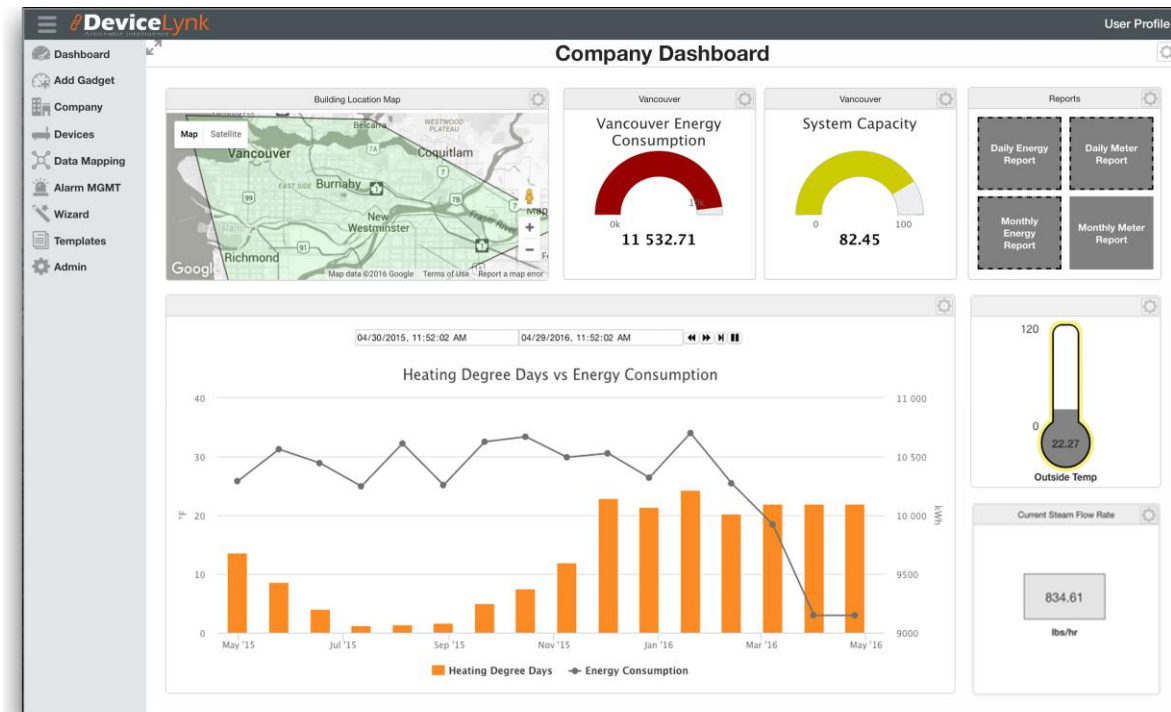
Vancouver based Creative Energy seeks remote monitoring solution for automated metering, customer retention, and more efficient system utilization.

## Project goals:

- Automate system-wide meter reading
- Provide customers with visibility into energy usage and billing
- Enable mobile maintenance staff with real-time data on mobile devices
- Make generation facility data available outside the control room

## Project Requirements:

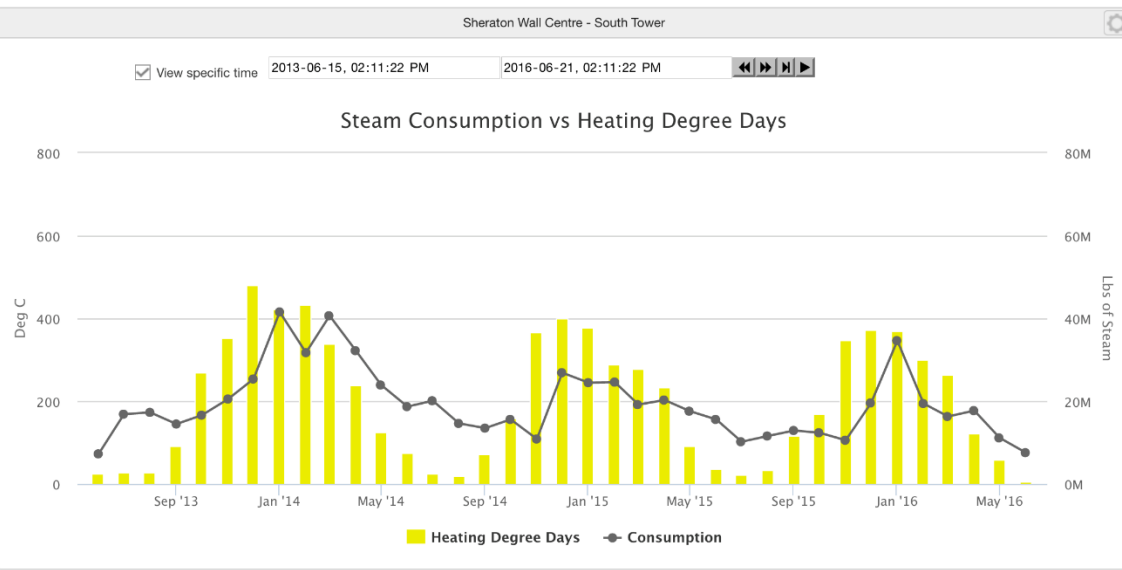
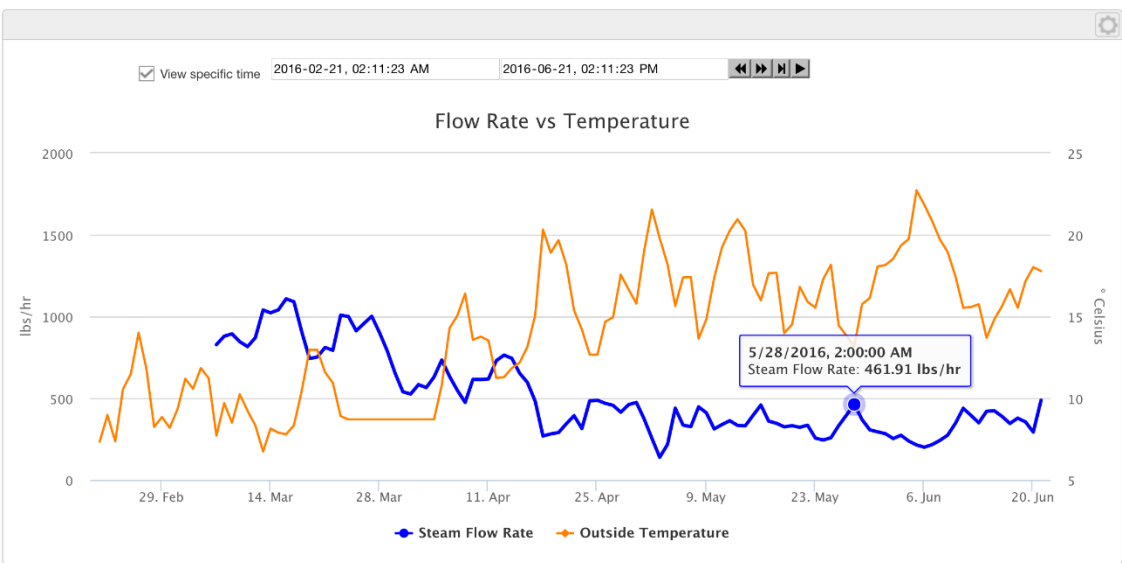
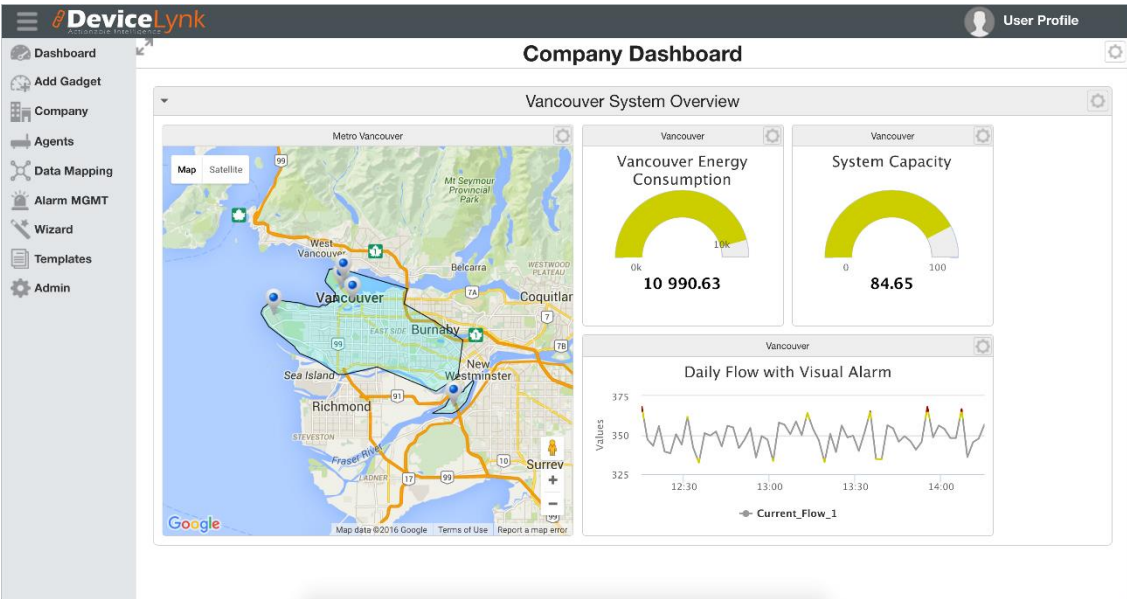
- Customer Retention
  - Detailed explanation of real-time and historical usage information to backup monthly bill
  - Information should enable customers to make smart, energy saving investments
  - Customer portal for real-time viewing
- Automated Data Collection (Meter Reading)
  - Enhance existing infrastructure
- Connect with Building Automation System of customer
- Integration with District Energy provider's billing software
- Fully interface and compliment energy generation control system
- Provide customer data into CE's enterprise database for advanced analysis



*"Based on the data being brought into our dashboard, I already see items that should be addressed in the Building Automation System."*

**- Lori Parker, Operations Manager, on behalf of Creative Energy,  
4 Hours after gaining access to DeviceLynk's Actionable Intelligence**

# Success Story – Creative Energy



# The Connected System

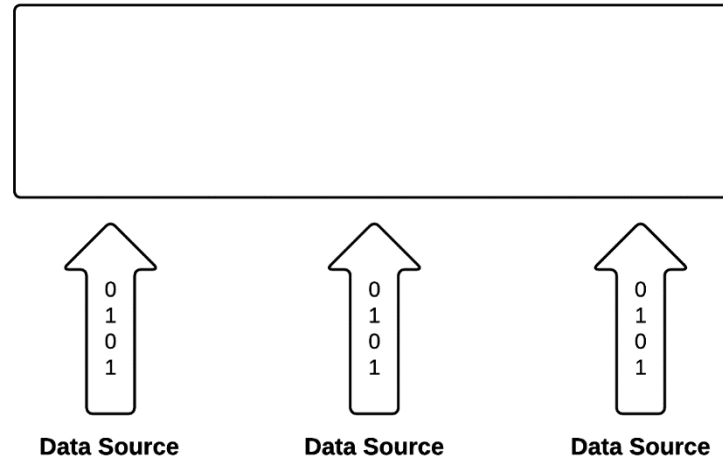


# Progression of a Connected System

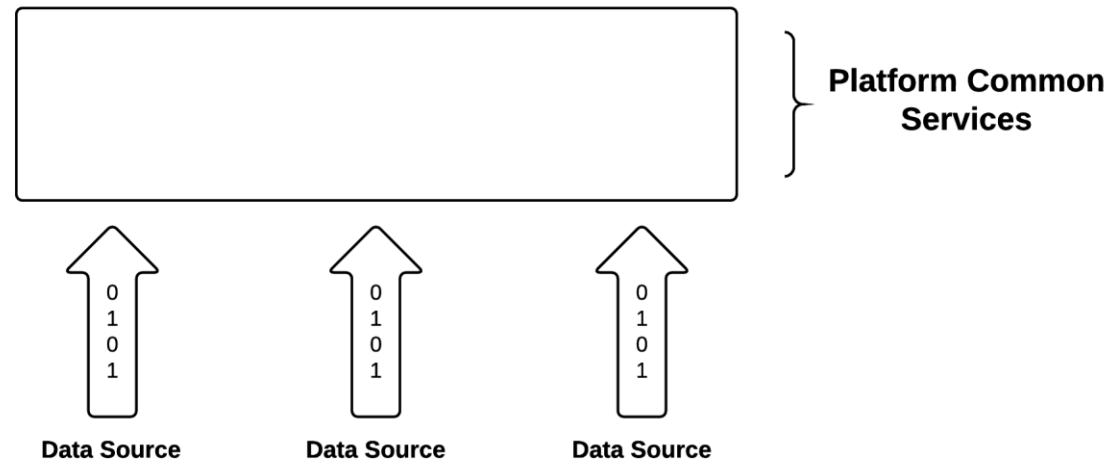




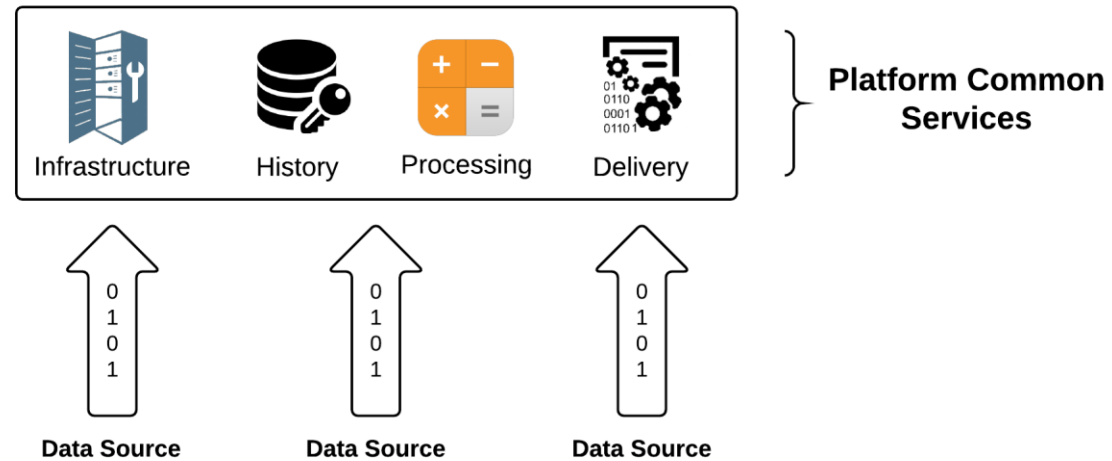
# The Platform Concept



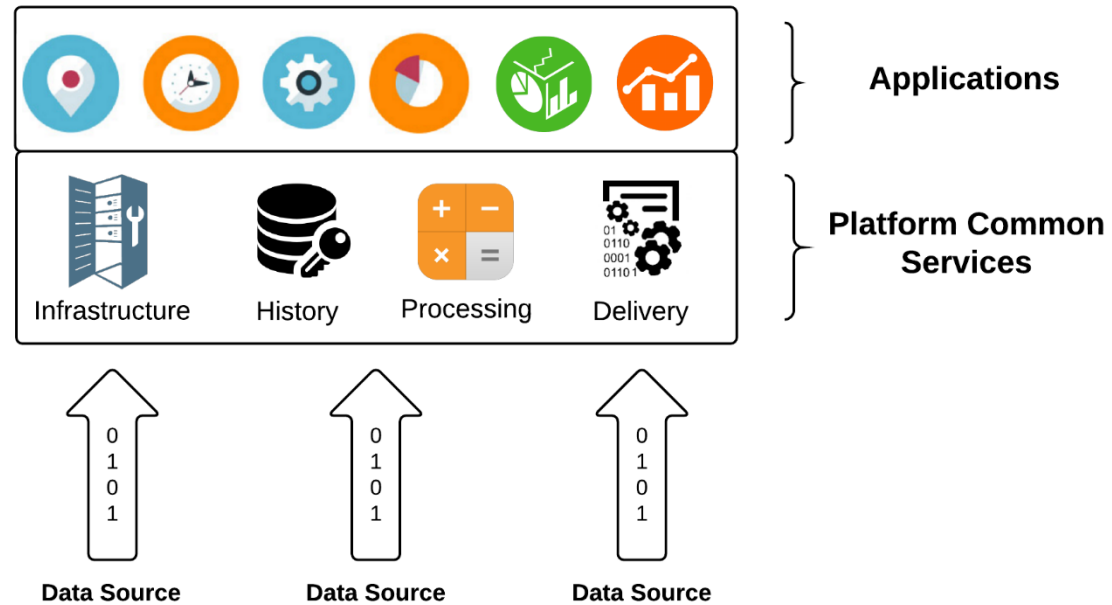
# The Platform Concept



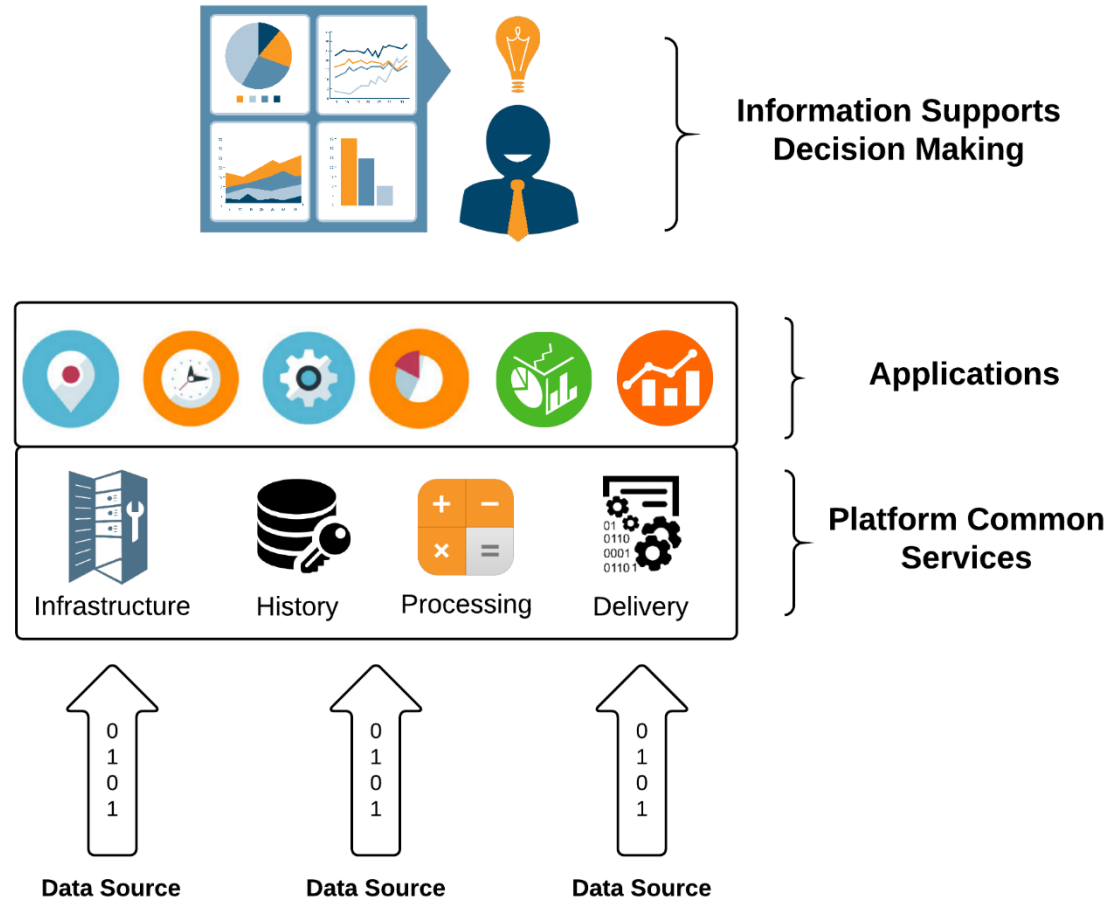
# The Platform Concept



# The Platform Concept

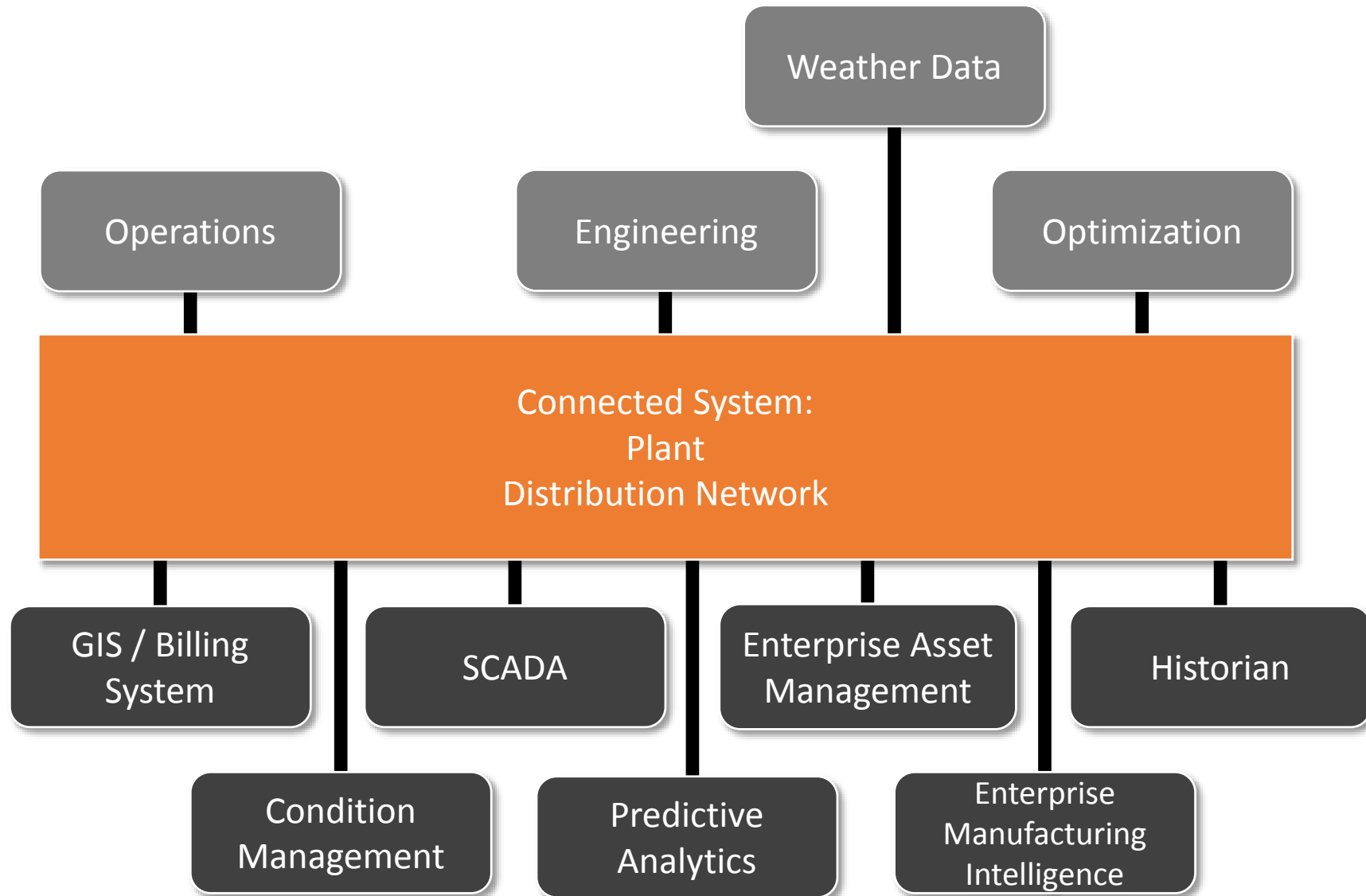


# The Platform Concept





# Beyond the Platform

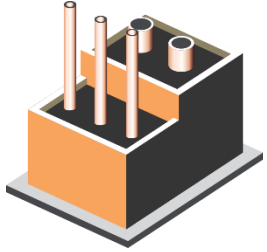


# Extending the Experience – Advanced Functions

- “Operating system” approach for applications & systems
- Centralized configuration, communication, and connectivity between process and business systems
- Controlled management of all aspects of operation and network – from generation facilities to customer sites
- Scalable platform – link to existing systems, or add on additional modules for advanced functionality:
  - Enterprise Asset Management (EAM)
  - Historian
  - Condition Management & Maintenance (CMMS)
  - Enterprise Manufacturing Intelligence
  - Manufacturing Execution System (MES)
  - Mobility
  - Workflow
  - Decision Support
  - Predictive Analytics
  - Business Systems



# Benefits of a Connected System



## District Energy System Operator - Generation Facility

- Manage the network efficiently with fluctuations in demand and changing weather conditions
- Increased visibility provides improved decision making
- View key plant data remotely - without affecting production
- Reduce operations and maintenance risks and costs
- Fully optimize pressure, temperature, production to reduce production costs
- Forecast system behavior using real-time data



## Mobile Workforce

- Save time and money by automating meter-reads
- Access to operational data any time, any where
- Early detection of malfunctioning / inaccurate equipment



## Customer (building operator)

- Provides easy access to usage data via web portal
- Integrate BAS & usage data into a single dashboard
- Relate usage data to external factors (weather, etc...)
- Insight into service status & maintenance



# The Platform: a Connected System

Less than  
**18** months

Return on  
Investment

Up to  
**10%**

Reduction of  
energy loss

Between  
**25-49%**

Reduction of O&M  
Costs

**76%**

Improved efficiency  
By 20-30%

**82%**

Reduced energy  
consumption by 10%

Over  
**75%**

Increase in  
productivity

Up to  
**20%**

Reduction of energy  
costs

Up to  
**25%**

Increase in  
Operational efficiency

Up to  
**20%**

Reduction of CO<sub>2</sub>

# Thank you!

Visit me at Booth 33 to discuss your journey  
toward a connected system!



Adam Strynadka, Managing Director

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