


# **Achieving Utility Digitalization with a Strategic Roadmap**

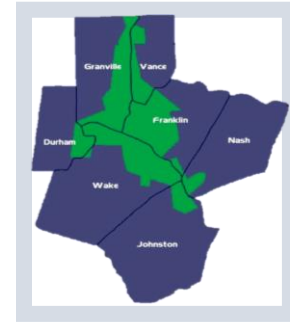
Wake Electric





# Wake Electric Membership Corporation

A Touchstone Energy® Cooperative 



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<b><i>Number of Member-consumers</i></b>	<b><i>47,000+</i></b>
<b><i>Total Annual kWh Sales</i></b>	<b><i>720 million</i></b>
<b><i>Average Residential Monthly Electricity Usage</i></b>	<b><i>1,275</i></b>
<b><i>Miles of Line (Approximately 3,400)</i></b>	
<b><i>Transmission</i></b>	<b><i>58</i></b>
<b><i>Overhead</i></b>	<b><i>1,750</i></b>
<b><i>Underground</i></b>	<b><i>1,900</i></b>

# Seven Steps of a Digitalization Roadmap

Telecommunications Platform(s)

AMI

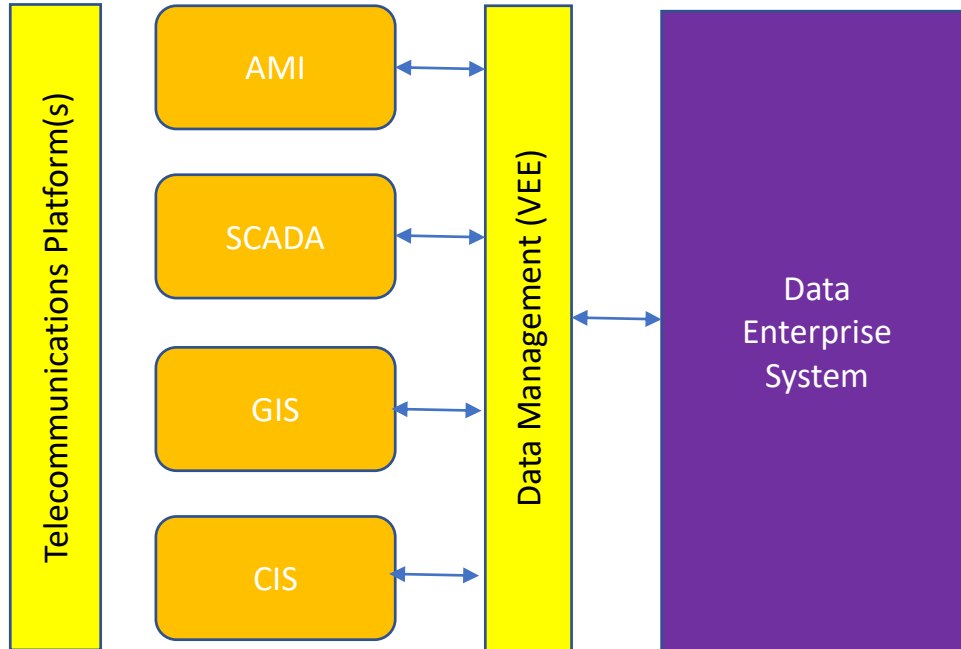
SCADA

GIS

CIS

- 1) Telecommunications Evaluation
  - Public network availability
  - Terrain study (vegetation, elevation changes, etc)
  - Tower infrastructure
- 2) Digitalization Foundational Technologies (Data Gatherers)
  - Advanced Metering Infrastructure (AMI)
  - Supervisory Control and Data Acquisition (SCADA)
  - Geographic Information System – Digital Mapping (GIS)
  - Customer Information System (CIS)

# Digitalization Roadmap



### 3) Data Management (VEE)

- Validation
- Editing
- Estimation

### 4) Data Integration

- Validated data in a common database
- Cloud hosted?

# Computing Life Cycle

## Functionality and Scope

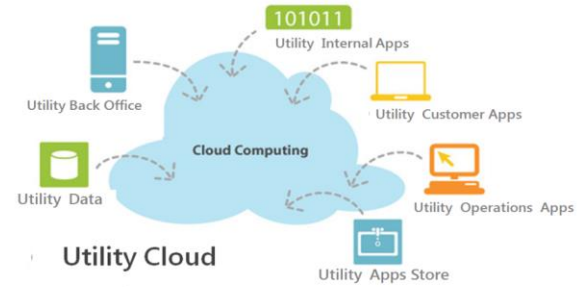
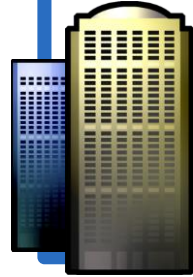
Plug in & Go!  
Use As Needed

Right Sized,  
Pay Per Use

Ops Staff, IT  
Infrastructure

Data Center,  
NOC

Utility In  
House



Utility Cloud

- Low Cost
- Fully On Demand

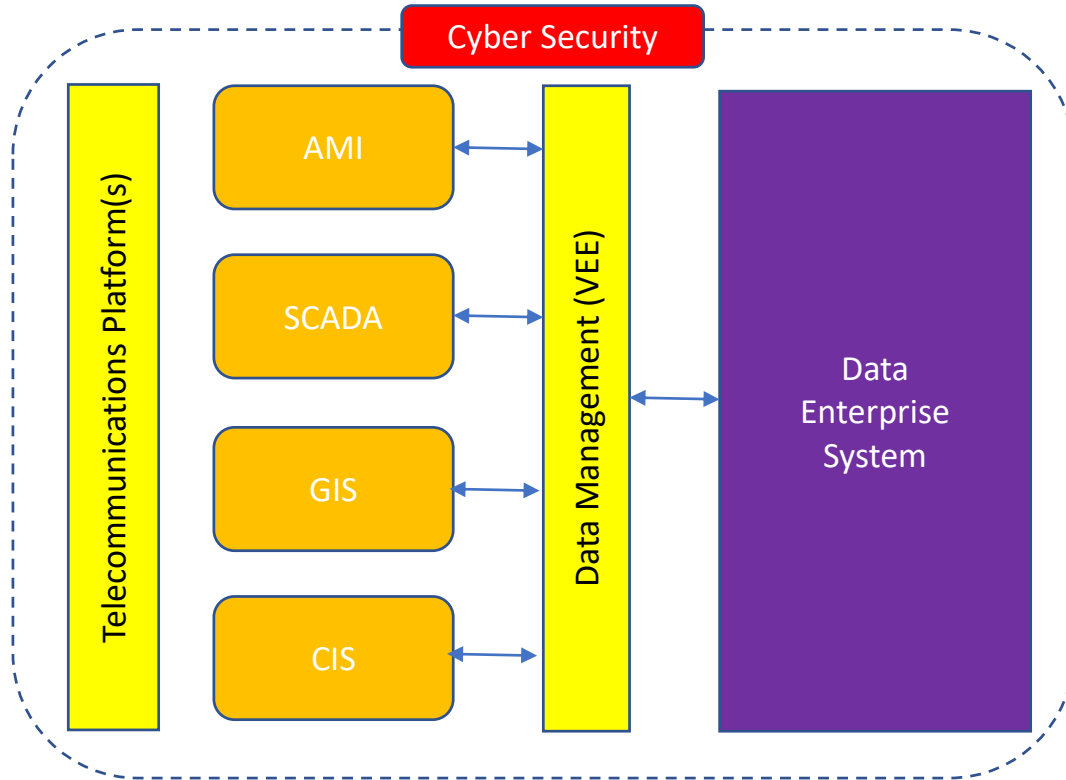
- Utility Hosting
- Over Built or Under Built

● Highest Cost of Maintenance

● Traditional Infrastructure

198 0      199 0      200 0      201 0      201 5

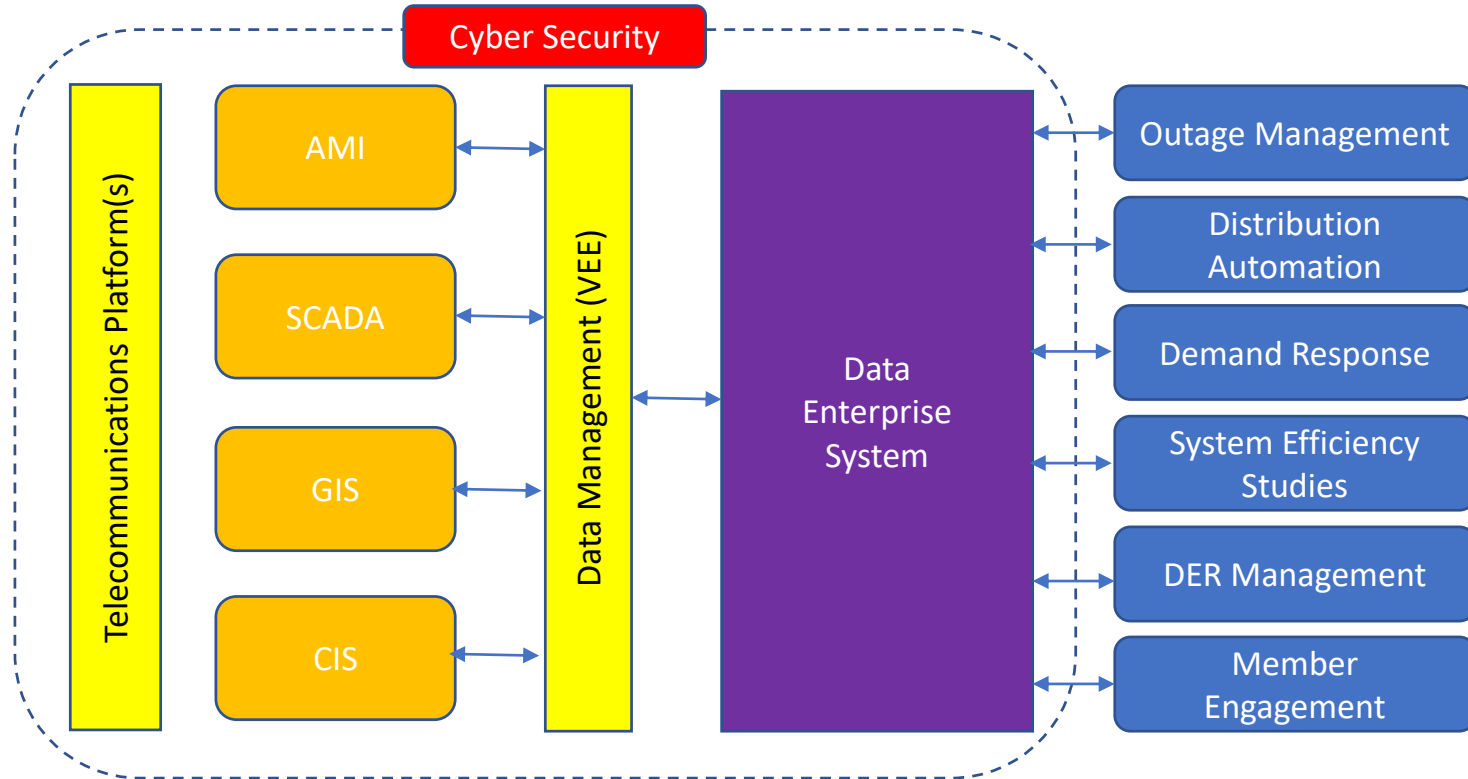
# Digitalization Roadmap



## 5) Cybersecurity

- Firewall Management
- Password Management
- Vendor provided tools

# Digitalization Roadmap



6) Critical Tool Creation

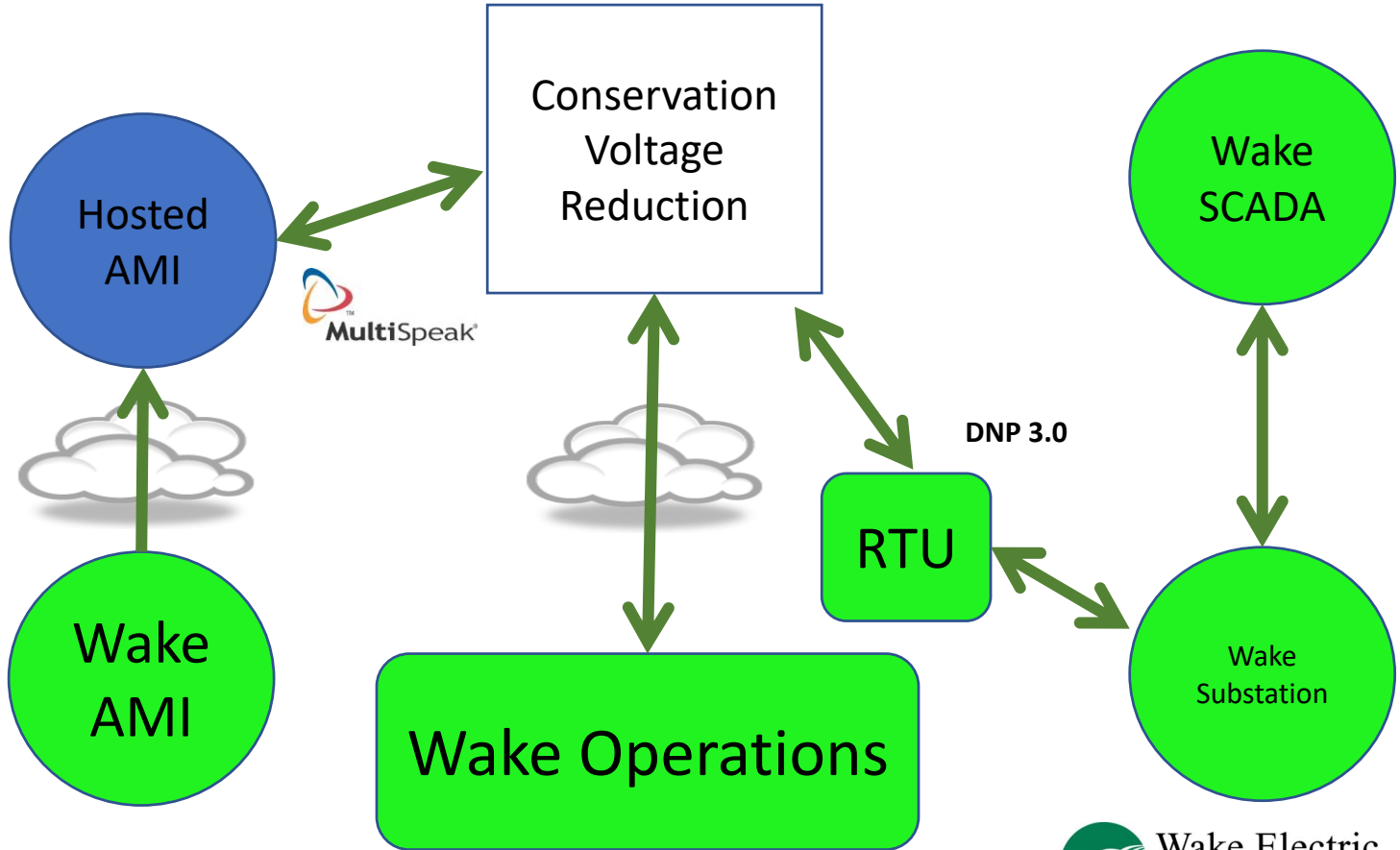
# Example - Understanding Meter Tamperers

Meter Number	Reported Event Time	Category	Account Number	Service Address	Service Status	Map Location
5	2018-02-15T19:48:02	Tamper		GREENFIELD DR 35	18	<a href="https://www.google.com/maps?q=36.12656462,-78.56915654">https://www.google.com/maps?q=36.12656462,-78.56915654</a>
3	2018-02-15T14:55:56	Tamper		W GREEN ST 1647	1	<a href="https://www.google.com/maps?q=36.12656462,-78.56915654">https://www.google.com/maps?q=36.12656462,-78.56915654</a>
1	2018-02-15T14:54:10	Tamper				
5	2018-02-15T14:45:26	Tamper				
2	2018-02-15T13:44:07	Tamper				
2	2018-02-15T13:33:31	Tamper				
1	2018-02-15T13:06:49	Tamper				
1	2018-02-15T12:29:34	Tamper		GLENDALE DR 176	18	<a href="https://www.google.com/maps?q=36.12656462,-78.56915654">https://www.google.com/maps?q=36.12656462,-78.56915654</a>
2	2018-02-15T11:47:42	Tamper				
3	2018-02-15T10:56:46	Tamper				
2	2018-02-15T10:08:50	Tamper		THOMPSON MILL RD 7229	1	<a href="https://www.google.com/maps?q=36.12656462,-78.56915654">https://www.google.com/maps?q=36.12656462,-78.56915654</a>

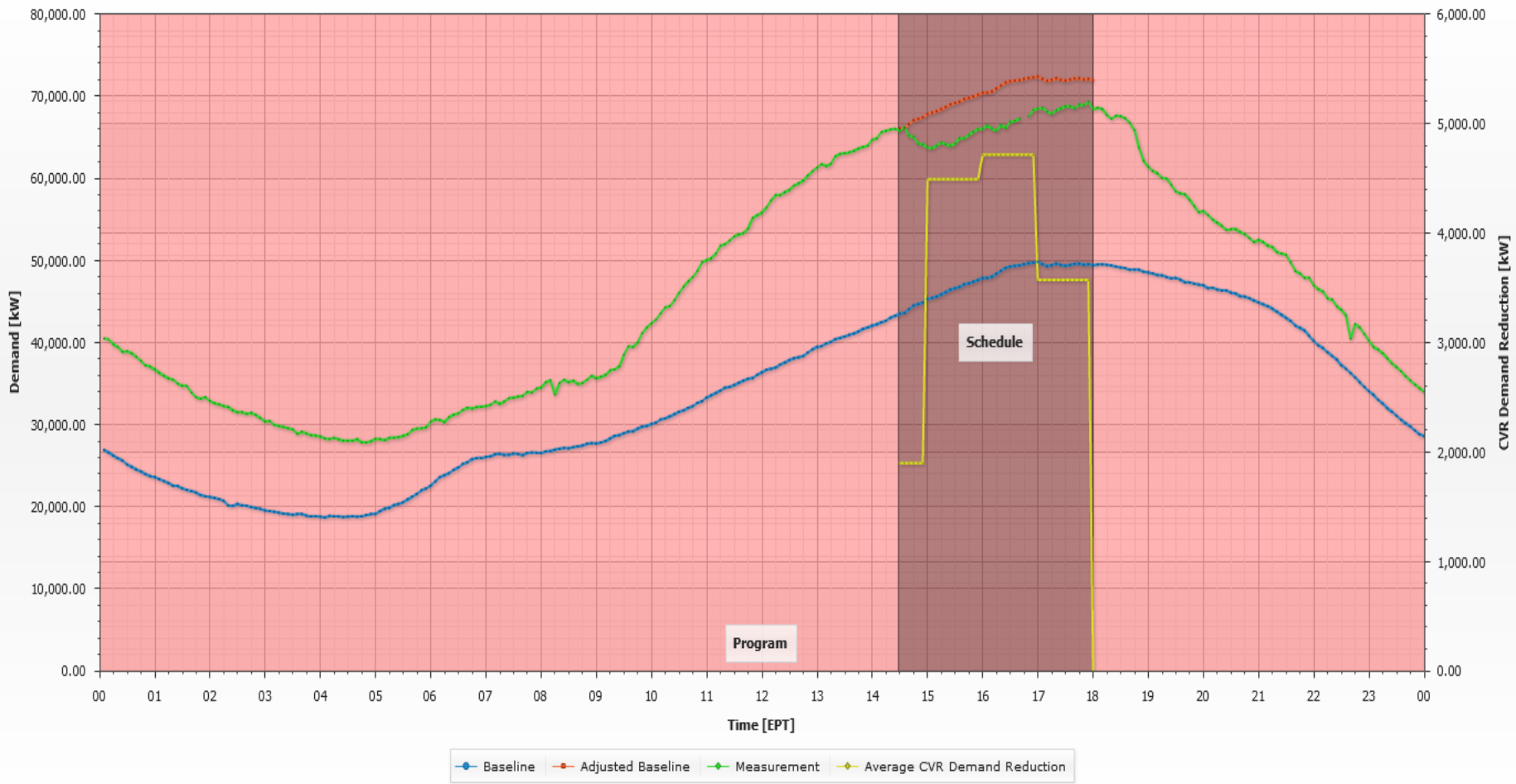
This report is autogenerated

- 54957 – was tampering and we charged them a tamper fee
- 36688 – Grady is going to check to see if the seal was cut
- 19955 – removed meter yesterday there was a service order
- 54184 - removed meter yesterday there was a service order
- 26874 - removed meter yesterday there was a service order
- 20925 - removed meter yesterday there was a service order
- 16490 - removed meter yesterday there was a service order
- 17815 – electrician removed meter to do work – no service order – meter called in an outage and we sent a service man out
- 28049 - removed meter yesterday there was a service order
- 38786 - removed meter yesterday there was a service order
- 23272 – electrician removed meter to do work – there was a service order created on the account

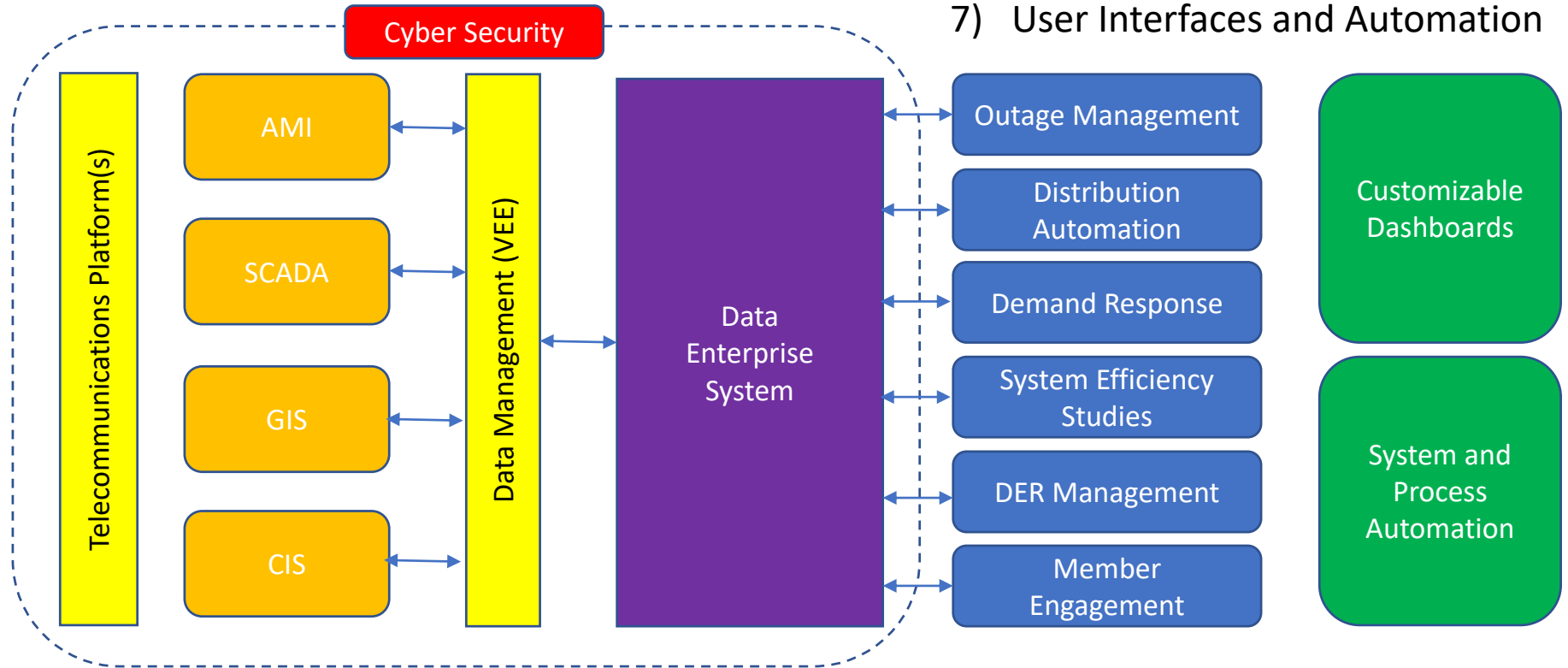




### Event Name : Voltage Reduction Schedule\_07/21/2015



# Digitalization Roadmap



# Seven Steps of a Digitalization Roadmap

1. Telecommunications Evaluation
2. Foundational Digitization Technologies (Data Gatherers)
3. Data Management (VEE)
4. Data Integration
5. Cyber Security
6. Critical Tool Creation
7. User Interfaces and Automation



# Thank you.

Don Bowman

Wake Electric

919-863-6487

[don.bowman@wemc.com](mailto:don.bowman@wemc.com)



Wake Electric  
Membership Corporation

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