



National Summit on Smart Grid & Climate Change

December 2&3, 2014

**Landis
+ Gyr**
| manage energy better



Our Vision and Evolution

Smart Grid



Proven, scalable
Metering/AMI/DA platform
Managed Services

Smart Utility



Grid Mgt
Advanced Load Management
Distribution Energy Mgt
Adv. Services | Smart Lighting
Analytics | Data Management
Energy Storage

Smart Community



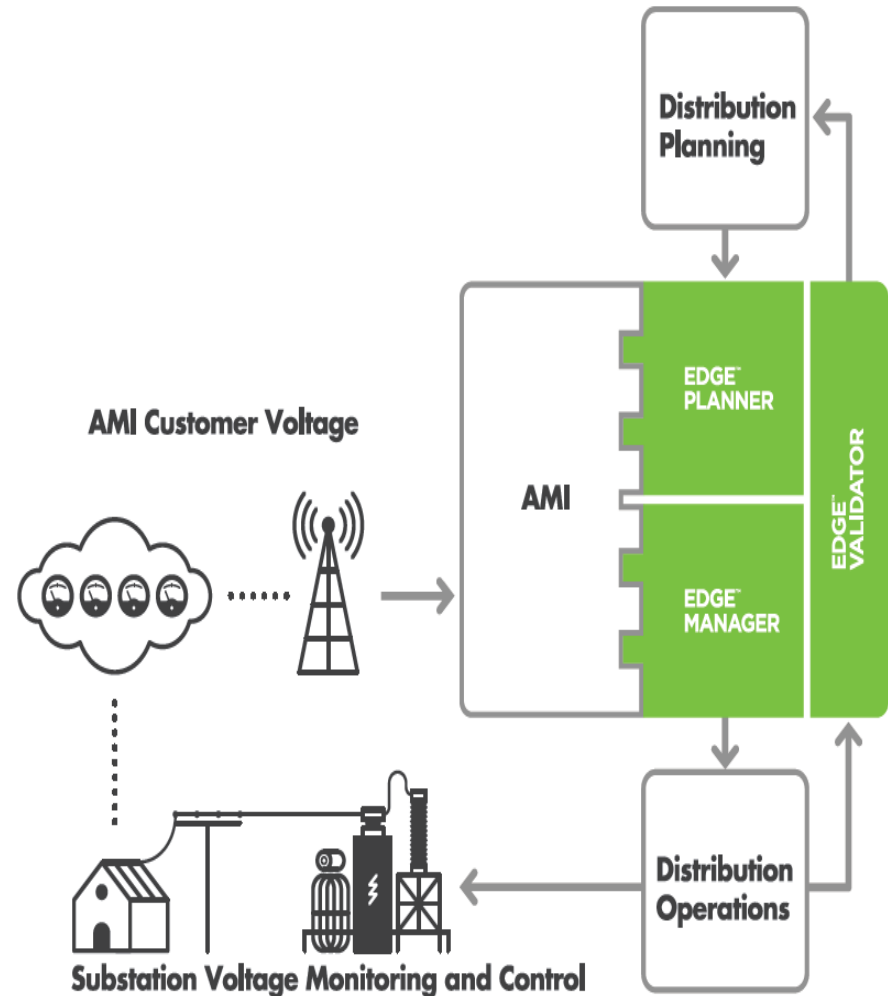
Enhancing Consumer Experience
and Sustainable Communities
through Energy Management
Solutions and Services

Dynamic Voltage Management

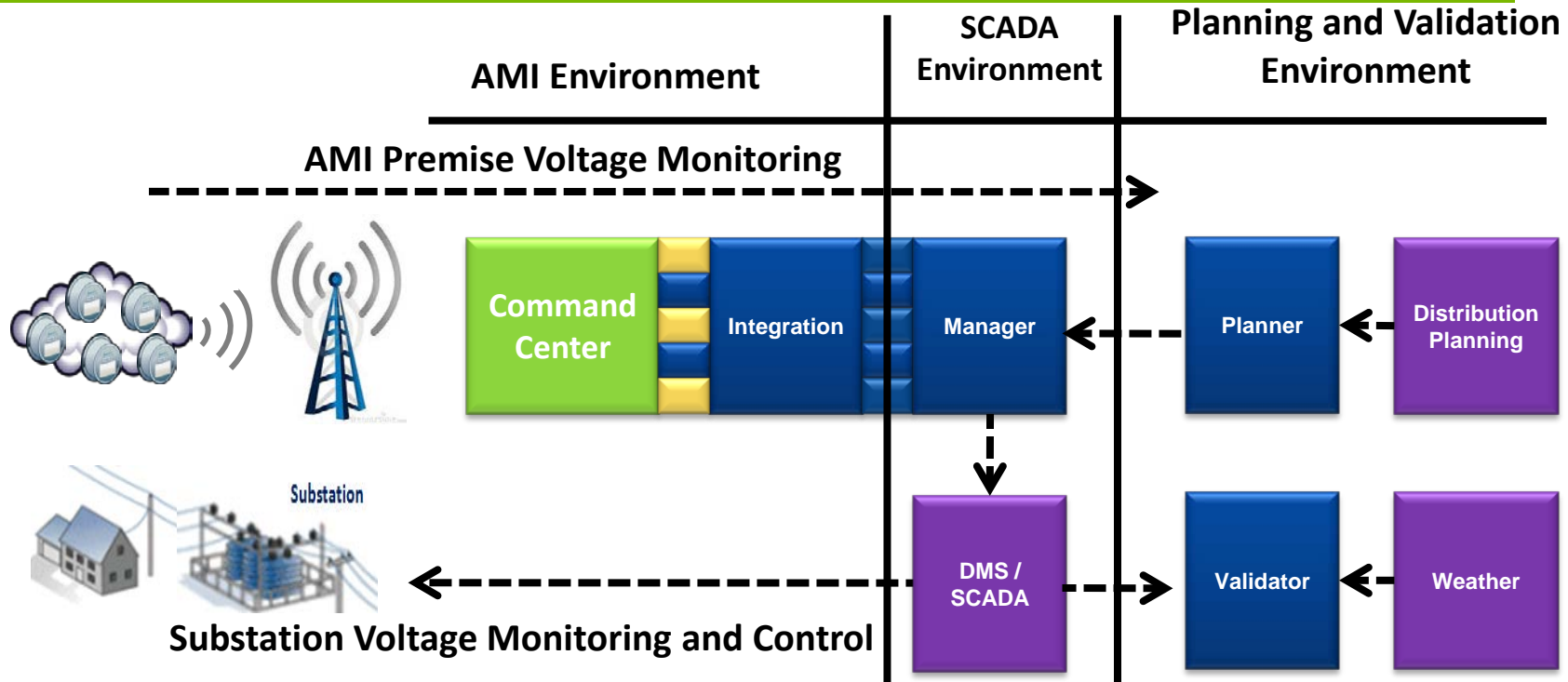


Dynamic Voltage Management Powered by EDGE

- Software Solutions
 - Energy Efficiency
 - Demand Response
 - Volt/Var Optimization
- World Class Partners
 - Dominion Voltage Inc.
 - Lockheed Martin
- Proven Technology
 - 4 years of field experience
- Validated Business Case
 - Pays for itself circuit by circuit
 - Killer app for the AMI business case



Integrated Architecture



The software product is comprised of three distinct modules:



– Studies operating voltages, determines the average expected energy savings for the candidate circuits, and recommends any distribution upgrades required to achieve maximum savings



– Configures CVR and coordinates the operation of Capacitors, Regulators, & LTC's



– Confirms achievement of expected energy savings through verifiable statistical analysis

CENTRAL LINCOLN



- Formed in 1940
- Serving 38,600 customers
- 120 miles of Oregon coastline
- 700 square miles
- 4th largest Oregon electric utility
- 270 MW Peak Load
- 130 employees
- Winters -Wet, Wild, Windy

DOE Smart Grid Investment Grant

- Landis+Gyr AMI system
- CVR pilot
- Other grid modernization



BPA Energy Conservation and Incentives Program

- DVI (Landis+Gyr partner) selected for CVR pilot
- Pilot began March 2013



BACKGROUND

What is Voltage Optimization using AMI?

By reducing distribution feeder voltage and actively monitoring service voltage, Voltage Optimization promises to reduce energy consumption.

If you want all the technical stuff!

http://www.techadvantage.org/wp-content/uploads/2014/03/5C_Lovelin-and-Peskin.pdf

VOLTAGE OPTIMIZATION WITH AMI

Bruce Lovelin, P.E. – Central Lincoln
Melissa Peskin, P.E. – DVI

CENTRAL LINCOLN
A PUBLICLY-OWNED ELECTRIC UTILITY

EDGE | *DVI*

The slide features a blue sky with white clouds background. A dark grey banner with a green triangle on the left contains the title and speakers' names. Below this is the Central Lincoln logo, which includes a stylized house icon with yellow windows. At the bottom is the EDGE logo with a green triangle and the DVI logo.

SAVINGS RESULTS

	Voltage Reduction	CVR Factor	Energy Savings
Summer	3.09%	0.43	1.49%
Winter	2.35%	1.05	2.49%

- CVR factor better than expected
 - 0.36 expected based on zone and A/C %
- **Weighted average savings = 2.15%**
- **Projected annual savings = 2.42%**

