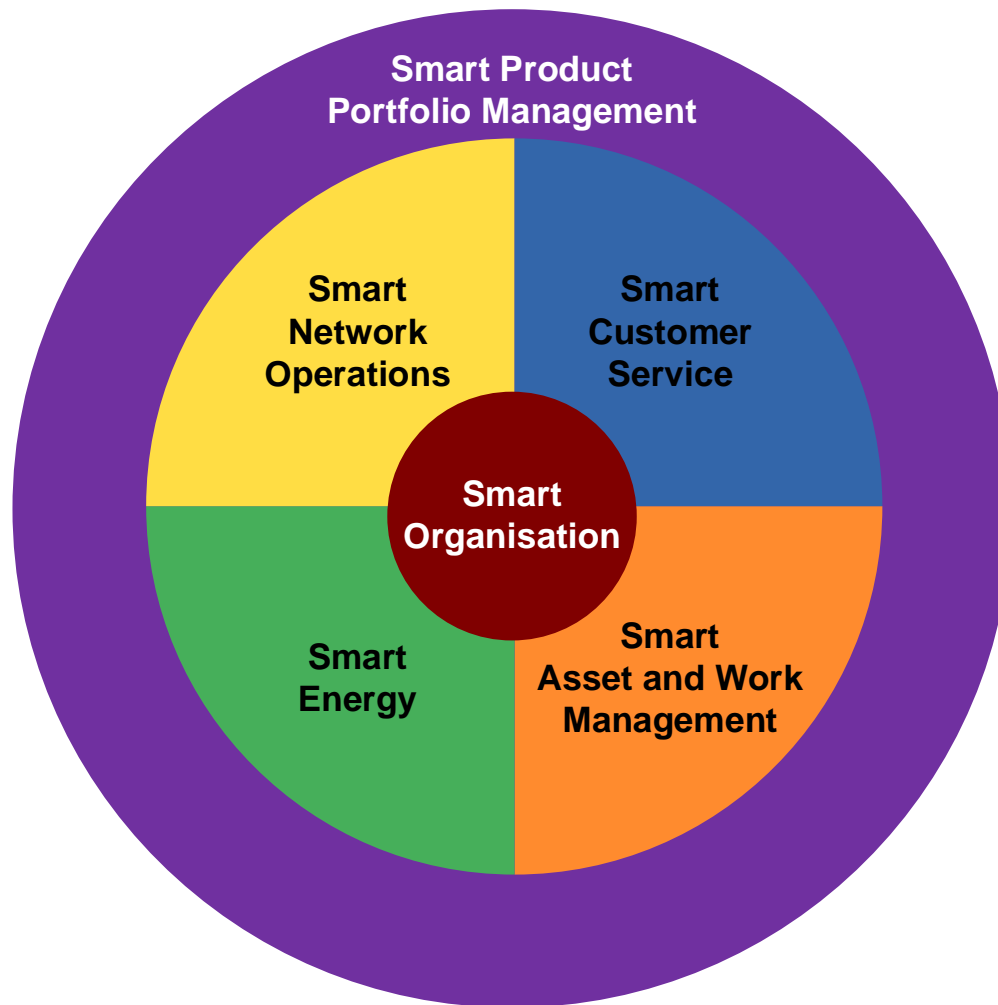


October 2015

# How to become a Utility of the Future?

## Strategy Development with the Smart Grid Compass<sup>®</sup>

# The Smart Grid Compass<sup>®</sup> is an extensive framework for the development of Smart Grid related strategies



## Compass Dimensions

### Objectives: What am I trying to achieve?

Business objectives an organization wishes to achieve

### Business Capabilities: How can I do this?

Different ways how an organization can execute an activity depending on the business requirements

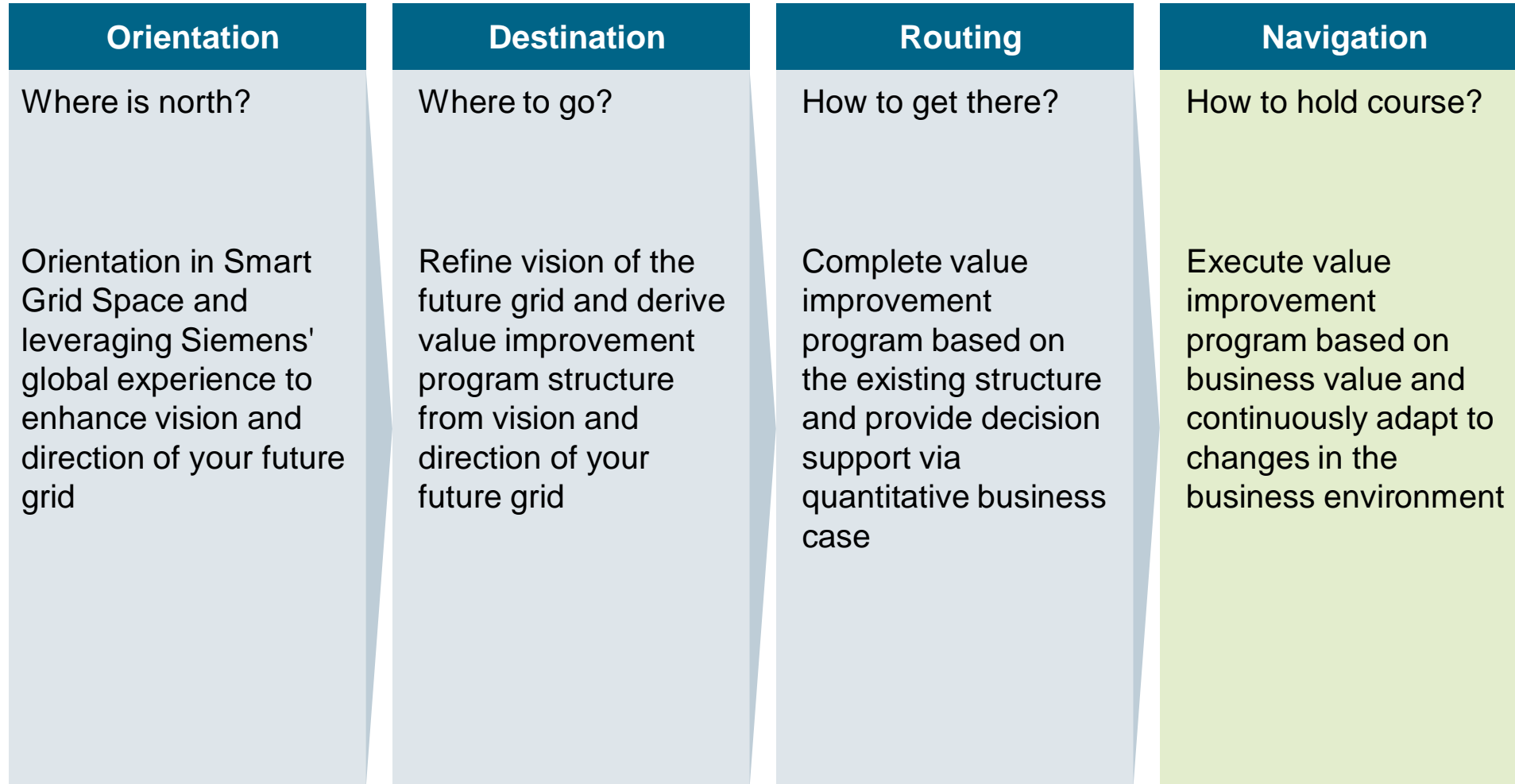
### Technologies: What do I need?

Required technology functions

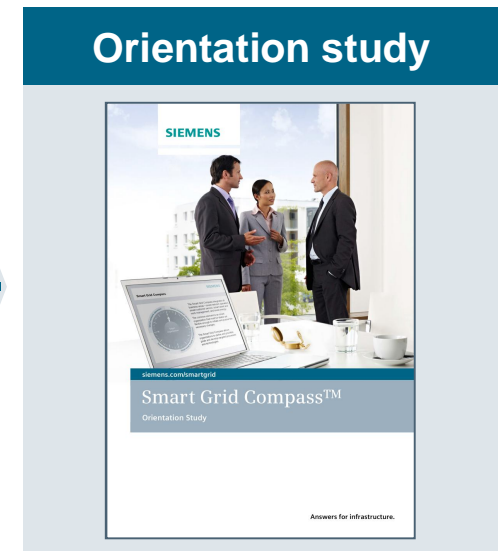
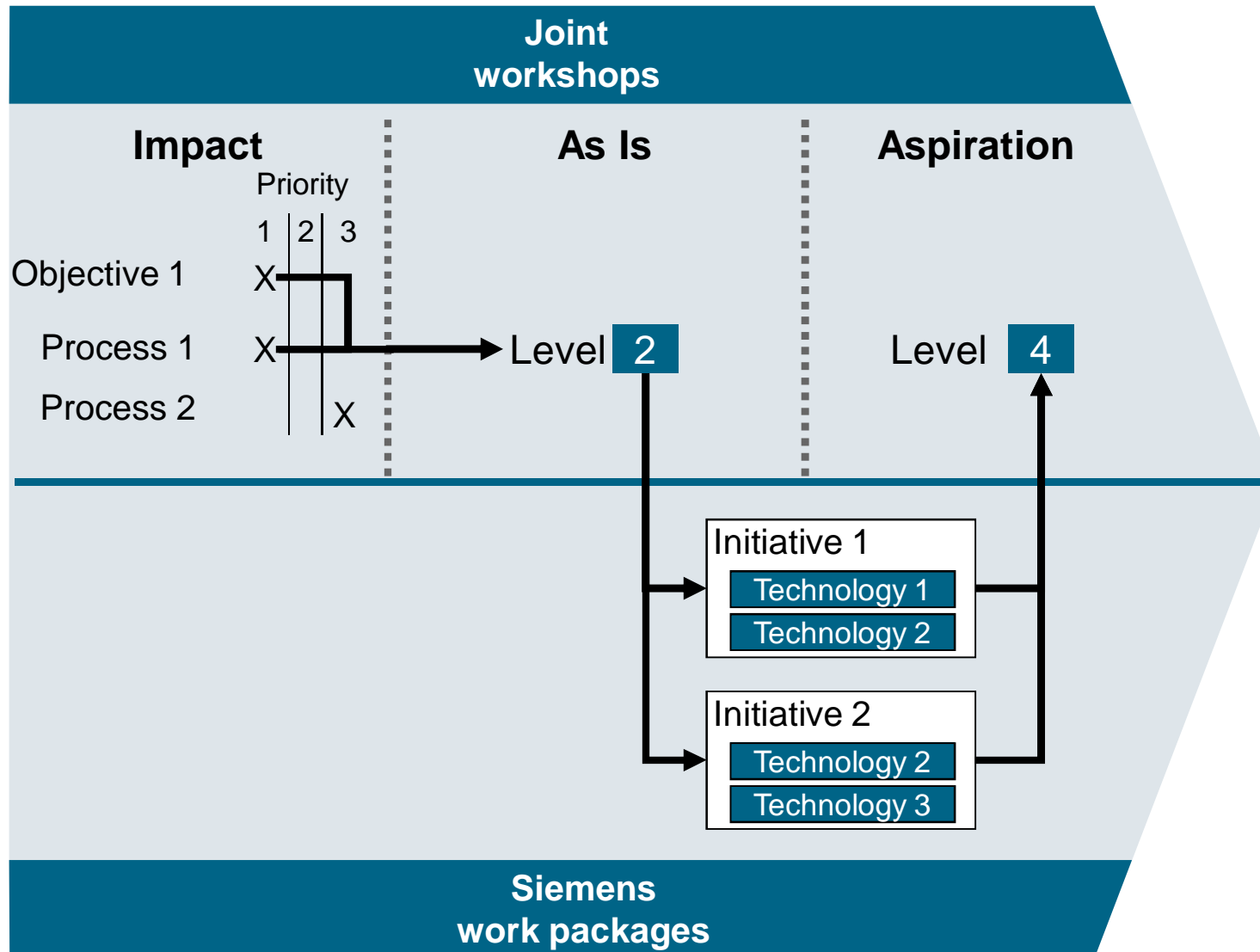
Utilizing the dimensions above the compass model closes the gap between technologies and business value.



# Three steps build the backbone of the Smart Grid Compass®

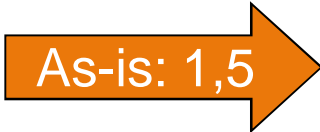











# The Orientation Phase is the initial step on the way to a value oriented transformation program



**For each relevant business capability the current level will be defined**









*Example*

Summary	Capability level		Existence
<p>The duration and frequency of outages has a significant impact on overall utility reliability indices.</p> <p style="text-align: center;"></p>	<b>5</b>	Network is actively controlled in order to minimize probability and impact of outages. Network self learns to prevent outages.	
	<b>4</b>	Field crews and control room have a common and comprehensive view of asset information and status. Smart energy resources (e.g. DG, DSM storage) and self healing network elements are actively used to minimize the impact of the outage and improve service restoration.	
	<b>3</b>	Utility also uses online data received from feeder automation and smart meters for outage identification. Complete automation of fault isolation and service restoration actions supported by self healing network elements.	
	<b>2</b>	Utility also uses online data received from feeder protection devices for outage identification. Extent of the outage and fault location along with fault isolation and service restoration actions are determined automatically.	
	<b>1</b>	Utility also uses online data received from substation protection devices for outage identification.	
	<b>0</b>	Utility relies on "no supply" calls for outage identification. Crews determine extent and fault location.	

Existence    new     Partly existing     existing 

# In an additional step the aspiration will be defined for every business capability

*Example*

Summary	Capability level		Existence
<p>The duration and frequency of outages has a significant impact on overall utility reliability indices.</p> <p style="text-align: center;">    </p>	5	Network is actively controlled in order to minimize probability and impact of outages. Network self learns to prevent outages.	
	4	Field crews and control room have a common and comprehensive view of asset information and status. Smart energy resources (e.g. DG, DSM storage) and self healing network elements are actively used to minimize the impact of the outage and improve service restoration.	
	3	Utility also uses online data received from feeder automation and smart meters for outage identification. Complete automation of fault isolation and service restoration actions supported by self healing network elements.	
	2	Utility also uses online data received from feeder protection devices for outage identification. Extent of the outage and fault location along with fault isolation and service restoration actions are determined automatically.	
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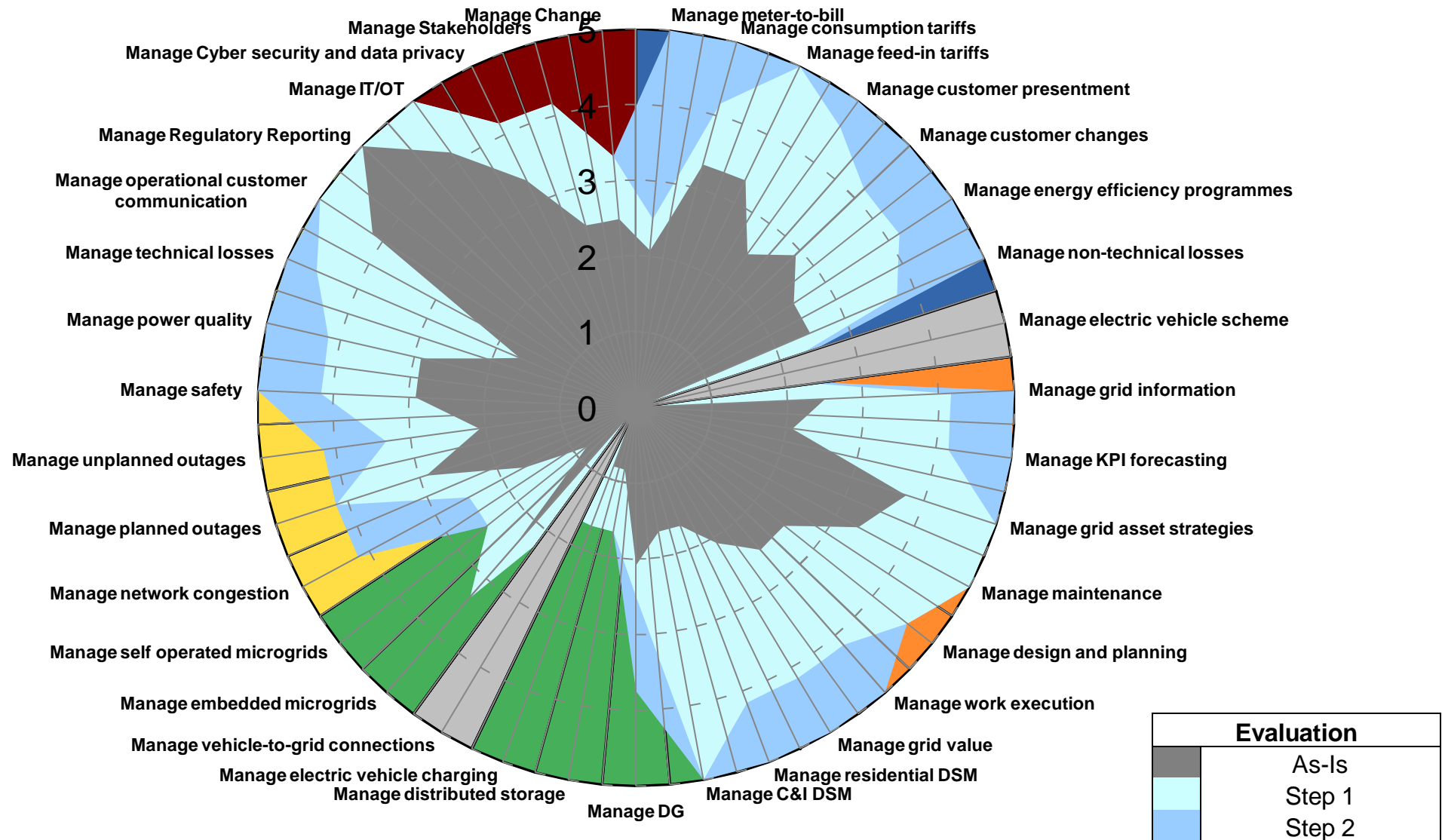
# Candidate initiatives will be proposed to close the gap between As-is and aspiration

*Example*

<b>Name</b>	Introduce automatic determination of fault location, isolation and service restoration	
<b>Bus. - Capability</b>	Manage Unplanned Outages	<b>From Level</b>
<b>Description</b>	Introduce the capabilities to automatically determine fault location and an assessment how to isolate the fault and restore power to the users. Based on this information a switching schedule will be determined in order to be executed by the operator in the control center or the field crew.	<b>1,5</b>
<b>Supported Objectives</b>	<ul style="list-style-type: none"> <li>▪ Improve service reliability</li> <li>▪ Improve energy delivery efficiency</li> </ul>	<b>To Level</b>
		<b>2</b>
<b>Required Technologies</b>	<ul style="list-style-type: none"> <li>▪ SCADA</li> <li>▪ Network Model Management</li> <li>▪ Smart Grid Backbone</li> <li>▪ DMS</li> <li>▪ FISR</li> <li>▪ Workforce Management</li> <li>▪ GIS</li> <li>▪ Protection (Substation and Feeder)</li> </ul>	

# The evaluation results are summarized in a spider diagram

*Example*



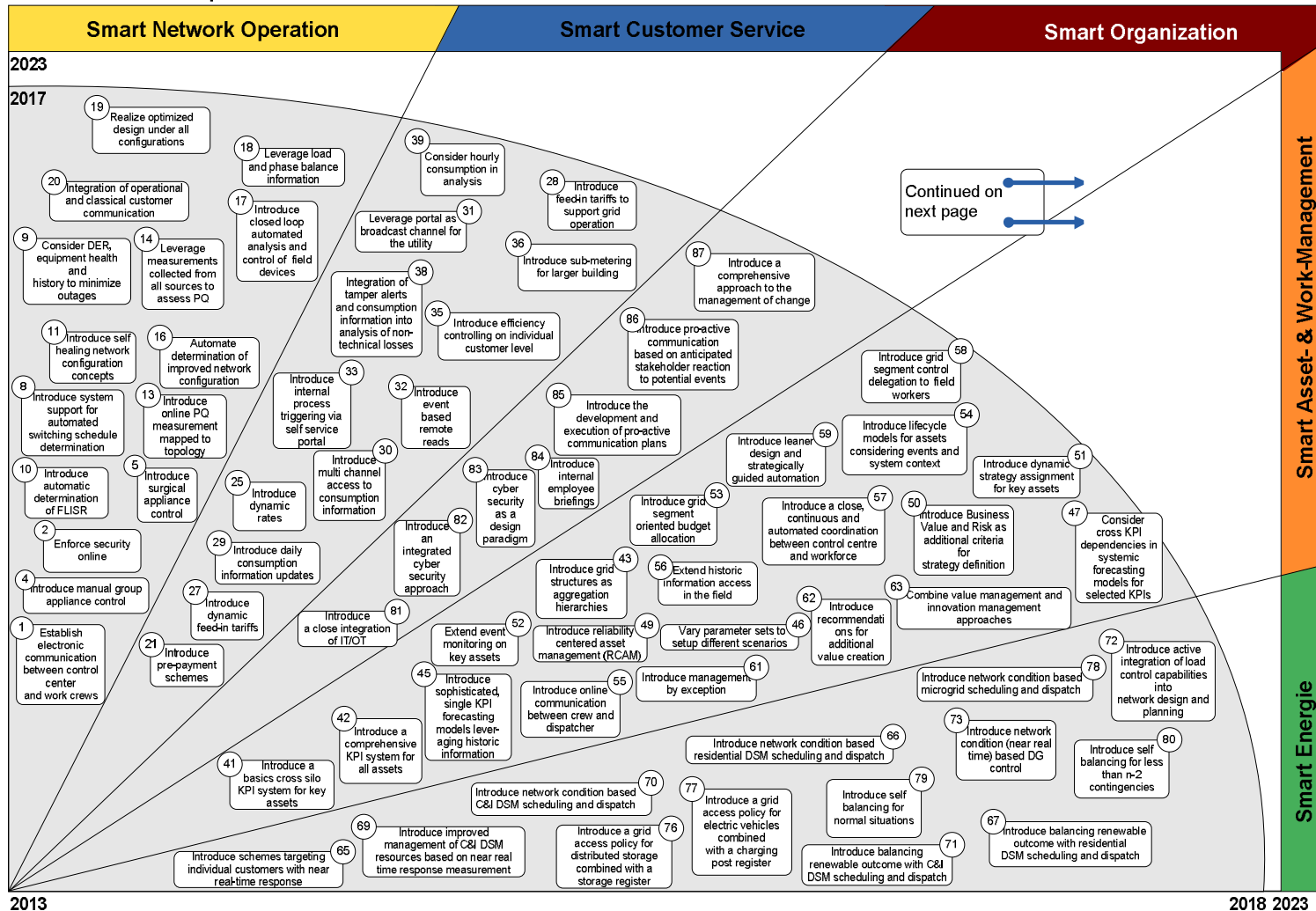


# The first roadmap consists of candidate initiatives

Example

Smart Grid Roadmap – 2014 – 2018

SIEMENS



# Candidate initiatives may have contribution to multiple objectives

Example

