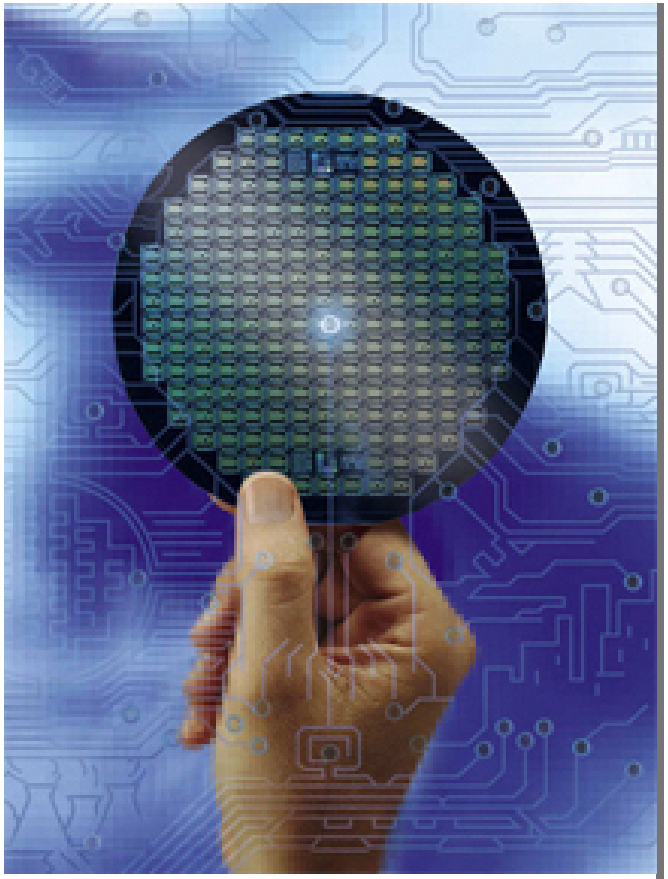

CEIDS

Integrated Energy and Communications Systems Architecture (IECSA)

A Short Introduction

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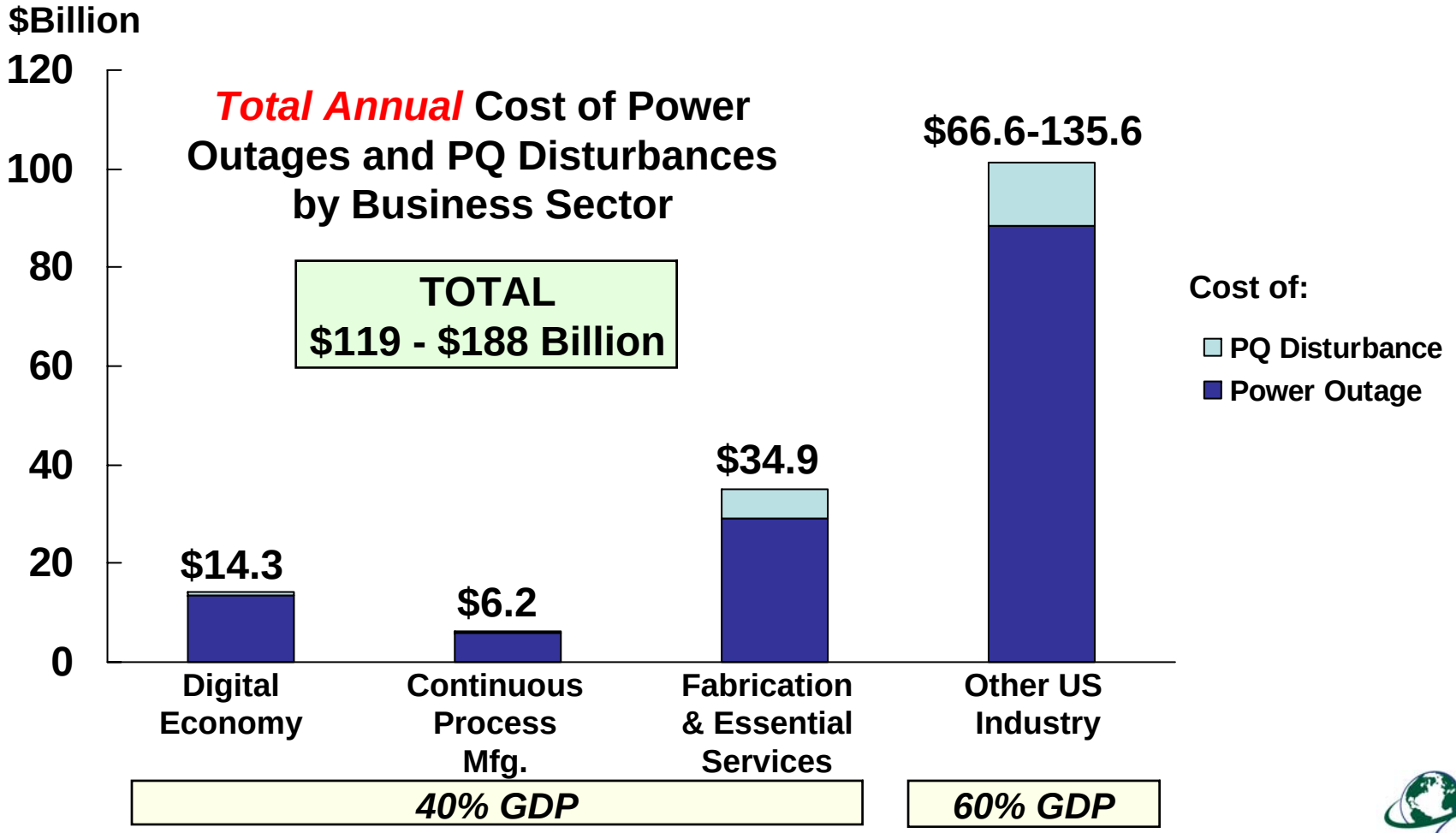
A Toll Felt Throughout the U.S. Economy



Source: Primen Study: The Cost of Power Disturbances to Industrial & Digital Economy Companies

Consortium for Electric Infrastructure to Support a Digital Society (CEIDS)

- Will the power system of the future be able to meet the needs of a “digital” society or become a relic of the industrial age?
- Significant issues facing the power systems of the future…among these is the lack of a complete open technical infrastructure to support advanced utility automation needs
- CEIDS is a multiyear collaborative research program intended to ensure that high-grade digital-quality power is delivered to meet the needs of technology industries and businesses. This program brings together a broad spectrum of technical expertise from the energy industry, industrial customers, and government agencies to achieve benefits for all stake holders.
  - IECSA project initiated in Q4, 2002

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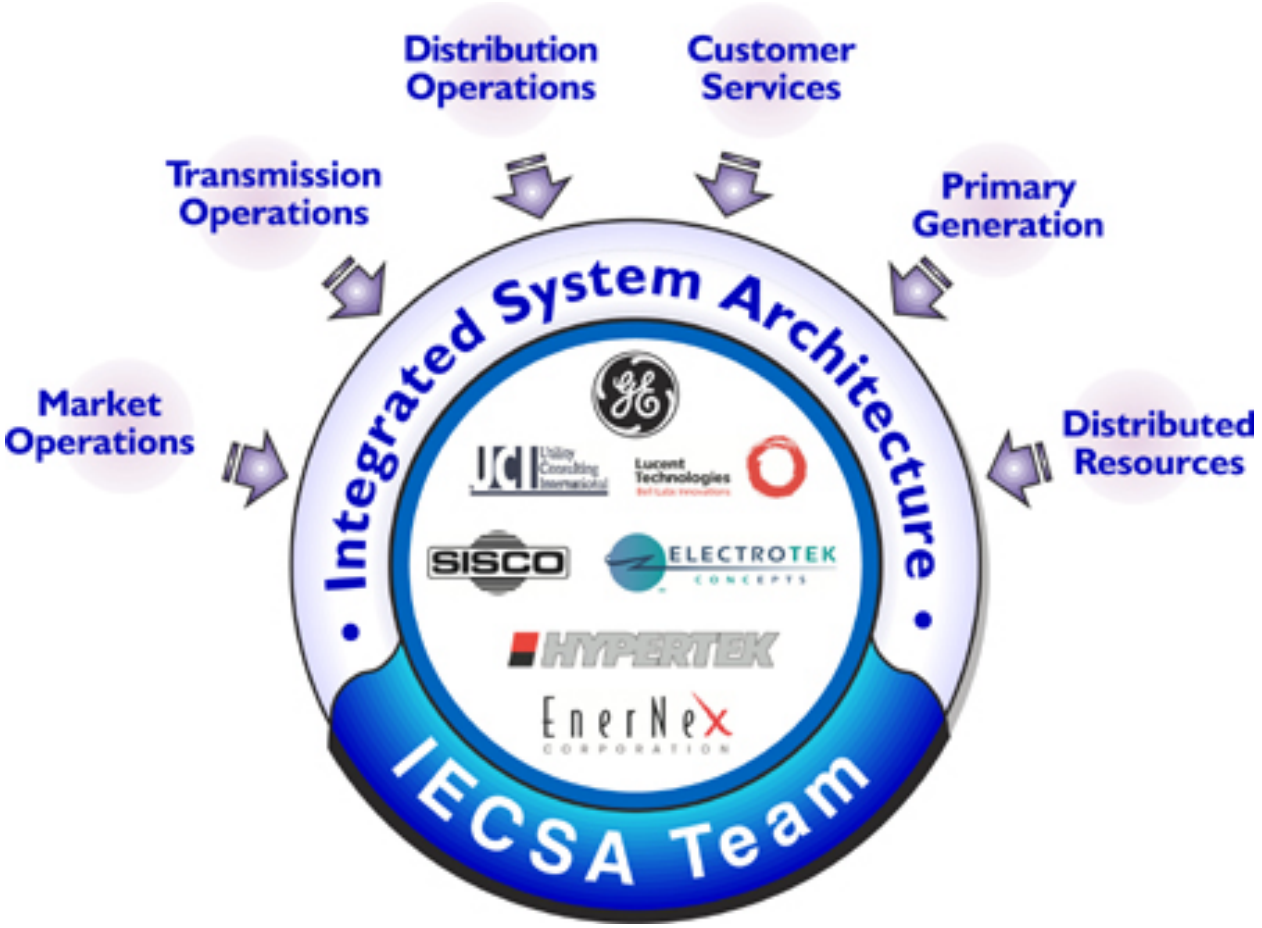
What is IECSA?

Integrated Energy and Communications Systems Architecture



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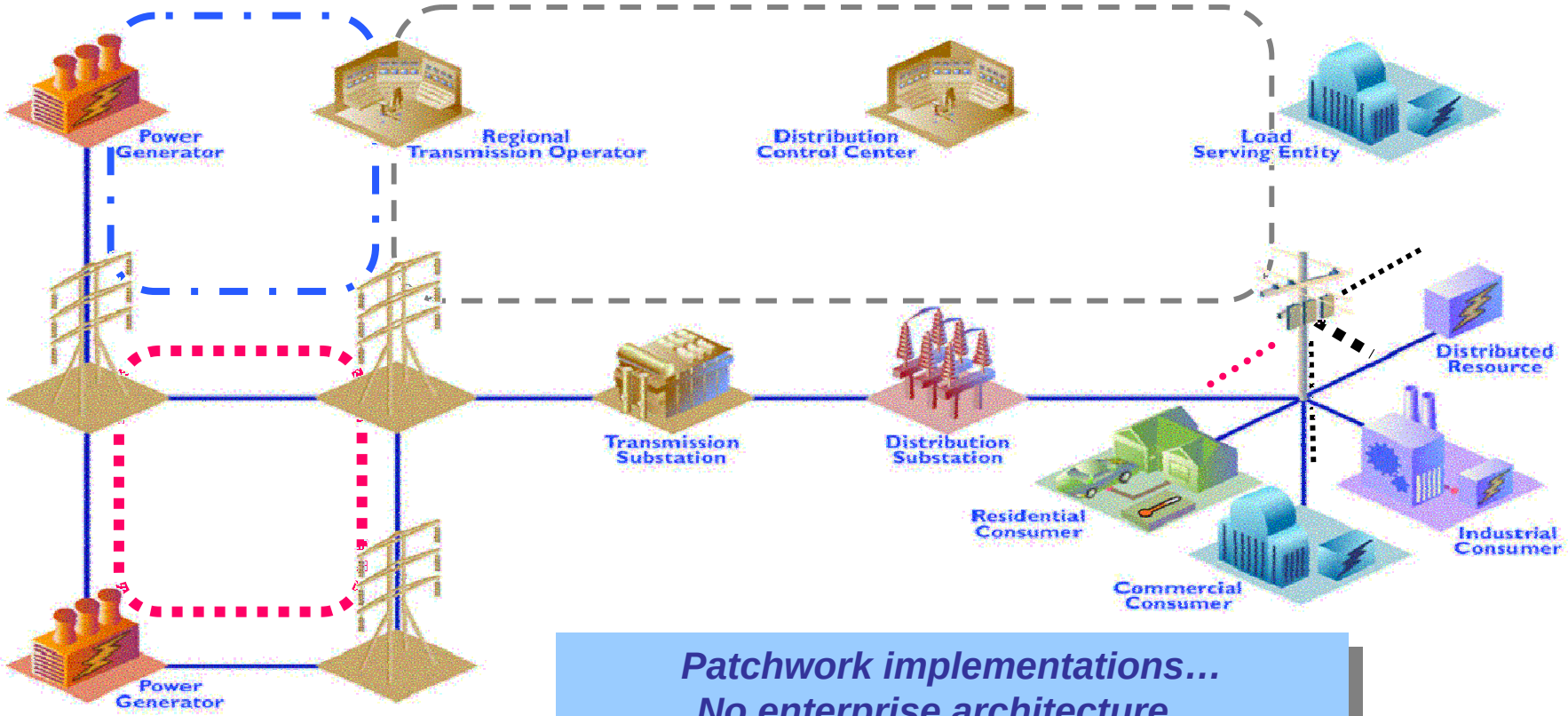
Future Without an Industry Architecture:



Patchwork implementations…
No enterprise architecture…
?Security?

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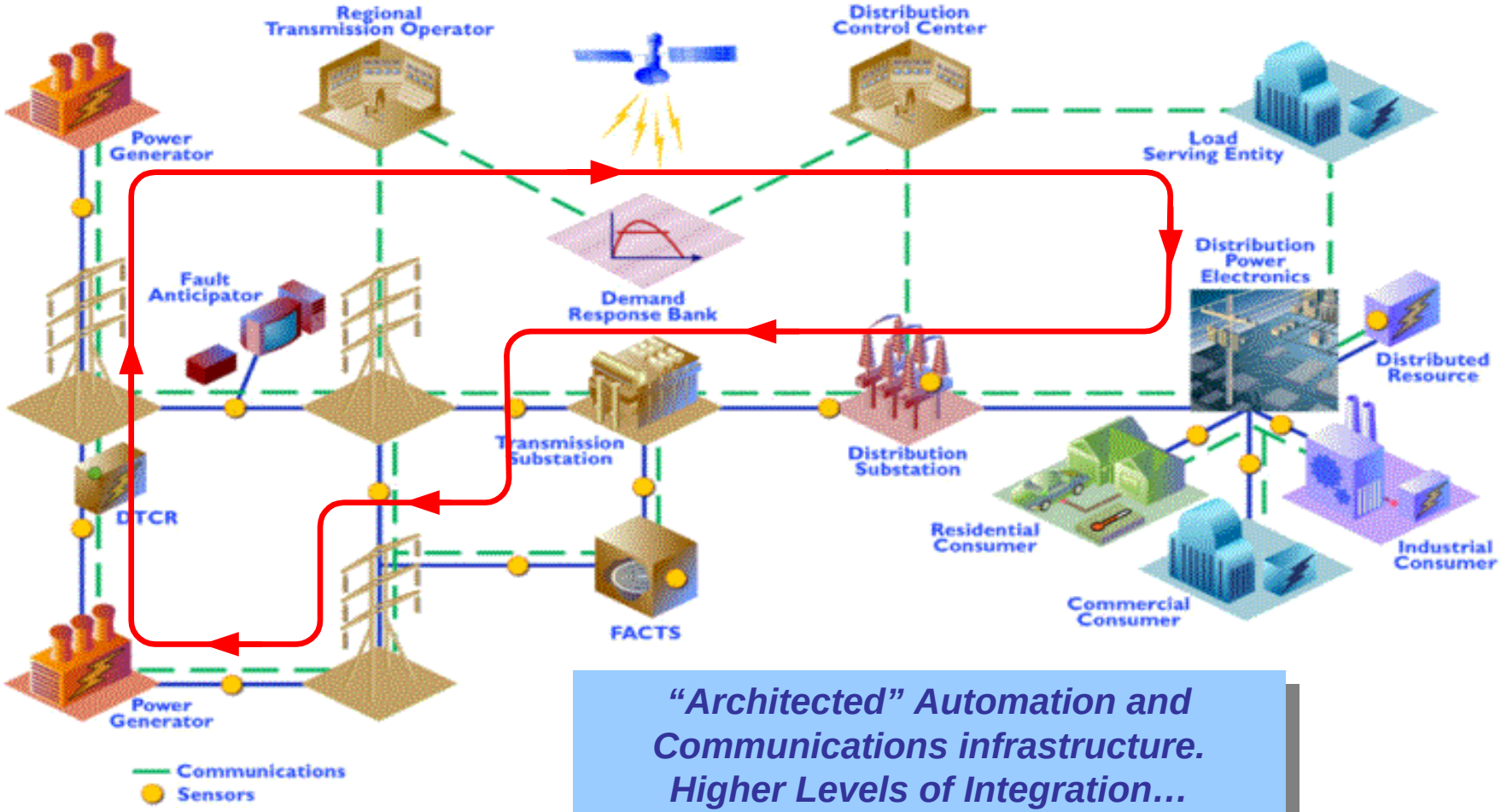
CEIDS Vision of a Future:



"Architected" Automation and Communications infrastructure. Higher Levels of Integration… "Federated Systems Services"

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IECSA Vision

The IECSA project team members have established a vision for the Integrated Energy and Communication Systems Architecture:

A next generation power system consisting of automated transmission and distribution systems that support efficient and reliable power system operations and handle emergency conditions with automated "self-healing" actions, while at the same time responding to present and future utility business enterprise, energy market place requirements, and end-customer needs.

Implementation of the IECSA can result in significantly improved reliability and power quality while achieving more optimum system operation.

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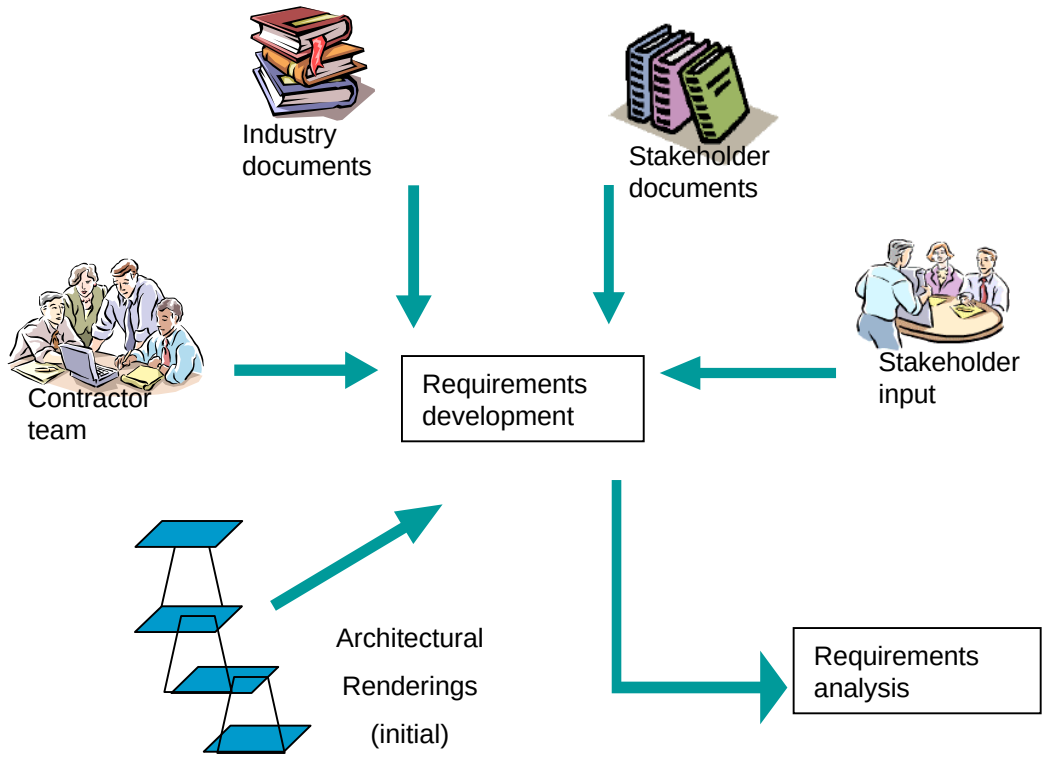
IECSA Objectives

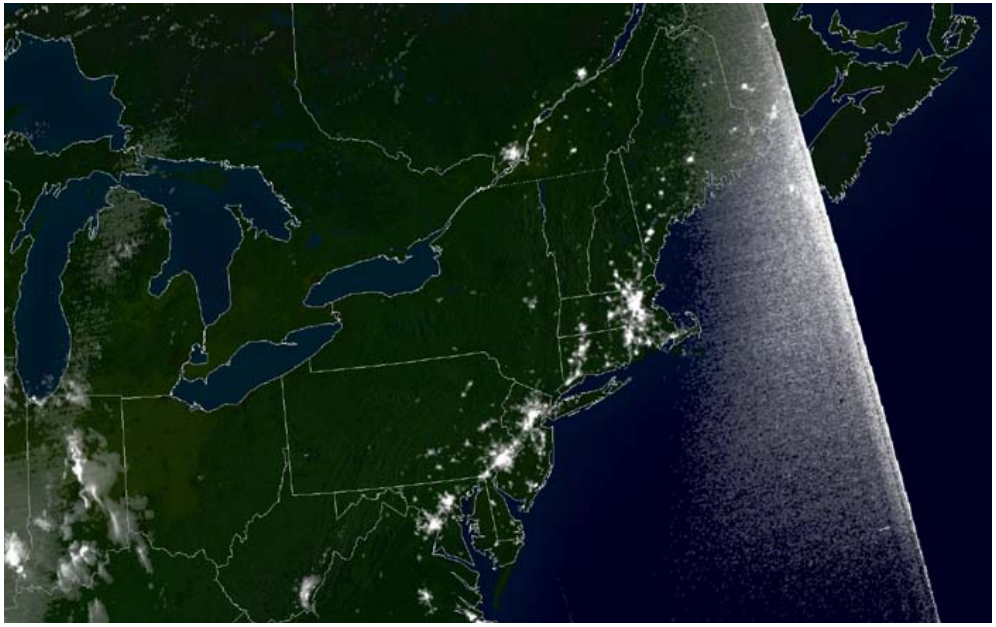
- Develop a complete set of system requirements for the future power system and connecting consumers to energy markets
- Define an overall system architecture based on analysis of the requirements
- Evaluate proposed architectures and develop recommendations for next phases
- Contribute to relevant Standards Development Organizations as appropriate



We Need You!

- Stakeholder engagement is part of the systems engineering process for eliciting system requirements
- Requirements are a crucial element in the design of any information system or advanced automation system
- Requirements are also one of the most challenging aspects of systems engineering
- We need you and your technical team to provide key input into this requirements process

Help Avoid This!



August 14 blackout photo courtesy of NOAA/DMSP