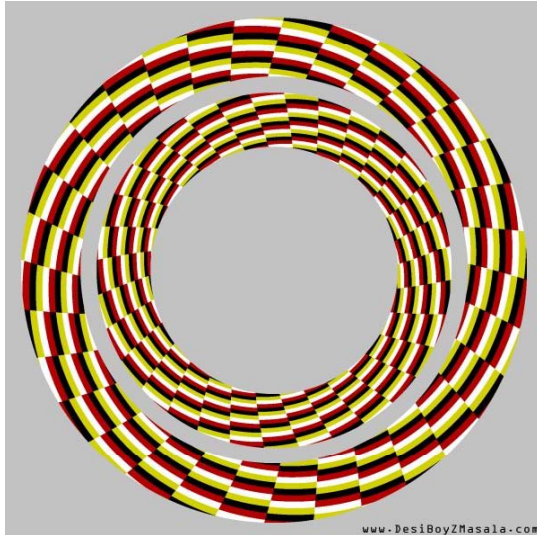




Los Alamos National Labs, Dec 7, 2010

Smart Energy Center

Mladen Kezunovic
Texas A&M University



What: SGC

Why: Funding and Visibility

How: Strategy and Plans

When: Next steps

OUTLINE



SGC Motivation



ESA and ARRA

A&M Resources

Integration skills

***State, National and
Global Role***





EISA 2007



Energy Bill Requirements



- Use of digital information
- Dynamic optimization
- Distributed resources
- Demand management and efficiency
- Deployment of "smart" technologies
- Integration of smart appliances
- Advanced storage and peak shaving
- Timely information and control
- Development of standards
- Lowering of barriers



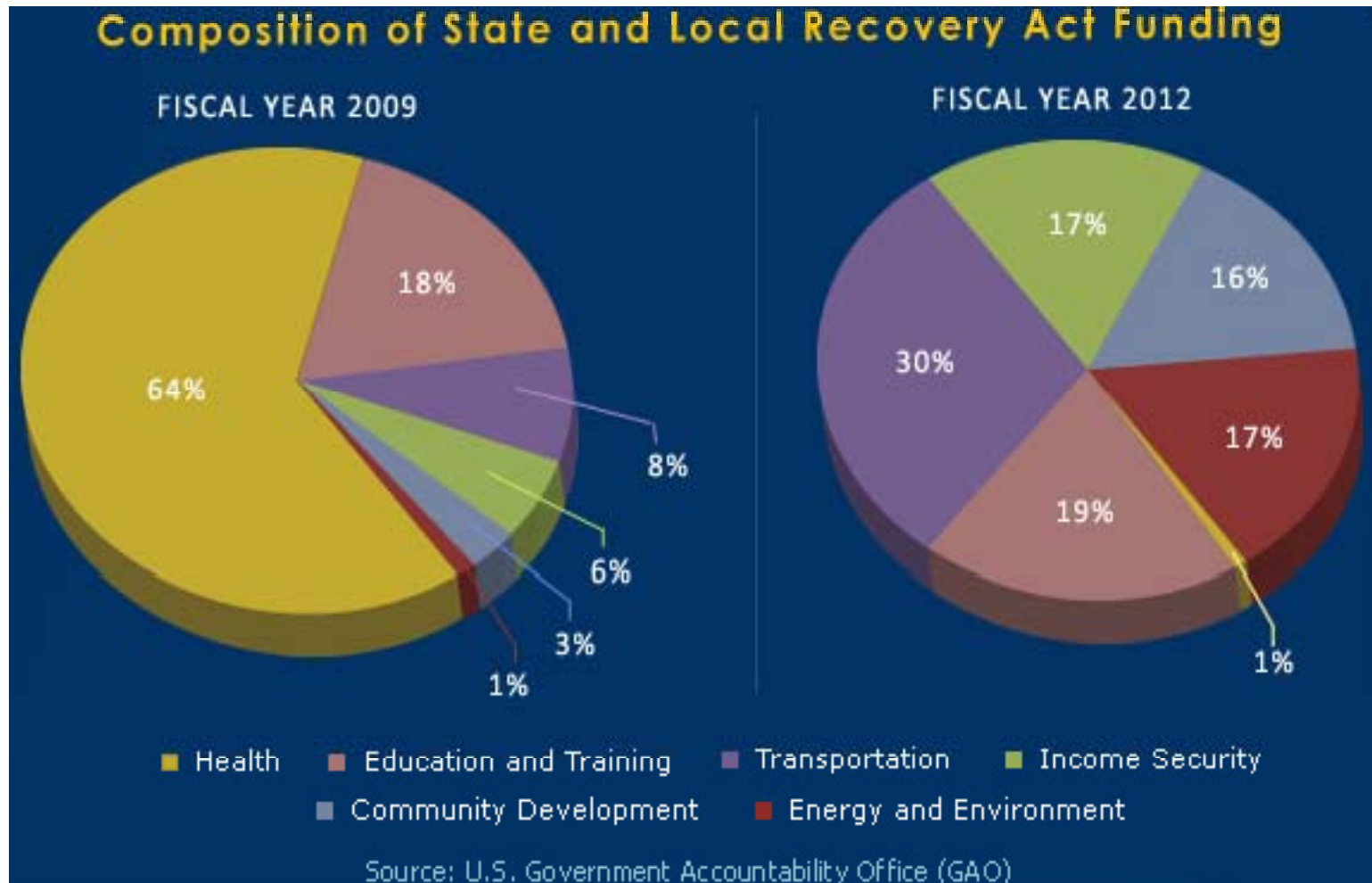
- Motivate consumer
- Generation and storage
- Enable markets
- Provide power quality
- Optimize assets and operate efficiently
- Self-heal
- Resist attack

Other Views

- Flexible
- Ubiquitous
- Transparent
- Uninterruptible
- Resilient
- Expandable

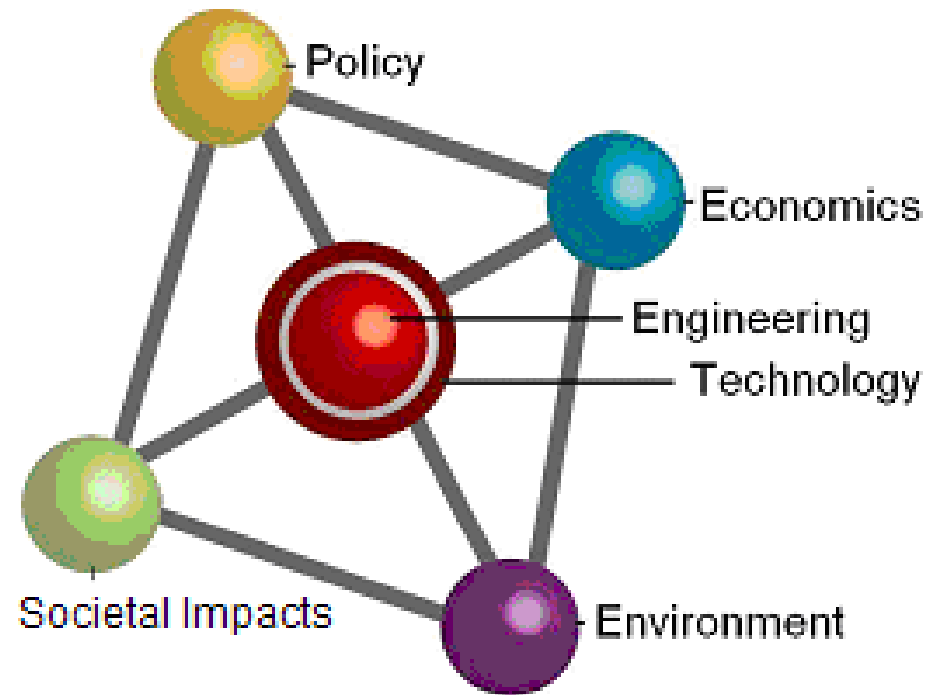


ARRA 2009



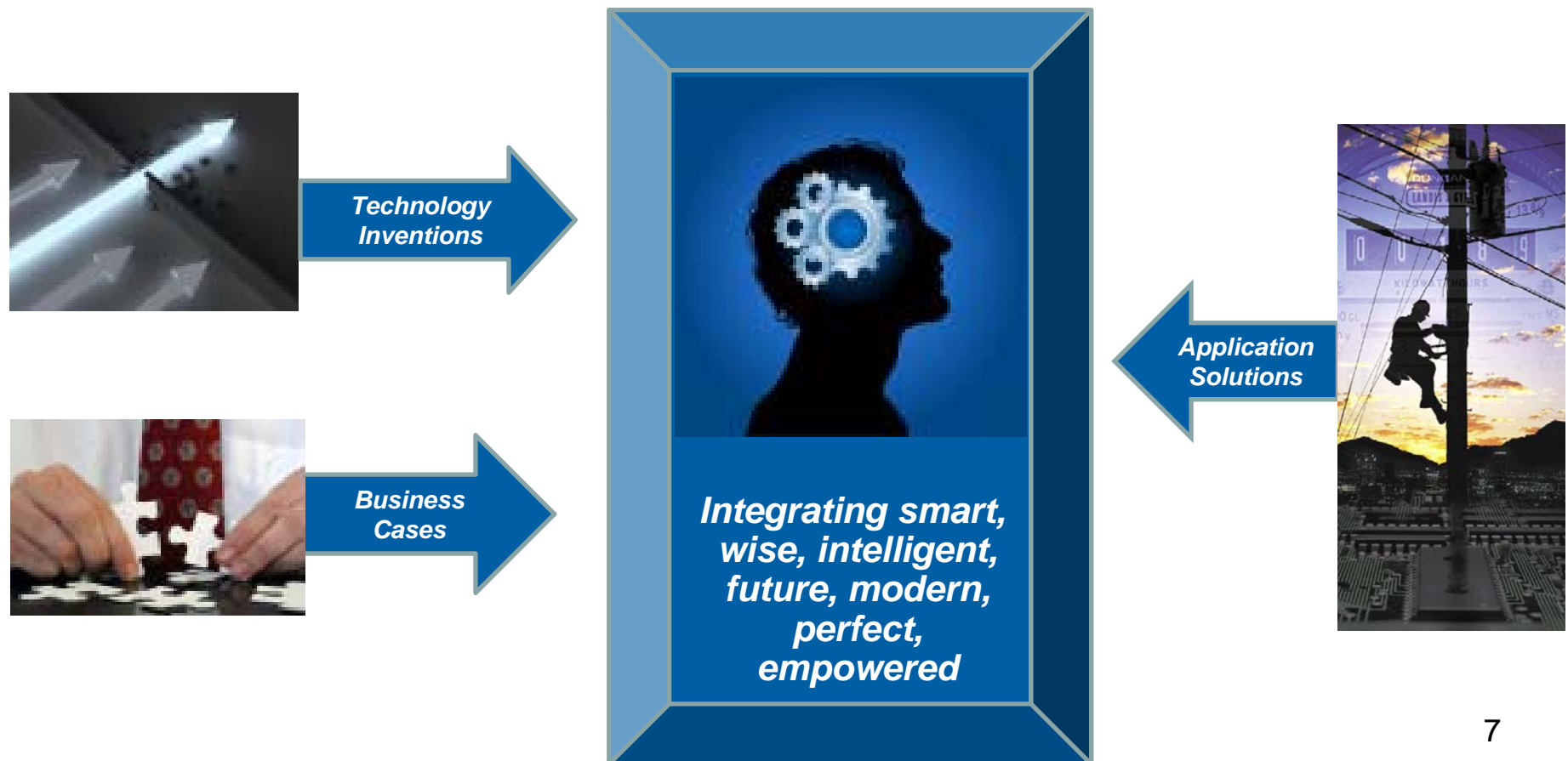


A&M Resources





System Integration





Example: EVs

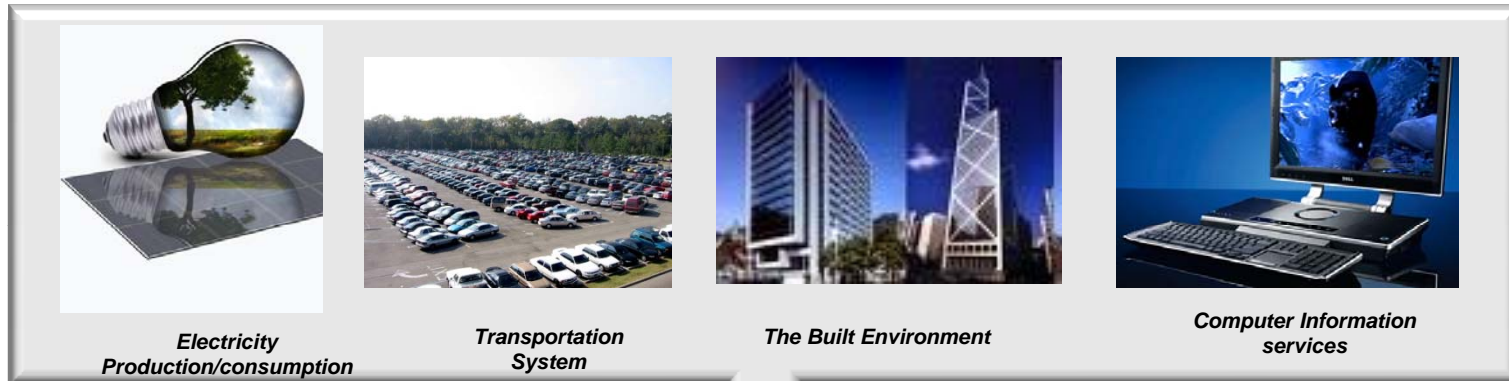


Image courtesy DOE

Integrated Infrastructure



Vision

....to position the Texas A&M University System (TAMUS) and the State of Texas (State) as global leaders in education, research, and public service in the modernization of the electricity system...

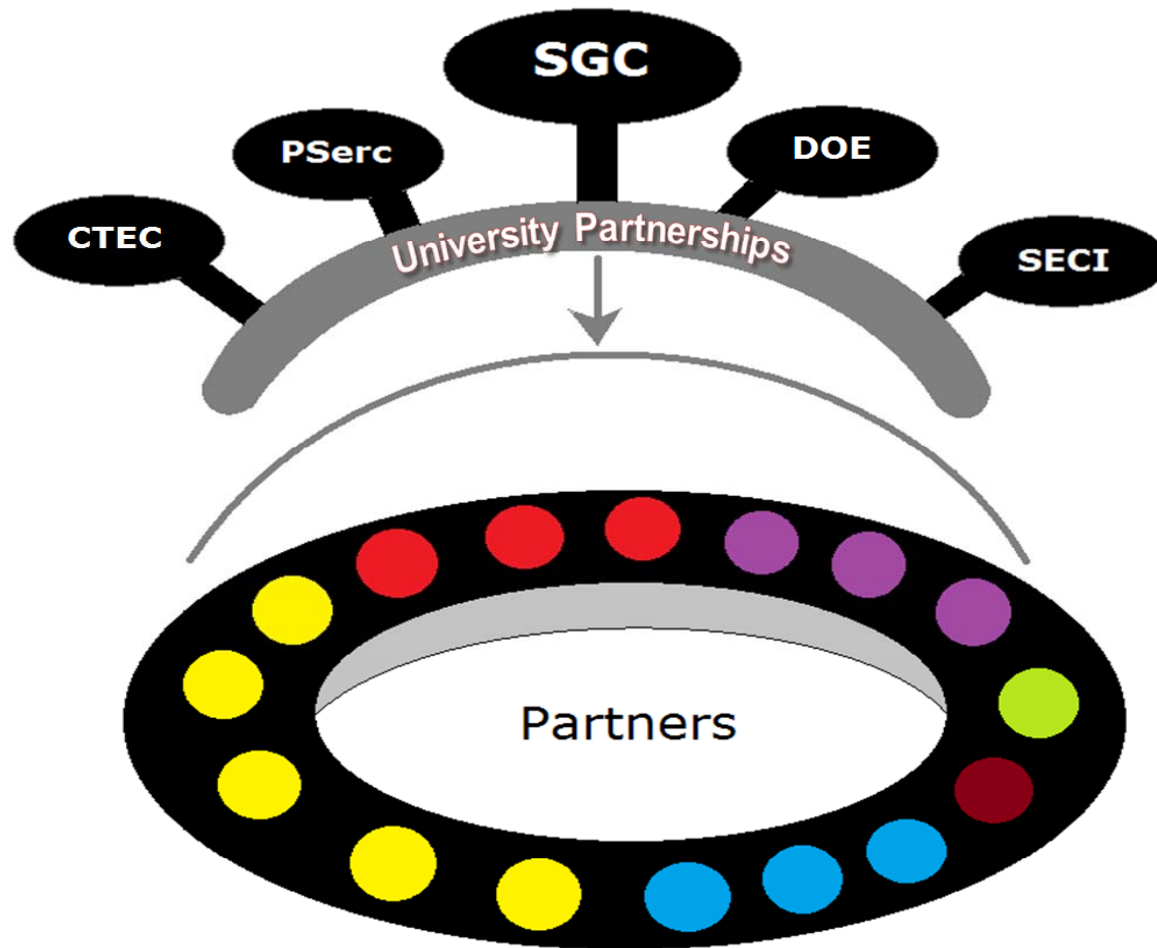
Mission

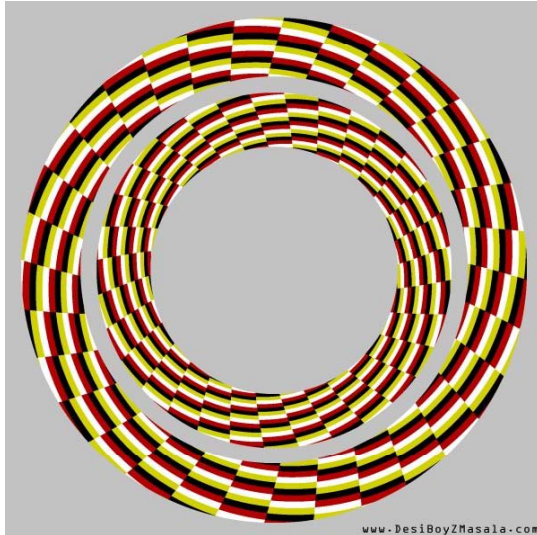
... to form a competitive multidisciplinary and interdisciplinary environment to advance efficient use of electric energy and modernization of the electricity grids.

SMART GRID CENTER



Organization





What: SGC

Why: Funding and Visibility

How: Strategy and Plans

When: Next steps

OUTLINE



Funding



CTEC

Established Aug 1, 2010
First batch of 9 projects approved
Eight Industry members
Two new universities in planning
Total funding: \$1million/year



PSerc

Established 11 years ago
Extended for next five years
40 industry members
13 universities
Received new DOE grant
Total funding: \$10million/year



Funding

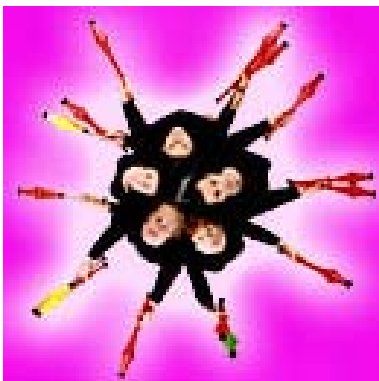


DOE FOA 313

DOE: \$2,993,006

Project value: \$4,123,923

Industry members: ABB, Xcel Energy



Smart Energy Campus Initiative

Approval by the Provost and VPR

Proposal for funding

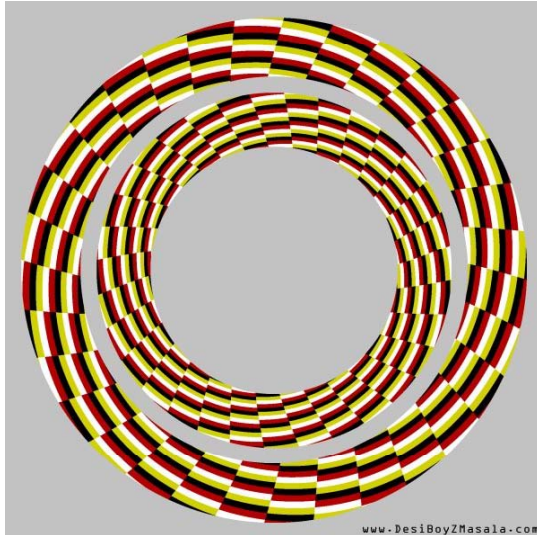
Students, faculty, staff and partners



Visibility



- Administrators
- Students, staff and faculty
- Parents
- Legislators
- Peers
- Partners
- Community
- Nation
- World



What: SGC
Why: Funding and Visibility
How: Strategy and Plans
When: Next steps

OUTLINE



Strategy and Plans



STRATEGY

Form partnerships

Form teams

Form proposal frameworks

PLANS (LOGISTICS)

Create white papers

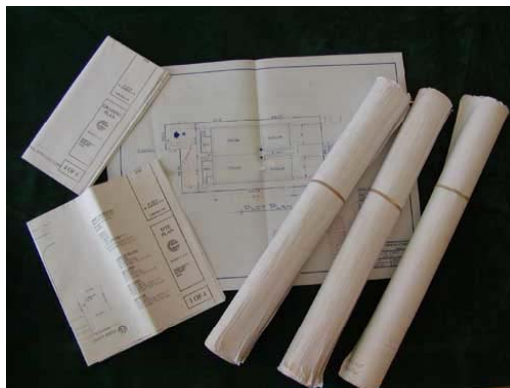
Expand existing efforts

Focus on education

invite speakers

organize conferences

secure A&M support





White Papers

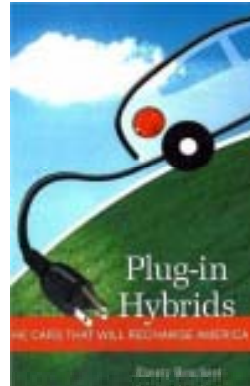


- [Electricity Grids and Smart Loads](#)
- [Microgrids and Interfacing to Bulk](#)
- [Electricity Grids](#)
- [Alternative Transportation](#)
- [Renewable Resources](#)
- [Cyber & Physical Security](#)
- [Embedded Systems](#)
- [Advanced Sensors and Sensor Systems](#)
- [Computer, Control and Communication](#)
- [Socio-economic and Policy Issues](#)
- [Environmental Issues](#)
- [Social and Behavioral Issues](#)
- [Smart Education for Smart Grid](#)

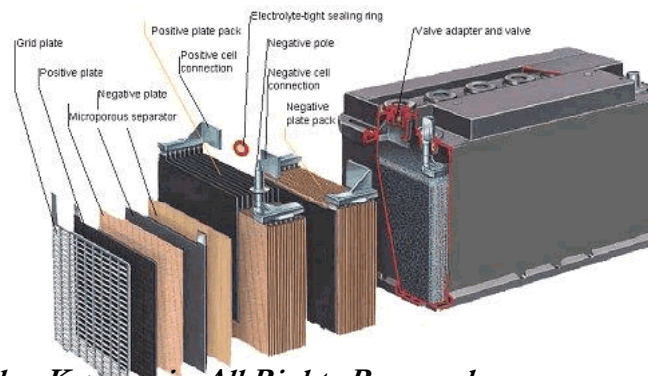


SECI

- PHEV/ EBV
- Photo Voltaic
- Server Farms (DC)
- Building Energy Management
- Energy Storage
- Continuous Energy optimization (CEO)

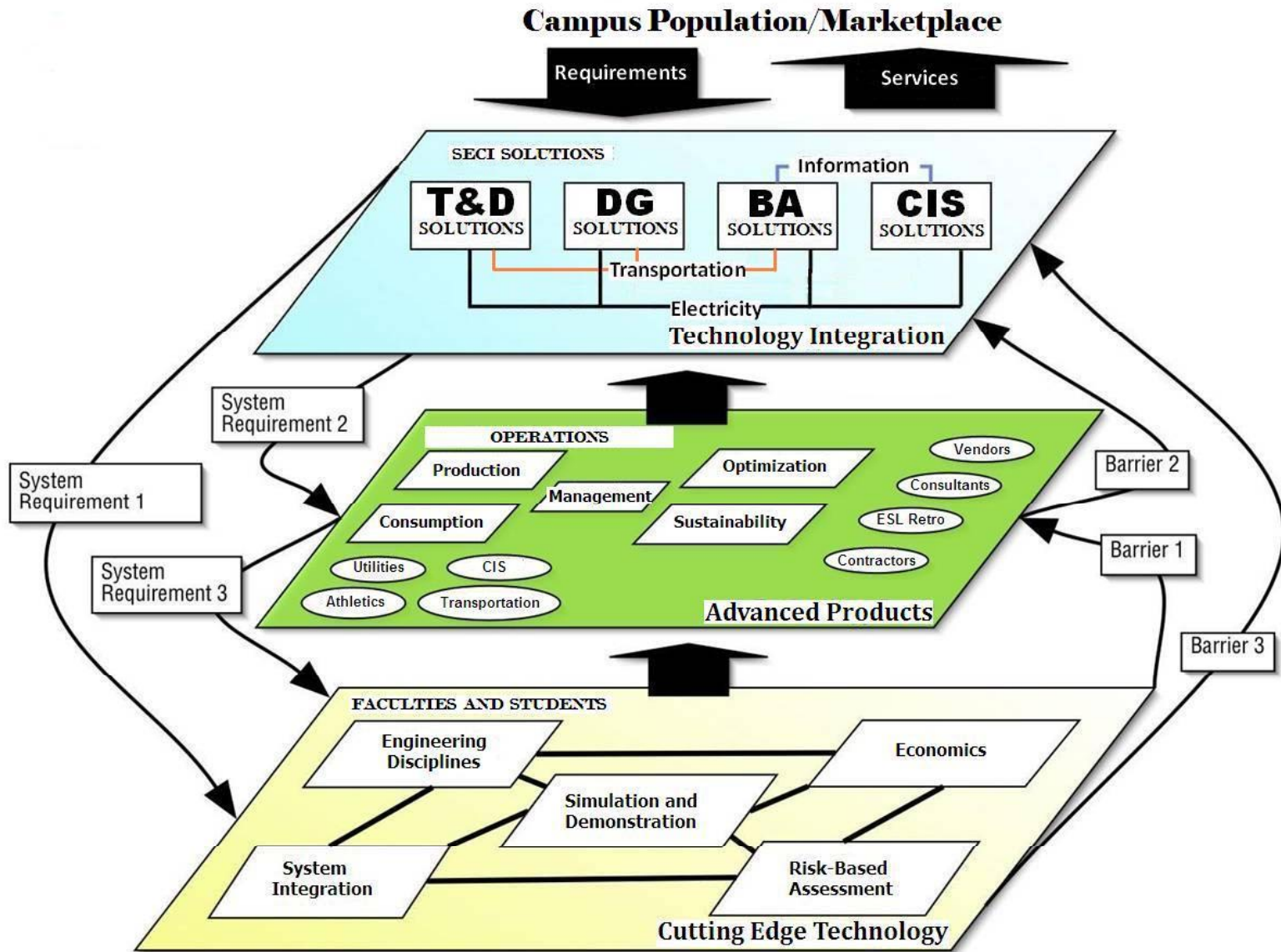


k0782462 www.fotosearch.com



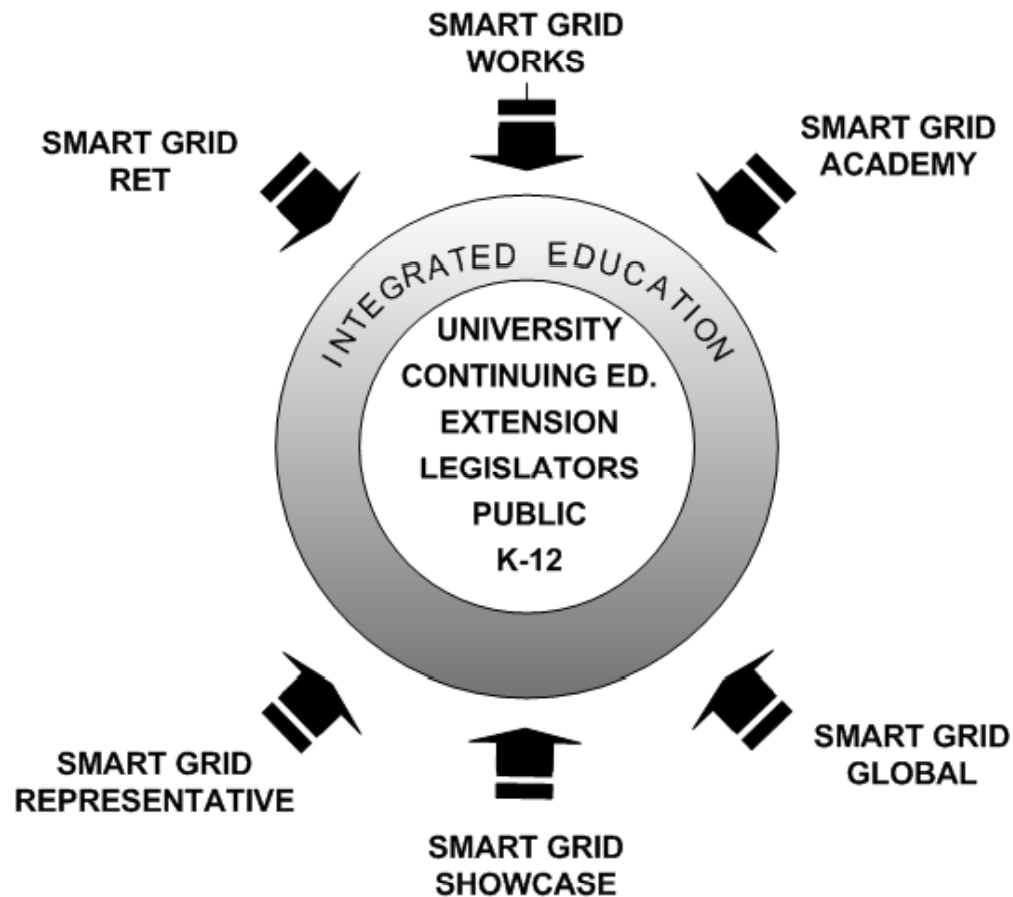


SECI





Education



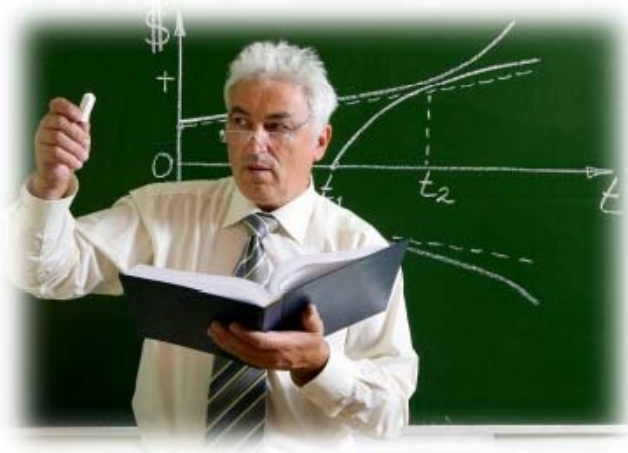
- Awareness
- Hands on Experience
- Understanding
- Skill set
- Teamwork
- Global view
- Stewardship



SPEAKERS



Categories
Invited Experts
Distinguished Experts



Plans
10/13, Vijay Vittal, Arizona State University
11/22, Misha Chertkov, Los Alamos
12 next year (2011)



MEETINGS



TEC Workshop

Oct 20: 60 attendees

SECI Symposium

2011, Fall



SG Conference

Spring, 2012

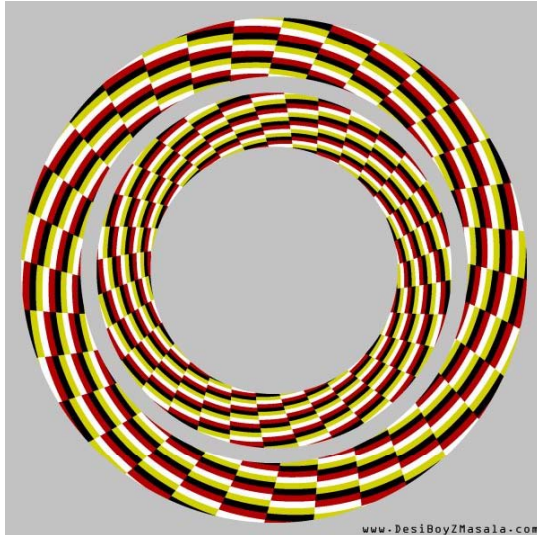


A&M SUPPORT



TAMUS
Board of Regents
Chancellor
President
Provost
Vice President for Research
College Deans
Operations
Athletics
Students, faculty and staff
Parents and visitors

WHERE: A&M AND TAMUS



What: SGC
Why: Funding and Visibility
How: Plans and Strategy
When: **Next steps**

OUTLINE

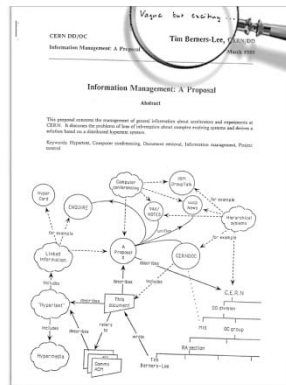


FUNDING OPPORTUNITIES



NSF

NSF 11-502: CDI, 1/19/11
NSF 09-525: FODAVA, 1/19/11
NSF 10-580: GOALI, any time
**I/UCRC: collaboration,
innovation, fundamental**



DOE **PSerc**

DARPA

**DARPA-BAA-10-83: strategic
technologies, 09/11**



Q/A



TEXAS A&M
UNIVERSITY

*Together -
building a prosperous future*

*where energy is
clean, abundant, reliable, safe, secure and affordable*