

The Internet Of Things

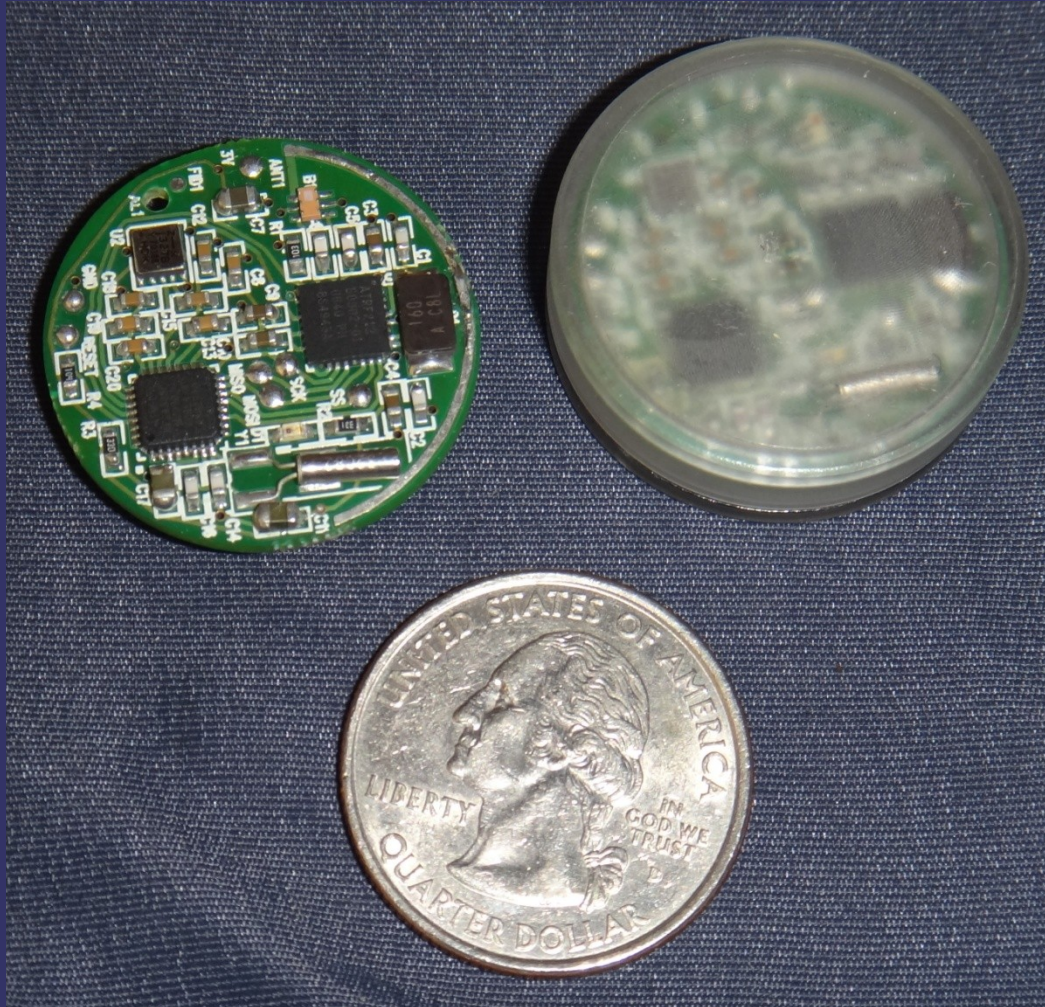
A view from the White House*

*The previous administration

Geoff Mulligan

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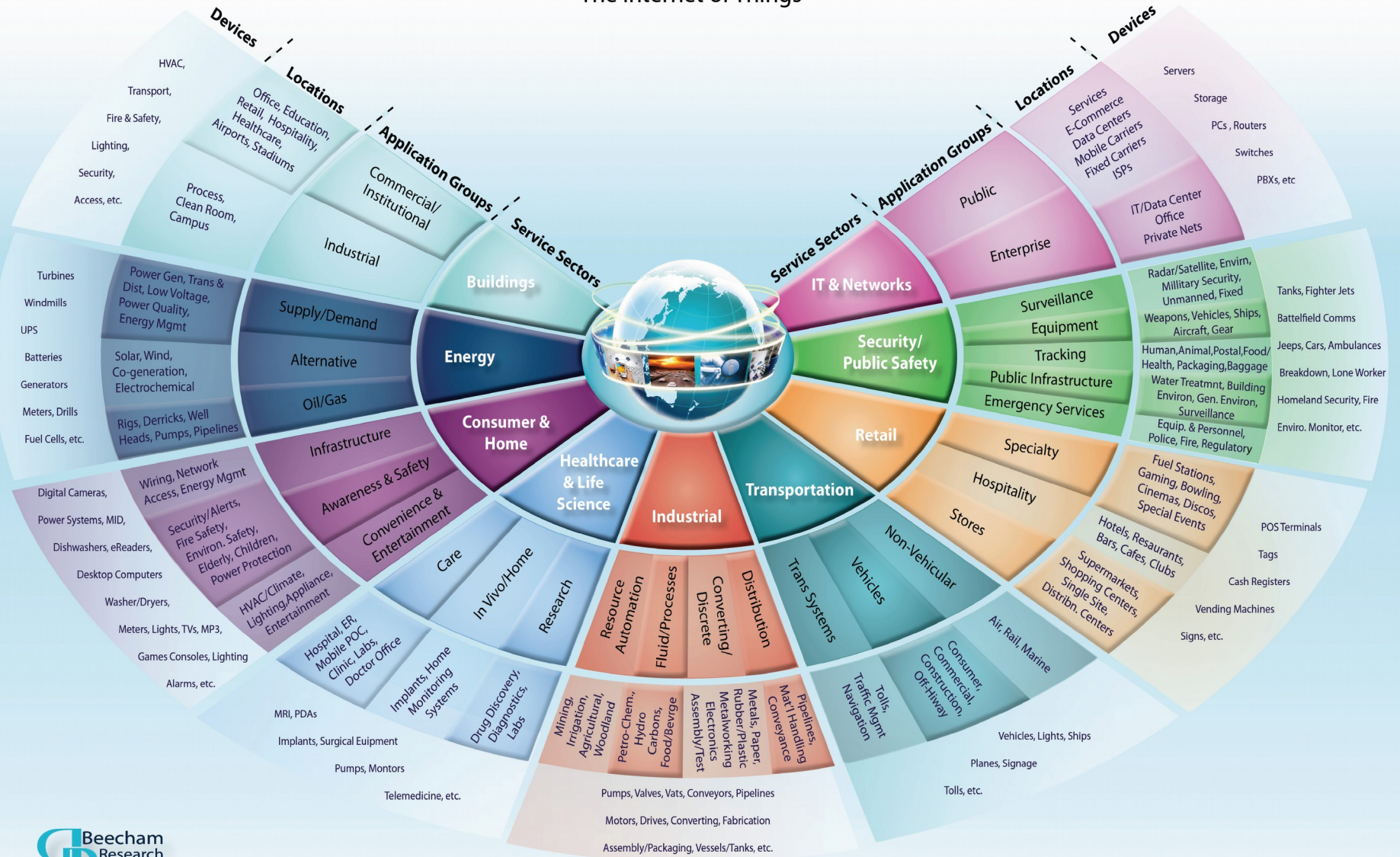
Coin Cell Module



- ✓ Battery Operated
- ✓ 3-D accelerometer
- ✓ Temp Sensor
- ✓ Light Sensor
- ✓ 802.15.4
- ✓ IPv6/6lowpan
- ✓ Multi-year battery life
- ✓ Coin Flip application

M2M World of Connected Services

The Internet of Things



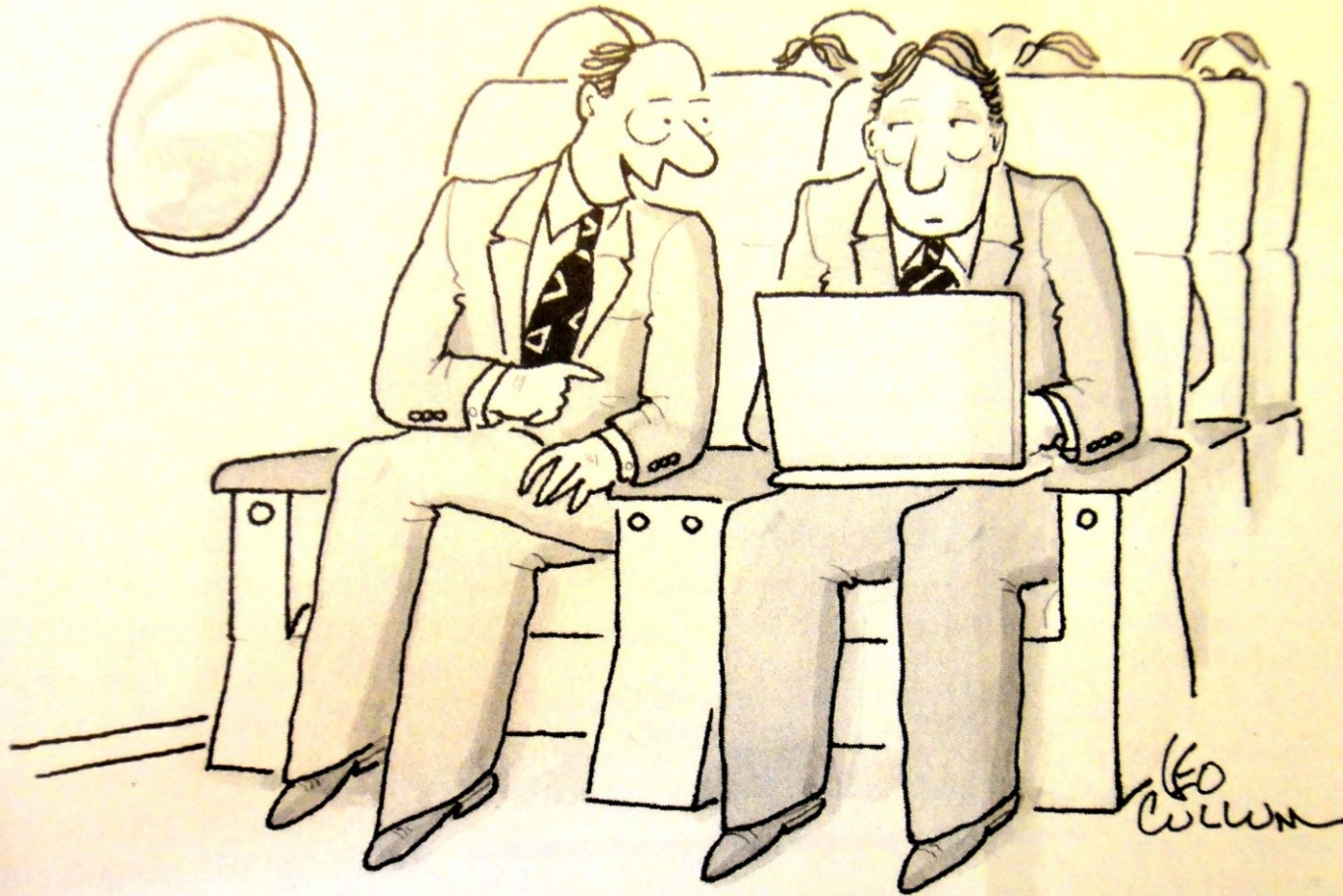
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"You spelled 'confidential' wrong."

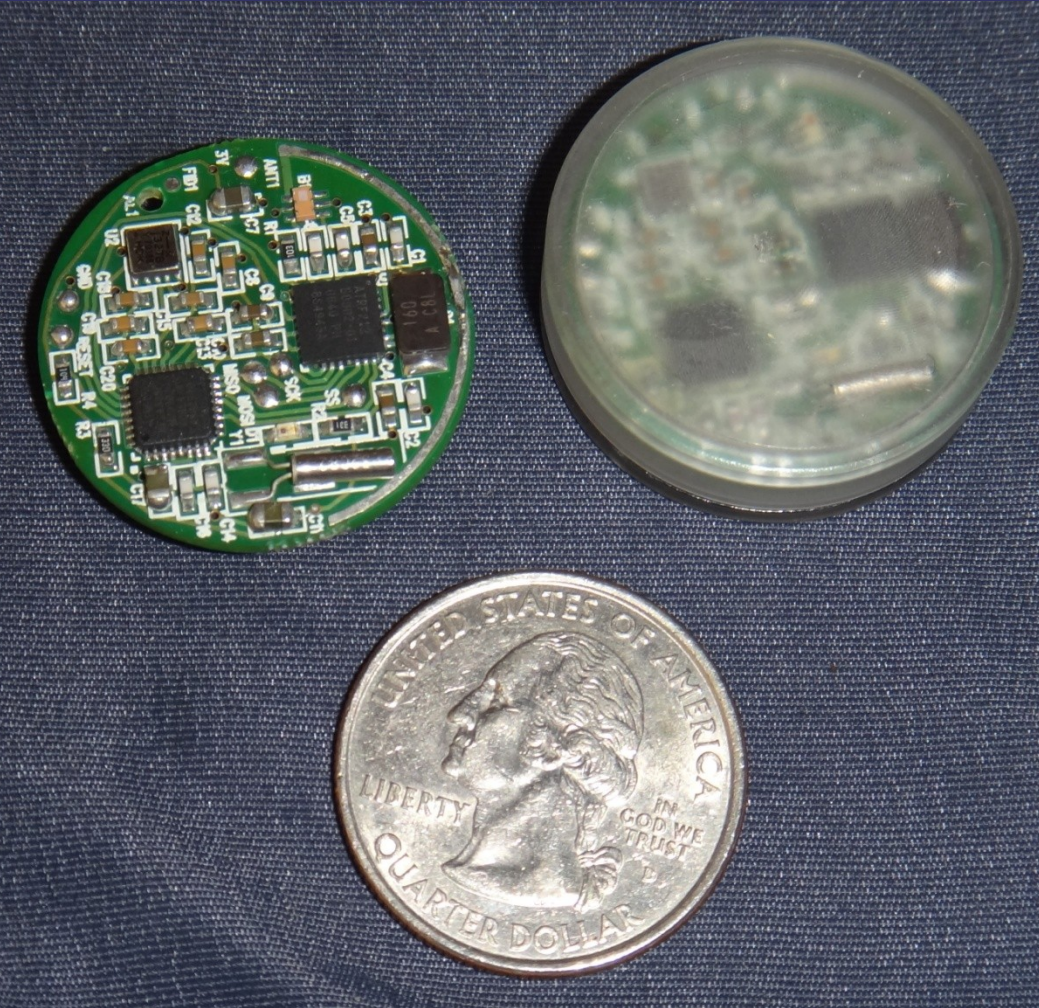
Insanity: doing the same thing over and over again and expecting different results.

- Einstein

Doing the same thing over and over again and
expecting different results - Optimism

- Geoff

Coin Cell Module



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Many view the IoT as:

- Intrusive
- Big Brother
- Just a lot of hype
- A way to sell more stuff we don't need
- So what – the IPv6 lightbulb

- The US government has invested significant money in basic research of Cyber-Physical Systems through the Nation Science Foundation and many other Agencies
- Most all focused on sector specific solutions
- Little has translated to real world solutions

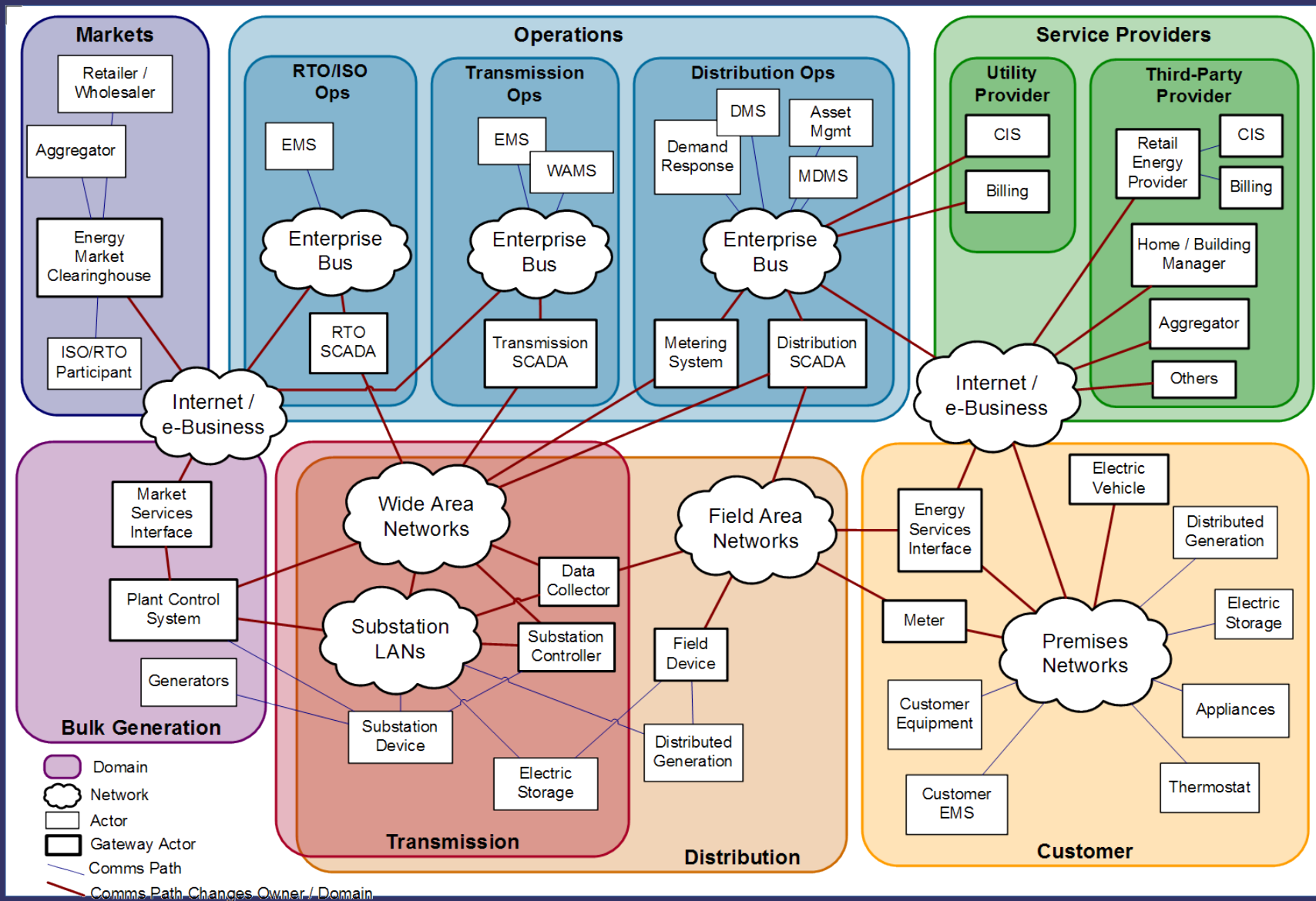
Cyber-Physical Systems –
not just another name for
the Internet of Things

SmartAmerica Challenge



- Launched in December 2013
- Over 20 projects/teams
- Some are multi-national
- Cross-sector CPS test-beds
- Show the benefits to:
 - Administration
 - Legislature
 - Agencies
 - *American Public*

- We will hold a Summit at the White House in June
- The projects need to show:
 - Job Growth
 - Economic Growth
 - Creating new job industries
 - Improve or save lives
- Light the imagination for what is to come



The SmartAmerica Challenge

- Launched at White House in December 2013
- Completed June 2014
- 24 teams with over 100 organizations
- The projects needed to show:
 - Job Growth
 - Economic Development
 - Create new business opportunities
 - Improve or save lives of Americans
- Not technology for technology sake
- Light the imagination of what is to come from the IoT

Security vs. Privacy

- Security is a technology
 - Protocols, Encryption, Passwords, Biometrics
- Privacy is a policy
 - Life of the data
- Use Security technologies to enforce Privacy Policies

Security Technologies

- Protocols
 - Can protect data in motion
 - What about data at rest
 - SSL/TLS – the “lock” on your browser
- Encryption
 - Encryption is easy
 - Key management is the difficult part
- Passwords, Biometrics
- Identity Management
- Device Lifecycle Management

Privacy Policies

- Who owns the data
- Who can use the data
- Who can view the data
- Tag data at creation
- Data Identity and Lifecycle management