5G - ENERGY

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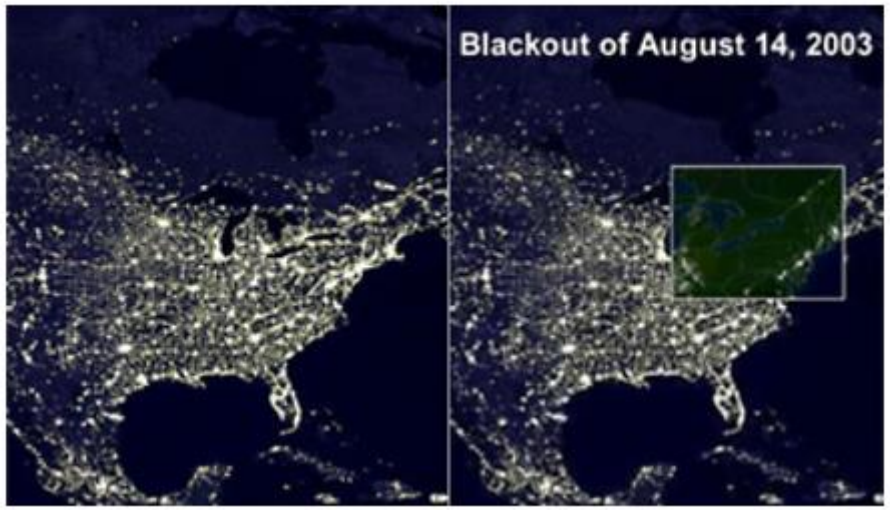
Current Energy Sector

- Localized Power generation
- Good for Small energy demands
- One-way interaction

Major Issues

- High demand – low supply
- Blackout
- Waste of energy
- Difficult to manage



Getting Smarter about smart grid

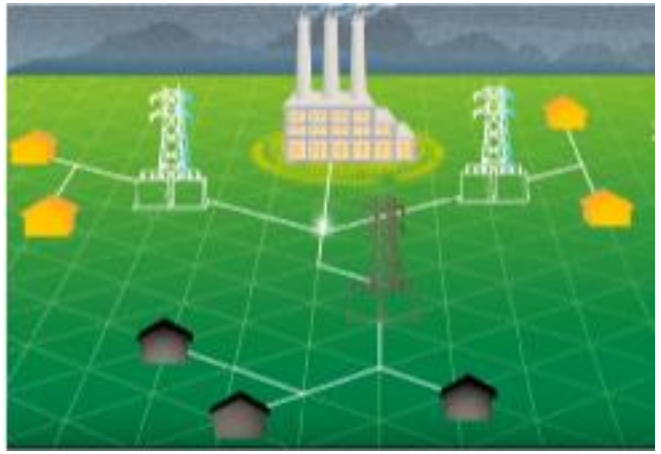
- Adding sensors and software to current power grids.
- A developing network
- Two-way Communication
- Gives consumer Control

Smart Grids in Smart Homes

- Smart meters
- Home Area Network
- Energy Management System
- Control Energy bills

Distribution Intelligence

- Utility distribution system
- Key component: Outage detection and response.
- Distribution Automation
- Lower cost



Case Study

- A2A-Italian multiutility Company
  - Solution-replace existing mobile connections with fiber
  - Benefits and Challenges
- SSEN-Scottish and Southern Electricity networks
  - Solution-Better Sensor solution
  - Benefits and Challenges

Benefits of 5G

- Higher Speed or Bandwidth Available

  5G.co.uk.Theroritical-10-20Gbps.Simulation-1- 2Gbps
- Higher Network Capacity
- Lower Latency

  3G-120ms.4G-15-60ms.5G-1ms
- High Energy Efficiency- when, where

Transformation of business models in the future

- Life-cycle / Longevity
- Security
- Resilience

Challenges and Conclusion

- Improvement on latency
- Reliability boost
- Business models

Cont..

- Massive machine-type communication (MTC)
- Massive MIMO
- Accurate time synchronization

Thank you!