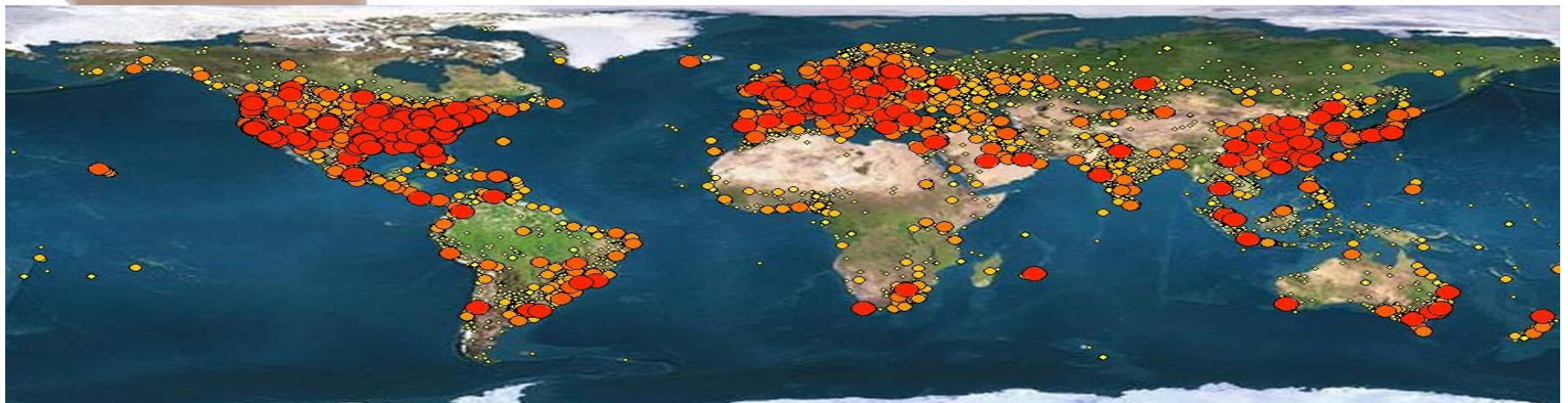


The Future Internet: “When smart technologies connect people”
12 March 2010 – Acropolis, Nice



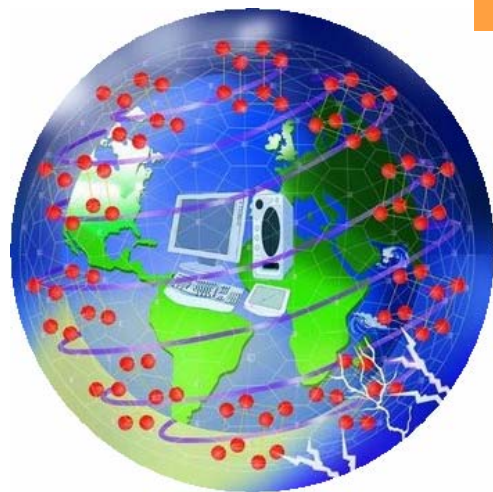
Future Internet and Internet of Energy
People, Things, Services

Dr. O. Vermesan
SINTEF, Norway



Future Internet Vision

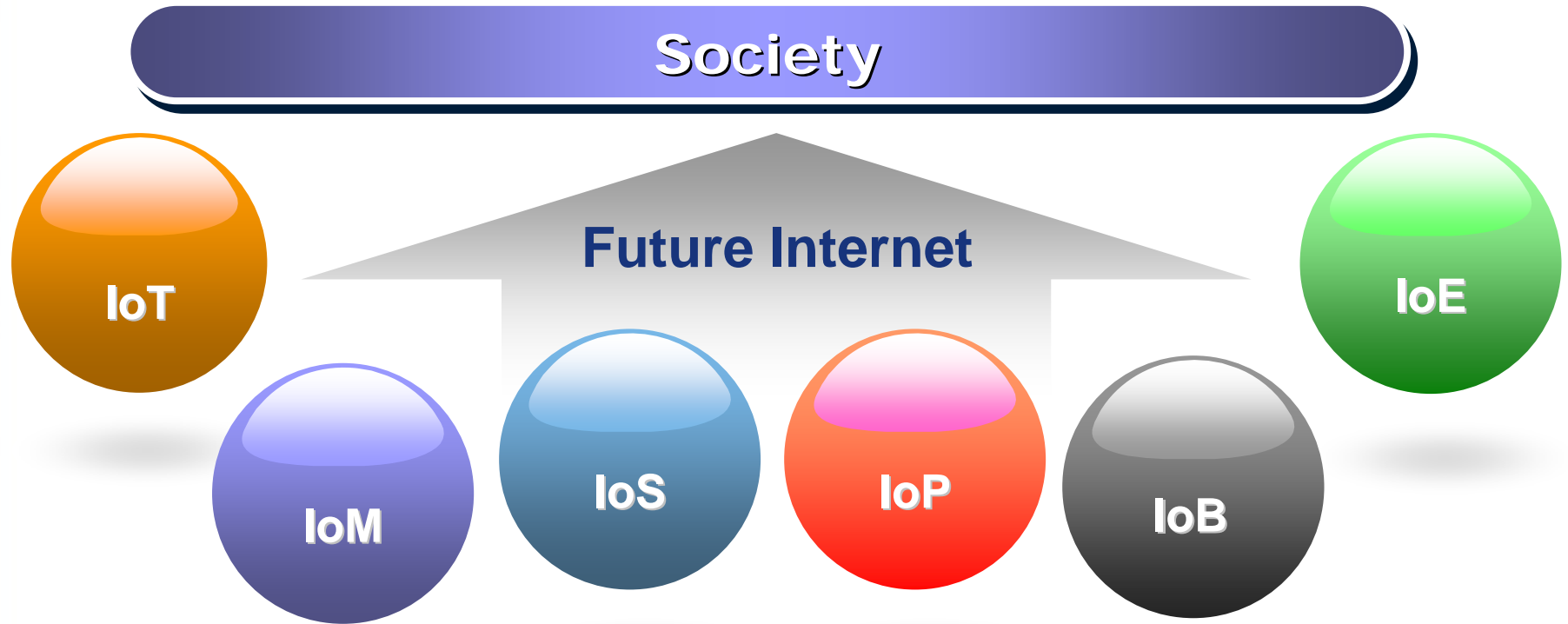
- The Future Internet vision is that “all network and service platforms technologies called upon to constitute the Internet are looked at as part of a single system that seamlessly integrate various Internets of “X” into a knowledge network that is based on trust, security and privacy, address the socio-economics needs of individuals for the benefit of whole human society.



- **Challenges:**

- Scalability
- Support of mobile and wireless devices, ubiquitous embedded sensors
- Network management
- Service aware networking
- Built in security

Future Internet

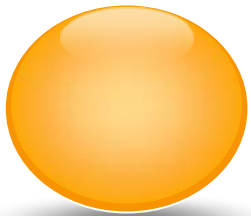


- IoT - Internet of Things
- IoM - Internet of Media
- IoS - Internet of Services

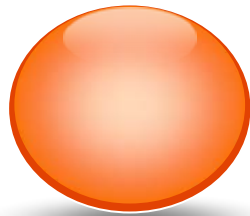
- IoP – Internet of People
- IoB – Internet of Businesses
- IoE – Internet of Energy

Future Internet Challenges

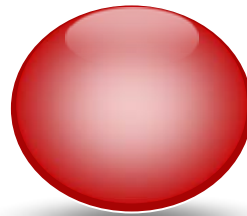
■ Capacity



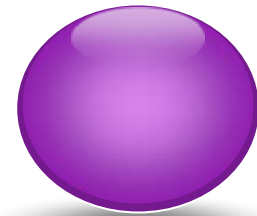
More Storage



More Addresses

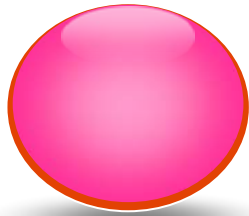


More Transport Capacity

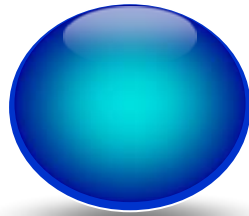


Making Technology Compatible

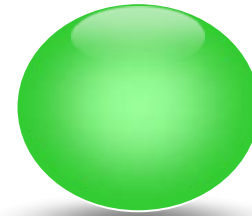
■ User friendly



Internet For All



Better Search Tools



From Data To Knowledge

■ Secure, safe, trustworthy

■ Auto and self management

■ Network aware, network agnostic, content aware

Internet of Things Integration

- Internet of Things -technologies for object and network authentication and anonymity/silence mechanisms
- Networked sensors
 - Energy efficient protocols
 - Energy efficient wireless sensor networks with inter protocol communication capabilities (hybrids, etc.)
 - Semantic interoperability, service discovery, service composition, semantic sensor web
- Device discovery, distributed repositories
- Positioning and localisation
- Mapping of real, digital and virtual entities



Internet of Energy Integration

- Combine the Internet - information highway linking computers, things and services with the power distributed network/grid - the highway for renewable energy resources
- Internet enabled energy and communication with the grid and Internet communication based power
- Ethernet over power lines
- Internet enabled monitoring and control
- Networked sensors
 - In network data mining and data inference techniques
 - Resource discovery and discovery services
- Networked actuators
 - Real time changing environment
 - Energy source/load, lighting, temperature, etc.



Future Internet

Society

Knowledge Integration

New “social networks”

New “people”



New “things”

New “services”

New “energy”

New “business”