

EU-AFRICA cooperation in Internet of Things for deployment of important(real-world) applications



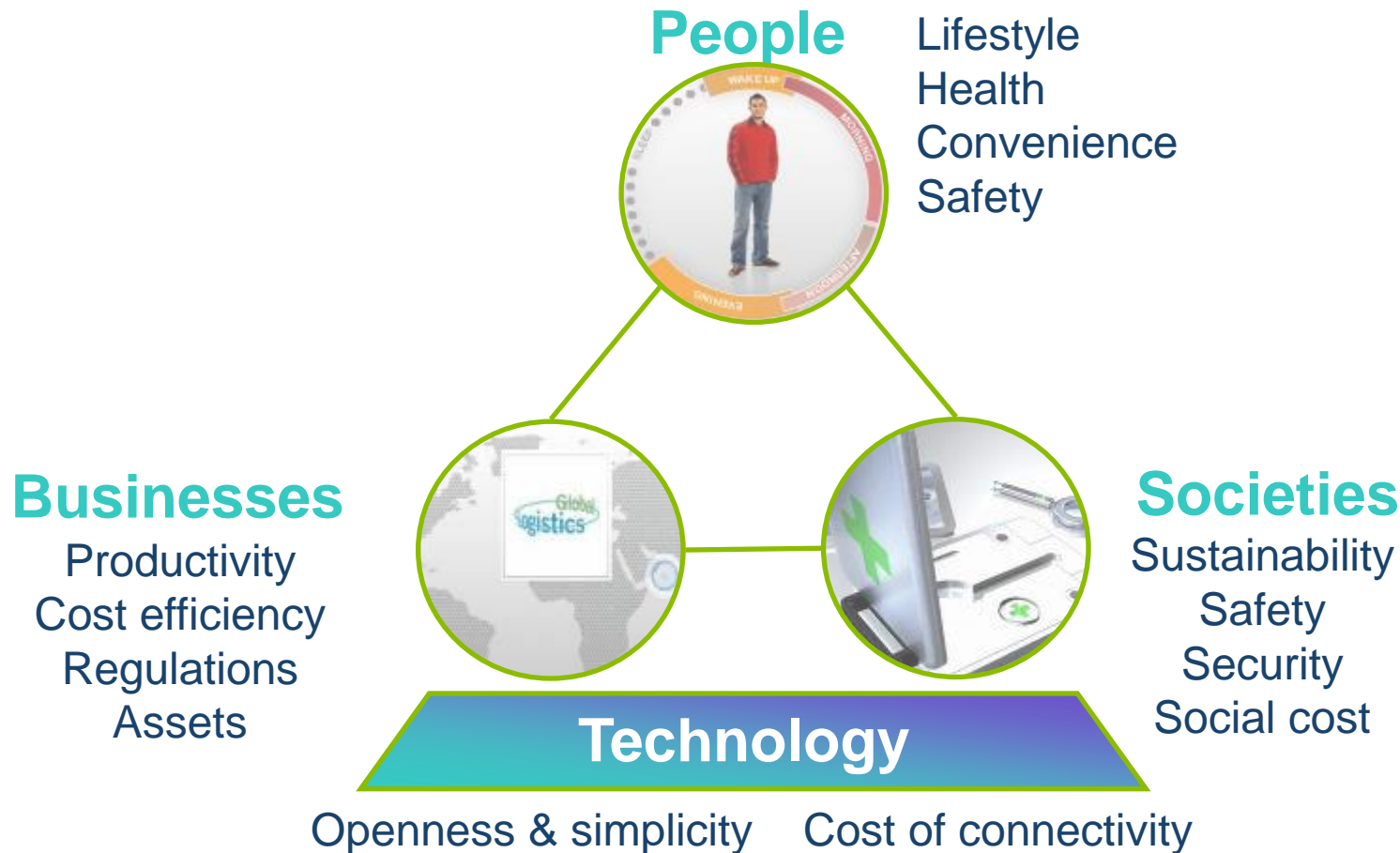
EU-Africa ICT Conference
Cape-Town 14-15 Novembre

Fahmy Chelly, CERT, Tunisia
Philippe Cousin, Eglobamark,
France

FP7 Probe-IT project

www.probe-it.eu

Internet of Things (IoT) Machine2Machine (M2M): What about ?



Everything that benefits from a network connection will have one...
Simplicity & low cost connectivity will enable the mass of connections!

Example: potential of energy savings with IoT

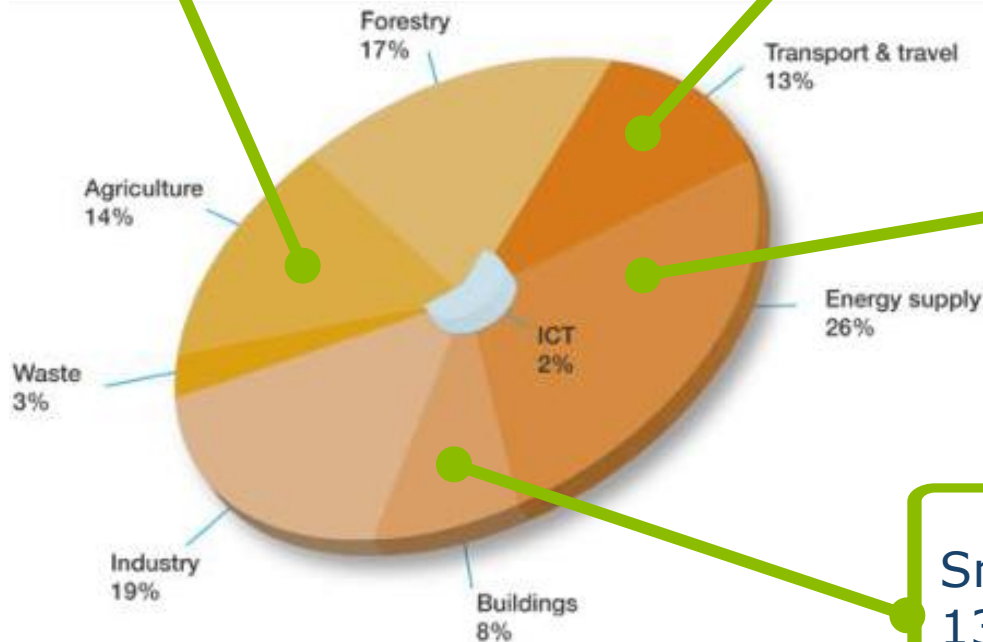


Sensors and actuators to control irrigation and fertilizers***

Connected navigation
24% saving*

Smart Grid with consumer information and control
12% saving**

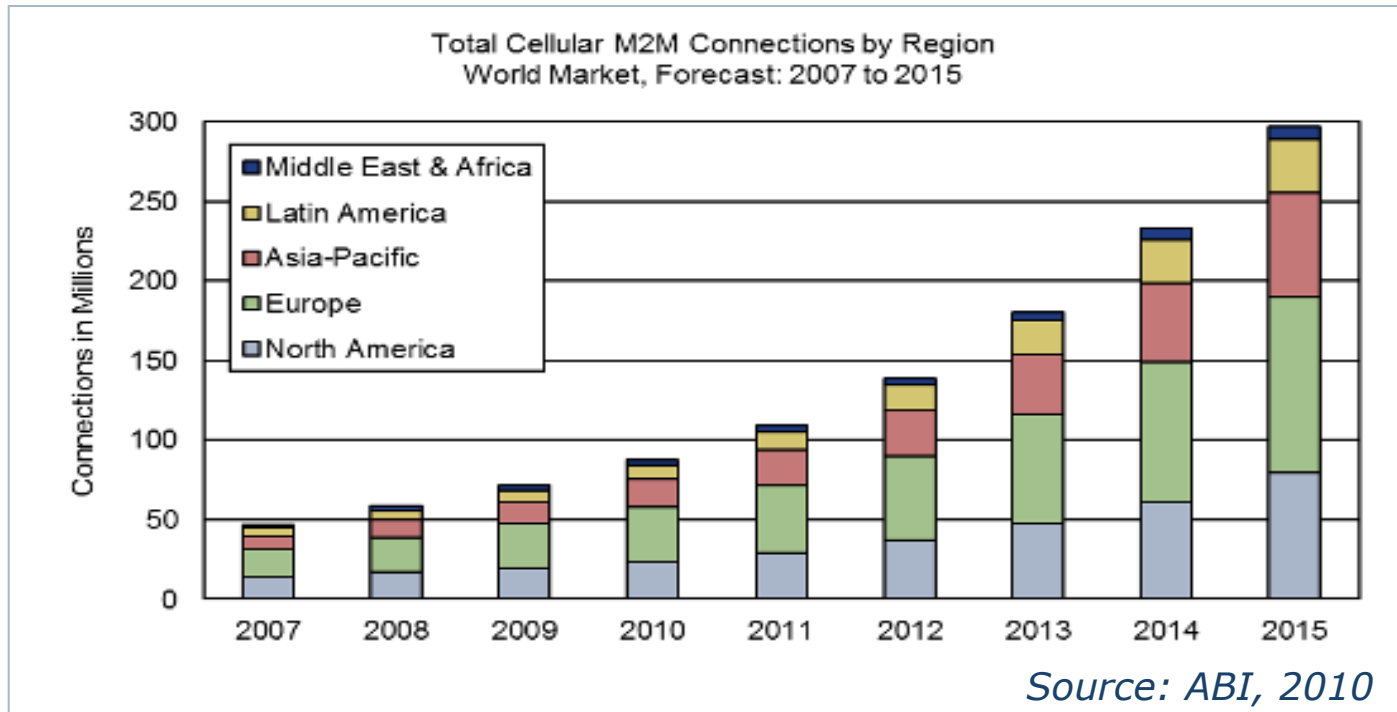
Smart Buildings
13% saving**



Source: Graph: IPCC, *Navteq, **Smart 2020, GeSI

Note: *** Simple example at <http://www.youtube.com/watch?v=1g3Qu2IqESE&sns=em>

M2M Market is in growth: Cellular M2M Market Forecast



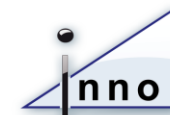
- It is expected that the number of communicating machines, including intelligent machines, vehicles and sensors, will soon be 1000 times bigger than number of mobile phones.

PROBE-IT project to benchmark and roadmap IoT



- ❖ **Status on IoT deployments**
 - From all over the world, including Africa.
- ❖ **Benchmarking framework**
 - Definition of a benchmarking framework for IoT deployments
 - Evaluation and update of this framework
- ❖ **Shared IoT deployment evaluation framework**
 - Definition of evaluation framework
 - Evaluation of indicators in real IoT deployments
- ❖ **Testing methodologies and standards**
 - Study of approaches/standards used
 - Analysis and discussions on PROBE-IT reports & roadmaps
- ❖ **Interoperability events and workshops**
 - Tailored to project research needs
 - Active participation from related projects

Pursuing Roadmap
and Benchmark in IoT
Oct 2011- Oct 2013



| | INPUT indicator | PROCESS indicator | OUTPUT indicator | IMPACT indicator |
|--|---|--|--|---|
| Definition | Public and private inputs Knowledge transfers | Scale and nature | Immediate results, include performance | Ultimate benefits |
| Economy and finance | - Investment - Business case... | - Maintenance / exploitation costs | - Efficiency - Incomes | - Market forecast - New businesses |
| Technology | - Requirements and specifications management | - Number and profile of nodes | - Volume of data exchanged - ... | - New applications / fields of research - killing/enabling applications |
| Sociological and environmental | - Environmental cost - Approaches for increased acceptance | - Energy consumption (green technology in use) - users profiles (age, sex, occupation, ...) | - Nb of end users - Maturity level | - Digital divide reduction - sociological acceptance |
| Standards, regulation and interoperability | - Used standards | - Interoperability management | - Contribution to standards, regulation, interoperability frameworks | - Increase interoperability |
| IPR and legal | - Open vs closed - Patents bring in | - Data protection | - New patents | |

IoT a key topic of EU-Africa cooperation



- ❖ **Contribute to IoT roadmap and benchmark and ensure the acceptance of IoT solutions in Africa.**
- ❖ **Promote cooperation in IoT**
 - Cooperation with IERC (Internet of things European Research Cluster) <http://www.internet-of-things-research.eu>
 - Cooperation in IoT test beds for helping researchers? and support deployments . African test beds federated and connected to EU ?
 - Common pilots and experience sharing. Smart cities ?
- ❖ **Organize key workshops and IoT interop event(s) to gather interest and technical findings**
- ❖ **We need you . Contact us : fahmi.chelly@cert.mincom.tn
philippe.cousin@eglobalmark.com**