

Internet of Things Egypt Forum

Meeting-01 27-01-2015



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Internet of Things Egypt Forum

Overview & Scope



What is Internet of Things?



"The Internet of Things (IoT) is the network of physical objects that contain embedded technology to communicate and sense or interact with their internal states or the external environment. The IoT comprises an ecosystem that includes things, communication, applications and data analysis" *Gartner*



"A true Internet of Things will require IP in the tiniest devices that monitor or control real world objects, and that services and data from these devices are somehow available more openly for applications to make use of. The use of standard IP and Web technologies will ensure that device costs are driven down and that application development and use will be significantly simplified." *Ericsson*



"The Internet of Everything (IoE) is bringing together people, process, data, and things to make networked connections more relevant and valuable than ever before—turning information into actions that create new capabilities, richer experiences, and unprecedented economic opportunity for businesses, individuals, and countries." *Cisco*

What is Internet of Things?

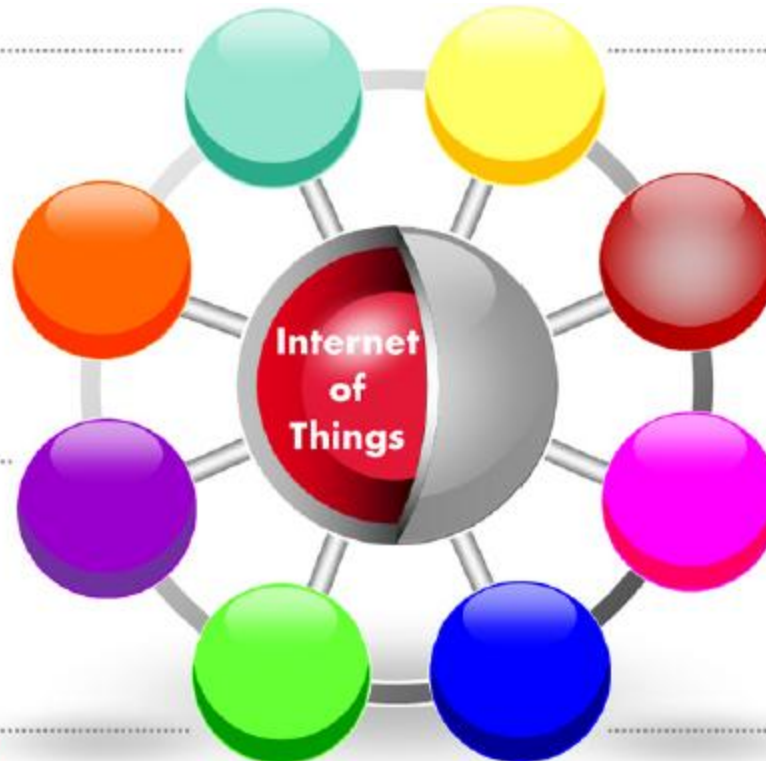
□ IoT is defined by ITU and IERC as

A dynamic global network infrastructure

with self configuring capabilities

based on standard and interoperable communication protocols

where physical and virtual “things”



have identities, physical attributes, and virtual personalities

use intelligent interfaces,

and are seamlessly integrated

into the information network.

IoT Today!

- ❑ Telecom Operators
 - ▣ Consider M2M and IoT major business focus

- ❑ Device manufacturers
 - ▣ Consider wearables a new product segment

- ❑ R&I community
 - ▣ Invest in studying embedded and cyber-physical systems, network technologies, semantic interoperability, operating systems, security, cloud computing, future internet, big data and robotics

IoT Challenges

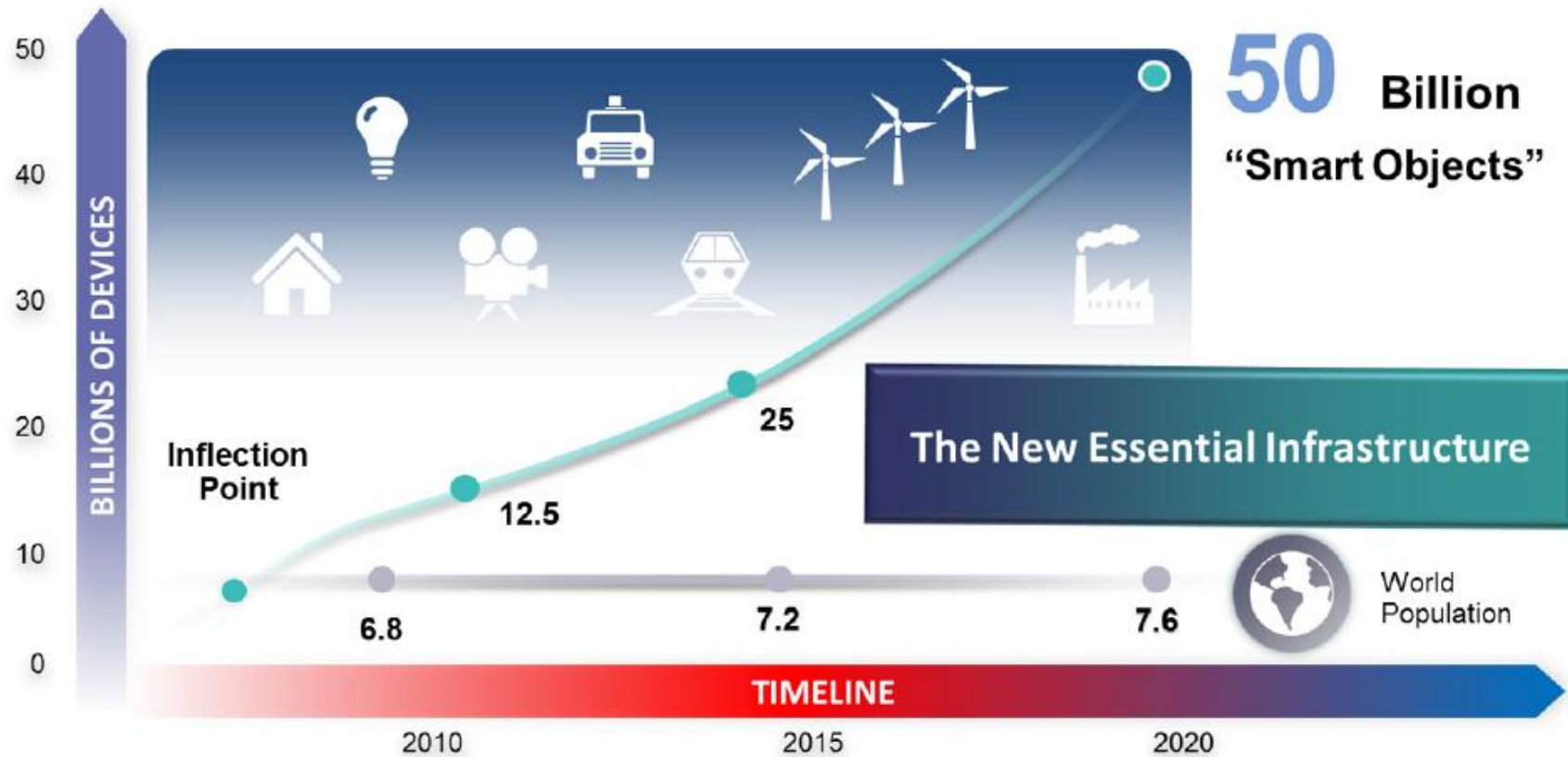


IoT Tomorrow!

- ❑ Extend the current IoT into ***dynamically configured web of platforms*** for connected devices, objects, smart environments, services and persons
- ❑ Overcome the fragmentation of vertically-oriented closed systems, architectures and applications

Open Smart Web of Everything

IoT Connected Devices & Future Evolution



Source: Cisco IBSG, 2011

IoT Fundamental Characteristics

Interconnectivity

Anything can be connected to a global information & communication infrastructure

Things-Related Services

IoT is capable of providing thing-related services such as privacy protection & semantic consistency between physical things and associated virtual things

Heterogeneity

Devices are heterogeneous as based on different hardware and networks. However, must interact with other devices and services

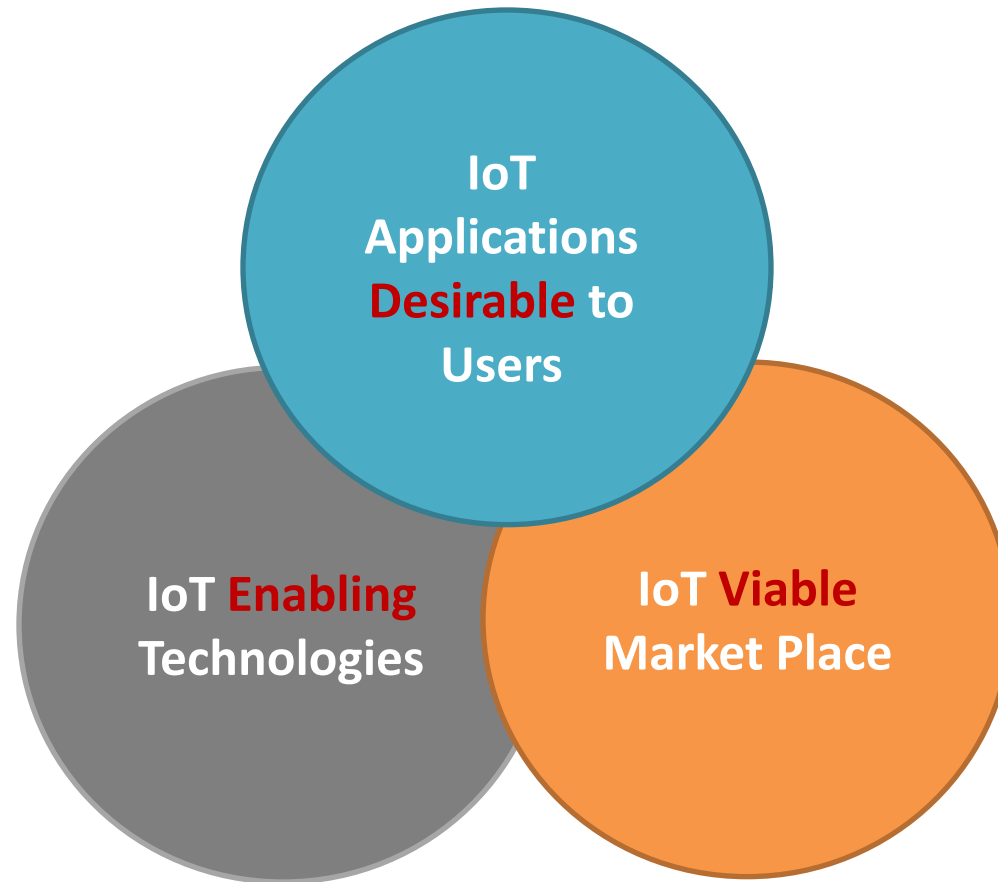
Dynamic Changes

Both number and state of devices change dynamically. Reasoning, actions and updates must be timely done

Enormous Scale

Enormous number of devices. Device-triggered communication rather than human-triggered communication

IoT Ecosystem



Internet of Things Forums - Examples



The Internet of Things World Forum (IoTWF) is an exclusive annual event that brings together the thinkers, practitioners, and innovators from business, government, and academia to accelerate the market adoption of the Internet of Things. www.iotwf.com



The IoT Forum is a member based organization working towards the common vision of the Internet of Things. The forum meets several times every year, and organizes the IoT-week (<http://iot-week.eu/>). The IoT Forum was bootstrapped by the FP7 IoT-i project

What is IoT Egypt Forum?



Mission

The forum aims at exploiting IoT to solve societal and economical challenges in Egypt. **“Egypt is Connected”** is the vision of IoT Egypt forum



Vision

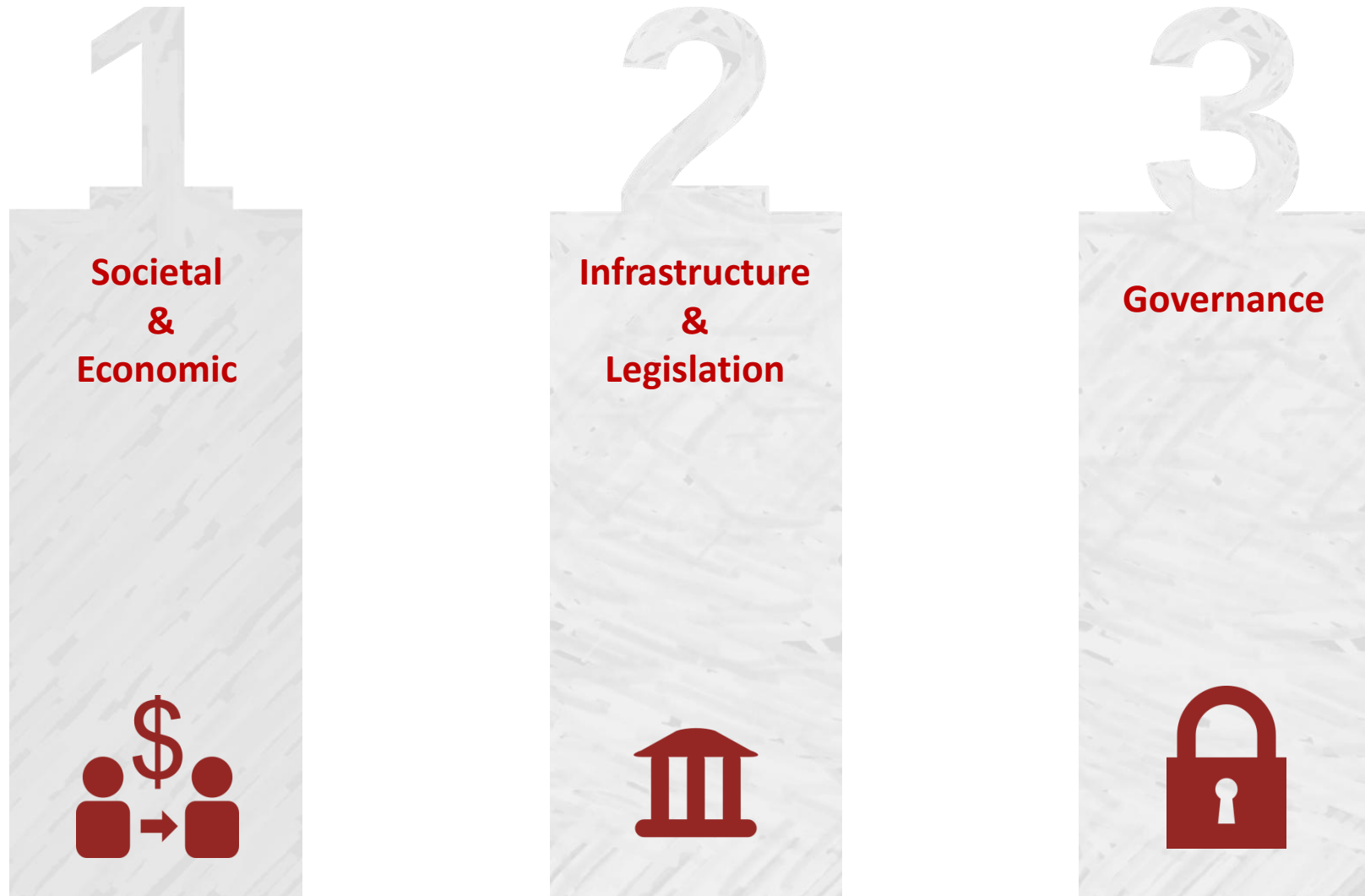
The forum seeks to establish a foundation for IoT technologies and applications in Egypt



Goals

- Discuss the challenges and opportunities of the technology in Egypt
- Disseminate the technology to the Egyptian society
- Encouraging interested individuals and companies to participate
- Align the IoT technology in Egypt with other international IoT forums worldwide
- Align the research and industry to solve pressing IoT technology challenges

IoT Egypt Forum Main Pillars



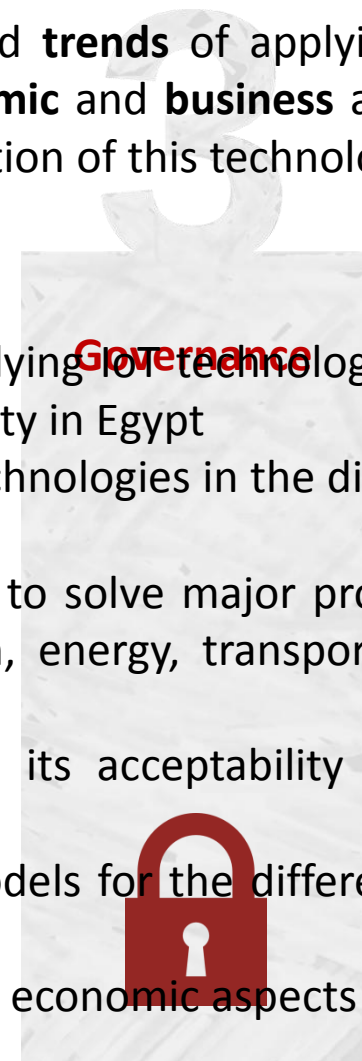
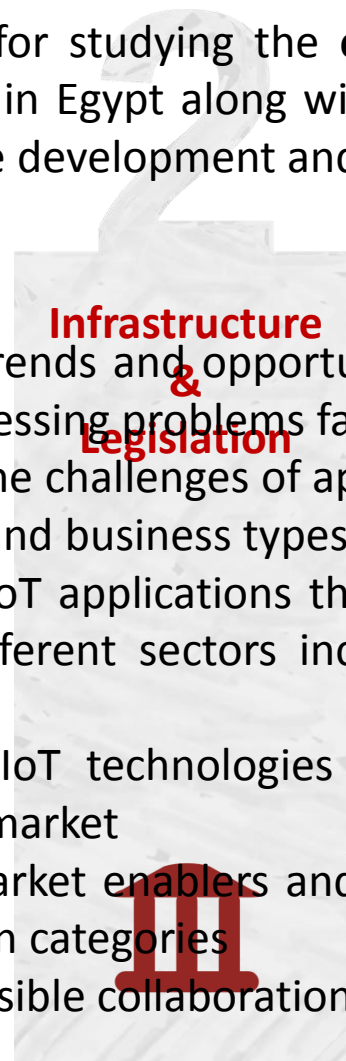
IoT Egypt Forum Main Pillars – Societal & Economic



Responsible for studying the **challenges** and **trends** of applying IoT technologies in Egypt along with the **economic** and **business** aspects related to the development and implementation of this technology

Goals

- **Identify** trends and opportunities of applying IoT technologies for solving pressing problems facing the society in Egypt
- **Identify** the challenges of applying IoT technologies in the different domains and business types
- **Propose** IoT applications that contribute to solve major problems in the different sectors including health, energy, transportation, etc.
- **Promote** IoT technologies and increase its acceptability in the Egyptian market
- **Define** market enablers and business models for the different IoT application categories
- **Study** possible collaborations to cover the economic aspects of IoT



IoT Egypt Forum Main Pillars – Infrastructure & Legislation

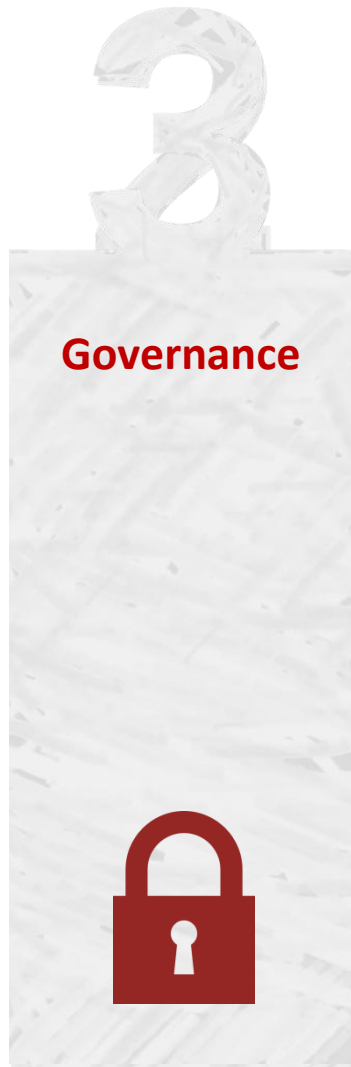


Responsible for **assisting** the policy makers in setting the rules and processes that affects decision making regarding openness, security, accountability, and compliance in order to control the evolution and use of IoT technology in Egypt

Goals

- **Evaluate** IoT architectures and technology solutions and propose an applicable and optimized infrastructure for IoT in Egypt
- **Bridge** the gap between market and research community in IoT technology
- **Identify** standards and regulations of deploying IoT technology in Egypt

IoT Egypt Forum Main Pillars – Governance



Responsible for **evaluating** IoT architectures and technology solutions, **discussing** and **analyzing** the legislative aspects of IoT, **considering** the emerging technologies and **triggerings** the research community to focus on the research areas that can benefit IoT deployment in Egypt

Goals

- **Study** the existing internet governance approaches and check their applicability to IoT
- **Identify** the constraints and limitations imposed on IoT deployment in Egypt by the existing governance regimes
- **Propose** new governance approaches for IoT in order to:
 - Guarantee the common identification techniques for objects to achieve uniqueness and interoperability
 - Guarantee both the stability and security of networks over which objects will communicate
 - Set strict rules for usage of data communicated between objects over the network to avoid data manipulation and misuse
 - Avoid single point of control over resources and ensure fair competition among IoT service providers

IoT Egypt Forum Organization

IoT Forum Steering Committee



Government



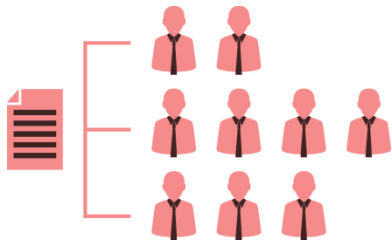
Academia



Industry



IoT Forum Members



Members

- The IoT Egypt Forum welcomes participation from **individuals** as well as all **organizations**, both for-profit and non-profit, with relevant technical interests
- Participate in events, meetings, and deliverable
- Participate in one or more Working Group
- Access member only website content
- Online listing of products in IoT Egypt Forum product showcase