Internet of Things Egypt Forum
Meeting-02 30-03-2015

Content

- ☐ Overview of EU Efforts in IoT R&I

- ☐ IoT-A Project

- ☐ iCORE Project

- ☐ COMPOSE Project

European Commission Efforts

☐ EC has put huge effort to stimulate the collaboration between stakeholders

☐ **IERC -IoT European Research Cluster** addresses the large potential for IoT-based capabilities in Europe

  ◻ *Coordinate, encourage the convergence of ongoing work* on the most important issues to build a broadly based *consensus on the ways to realise IoT* in Europe

IERC Objectives

☐ Links its activities with the activities of the IoT Expert Group in order to minimise overlaps and maximize synergies

- ◼ Be a platform for a research vision for IoT activities in Europe
- ◼ Define an international strategy for cooperation for IoT research
- ◼ Coordinate and align the R&I agenda at the European level
- ◼ Organise debates/workshops

EU-Funded Projects Targets

□ New EU funded IOT projects (budget 43 Mil €, funding 28 Mil €) addressing

  ◻ Architecture approaches and models

  ◻ Naming and addressing schemes, means of search and discovery

  ◻ Privacy and security issues

  ◻ Service openness and interoperability issues

  ◻ Pre-normative and/or pre-regulatory research

  ◻ Governance issues and models

EU Funded Projects - Examples

☐ ASPIRE, CASCADAS, CONFIDENCE, CuteLoop, DACAR, ETP EPoSS, EU-IFM, EURIDICE, GRIFS, HYDRA, IMS2020, Indisputable Key, iSURF, LEAPFROG, PEARS Feasibility, PrimeLife, RACE networkRFID, SMART, StoLPaN, SToP, TraSer, WALTER, *IOT-A, INTREPID, IOT@Work, ELLIOT, SPRINT, NEFFICS, IOT-I, CASAGRAS2, OpenIoT, iCORE, SmartSantander, FITMAN, COMPOSE, OSMOSE*

IoT EU Funded Projects

IoT-A

IoT-A

Fact Sheet

- **Project Start Date:** 01 Sept 2010
- **Duration:** 36 months
- **EC Contribution:** 12 M€
 http://www.iot-a.eu/

Consortium

☐ IoT Architecture – IoT-A

◻ Provide an architectural reference model for the interoperability of IoT systems, outlining principles and guidelines for the technical design of its protocols, interfaces and algorithms

◻ Assess existing IoT protocol suits and derive mechanisms to achieve end-to-end interoperability for seamless communication between IoT devices

◻ Develop modelling tools and a description language for goal-oriented IoT aware (business) process interactions allowing expression of their dependencies for a variety of deployment models

□ IoT Architecture – IoT-A

  ◻ Derive adaptive mechanisms for distributed orchestration of IoT resource interactions

  ◻ Holistically embed effective and efficient security and privacy mechanisms into IoT devices and the protocols and services they utilize

  ◻ Develop a novel resolution infrastructure for the IoT allowing scalable look up and discovery of IoT resources, entities of the real world and their associations

  ◻ Develop IoT device platform components including device hardware and run-time environment

IoT-A – IoT Reference Architecture
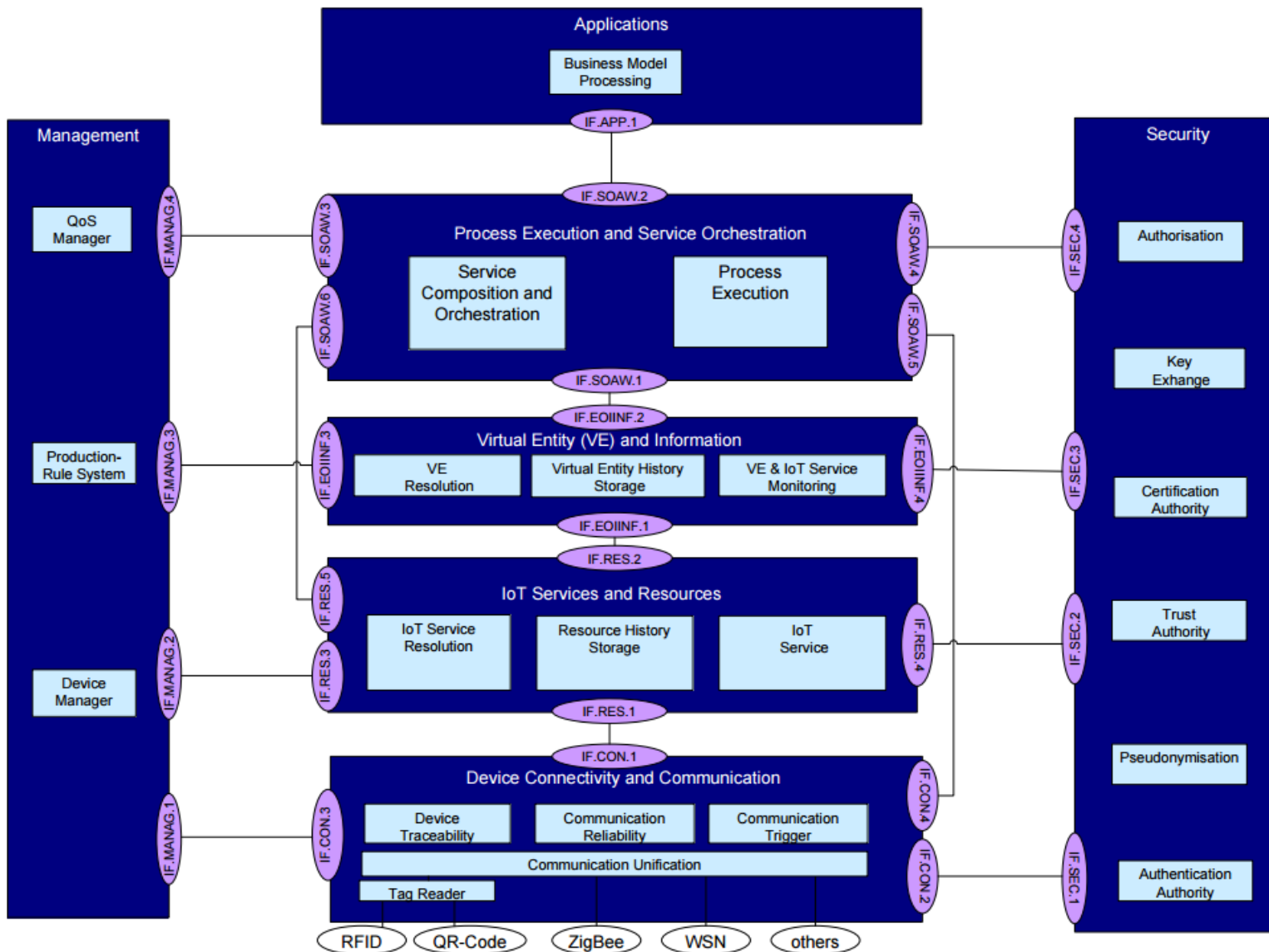
IoT EU Funded Projects
iCORE

Fact Sheet

- **Project Start Date:** 01 Oct 2011

- **Duration:** 36 months

- **EC Contribution:** 8.7 M€ of 13.4 M€
  http://www.iot-icore.eu/

Consortium

□ Addresses two key issues

  ◻ How to abstract the technological heterogeneity that derives from the vast amounts of heterogeneous objects, while enhancing reliability

  ◻ How to consider the views of different users/stakeholders (owners of objects & communication means) for ensuring proper application provision, business integrity and, therefore, maximize exploitation opportunities

- ☐ Provide the cognitive management framework that facilitates and supports Internet-connected objects

- ☐ Provide the virtual objects including virtual representations of legacy real-world and digital objects

- ☐ Provide the composite virtual objects relying on the services rendered to them by the virtual objects

- ☐ Provide the security protocols and functionality
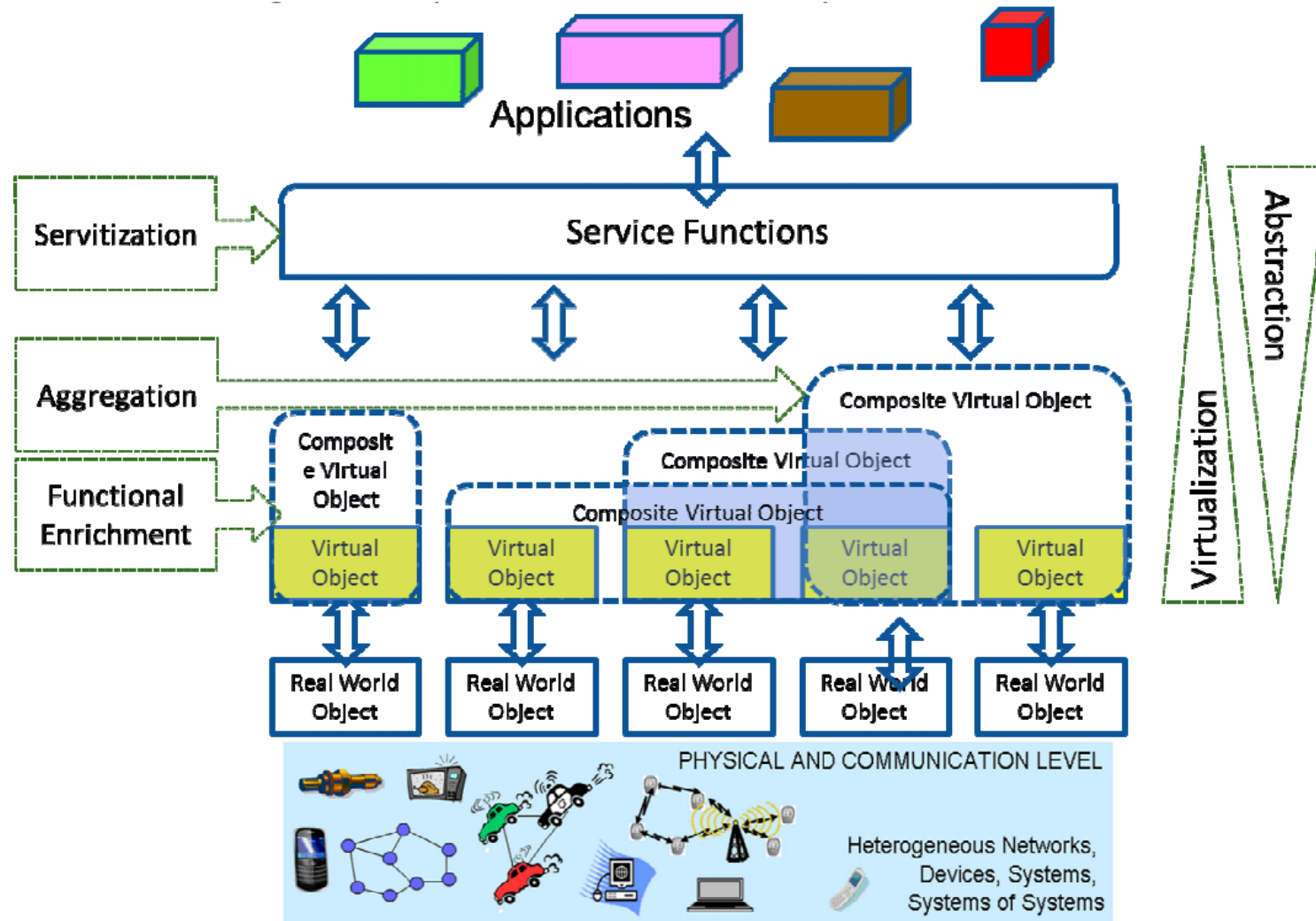
IoT EU Funded Projects
COMPOSE

COMPOSE

Fact Sheet

- **Project Start Date:** 01 Nov 2012
- **Duration:** 36 months
- **EC Contribution:** 7.4 M€
  http://www.compose-project.eu/

Consortium

- Collaborative Open Market to Place Objects at your Service – COMPOSE aims at:

  - Enabling new services that can seamlessly integrate real and virtual worlds through the convergence of the Internet of Services (IoS) with the Internet of Things (IoT)

  - Creating open and scalable marketplace infrastructure, in which smart objects are associated to services that can be combined, managed, and integrated in a standardised way to easily and quickly build innovative applications

- ☐ Cloud Technologies
  - ◘ Scalable cloud-based infrastructure featuring platform as a service for hosting backend applications and IoT marketplace
  - ◘ Ad hoc creation, composition, and maintenance of service objects and services
- ☐ Semantic Web Technologies
  - ◘ Knowledge aggregation
  - ◘ Discovery and advertisement of semantically-enriched objects and services
  - ◘ Data Management handle massive amounts and diversity of data/metadata

COMPOSE – Architecture
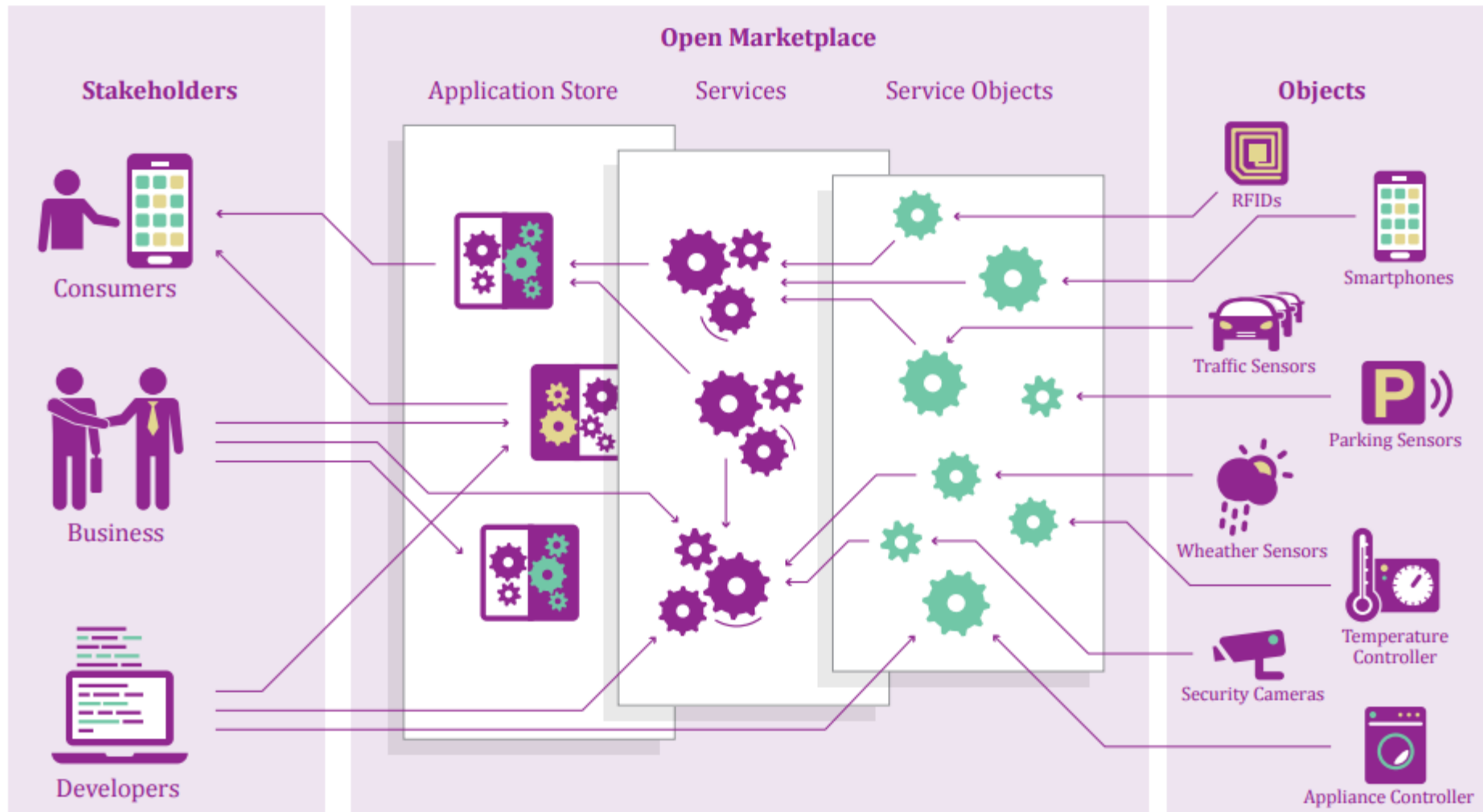
IoT EU Funded Projects
SmartSantander

SmartSantander

Fact Sheet

- **Project Start Date:** 2009
- **Duration:** 36 months
- **EC Contribution:** 6 M€ of 8 M€
  http://www.smartsantander.eu/

Consortium

SmartSantander – Objectives
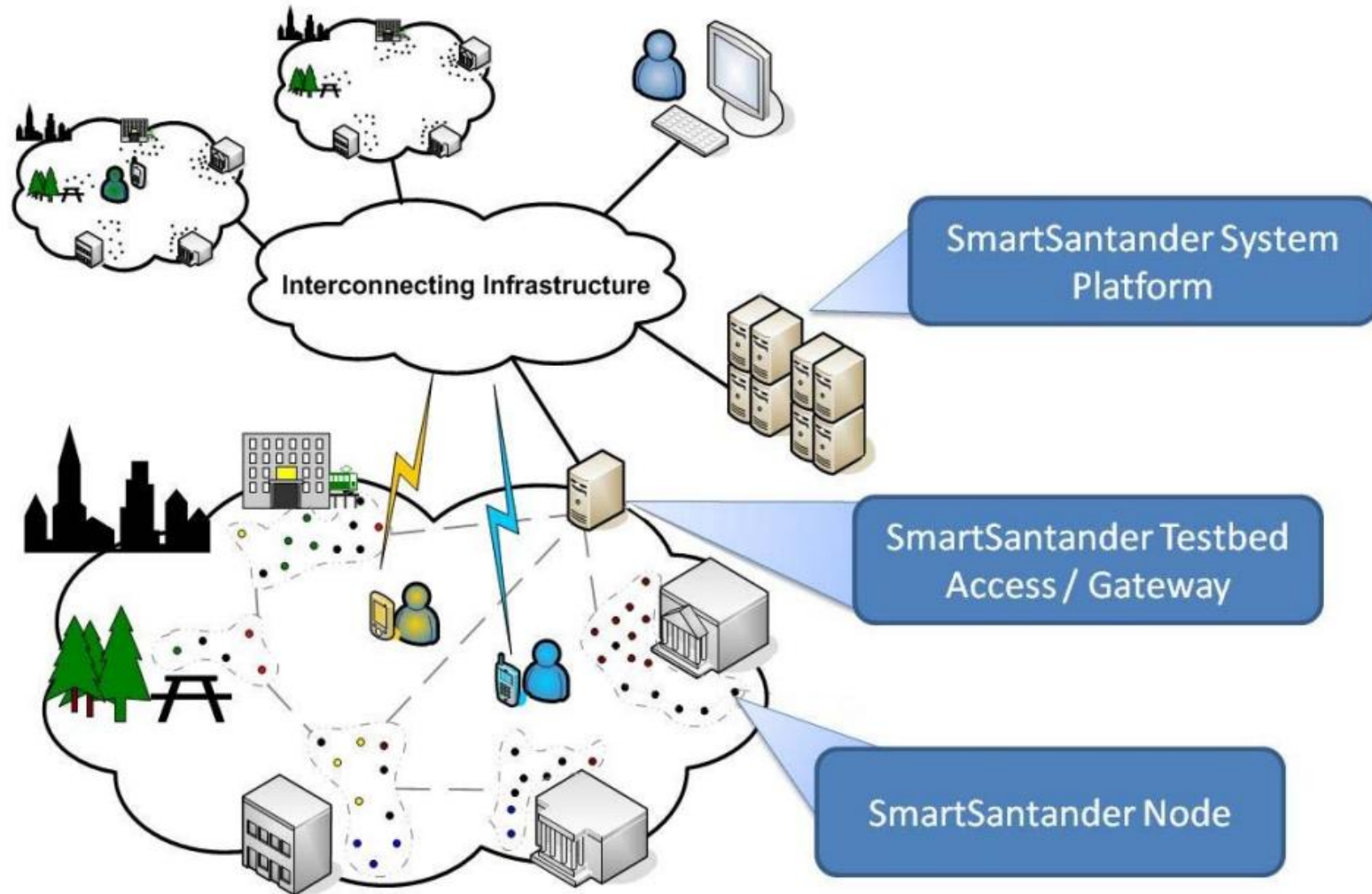
☐ Build unique scalable, heterogeneous and trustable city-scale experimental research facility that aims at:

◘ Validation of approaches to the architectural model of the IoT

◘ Evaluation of the key building blocks of the IoT architecture, in particular, IoT interaction & management protocols and mechanisms, device technologies, and key support services such as discovery, identity management and security

◘ Evaluation of social acceptance of IoT technologies and services

Thank You