IoT + open data + interactive citizens
=
smart city

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A few words about me

- FTN (Novi Sad) → Ericsson (Dublin) → Ericsson (Beograd) → DunavNET (Novi Sad)
- Mobile communications, 3G → Ad-hoc networks and WSN → M2M → IoT
- Co-founder
  - DunavNET
  - senZations (summer school on IoT)
  - IoT Forum

About DunavNET

- Established in 2006
  - HQ in Novi Sad, 40 employees
- Design of IoT and AR based solutions
  - ekoNET, fleetNET, ARgenie, smart cities, m-Commerce, mobile games
- Research and innovation
  - FP7, CIP-PSP, Horizon 2020
- IoT Forum founding member
  - www.iot-forum.eu

IOT, OPEN DATA, INTERACTIVE CITIZENS...
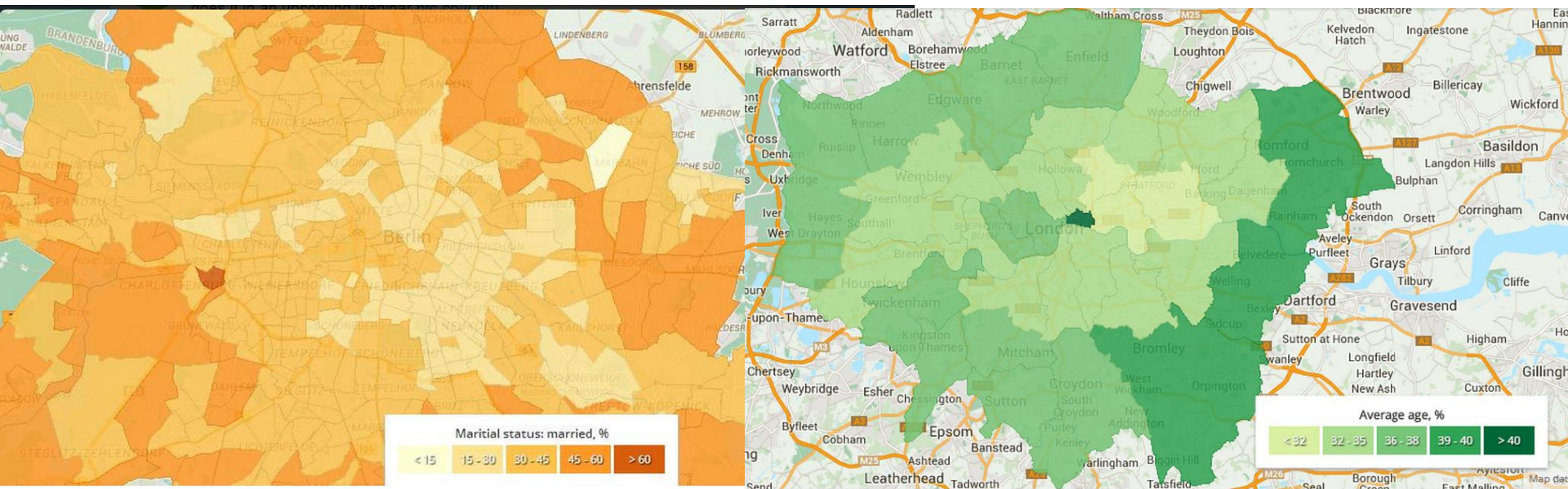
Internet of Things

Devices, smart things, sensors&actuators

CONNECTED, 50 billion

Information and knowledge

Open data

- 21-02 Open data day
- Unleash power of (city-owned) data

Interactive citizens

- Citizens, SMEs
  - prosumers of e-government ecosystem, not just users
- Running a city as a joint effort
  - Citizens suggesting
  - PA takes suggestions seriously into consideration

Open and collaborative government

we-Government

- Public administration stakeholders (citizens, local businesses and companies) treated as peers (collaborators)

t-Government

- Providing the public with the technology tools that enable them to create public value themselves

l-Government

- Do more with less by involving other players
- Government as an orchestrator around enabled platforms

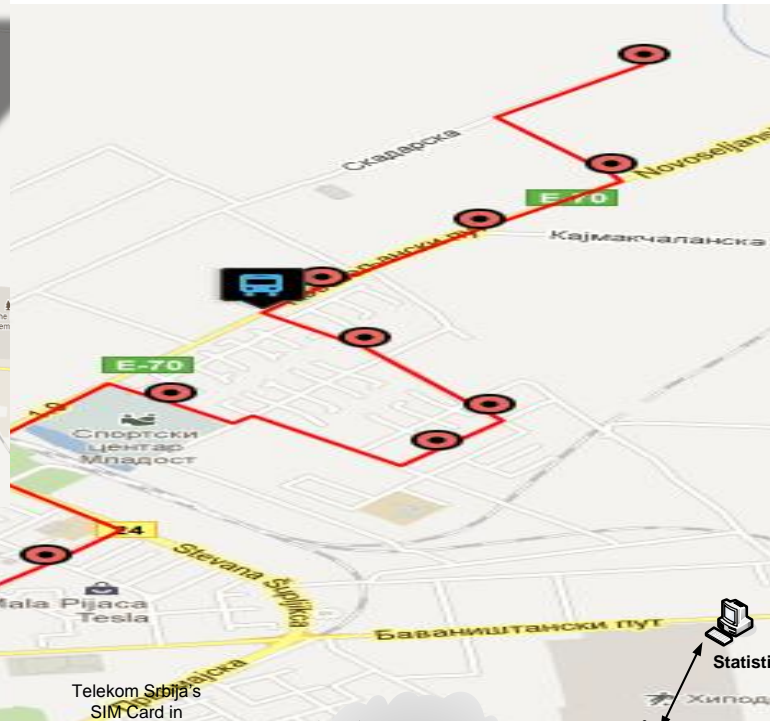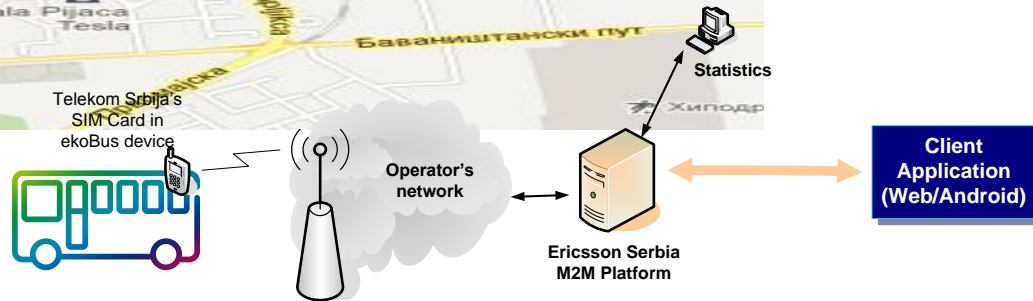# SMART NOVI SAD

EKOBUS, back in 2010

Zona: **Kotež, Pančevo**
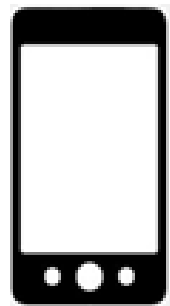
Poslednjih sat vremena 9:14:38-10:14:38

	Srednja vrednost	Min.	Maks.	Limit	Uzoraka
NO2	0.0425	0.0213	0.0497	0.3061	7
CO	0.6099	0.5541	0.6606	12.5	7
CO2	423.7386	406.0393	428.09	600	7
Temperatura	6.31				
Vlažnost	72.0971				

Poslednja 24 časa 10.11.2011 10:14:38 - 11.11.2011 10:14:38

	Srednja vrednost	Min.	Maks.	Limit	Uzoraka
NO2	0.0531	0.01	0.085	0.1735	53
CO	0.6244	0.4594	1.0035	6.25	53
CO2	428.3622	403.2585	434.8654	600	53
Temperatura	7.0408				
Vlažnost	90.116				

Statistics

Telekom Srbija's SIM Card in ekoBus device

Operator's network

Ericsson Serbia M2M Platform

Client Application (Web/Android)

mojNS – mobile application for reporting community issues

PS
Server

Dispečer
komunalne
policije

IEWS

Web Interf.

JKP
Informatika
klijent

SmartSantander

Mobilni
uređaj sa
instaliranim
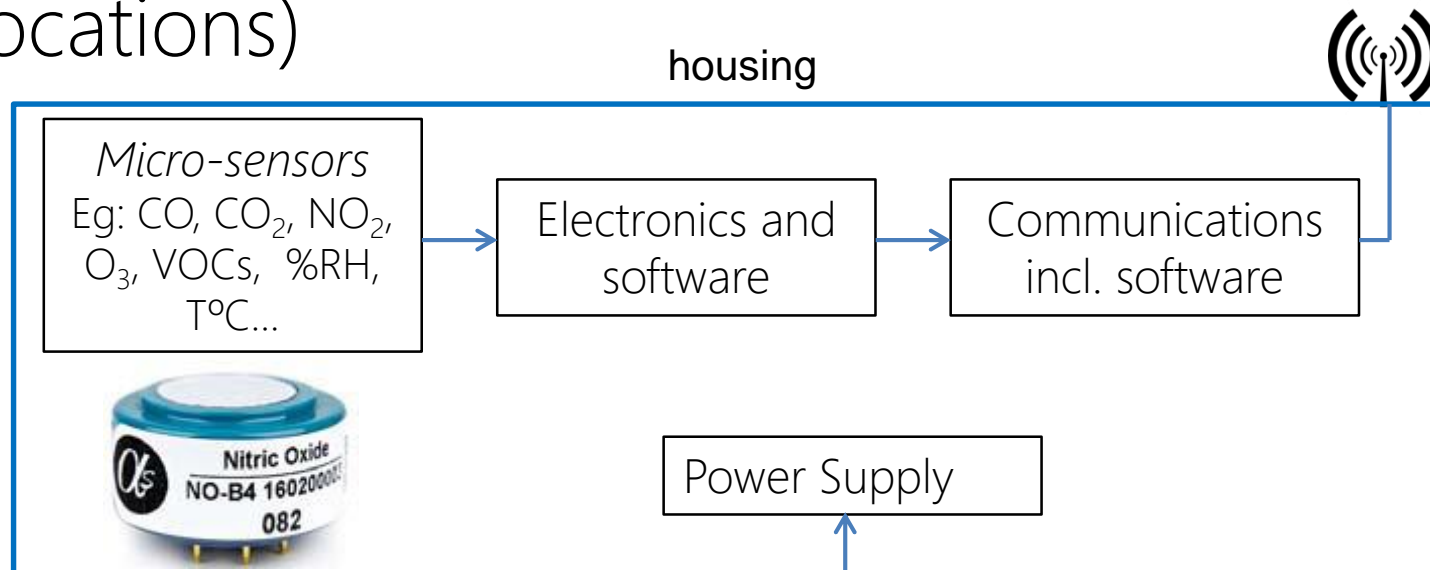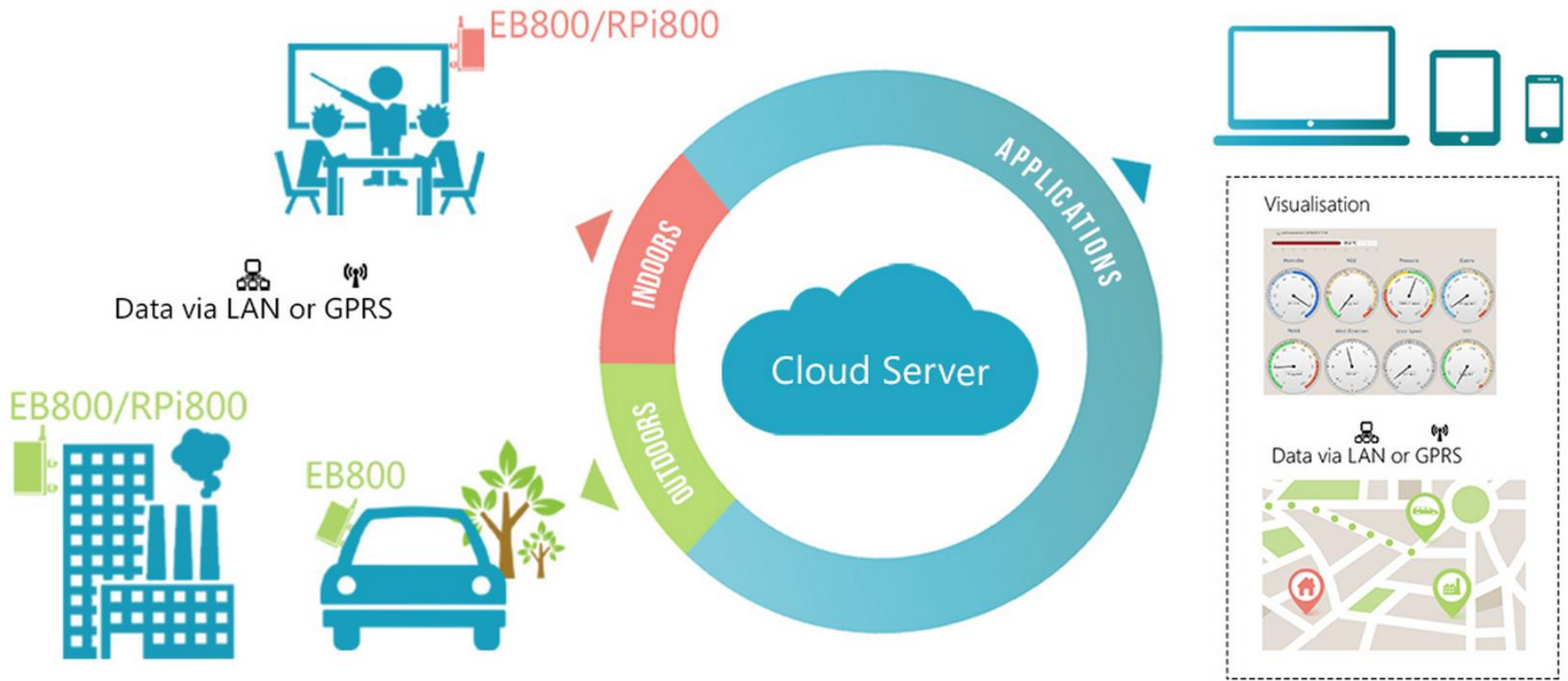PS softverom
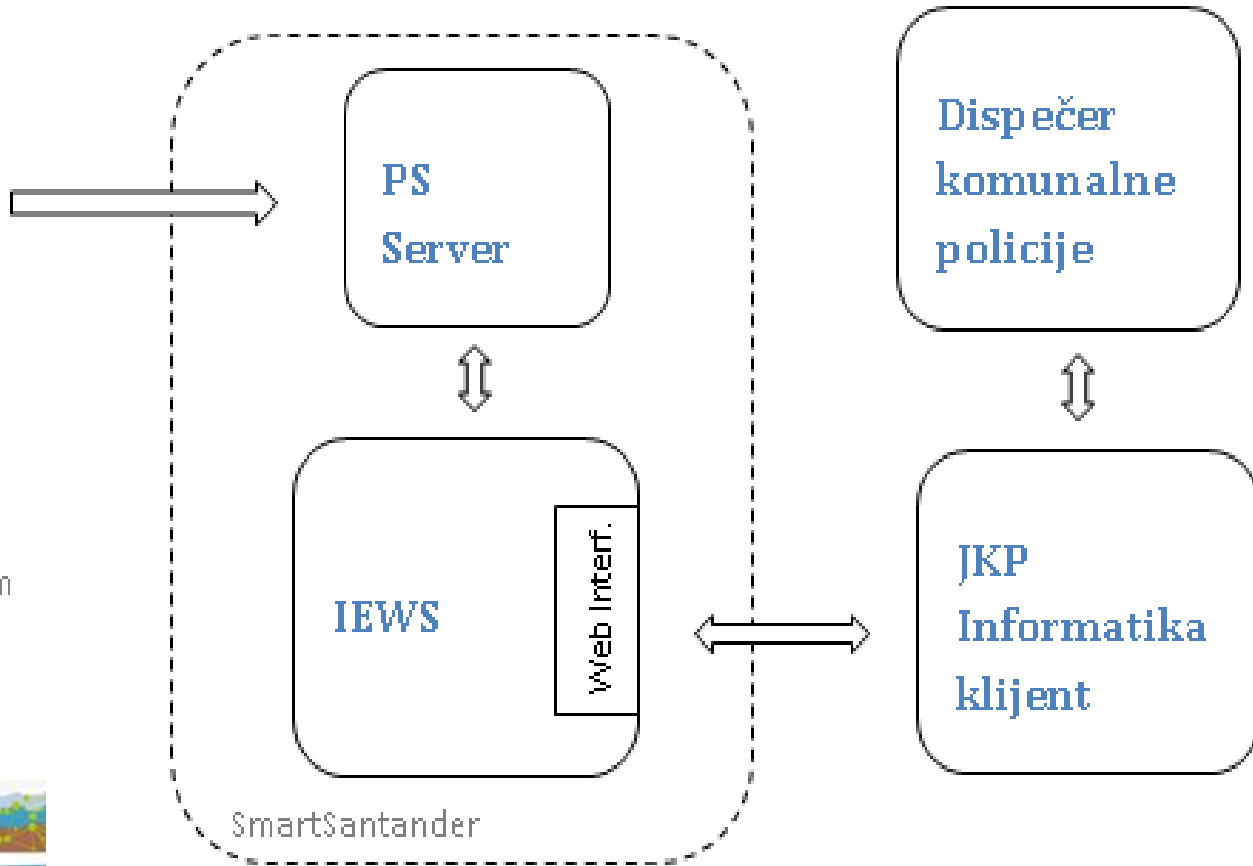
mojNS

Being improved
- to provide progress
- To provide reports

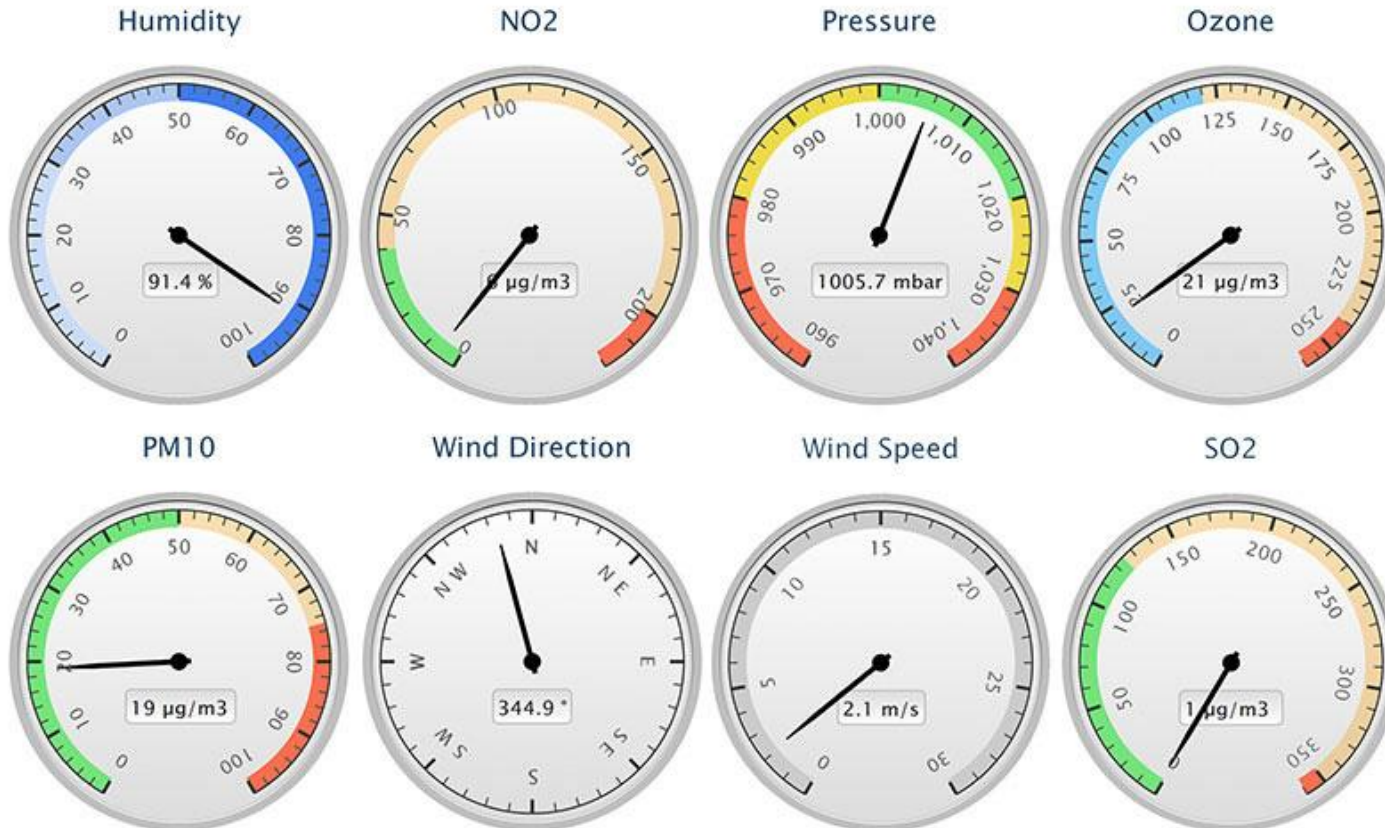# ekoNET and citizens' observatories

CITI-SENSE

- Air quality parameters
  - CO, CO2, PM, NO, NO2, SO2, Ozone

- Deployment ongoing in city of Novi Sad (10 locations)

housing

| $Micro\text{-}sensors$
Eg: CO, CO_2, NO_2, O_3, VOCs, %RH, T°C… | Electronics and software | Communications incl. software |

Nitric Oxide
NO-B4 16020000
082

Power Supply

www.ekonet.solutions

Real time visualization

Real time visualization
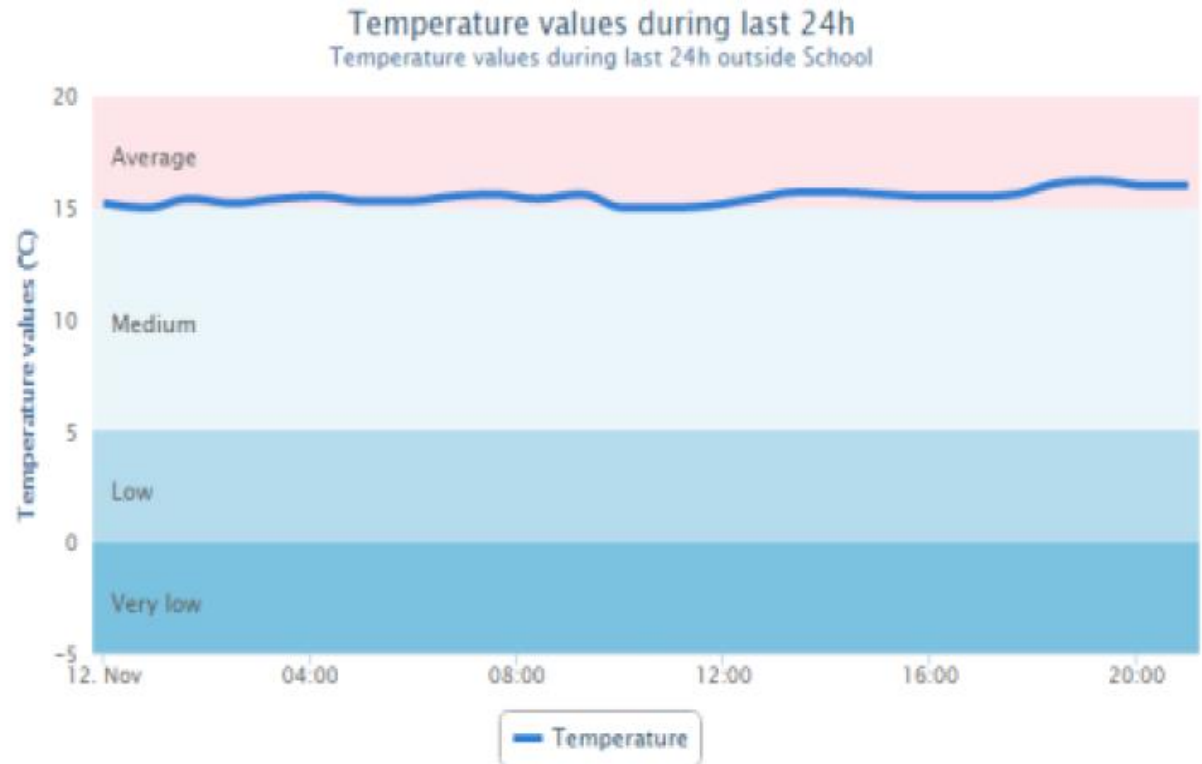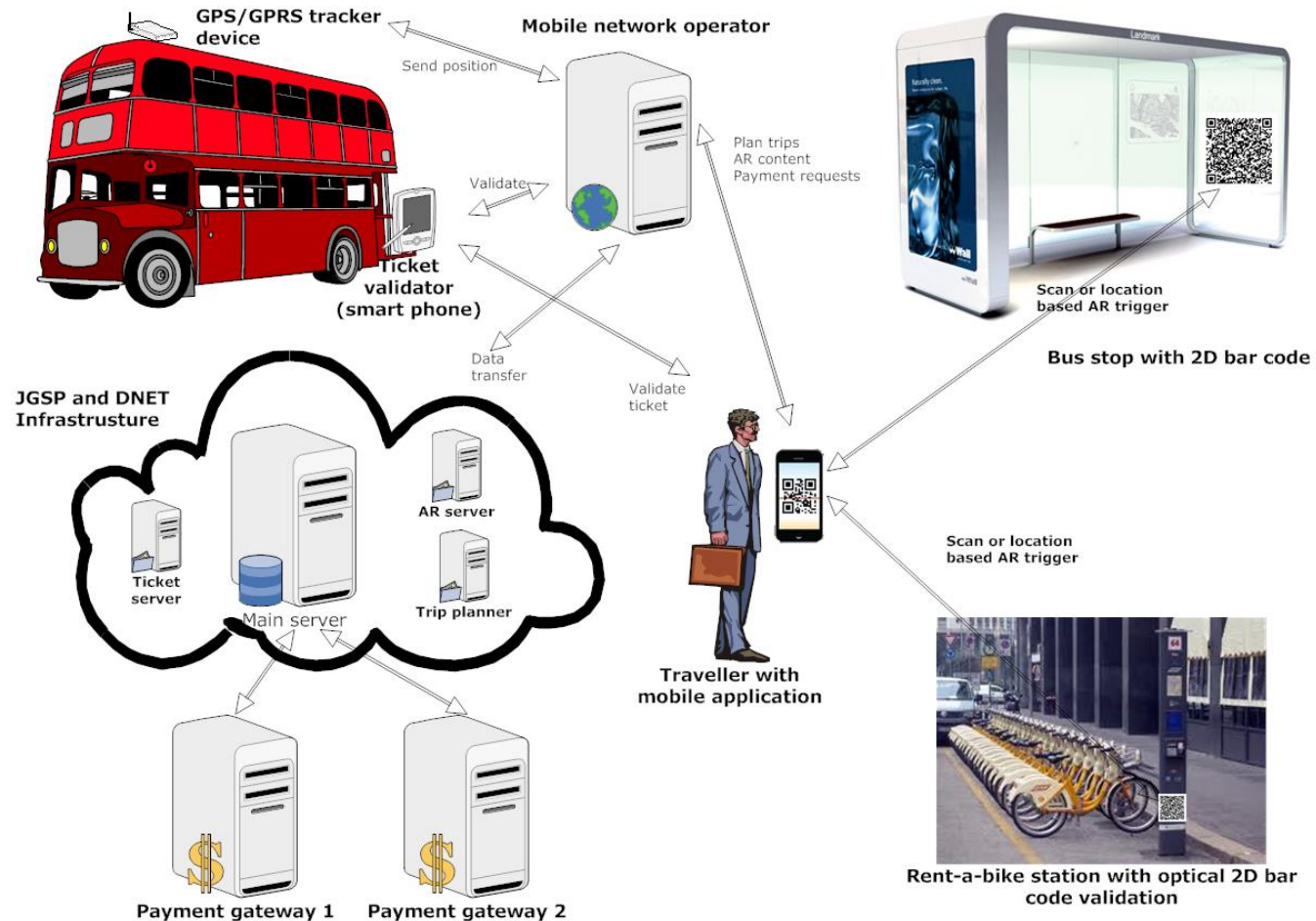
mTicketing in Novi Sad

mTicketing in Novi Sad
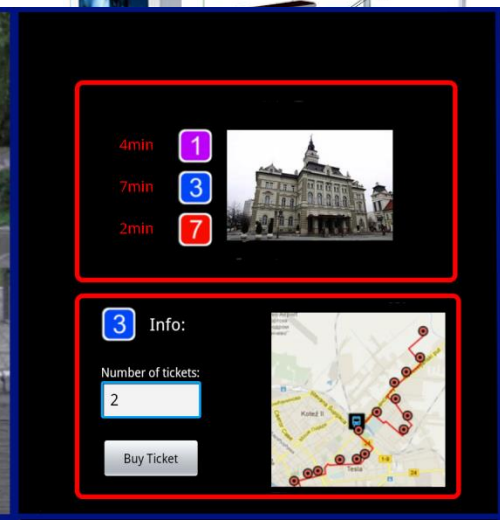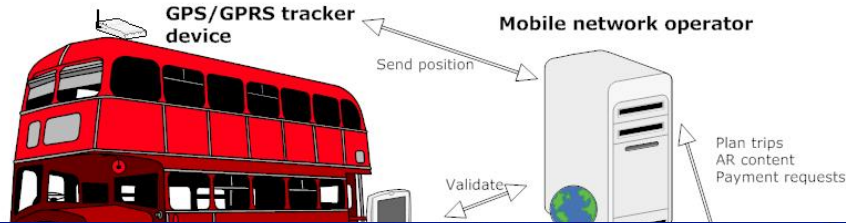
Javni servisi u cloud-u

- Pristup registrima
- Prijava stanara
- Open data API
- Pilot u drugoj polovini 2015-te
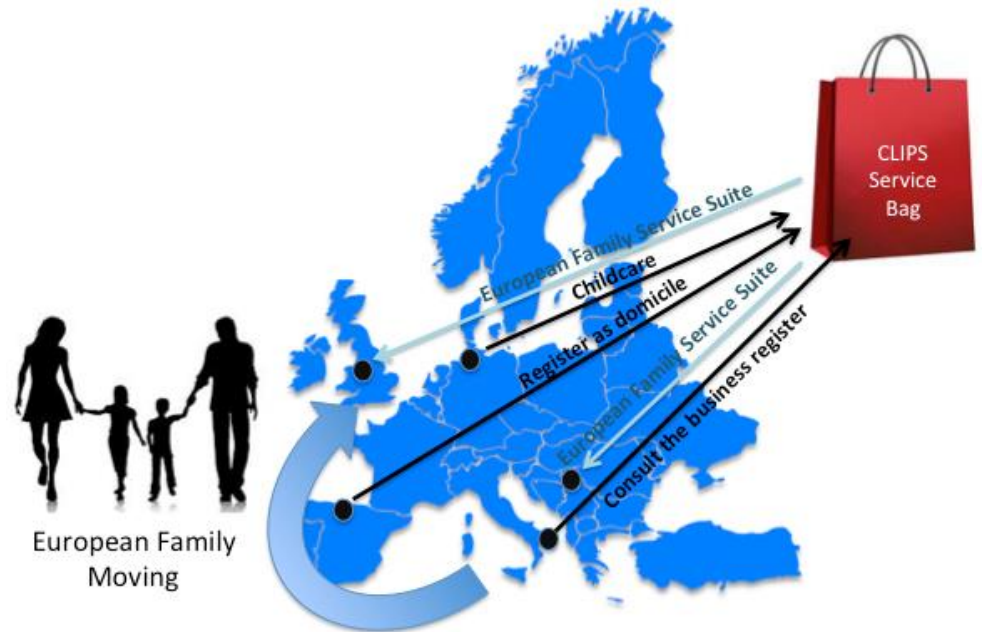
PA services in the cloud
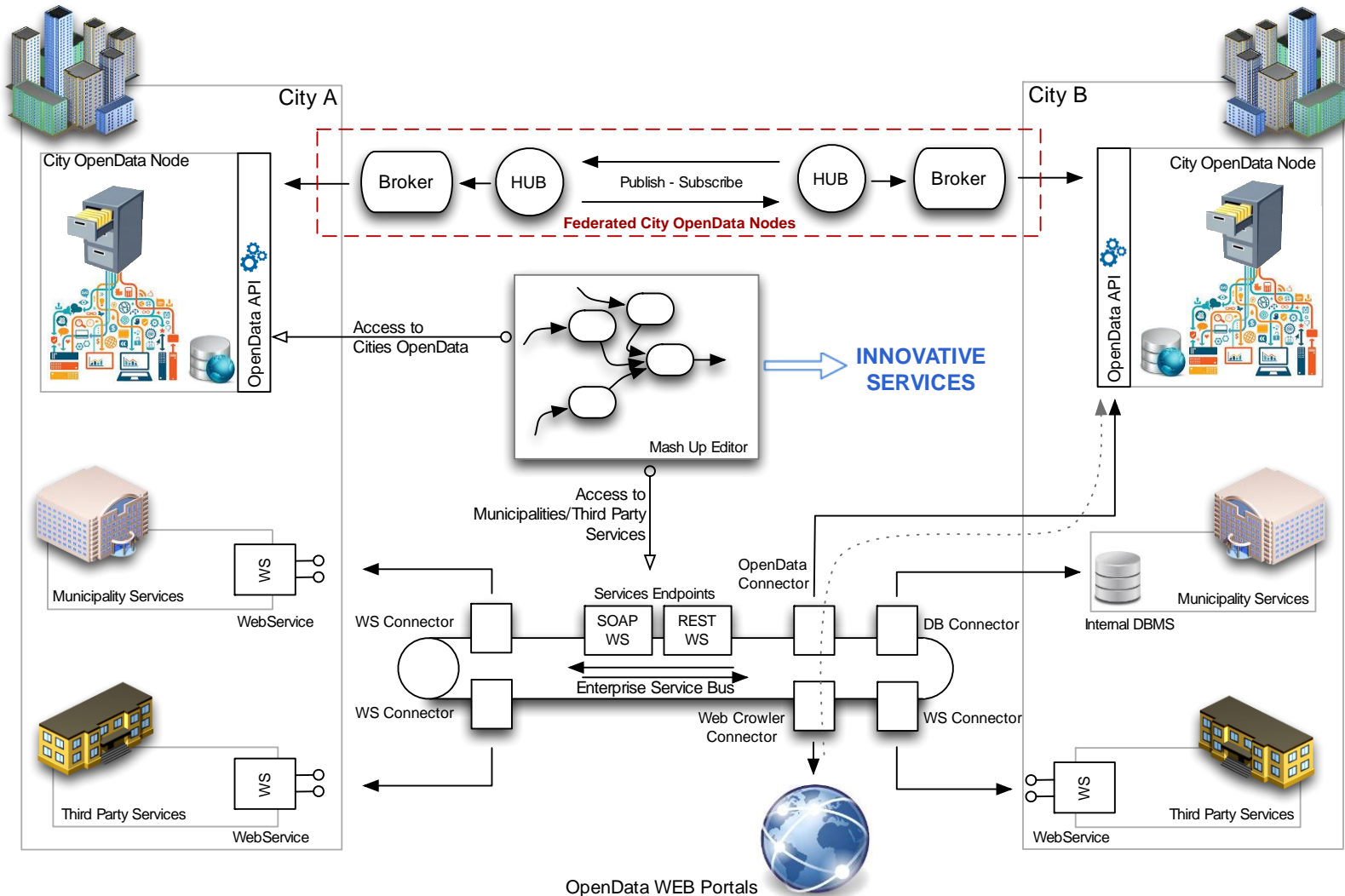
Citizen engagement

- 9 workshops held (Novi Sad) with the local community
  - 120 people attending
    - 45 in the age group 30-50
    - 75 in the age group over 50
- IoT meetups (Novi Sad, Guilford, Santander, Ghent)
  - Primarily engaging software developers
  - 4 meetups held, 300+ members in the groups

- Introduction of SocIoTal and its objectives
  - Input gathered through discussion
  - Preparation for interaction at a later stage in project
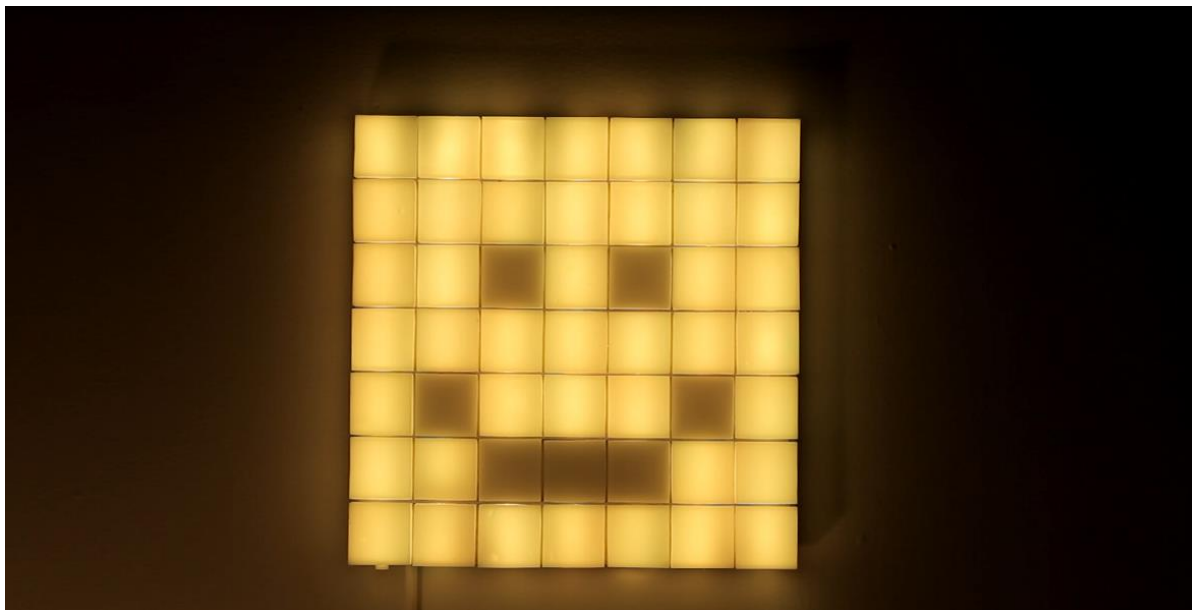- Presentations of other topics of interest

Novi Sad use cases
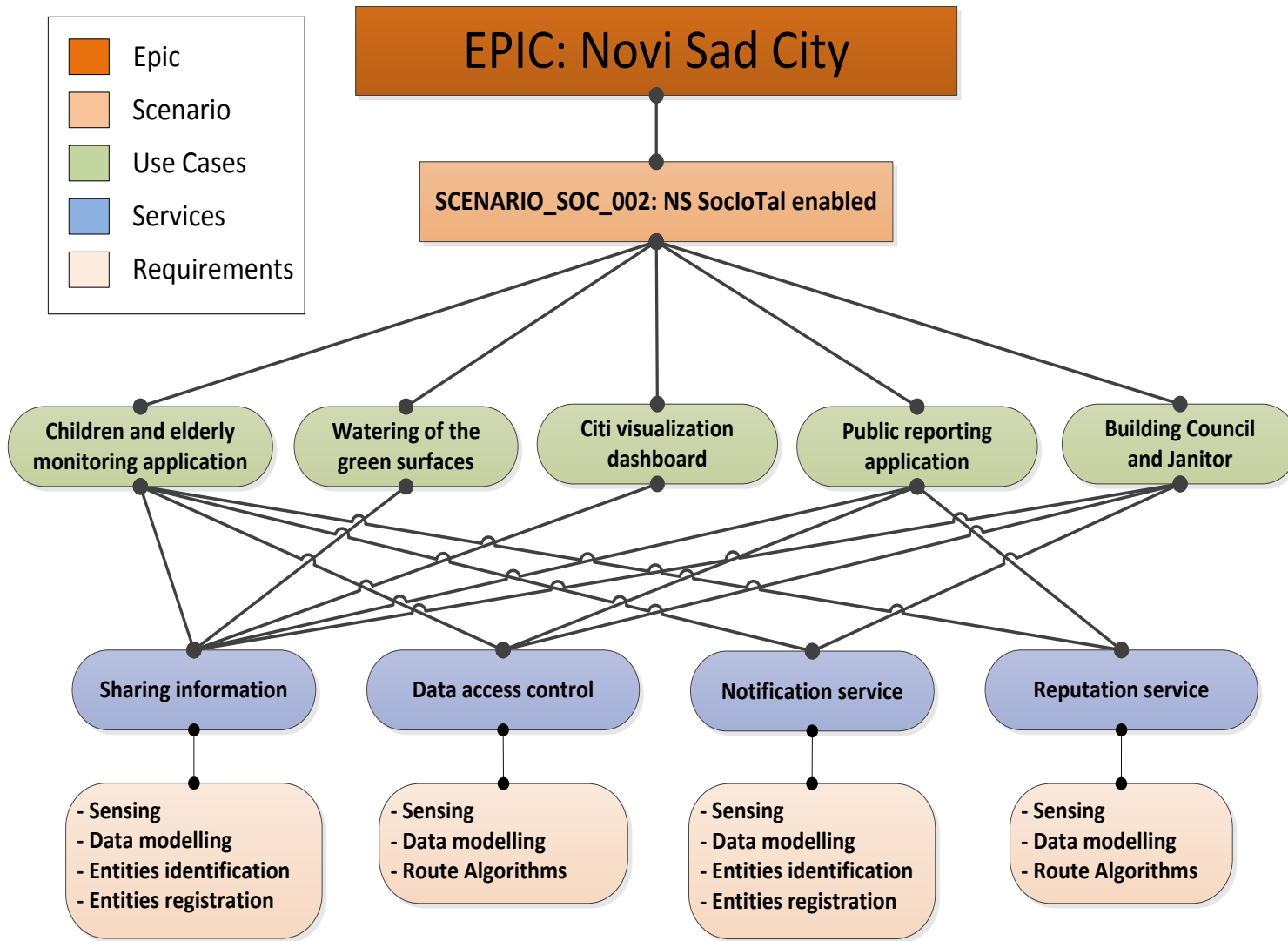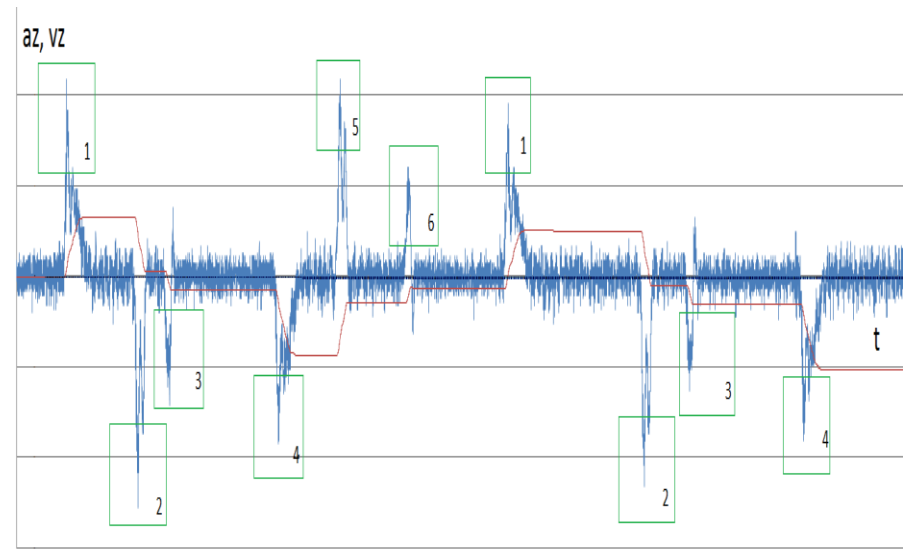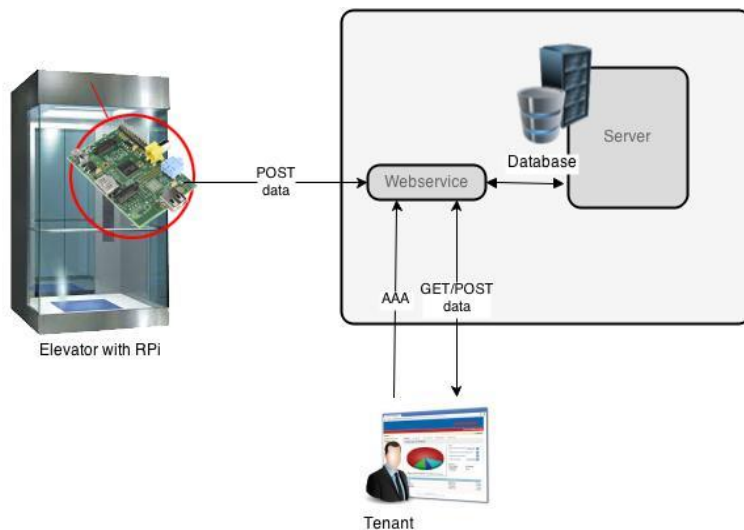
Happy and cheerful or...?

- City "mood meter"
  - Soon to be deployed in the city of Novi Sad

Lift supervisor

- Idea came out of co-creation workshops
- Monitor usage of lifts
  - Preventive maintenance

SocIoTal trials

- To be run in Novi Sad and Santander
  - Other cities welcome to join
- Platform to be launched at senZations'15
  - Software, hardware, support
  - 5 days (and nights) hackathon
    - Awards for best apps

Later this year

IoT week – June 2015, Porto, Portugal

10. senZations'15 – IoT summer school, Septembar 2015, Belgrade

We are open for collaboration...

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