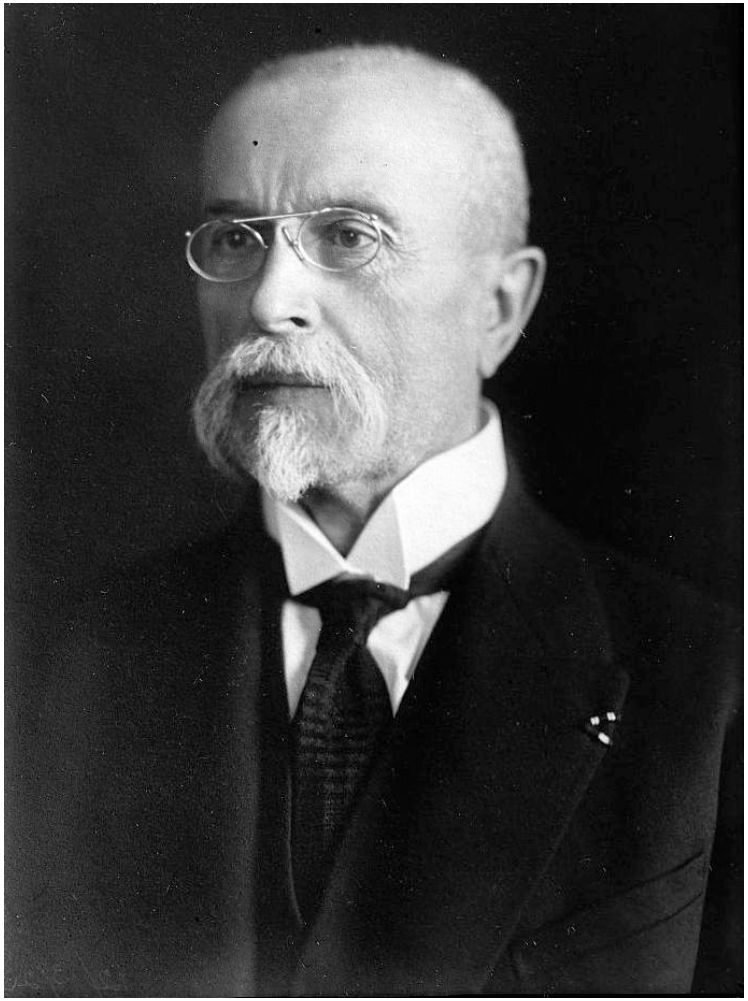
„Democracy,
is the thinking of
free citizens openly
in public“



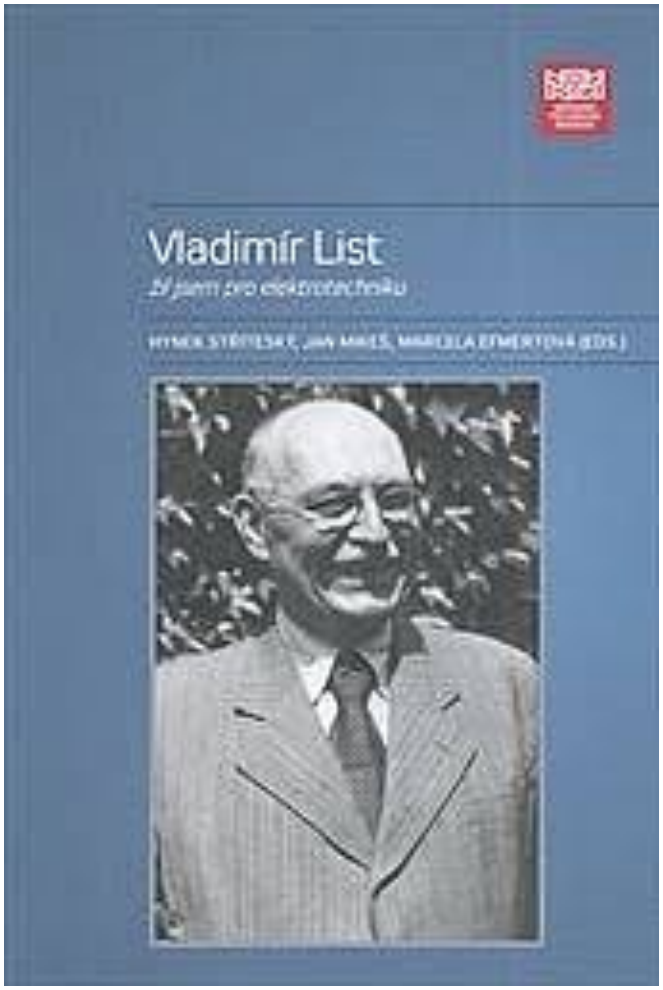
Strategic framework Smart City, project SMO ČR supported by MPSV, OP Employment, konference 28.11.2018, David Bárta, CityOne

WHY

- In 1935 Czechoslovakia was the 10th economy in the world
- Public sector did not tender for the lowest price but for the quality
- It supported public private cooperation
- It supported communities and unions
- It supported export of innovations

WHAT: Standardized services and their solutions

A Czech electrotechnician and university professor. He devoted to electrification of Czechoslovakia and founder of Czech technical standards



Vladimír List, co-founder of (1922), the future ISO

Where to get money

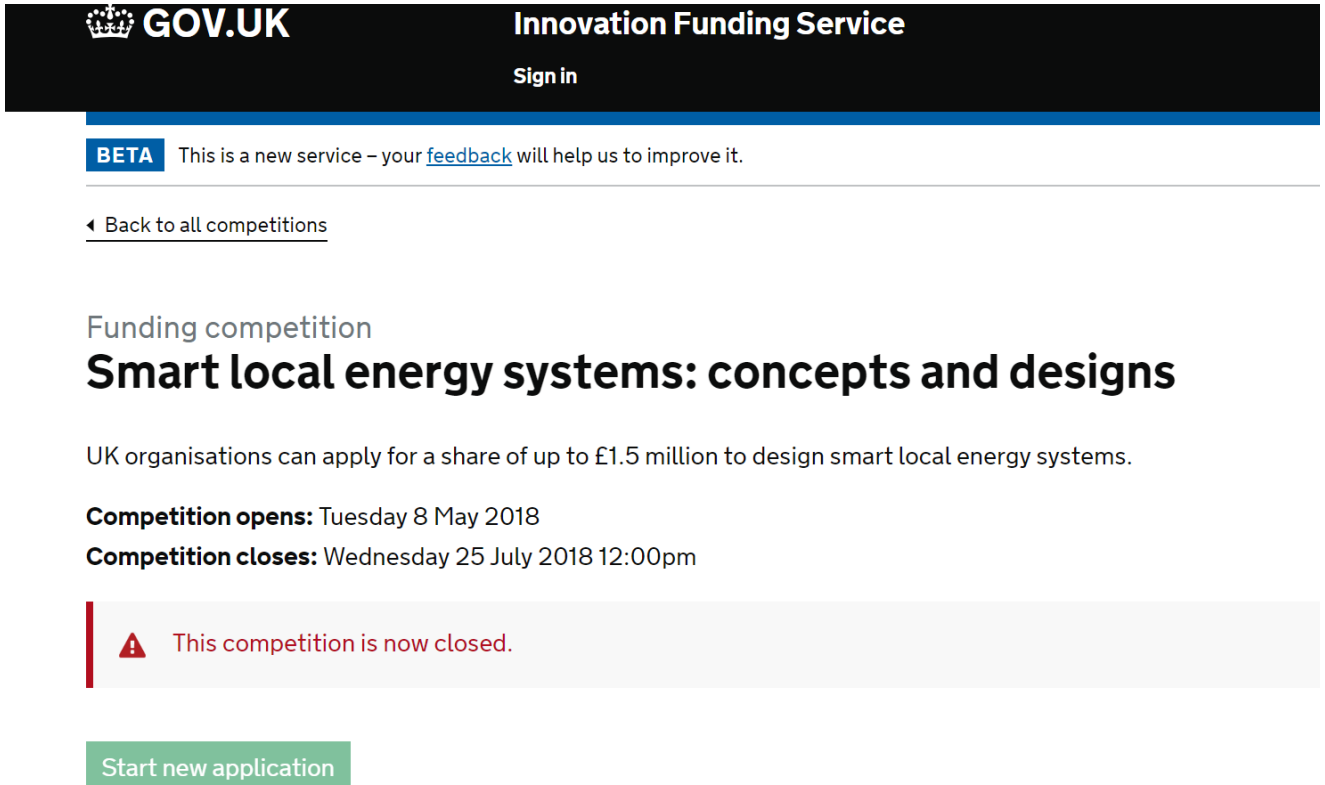
„Every 4th EURO will go on climate change“

HOW: Learn from Innovate UK

„Smart City consists in organization“

The conference Innovate UK, 2016

Principles: Strategy, openness and collective intelligence



British experience (2010-2018)

„A common approach to accelerating the development, testing and wider market creation for smart city solutions and services is through the **creation of city-based demonstrators**“

Nicola Yates, OBE
Chief Executive Officer,
Future Cities Catapult, UK

Former Bristol City Director

CATAPULT
Future Cities

Demonstrators (UK experience)

Pozitive results

- Education tools for public sector
- Communitarian approach (several innovations at one time)

Negative results

- Only demonstrators of technologies functionality
- Without real application (business model, public sector role), only a few are being developer further on
- One time grant oriented funding

Demonstrators´ goals in CZ (CEE)

Creation of catalogue of standardized smart services

- **Inner market** with innovations **creation**
- **Support public sector and de-risk investments in innovations** (technical standards)
- **Set out adequate national/EU funding**
- **Simplify the proces of purchase and operation** (migration)
- **Share results and data** – open environment
- **Plan strategically** and evaluate benefits, support national investments
- **Prepare domestic innovations for CEE market/global market – CEE single market with innovations/smart public services**

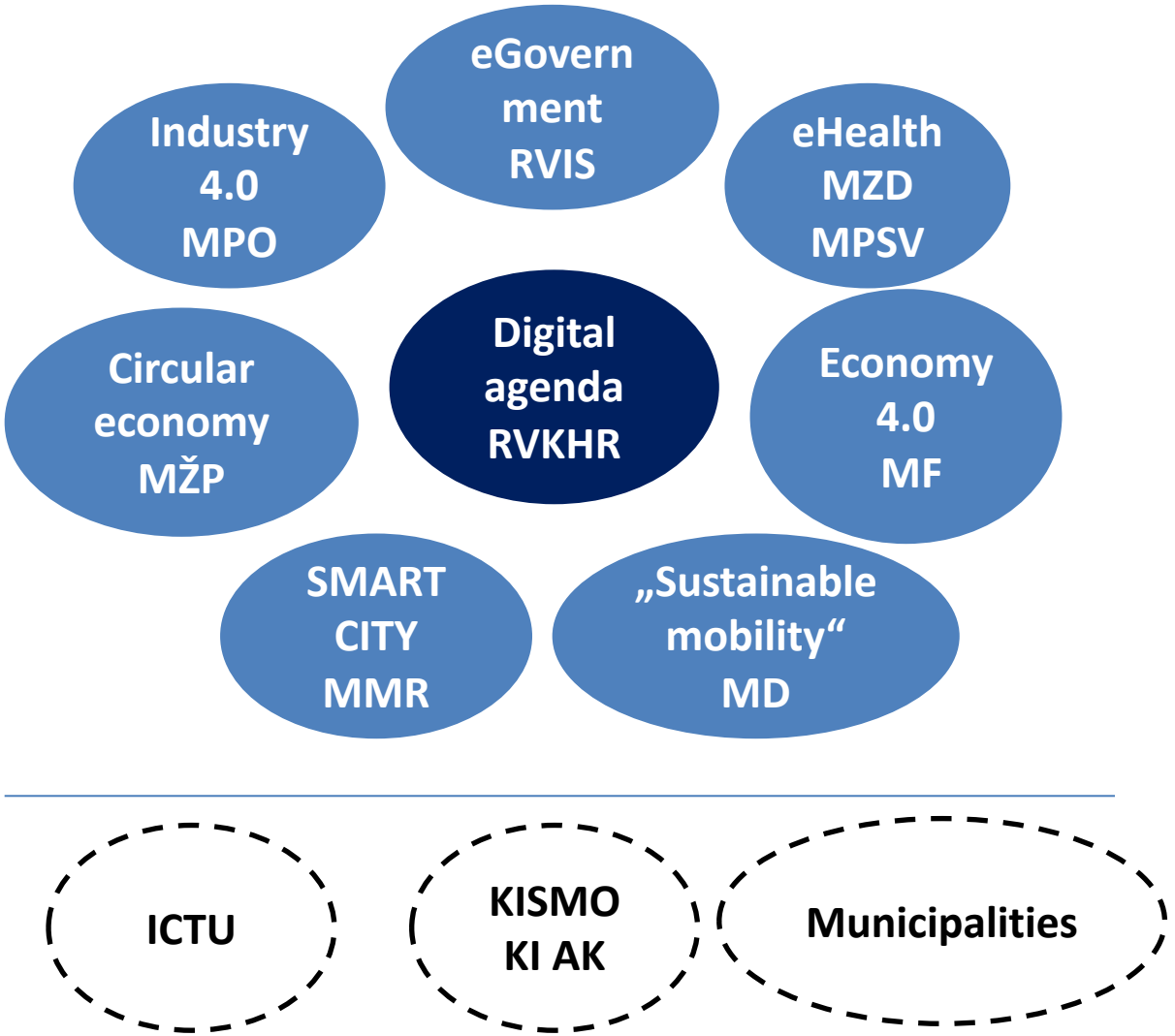
WHERE WE ARE and how we can learn

„Rezortism“ decelerates the development

SMART CITIES services are decentralized

Decentralization ≠ no share of data, information, experience

Digital transformation is a way of sharing



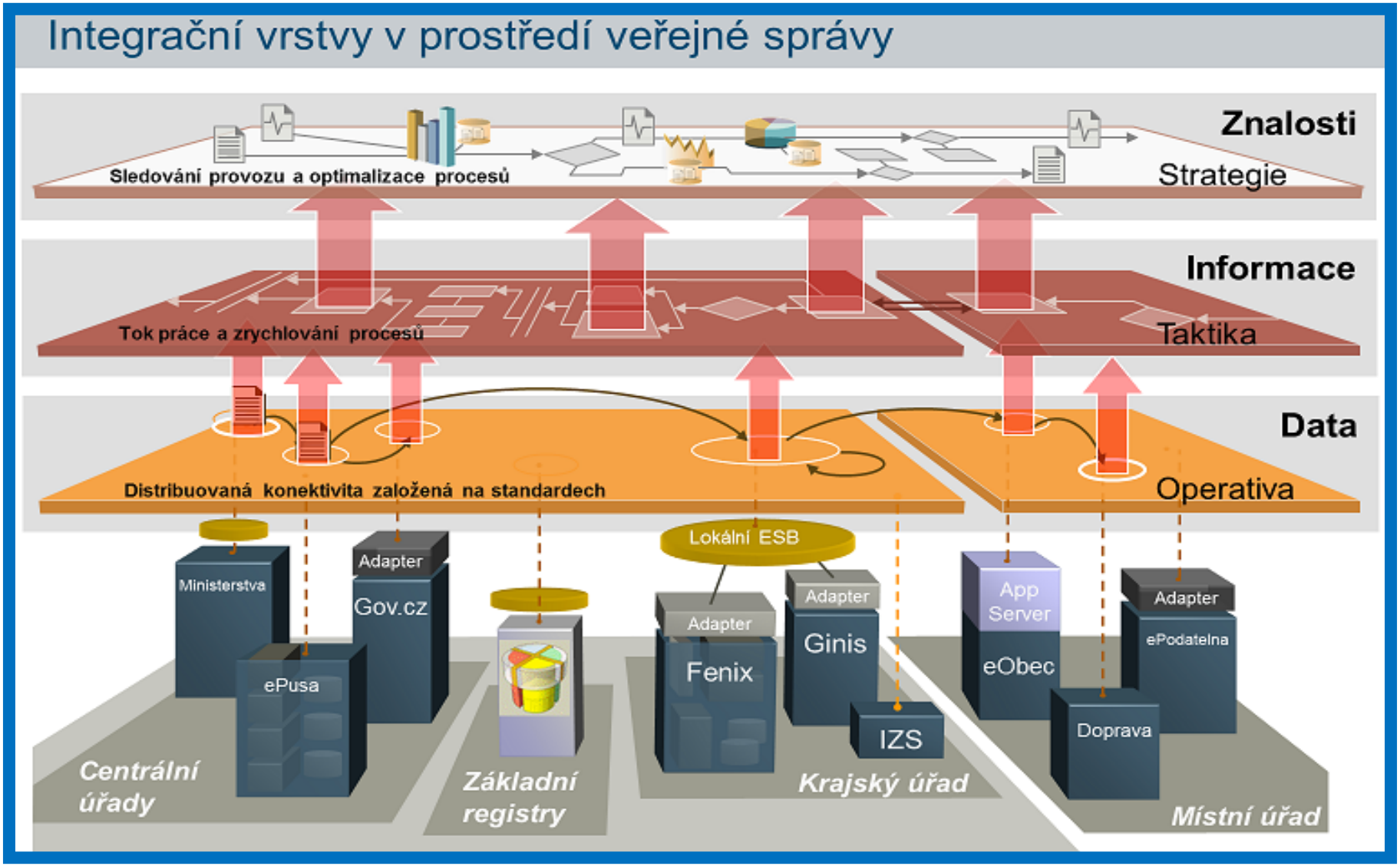
Distrust in the society

„In the Czech Republic there are 7700 information systems in public sector. The purchase cost 110 billions CZK and their operation costs 25 billions CZK every year. In 2017 the cost on ICT for the ministries reached almost 13 billions CZK but the real cost is much higher. ***The state builds systems it does not need and does not use, it creates isolated systems that do not enable data sharing accross the public sector administrations.“***

Source: National Control Bureau, 2017 report

Czech experience from eGoverment

solving processes but also the end users



The way towards innovations for a public officer

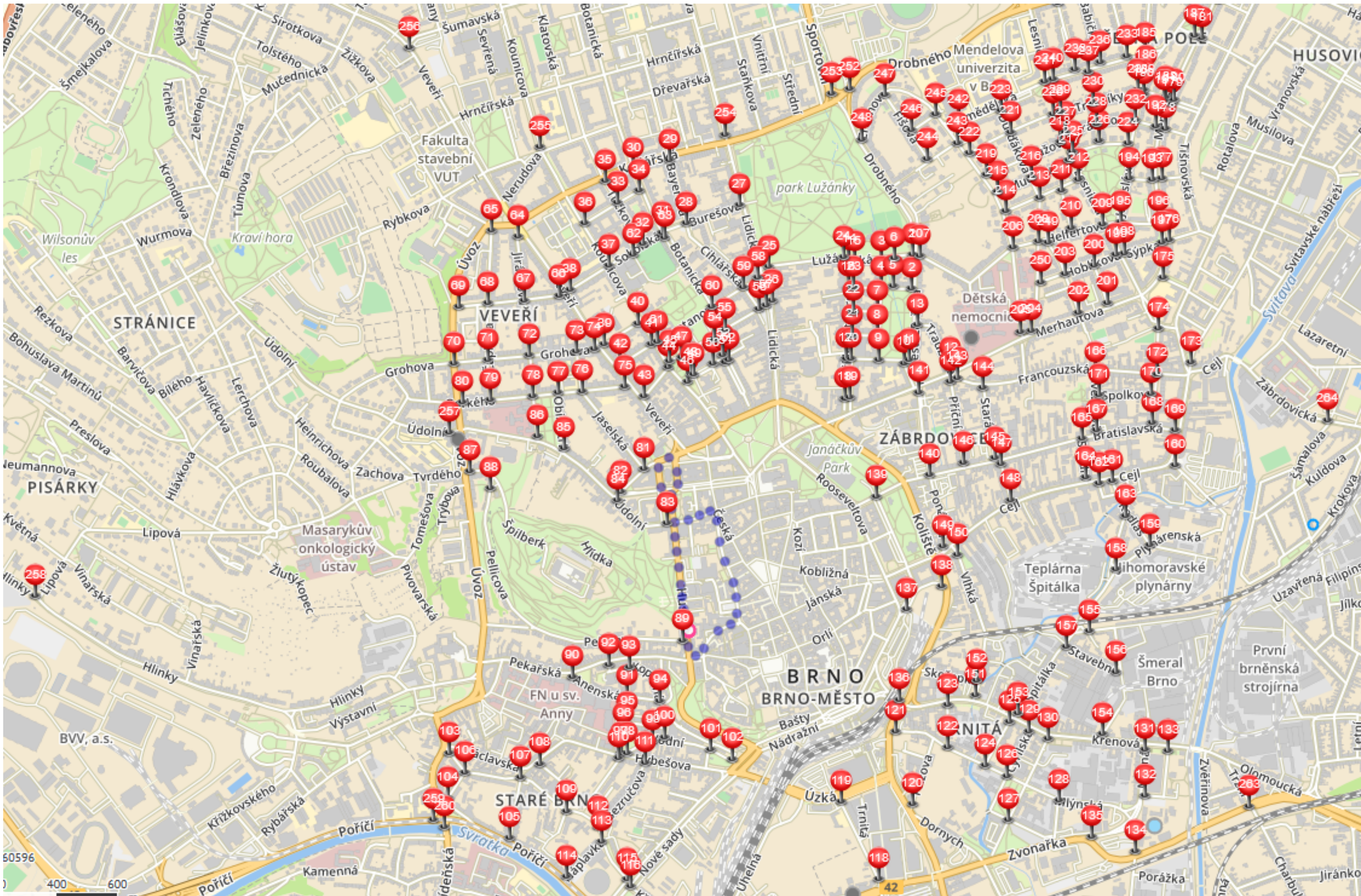
Why we need „Framework“

- It is not clear, **what** cities should buy, **how and why**
- Perception of „Smart“ as a technological product
- **The synergie** of sectors/resorts – **the vision is missing**
- **Data driven public administration**
- **National planning system** is missing
- **Learn from the advanced** (UK, Denmark)
- Get prepared through **demonstrators of innovations**

Demonstrators: national experience = very long organization

- **Inovative project targeting the change of behaviour/values**
- **INTESMOG Brno** – traffic and air quality
- Smart project for bigger cities
- Based on CEN TS being approved
- SFŽP, 2 years, 32 mio CZK (27 mio investment)
- **Time of preparation** (3 months to submission, +20 months)
- Approach of city companies,
- Aproach of city officers,
- Approach of politicians (city committees)
- Comparison with Trömso (NO) – almost 2 years delay

Intesmog: Massive IoT sensors deployment



URBACENTER SPATIAL AREA MANAGEMENT

Intesmog: street data profile

Tromsø

TRESHOLD VALUES | WARNINGS | HISTOGRAM

Status	Sensor Name	Unit	Current	LCR	LNC	UNC	UCR
●	CPU0_Temp_Margin	°C	-55.000	n/a	n/a	0.000	0.000
●	CPU1_Temp_Margin	°C	-56.000	n/a	n/a	0.000	0.000
●	In_Flow_Temp	°C	32.000	0.000	10.000	42.000	52.000
●	Out_Flow_Temp	°C	38.000	0.000	10.000	54.000	68.000
●	CPU1_Error	D	0x0	n/a	n/a	n/a	n/a
●	CPU1_Therm_Trip	D	0x0	n/a	n/a	n/a	n/a
●	CPU1_Hot	D	0x0	n/a	n/a	n/a	n/a
●	IO_Mid1_Temp	°C	30.000	0.000	10.000	55.000	64.000
●	IO_Mid2_Temp	°C	30.000	0.000	10.000	55.000	64.000
●	CPU_VTT	V	1.106	1.028	1.046	1.154	1.174
●	CPU0_VCC	V	1.154	0.834	0.844	1.348	1.368
●	3.3V	V	3.323	3.053	3.176	3.466	3.546
●	5V	V	5.002	4.368	4.465	5.490	5.636
●	STBY_1.8V	V	1.794	1.678	1.707	1.892	1.911

Parking Counter Temp Humidity Ice Noise Relay Video

Vehicles
Car EV MC Handicap

Zone
Public Private No parking

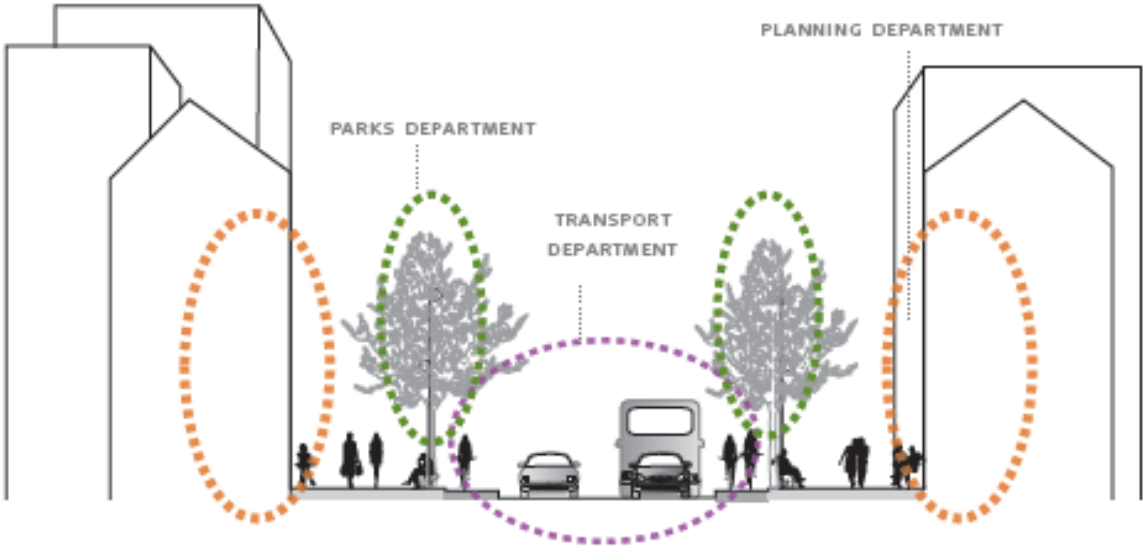
Time restrictions
Reverse
0800 1600

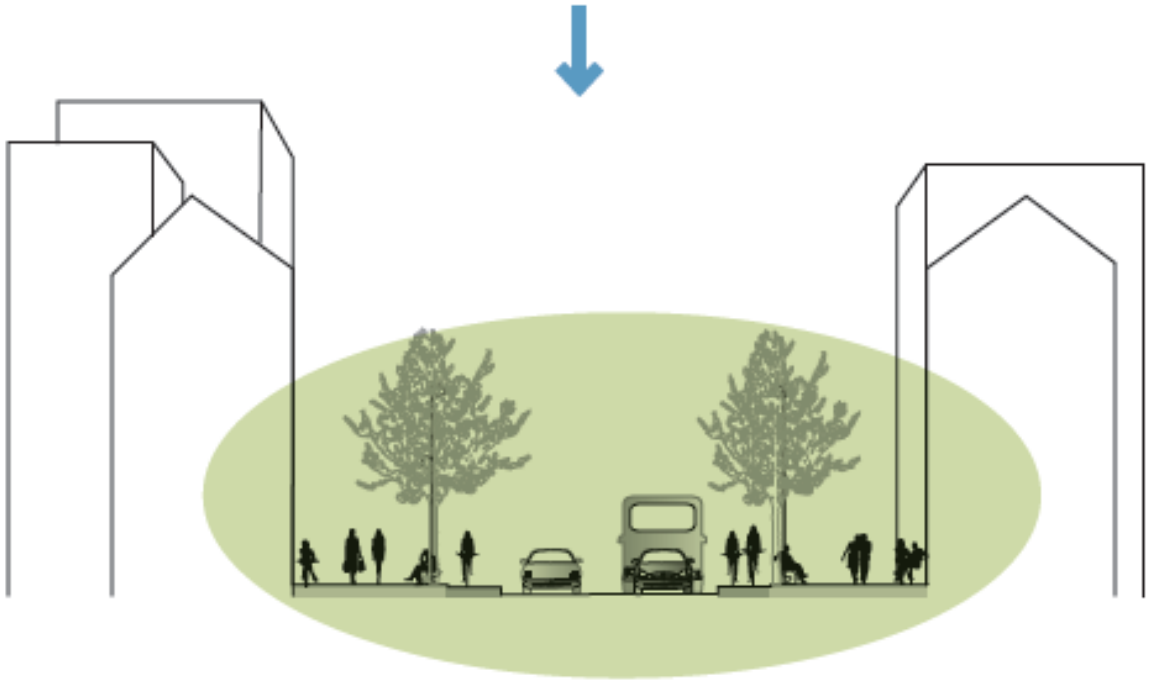
Big cities: synergy of city organizations

The success is in **integrated decision making**

We are missinf a department for „Life in public space“

Street databank concept





A HOLISTICALLY COMMISSIONED, IMPLEMENTED AND MAINTAINED PUBLIC STREET

Street databank

- What we need to know about our street
- Where we can get the data (public registers, citizens, technologies, investigations)
- Synergy of purchase and operation, synergy among city departements and city companies
- Preparation for digital planning

Project Strategic Framework Smart City

- Synergy of sectors/resorts:
  cca 23 experts in one team
- **Sectors:**
  mobility, energy, water, governance and community services/small towns
- **Single structure** of descriptions of so called smart services in one time
- Technical and marketing description
- For bigger as well as smaller cities and towns

Project „SC framework“: 4 phases

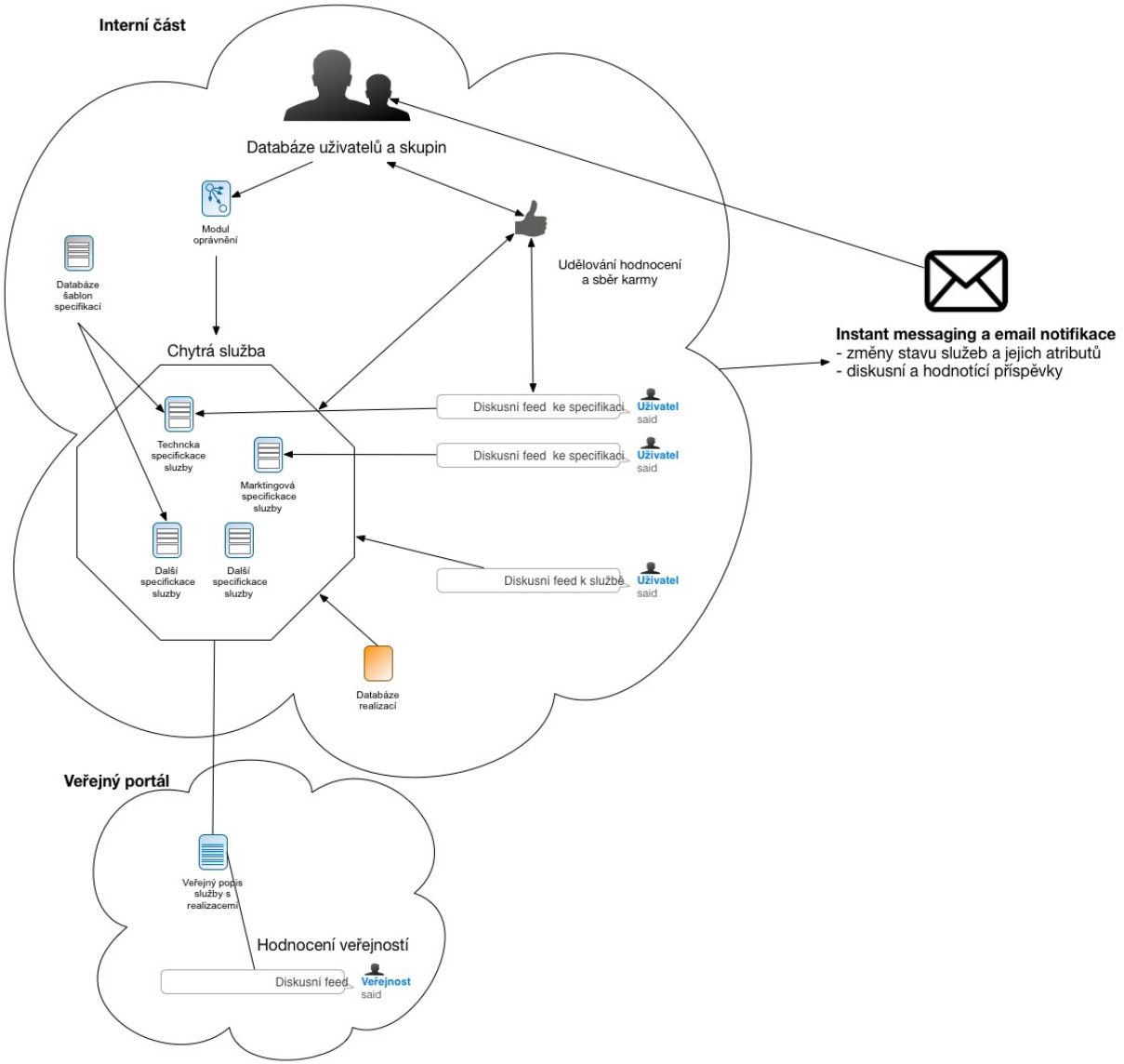
Smart services definition (9-12/2018) and internal discussions + web
web platform publication (1-3/2019), **enabling services design outside the team (experts and companies…)**

Public discussion at URBIS 2019 (6/2019) and comments resolutions

Demonstrators (proposal for showcases investments) (technological, organization-process, user, competence and legislation – the results are terms for public procurement)

The services scale-up (outside of the project)
preparation phase for a national programme – National Innovation Catapult

Web platform



Framework SC = structured catalogue of smart services

- **Standard of a public service** in digital transformation with the aim: **Save money, time and simplify life** to citiezns and public sector employees
- **Digital planning and reduction of administration, informed decisions**
- **Purchase and operation of** systems = smart service
- The need in the territory related to **National goals**
- The service specifies who is the public investor and who is to operate the service
- Services deployment through demonstrators (**Communitarian approach**)

Example of a smart service for towns - transport

- **Now:** Radars in the towns
  - for one purpose
  - no statistics
  - no apps
  - only some towns

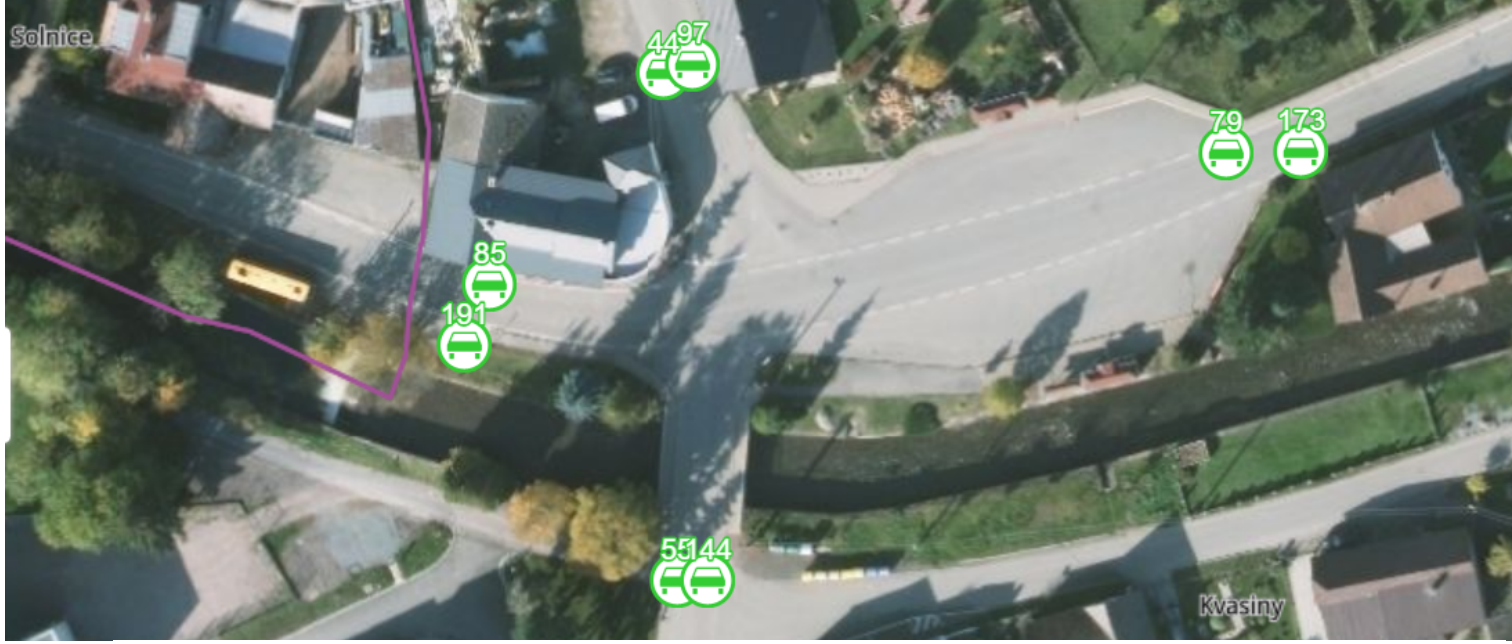
- **Result: inefficient spending of public services = few beneficients, technlogy synergy and data standard is missing**

Example of a smart service for towns - transport

- **New approach:** e.g. IoT detectors network
  - **scale:** traffic data in all the municipalities
  - **results for everyone** through open data **(state, region, towns, companies, citizens, State funds, State portal for citizens etc.)**
  - **searching for efficiency** (tenders run by the regions for all the municipalities = saving time – one competition, one wave of permissions by the roads operators etc.)
  - results delivered in one time (education, innovations in one time)
- **Demonstrator** (ŠKODA AUTO, Kvasiny manufacture)

- no GDPR, no construction permissions

- **DATA = efficient and simple decision making of the most of users = DIGITAL PLANNING**
- **MEASURES – data application for decision making - scenarios**



Aplication for mayors

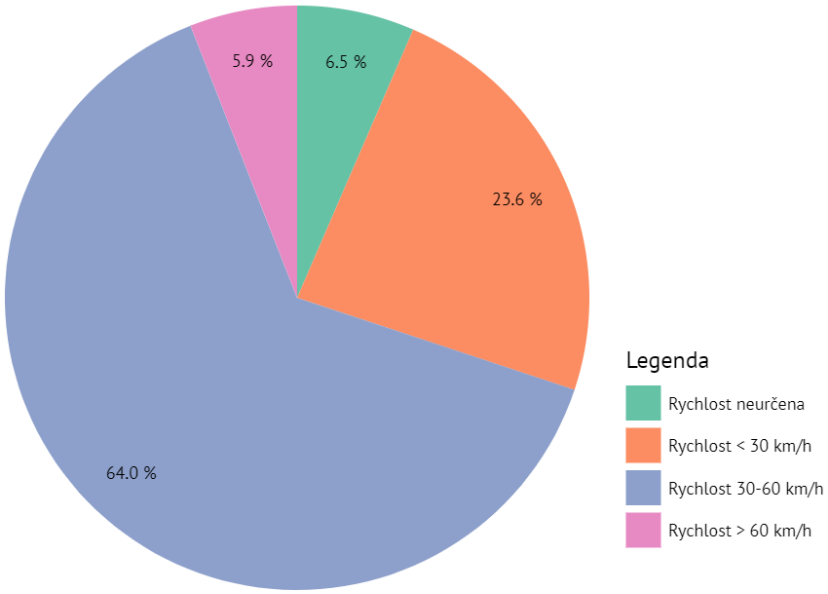
Tabulka | Graf

Historická data

Koláčový graf

Rychlost

Poslední rok



Applications and benefits

- **State investments** (SFDI, funding schemes)
- **Digital counting of transport** (continually, not every 5 years)
- Whole territorry data on traffic burden, **length and velocity of vehicles**
- Whole territorry data (simulations and modelling):
  - planning of **closures**,
  - **navigation of drivers**,
  - public transport planning
  - planning of road repairs and reconstructions
  - **solving accident spots**
- In combination with **mobile and FCD data – complete traffic models**

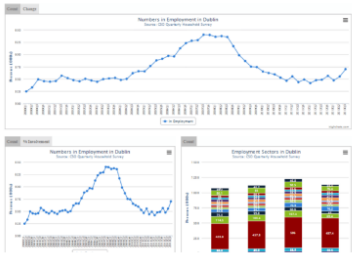
Example of drinking water management

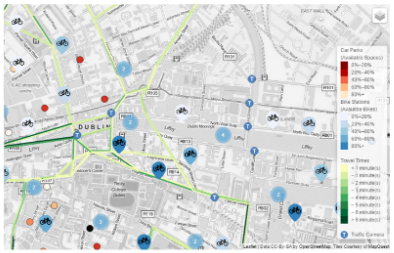
Water management in a town

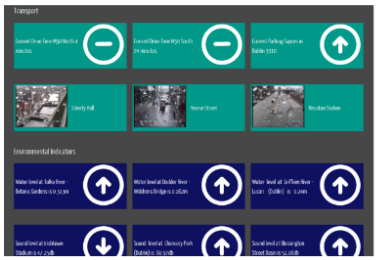
- **Target: Make the public declaration of crisis a reality**
  (2018: 57 declarations, towns, regions, flows)
- **Crisis** = regulation of water consumption, a remotely controlled water management by IoT
- **Normal** = empirically gained data on the median water consumption – also serves as a input for water payments differentiations for higher volume consumption

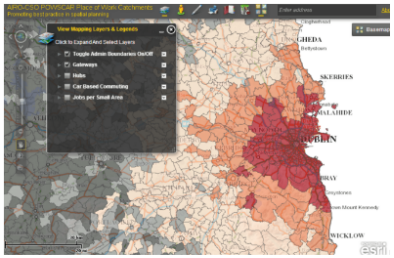
Connection of classic netmetering with crisis control

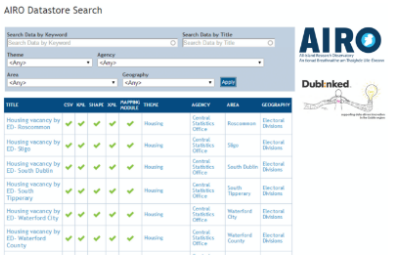
Forma prezentace chytrých služeb:
Obecní digitální nástěnka (dashboard)

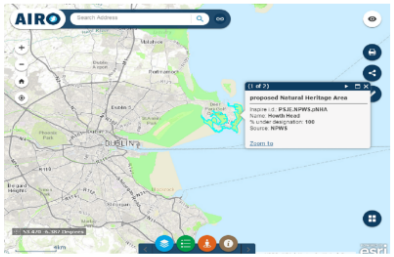


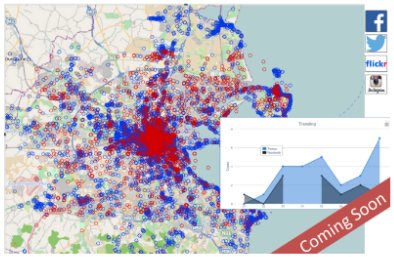












What smart services?

„smart“ citizen, town, city company

- **General:** big data, data analytics tools, mobile app, simulation, facility management, GIS, payments…
- **Smart governance** (property/asset protection, building building efficiency, solar cadastre, digital planning)
- **Smart citizen** (SpaceHive, Maptionnaire, Dans ma Rue, but also a support for commercial services…)
- **Smart utility** (standard smart communal services – smart public transport operator, water operator, heating operator etc.)
- **Smart town** (municipal IoT network, community centres, communal services, „region services“)

Marketing and public discussion

- Smart governance issue
- URBIS 2019, 5-6 June
- Smart services website