

European Network on New Sensing Technologies for Air Pollution Control and Environmental Sustainability - *EuNetAir*

COST Action TD1105

4th International Workshop *EuNetAir* on *Innovations and Challenges for Air Quality Control Sensors*

FFG - Austrian Research Promotion Agency - Austrian COST Association

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FLAMENCO: AIR QUALITY SENSING IN FLANDERS MOBILE ENACTED CITIZEN OBSERVATORIES

Speaker

Affiliation Logo



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FLAMENCO

- Participatory sensing: people-centric monitoring
- Citizen observatories:
 - Set of ICT tools to collect, analyze and visualize sensor data
 - Improve quality of life



Current practice

- Developed from scratch in different application areas
- Difficult and labour intensive



FLAMENCO

- Objectives:
 - **Build** and valorize an open and configurable citizen observatory platform for Flanders



Vrije
Universiteit
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FLAMENCO

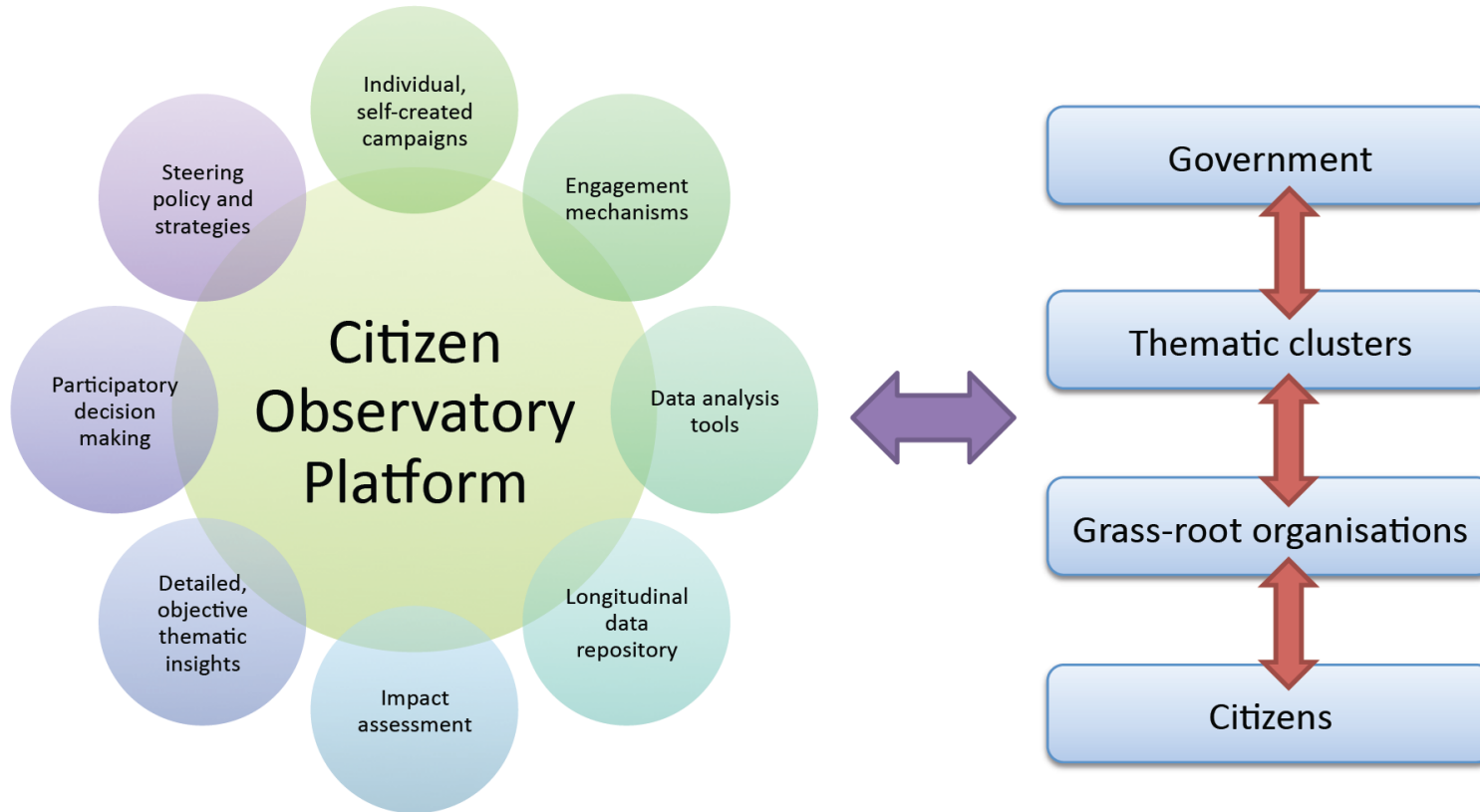
- Objectives:
 - Build and **valorize** an open and configurable citizen observatory platform for Flanders



FLAMENCO

- **Objectives:**
 - Stakeholders can initiate citizen observatories using this platform
 - Web services and apps are generated
 - Stakeholders see their concerns translated into procedures for participatory campaigning
 - Moving away from research-oriented approach

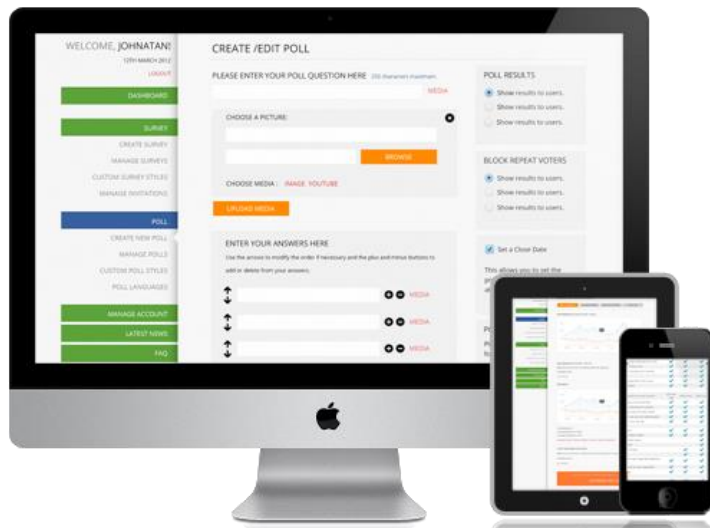
FLAMENCO: valorisation scheme



Infrastructure
Application and best practices
Governance

FLAMENCO: infrastructure

Can we create software which allow us — in a plug 'n play manner — to **compose** a citizen observatory ?

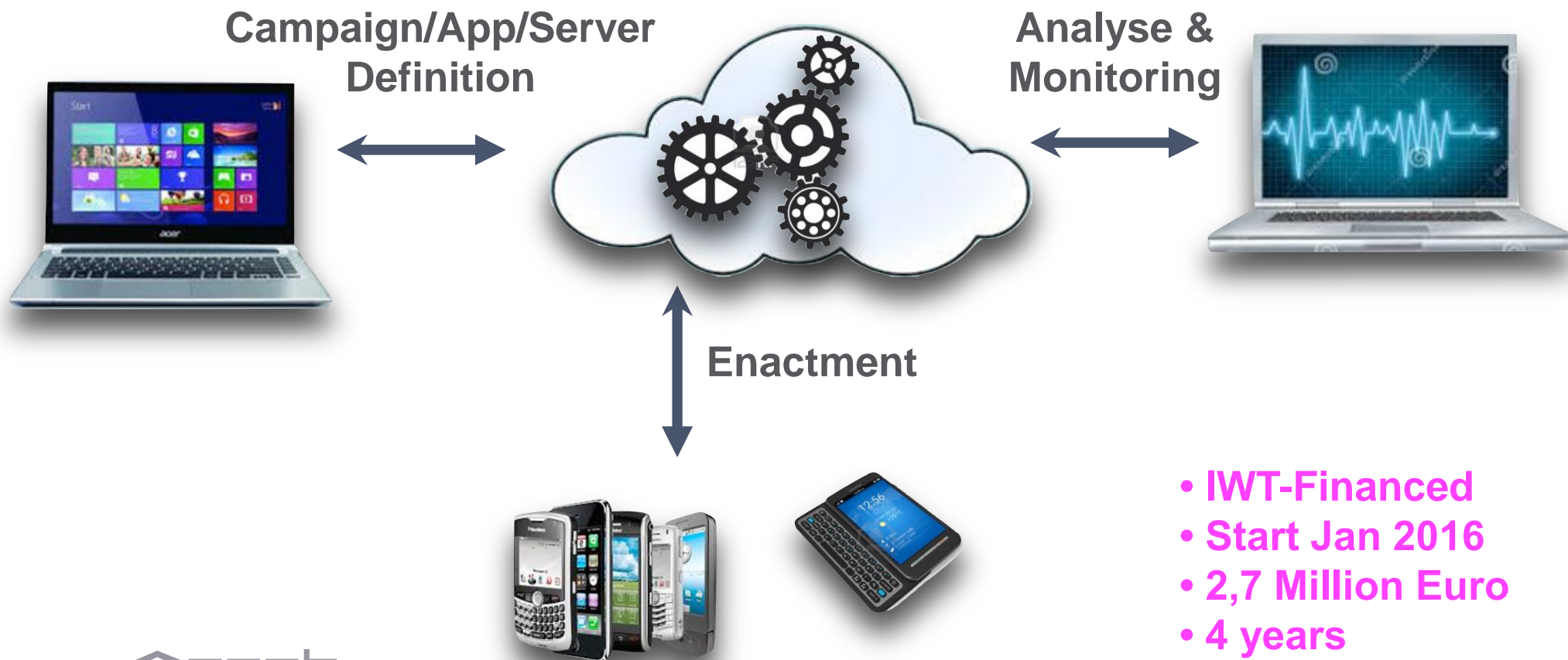


Short answer:
yes

Long answer:
how?

FLAMENCO: Vision

End-user composition citizen observatories



- IWT-Financed
- Start Jan 2016
- 2,7 Million Euro
- 4 years

FLAMENCO: central concept

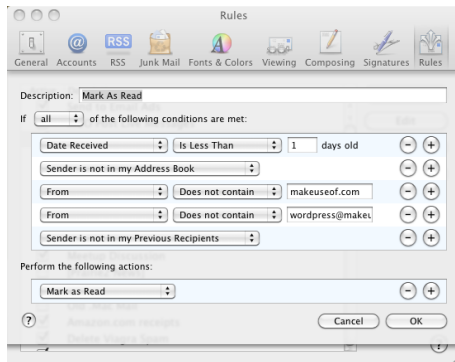
CAMPAIGN: “a geographically and temporally constrained series of systematic operations to gather a particular type of data”



- Mobility
- Air quality
- Noise
- Health indicators

FLAMENCO: Interface

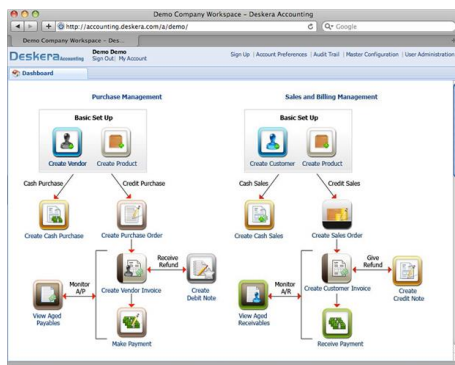
Configuration dashboard:

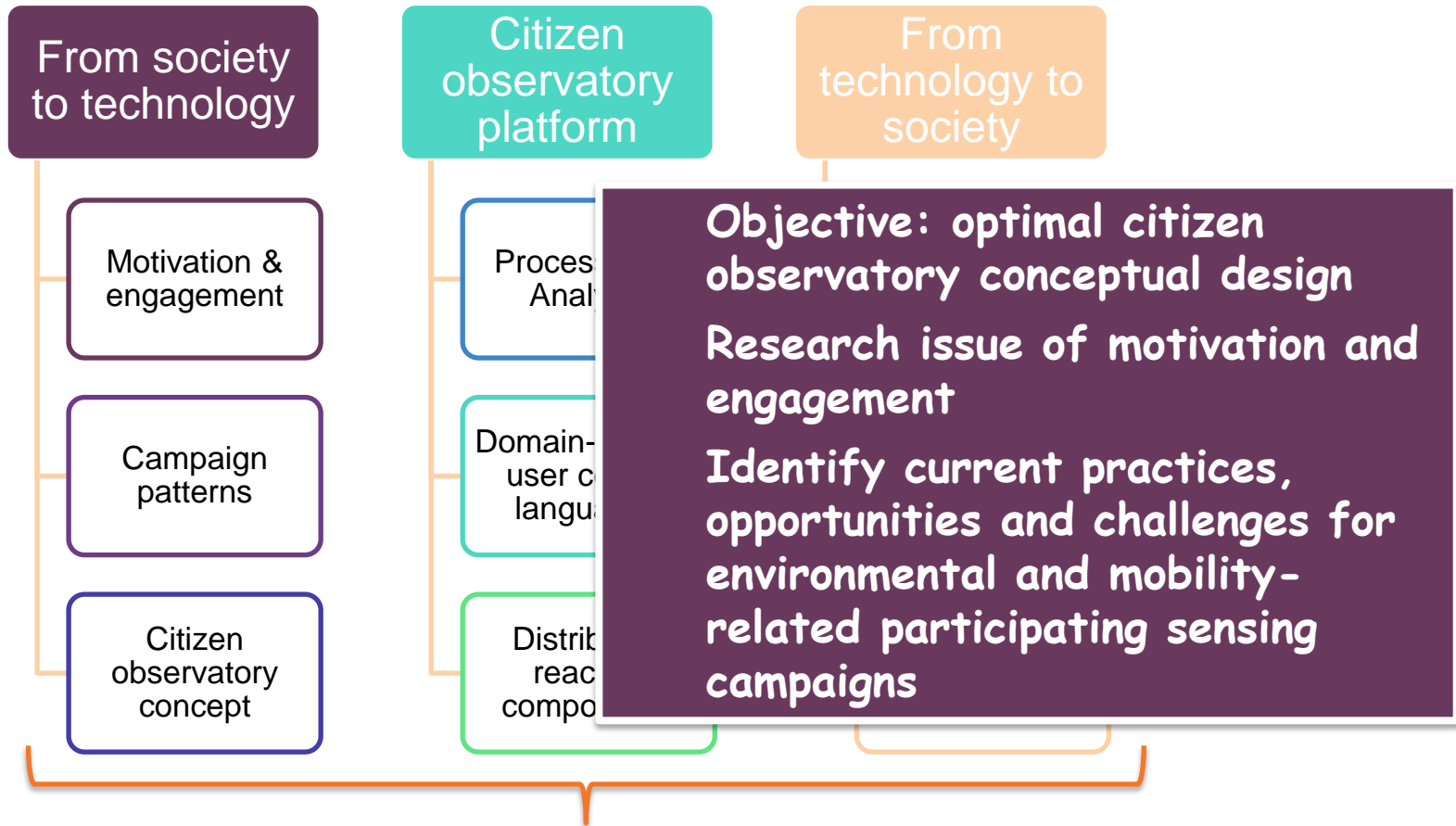


End-user interface to

- design a campaign
- design an app
- design a data model
- design a post-processing chain

Internally = Lego-Components





domain knowledge

stakeholders

tools & practices

From society to technology

Citizen observatory platform

From technology to society

Objective: lift participatory data through the FLAMENCO platform to a higher abstraction level so that campaign quality can be assessed and policy support can be provided

- Quality of participation
- Quality of environmental data
- Data interpretation and visualization tools
- Satisfying stakeholder's requirements

Processing & analysis

Non-specific thematic languages

Distributed active components

Citizen participation assessment

Best practices for campaigning

Indicators & policy support

Value chain (use case)

FLAMENCO: using previous experience

- Review of state-of-the-art sensor technologies for environmental sensing (air quality, also mobility, noise)



FLAMENCO: participatory environmental sensing

- Current practices, opportunities and challenges for participatory mobility and environmental sensing
 - Learn from other projects
 - Campaign's purpose
 - Campaign's coordination
 - Monitoring tools used
 - Data representation and reporting to stakeholders
 - Results obtained
 - Domain specific limitations: accuracy, coverage, interpretation of crowd sourced data
- Conceptualization of the platform

CONCLUSIONS

Input from your experience is warmly welcome!