

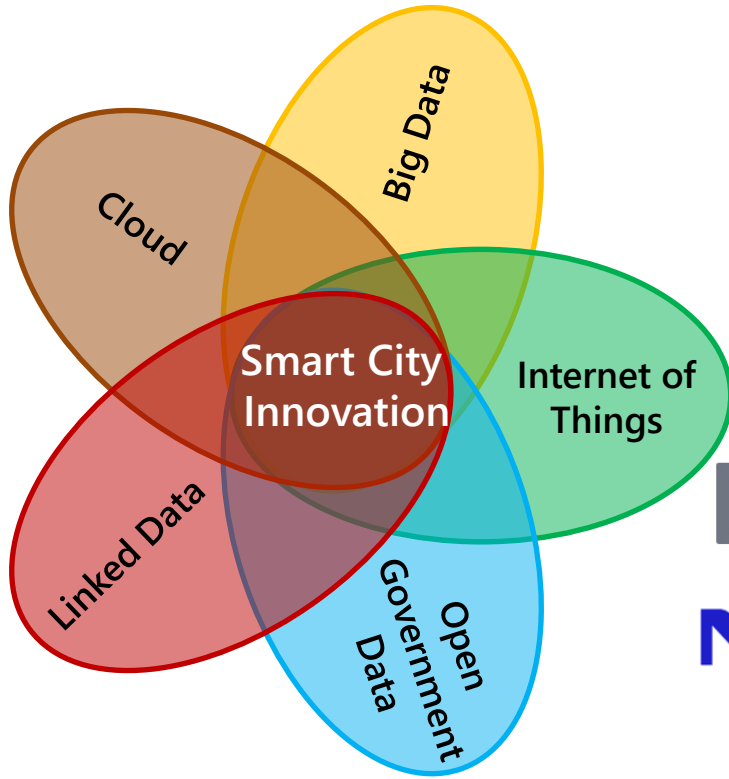
CPaaS.io

City Platform as a Service – Integrated and Open

Project Overview

Antonio Skarmeta (OdinS)

7th EU-Japan Symposium,
Vienna December 3, 2018



To provide an urban data infrastructure to enable innovation in smart cities

Joining forces of EU and Japan to make both regions globally more competitive





1. **Develop** an Open Social City Platform



2. **Deploy** the City Platform as a Service Solution



3. **Empower** the citizen to her data



4. **Validate** the platform with use cases providing public value



5. **Develop blue prints** for the adaptation and transfer of solutions to other cities



6. **Create impact** in cities

WP 1: Ethics Requirements

WP 2: Use Cases & Trials

WP 3:
Platform Architecture

WP 4: Cloud & Edge Programming

WP 5: Citizen Empowerment for Data Privacy

WP 6: Holistic Data Management & Governance

WP 7: Impact Generation

WP 8: Project Management

Main Achievements per WP

- WP 2 Platform use for real integrated and federated use cases
- WP 3 Layered model for platform instantiation; federation & interoperability
- WP 4 Validation of edge programming model with use cases
- WP 5 User now in control of her data PDS
- WP 6 Privacy support mechanisms & initial data quality model
- WP 7 Publication, events, standards and impact in cities

Architecture & Platform

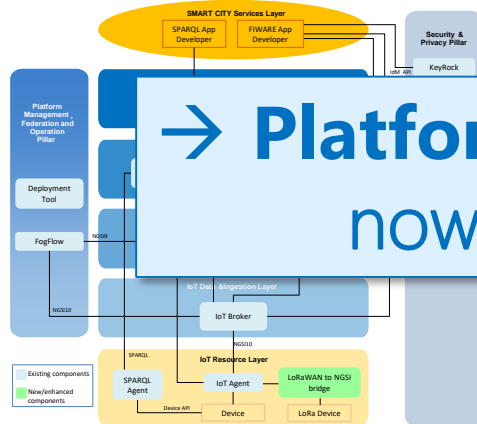
Additional functionality, components & views

Use Cases

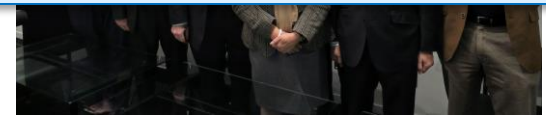
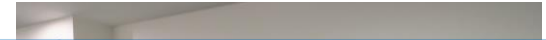
Federation & additional use cases (public transportation, smart parking)

City Impact

Collaboration with cities



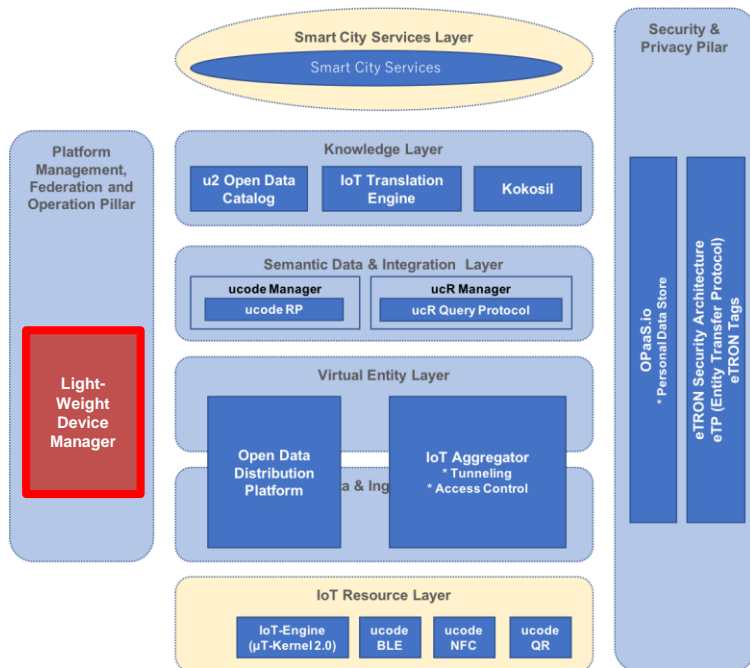
→ **Platform completed**
now used for **federation** and **city use cases**



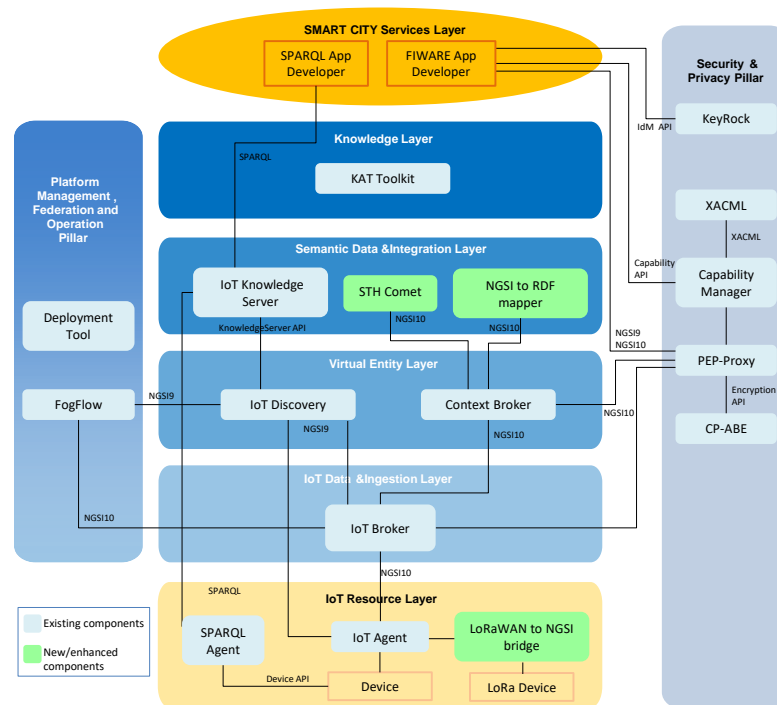
System Architecture

u2- and FIWARE-based unified Instantiation Views

u2-based

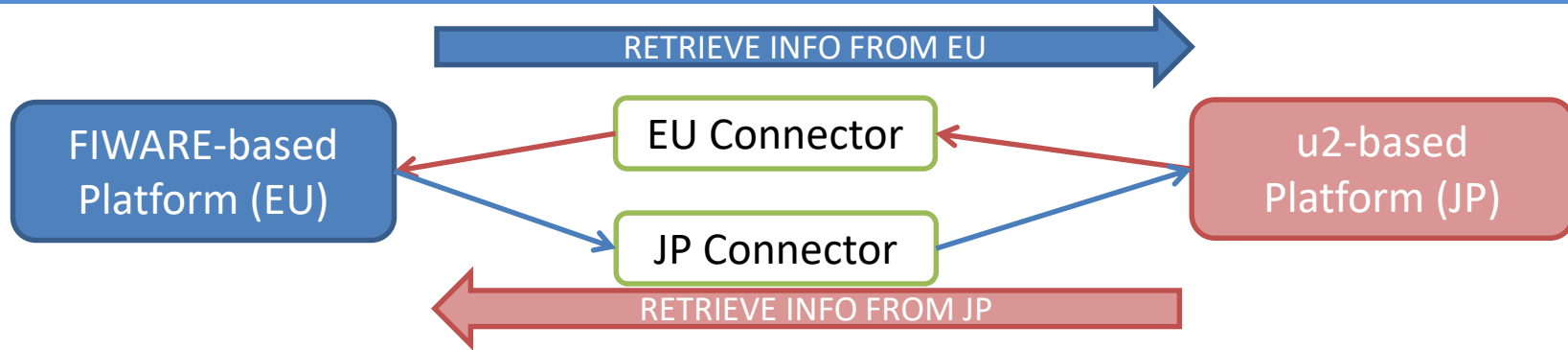


FIWARE-based

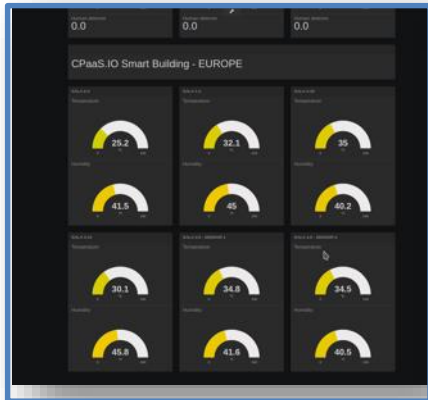


- LoRaWAN NGSI-10 bridge with enriched data
- Close development with Polderdak.
 - Build mapping system for the a wide range of devices.
 - Integrate with Particle cloud.
- Scalable and distributed architecture.
 - Use docker
 - FogFlow compatible
- Cross weather forecast and real-time data in analytics.

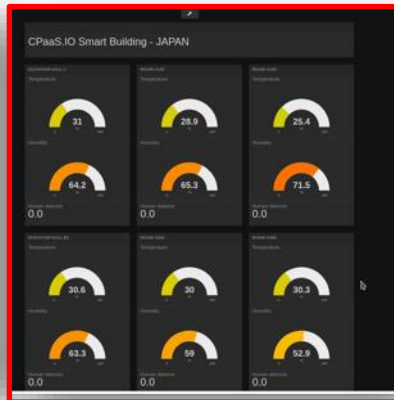




Integration view example in the EU side platform

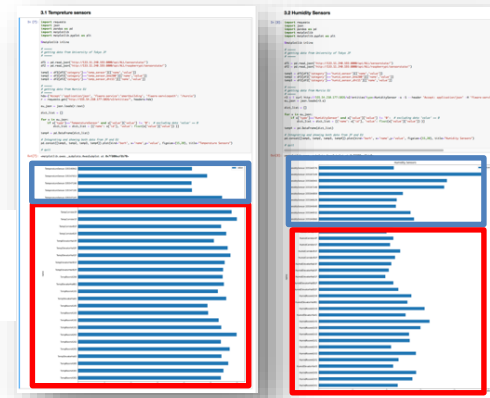


sensor data from EU-side



sensor data from JP-side

Integration data view example in the JP side platform

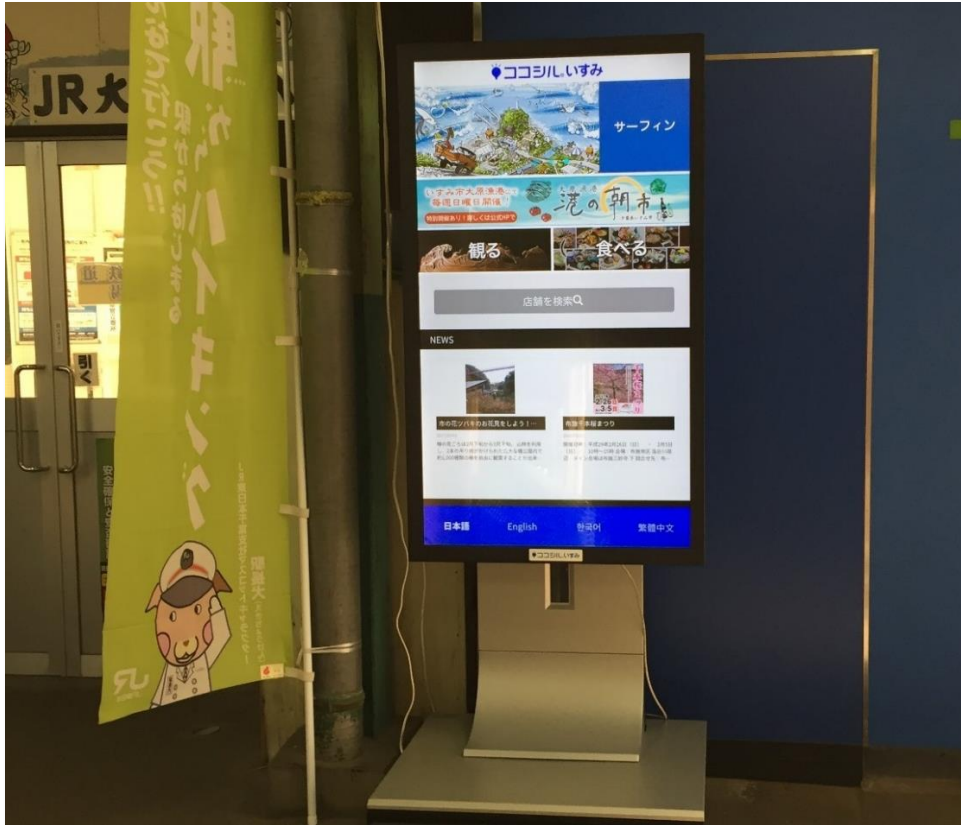


sensor data from EU-side

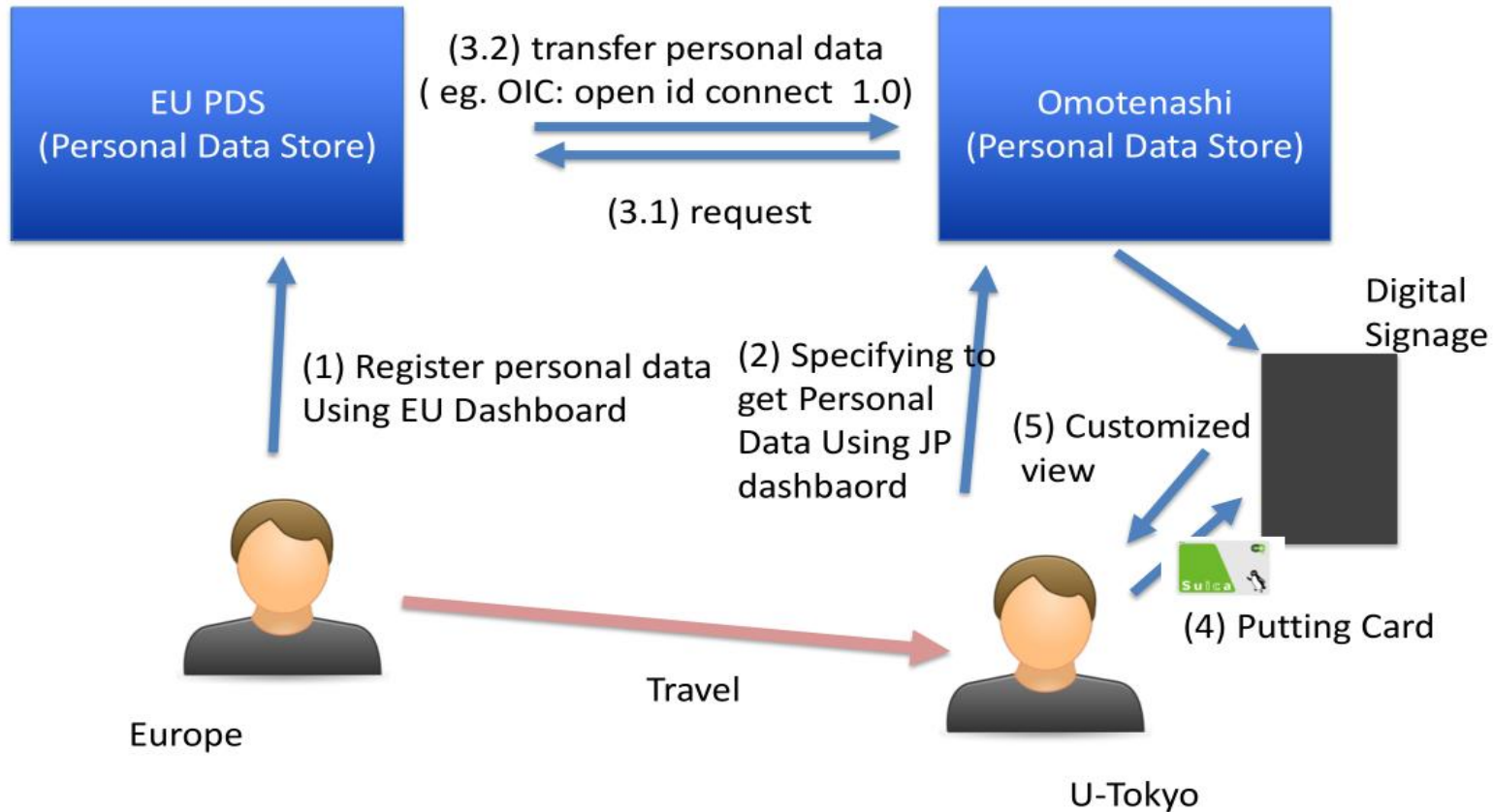
sensor data from JP-side

Integration dashboard view in the JP side platform

Digital Signage Service

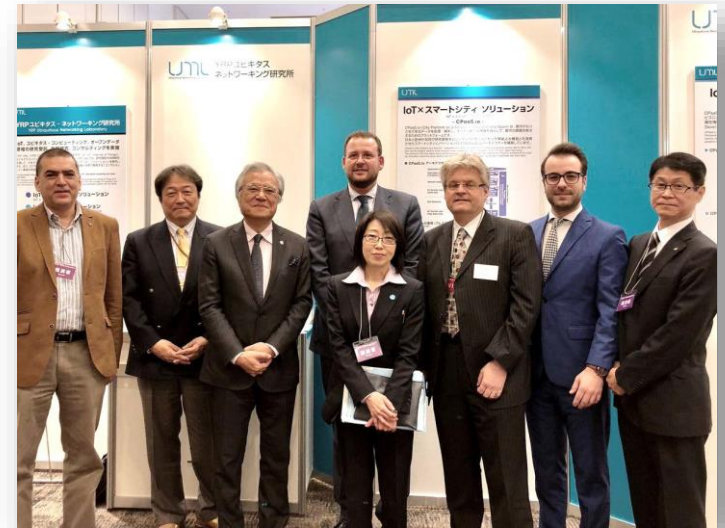


Personal Data Storage Integration



City Stakeholder Group Workshop I

- 1st workshop was held on Dec. 14, 2017 during the TRON Symposium in Tokyo
- Participants from Amsterdam, Sapporo, Zürich, Tokyo, Murcia and Yokosuka
- Held as an open session
 - Dissemination to a larger audience
- Individual city presentations
- Panel discussion
- Questionnaire to city stakeholders
- Opportunity to exchange experiences and ideas
 - Simultaneous translators (Japanese/English) available



City Stakeholder Group Workshop II

- Joint Workshop on IoT for Smart Cities & Communities Platform Convergence (IOT4SCC) at IoT Week in Bilbao, Spain on June 6-7
 - CPaaS.io participants from Amsterdam, Murcia and Zurich
 - Results and findings on co-creation, regulation and tenders, identity mgmt., open data, data sharing, IoT devices, API re-use and semantic interoperability
- Meetings with Japanese Cities
 - Sapporo (Jan-Feb): open data and additional field experiments
 - Yokosuka (March): emergency medical care
 - Kochi (June): solve regional issues using IoT technology
 - Takamatsu (May): progress of IoT and FIWARE in Japan



- Trends
 - Move from Smart to Resilient Cities: How can cities become better prepared both regarding chronic stress (pollution, social cohesion, crime, ageing etc.) as well as acute shocks (natural disasters, terrorism, cyber-attacks etc.)? How can ICT help? What else is needed regarding urban processes, governance etc.
 - How can the transfer of Smart City solutions be further facilitated, both technology-wise as well as process-wise?
 - Use of co-creation and design thinking approaches for idea generation and solution development.
- Research
 - Interoperability at different layers between different technology platforms
 - How to handle personal data – privacy preserving on demand, honoring legislation like GDPR in Europe, without losing the potential value that is in the data – and simplifying the life of people in the global economy.
 - 5G and Smart city services deployment: slicing virtualization and QoE

Thank You

Gracias Mulțumesc 謝謝 Paldies Eskerrik asko Dziękuję Mahalo תודה Go raibh maith agat спасибо Grazi आभारी
Xin cảm ơn 감사합니다 நன்றி Köszönöm مرسي Ndiyabulela Grazia Tak Благодаря Aitäh Terima kasih Děkuji
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Tapadh leibh භවතුණ Faleminderit Ačiū Danke Merci Grazie Hvala Ευχαριστώ Dankon Tack Dank je Grazcha

ありがとう



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