Helsinki's standardization timeline: lessons learnt

Hanna Niemi-Hugaerts
Director, IoT
@CitySDK_Hanna

FORUM
VIRIUM
HELSINKI

Smart City Open IoT program

Aiming for open and modular IoT infrastructure and ecosystem

Taking out friction from utilizing data and IoT technologies in Helsinki through:

- Developing new means for collecting meaningful data
- Supporting piloting through physical and digital platforms and technologies
- Providing funding and resources,
- Training and workshops and
- Building digital single market

FORUM VIRIUM HELSINKI
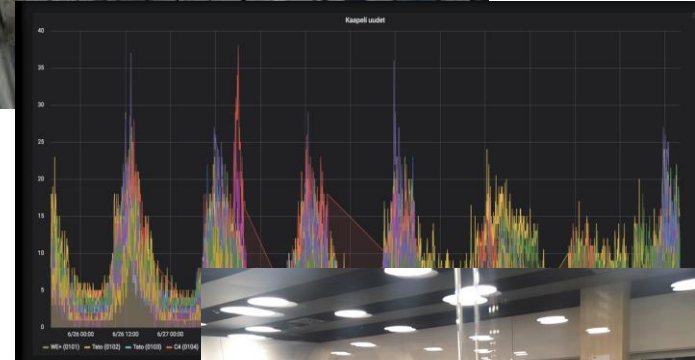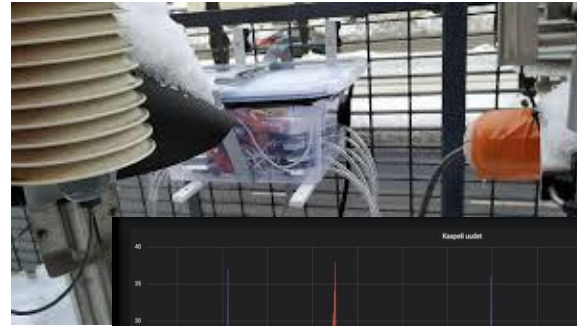
Internet of Things (IoT)

Vekotinverstas "Gadget workshop"

SELECT for Cities

SynchroniCity

Biotope

mySMARTLife

Climate smart housing companies
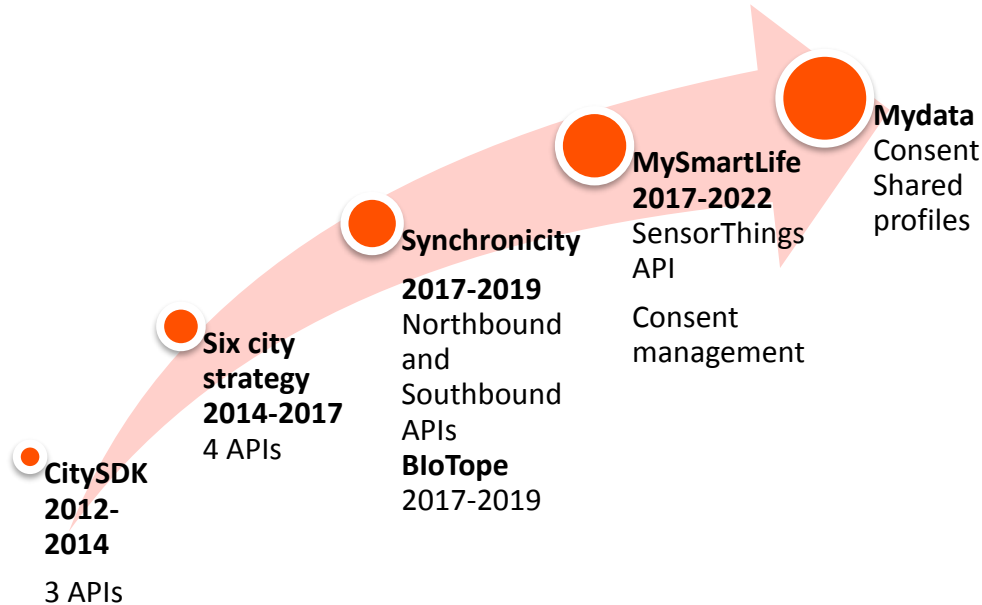
CircVol

Quasimodo

UIA Hope

AI4EU

Croboddit

Urban Eco Islands

- 12 hengen tiimi
- 11 hanketta
- 5 miljoonaa euroa
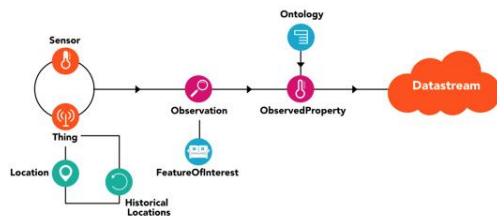- Yli 100 eurooppalaista partneria

FORUM VIRIUM HELSINKI

Harmonizing southbound

FORUM
VIRIUM
HELSINKI

Helsinki API harmonization timeline

CitySDK 2012-2014

3 APIs

Six city strategy 2014-2017
4 APIs

Synchronicity 2017-2019
Northbound and Southbound APIs
BIoTope
2017-2019

MySmartLife 2017-2022
SensorThings API

Consent management

Mydata
Consent
Shared profiles

3 approaches

BIoTope:
contributing to Open Group's O-MI/O-DF development and ecosystem

MySMARTLife:
Helsinki, Hamburg and Nantes contributing to OGC SensorThings datamodel

Synchronicity:
driving DSM for IoT enabled Smart City Solutions

FORUM VIRIUM HELSINKI

Helsinki API harmonization timeline

Open And Agile Smart Cities (OASC) 2015->

Mydata
Consent
Shared
profiles

MySmartLife 2017-2022
SensorThings API

Consent management

Synchronicity

2017-2019
Northbound and Southbound APIs
BIoTope
2017-2019

Six city strategy 2014-2017
4 APIs

CitySDK 2012-2014

3 APIs
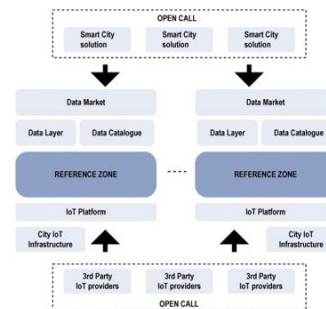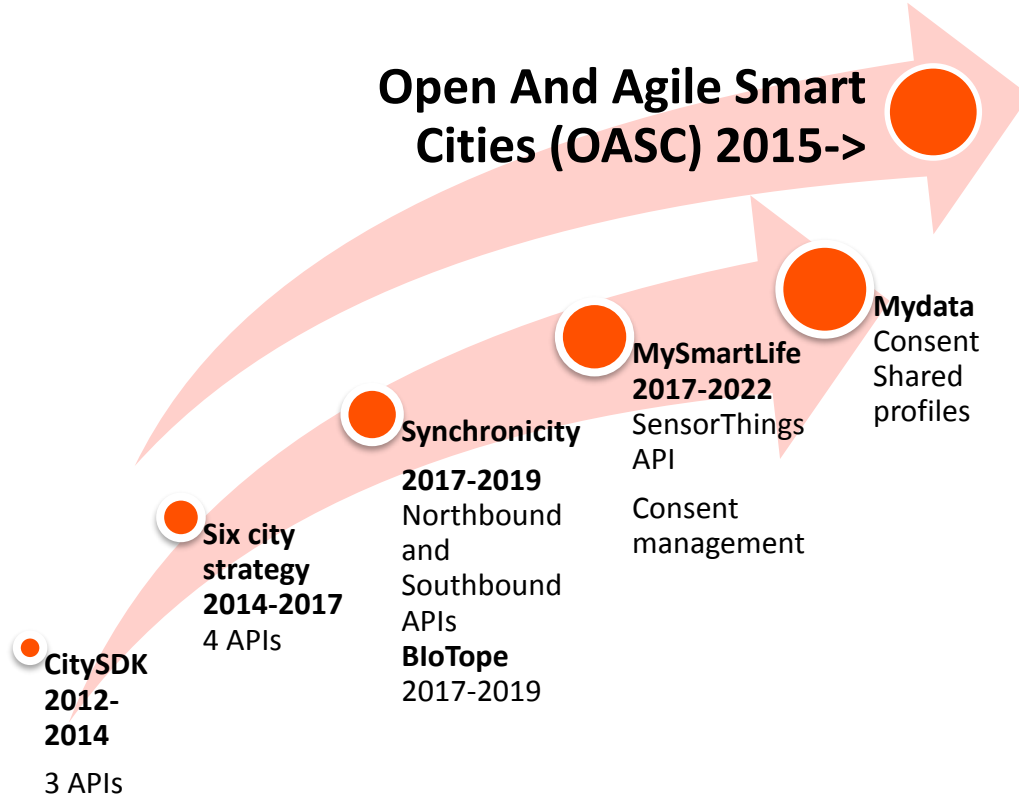
Validating market through pilots

SynchroniCity pilots

SYNCHRONI**CITY**   Cities & Pilots   Community   Tech   News   Medi...

Theme: All themes

ACTIVE TRAVEL INSIGHTS

Active Travel Insights

Autonomous Air Quality
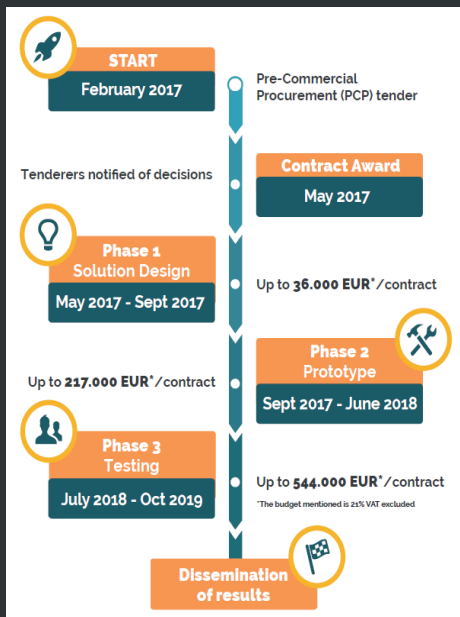Management (AAQM)

BlueAlpaca

Clean Air School Districts
(CASD)

FORUM
VIRIUM
HELSINKI

Precommercial procurement as a tool for shaping the landscape together

SELECT for Cities competition aims to harness data in a city-wide platform for Smart City innovation

SELECT
for Cities

Design and develop a city-wide, data-driven, Internet-of-Everything (IoE) platform for large-scale co-creation, and testing of services

Platform R&D generated through Pre-Commercial Procurement (PCP)

START
February 2017

Pre-Commercial Procurement (PCP) tender

Tenderers notified of decisions

Contract Award
May 2017

Phase 1
Solution Design
May 2017 - Sept 2017

Up to 36.000 EUR*/contract

Up to 217.000 EUR*/contract

Phase 2
Prototype
Sept 2017 - June 2018

Phase 3
Testing
July 2018 - Oct 2019

Up to 544.000 EUR*/contract
*The budget mentioned is 21% VAT excluded

Dissemination of results

Results to date...

Launched call for tenders

28 entries received

10 consortia chosen to enter Phase 1 and refine their platform concept

6 of the 10 asked to submit a proposal to enter Phase 2.

5 consortia building a prototype platform (with 5 iterations of testing)

Harmonization through co-created platforms

FORUM
VIRIUM
HELSINKI

FINEST TWINS – €32 MILLION EUROPEAN FUNDING FOR THE CREATION OF A SMART CITY RESEARCH & INNOVATION CENTRE OF EXCELLENCE

05.04.2019 | FORUM VIRIUM HELSINKI, NEWS, SMART CITY

Towards the Urban Platform, a "System of systems"

Data and APIs
- HRI
- dev.hel.fi
- 6Aika
- Data quality
- Real-time data
- Mydata

Interoperability
- CitySDK, 6Aika
- MySMARTLife (OGC: WFS 3.0, SensorThings API)
- SynchroniCity (OASC: MIMs,)
- BIoTope (O-MI/O-DF)

Platform capabilities
- Select for Cities
- Urban Eco Islands

Connectivity
- UrbanSense 5G
- Select4Cities LoRA

Sensor networks
- Ilmastoviisaat taloyhtiöt
- UIA Hope
- Urban Eco Islands

AI capabilities
- ML for data quality
- AI4EU platform
- In-house data scientist

ToS, SLAs

Pilot funding

Developer and business engagement

Reference implementations, code libraries

Trainings, workshops and support

FORUM VIRIUM HELSINKI

Towards the Urban Platform, a "System of systems"

FINEST TWINS 2019-2026

a compatible Urban Open Platform for Tallinn and merge the two platforms into an interoperable Cross-Border Urban Open Platform (UOP)
that allows for the sharing of open data, APIs and both cities smart infrastructure and related platforms.

Data and APIs
- HRI
- dev.hel.fi
- 6Aika
- Data quality
- Real-time data
- Mydata

Interoperability
- **CitySDK, 6Aika**
- **MySMARTLife (OGC: WFS 3.0, SensorThings API)**
- **SynchroniCity (OASC: MIMs,)**
- **BIoTope (O-MI/O-DF)**

Platform capabilities
- Select for Cities
- Urban Eco Islands

Connectivity
- UrbanSense 5G
- Select4Cities LoRA

Sensor networks
- Ilmastoviisaat taloyhtiöt
- UIA Hope
- Urban Eco Islands

AI capabilities
- ML for data quality
- AI4EU platform
- In-house data scientist

ToS, SLAs

Pilot funding

Developer and business engagement

Reference implementations, code libraries

Trainings, workshops and support

FORUM VIRIUM HELSINKI

How harmonized are we in our ways of operating?

FORUM
VIRIUM
HELSINKI

Guidelines, principles
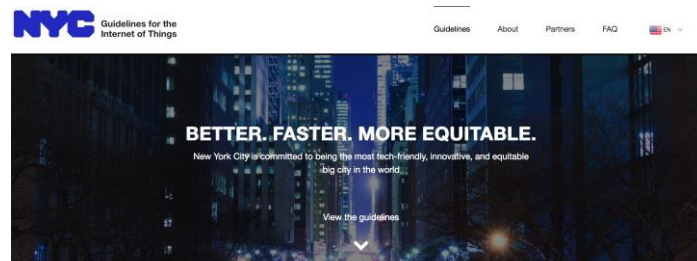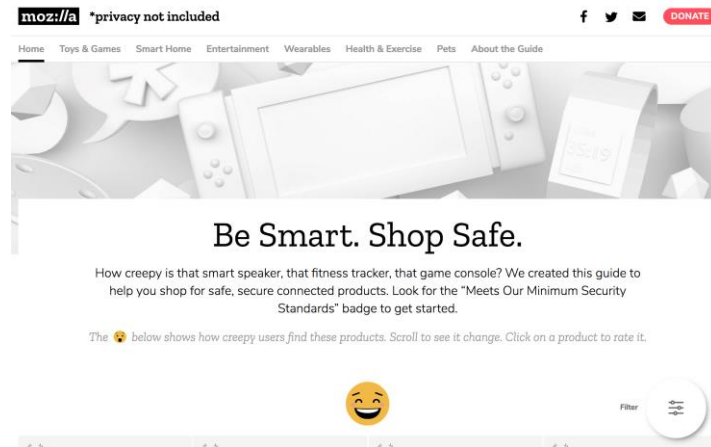
Guidelines, principles
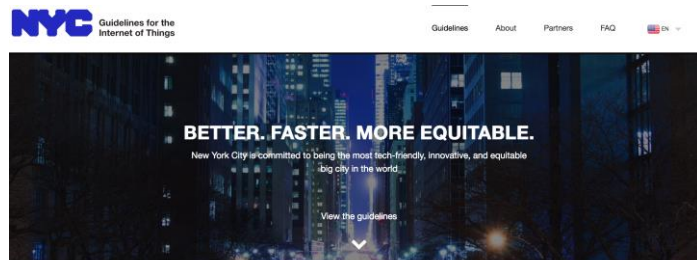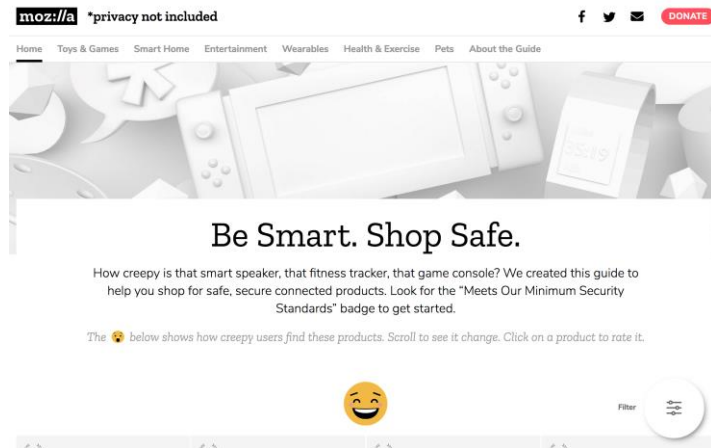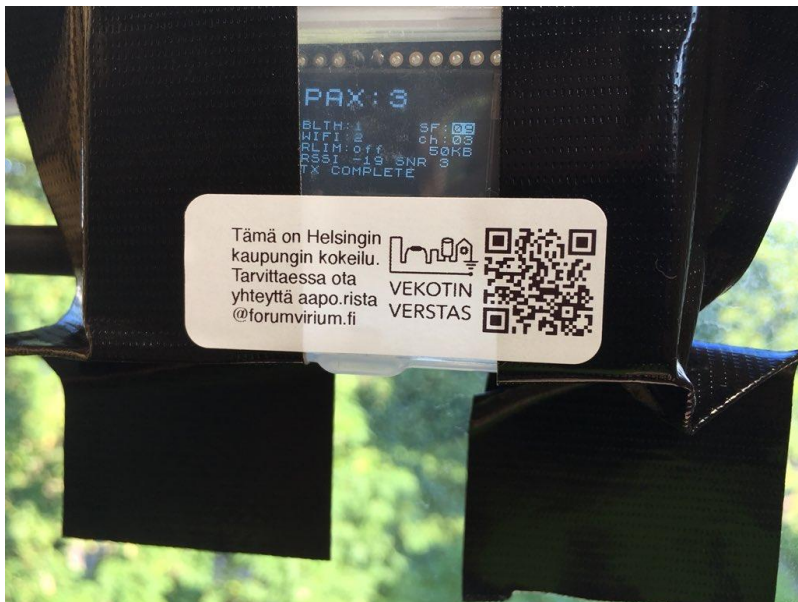
How to align: GDPR interpretations and implementations, installation policies, city engagement models?

FORUM VIRIUM HELSINKI
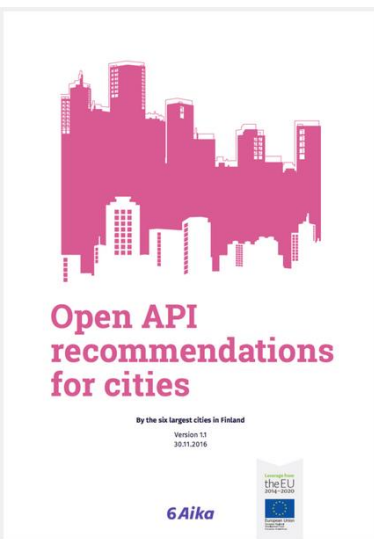
Documentation AND dissemination

FORUM
VIRIUM
HELSINKI

Cities, get started with it!

- API specs in Github under organization 6Aika
- Open source reference implementations
- Guidelines

Harmonised Smart City APIs
A Cook Book for Cities

6Aika

Open API recommendations for cities
By the six largest cities in Finland
Version 1.1
30.11.2016

6Aika

Why harmonised APIs?
» Boost development of smart applications and services that improve quality of life
» Create a wider market for apps and services
» Meet citizens' demands for 24/7 digital services
» Engage with developers and citizens
» Harness the potential of data harmonisation and open interfaces
» Make better use of other cities' know-how and resources by implementing proven APIs

FORUM VIRIUM HELSINKI

Content

Collaboration on all levels needed

FORUM
VIRIUM
HELSINKI

Cities, Counties, States, EU?

NEC's Lindsay Frost earlier today ->
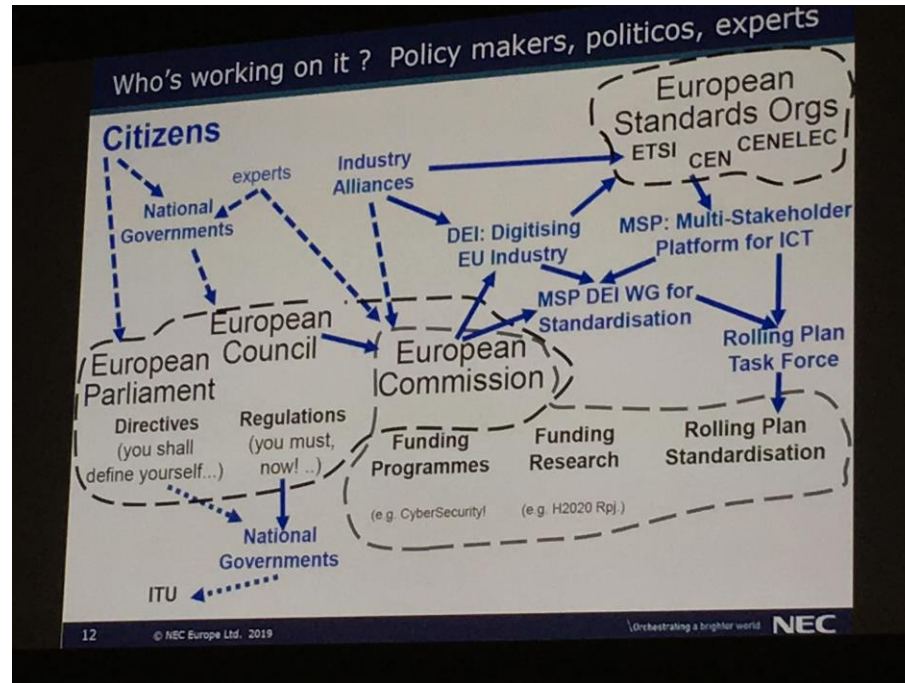
How can we help you to create future city services in Helsinki?
How can we shape future of cities together?

Hanna.niemi-hugaerts@forumvirium.fi
@CitySDK_Hanna

slideshare | facebook | vimeo | twitter | Linked in | forumvirium.fi