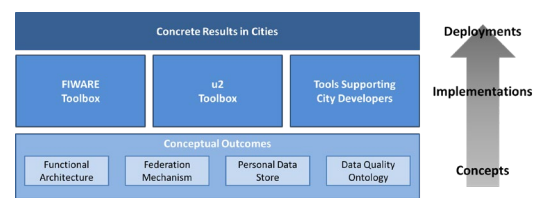


# Smart City Tool Box

Brought to you by the Horizon 2020 EU-Japan Project CPaaS.io

The CPaaS.io project has resulted in a set of conceptual outcomes, concrete tools and city deployments that will live on beyond the project, as shown in the figure to the right. The foundation for all results are a number of conceptual outcomes that are relevant for the platform as a whole and across the regions. The concepts are implemented using specific tools for the two implementation platforms, one for FIWARE-based implementations and one for u2-based implementations. A third toolbox contains instruments that make life easier for city planners. And finally, the project has resulted in concrete use case deployments in various cities in Japan and Europe, using the tools provided by the project.



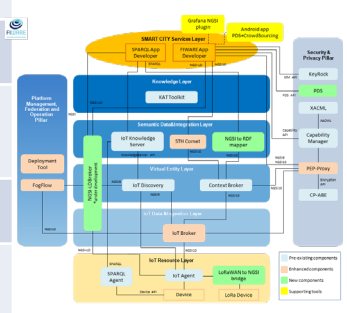
In this flyer, we highlight the FIWARE-based tools that others can use to make their cities smart. For all the rest and more details, please visit <http://www.cpaas.io/>

## FIWARE Toolbox

The following components were developed or enhanced:

Component Name	Short Description & Source Code Link	Maintainer
<b>IoT Broker</b>	Separates IoT applications from underlying devices. <a href="https://github.com/Aeronbroker/Aeron">https://github.com/Aeronbroker/Aeron</a>	NEC
<b>FogFlow</b>	Distributed execution framework to support dynamic processing flows over cloud and edges. <a href="https://github.com/smartfog/fogflow">https://github.com/smartfog/fogflow</a>	NEC
<b>NGSI-LD Broker</b>	Middleware component that implements the new NGSI-LD API for Context Information Management	NEC
<b>Deployment Knowledge Base</b>	Tool for managing the deployment of IoT Devices, including associations of mobile devices with people and other physical entities .	AGT
<b>NGSI to RDF Mapper</b>	Maps NGSI data model instances to RDF triples and inserts them in the CPaaS.io Semantic Data repository.	AGT
<b>STH Comet</b>	Manages historical raw and aggregated time series information about the evolution in time of context data registered in an Orion Context Broker instance.	Odin
<b>Security Components</b>	PEP Proxy enforces authorization policies. All security components available as a Docker image: <a href="https://github.com/cpaasio/">https://github.com/cpaasio/</a>	Odin
<b>LoRaWAN to NGSI-10 bridge</b>	This bridge listens to incoming messages on LoRaWAN applications and transforms them into NGSI10 format using TTN device and decoder API.	THE THINGS NETWORK
<b>Grafana Plugin</b>	Plug-in to visualize CPaaS.io data using the NGSI API in Grafana. <a href="https://github.com/cpaasio/Grafana-NGSI-Plugin">https://github.com/cpaasio/Grafana-NGSI-Plugin</a> .	Association of Applied Sciences
<b>Android App</b>	Provides users with means for producing data ("Crowd-sensing") and control their personal data.	UNIVERSITY OF SURREY

Check out the CPaaS.io Deployment Guide at <https://cpaas.bfh.ch/?p=998>



FIWARE-based Instantiation Architecture

For more information on other FIWARE components, please refer to the FIWARE Catalogue available at <https://www.fiware.org/developers/catalogue/>



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Coordinator Europe: Prof. Stephan Haller  
 Bern University of Applied Sciences  
 E-Government Institute  
 Brückenstrasse 73  
 CH-3005 Bern  
 Switzerland

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