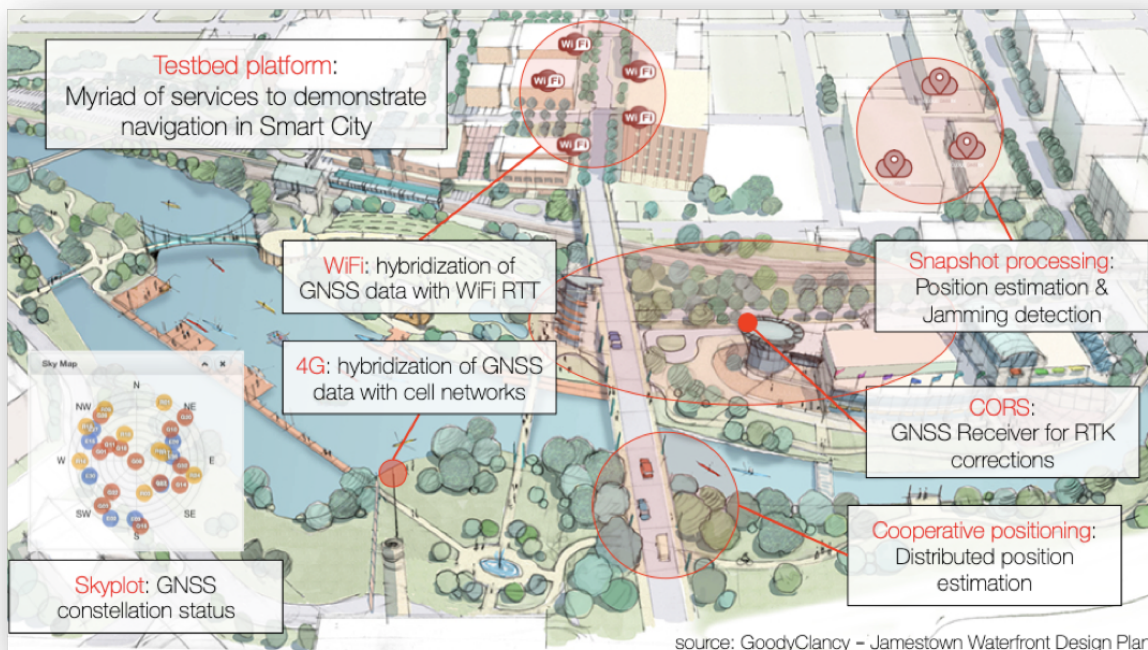


HANSEL

“Navigation and GNSS in Smart Cities – Testbed Concept Definition”

HANSEL - “*Testbed GNSS navigation in Smart cities*”, is a Testbed platform being developed under the ESA contract #4000126230, as a joint effort among the following companies: Universitat Autònoma de Barcelona (Spain), TrafficNow (Spain), Politecnico di Torino (Italy), Links Foundation (Italy) and Rokubun S.L. (Spain, acting as prime of the consortium). The work carried out covers both the design at system level as well as algorithm development, implementation and testing activities.

The prime goal of the Hansel Testbed demonstrator is to integrate various technologies in the field of navigation and applicable in the context of Smart cities. it is intended to be a navigation infrastructure that will serve an area (city). A summary of HANSEL capabilities is summarized in the following figure



The HANSEL Testbed offers a platform that integrates various navigation technologies in a single point of entry and has the following key features:

- Distributed architecture that integrates, in a flexible and expandable way, navigation technologies not limited to GNSS

- Includes a GNSS receiver that offers the possibility to perform RTK in the area covered by the Testbed
- Centralises GNSS data from Testbed users so that they can perform collaborative navigation
- Can simulate 5G measurements that can be potentially used for navigation.
- Detection and identification of GNSS interference events.
- Users can submit WiFi RTT data that allows them to locate WiFi Access Points (WAP) with (potentially) metric accuracy. The location of those WAPs can be then used to perform hybrid GNSS+WiFi navigation.
- A command and control service that allows monitoring of user position and, potentially, issue notifications that would actually allow the control of rovers that are connected to the Testbed
- A Front end that centralises all the information of the Testbed: position of users and nodes (sensors), data transfers, status of GNSS satellites, ...

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