

## GOALS

Create the “Facebook for smart devices” advanced version. Be ready to assemble Demo Kits

Track and log data transferred by sensors, beacons, etc.

Runtime orchestration of the wireless network and creation of a minimum command base for IoT devices to manage them

## CHALLENGES

Maintenance of profiles and feeds for smart devices on-the-fly

Fix the bottleneck we found in Stage 1: data structure

Storage of metadata into blockchain

First clients demo preparation

## DEMO SETUP

End-to-end communication between the IoT Platform and Imec Testbed

Reading of sensors data in real-time

Storage of data in linked data format (key:value, JSON-LD)

Reading of key profile indicators and writing them into blockchain

On-the-fly generation of web pages using static and dynamic data

Visualization of feed and geo data stored in the profiles

Live reprogramming of sensors to change its parameters

## RESULTS

Improved and optimized the structure of pages, the size reduced by 9-fold with help of the array structure. The bottleneck confirmed in Stage 1 was fixed

First blockchain record and data retrieving from it

Produced a full working example of a decentralized and API-free (access via HTTP) sensor database: GitHub and AWS were used

Improved demo  
<https://imec.wr.io/#dashboard>

Now we are ready to demo the project to pilot clients and participate in accelerators

## MORE RESULTS

Data can be stored on any static hosting services under full customer’s control

No vendor-lock. Anyone is able to use open profiles without limitation

We are waiting for our own sensors to assemble Demo Kits and prepare on-site demonstration for the pilot clients: 24/7 agricultural field monitoring and waste bin level tracking

Video tutorial is available at <https://youtu.be/E5fCijBUe70> Don't forget to turn on subtitles

## CONCLUSIONS

Demo for the first clients is ready

Based on the experiment results we decided to develop Demo Kits using Zolertia sensors as a proven and convenient tool

No restrictions for further usage, development and dissemination of the achieved results

## POST MORTEM

Participation in EU programmes to improve the product further from different tech and business aspects

Further data structure improvement: archiving data prior to its transfer

Preparation of the product for more use cases

Find an accelerator

Dessimination