Announcements

(how the event goes, all necessary info)

KETI

Hosted by

Korea Electronics Technology Institute

ETSI

Sponsors

Ministry of Science and ICT

Korea Intelligent IoT Association

Organized by

Korea Intelligent IoT Association

KIOTS 한국사물인터넷학회

TTA 한국정보통신기술협회 Telecommunications Technology Association

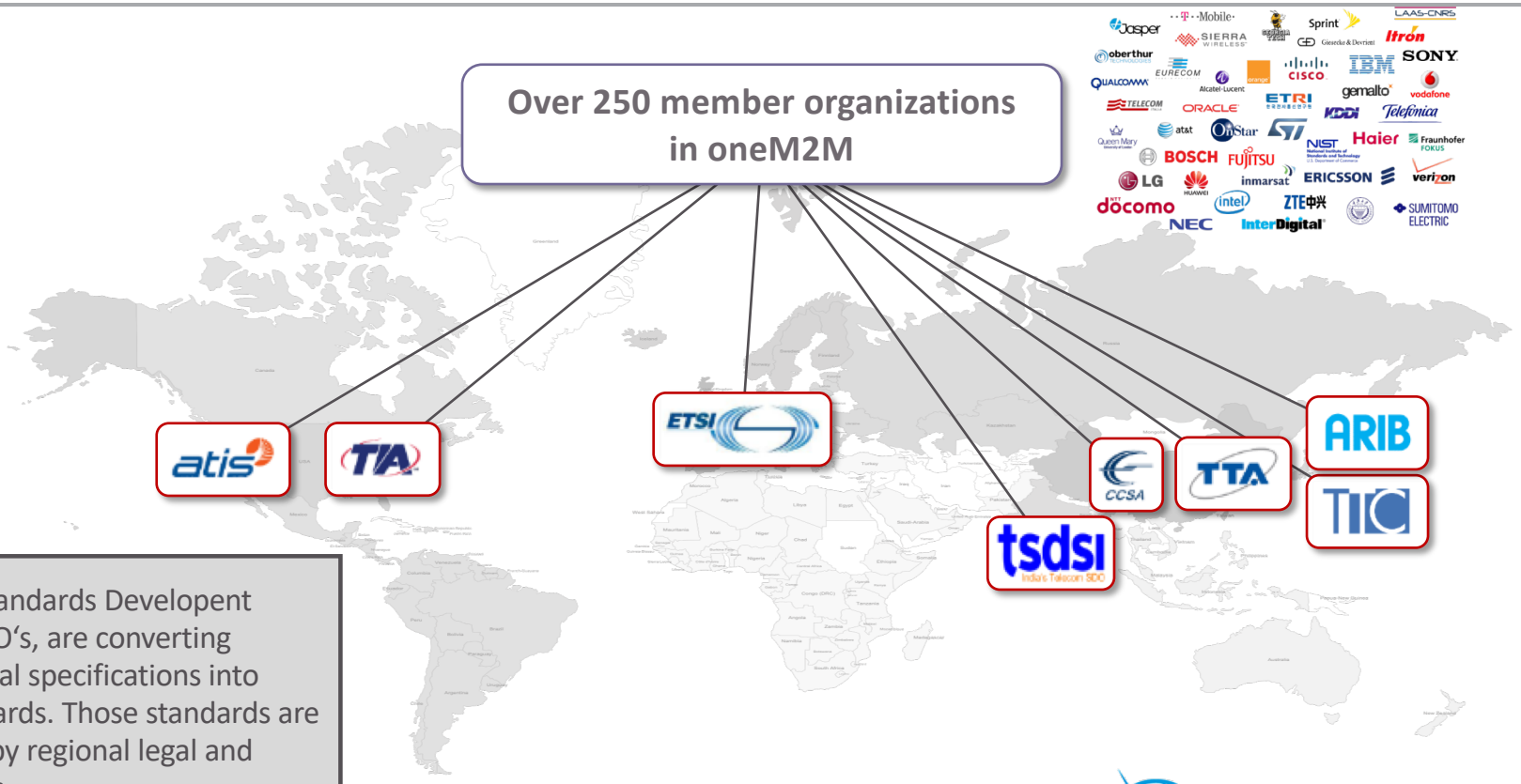
International oneM2M Hackathon

- Extension of 5th Mobius developer event -

2021.09.30

KETI & ETSI

oneM2M a Global Partnership Project to develop the IoT Service Layer



The 8 regional Standards Developent organizations SDO's, are converting oneM2M technical specifications into normative Standards. Those standards are then references by regional legal and regulatory bodies

Release 2 transposition
ITU-T SG20 Y.4500.x

Hackathon organizers & supporters

The InDiCo project is funded by the European Union

Challenges

For the teams participating, the goal will be to build an IoT Solution that can help citizens, solve major environmental and society issues.

The solution must use any of the oneM2M Platforms.

To help participants build their solution, a budget is allocated per team for purchasing any HW with sensors, actuators and microcontroller
- Sponsored by KETI celebrating its 30th Anniversary

Deliverables of the projects

Each team will have to produce :

- a hackster.io project describing step by step how to build the IoT solution
  - Description of the issue and how the project solves it
  - Detailed technical description of the IoT solution
  - HW and SW components used (oneM2M platform, sensors, actuator, dependencies, etc …)
  - Step by step user guide

- A short video (< 5 min) showing the solution in action

Communications

- We will use a Microsoft TEAMS Workspace to exchange information
  - A Microsoft account (from university or personal) is required
  - TEAMS Chat as preferable way to contact the organizers
  - Private channels are possible
  - Each team will get his/her own private repo. for sharing documents or codes

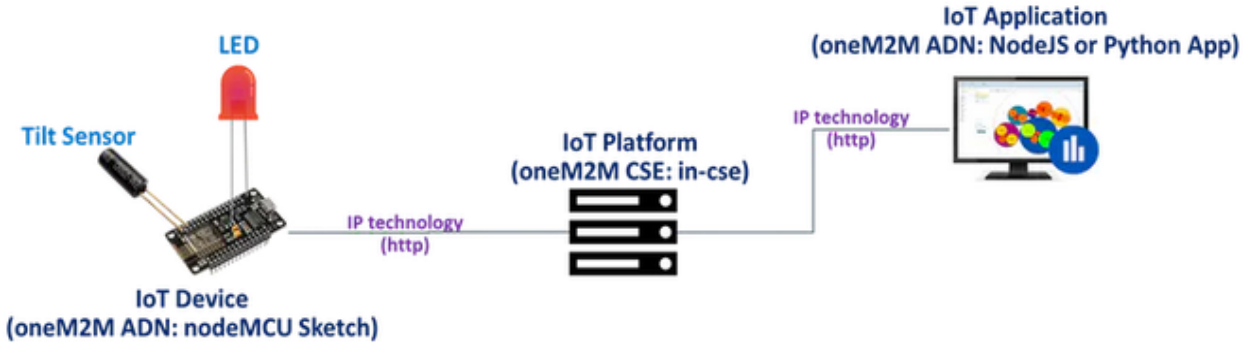
Communication using MS Teams Space

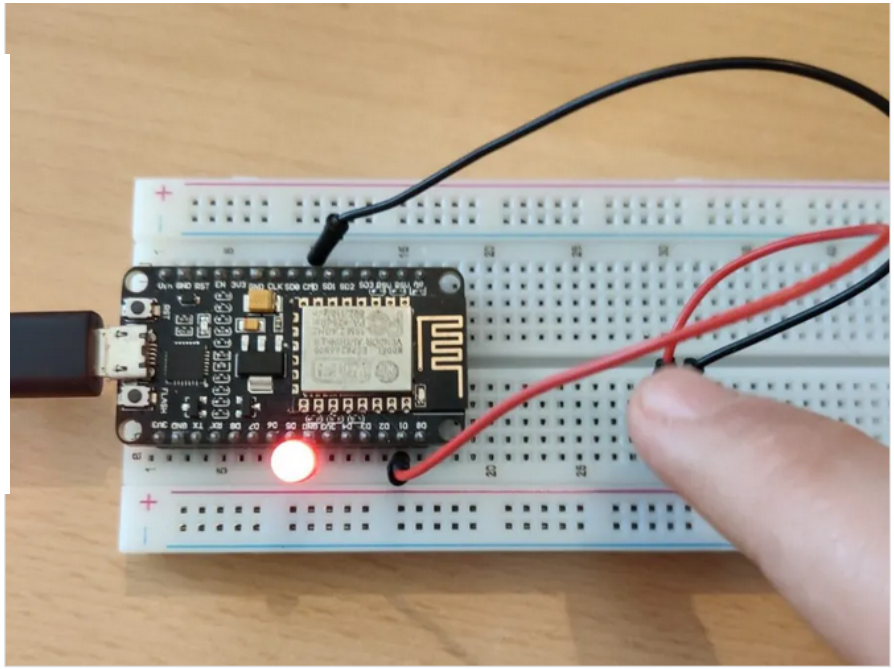
- Microsoft Teams can be accessed at:
  - https://teams.microsoft.com/l/team/19%3aPUX8cJlvaQQf7o3x0s6eaBXDhi4ysAyIyVeecPWYM6w1%40thread.tacv2/conversations?groupId=0f32610a-2b42-4e66-be46-a653f4dd34bb&tenantId=e6746ab5-ebdc-4e9d-821b-a71bdaf63d9b
- All teams have their private space (channel), in which they can store files, chat, hold video meetings and organize their work as needed.
  - This space can be accessed only by the team, the university contact person and the organizers (support team and jury).
  - It cannot be accessed by members from other teams.
  - MS Teams chat is the recommended way to contact organizers for support during the event
- Public channels within the team allow sharing of information to all participants
- We need your email addresses in order to add you to the MS Teams space
  - Request to university contact points to share participants' email addresses with the organizers asap

Example of hackster project

oneM2M Tilt Detection & Alert with NodeMCU (ESP8266)

https://www.hackster.io/samir-medjiah/onem2m-tilt-detection-alert-with-nodemcu-esp8266-7a5223





Requirements

The proposed solutions must use the oneM2M platform and protocol in an efficient way.

It is recommended to use the one of the following open sources:

- Mobius from OCEAN, open alliance for IoT standard:
http://developers.iotocean.org/
https://github.com/IoTKETI/Mobius latest is V2.4.42

- ACME :
https://github.com/ankraft/ACME-oneM2M-CSE latest is V0.8.1

- OM2M, hosted by the Eclipse Foundation
http://www.eclipse.org/om2m/ latest is V1.4.1

Example of HW IoT device kit

Evaluation criteria

- Innovative Scenarios
- Quality of the deliverables
- Quality of the demo
- A team's ability to build a creative device application that supports the following features:
  - Correct and creative use of the oneM2M protocol
  - Use of sensors – Creative use of multiple sensors is encouraged
  - Use of actuators – Creative use of multiple actuators is encouraged

Evaluation criteria

- A team's ability to build creative user applications that supports one or more of the following features:
  - Correct and creative use of the oneM2M protocol
  - Interaction with the sensor data originating from the device and stored in the oneM2M Platform
  - Interaction with the actuators connected to the device via the oneM2M Service Layer
  - Analysis of the data sets in the oneM2M Platform
  - Graphical display of data analysis results (e.g. using dashboard , etc.)
  - The capability to trigger device actuators based on the analysis of the collected data set
    - E.g. Display the number of available parking spots in a parking lot on display

Teaching materials

- oneM2M advanced tutorial 2020 (LoRa, dashboard, etc)
  https://www.youtube.com/playlist?list=PLDd4EJmw5gUlIXL0oek7RicHC5iFGfh1Z

- Hyderabad university tutorial
  https://mooc.indiaeu-ictstandards.in/courses/onem2m/

- Additional materials will be given via the TEAMS channel

Getting started with oneM2M – TR-0057

Draft Guide (under development) :
https://member.onem2m.org/Application/documentapp/downloadLatestRevision/default.aspx?docID=33407

- This work will provide high level descriptions of the main functionalities and features of the oneM2M service platform.
- It should be considered as an “entry point” before going more deeply to the standards.

Developer resources

Hackster.io https://www.hackster.io/onem2m

- oneM2M tutorial (with virtual SW devices, Luminosity detector): https://www.hackster.io/benalayamahdi/onem2m-tutorial-8c87e5
- oneM2M Tilt Detection & Alert with NodeMCU (ESP8266) (with HW kit): https://www.hackster.io/samir-medjiah/onem2m-tilt-detection-alert-with-nodemcu-esp8266-7a5223
- oneM2M demo (with HW kit: Luminosity detector): https://www.hackster.io/onem2m/onem2m-demo-57022e
- oneM2M Potentiometer/PushButton/LCD with NodeMCU (ESP8266) : https://www.hackster.io/samir-medjiah/onem2m-potentiometer-pushbutton-lcd-with-nodemcu-esp8266-1ea20a
- oneM2M RemoteControler/ServoMotor with NodeMCU (ESP8266) : https://www.hackster.io/samir-medjiah/onem2m-remotecontroler-servomotor-with-nodemcu-esp8266-db4be3

Developer resources

- https://github.com/oneM2M-Tutorials
  - **oneM2M-IoT-Dashboard**
  - **oneM2M-IoT-Device-Simulator**
  - **oneM2M-IoT-Application**
  - **oneM2M-IoT-Device**