



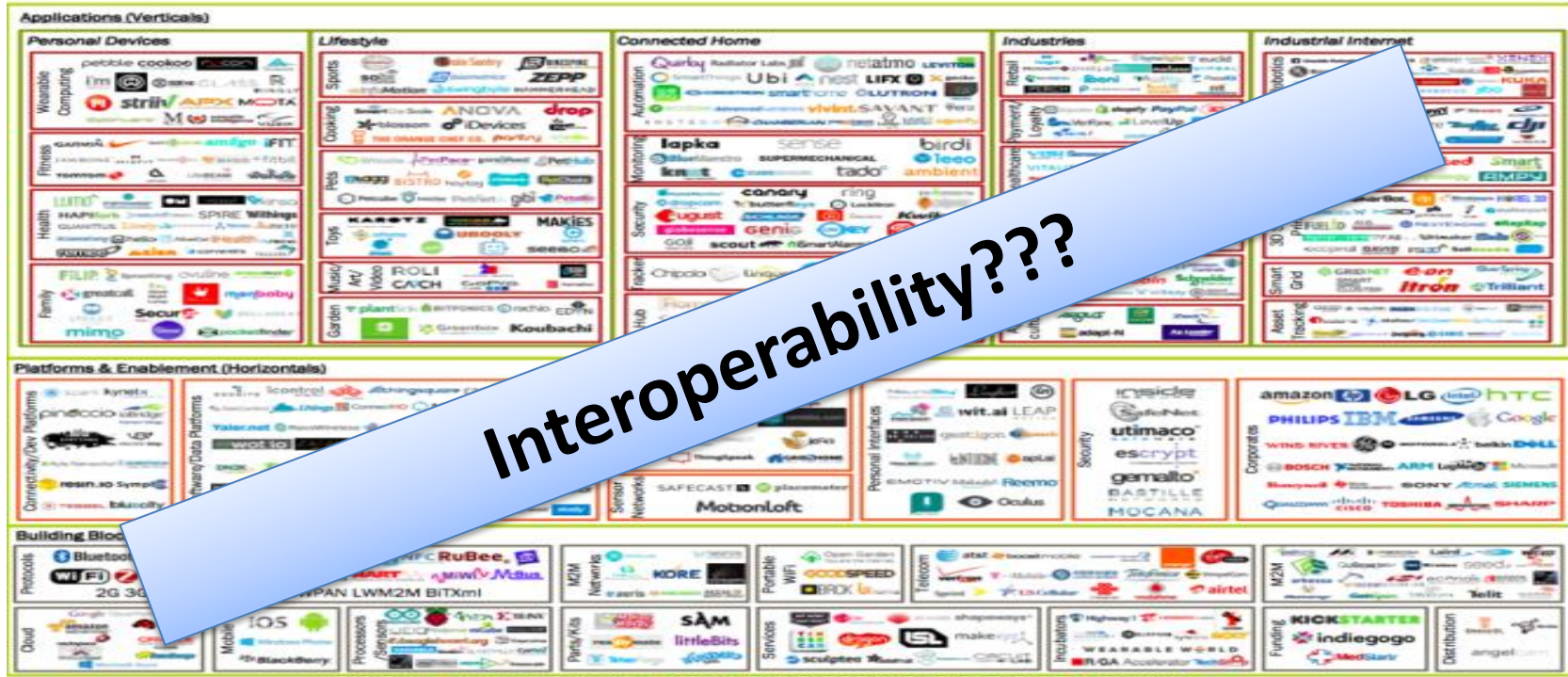
Spreading the Web of Things

Soumya Kanti Datta, Research Engineer

Contact – dattas@eurecom.fr



Introduction

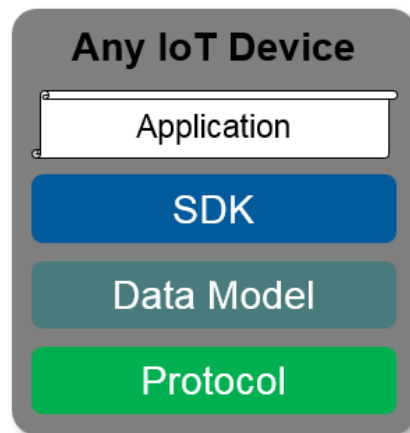


© Matt Turck (@mattturck), David Rogg (@davidroga) & FirstMark Capital (@firstmarkcap) FIRSTMARK

Existing IoT Systems

Provide **semantic metadata** that uniformly describes how to interact with Things

Implicit interaction model, typically not well documented



The IoT has a plethora of protocols, often dialects due to custom options

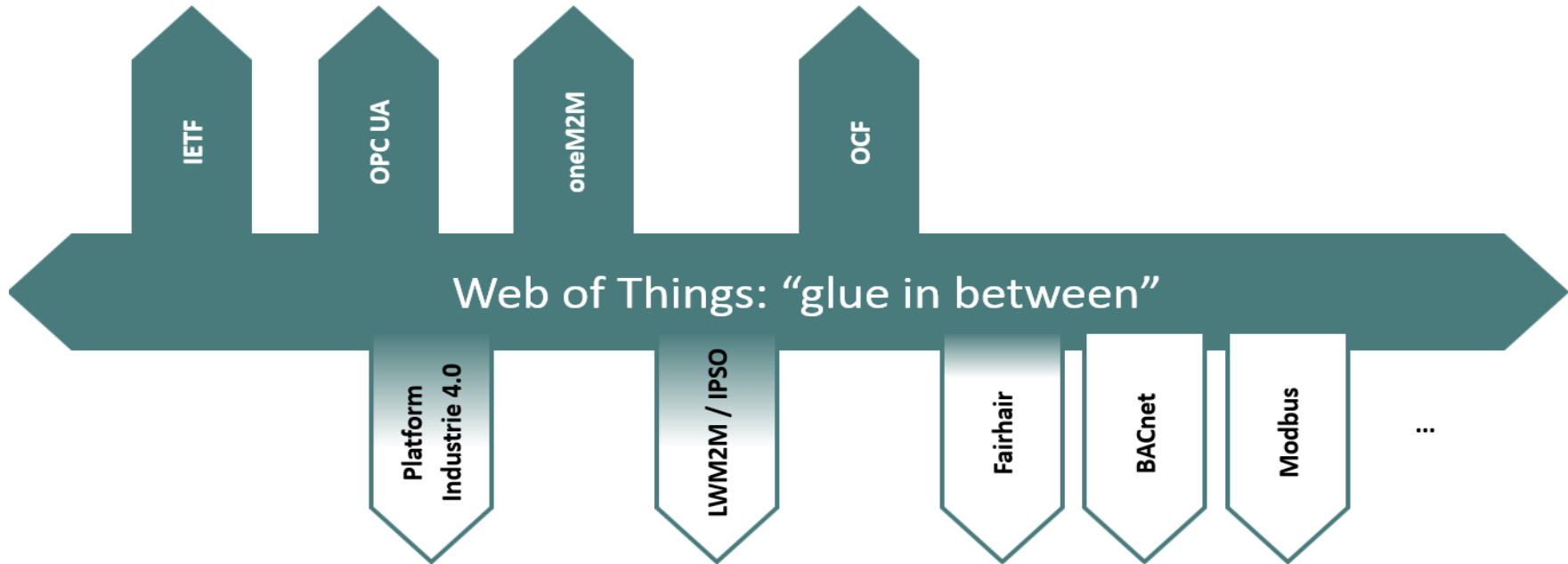
Define a **common runtime** for IoT applications that mimics Web development

Every SDK and library is different, so that app development is expensive

Capture each protocol once in a uniform template that describes how to configure common protocol stacks (e.g., CoAP or MQTT) to send the message expected by the Thing

With thanks to Matthias Kovatsch

WoT – Horizontal Solution



With thanks to Matthias Kovatsch

WoT - Added Value

- Defragmenting the IoT ecosystems.
- Enabling open marketplaces for suppliers and consumers of services.
- WoT applications that can adapt to variations in device capabilities and how these are exposed as Thing Description (properties, actions and events).
- Based on semantic descriptions potentially leading to semantic interoperability.

W3C Web of Things

WEB OF THINGS AT W3C



W3C Begins Standards Work on Web of Things to Reduce IoT Fragmentation

W3C has recently launched the [Web of Things Working Group](#) to develop initial standards for the Web of Things, tasked with the goal to counter the fragmentation of the IoT; reduce the costs of development; lessen the risks to both investors and customers; and encourage exponential growth in the market for IoT devices and services.

Regarding [W3C's presence at Mobile World Congress 2017](#), W3C CEO Dr. Jeff Jaffe commented, "There are huge, transformative opportunities not only for mobile operators but for all businesses if we can overcome the fragmentation of the IoT. As stewards of the Open Web Platform, W3C is in a unique position to create the royalty-free and platform-independent standards needed to achieve this goal."

Read the [Media Advisory](#) to learn about the technical approach the Working Group will take and the broad range of collaboration.

Unlocking the potential

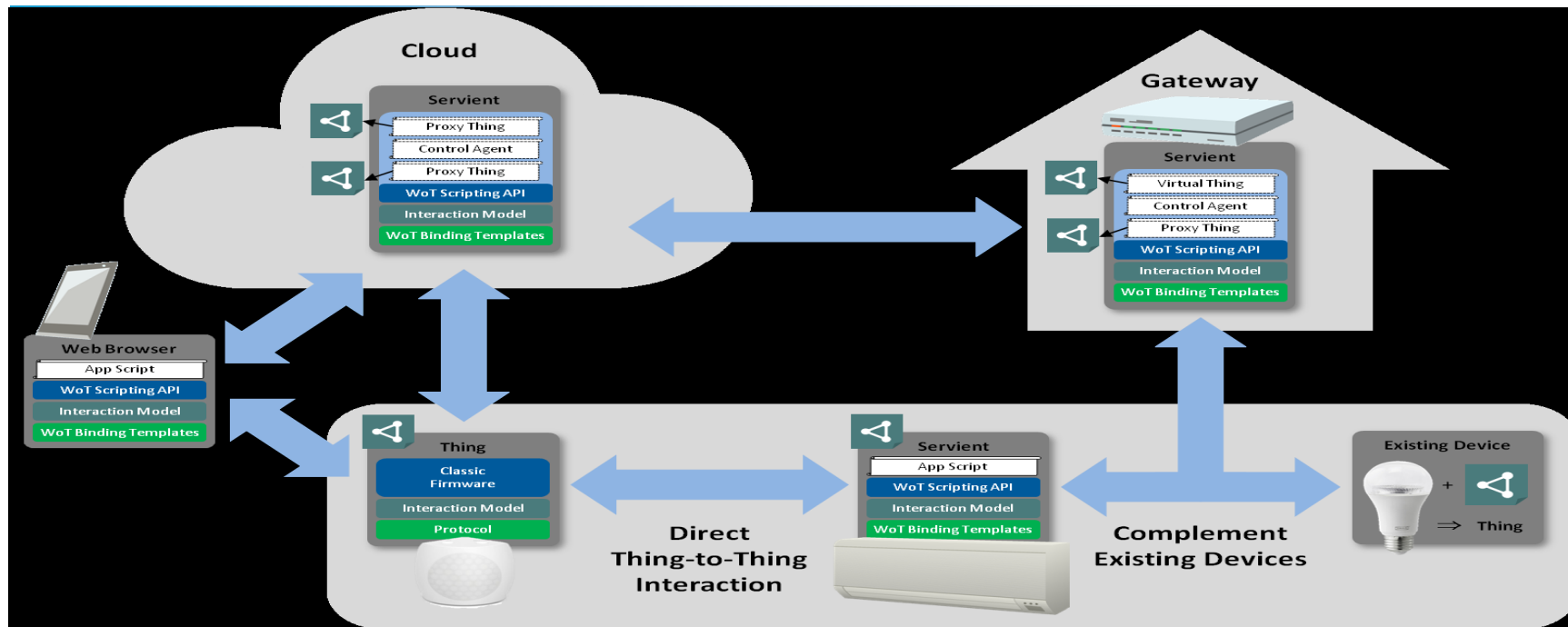
Industry testimonials



Utilization of the Web will bring harmony in fragmented market of Internet of Things. In EURECOM, we are investigating on the true potential of Web of Things and its interplay with constrained devices and semantics.

— Soumya Kanti Datta

Things and Cloud



Source: <https://www.w3.org/TR/wot-architecture/>

Web of Things in Action

- Two main domains
 - Smart Home
 - Connected Car

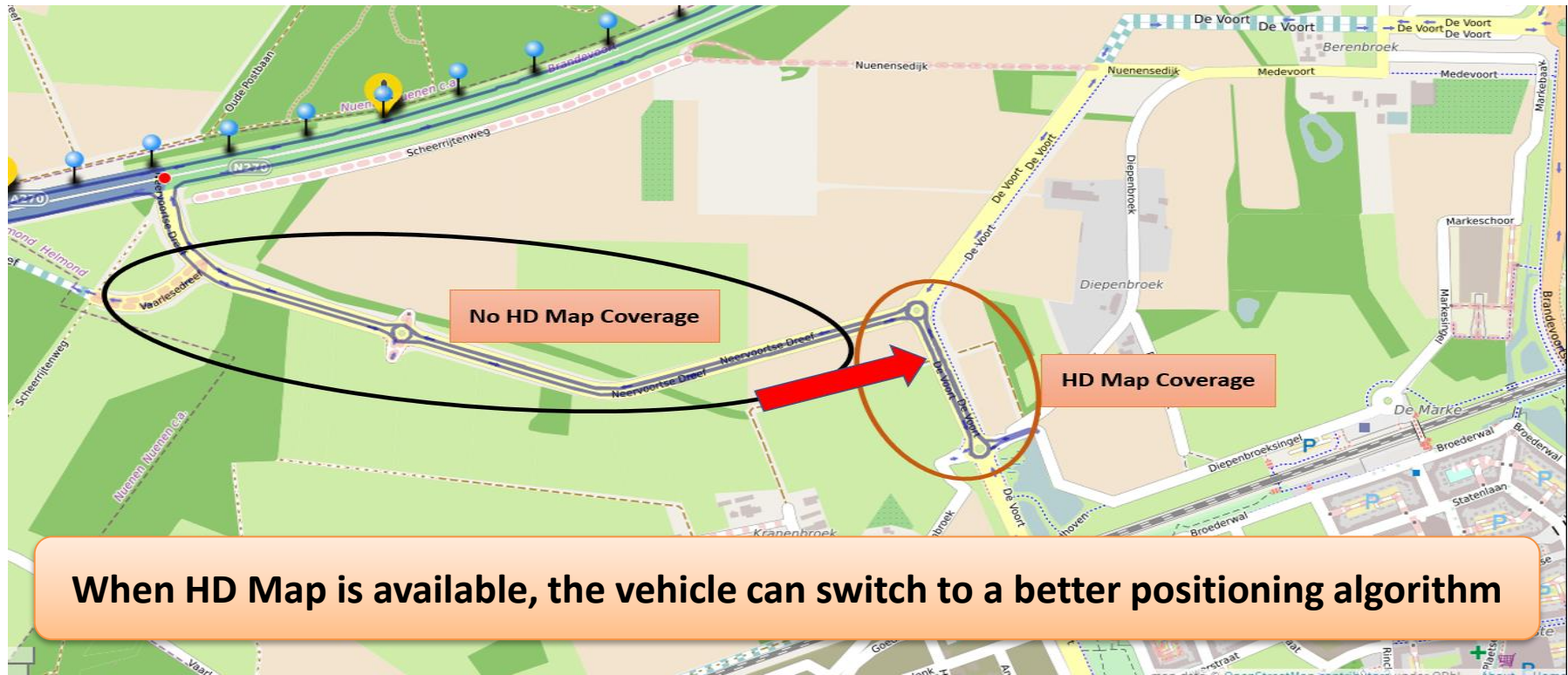
European Wide Positioning Service Platform

- Delivering real time ITS services using WoT
- European Wide Positioning Service Platform
 - Precision positioning as a service
 - Creating a Marketplace by bringing Stakeholders together
 - Takes advantage of **Digital Single Market** concept
 - **Secure** communication and data exchange



HIGHTS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 636537.

Best Algorithm for Positioning in Autonomous Vehicles



Demonstration

Project Things by Mozilla

Project Things is an experimental framework of software and services from Mozilla for connecting "things" to the web and will consist of three main components:

Things Gateway

An implementation of a Web of Things gateway.

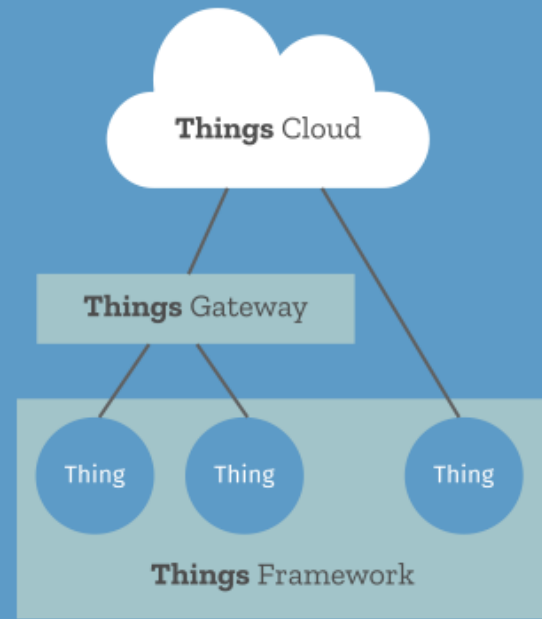
Things Cloud

A collection of IoT cloud services.

Things Framework

A collection of re-useable software components for building Web Things.

You can read more in our blog post "Building the Web of Things".



Source: <https://iot.mozilla.org/about/>

Speakers



Soumya Kanti Datta

Moderator

Eurecom

Research Engineer



Jorge Berzosa Macho

Speaker

IK4-TEKNIKER

Researcher and Project Leader



Iker Larizgoitia Abad

Speaker

EVERYTHING

Research Engineer / Program
Manager



Danh Lephuc

Speaker

Technical University of Berlin

PhD - Marie Curie Fellow