



TRAINING

# Connecting to the IoT

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# Connecting IoT Devices to FIWARE



[www.fiware.org](http://www.fiware.org)  
@Fiware 



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# FIWARE: Technology for Smart\*

#SmartCities

#SmartAgrifood



The central graphic features the FIWARE logo at the top, with the text "NGSI CONTEXT INFORMATION" below it. Below the logo are three smaller images: "THE INTERNET OF THINGS" with various icons, a word cloud for "BIG DATA" including terms like "Unstructured data", "Metadata", "Zettabyte", "Smart framework", "Concept extraction", "Text analytics", and "Semantic Metadata", and a hand holding a cloud with a padlock icon. To the right of the hand is a photo of a city street with a smartphone in the foreground displaying a navigation app.

#SmartIndustry

#SmartRegions



# FIWARE IoT: Interoperability at Context Data Level

## Satisfying Developers view

- Common language for all Data Sources (IoT and non-IoT).
- Single REST API. Query, Subscribe, Trigger Actions.
- Opensource solutions published in GitHub, Read-the-docs, etc

### Boiler

- Manufacturer
- Last revision
- Product id
- Temperature
- Actions



**APPS / Services / Data Scientist**



- City
- OpenData
  - Users Input

**Context Broker**

### Users

- Name-Surname
- Birthday
- Location
- ToDo list



- Street Devices**
- Location
  - Observations
  - Commands



- Public Bus T.System**
- Location
  - Arrival time

# Previously: Sylos or Verticals Smartcity/Smart\*



**Higher Efficiency**

- Automatization

Intelligence<sub>1</sub>

Intelligence<sub>2</sub>

Intelligence<sub>N</sub>



**Higher IT Business**

- Common suppliers

Connectivity<sub>1</sub>

Connectivity<sub>2</sub>

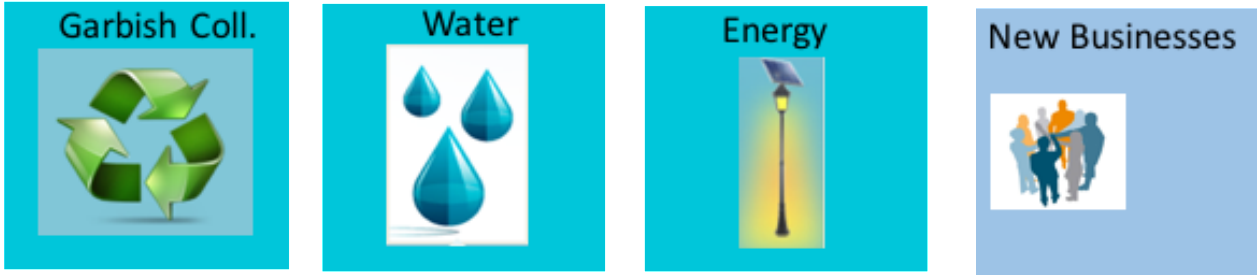
Connectivity<sub>N</sub>

Devices<sub>1</sub>

Devices<sub>2</sub>

Devices<sub>N</sub>

# FIWARE Smart\*: Local Ecosystem growth engine

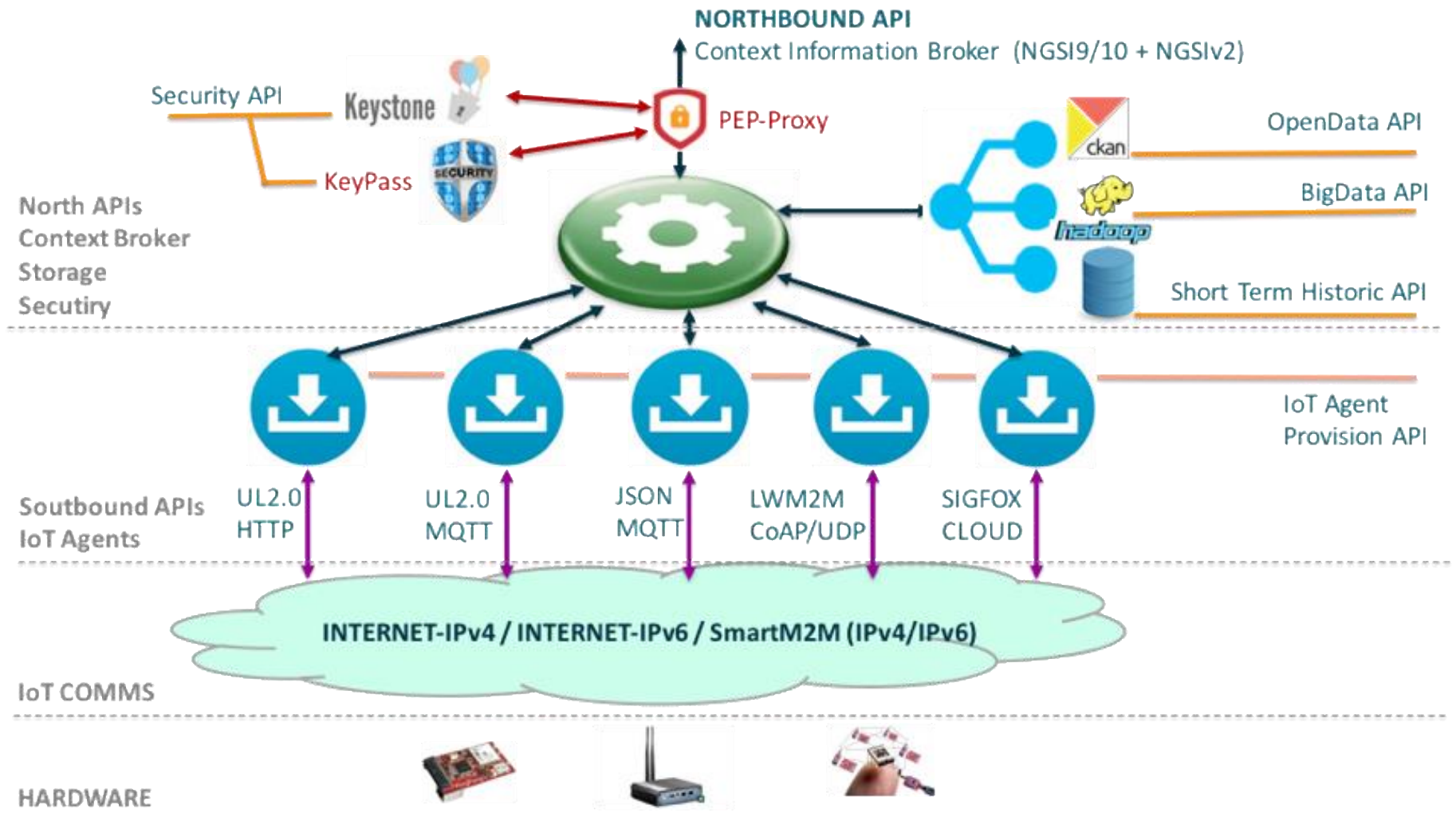


- ✓ Higher Efficiency
  - Share Networks, Cloud



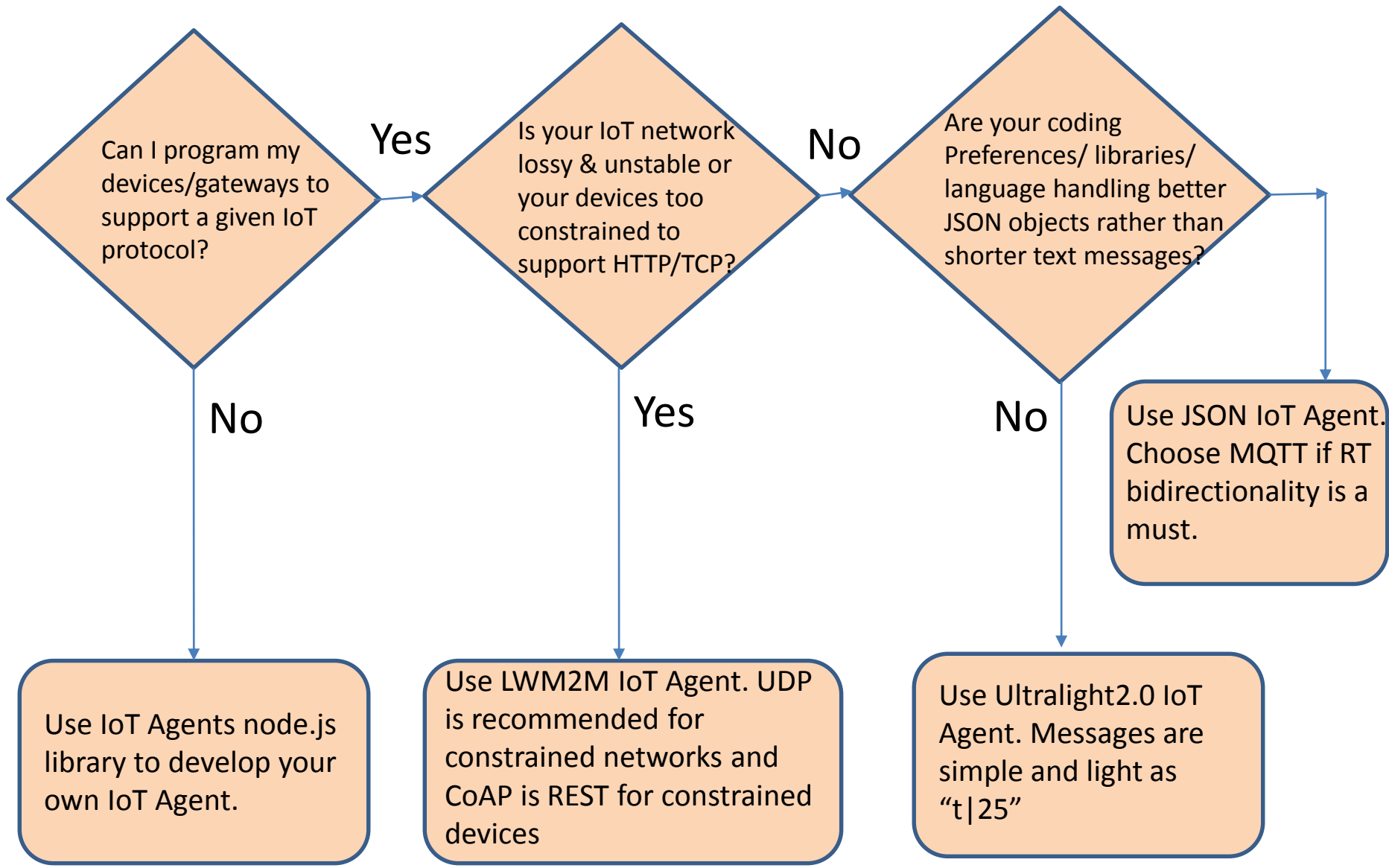
- ✓ Boost Overall Business
  - Cros-vertical ideas and services
  - New Players
  - Data Scientists
  - Developers

# Smart\* FIWARE most-used IoT Stack





# Talking to IoT – Choosing an IoT-Agent



# Ongoing Work

- **Evolution of IoT Agents**
  - Include new functionalities such as data Transformations.
  - New protocols.
  - Consider IoT management.
- **From Cloud-Centralized to Distributed models**
  - IoT Agents, NGSI Brokers and CEP at the IoT Gateway Level.
- **(Context) Data Models**
  - Smartcities: OASC Alliance
  - SmartAgrifood: IoF Project
- **Federation and other implementations of NGSI Brokers**
  - IoT Broker
- **Market Dynamization**
  - FIWARE IoT Ready Program.

# Thanks!



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