

“We believe that the success of smart cities across the world hinges on the use of agile, open standards and APIs.”

Andrea Gaglione, Senior Technologist, Digital Catapult

## Tell us about yourself and your job.

I am a Senior Technologist at Digital Catapult where I am responsible for initiating and developing innovation projects in the space of IoT. I have over 10 years' experience in academia and industry, building sensor networks, cyber-physical systems, and IoT infrastructures. My current work focuses on fostering and driving business adoption of IoT and low-power wide-area networks and establishing digital marketplaces for IoT-enabled smart cities. Previously, I was a Guest Lecturer and Senior Research Associate at the University of Cambridge, and a Research Associate at Imperial College London.

## Why do you believe in TM Forum's Open API program?

**I believe that TM Forum's Open API program can help businesses to speed up their operations and also enable the creation of collaborative initiatives at international level. The modular architecture of the APIs and the containerization of its components allows for an agile and flexible development and to quickly deliver production-ready solutions.**

To learn more about Digital Catapult visit:  
[www.digicatapult.org.uk](http://www.digicatapult.org.uk)

## Open APIs and the Open Digital Framework

*The Open Digital Framework helps businesses to improve their agility by migrating IT and operations into cloud-native environments, in a structured way. It is developing the core engine for the next wave of digital transformation, based on an AI-driven Open Digital Architecture, leveraging Open APIs, to enable zero-touch digital partnerships. The Framework is crowd-sourced from 850 member organizations, based on proven foundations, and is being built for a constantly-changing business world.*

## What TM Forum Open APIs are most valuable to your company?

FIWARE / TM Forum Business API Ecosystem.

## Why did you choose to highlight the Business API Ecosystem?

It is easily adaptable, and it was a good match for the requirements we gathered to build an IoT data marketplace for the SynchroniCity project, an ambitious European IoT large-scale pilot for smart cities.

## How do you use these APIs?

We use the Business API Ecosystem to develop a marketplace for city-generated data (e.g., data streams from IoT devices, static datasets). The marketplace is a crucial element of the framework developed in the SynchroniCity project, and a key enabler for creating a global market for smart city services that allows cities and businesses to collaborate on the development of new digital solutions designed to improve the lives of citizens and stimulate local economies.

We believe that the success of smart cities across the world hinges on the use of agile, open standards and APIs. Therefore, we adapted the Business API Ecosystem, extended some of its components (e.g., data license and SLA elements), and built new ones to finally build a marketplace specifically tailored to IoT data which could attract the stakeholders and stimulate them to share data.

## How have you benefited from using these APIs?

When we started to work on the IoT data marketplace, we undertook a thorough analysis of the current market and solutions already available and interviewed several key stakeholders to gather the technical requirements. Then we decided to base our platform on the Business API Ecosystem as it suited our requirements other than being open source.

Using an open source component helped us to save time during the first stage of the software development process. Also, that allows us to invest our resources for developing security and trust components which made our platform unique. In fact, a key innovation of the marketplace lies in its “transparency and accountability service”. The latter allows for the storage and tracking of data license agreements and SLAs on a blockchain to create tamper-proof audit trails which can be used to settle potential disputes that may arise between the marketplace users (e.g., data providers and data consumers).

## Where do you use these APIs?

It is being used in the UK and Spain. Digital Catapult (UK) hosts a testing instance of the IoT data marketplace exposing data offerings from Manchester (UK), Santander (Spain), Porto (Portugal), and Helsinki (Finland). The city of Santander (Spain) hosts another instance of the IoT data marketplace exposing local data offerings.

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