

open fiber

**Agriconnect '24**

**Data Edgers**

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20/11/2024



# Who we are

## Our Vision

At Open Fiber, we want to change people's lives with new optic fiber technology. From small towns to large metropolitan cities, we want to improve the lifestyle of people, families, businesses and workers by overcoming the digital divide.

More services, more speed, more accessibility and more reliability with FTTH so we can offer the opportunity to do more, faster.

## Our Mission

### **Travelling all at the same speed with optic fiber**

Open Fiber was established to build ultra-broadband (BUL) FTTH (Fiber To The Home) fiber-optic network infrastructure in all Italian regions. To achieve our project, we chose the 'wholesale-only' business model in order to guarantee free access to all interested Operators, on equal terms, providing end-users with a wide choice.

Our mission pursues the goals of the European Digital Agenda, the Italian Ultra-Broadband Strategy and the Gigabit Society. A plan to establish minimum connectivity levels in all European countries for citizens, institutions and companies.

As an infrastructure player, Open Fiber is responsible for the construction, operation and maintenance of the fiber-optic network using FTTH technology, with very high levels of efficiency and reliability.



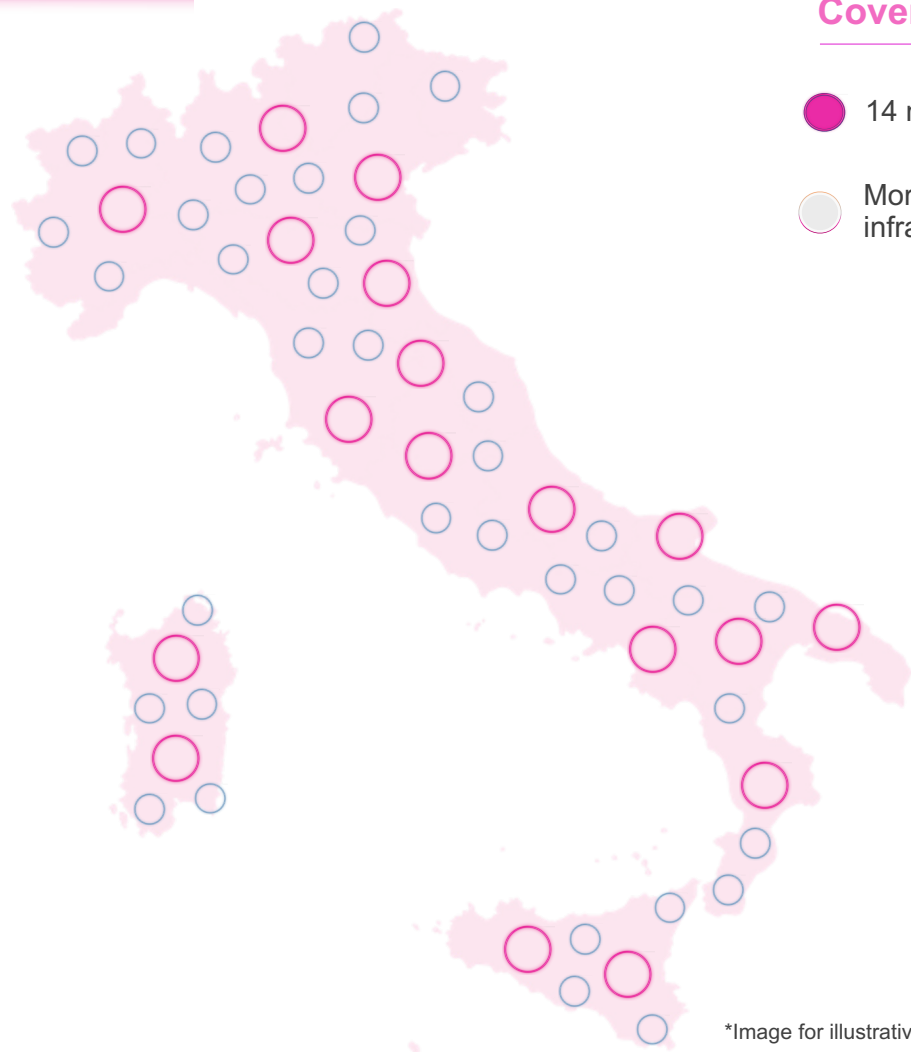
# Our network

## POP

POPs – point of presence – are places distributed throughout the Italian territory that act as a meet-me-room for Operators. Usually, they have a big space available to contain each Operator's OLT equipment, as well as the OTDR monitoring system to test integrity of fiber cables.

## PCN

PCNs – punto di consegna neutro – are network spots allowing operators to get access to Open Fiber infrastructures. All optic fibers end in a PCN for a specific municipality, to bring ultra wide band connection to final customers. Usually, PCNs are smaller than POPs



## Coverage

 14 million homes

 More than 130.000 Km of infrastructure

 > 46000 Km in Black areas

 > 82000 Km in White areas

\*Image for illustrative purpose only



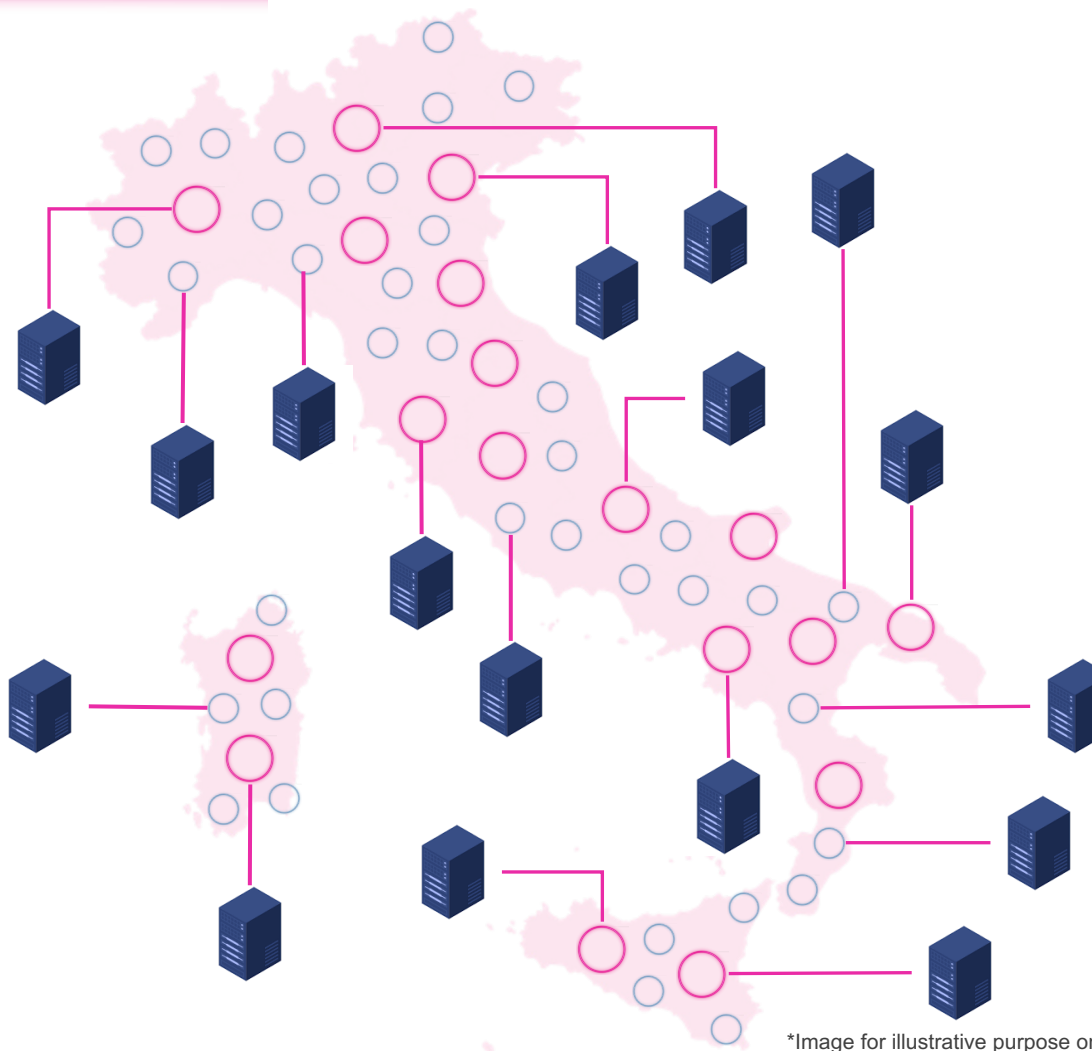
# What next?

## Data Edger

Small datacenter to put in POPs and PCNs, to build a network of distributed data handlers, based on clusters of single board computers

## Main features

- Small form factor
- Low energy requirements
- Low space occupancy
- High scalability



\*Image for illustrative purpose only

## Goals

- To grant data sovereignty to final users
- To provide data localization
- To enable remote communities impacted by digital divide to get access to new digital services
- To optimize energy consumptions based on the kind/amount of data to process locally

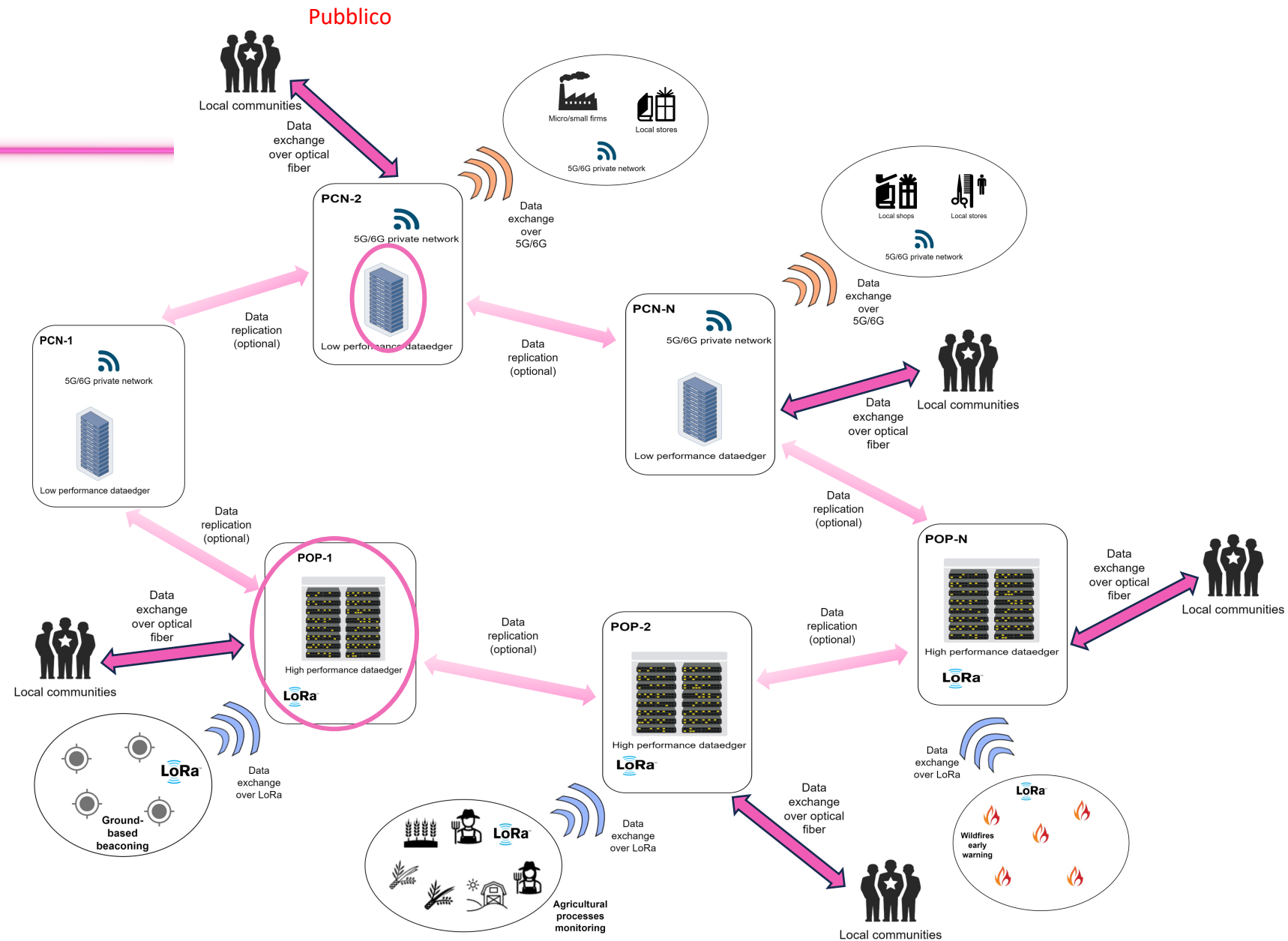
# Data Edgers

**High Performance DataEdger:** it is meant to be built on POPs where more space is available because size could be bigger than low performance nodes. It is capable of more complex tasks, e.g. machine learning, computer vision, NLP, etc., but it also needs for more energy and implies higher costs with respect to low performance nodes

**Low Performance DataEdger:** it is meant to be built on both POPs and PCNs because it has smaller size than high performance nodes. It is thought to run most of the common tasks in a datacenter, e.g. resources virtualization, orchestration, network traffic management, etc. It needs for less energy and – hopefully – it implies lower costs than high performance nodes

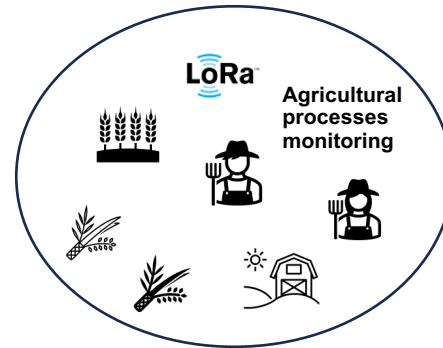
## Use Cases

- Digital twins
- Agricultural processes monitoring
- Ground based positioning systems
- Natural events early warning systems

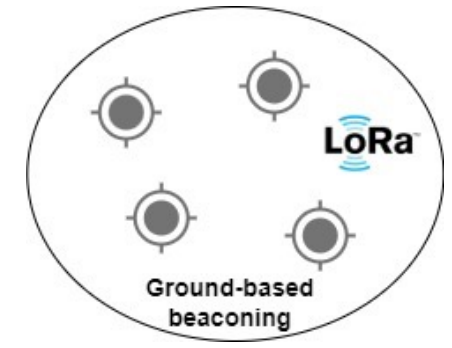


# Use cases

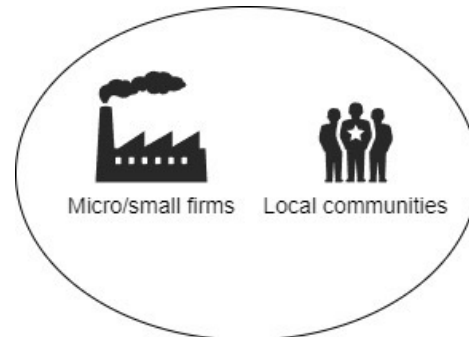
**Agricultural processes monitoring:** the availability of wireless networks, on top of optical fiber, could allow to implement monitoring systems to trace agricultural processes during the entire lifecycle of products



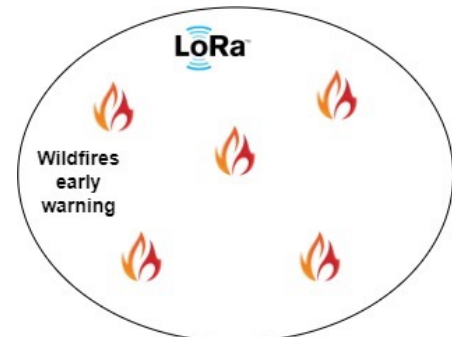
**Positioning systems:** new positioning systems, based on ground technologies, could be implemented and integrated with OF network, by using wireless technologies as BLE and LoRa, creating a mesh network to get the best from the optical fiber network



**Digital twin:** local communities are going to be able to build digital twins for micro and small firms to bring them on the web, but allowing access only to users in a specific area and keeping data close to the final users, granting sovereignty, speed and security



**Early warning systems:** the availability of wireless networks, on top of optical fiber, could bring to build systems for early warnings in case of natural catastrophes as wildfires, floodings, earthquakes, etc. Presence of capillary Open Fiber POPs and PCNs could make it easier to extend low power wireless networks (e.g. LoRa) and implement early warning systems for remote areas not covered by cellular network





**Thank you!**

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