



Colmena



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**Collaboration between devices using
swarm technology**

The project

- **Colmena** proposes an innovative approach to deploy swarm platforms across the Digital Continuum.



Autonomous devices



Fully distributed



Robust



Trust-worthy



Dynamic and agile

Objectives I

- Colmena's main objective is to:

Optimize the
development

Implementation

Management

of **reliable services** in the domains of



IoT



Edge



Cloud

Objectives II

- The Project pursues:



Increasing **productivity** in the development and maintenance of hyper-distributed services



Reducing the effort in deployment and re-adapting by building a **swarm platform**



Improving user confidence through **open and secure** operations



Demonstrating and measuring its **benefits** by developing a pilot case



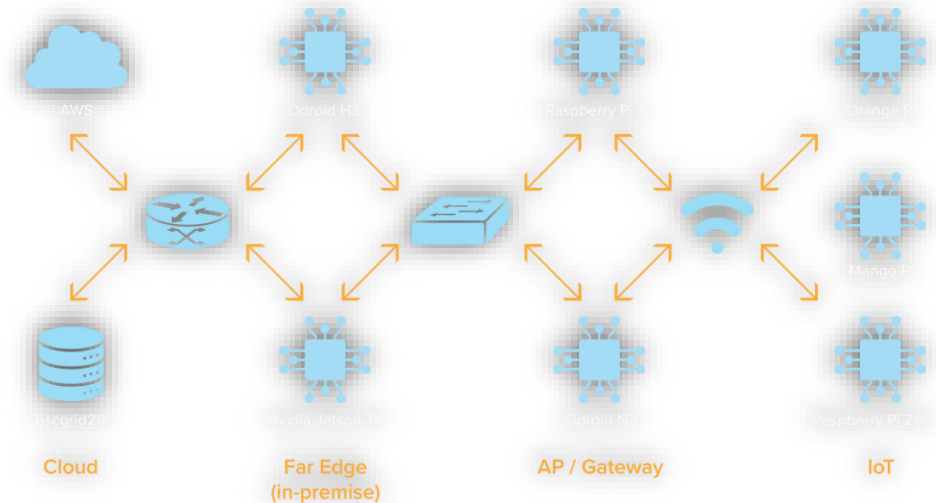
Disseminating the Project and its results to encourage the **adoption** of swarm technologies

Development

- **Colmena** proposes important technological advances in the field of swarm computing:

A pioneering programming model that facilitates the development of services

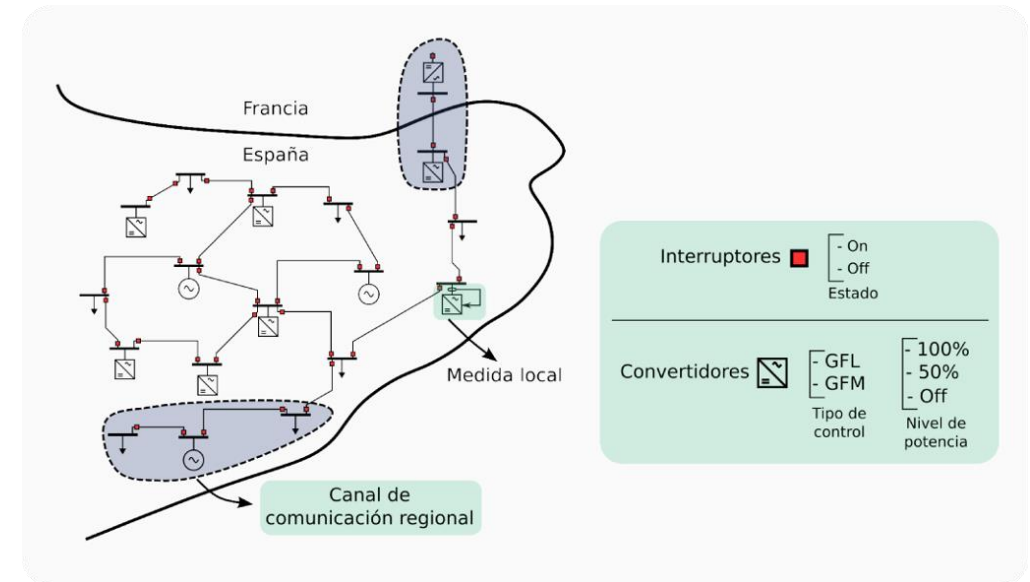
A tool to deploy platforms fully decentralized



Use case

- The creation of a service **to improve management** in the domain of energy networks. The prototype will improve the **electrical grid**:

- ✓ Rebuilding the network
- ✓ Optimizing the operation
- ✓ Improving stability
- ✓ Maximizing the capacity
- ✓ Anticipating possible line overloads



Partners



ARVOR Business,
Tech & Science



EVIDEN

Project information



Developer entity	Barcelona Supercomputing Center (BSC)
Funding entities	• European Union – Next Generation funding • Ministerio para la Transformación Digital y de la Función Pública • Plan de Recuperación, Transformación y Resiliencia
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