5G-DIVE: EDGE INTELLIGENCE FOR VERTICAL EXPERIMENTATION

VISION

5G-DIVE is an end-to-end Platform-as-a-Service (PaaS) build on top of an Edge and Fog computing platform (developed by the project 5G-CORAL).

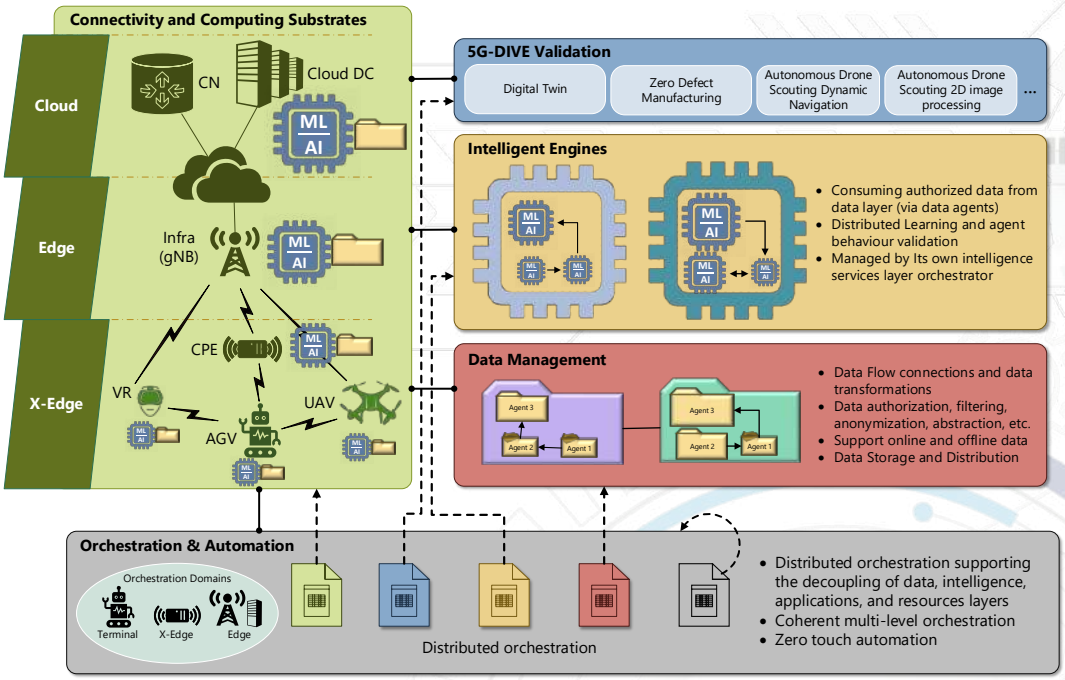
5G-DIVE aims to enhance the management and automation of business processes of the 5G-CORAL platform using **data analysis** and **Artificial Intelligence (AI)** to maximize the value proposition of 5G for different type of **vertical industries**.

MISSION

5G-DIVE targets end-to-end **5G trials** aimed at proving the technical merits and business value proposition of 5G technologies in two vertical pilots: (i**) Industry 4.0** and (ii) **Autonomous Drone Scout**.

These trials will put in action a bespoke end-to-end 5G design tailored to the requirements of the applications targeted in each vertical pilot, such as digital twinning and drone fleet navigation applications.

CONCEPT



TOP-5 RESEARCH CHALLENGES

- Develop and validate through trials end-to-end 5G connectivity customized to the targeted vertical applications in their actual deployment environments.
- Identify gaps and develop technical solutions for enhancements of current 3GPP 5G releases for best support of the targeted vertical applications.
- Enhance the orchestration and control functions such as federation, orchestration, and enforcement of SLAs, using DLT (Distributed Ledger Technologies) and AI (Artificial Intelligence) techniques.
- Support interoperability amongst distributed heterogeneous intelligence agents.
- Optimize the balancing of computing load and power across the different computing tiers through novel DRL (Deep Reinforcement Learning) schemes.

USE CASES

Industry 4.0

- Digital Twin application that enables real time control, through a digital replica, of a robot arm.
- Zero Defect Manufacturing system to automatically detect defects in production lines using cameras and AI/ML algorithms with the help of edge/fog computing.

Autonomous drone scout:

- Drone fleet navigation enabling a better piloting of the drone swarm by providing intelligence onto the drones.
- Intelligence processing of images onto the drones to provide more automation in the scouting of the drones.

PROJECT COORDINATOR

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PARTNERS

START DATE

01/11/2019

END DATE

30/09/2021

COST

4.304.416,25€

CONTACT

5g-dive-project

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5g-dive.eu

The 5G-DIVE Project has received funding by the European Commission's Horizon 2020 Programme under the grant agreement number: 589881.