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Development of the EDGE-CLOUD solutions across domain

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Edge-to-Cloud is expected to provide the means for workloads execution and data processing both in the Edge and the Cloud. Within this presentation we present different efforts addressing the challenges towards achieving the next generation of continuum management. We will explain this presenting efforts of two projects illuMINEation and ICOS.

ICOS is proposing a high-level meta operating system (metaOS) to realize the continuum. The use case that is targeting to exploit the technologies is related to agriculture and robotics - the Agriculture Operational Robotic Platform (AORP) is an agro robot that can execute different tasks and missions, like sowing and tending crops, removing weeds, monitoring crop development, and identifying threats. The platform moves autonomously through the field, performing the assigned missions. The robotic platform consists of control and driving modules. In addition, it is equipped with interchangeable tools - a seeder and a sprayer. The AORP is equipped with cameras, sensors and Edge computational devices that can be connected to the Cloud directly, via the transport platform, or via farm connectivity.

The core objective of illuMINEation is to improve the efficiency as well as health & safety of European mining operations and their personnel. The project developed multi-level distributed IIoT platform for improved decision-making processes, fostering the evolution of a virtual mining environment (including Interfaces, Edge analytics, Cyber security, Fog & cloud infrastructure, Data transfer & communication). IlluMINEation project has received funding from EU H2020 R&I Program under grant No. 869379.

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