Common Data and Intelligence Layer

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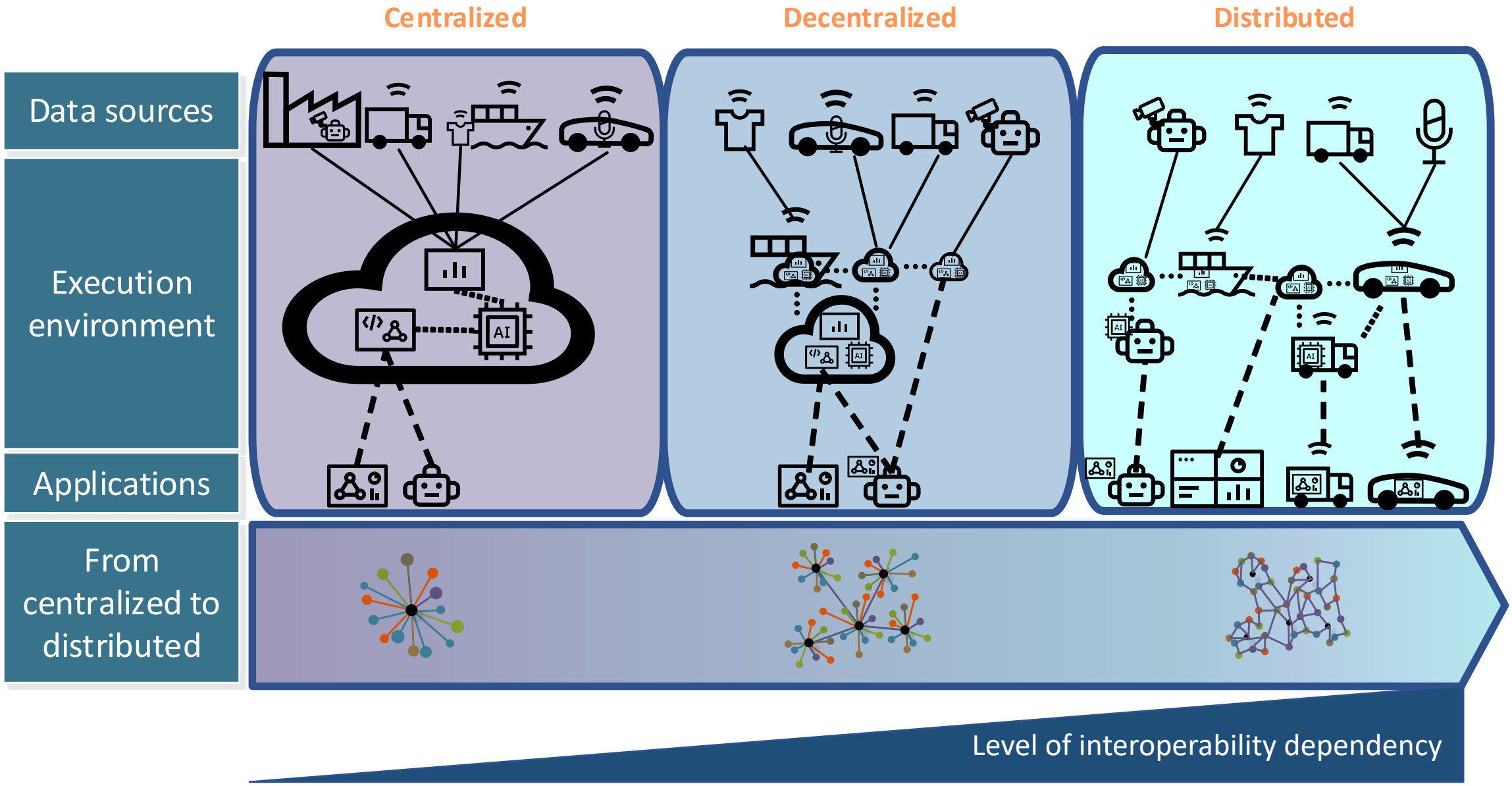
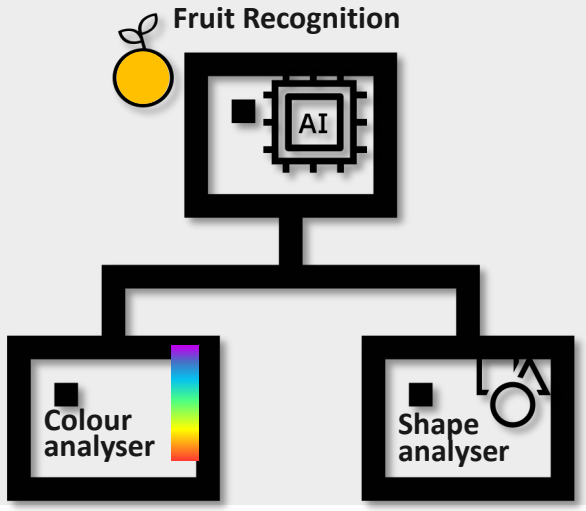
Centralized vs. Distributed Computing Architectures

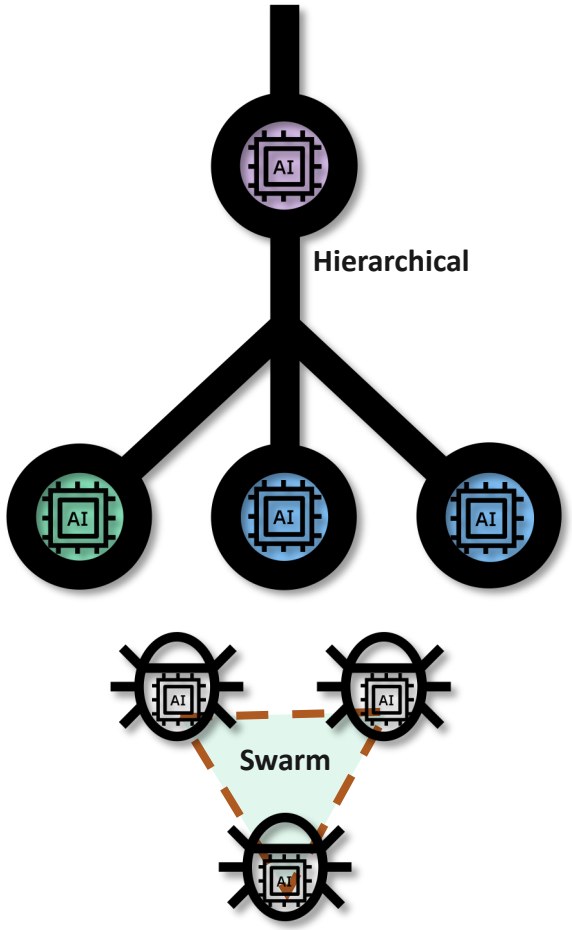


Computational Intelligence Distribution Aspects

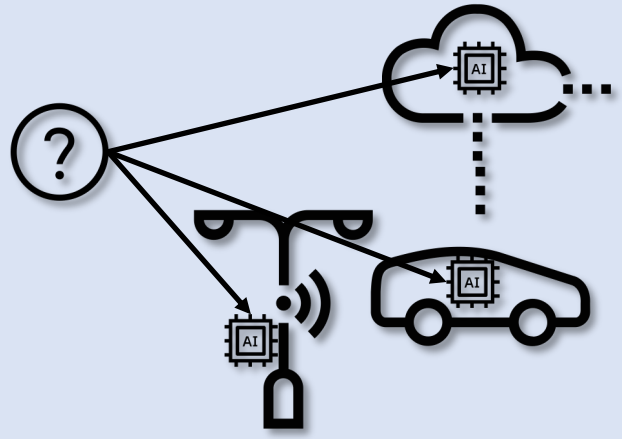
AI Service Functional Distribution



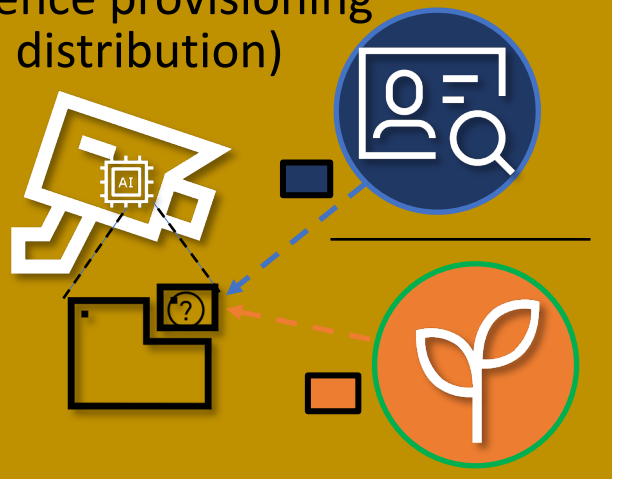
Agent Functional Distribution



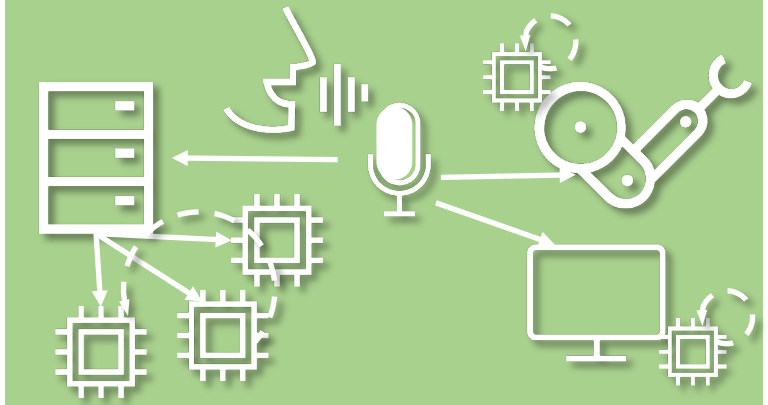
Inference Execution Distribution



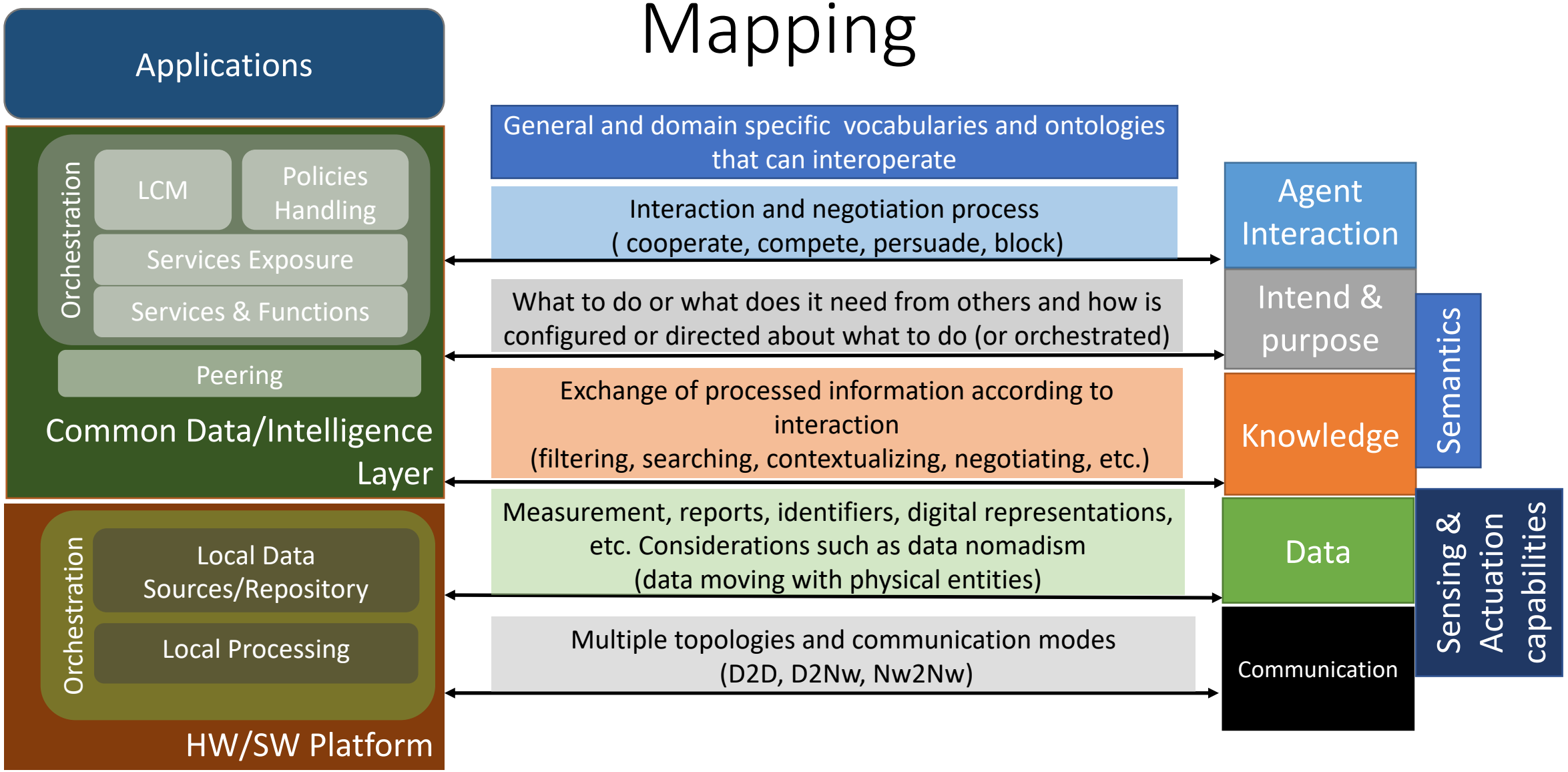
Intelligence provisioning (Model distribution)



Training Execution Distribution



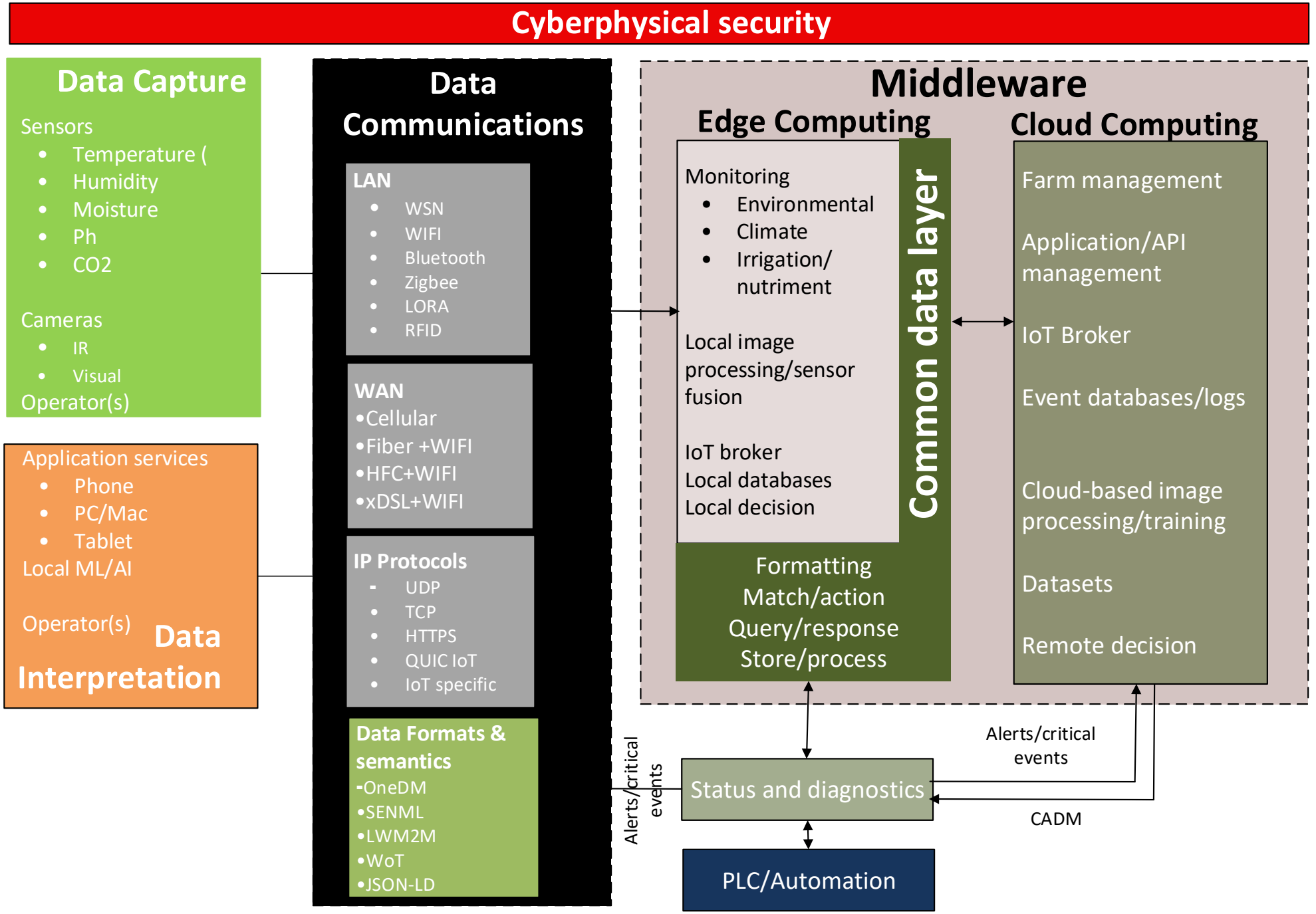
Edge-Computing Fabric Stacks Mapping



Edge architecture stack

Functional stack

Common Data Layer in an Application context



Summary

- One of the main challenges in computational intelligence is the lack of interoperability between AI components
- Such issue is clearly accentuated at the data layer (e.g., incompatible data types and formats, heterogeneous APIs and platforms required to execute the AI models, inconsistent life-cycle management and policies)
- A Common Intelligence-Data Layer is needed.

Next Steps

- Interoperability requirements analysis (according to different scenarios)
- Common Data Layer taxonomy
- "Common Data Layer for COIN" draft
  - Possible legacy with the "Edge Data Discovery for COIN" draft

Additional References:

Distributing Intelligence to the Edge and Beyond
Intelligence Stratum for IoT. Architecture Requirements and Functions