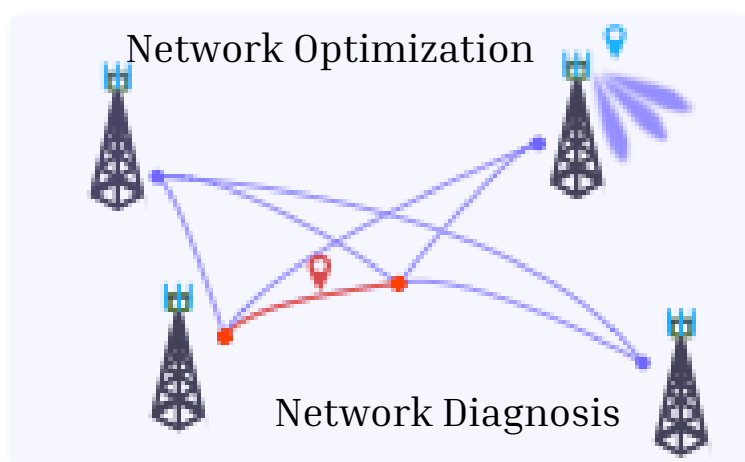


**LOCALIZATION AND ANALYTICS ON-DEMAND EMBEDDED
 IN THE 5G ECOSYSTEM,
 FOR UBIQUITOUS VERTICAL APPLICATIONS**

SPECIFIC OBJECTIVES:

- System architecture with built-in security and privacy
- 5G Terminal Localization, a cellular-based localization thought of as an evolving functionality in terms of performance
 - Integration with non-3GPP localization technologies (GNSS, WiFi, Bluetooth, etc.) and device-free localization
 - Analytics, Learning and Inference: analyse the behaviour of devices and targets
- Network management: exploit localization information and advanced data analytics to enhance network management
 - Empower exemplary localization-based services: *analytics as a service*

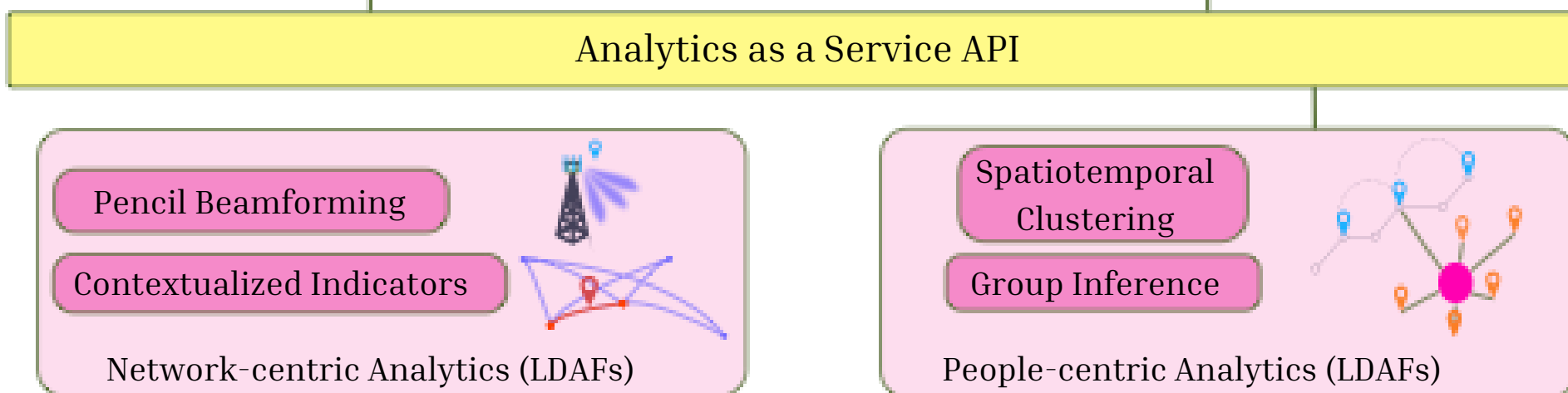
APPLICATIONS



Definition of location enabled network management functionalities grouped under four main use cases.

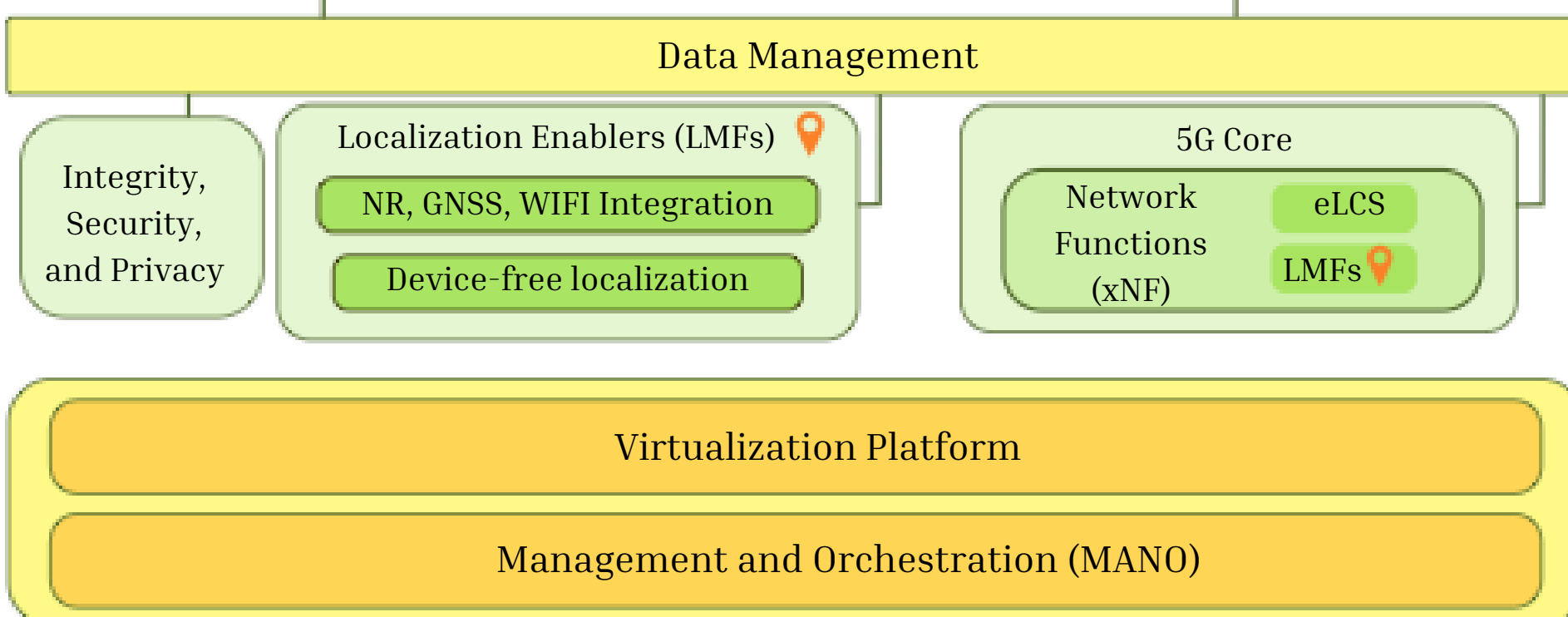
Definition of scenarios and UCs: the operators' perspective and indicative vertical application needs.

ANALYTICS SERVICES



Validation of machine learning and neural networks through open data sets for extracting analytics targeting several LOCUS use cases

GEO & NETWORK DATA



Techniques to capture the IMSI/SUPI for testing location security and adaptive attack detection strategies

Development of innovative signal processing techniques for enhanced 5G localization and considering also the integration with heterogeneous technologies

Framework for device-free localization in cluttered environments: theoretical bound and experimental results with mmWave systems

Functional architecture of the LOCUS Platform designed along with exploring initial deployment options and mapping to standards.