Capital Digital

MADRID

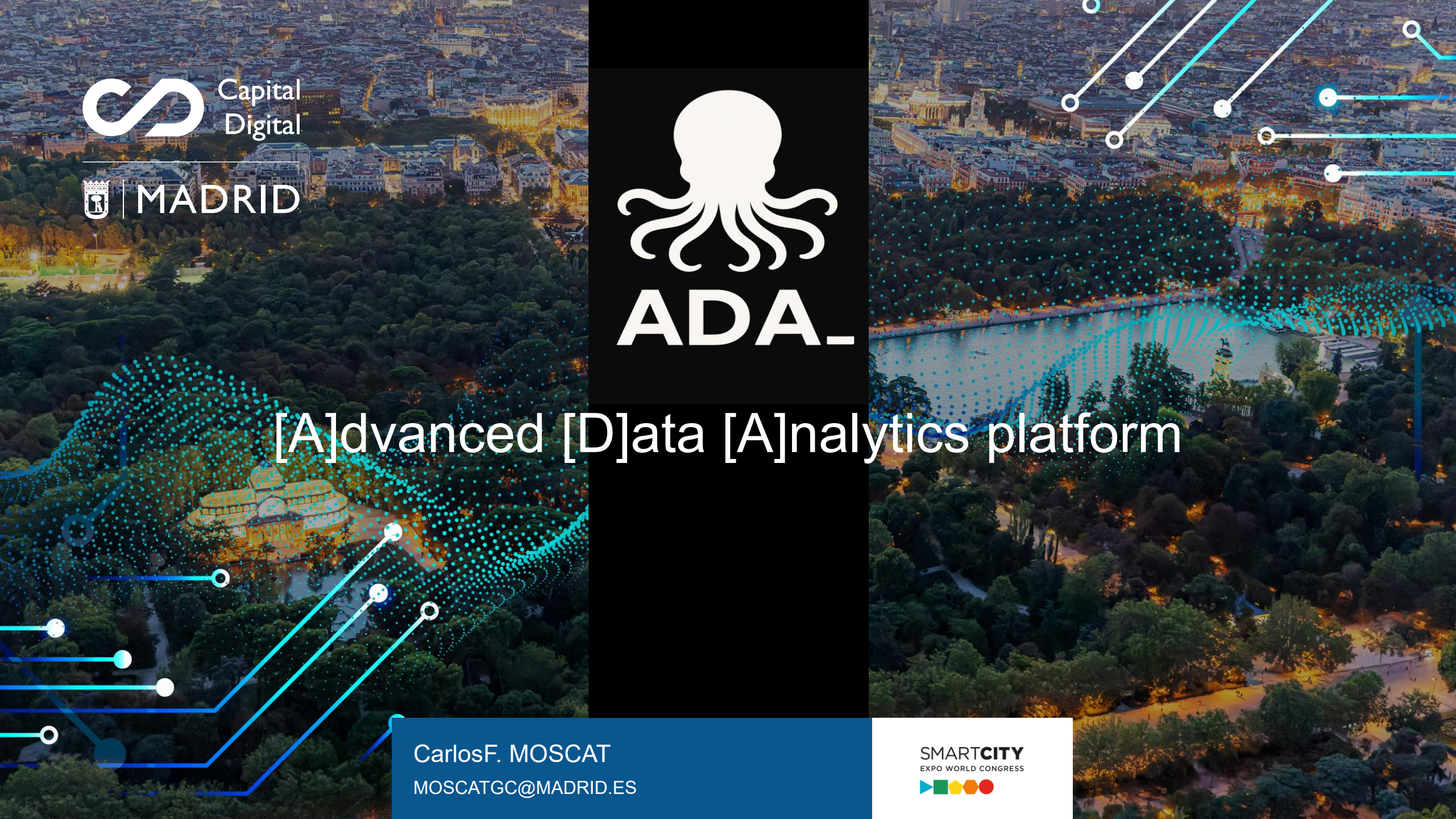
Parque Tecnológico VALDEMINGÓMEZ

INNOVATION PROJECTS

Dpto. de Innovación, Promoción e Información.

DG PTV / ÁREA MEDIOAMBIENTE

SMARTCITY EXPO WORLD CONGRESS



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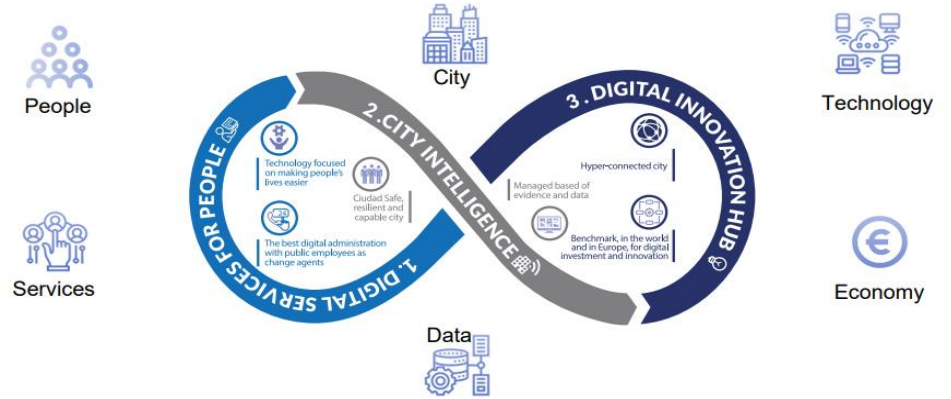
MADRID, DIGITAL CAPITAL – CITY INTELLIGENCE



Strategic objective 2: *City Intelligence*

In order to **boost** this strategic objective, the City of Madrid has various **enabling and driving projects for transformation**, structured in the two strategic axes:

Strategic axis 3:

Safe, resilient and capable city

00. THE PLATFORM

PLATFORM OVERVIEW

ADA stands for Advanced Data Analytics, a platform designed to manage data in complex environments.

INNOVATIVE DESIGN

The platform's design evokes innovation and digital transformation through a technological backdrop.

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01. ARCHITECTURE

MODULAR CEPHALOPOD DESIGN

ADA's architecture uses a modular design inspired by a **cephalopod** structure for organic and efficient connections.

CORE AND FUNCTIONAL MODULES

The modules ADAcore, ADAlitica, ADAvia, ADAcomms, and MINION sequentially build up the system's capabilities.

HIGH AVAILABILITY AND SCALABILITY

The architecture ensures **high availability** and scalability to meet dynamic system demands effectively.

INTEGRATION WITH EXTERNAL SYSTEMS

ADA integrates smoothly with **external systems** like FCC Vision and iPRA Weighing System for extended functionality.

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02. SERVICES

INTUITIVE UI/UX INTERFACES

ADA provides user-friendly and intuitive interfaces that enhance overall user experience and accessibility.

NATIONAL SECURITY SCHEME COMPLIANCE

Security measures comply with the **National Security Scheme** (ENS) to protect data and systems effectively.

2-FACTOR AUTHENTICATION

Two-factor authentication adds an extra layer of security to ensure user identity verification.

SMART PLANNING (re-SCHEDULING) SOLUTIONS

Smart **planning tools** support efficient management for both plants and individual users.

ROLE-BASED MODEL

A structured model based on user **roles** enhances operational reliability and competence.

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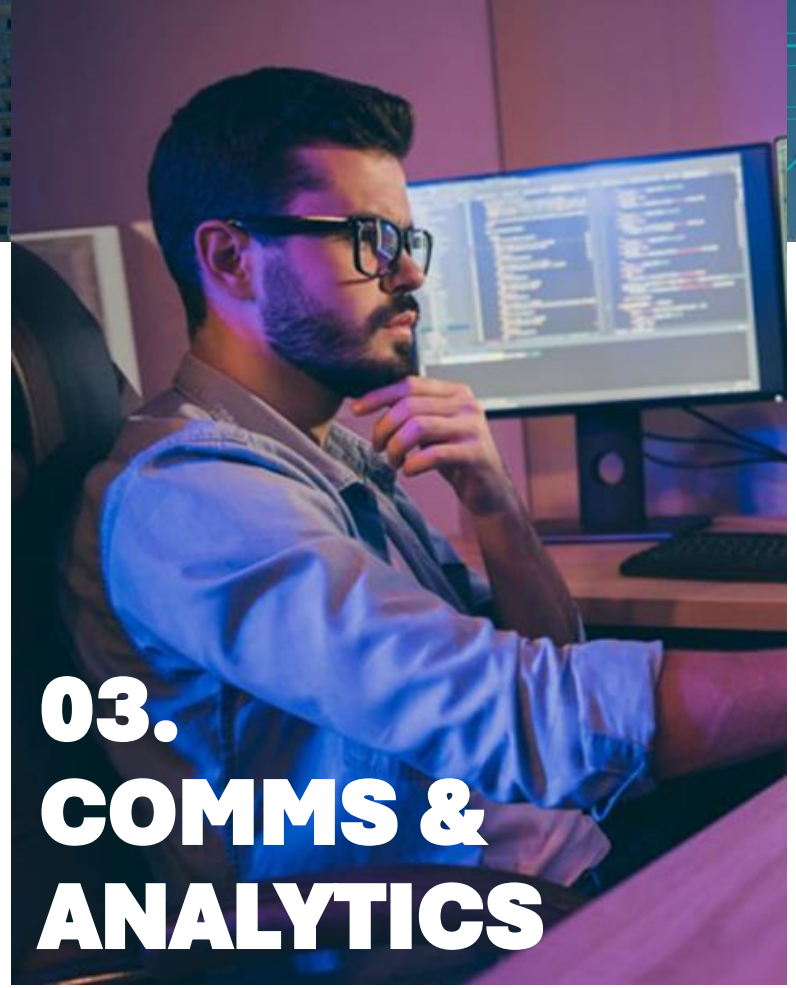


03. COMMS & ANALYTICS

SECURE CONNECTIVITY INFRASTRUCTURE

ADACOMMS uses **5G**, **satellites**, and redundant systems to maintain secure, encrypted end-to-end communication.

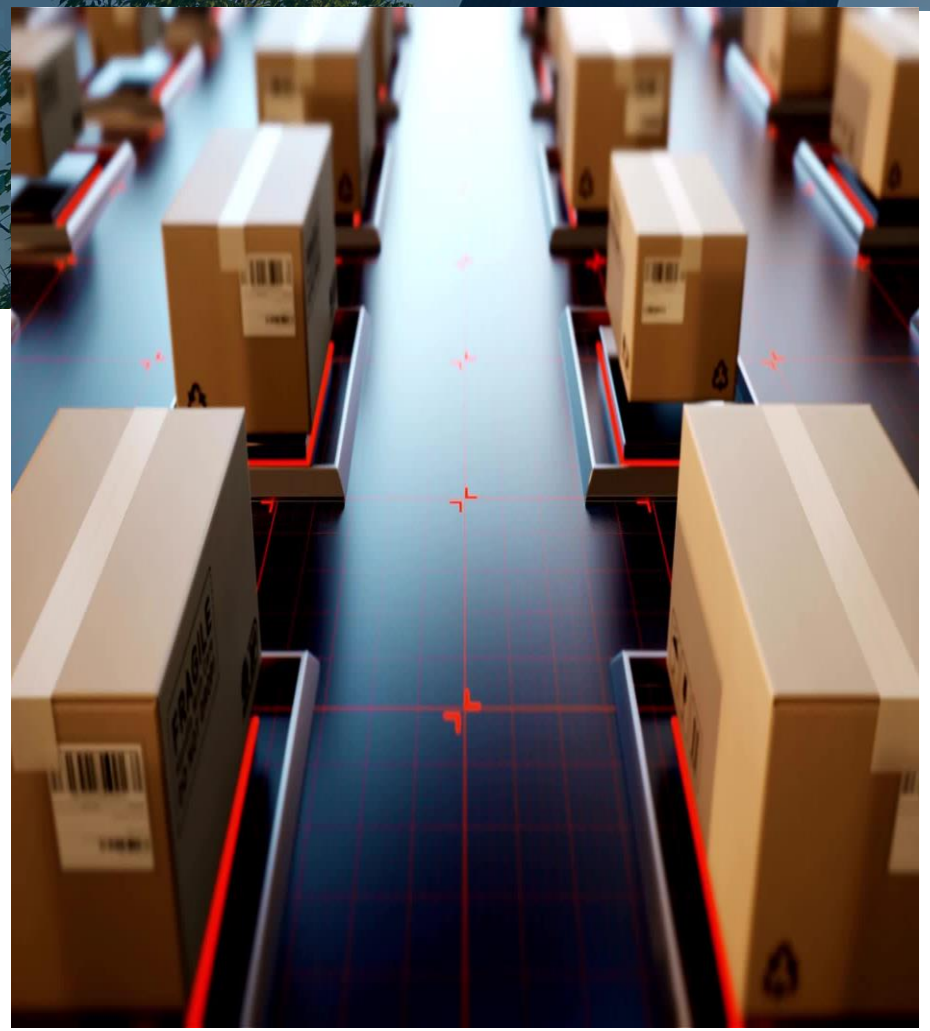
REAL-TIME DATA PROCESSING

ADALITICA manages data ingestion, normalization, and **analysis** in real time with a flexible pay-per-use model.

INTEGRATED SYSTEM WORKFLOW

These components work together seamlessly to deliver a comprehensive connectivity and data processing solution.

04. WEIGHING SYSTEM



AUTONOMOUS WEIGHING SYSTEM

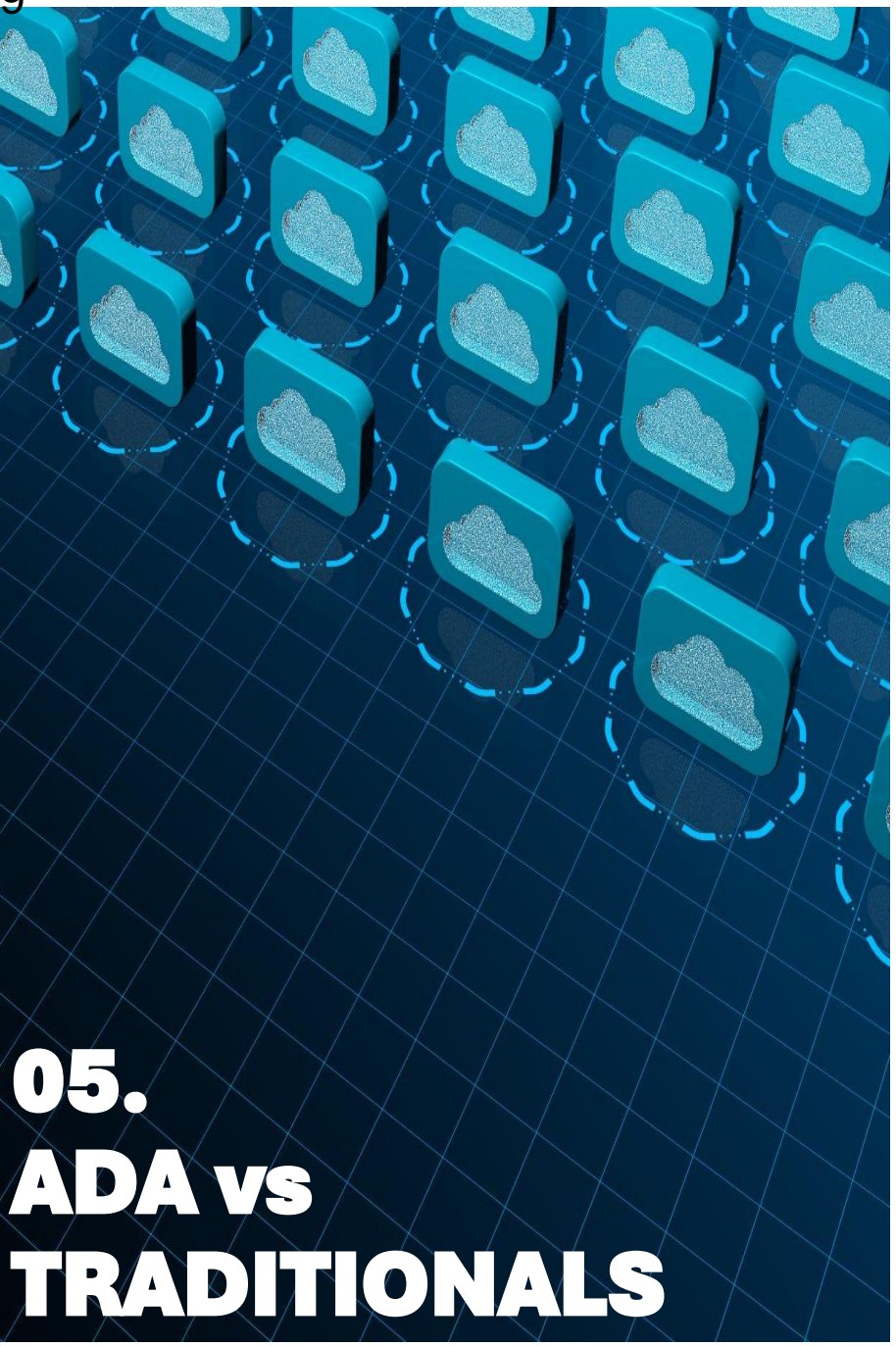
ADAVIA combines hardware and **open software** to create a fully autonomous weighing system that operates independently and efficiently.

SYSTEM INTEGRATION AND CONTROL

The system synchronizes with ADACORE and integrates infrastructure with a **Remote Control Center** for seamless transit management.

PROJECT BUDGET (RV) AND SCHEDULE

The project highlights include a clear budget (aka RV) and execution timeline ensuring efficient implementation and innovation in logistics automation.



05. ADA vs TRADITIONALS

PLATFORM ARCHITECTURE

ADA is decoupled and **cloud-based**, enabling flexibility and scalability, unlike Traditional IT system's monolithic on-premise design.

SECURITY AND ACCESSIBILITY

ADA includes advanced security features like ENS **encryption** and **internet availability**, whereas Traditionals lacks advanced security measures.

ADVANCED FEATURES

ADA supports model-based management, process automation, and **satellite communications**, surpassing Traditional’s capabilities.

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VERSATILE OPERATIONAL SCENARIOS

ADA adapts to various operational scenarios including visits, batch planning, transport, and fleet management.

INTEGRATION WITH INDUSTRIAL SYSTEMS

ADA integrates seamlessly with scales, SCADA, and plants, enhancing administrative and logistical processes.

REAL-WORLD APPLICATION

The platform demonstrates practical applicability across diverse environments, connecting modules with real operations.

DIGITAL TRANSFORMATION IMPACT

Projects collectively consolidate the digital transformation, modernizing and improving system functionality while abandoning the use of paper on the transport model and the real-time rescheduling of the incoming waste flow.

06. APPLICATION and CONCLUSIONS

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ADA_

THANK YOU!

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