

Why AI? Why now?

It's not a new trend, it's a structural change

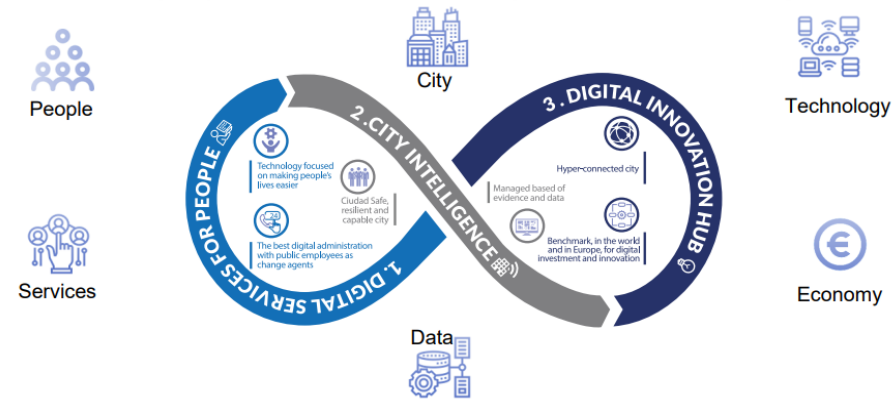
Like electricity or the Internet, AI is a general-purpose technology:
it reshapes everything it touches

People • Processes • Public service





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



Program 5. SUSTAINABLE AND DIGITAL INTELLIGENCE FOR MANAGEMENT



WHAT CAN AI BRING TO THE PUBLIC SECTOR?

Reading and distilling large volumes of information

to support analysis and
decision-making



Transparency and auditability

to detect inconsistencies
and anomalous patterns



Detecting patterns and anticipating needs

in public services, mobility,
procedures, etc.



Decision-making support

scenario simulation,
intervention prioritisation, etc.

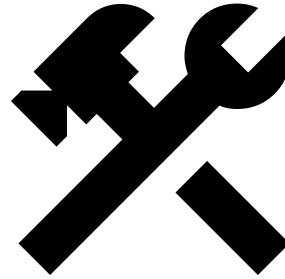


AI doesn't replace, it empowers public services



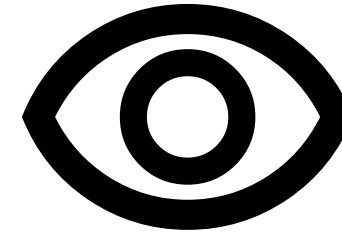
Understand

processes and
meaning



Create

text, summaries,
insights



See

images and
patterns

From understanding → to generating → to perceiving the world

These three capabilities are the base for everything else AI can do



FROM GENERIC AI → TO MISSION-ALIGNED AI

1.- Foundation

Large models (LLMs, CNNs, etc.) trained on public, *multilingual* data sources

2.- Tailored / Mission aligned AI

Models aligned with *our* knowledge, rules and domain

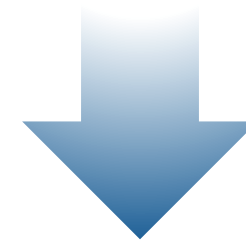
3.- Integrated AI

Agentic AI: systems that *reason*, adapt and support action

Generic
capability



Domain
Expertise



Operational
impact

AIOT: ARTIFICIAL INTELLIGENCE FOR IOT

- **Edge computing**

Relocating computing capacity to peripheral areas of the infrastructure

- **Hybrid architectures**

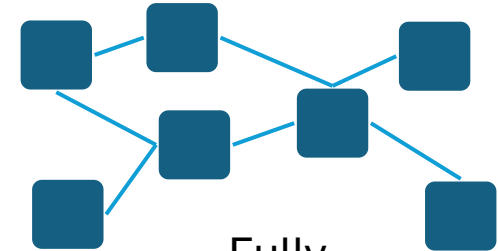
Balancing power consumption, scalability and real-time response.

- **Embedded AI algorithms**

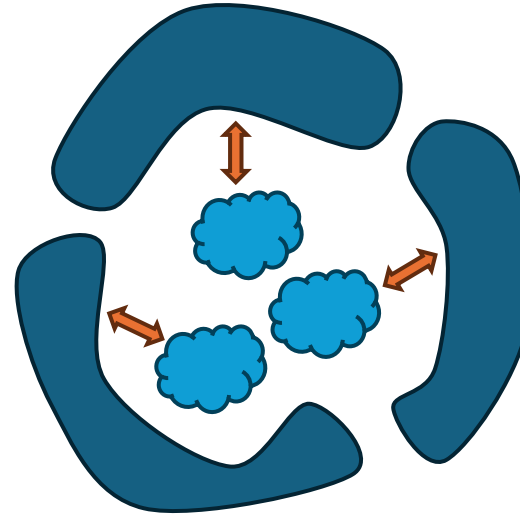
Smart IoT devices running energy-efficient algorithms, saving bandwidth and enabling autonomous response.



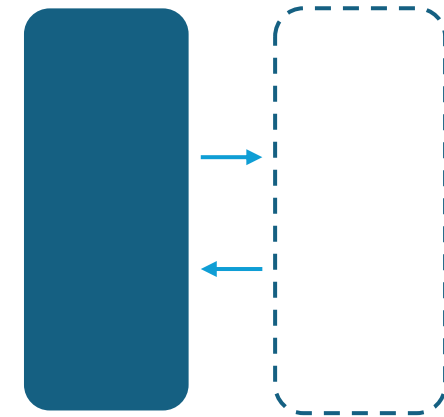
Hierarchical



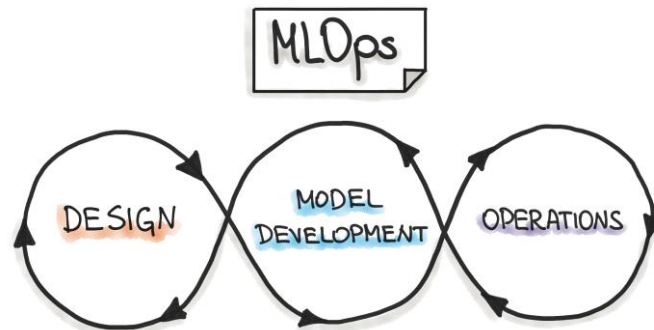
Fully distributed



Clustered edge-cloud



Hybrid digital twin-enabled



ARTIFACT VERSIONING AND MLOPS

Data version control

Enable data provenance, lineage identification, auditable models/algorithms.

Data pipelines versioning (orchestration)

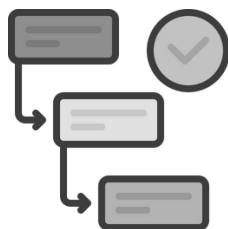
Reproducible data processing, improved documentation and bug fixing.

Models/algorithms versioning

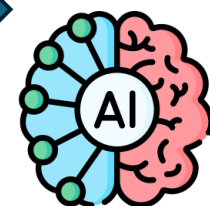
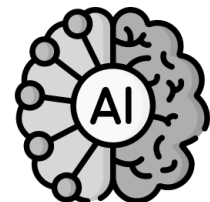
Model publication, reusability and productization.



Data versioning



Data orchestration

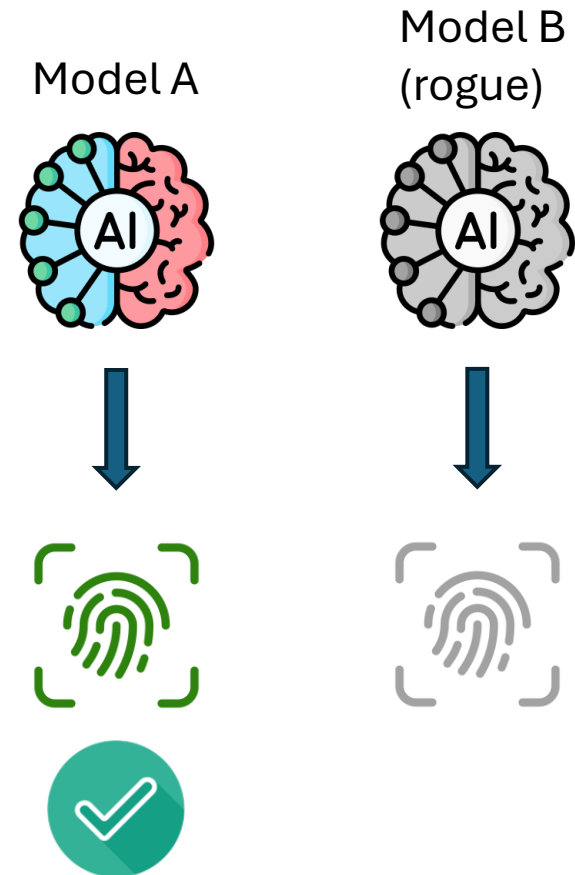


Model
versioning

MODEL SECURITY: FINGERPRINTS

- **Generating fingerprints to authenticate legitimate models**
- **Lightweight protection against intrusions or model impersonation**
- **Integration with model versioning**

Preventing malicious artifact substitution





Looking ahead ...

AI that doesn't replace, it empowers

It saves time for what truly matters:
serving people and creating public value