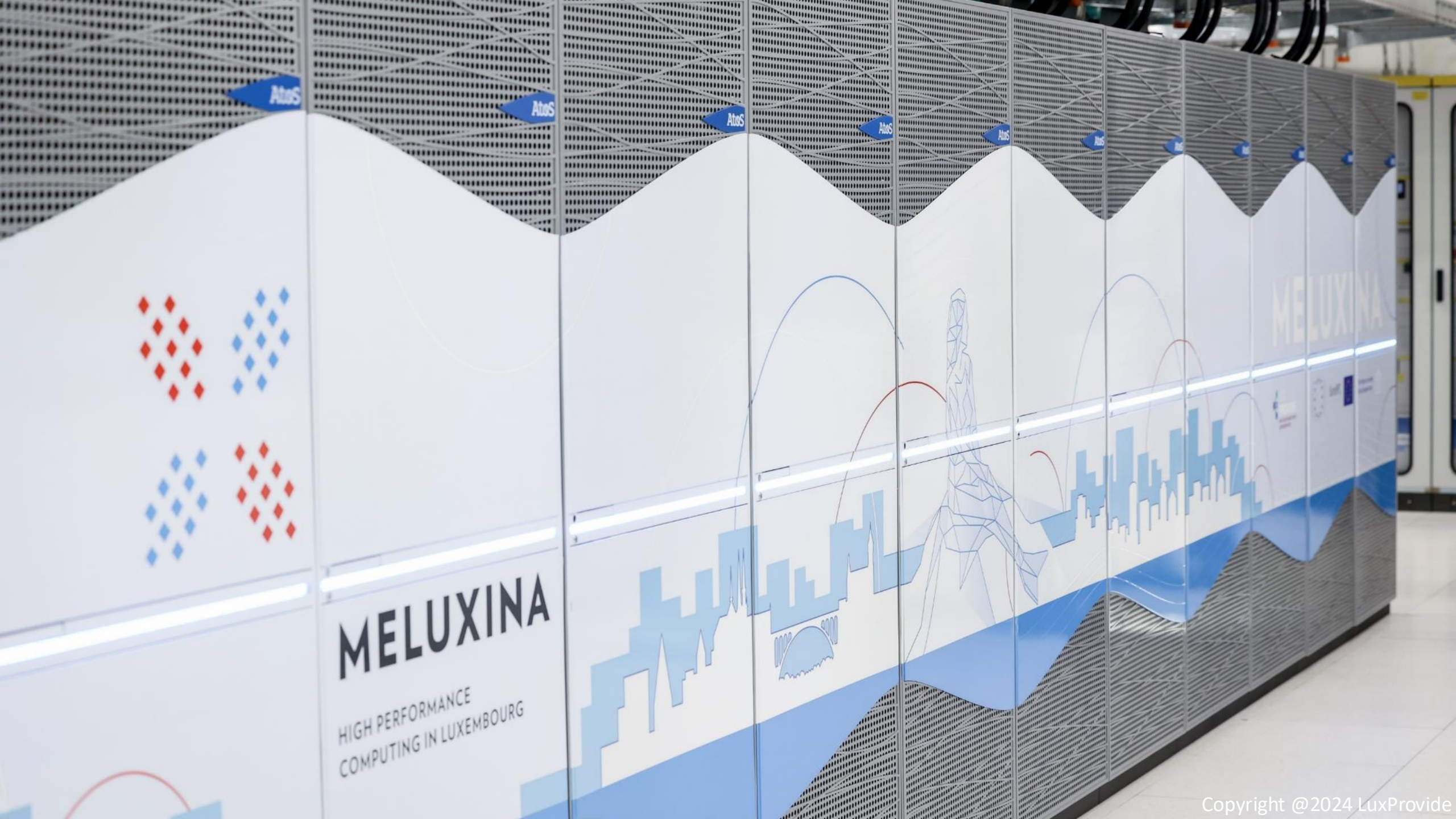
LUX
PROVIDE
FOLLOW US!
EXPLORING
THE FRONTIERS
OF DIGITAL INTELLIGENCE
Our mission is to fuse data science and supercomputing capabilities,
ensuring accuracy, security, and sustainability for a thriving future.
Arnaud Lambert
AI 4 You



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LUXEMBOURG AS A DIGITAL TRUST CENTER IN EUROPE

- TIER IV DATA CENTRES
- FIBRE CONNECTIVITY
- 5G CONNECTIVITY
- WORLDWIDE CORE CONNECTIVITY
- MELUXINA SUPERCOMPUTER
- NATIONAL DATA EXCHANGE PLATFORM
- NATIONAL SOVEREIGN CLOUD

European High Performance Computing Joint Undertaking

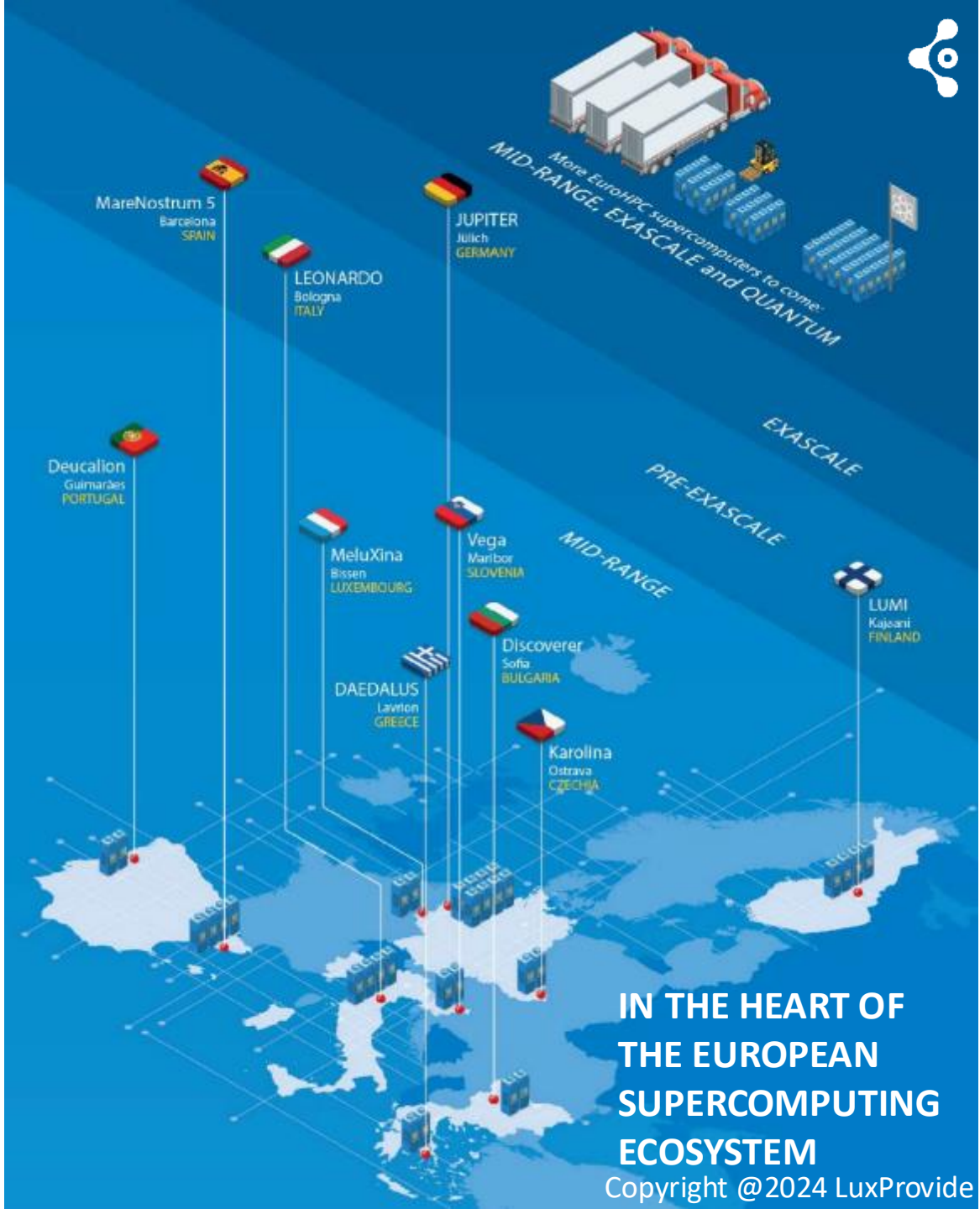
Over 8 billion Euro for cutting-edge supercomputing and quantum computing ecosystem in Europe

European Network of Competence Centers in HPC

United network of HPC actors in 33 European countries to foster adoption of HPC

European Master for HPC

Pan-European Master's program by leading educational institutions focused on HPC



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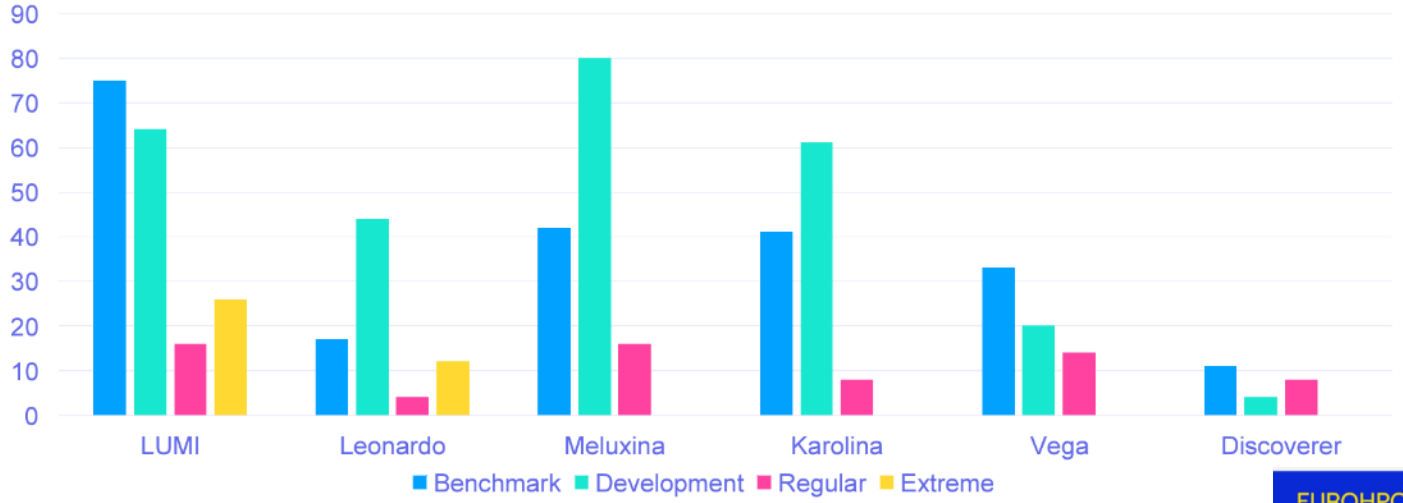
596 active projects distribution per system per type of EuroHPC JU access modes



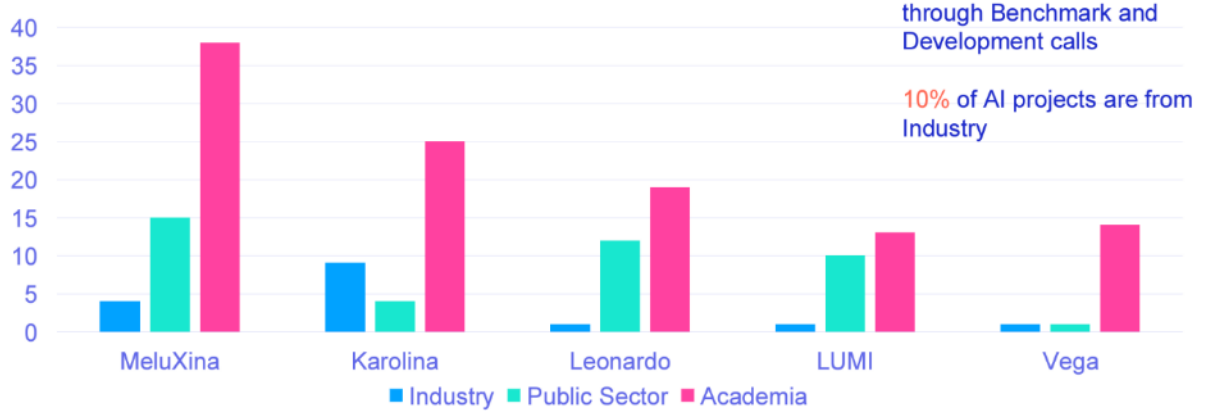
MeluXina runs
25% of all EuroHPC JU projects

MeluXina runs
35% of all EuroHPC JU AI projects

167 active AI projects distribution per system per type of applicant

94% of projects were applied through Benchmark and Development calls

10% of AI projects are from Industry



(*) Leonardo was available for access since June 2023
(**) LUMI-G was on maintenances few times during the 2023 as it was newly installed

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WE SERVE

RESEARCH

BUSINESS

PUBLIC

700 projects | **2400 users** from Luxembourg, Europe and beyond

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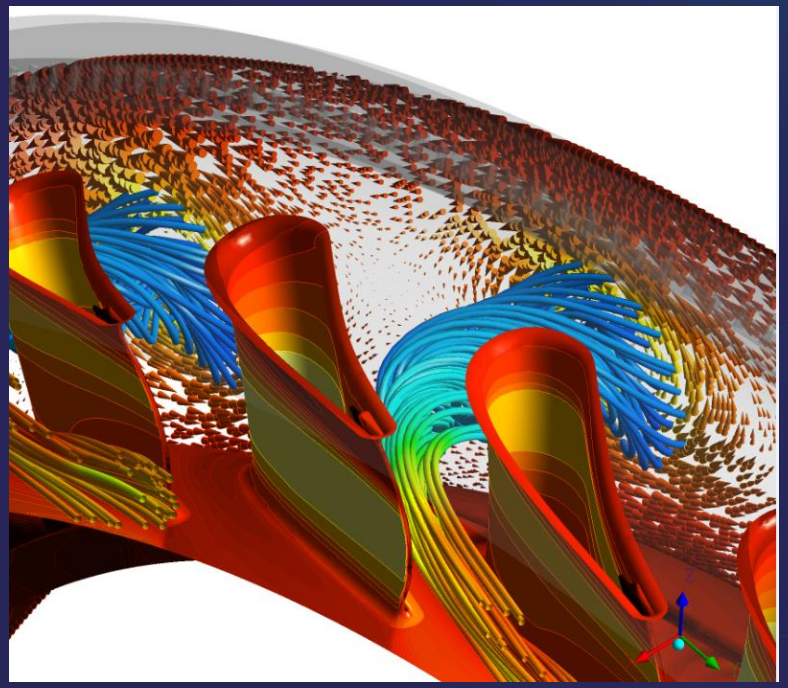
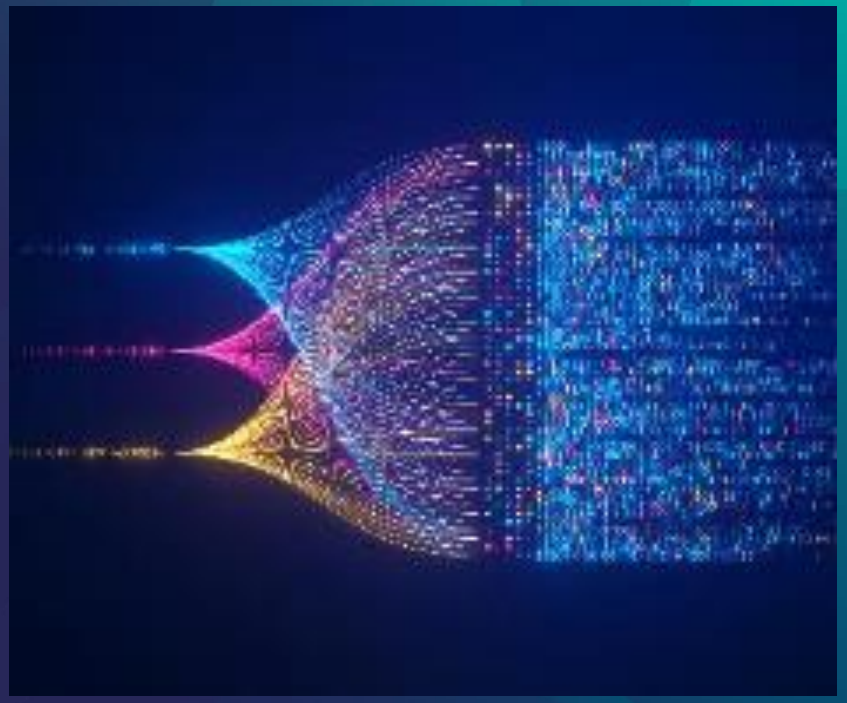
WE SERVE

Numerical Simulation



Data Analytics



AI

700 projects | **2400 users** from Luxembourg, Europe and beyond

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SUPERCOMPUTING 4 YOU

INITIATE

CASHBACK 80

POC/Contract

https://www.luxprovide.lu/programs/

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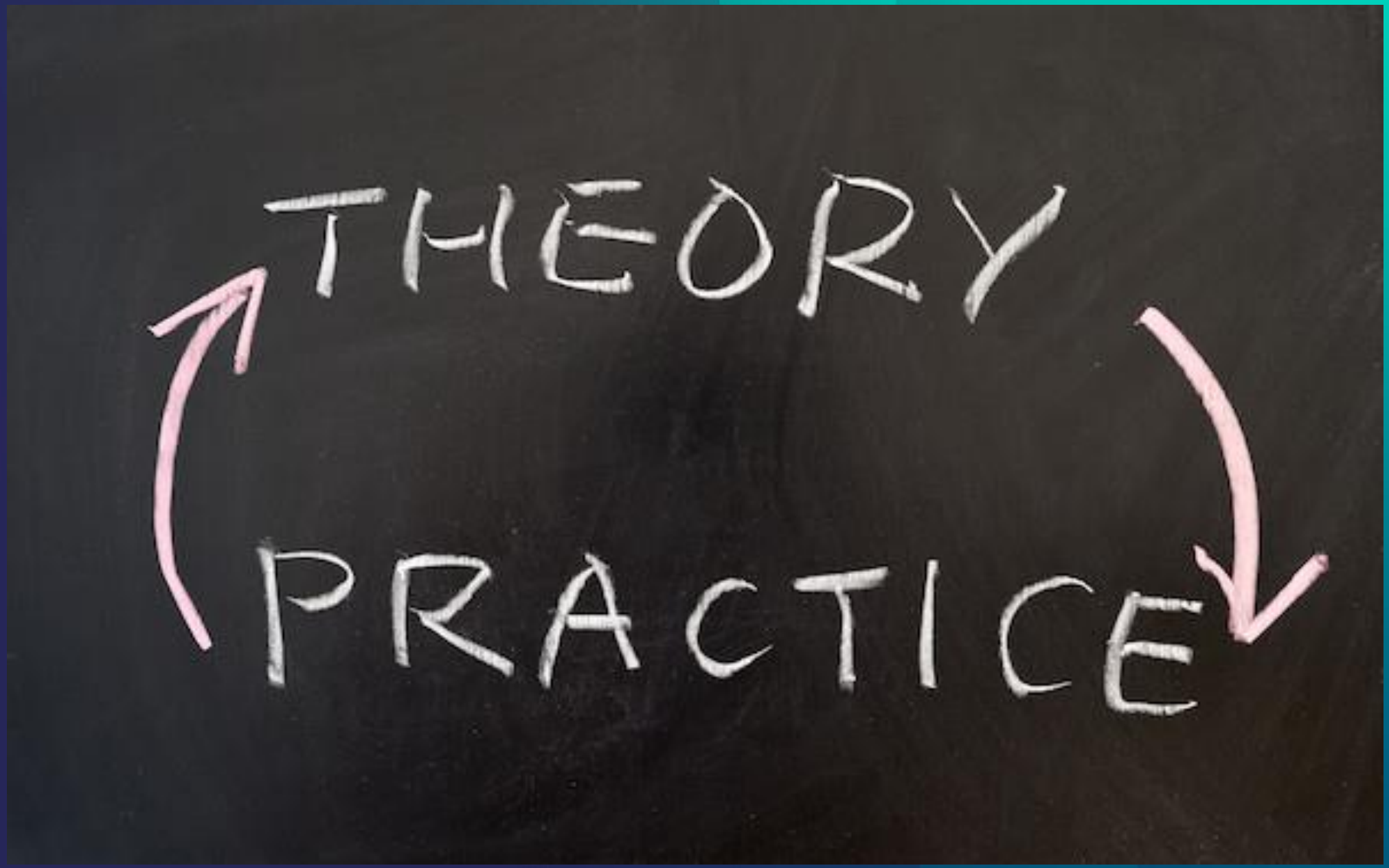
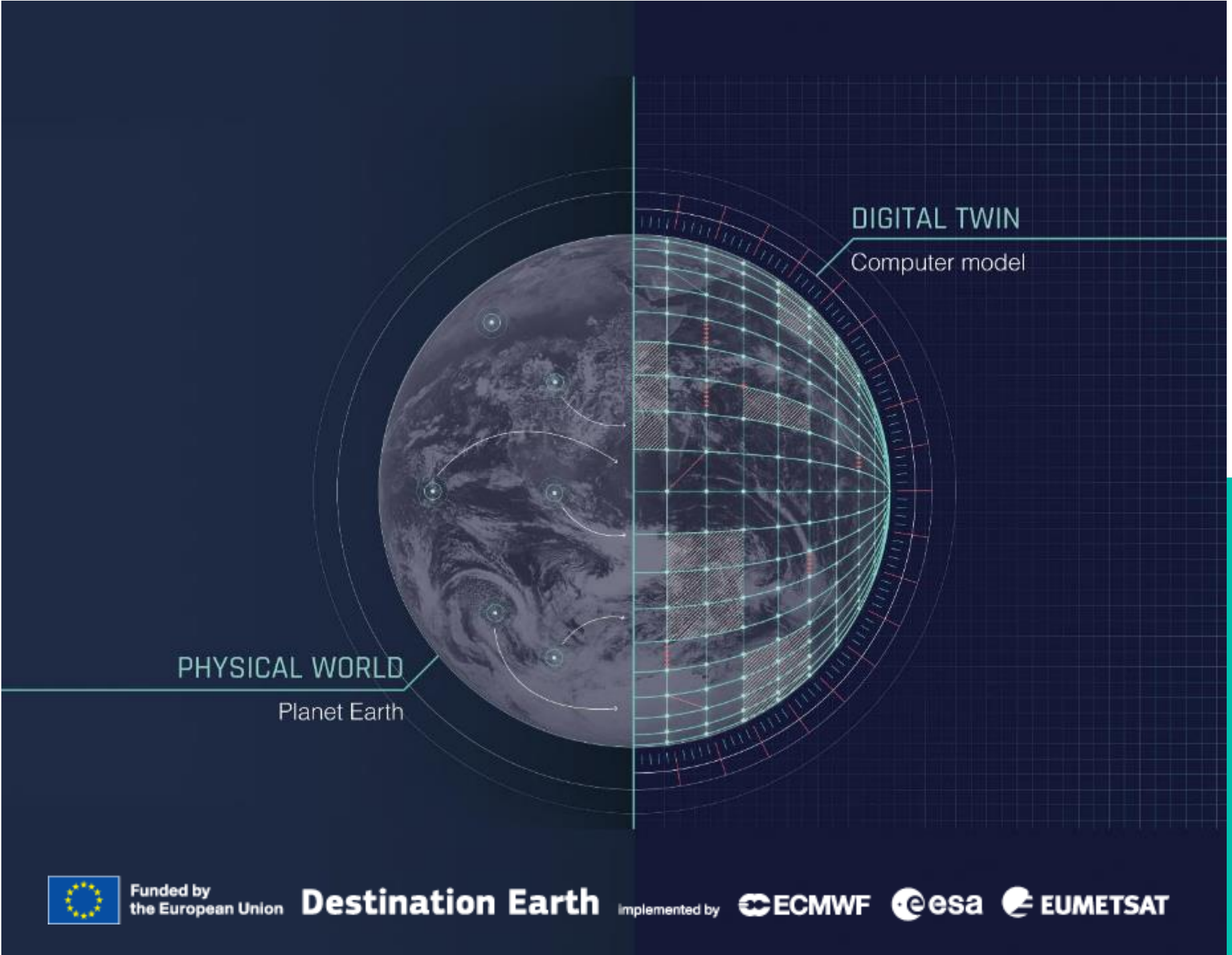

THEORY
PRACTICE



Funded by the European Union

Destination Earth implemented by ECMWF esa EUMETSAT

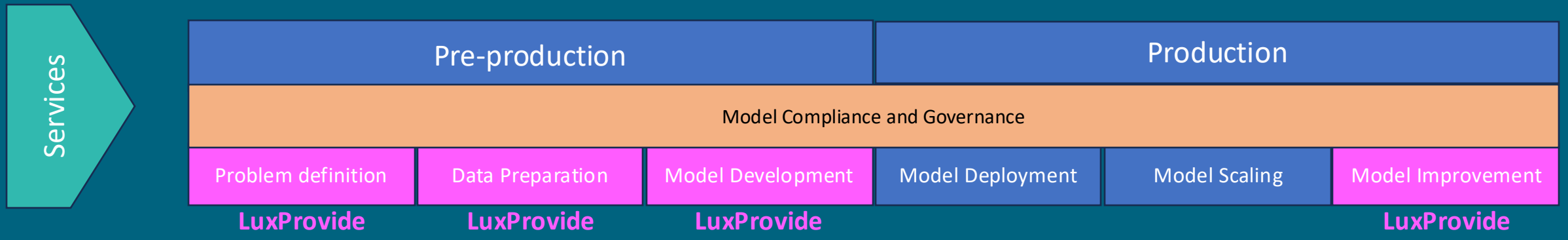
BUILD A DIGITAL REPLICA OF THE EARTH SYSTEM BY 2030

DIGITAL TWIN

BETTER MONITORING AND MODELING ENVIRONMENTAL CHANGES, PREDICTING EXTREME EVENTS, ADAPTING POLICY MAKING

LuxProvide AI Factory approach

The trustful, secure and sovereign environment for AI pre-production and continuous improvement



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LuxProvide AI Factory approach

The trustful, secure and sovereign environment for AI pre-production and continuous improvement

Services

Pre-production

Production

Model Compliance and Governance

Problem definition	Data Preparation	Model Development	Model Deployment	Model Scaling	Model Improvement
LuxProvide	LuxProvide	LuxProvide			LuxProvide

Platform

Expertise

State-of-the-art HPC

AI SW & Frameworks

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LuxProvide AI Factory approach

The trustful, secure and sovereign environment for AI pre-production and continuous improvement

Security

Data Sovereignty

Data Center Tier IV

Private connection

ISO 27001

Services

Pre-production			Production		
Model Compliance and Governance					
Problem definition	Data Preparation	Model Development	Model Deployment	Model Scaling	Model Improvement
LuxProvide	LuxProvide	LuxProvide			LuxProvide

Platform

Expertise

State-of-the-art HPC

AI SW & Frameworks

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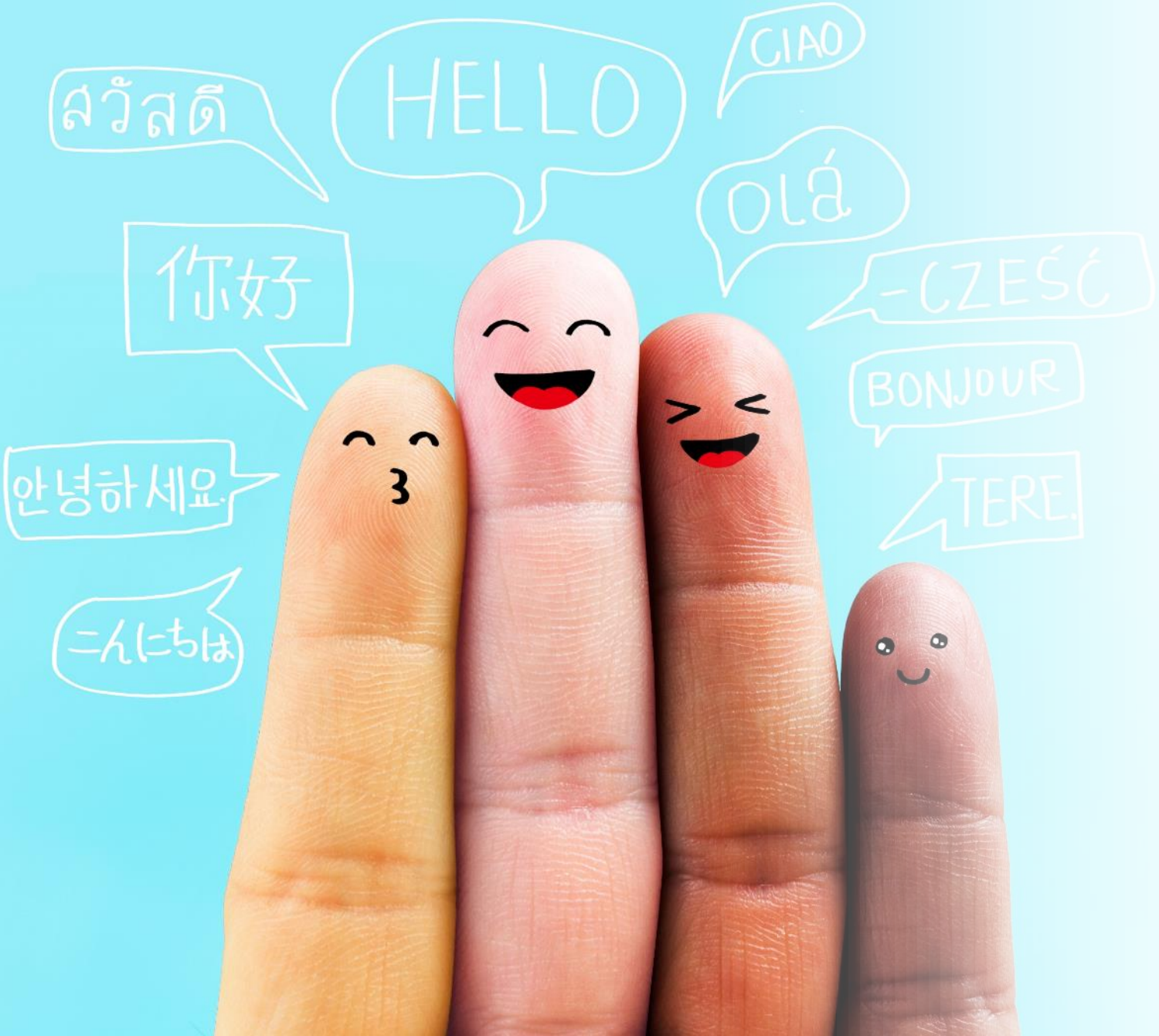

eTranslation

The European Commission's Machine Translation system

European Commission

AI | NATURAL LANGUAGE PROCESSING

TRANSLATE ANY EU LANGUAGE & OFFERS SEVERAL STYLES OF TRANSLATION

LXP Private AI

Built for Your Organization

A secure, sovereign and resilient platform to develop, fine tune or experiment AI Models

+ System Knowledge

+ People Knowledge

+Workforce Experiences

BUILD YOUR PRIVATE MODEL(S)

DATA ANALYTICS LLM - RAG

CONTEXTUALIZED TAILORED MODEL(S)

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Private AI Use case with Financial Institution

TEXT ANALYSIS

Document compliance verification

LLM | RAG

1- Selection of LLM model: Deploy several LLM models on Meluxina with private Link to frontend (chatbot) hosted on customer premises

2- LLM model Training: Fine tune LLM model best suited for use case with customer data

DEVELOP CUSTOM MODEL FOR TARGETED TEXT GENERATION IN CONTROLLED SETTINGS

HARNESS THE POWER OF BIO FOUNDATION MODELS

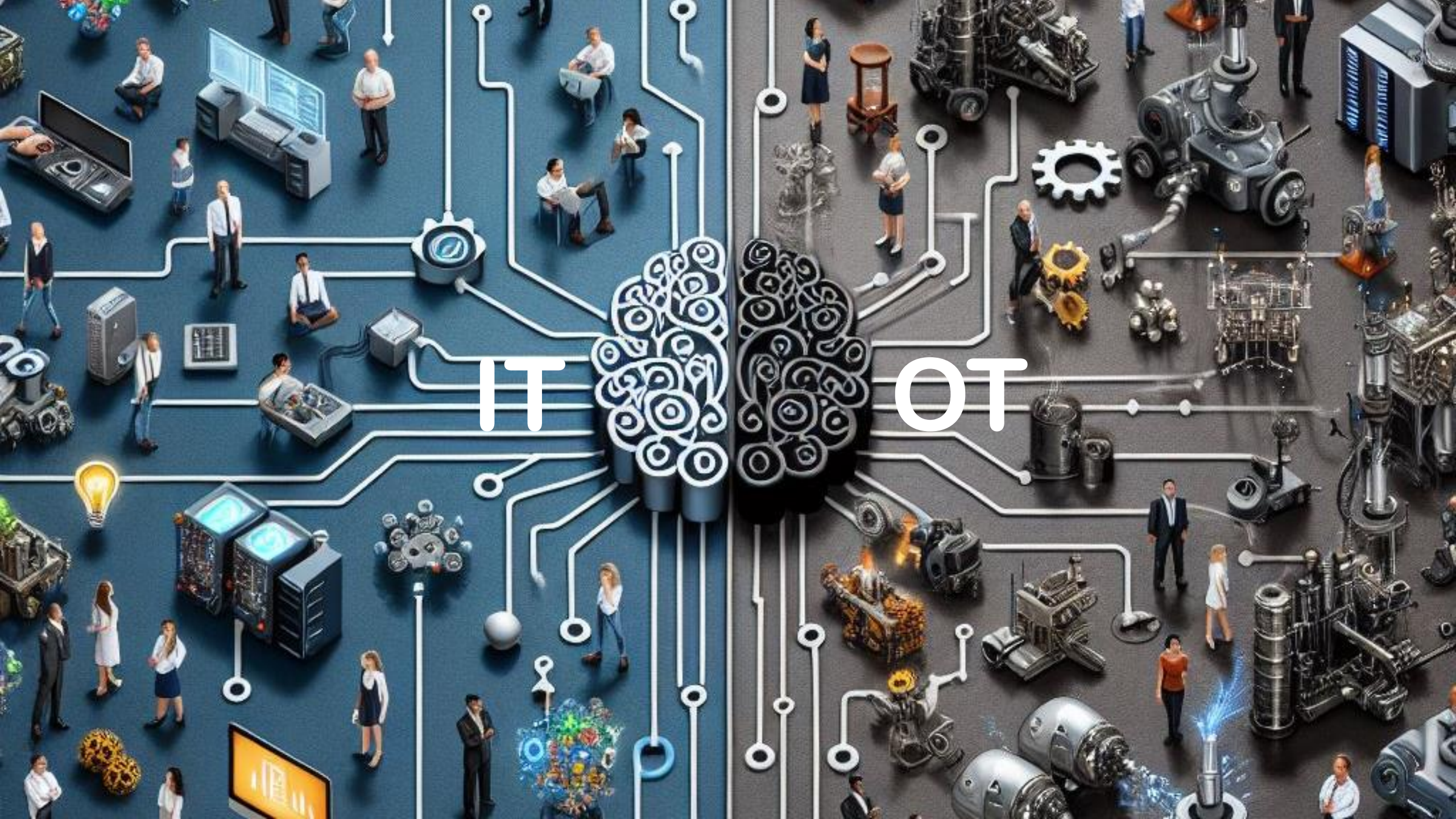
LARGE FOUNDATION MODELS

SHIFTING FROM LAB-BASED (IN VITRO) RESEARCH TO MACHINE-BASED (IN SILICO) METHODS

Current AI commercial engagements

Finance	Space	Industry	Services

LEARN
DOING


IT
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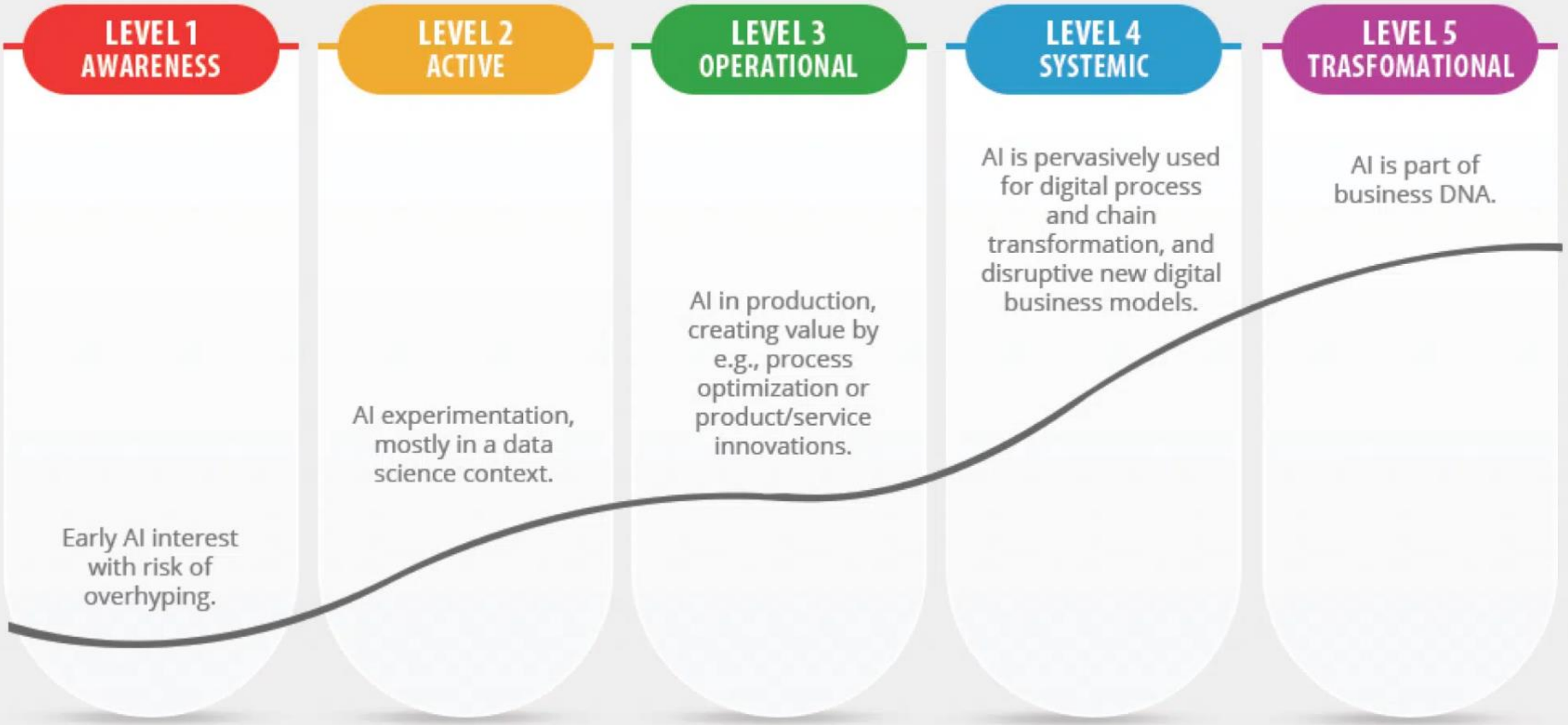
GARTNER AI MATURITY MODEL



Source: Gartner | Infographic design by Antonio Grasso

deltalogix.blog

Top Strategic Technology Trends 2024

1. AI Trust, Risk and Security Management
2. Continuous Threat Exposure Management
3. Sustainable Technology
4. Platform Engineering
5. AI-Augmented Development
6. Industry Cloud Platforms
7. Intelligent Applications
8. Democratized Generative AI
9. Augmented Connected Workforce
10. Machine Customers

Source: Gartner

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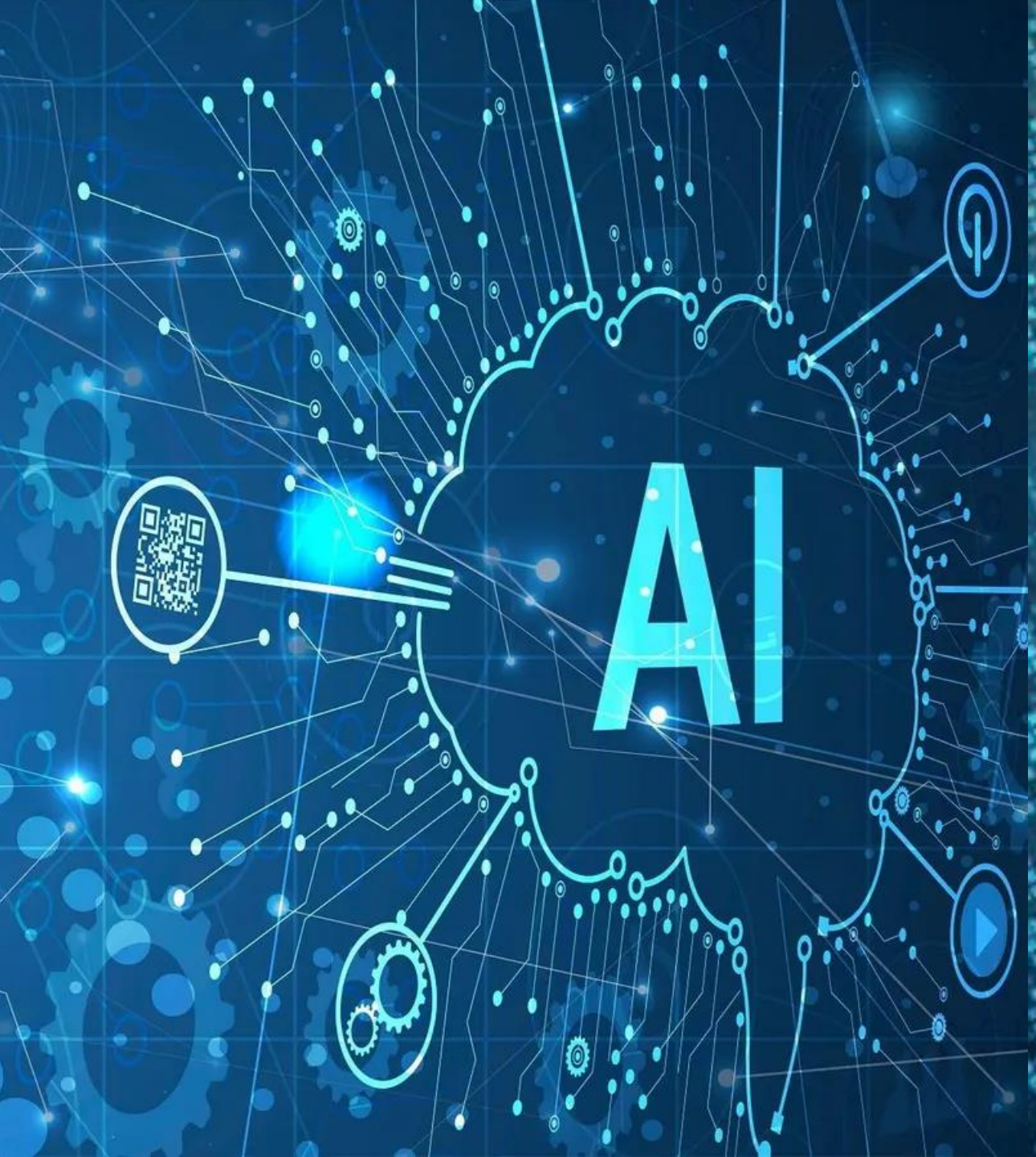
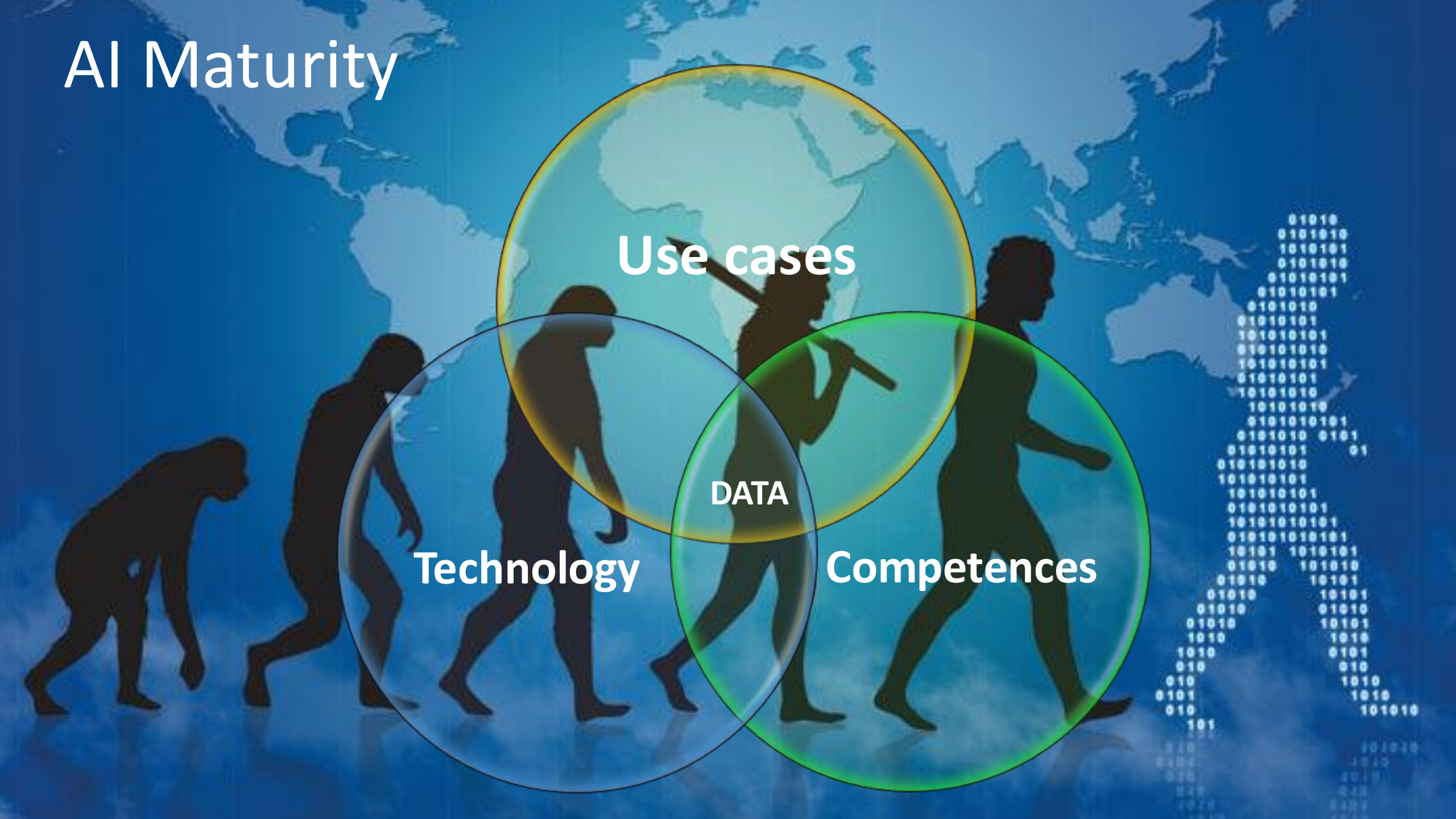

AI

SKILLS

ONE SIZE
DOESN'T FIT ALL

AI Maturity



LET'S MAKE IT HAPPEN