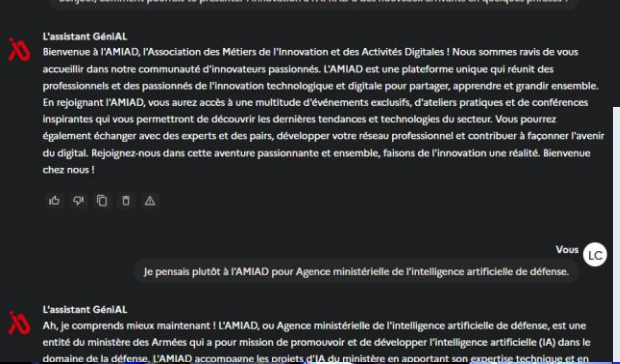


Defense AI

FORUM TERATEC 2026

Loïc Cudennec, Dr HDR
Agence ministérielle pour l'IA de défense – AMIAD
Ministère des Armées







Organizational AI (everyday tasks)

Administration
Logistics
Training
Health

Operation AI (decision, C2)

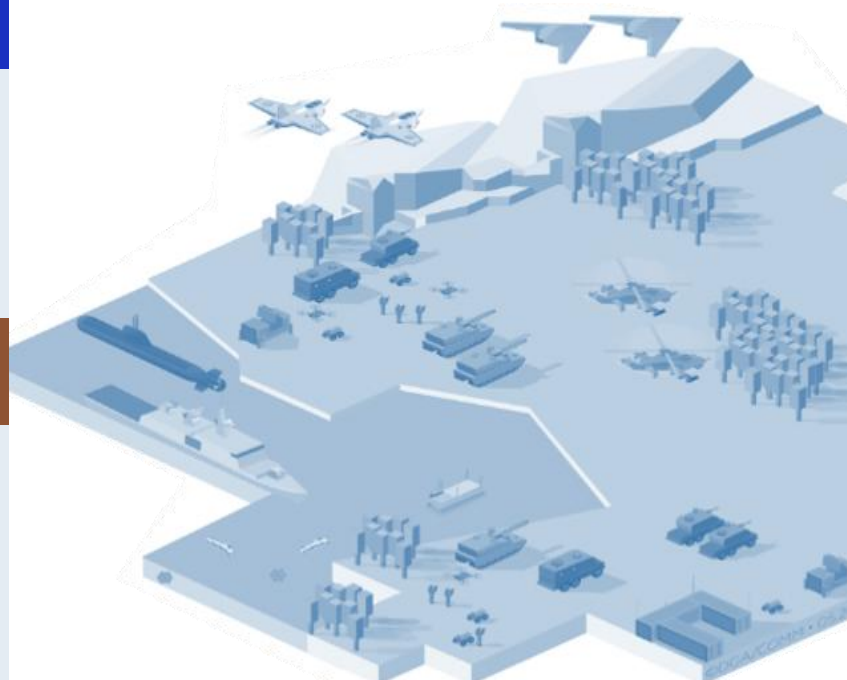
Decision making
Command center
Cybersecurity
Intelligence

Embedded AI (field)

Collaborative combat
Robotics / drones
Smart sensors
Wearables

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Deploying AI within a 270 000-person organization



Organizational AI
(everyday tasks)

Operation AI
(decision, C2)

Embedded AI
(field)

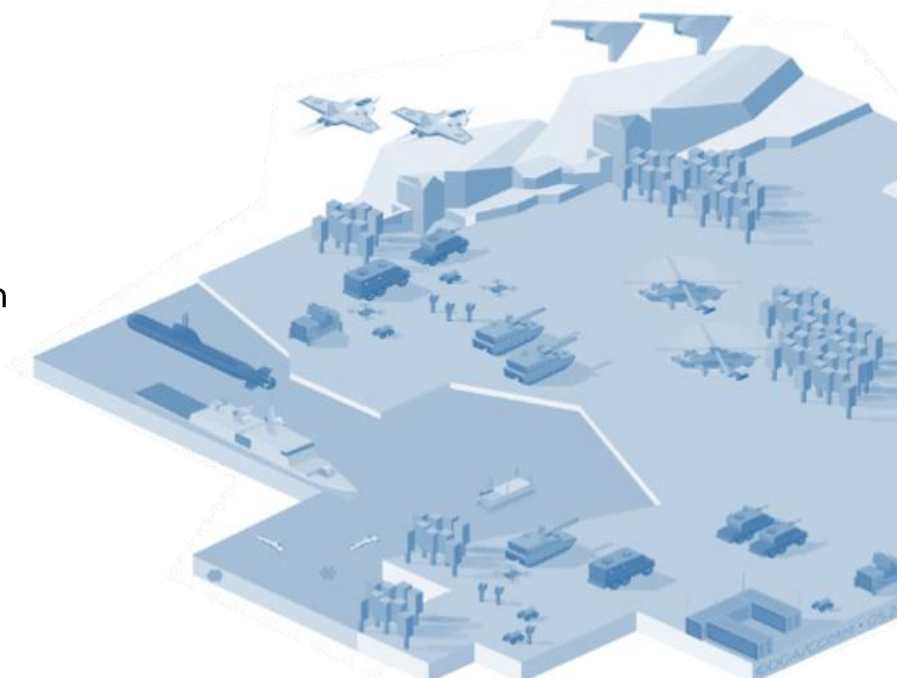
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Deploying AI within a 270 000-person organization

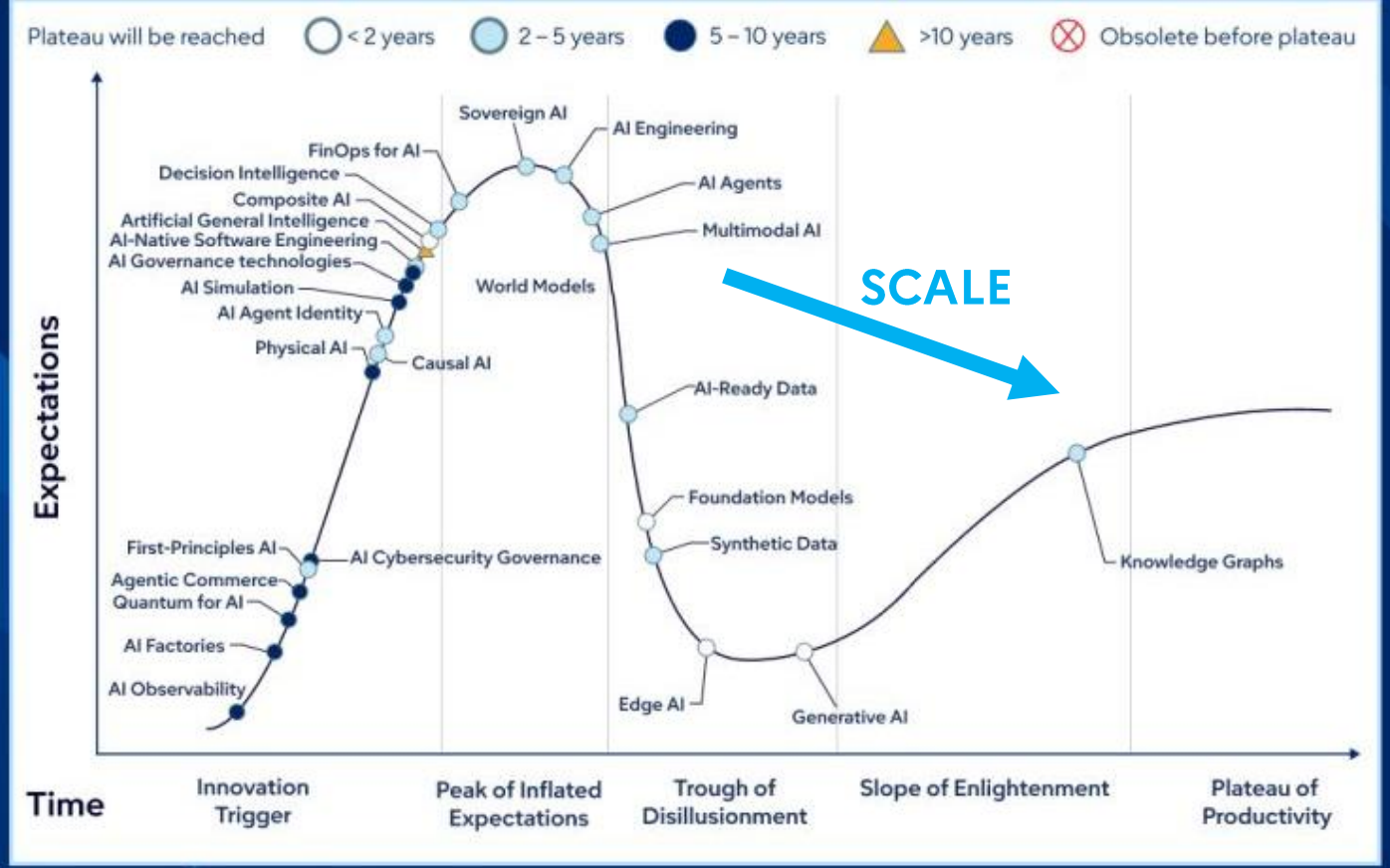
Deployment at scale
On-premise cloud-like infrastructure

Training capabilities
State-of-the-art supercomputer targeting foundation models based on sensitive information

Edge-to-cloud continuum
Tradeoff between performance and sovereignty



Gartner Hype Cycle AI 2026



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Gartner

Find a tradeoff between innovation and delivering









Manage innovation

Research funding

Business support

Deliver products

Technical authority

HR & Computing resources

Integrate

Provide use-cases

Adopt AI



AGENCE INNOVATION DÉFENSE

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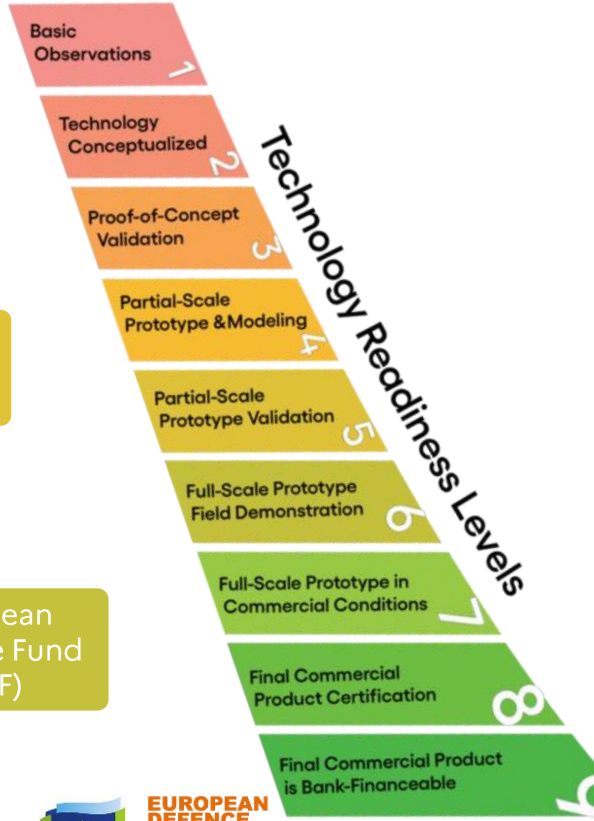
Theses

Research CfP (ANR ASTRID)

Maturating research CfP (ANR ASMA)

Dual innovation CfP (RAPID)

European Defense Fund (EDF)

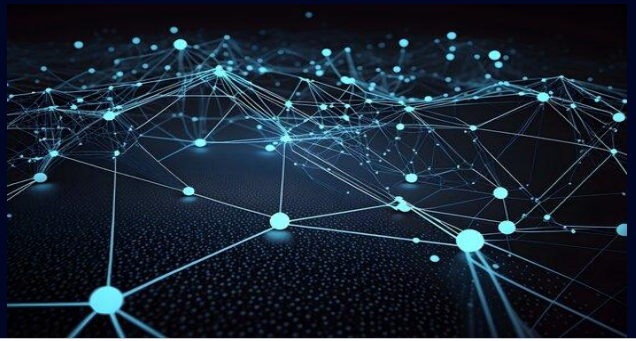


FONDS INNOVATION DÉFENSE

anr agence nationale de la recherche AU SERVICE DE LA SCIENCE

EUROPEAN DEFENCE FUND
EUROPEAN UNION







AI for disrupting sciences and engineering

Exploring solutions

Decision-support and computer-aided design for complex systems

Numerical simulation acceleration

Sciences and technology-informed AI

AI-based properties prediction

AI to build collective intelligence

Distributed behaviours

Collective tactical situation building and mission planning

Resilient systems to failures and lost messages

Negociating en cooperative, competitive environments, with potentially misaligned objectives

AI to analyze and generate contents

AI for signal processing

Multi-sensor data fusion

Automatic language processing with different modalities

AI for information warfare and deepfake detection

AI for accelerating business process

MINISTÈRE
DES ARMÉES
ET DES ANCIENS
COMBATTANTS
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Scaling up with AMIAD







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Liberté Égalité Fraternité

Ministerial Agency for Defense AI - AMIAD

Technical authority to lead AI deployment

Relocate sovereign capacities (FR/EU)

- Production site ~190 experts (DGA MI, Rennes)
- Research lab ~35 researchers (Ecole Polytechnique, Palaiseau)
- Coordination site (Balard, Paris)
- Centers for collecting data (~15 sites France-wide)
- Supercomputers (class ~1000 state-of-the-art GPUs) able to host sensible data



Deliver



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Ministerial Agency for Defense AI - AMIAD



OWNER - CONTRACTOR

Rely on the academic and industrial know-how

COLLABORATE

Build custom solutions together

Use of contractual means

Keep control of sovereign topics

Internal projects

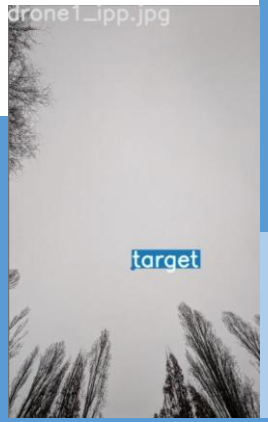
AMIAD Research lab

Robotics

AI for robotics
Nav
Heterogeneous multirobots operation
Human interfaces

Robotics and Defense AI lab (LARIAD)
AMIAD-ENSTA





Images, sensors

Foundation models
Small targets detection
Synthetic images generation
Deepfake detection
3D generation
SAR processing

Generative AI, language and speech

Intelligence
Man-machine teaming

Trustworthy and explainable AI

Uncertainty quantification
Certifiability
XAI
Vulnerability and risk assessment
Information space

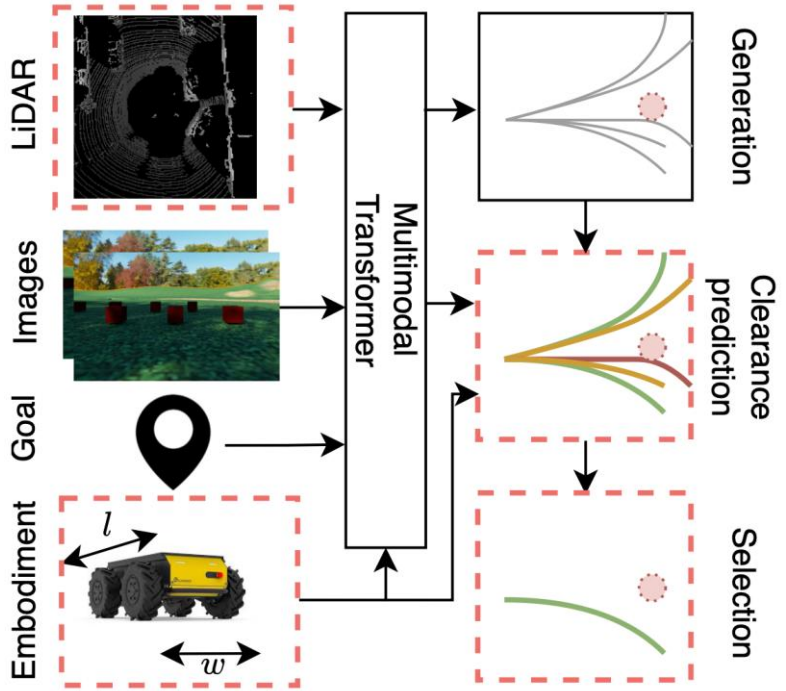
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Use-case: A multimodal model for offroad navigation

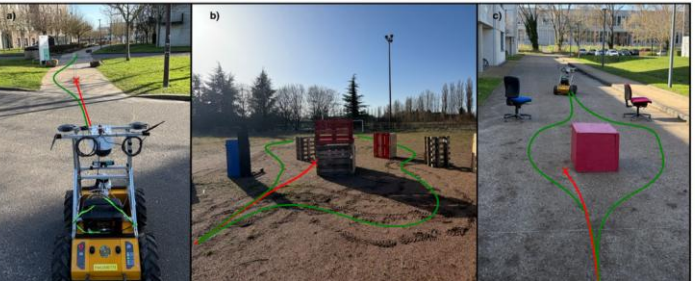
Off-road navigation
(high grass, sloped terrain, negative obstacles)

Multimodal input data
Self-supervised clearance prediction
Navigation data augmentation

Based on a transformer encoder
+ diffusion policy head



(Dezons et al., 2026)









AMIAD
Industrial Guidelines

1 AMIAD leads the french Defense AI ecosystem: Sovereignty, consistency and speed of action

2 AMIAD integrator for AI-based systems

3 Data as a strategic asset


Unité robotique de combat
PENDRAGON
Intelligence Artificielle (IA)
Combat futur

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Pendragon: Build the future Robotics Combat Unit

- Ground robots and drones autonomously and collectively performing missions
- Human over-the-loop paradigm
- 2-year project to deliver the first production unit, due 2027

























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