

# Evolving Flight Training Using Distributed Simulation

Reducing Operating Costs and  
Unlocking new AI-Pilot Training Scenarios

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Released

## Distributed Simulation

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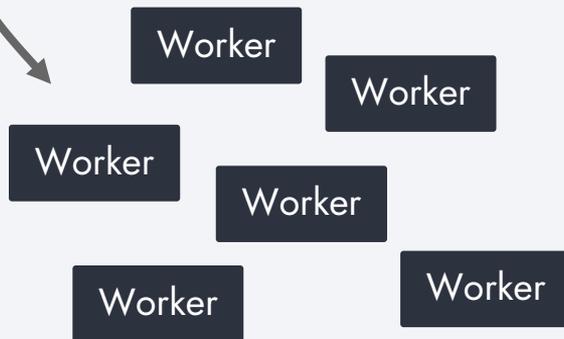
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# What is Distributed Simulation?



## Distributed Simulation

It is a simulation software architecture that allows your simulation loads and needs to be shared across different hardware, locally or in the cloud.

# What are the benefits?



## Reduced downtime and operational costs

- Shared simulation needs evenly across computers.
- Increased fault tolerance since there is no single point of failure.
- Use your computer power more efficiently.



## Future-proof your Training Devices

- Unlock upcoming AI training scenarios.
- Modern software architecture capable of adapting to existing and new needs.

# Bringing AI in the cockpit

## Autonomous Flight with AI in Avionics



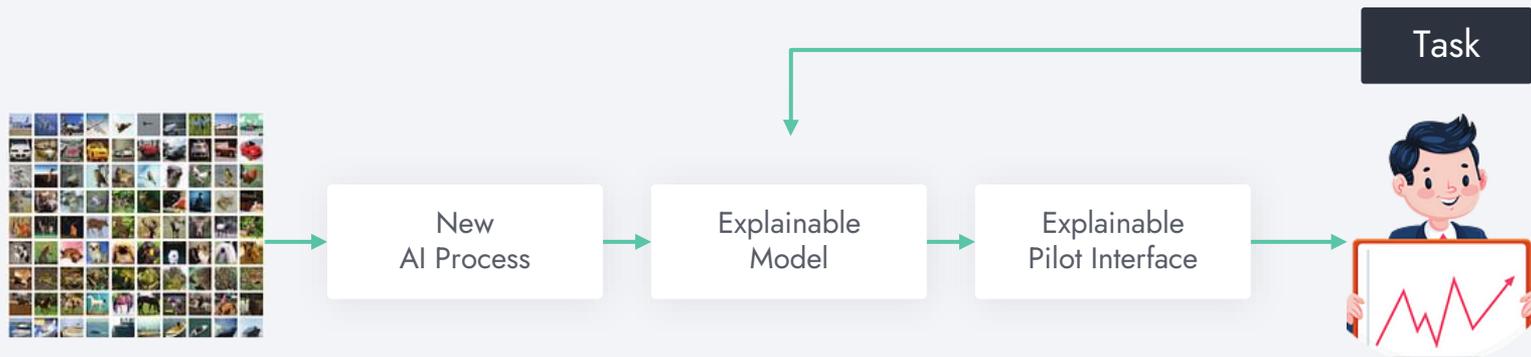
The goal is not to replace the pilots, but to unlock new workflows in the cockpit.

Avionics have been reliable for years, but the amount of available information while in flight is getting complex to manage.

AI models can be great at processing vast amounts of data and reducing workload in the cockpit.

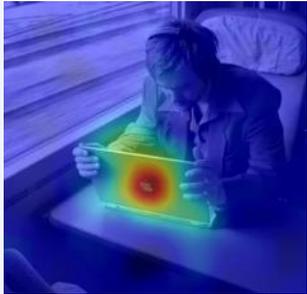
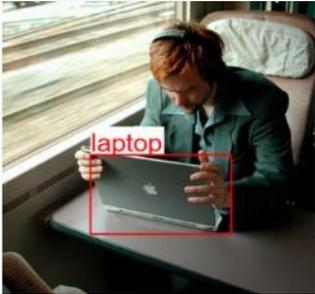
However, are we ready to welcome on board a system which is not 100% predictable and that can make mistakes?

# Explainable AI (XAI) Building Trust



Providing explanations is especially important in safety critical domains where black-box behavior is unacceptable.

Example:  
We highlight the import pixels for the model, and we observe that the model learned the logo, not how a computer looks like!

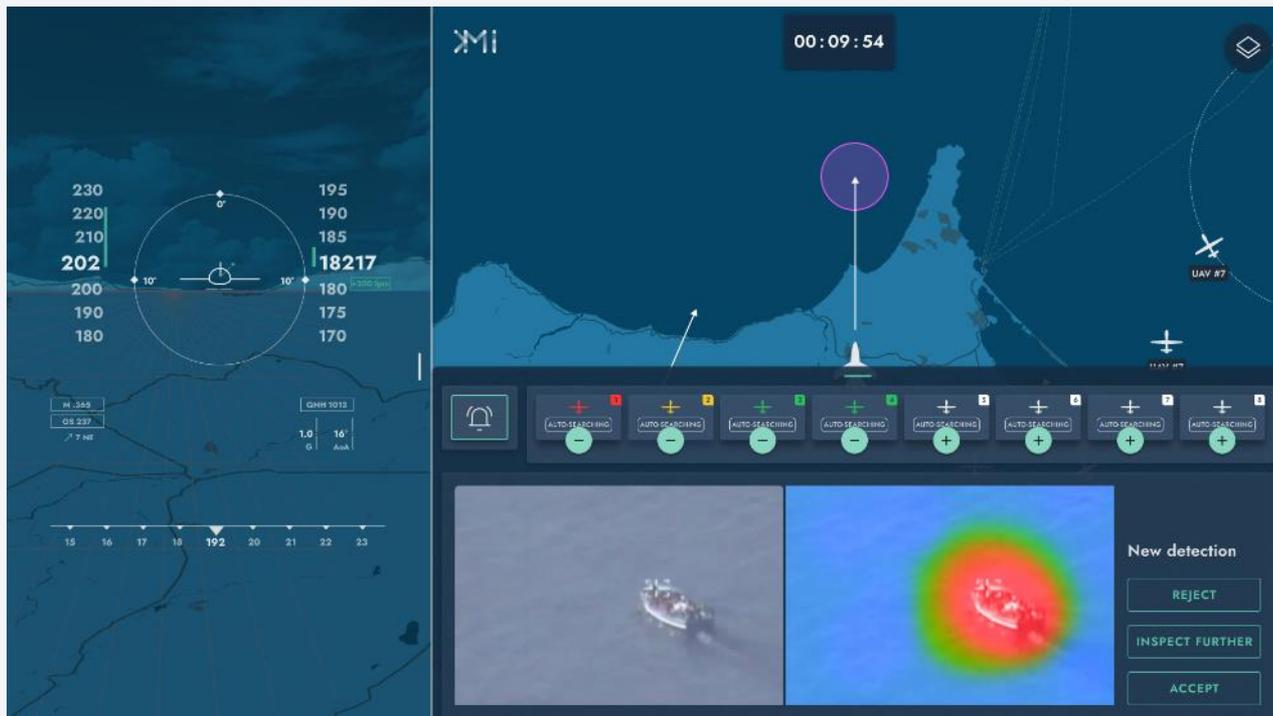


# Unlocking new Training Scenarios

## Human Factors for AI

The compatibility between the pilot and the AI model has to be studied, trained and needs to be evaluated.

You can see an example of our AI demonstrator, based on the SafeAI framework by MIT, for a Search and Rescue mission.



# Open Challenges



## Safety and Ethics by Design

Ethics, like Safety, needs to become an integral part of all processes involving AI models. More especially, those in safety critical applications.



## Certification & Standardization

Certification and Standardization is yet to come. Everyone is actively working on it but there is still no agreement on some relevant topics.



## Training: for AI and Pilots

Real world data for training AI models is scarce and the consequences of adding "unpredictable" systems into the cockpit are not understood yet.

Let's pave the way for AI in aviation together.

# Time to join forces



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