Airport/Airline Operational Improvements with AI

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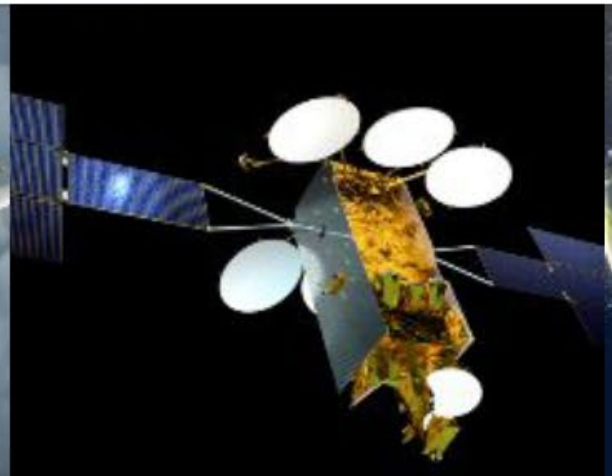
Romaric Redon
AIRBUS
Artificial Intelligence
Fast track Leader



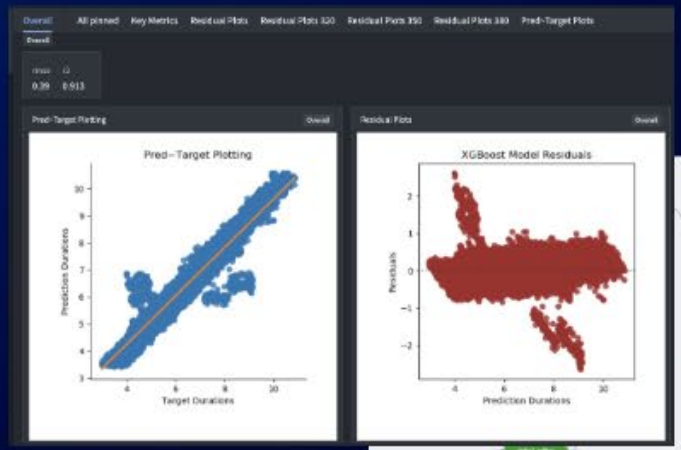
Predictive Maintenance

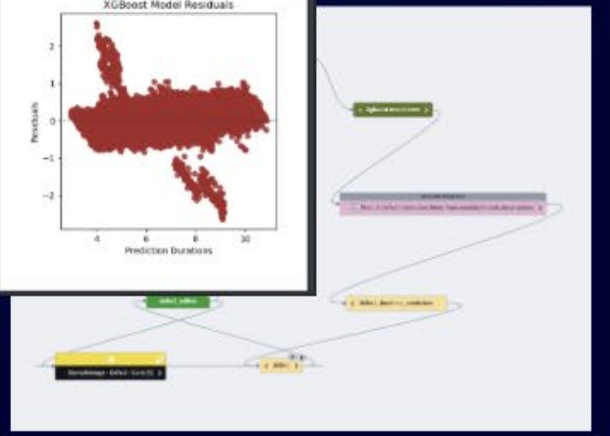
Anomaly detection

Build health indicators and trigger alerts to prevent operational Interruptions

GPS/GNSS Degradation Dashboard

Discover how Skywise helps to monitor impact of GNSS Radio Frequency Interferences on in services events & aircraft systems





Skywise Core [X] ML in action

Discover how Skywise helps to use industry recognized models in Operational Applications

Join our booth for the Demo

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NAVBLUE
AN AIRBUS COMPANY

Data analytics for

Airspace Improvement

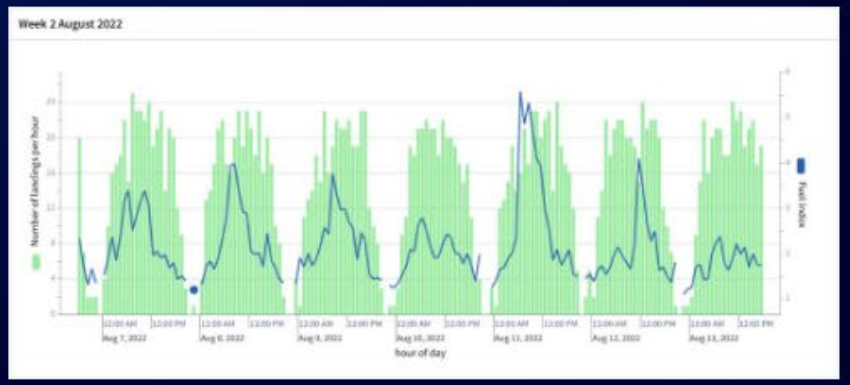
Join our booth for the Demo

Trajectory Clustering

from ADS-B data

Fuel estimate from

ADS-B data



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Glimpse on our R&T activities

#Computer Vision

#Times Series Analysis

#Times Series Analysis

#Computer Vision

#NLP

#Decision making

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AIRBUS VISIOPLANE

- for the passenger
  - Full 360 for passenger
  - Wow immersive experience
  - Each passenger has a window
  - No Point Of Interest missed (Left or right)
- For the pilot
  - New view for cockpit
  - In flight analytics (Ice on wings)
  - Replay function
  - Look around
- For the airline
  - Anti-collision purposes
  - 360 degree surveillance
  - Ground operations monitoring
- And much more
  - Advertising through social media
  - Selling services to 3rd parties

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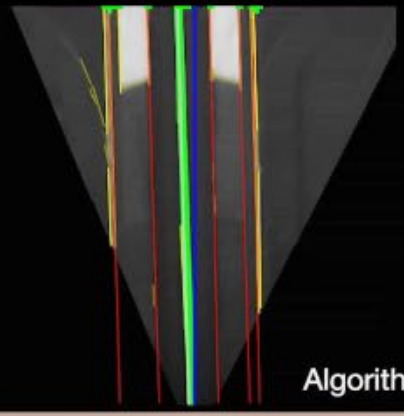
ATTOL - Airbus UpNext Demonstrator

Assistance for taxiing, take-off and landing



Airbus Amber

Algorithm data

Runway centre line detection

Grazia Vittadini Retweeted

Yann LeCun @ylecun · Jun 19

Deep Learning lands an Airbus A350 through vision (a ConvNet I would assume).

> **Grazia Vittadini** @graziavittadini · Jun 18
>
> Hats off to our ATTOL team who in two years achieved a world first in #aviation: Autonomous Taxiing, Takeoff and Landing using onboard image recognition technology! Demonstrating fully autonomous runway landings is a proof of #autonomousflight software progress. Way to go!

31 327 1.1K

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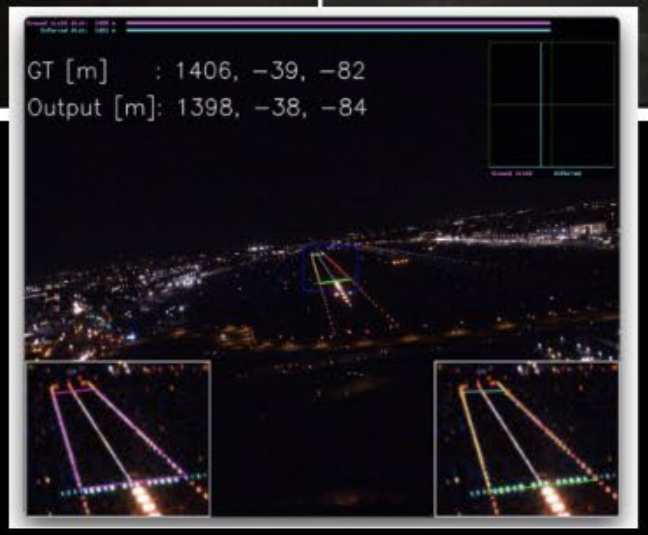
UAYFINDER - Airbus Acubed

Scale Machine Learning capabilities - cope with diversity



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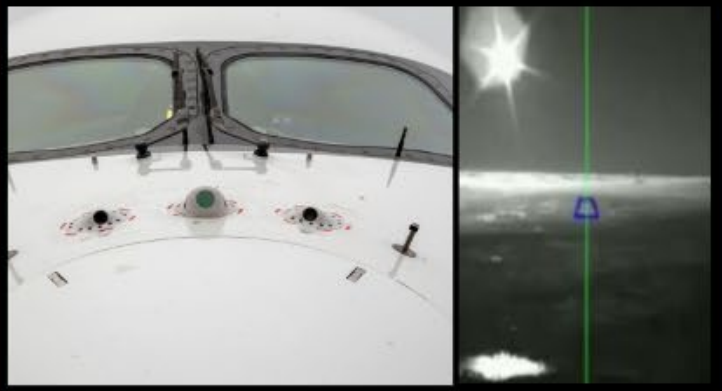
DragonFly - Airbus UpNext Demonstrator

New pilot assistance and tools to support onboard decision-making
Making flying even safer and more efficient in complex ATM environment

Diversion assistance tool

Taxi

Assistances to manage crew workload

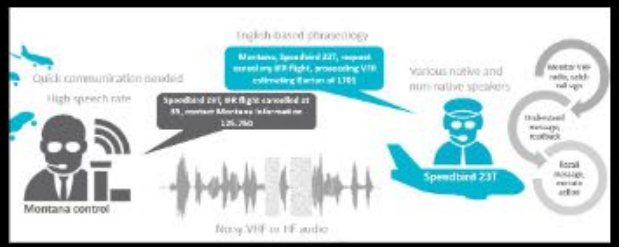


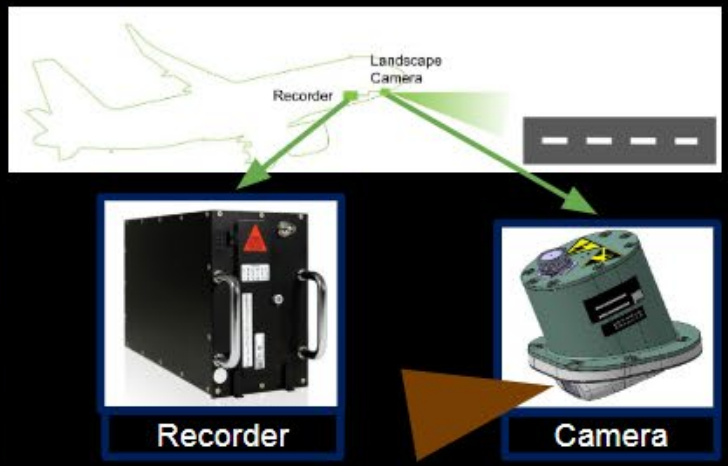
Landing

Generalised Autoland

MDC

Massive Data Capitalization





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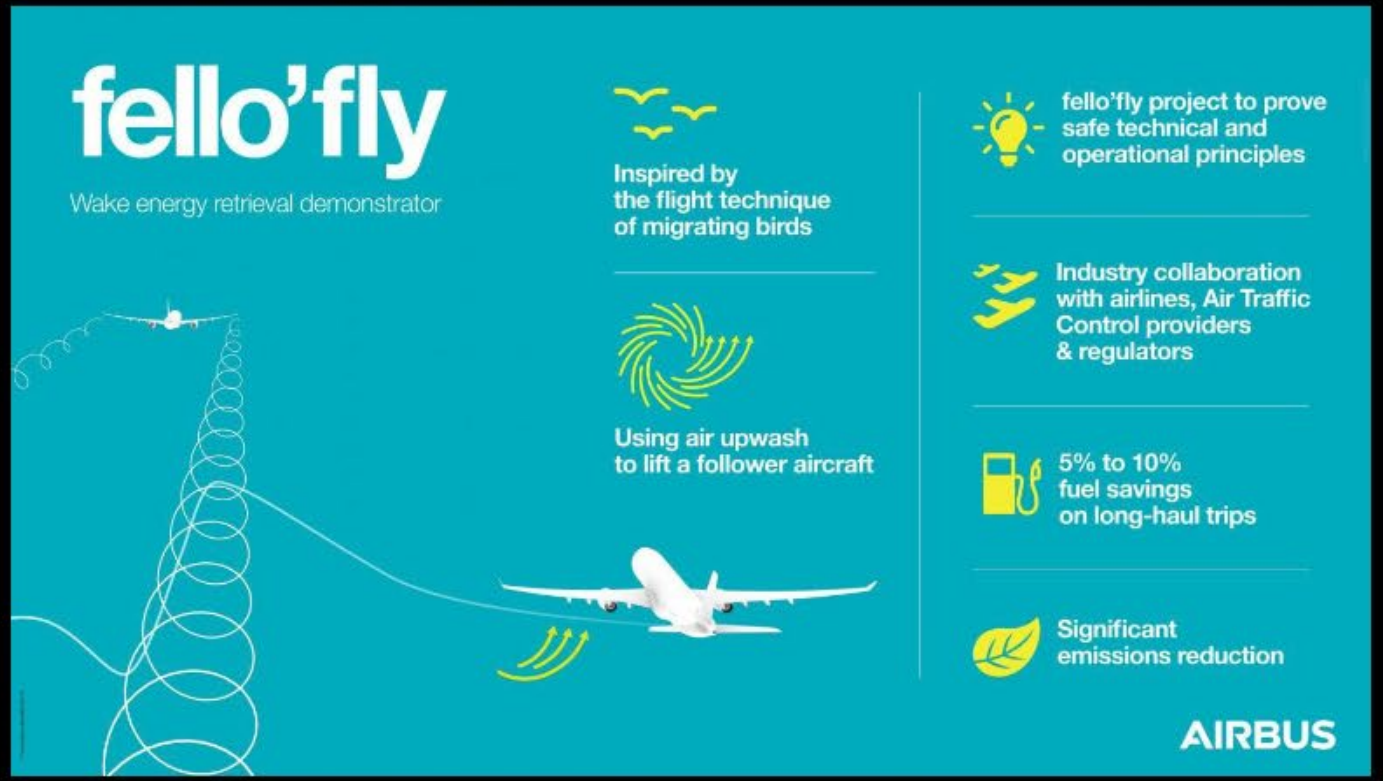
AI for flight trajectory optimisation

Optimise flight trajectory taking into account whether uncertainties



Optimise pairing of A/C and flight trajectories for Fello'fly

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Scale AI to boost competitiveness

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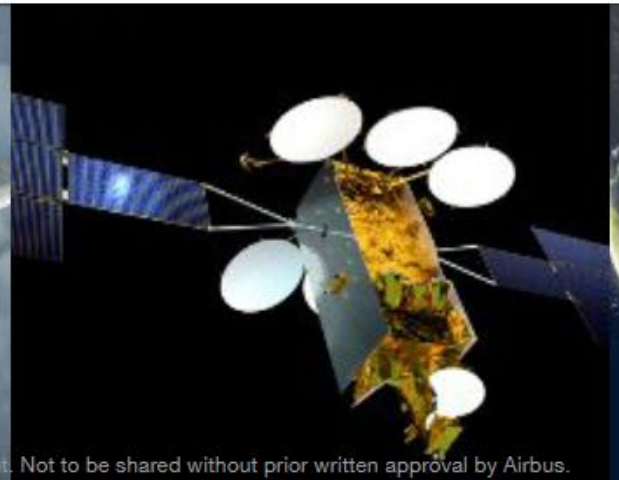
World leader in Safe and Trustworthy AI



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