

AEON

Integrating ecological taxiing techniques in  
airport operations

# SESAR 2020 SHOWCASE

# AEON

How to make these independent techniques work together into a global efficient system ?

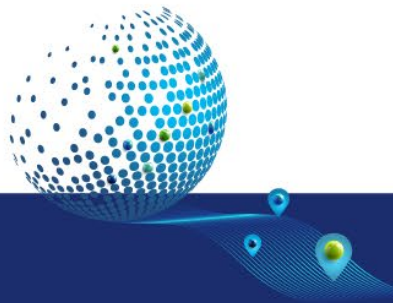
single engine taxiing



autonomous taxiing



non-autonomous taxiing



# Problems...

## Performances:

Compliance with the arrival and departure sequences  
Smooth operations  
Engines start up management

## Situation awareness:

Which technique is using each aircraft ?  
What are their constraints ?

## Additional vehicles:

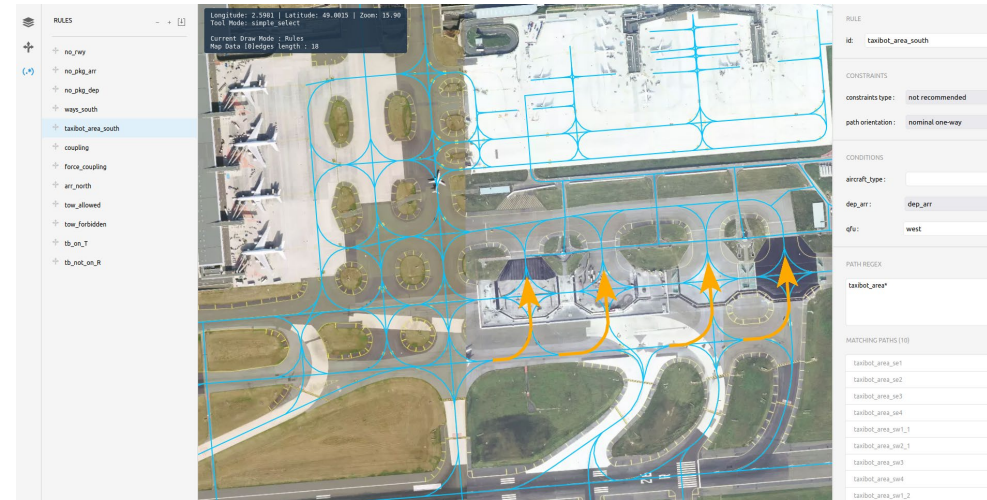
Additional workload induced  
What is a given vehicle's objective ?



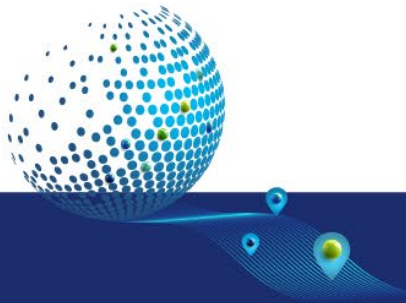
# ...Solutions

## Performances:

Compliance with the arrival and departure sequences  
Smooth operations  
Engines start up management



**Technological Solution:  
Ecological routing with  
speed profiles**





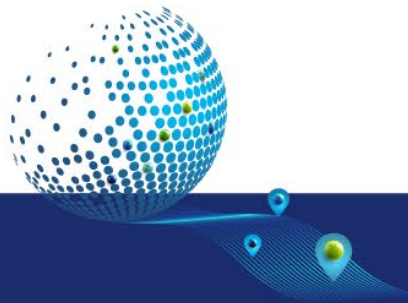
# ...Solutions



Situation awareness:

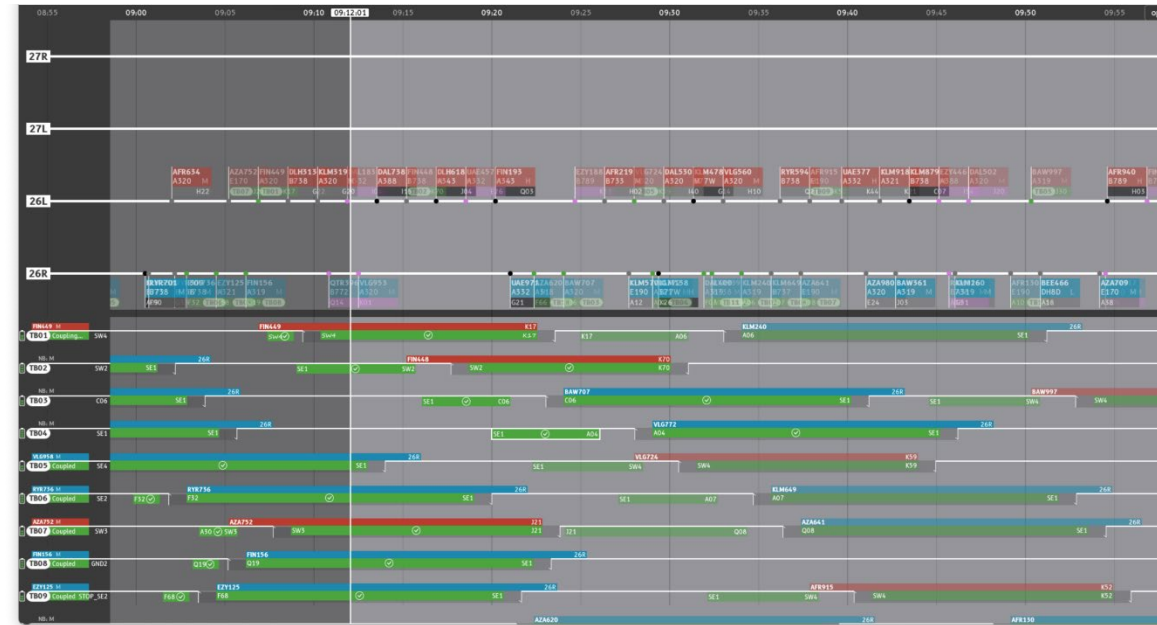
Which technique is using each aircraft ?

What are their constraints ?



# ...Solutions

ATM Solution:  
Management of non-  
autonomous engine-off  
taxiing operations by Tug  
Fleet Manager



Additional vehicles:

Additional workload induced  
What is a given vehicle's objective ?



# Next Steps..

## Industrial Research :

- Impact on airport capacity
- Refine roles and responsibilities

## Exploratory Research :

- Higher level of automation



- Multi Agent System in disrupted conditions



# Let's meet

- AEON demo DSNA stand F25
- Project website : <https://www.aeon-project.eu/>



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