

# Il ruolo dell'aeroporto come centro di innovazione e sperimentazione per la Clean Aviation - Piemonte

*Le sinergie con territorio, istituzioni e industria per l'aviazione sostenibile di oggi e di domani*

📍 Regione Piemonte

📅 24 Febbraio 2025



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COO – SAGAT Torino Airport

# Torino Airport in Tulips

## A Regional Airport with a History of Environmental Sustainability

TORINO  
GREEN  
AIRPORT

TO



Change is possible.

### Torino Airport Sustainability Leader 2023 and 2024



Both in 2023 and 2024, SAGAT has been selected among 40 Italian SMEs (turnover of up to €100m) to be recognized as a “**Sustainability Leader**”. Winning companies are selected by newspaper Il Sole 24Ore and the research institute Statista

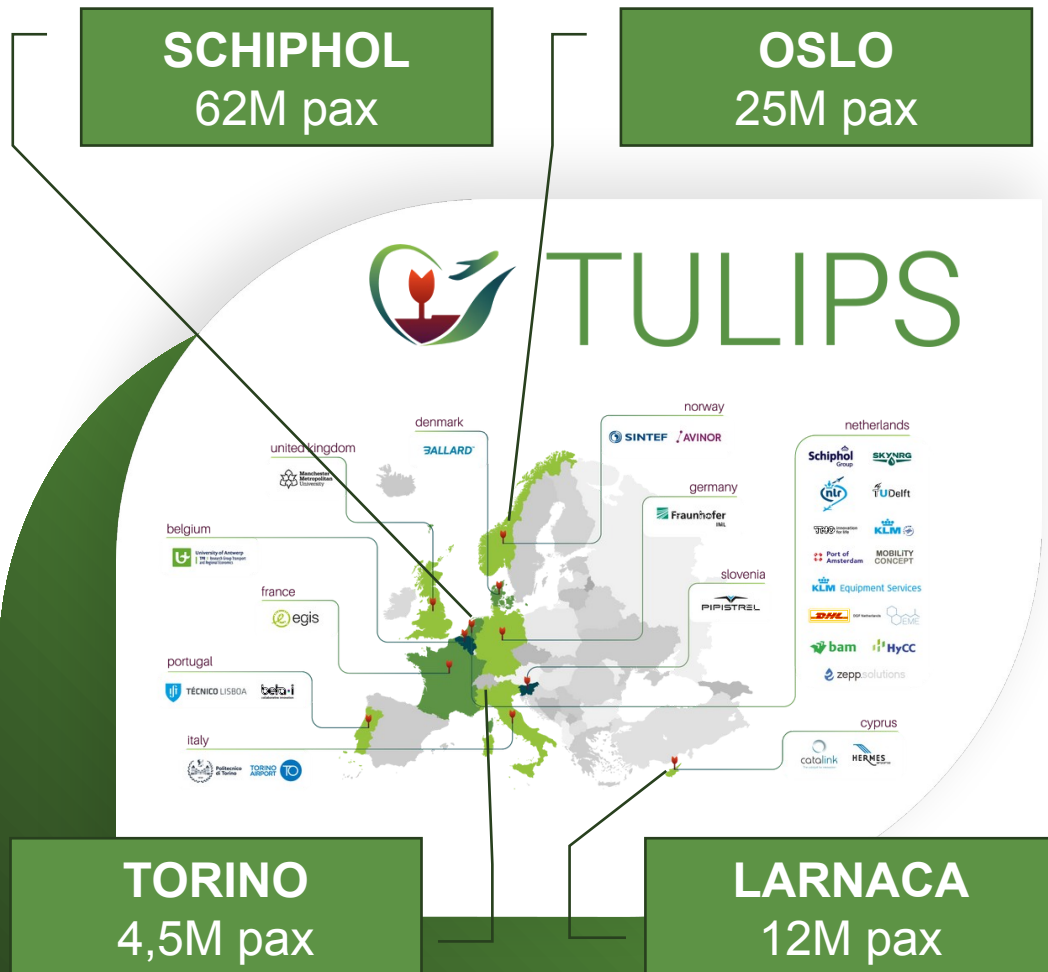
### Most climate conscious company 2024



Both in 2024 and in 2025 SAGAT was ranked sixth in Italy, first among Italian airports and first in Piedmont in the ranking of the “**Most Climate-conscious Companies**”, according to a study conducted by Corriere della Sera - Pianeta 2030 and Statista

# An Ideal Context for Sharing Ideas

Joining the Efforts of the Different Players of the Industry is the Winning Choice

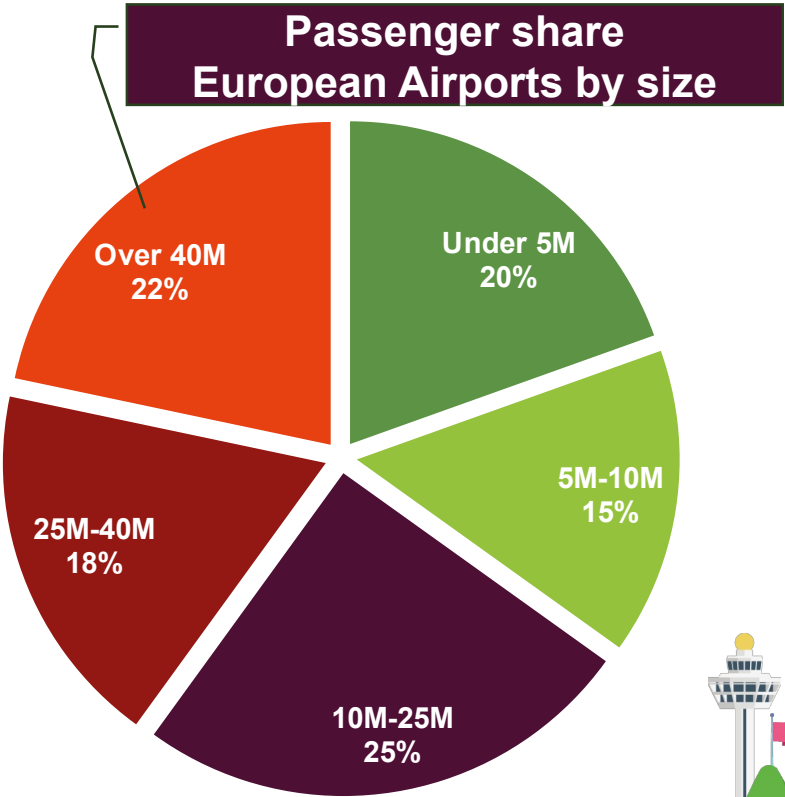
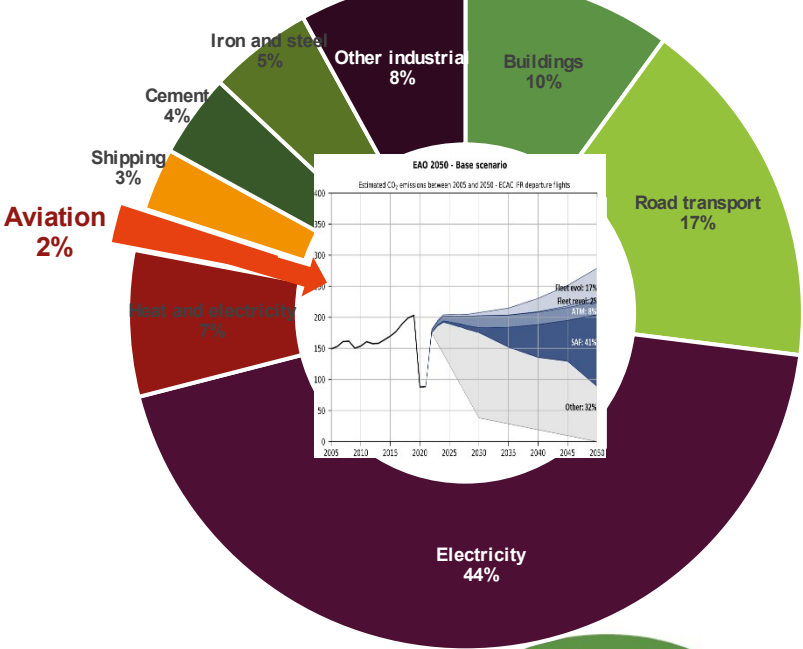


## Sustainable Technologies of Aviation

- In 2021 Torino Airport joined the **TULIPS consortium** together with the Airports of Schiphol (the lighthouse), Larnaca and Oslo.
- Together with 27 other partners from every aviation sector, we took up the challenge to speed up the roll-out of **sustainable technologies in aviation** and significantly contribute towards the zero emissions and zero waste airports by 2030 and climate-neutral aviation by 2050
- Four **very different airports**, located different locations in Europe from the big hub to the regional airport, partner together to bring different experiences in a wide span of activities.
- TULIPS is a virtuous example of **integration** and **exchange of ideas** between multiple contexts and stakeholders in the aviation industry

# Decarbonization and the Aviation Industry

## A Challenge for every Category of Airport



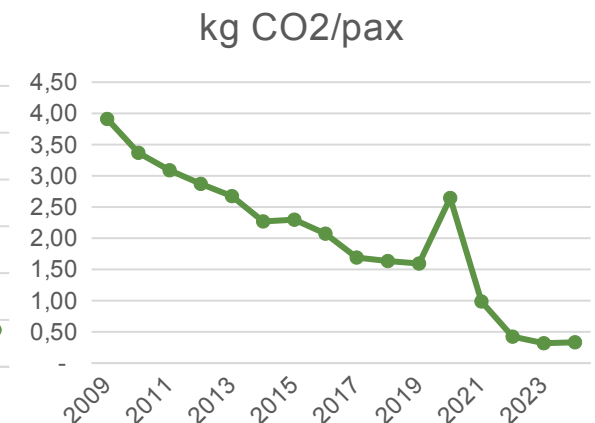
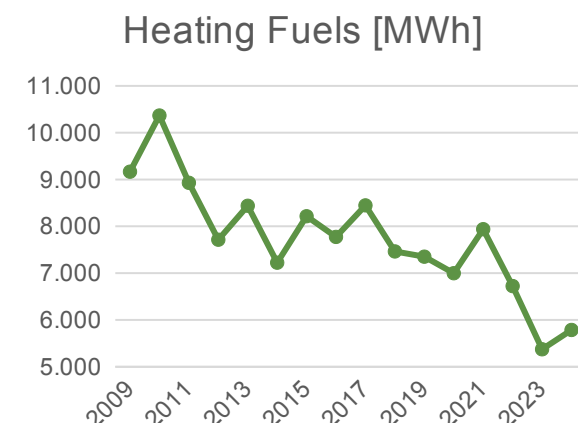
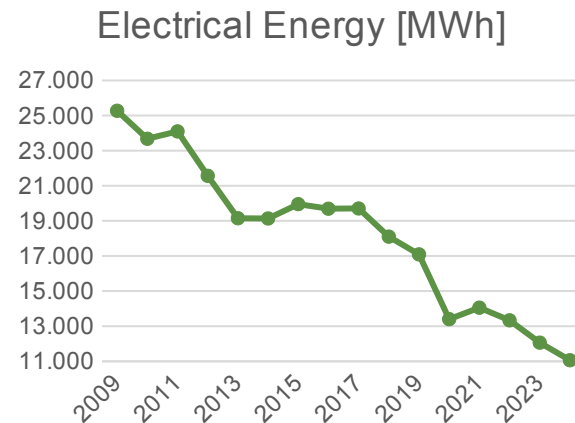
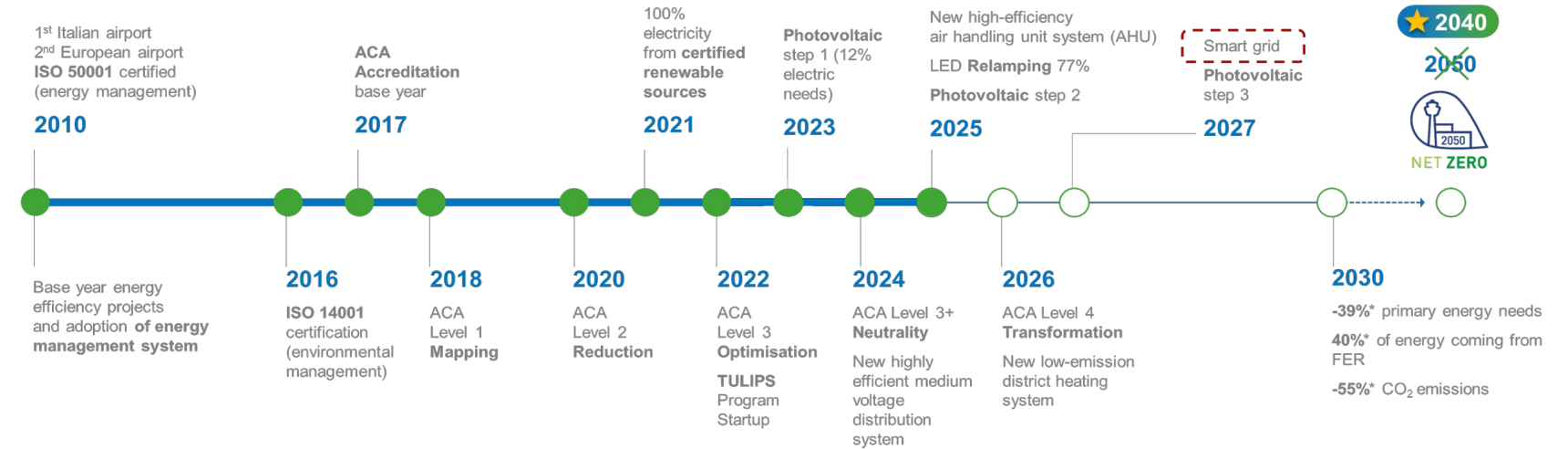
95 million flights  
8.7 billion passengers



# Where Have we Come From?

## Energy demand and decarbonization

- During the last 15 Torino Airport has achieved significant results in **energy efficiency** and reduction of direct CO<sub>2</sub> emissions
- The energy efficiency strategy has been developed with a **strong methodological approach** combining traditional and innovative solutions
- The new medium-term strategy is to combine investments in efficiency with **self-generation solutions** and optimized use of green energy



# How to Address Scope 3 Emissions?

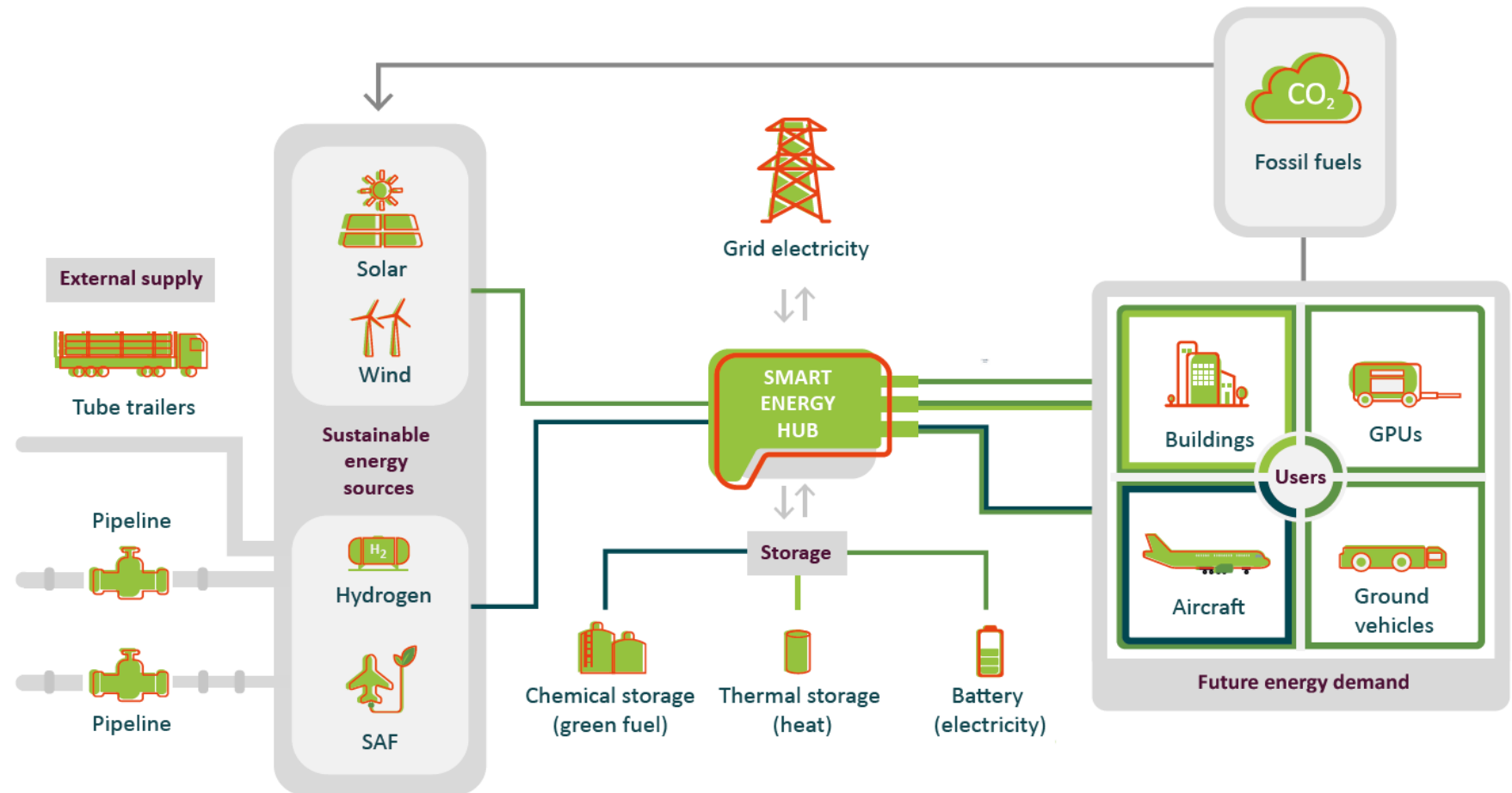
Proven Methodologies and Strong Focus on Innovation



# The Airport becomes a Smart Energy Hub

## Airports in the Clean Energy Transition

- Together with PoliTO we have created an **energetic “digital twin”** of the airport in order to analyse the drivers that influence the energy demand and select the best solutions for the future scenarios
- The **master planning of future airports** will be designed from the modelling of the green energy and the technological solutions required to power infrastructure, transport systems, GSE and provide the energy required by aircraft



# The Airport becomes a Smart Energy Hub

## Introducing New Energy Vectors in the Airside

Hydrogen Powered GPU & Hydrolab Project



Smart Grid Pilot Plant



# An Airport Balanced Grid

## Production and optimized use of green energy



1.585 MWh

Energia prodotta in un anno  
Energy produced in one year



14 %

fabbisogno energetico annuale dello scalo  
con l'impianto a regime  
of annual energy needs the airport  
with plant at full capacity



57 %

consumo energetico orario  
in una giornata assoluta  
hourly energy consumption  
on a sunny day



406 tons

Emissioni di CO<sub>2</sub> evitate in un anno  
CO<sub>2</sub> emissions avoided in one year

13.552  
alberi equivalenti  
equivalent trees

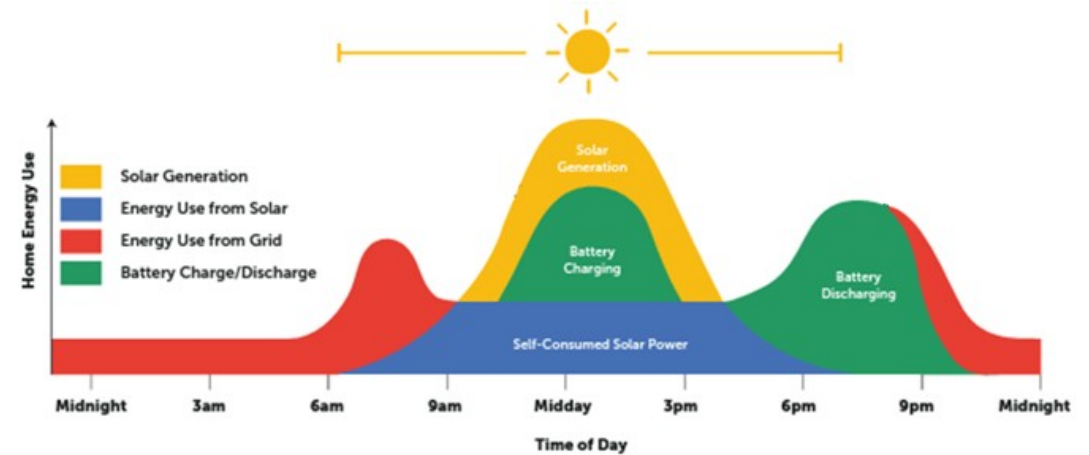
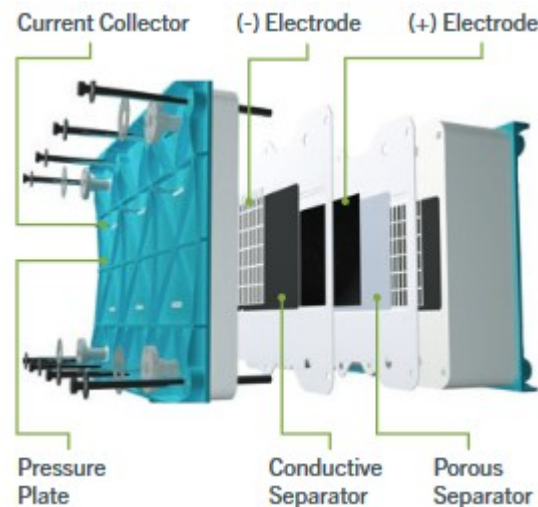
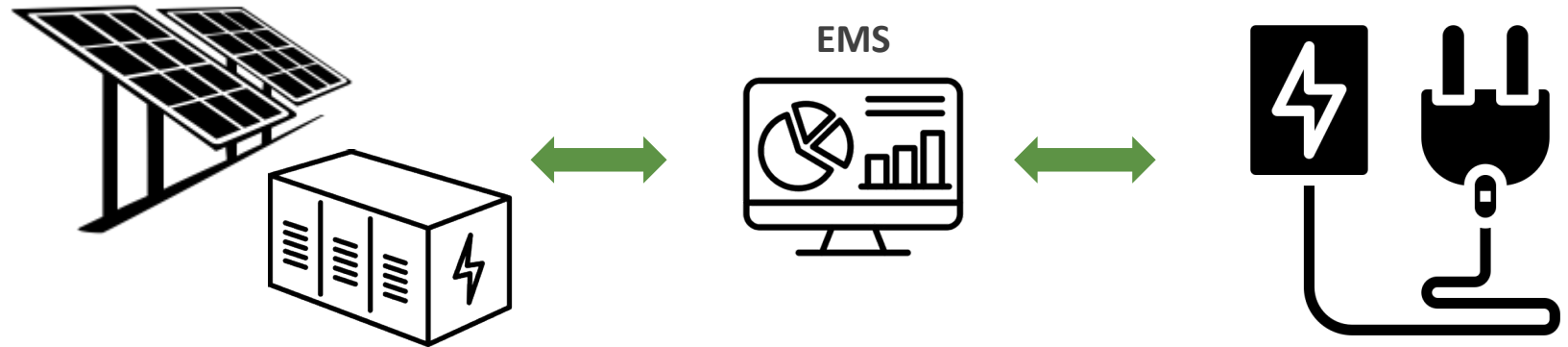


# Initiatives requiring support and synergies

## Slow-discharge sustainable battery

Increasing the installed capacity for photovoltaic electricity production will require **energy storage systems**

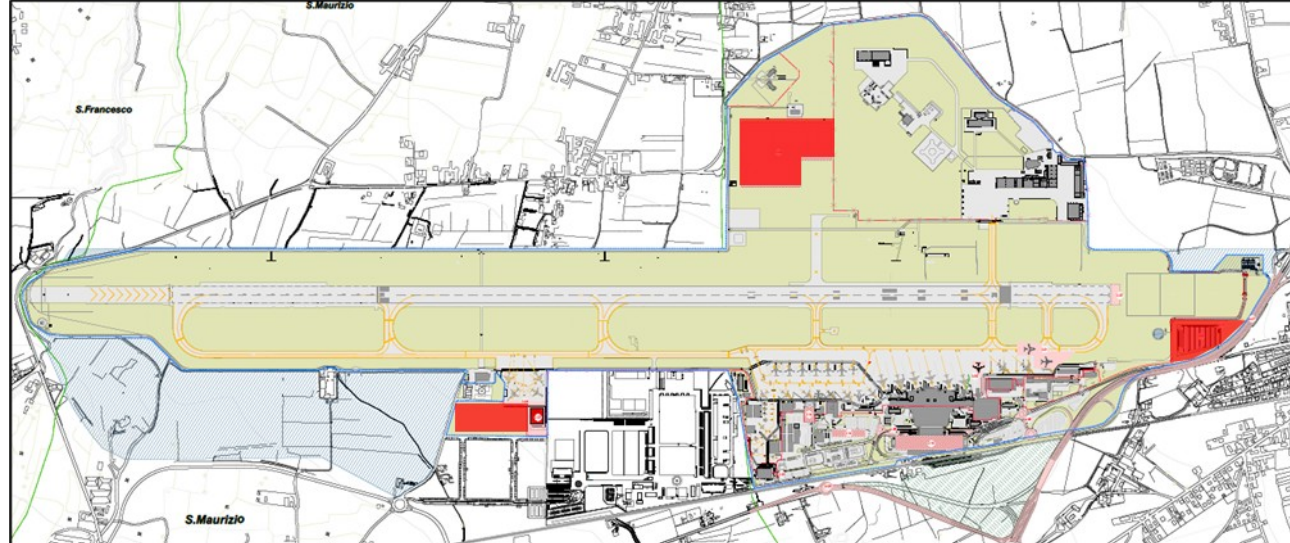
Turin Airport is interested in experimental projects for the development and deployment of **batteries with a sustainable production cycle** and gradual energy discharge



# Initiatives requiring support and synergies

## Mitigate the problem of electromagnetic interference

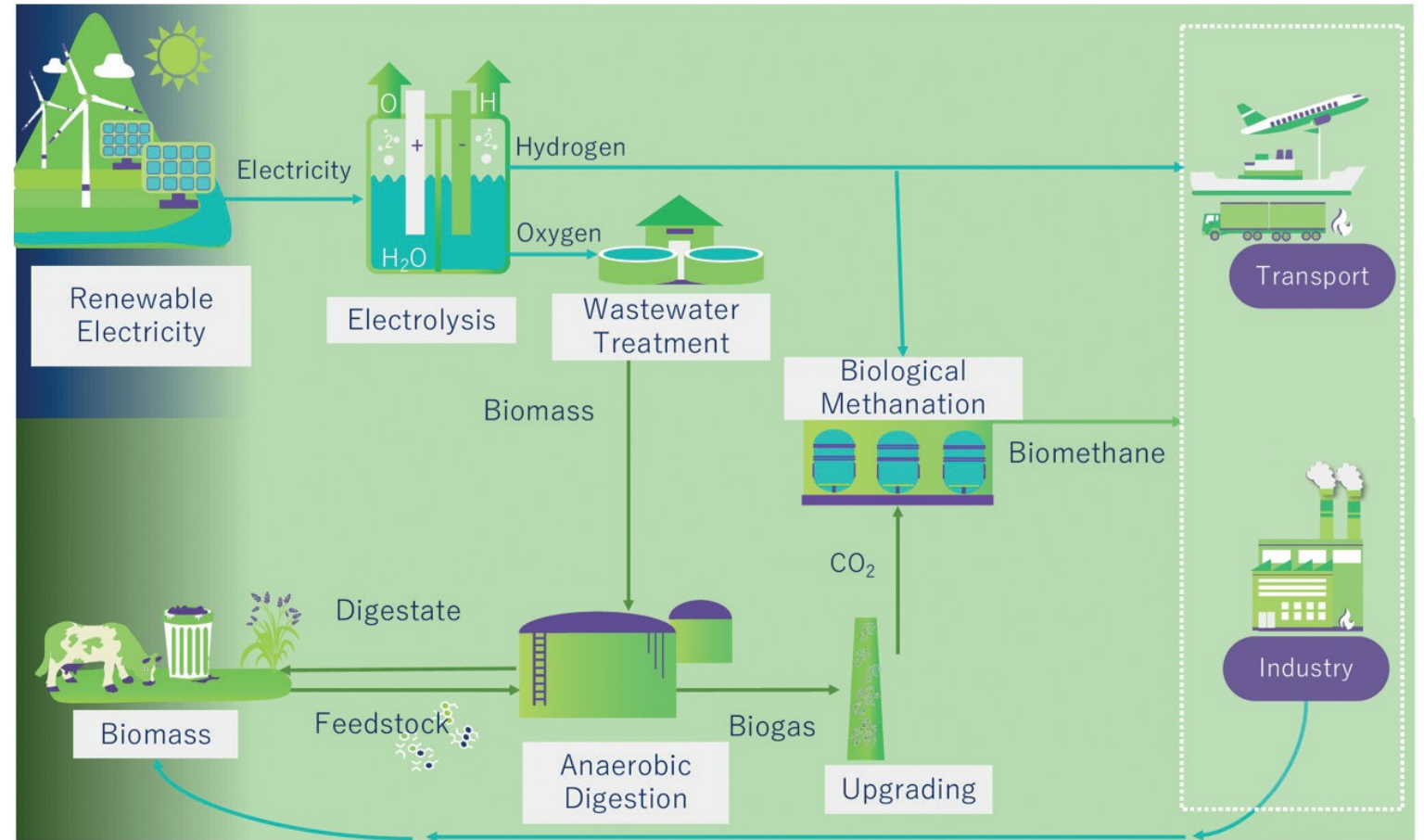
- The installation of **large-scale ground-based photovoltaic plants** is envisaged in the airport's development plan
- The **electromagnetic compatibility** of these installations with the radar systems is a common issue with other airports.
- It would be crucial to find an innovative solution that allows **prior assessment of electromagnetic interference** caused by photovoltaic panels and/or to experiment with **panels and support structures that do not cause interference**



# Initiatives requiring support and synergies

## Synergies with the territory on biomethane

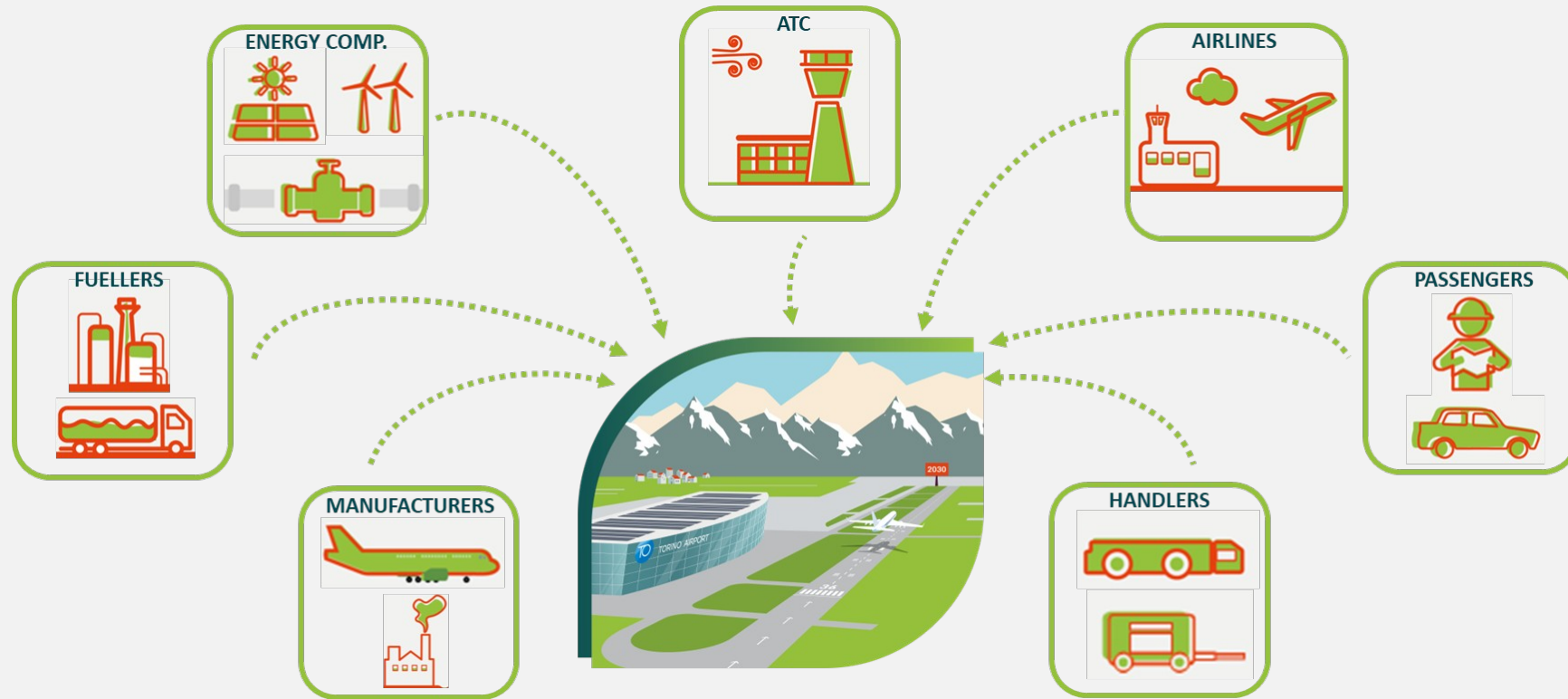
- Turin airport is located in an area with a strong agricultural vocation and a significant presence of livestock farms
- The territorial context would therefore be favourable for the installation of **biomethane production** plants to serve the airport, which could use this renewable source to **power innovative trigeneration plants** (fuel cell systems)
- Similar projects have already been developed in Germany



# Decarbonization of Aviation is Something we will Achieve through Collaboration rather than Competition

## Synergies towards the Aviation Industry of the Future

- Turin airport is the gateway to an area, Piedmont, that boasts unique **multidisciplinary know-how in the aviation field**
- In **Piedmont** we have an outstanding aerospace industry, important companies in the field of fuels and energy and an airport at the forefront of environmental sustainability
- With the support of the university system and technological poles (IIT, Inrim, Envipark, Città dell'Aerospazio) we can **work together for the clean aviation of tomorrow**



**Aeronautics was neither an industry nor a  
science.  
It was a miracle.**

**Igor  
Sikorsky**

