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Integration of Hydrogen Aircraft:
Airport operations and infrastructure
Joint Report of ATI and ACI

Contents



Process



Learnings

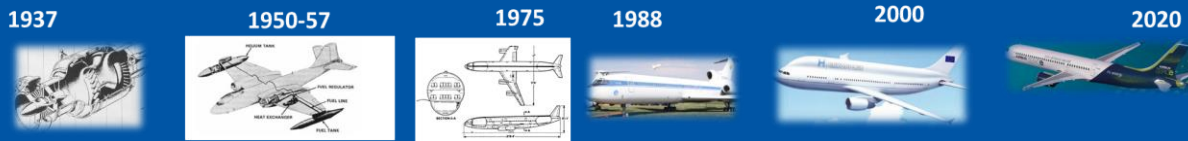


Gaps



Next steps

Hydrogen in aviation



> 50 studies: scientific publications, roadmaps, industrial reports

Mix of numerical and experimental studies

Nearly 70 years of experience!



Current hydrogen uses

Standards, codes, best practices

Private vehicles:

DIY refuelling



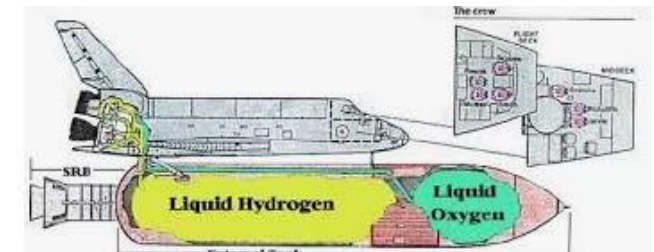
Busses and trains:

Transporting large passenger numbers



Space applications:

Handling large quantities of LH_2 !



Engagement with stakeholders and collaborators

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34 professionals from 17 organisations!



Airports



ZÜRICH AIRPORT



Gatwick



Schiphol

KANSAI AIRPORTS



Universities & research centres



London
South Bank
University



National Research
Council Canada

Conseil national de
recherches Canada



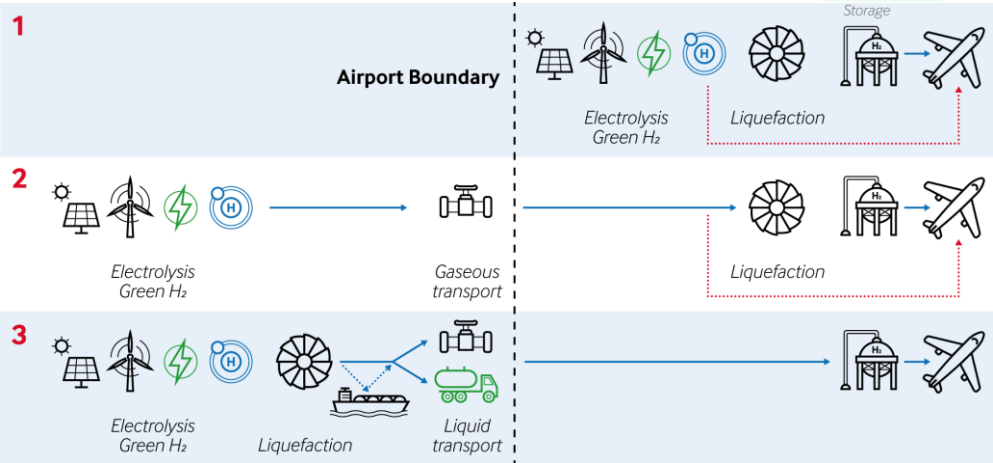
Industry

AIRBUS

Air Liquide

Key findings

Supply chain & distribution at airport

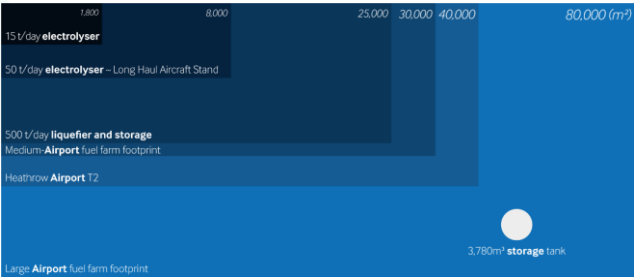


Aircraft and airport compatibility

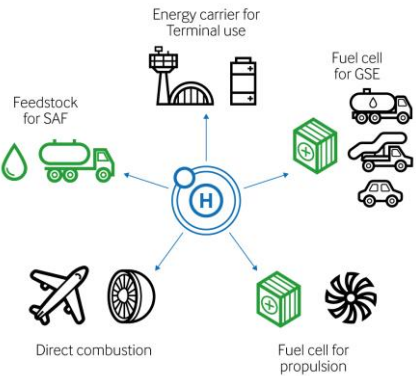


	Likely to change		Unknown if it will change	Unlikely to change
	Will need special infrastructure considerations	Won't need special infrastructure considerations		
Wingspan				x
Maximum take-off weight		x ^a		
Maximum landing weight		x		
Main gear wheel span			x ^a	
Fuselage length	x ^a			
Nose wheel angle				x ^a
Electric power demand				x
Turnaround time				x ^a
Required runway distance			x	
Engine blast production				x
Turning radius			x ^a	
Servicing design (position of cargo, passenger doors, position of refuelling port etc.)			x	

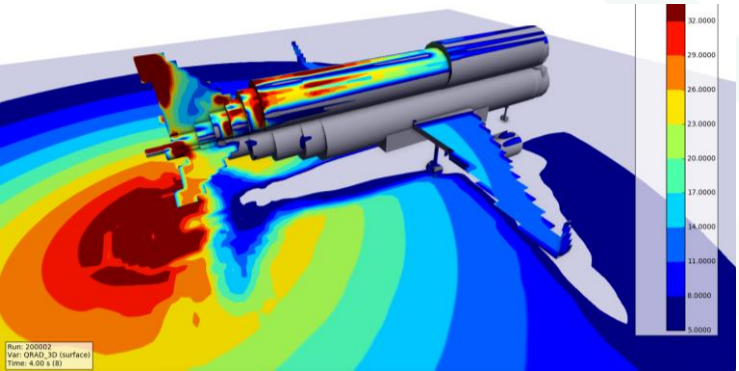
Cost, land usage, energy



Opportunities for airports



Safety: Perception and physics



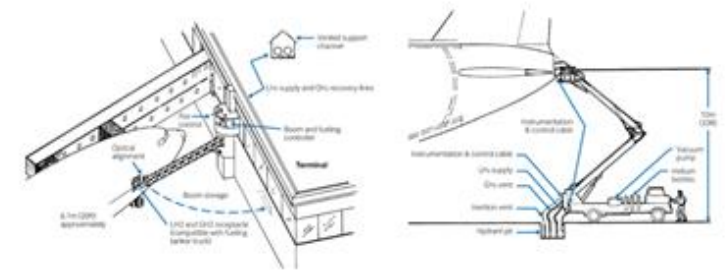
What next?

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Addressing gaps

- Up-to-date studies on **resources** and regional strategies
- **Operations** on stands and **operational** considerations
- Infrastructure best practices and **cost** estimations
- Qualification and training for **staff**



Next steps

- Develop strategies for individual airports
- End-to-end cost of hydrogen supply chain
- Operational procedures (e.g., effect on turnaround time)
- Collaborate even more widely for greatest impact!

Thank You

