

Alliance for **Zero-Emission Aviation**



PREPARING EUROPE
FOR HYDROGEN
& ELECTRIC FLIGHT

General overview

AEH2 - General assembly 28/03/2024
AZEA WG-4 Airbus focal point
Jorge BLANCO MONGE

AZEA was launched in June 2022 as an open platform gathering private and public stakeholders to

prepare the aviation ecosystem for the entry into service of electric and hydrogen aircraft to deliver environmental, societal and industrial benefits:

- Support the EU aeronautics industry who invests in developing zero-emission aircraft and maintain a competitive and sustainable aviation sector
- Support EU climate objectives by contributing to
 - ❖ the decarbonisation of intra-EU flights
 - ❖ the emergence of a new sustainable regional air mobility offer



Note:

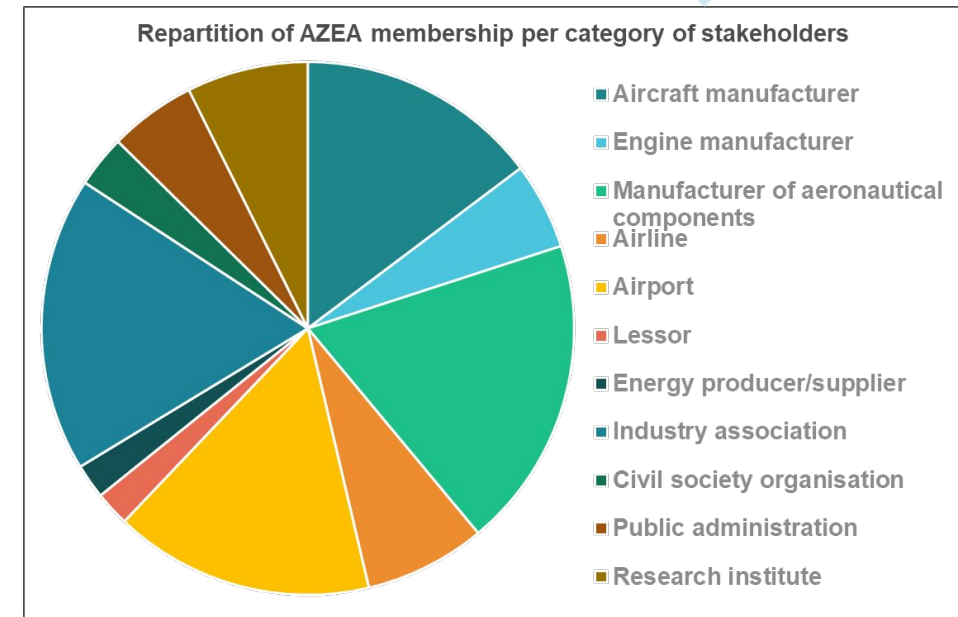
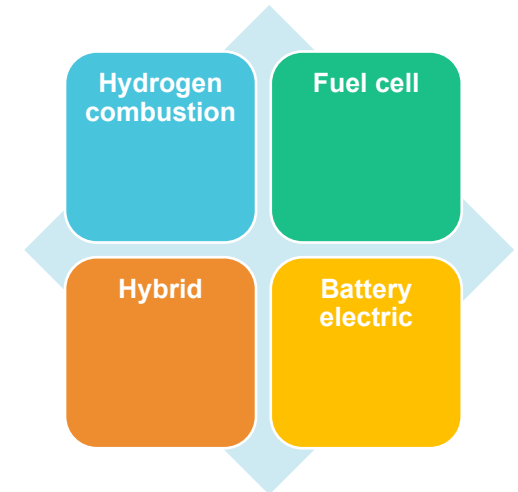
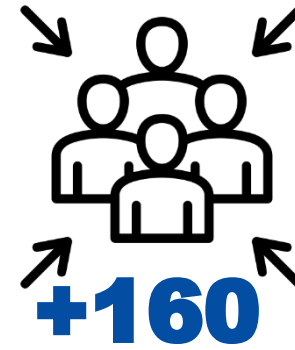
Alliances are forum of **technical nature** aiming, in particular, at identifying barriers and promoting investments. They are **not a consultation or a lobbying body**.

AZEA has an open membership

□ Open to all actors (including non-EU organisation) willing to work together to **prepare the market** for commercial operations of electric and hydrogen aircraft

□ Limited number of eligibility criteria (as per [ToR](#)):

- 1) Be a legal entity
- 2) **Commit** to the objectives of the Alliance by signing the [Declaration](#)
- 3) Have **activities relevant to the objectives** of the Alliance
- 4) Abide by the rules set in the [Terms of Reference](#)
- 5) No conflict of interests with the objectives of the Alliance



AZEA covers all market segments and technologies

□ Primary focus may be on commuters and regional aircraft, but, depending on participation, all market segments may be considered

- ❖ Short/Medium haul
- ❖ Regional aviation
- ❖ Regional Air Mobility
- ❖ Business Aviation
- ❖ General aviation
- ❖ Rotorcraft
- Urban Air Mobility

□ All electric/hydrogen propulsion technologies may be considered

- ❖ Hydrogen combustion
- ❖ Fuel cells
- ❖ Battery electric
- ❖ Hybrid electric

Market segments and technologies - Characteristics

	All electric		Electric - Hybrid	Elec - Hybrid - Hydrogen			Hydrogen
	Urban/Advanced Air Mobility		Helicopters	General/Biz Aviation	Regional Air Mobility	Regional Aviation	Single Aisle
Mission	Short Range < 30nm 2-4 PAX	Mid Range <100nm 4-6 PAX	<500 nm 5-19 PAX	<200-7000nm 5-19 PAX	200-1000nm 13-30 PAX	250-1000+nm 30-100 PAX	2000-3000nm 100-250 PAX
Power (MW)	≤ 0.5	≤ 1	0.4 - 3	0.4 - 9MW	0.5 - 4MW	2 - 9MW	12 - 20MW

	Business Aviation Jet			RAM/RAT		Regional		
With subdivision:	250-1500+nm 06-10 PAX	500-2500+nm 10-14 PAX	500-7000+nm 10-19 PAX	<200-400+nm 13-19 PAX	<200-1100+nm 19-30 PAX	250-1000+nm 30-50 PAX	500-900+nm 50-75 PAX	750-1000+nm 75-90 PAX
	0.5 - 6MW	0.5 - 6MW	0.5 - 9MW	0.5 - 2.5MW	0.5 - 4MW	2 - 4MW	3 - 6MW	3 - 9MW
	BIZAV Short	BIZAV Medium	BIZAV Long			Regional Short	Regional Medium	Regional Long



AZEA Governance

□ General Assembly, to ensure engagement of all members

- ❖ Meets twice a year
- ❖ No decision power
- ❖ Facilitate the engagement and maintain the dialogue with all AZEA Members
- ❖ Provide feedback and inputs to the Steering Committee and WGs on progress and on-going work

□ Steering Committee, to pilot AZEA

- ❖ Limited to organizations not subject to control by non EU country
- ❖ Role:
 - Guide the Alliance towards its objectives (AZEA decision making body)
 - Provide strategic advice to ensure maximum impact of the Alliance
- ❖ Tasks:
 - Define AZEA's work programme, monitor the progress and adopt corrective actions
 - Ensure coordination between WGs and integrate their contributions
 - Validate AZEA deliverables
 - Report to the General Assemblies

AZEA core tasks

Analyse

- ❖ Identify all **barriers and gaps** (including policy and regulatory needs)
- ❖ Define **requirements** for the entry-into-service of electric and hydrogen aircraft (energy, infrastructure, etc.)
- ❖ Identify the **actions** required to overcome barriers
- ❖ Identify **investments** needs

Connect

- ❖ Promote **investment** projects and connect them to financing partners
- ❖ Foster **partnerships** and maximize **synergies** across the ecosystem and beyond
- ❖ Create the necessary **momentum** amongst stakeholders
- ❖ **Outreach** and International partnerships



ANALYSIS

(ad hoc Working Groups)

Roadmap for the introduction of electric and hydrogen aircraft (update and monitoring)

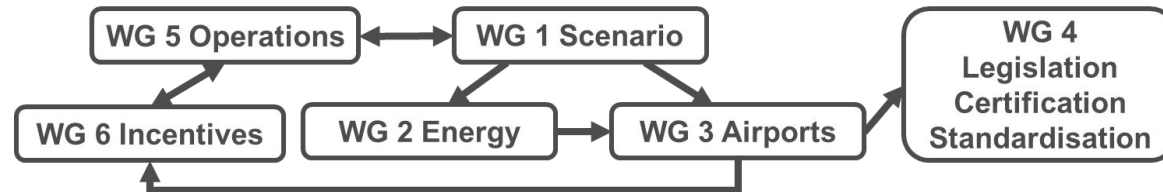
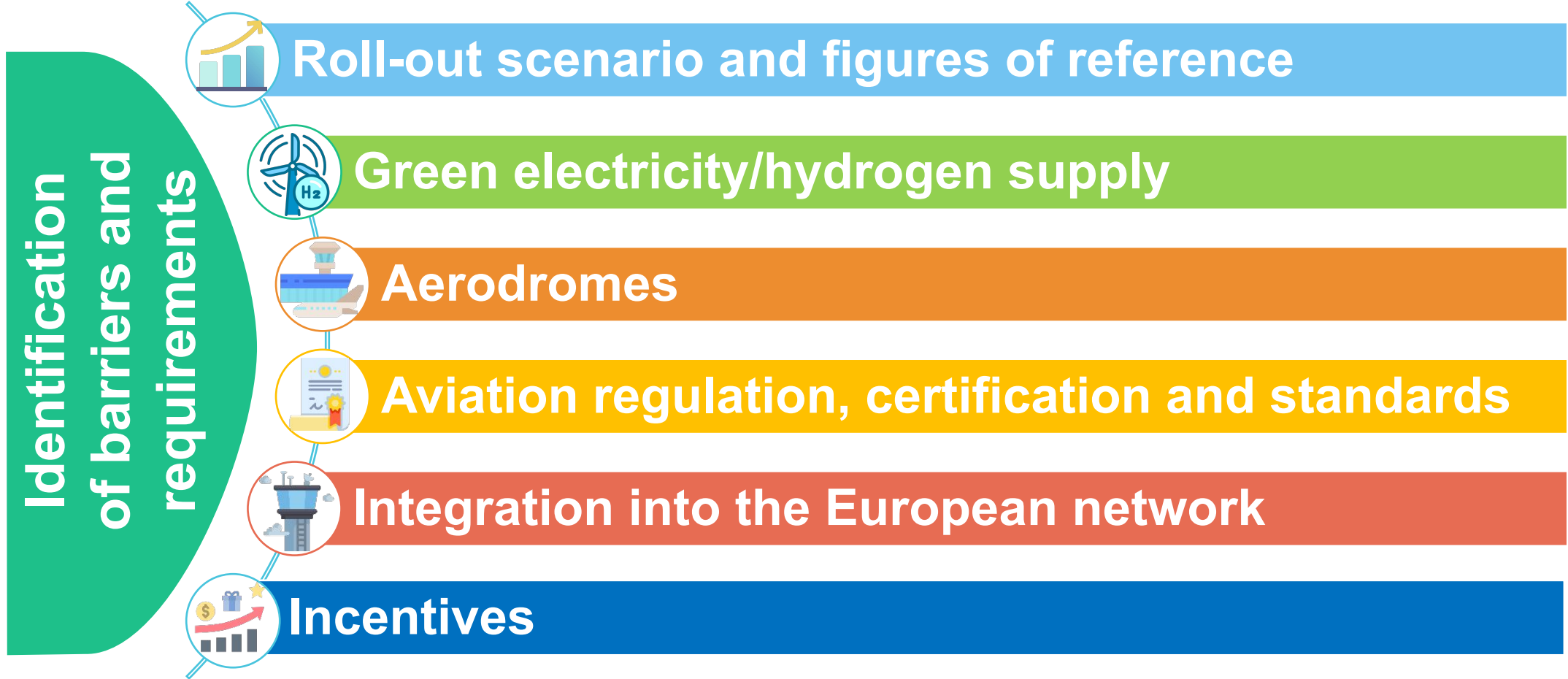
Support **INVESTMENTS** projects, foster **PARTNERSHIPS** and develop other **ACTIONS**

Recommend

Establish and follow up of a **Roadmap**:

- ❖ Based on a **roll-out scenario** for zero-emission aircraft
- ❖ Defining **priorities** and **milestones**
- ❖ Providing clear objectives and **actionable recommendations** to **support all investments** required and **address barriers identified** (legislation, standardisation, operations, skills, etc.)
- ❖ Serving as a **reference** to support the coordinated actions required by the different actors involved

First phase: six interconnected WGs to identify challenges and solutions



Thank you



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