VEHICLES ROADMAP

TARGET (EIS)	COLORIVERS		Reduce Cost: non- recurring cost, recurring cost, operating cost, disruption cost, disposal cost Improve Energy Efficiency: aerodynamic efficiency, weight, propulsion system efficiency, operational impact, parasitic losses Protect the Environment: climate impact, local air quality impact, noise, ground contamination, sustainability of manufacturing, materials impact Meet Operational Needs & Flexibility: performance, payload, availability, operational limitation impact Enhance Passenger Experience: passenger comfort, service quality, ticket cost Improve Safety: certification basis, tolerance to human error, verifiability, predictability, intrusion tolerance, environmental tolerance, risk of harm to staff in the manufacturing and operational environments		
	ENVIRONMENT		CO2 (emissions per passenger kilometre, 2000 baseline): 75% reduction by 2050 NOx (emissions per passenger kilometre, 2000 baseline): 90% reduction by 2050 Perceived noise (aircraft level based, 2000 baseline): 65% reduction by 2050 Aircraft movements emission-free when taxying: Aircraft designed and manufactured to be recyclable Net zero carbon emissions for urban and sub-regional air vehicles		
	COST		Certification cost (2000 baseline): 50% reduction by 2050		
	SAFETY		Fewer than one accident per ten million commercial aircraft flights by 2050		
TECHNOLOGY PRIORITIES (TRL 6)	Conceptual design for non-s High aspect ratio wings and Propeller integration for mult configurations with augmen Modelling in-flight geometry changes e.g. folding wing tip Faster, more connected, stre		tual design for non-standard architecture e.g. bect ratio wings and non-conventional STOL/ er integration for multiple propellers in various rations with augmented lift ng in-flight geometry s e.g. folding wing tips Aircraft and nore connected, streamlined flight physics/ae	Arobic Moise modelling for novel architectures/ propulsion and new environments Well-to-wake emissions modelling for all energy sources propulsion system integration erodynamics capability	Digital twin modelling for full aircraft and energy source lifecycle
	FUTURE SUSTAINABLE COMMERCIAL AIRCRAFT	Development of sustainable drop-in fuels Hybrid electric aircraft demonstrators Folding wing tips Noise management technologies UHBR eng High aspect ratio wings Single pilot operations (cargo)		brid electric aircraft demonstrators : technologies UHBR engines Laminar flow wings :ions (cargo)	Single pilot operations (passenger)
	SUSTAINABLE AIR VEHICLES FOR URBAN AND REGIONAL MARKETS	Fuel cell Hybrid e VTOL/ST	l aircraft demonstrators electric aircraft demonstrators Laminar flow wings FOL demonstrators Distributed pr	Noise management technologies All-electric aircraft demonstrators Autonomous sense-and-avoid opulsion and augmented lift	Full autonomous capability
			2020-2025	2025-2030	2030-2035+