TEMPLATE FOR CHARACTERISING ENERGY TECHNOLOGY ROADMAPS

REFERENCE	
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Brief Abstract:	This is the 2nd edition of the Strategic Research Agenda that addresses the research needs of Europe in the field of air transport systems over the next 20 years. It sets out the likely directions of technological change that will need to be converted into specific research programmes over the coming years if the objectives of the work are to be realised. As the 2nd edition it builds on, updates, and widens the work done in the 1st edition published in October 2002. The background to the Strategic Research Agenda was the work done on the seminal report on the future of air transport "Vision 2020" published in 2001. That report recommended the formation of an advisory body – since known as ACARE – to set out a series of agenda documents that progressively looked forward to give a long-term view of research priorities and needs. These agenda documents are intended to act as stimulating guidance to all those with an interest in the relevant research programmes, whether from a governmental, industrial, social, funding, policy or regulatory perspective. They do not comprise specific research programmes with lists of collaborating agencies but pave the way for them by setting directions and priorities.

OUTPUTS	
Short Report?	No
Major report?	Yes
Visualisations?	No
Information held on dedicated software?	No
- which package?	NA

ARCHITECTURE	
Timescales used:	Over the next 20 years
Trends and drivers?	No
- list	
Enablers?	Yes
- list	The enablers of HLTCs are as follows.
	Key enablers for a system devoted to passenger convenience will start with effective inter-modal infrastructures for the arriving and departing passengers. These will include the range of ground transport but may also involve transfers to and from rotorcraft at verti-ports.
	Extended system-wide Simulation and Time Management tools will be vital both to understand the situations by simulation and also to assess the validity of solutions by simulation or demonstration.
	Key enablers to permit progression towards this High Level Target Concepts or HLTCs will be:
	• Revision of the regulatory policy and regulatory framework for aircraft construction and operations including regulations for standardisation of air vehicle design and construction
	• Standards for components/equipments, for airport equipment and for flight operations processes.
	• Simplified standard re-certification routines
	• Airport planning (e.g. market driven vs. Community-wide planning)
	• Land use and planning policies surrounding airports.
	• Regulation and standardisation of transport links and interfaces to the Air Transport System (including efficient separation of traveller from luggage/non-essential personal items at place of departure and reuniting at destination).
	• Developments in the security equipment sector (Multi-spectral scanning machines, automated handling and screening etc.) – a reflection of needs is described in the Ultra Secure HLTC.
	• Developments in the ICT sector (surveillance sensors, pattern recognition software, RF tags etc.) as for the Ultra Secure HLTC.
	• Demonstration of system capability and safety that positively influences public

	perception and acceptance. • Development and demonstration of advanced automated ATM routines to minimise or eliminate the need for "real-time" Air Traffic Controllers. Other key enablers will be: • Availability of an inter-modal infrastructure (including the availability of vertiports for rotorcraft). • Airport planning (e.g. market driven vs. European-wide planning). • Land use policies. The enablers of The Ultra Secure Air Transport System will be: • Certification and Qualification • Simulation • Public Acceptance • Operational Liability Institutional enablers of the agenda will be: • The research infrastructure • Certification and qualification • Education • Supply chains • Trans-European synergy • International collaboration
Performance measures/targets?	Yes
- list areas	5 High Level Target Concepts: • The Highly Customer Oriented Air Transport System • The Highly Time Efficient Air Transport System • The Highly Cost Efficient Air Transport System • The Ultra Green Air Transport System • The Ultra Secure Air Transport System
Mapping of RD&D activities?	Yes
Critical assessment of capabilities?	

PROCESS	
Methods used:	
- Desk study?	
- Consultation	
- Interviews?	
- Facilitated workshop(s)	Yes
- Working groups/task force	
- Integrated Process	
Stakeholders engaged:	
– University based researchers	Yes
– Other public sector researchers	Yes
– Business – technology	Yes
– Business – other	
– Government - energy	Yes
– Government – SET	
– Government - other	
– NGOs	
No of people engaged:	More than 250 people
Budget (if known):	
Commitment to re-visit?	

ACTIONS IDENTIFIED	
List of actions?	Yes
Actions listed according to timescale?	Yes
Actions prioritised?	No
Sequencing/dependencies identified?	No
Responsibility for actions identified?	No
Types of actions identified:	No
- Basic research?	
- list areas	
- Applied research?	
- list areas	
- Development & demonstration	
- list areas?	
- Other types of action?	Yes
- list other types	ACARE perceives that important actions need to be addressed during the next 2-3 years in the following areas: • Member States should designate the Air Transportation System and the relevant industry and research institutions as a distinct national priority and/or enabler for economic growth. • Encouraging more debate, and research, about

	the impact of aviation on the atmosphere and to plan the environmental controls of the long-range future. • Pressing the nations, the EU, airports, airlines and the ATM community to address the new business models that will be necessary in the future. • Promoting more international debate about the long-term consequences for and of the aviation transport world. • Facilitating links between the Member States and their collaboration on matters of aviation research within the framework of the Agenda. • Proposing actions that will lead to the establishment of a European repository of aviation knowledge and act as a centre for new studies of the issues that are outlined in the Agenda. • Integrating representatives from the new Member States into the framework of ACARE and together with them strengthening the Agenda with their new knowledge, experience and capabilities. • Each Member State should review how its own industry can be facilitated to develop to its full potential.