



Common Vision Workshop on Small Aircraft Transport (SAT) System

Approach and Working Group Creation

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Workshop Approach

- ❖ **A Discussion Paper was distributed**
- ❖ **Key elements of a vision for a SAT System have been presented in the morning to set-up the scenario**
- ❖ **Two Parallel Sessions will take place to openly collect views and opinions on key elements of the SAT Vision**
- ❖ **Preliminary Collection of results from Parallel Sessions**
- ❖ **Panel Discussion on three Pivotal Questions**
- ❖ **SAT-Roadmap next steps**



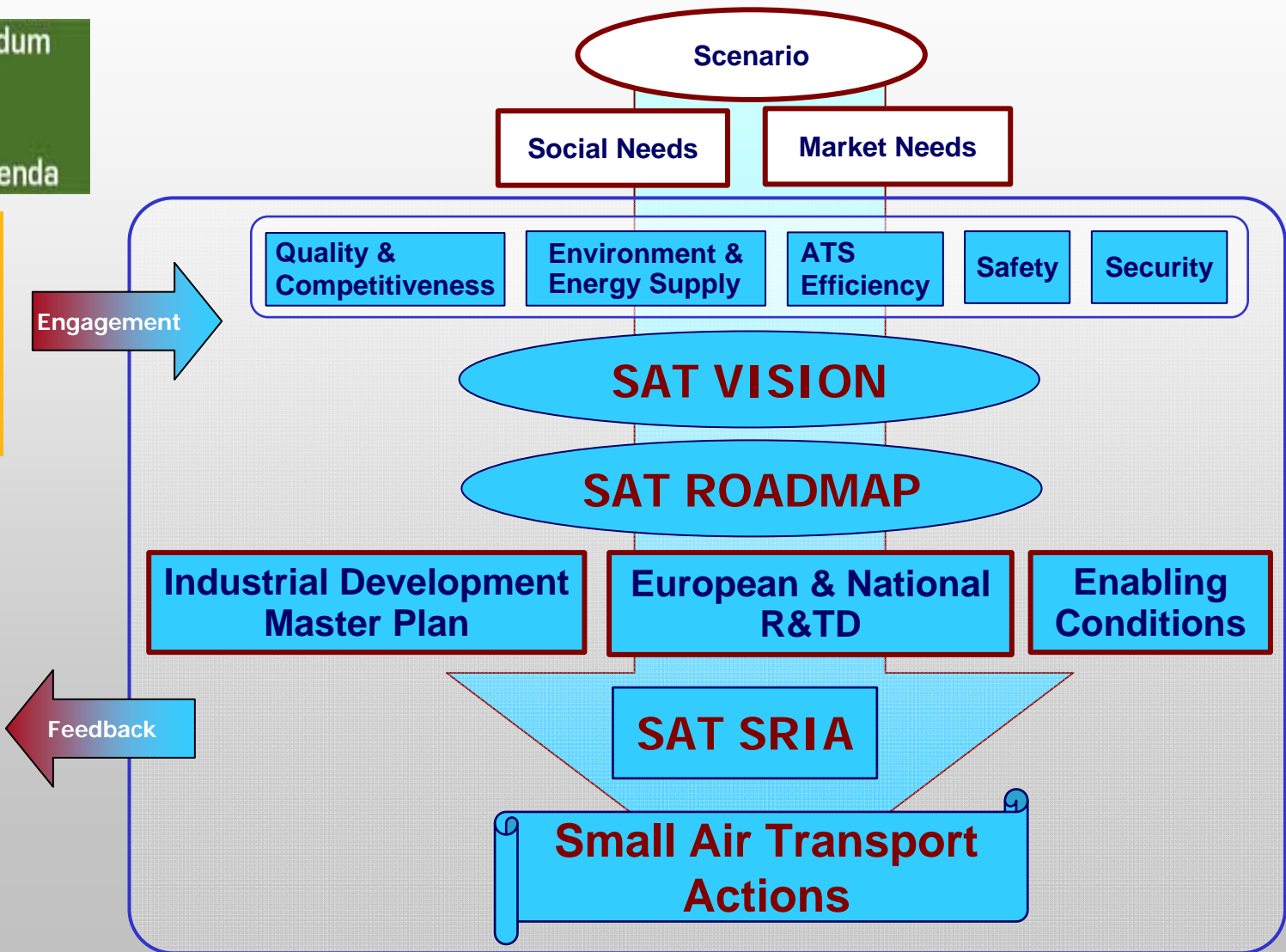
Turning SAT mode into practice



2008 Addendum
to the
Strategic
Research Agenda

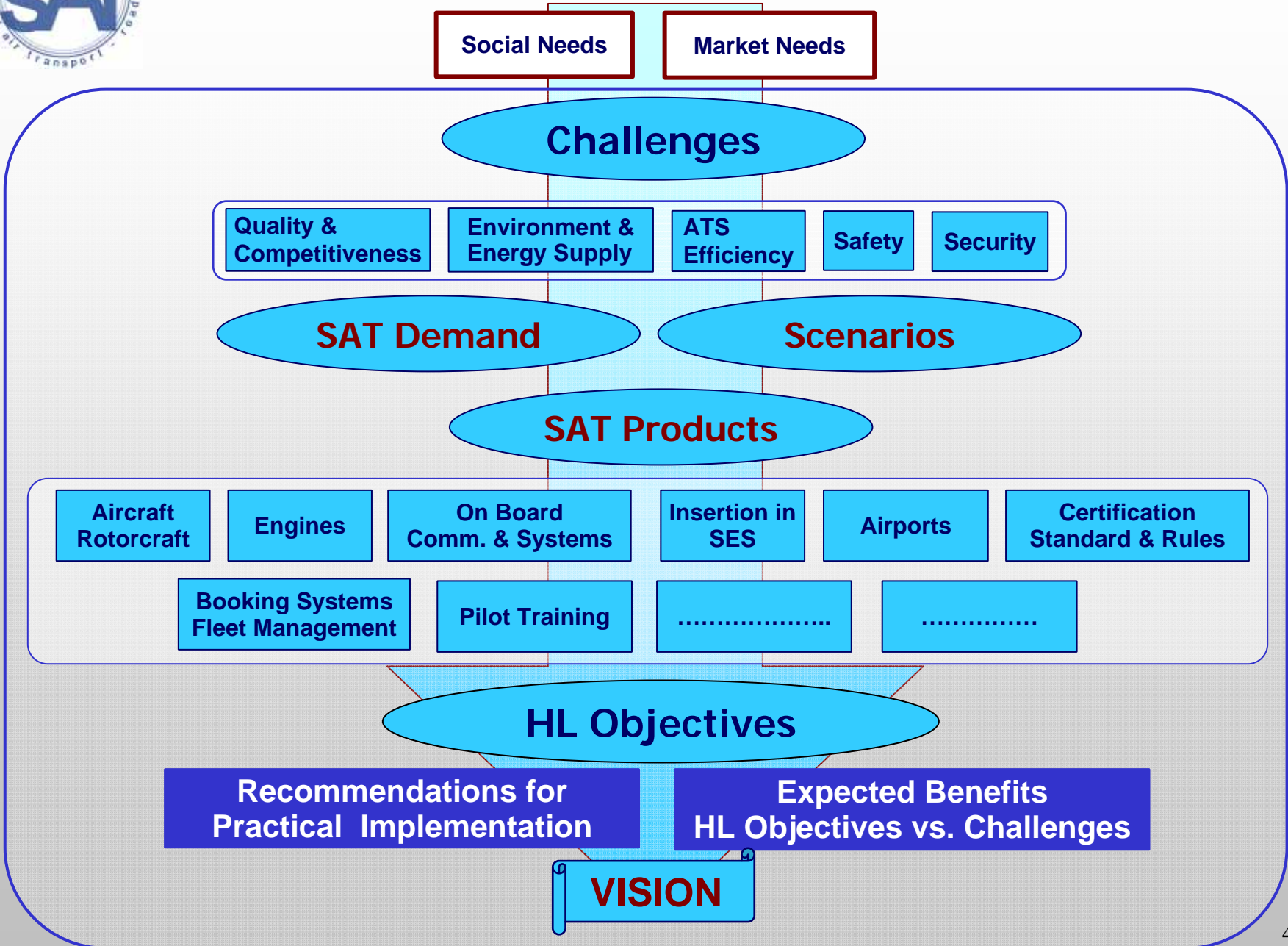
Flightpath 2050
Europe's Vision
for Aviation

Report of the High Level Group
on Aviation Research





SAT Common Vision



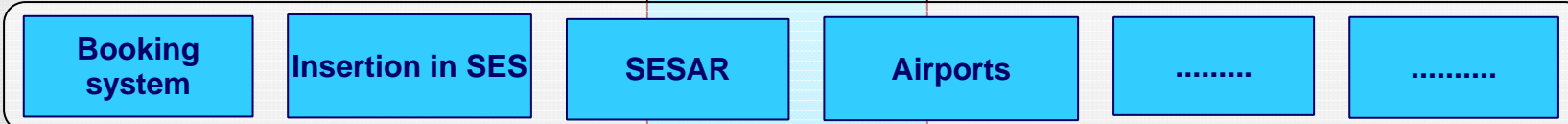


High Level Objectives

Product Technologies



Operations Technology



Enabling Conditions



Technological Objectives

Enabling Conditions

Risk Assessment

Expected Benefits

SAT SRIA



SAT Common Vision

Why a Vision Is Important

- ❖ Is a catalyst
 - ❖ Aligns involved people and organizations in joint activities
 - ❖ Facilitates to set goals, priorities and planning.
 - ❖ Helps unifying efforts and funding
 - ❖ Keeps the community inspired and facilitate people commitment
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- ❖ Describes the shared future a community wants to create
 - ❖ Reveals and announces the added values for the community of planned activities towards social needs, technological progress and innovation
 - ❖ Visions can be short “we will have a man on the moon” or as long as a page or two. But, in either case, they must give a clear and compelling picture.



Activities for SAT Vision to be discussed in the Parallel Sessions

- ❖ **Main characteristics of future Small Aircraft Transport System**
- ❖ **SAT sectors and products where Europe wants to excel**
 - characteristics of new environmentally friendly and efficient aircraft and systems
- ❖ **When products are needed in the market ?**
- ❖ **High Level Objectives for SAT Products**



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Parallel Sessions with two Working Groups		
	Parallel Sessions WG – 1	
13:30	<ul style="list-style-type: none">❖ Target Products & Technologies<ul style="list-style-type: none">○ Piston engine A/C - 9 seats or fewer – MTOW up to 5670 kg,○ Turboprop A/C - 19 seats or less - MTOW 8618 kg○ Jet A/C - 11 seats or less – MTOW up to 7600 kg❖ HLO for Product Technologies❖ Enabling Conditions for Product Technologies<ul style="list-style-type: none">○ R&TD infrastructures○ Certification, Standards and Rules○ Industrial Master Plan○ Funding❖ Product Technologies HLO vs Challenges	<p>WG – 1 lead by A. de Graaff (AD Cuenta) M. Amato (CIRA)</p>
15:30	Coffee Break (15:30 - 15:45)	





Parallel Sessions WG – 2		
13:30	<ul style="list-style-type: none">❖ Target Operation, System Concepts and Technologies<ul style="list-style-type: none">○ Booking system○ Fleet Management○ ATM and SES○ Airports○ Automation level for SAT and operation modes❖ HLO for Operation Technologies❖ Enabling Conditions for Operations Technologies<ul style="list-style-type: none">○ Pilot Training○ Insertion in SES○ Certification, Standards and Rules○ R&TD funding❖ Operation Technologies HLO vs Challenges	<p>WG – 2 lead by</p> <p>T. Henley (Consulting) S. Ghijs (Fly Aeolus)</p>
15:30	Coffee Break (15:30 - 15:45)	





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WG1

WG2



	Preliminary Results Collection	
15:45	Product Technologies and Enabling Conditions Product Technologies HLO vs Challenges	WG-1 Leader A. de Graaff (AD Cuenta)
16:00	Operation Technologies - Enabling Conditions Operation Technologies HLO vs Challenges	WG-2 Leader T. Henley (Consulting)



The SATS approach will add a new modality within air transport and complement international and regional transport.

Small Aircraft Transport will serve:

- ❖ **the need for low-intensity intercity routes** (e.g. for west/east directives also in central Europe), which has been dependent so far on road transport
- ❖ **Regions with less developed infrastructures** (e.g. out of the central European “economic banana”)
- ❖ **the needs of European business travel**



SAT Common Vision

Challenges (examples)

Quality & Competitiveness	Environment & Energy Supply	ATS Efficiency	Safety	Security
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- ❖ To provide a new affordable, accessible, energy efficient and environmentally friendly component of Air Transport System (ATS).
- ❖ To offer a larger choice for transportation through the increasing use of small aircraft serving small airports
- ❖ To facilitate the access to transport for a large number of communities in a cost effective way. To satisfy the needs of transportation in regions where transport networks (especially surface transport) are underdeveloped.
- ❖ To create additional mobility (door-to-door/point-to-point) for the European citizens.
- ❖ To stimulate a co-modal approach for the European transport system.
- ❖ To improve the energy efficiency of transport according to the European Energy Strategy for Transport.

❖ **Products Technologies (examples to be detailed)**

- small fixed wing aircraft (GA, Commuters,)
- small helicopters
- business aircraft
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❖ **Operations Technology**

- Network Centric booking system and fleet management
- aero-taxi
- regular routes by small aircraft and commuters
- use of small and local airports
- use of aerodromes (grass airfield, sea and lakes),
- inter-modal traffic: airline – small airplane – car.





SAT Common Vision



High Level Objectives (examples)

Challenges Products		Challenges				
		Quality & Competitiveness	Environment & Energy Supply	ATS Efficiency	Safety	Security
S A T P R O D U C T S	Small Fixed Wing Aircraft (4 – 8 seats)	New design methodologies	Development of innovative materials and production processes		All weather Operations	
	Engine	New design methodologies	Hydrogen engine		Fault Tolerant Design	
	XXXXX			XXXX		



SAT Common Vision - Technology Roadmap



Technological Objectives (examples) Small Fixed Wing Aircraft

Tech. Objectives		Technical Objectives				
		Low Noise Low Emission Configuration	Out of autoclave production	Low energy low weight Ice Protection	Low Cost Manufacturing	Crash- worthiness
HLO	New design methodologies	❖		❖	❖	
	Development of innovative materials and production processes	❖	❖	❖	❖	❖
	All Weather Operations			❖		



SAT Common Vision - Technology Roadmap



Technological Objectives vs Challenges (examples) Small Fixed Wing Aircraft

Challenges		Challenges				
		Quality & Competitiveness	Environment & Energy Supply	ATS Efficiency	Safety	Security
TO	Low Noise Low Emission Configuration	★	★			
	Out of autoclave production	★	★		★	
	Low energy low weight Ice Protection	★			★	

❖ **Creation of Working Groups**

○ **Target Products & Technologies**

- **Moderator :** A. de Graaff (AD Cuenta)
- **Rapporteur:** M. Amato (CIRA)

○ **Target Operation, System Concepts and Technologies**

- **Moderator :** T. Henley (Consulting)
- **Rapporteur:** S. Ghijs (Fly Aeolus)