



FROM INNOVATION TO SOLUTION

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# SESAR: 2020 Vision



## Delivering best-in-class, globally interoperable and high-performing Air Transport for Airspace Users and Citizens

- Enabling the delivery of safe, cost-efficient and environmentally responsible Air Vehicle & ATM operations, systems and services



### High Performing Airport Operations

Capacity, Safety, Environment, Efficient, Effective, Networked



### Optimised ATM Network Services

Collaboration, Balancing Demand & Capacity, Environment, Efficiency



### Advanced Air Traffic Services

Synchronisation, Capacity, Safety, Environment, Cost



## Enabling the Aviation Infrastructure

- Providing shared technical services across the aviation domain
- Communications, positioning, navigation, timing and SWIM information
- Air vehicle operations, systems & services

# SESAR2020: Three Research Phases

- **Exploratory Research**

- Concentrates on early maturity excellent science and initial applications to ATM
- Uses H2020 open calls

- **Industrial Research & Validation**

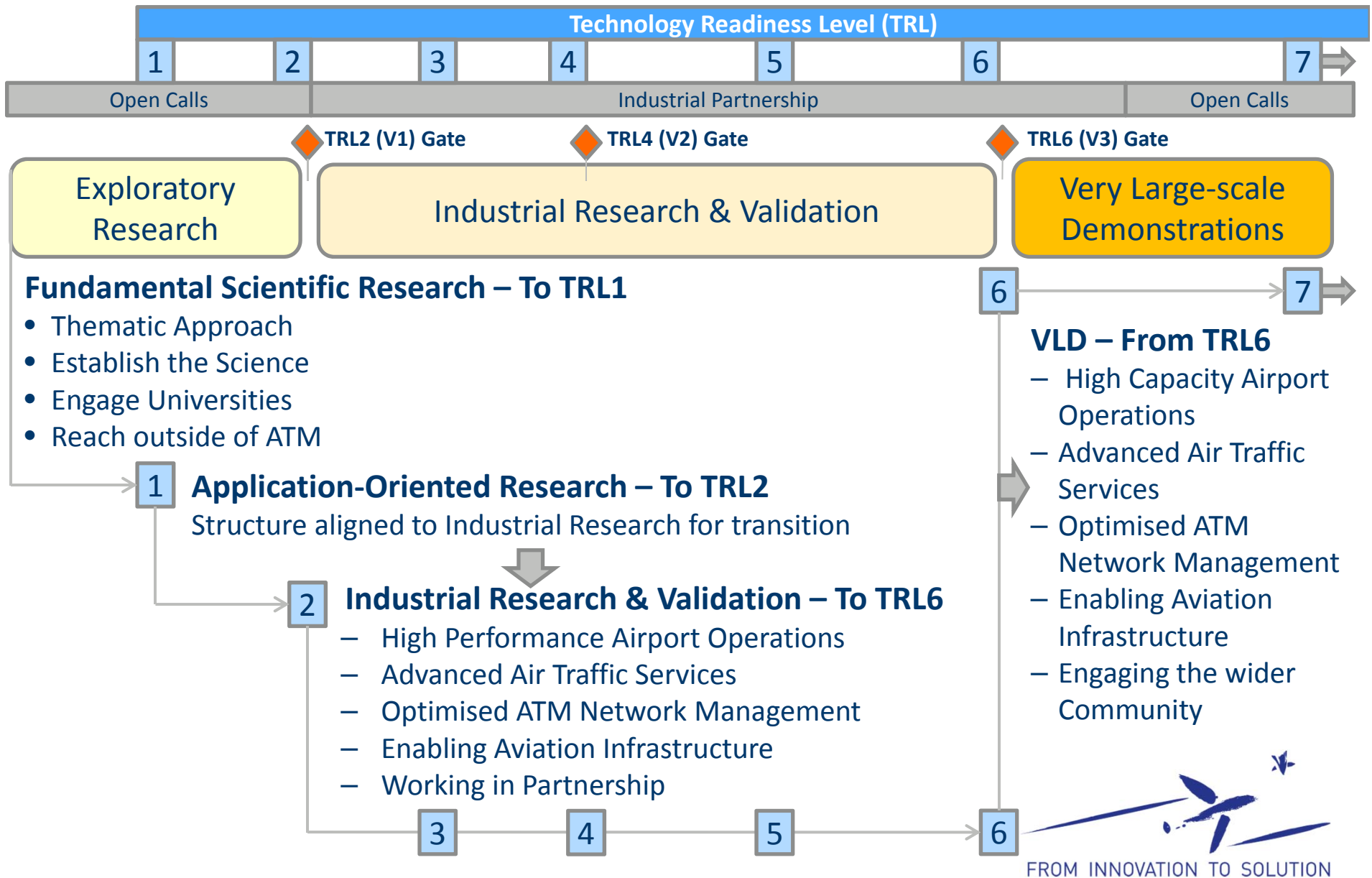
- Concentrates on maturing and validating through applied research, pre-industrial development and validation of high benefit applications for ATM
- Uses an industrial PPP with involvement of all stakeholders

- **Very Large Scale Demonstration**

- Concentrates on taking the concepts and technology to a wider geographic and stakeholder application to reduce deployment risk
- Uses a mixture of industrial PPP and open calls



# SESAR 2020 Research Maturity



# SESAR 2020 Exploratory Research

## OBJECTIVES

- To contribute to the European ATM Master Plan towards long term objectives beyond 2035 (i.e. 2050 timescale)
- To contribute to the identification of innovative solutions not yet identified in the ATM master plan but which would accelerate the realisation of the SES targets
- To deliver a sustainable and healthy body of research activities across a range of research networks in Europe

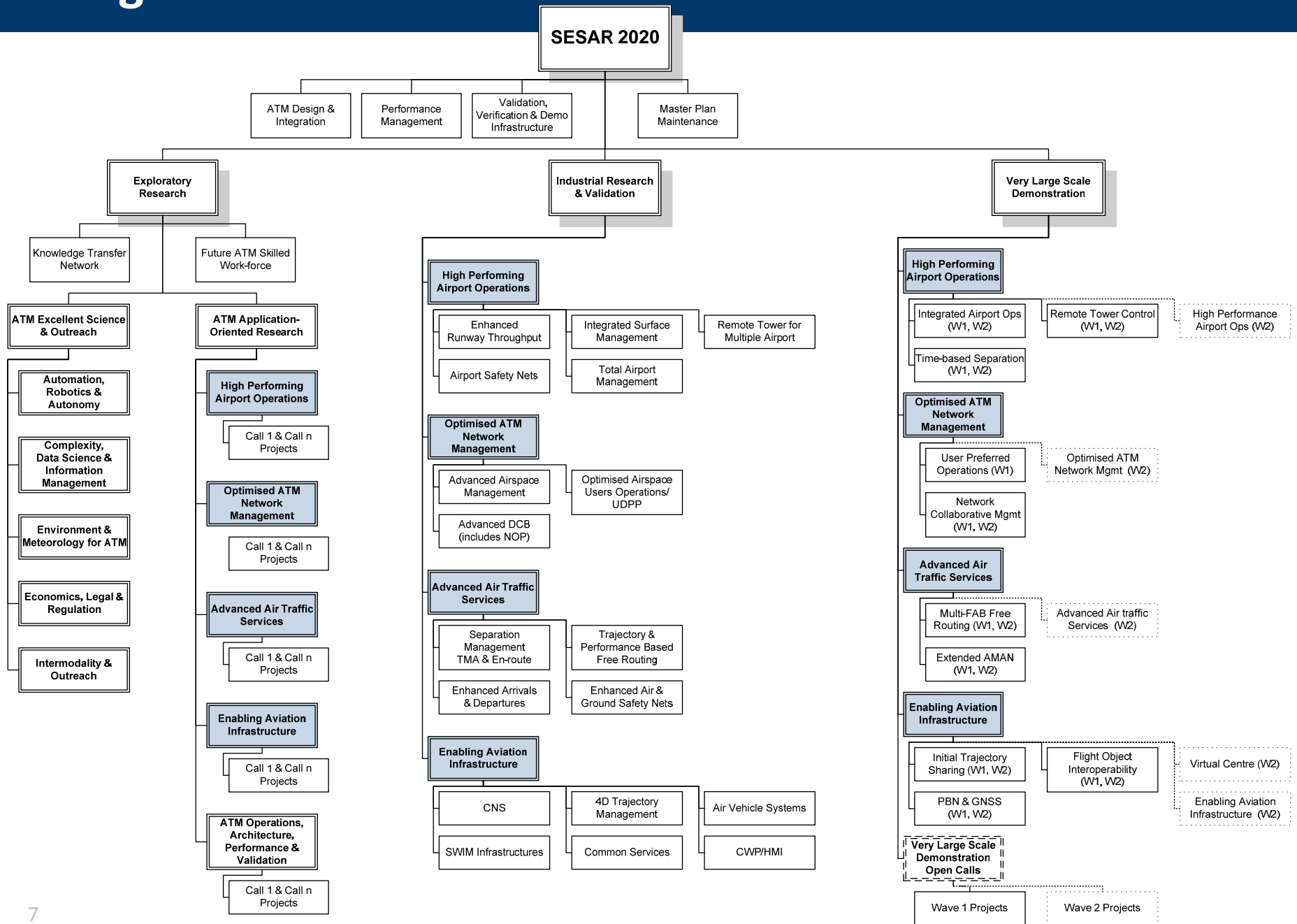


# Challenges for SESAR 2020 Exploratory Research

- Support the realisation of the ATM Master Plan Step 3
- Identify innovative solutions, not yet in the ATM Master Plan, with potential to accelerate the realisation of the SES targets by 2020, 2035 and towards the 2050 vision
- Deliver a range of sustainable research activities with application for ATM in Europe
- Implement maturity level criteria and a suitable gate process for content management and decision-making related to research projects that address low maturity activities
- Integrate the most beneficial aspects of E-OCVM and the TRL maturity and lifecycle
- Enable the research pipeline concept with a maturity assessment process that allows for fast-track and includes a sound economic and benefit argument to transfer results into an industrial PPP at TRL2



# Programme 2020 – Draft Work Breakdown Structure



# Principles & Organisation

- **Excellent Science & Outreach, including:**
  - Automation, Robotics & Autonomy
  - Complexity Science, Data Science & Information Management
  - Environment & Meteorology for ATM
  - Economics, Legal & Regulation
  - ATM role in Mobility and Intermodality
  - Communications, Navigation, Surveillance, Positioning & Timing
- **Application-oriented Research, including:**
  - High Performing Airport Operations
  - Optimised ATM Network Management
  - Advanced Air Traffic Services
  - Enabling Aviation Infrastructure
  - ATM Operations, Architecture, Performance & Validation
- **Transversal Activities**
  - Knowledge Transfer
  - Future ATM Skilled work-force





# Launching Exploratory Research Phase

- H2020 open calls, so not limited to SJU Members.
- Maximum H2020 budget of €85M
- First Call budget of around €20M
- Objective is to launch first call by end of 2014, beginning of 2015
- The call will be open for a period of 4 months





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# SIDS 2014: YOUNG SCIENTIST AWARD

14 November 2014



founding members



EUROPEAN UNION



EUROCONTROL

## Recognising scientific excellence

- Marc Perez-Batlle
- Gonzalo Arnedo Tobaruela
- Enrique Casado



# Summing up: SIDS 2014

- SID's 2014 more than 330 registrations
- Around 54 papers submitted
- 30 selected papers and posters presented



# SESAR Innovation Days 2015

- SIDs 2015 confirmed for Tuesday 1st December to Thursday 3rd December 2015 in Bologna, Italy





Thank you for your attention

