

SAE Conference

ICE GENESIS Overview

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JUNE 2019

ICE GENESIS OBJECTIVES

Top level objective

The top level objective of the ICE GENESIS project is to provide the European aeronautical industry with a validated new generation of

3D icing engineering tools

(numerical simulation and test capabilities),

addressing **App C**, **App O** and **snow** conditions, for safe, efficient and cost effective design and certification of future aircraft and rotorcraft.

ICE GENESIS OBJECTIVES

Sub objectives

- **Obj#1:** Improve and validate existing **3D numerical tools** to predict ice accretion in App C, App O and Snow conditions.
- **Obj#2:** Upgrade and calibrate **icing wind tunnels** to allow reproduction of:
 - **Supercooled Large Droplets (SLD) in FZDZ (Freezing drizzle) conditions.**
 - **Snow icing conditions**
 - Additionally, to **assess the potential of current icing wind tunnels to represent SLD in FZRA (Freezing rain) conditions.**
- **Obj#3:** Build a **large scale experimental database** on representative 3D configurations to be used as a solid reference (“ground truth”) for future numerical tools validation.

PARTNERSHIP

■ Industrials, Wind tunnels, Research centers, ...

AIRBUS	AIRBUS OPERATIONS SAS
AIH	AIRBUS HELICOPTER
AIIS	AUSTRIAN INSTITUTE FOR ICING SCIENCES
AIT	AUSTRIAN INSTITUTE OF TECHNOLOGY GMBH
ARTTIC	ARTTIC
ATR	ATR AIRCRAFT
AVI	UEC-AVIADVIGATEL JSC
BOMB	BOMBARDIER INC.
CAO	CENTRAL AEROLOGICAL OBSERVATORY
CIAM	FEDERALNOE GOSUDARSTVENNOE UNITARNOE PREDPRIYATIE CENTRALNII INSTITUTAVIACIONOGO MOTOROSTROENIYA IMENI PI BARANOVA
CIRA	CENTRO ITALIANO RICERCHE AEROSPAZIALI SCPA
CNRS	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE
CU	CRANFIELD UNIVERSITY
DASSAV	DASSAULT AVIATION
DLR	DLR
EPFL	ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE
GE	GENERAL ELECTRIC DEUTSCHLAND HOLDING GMBH

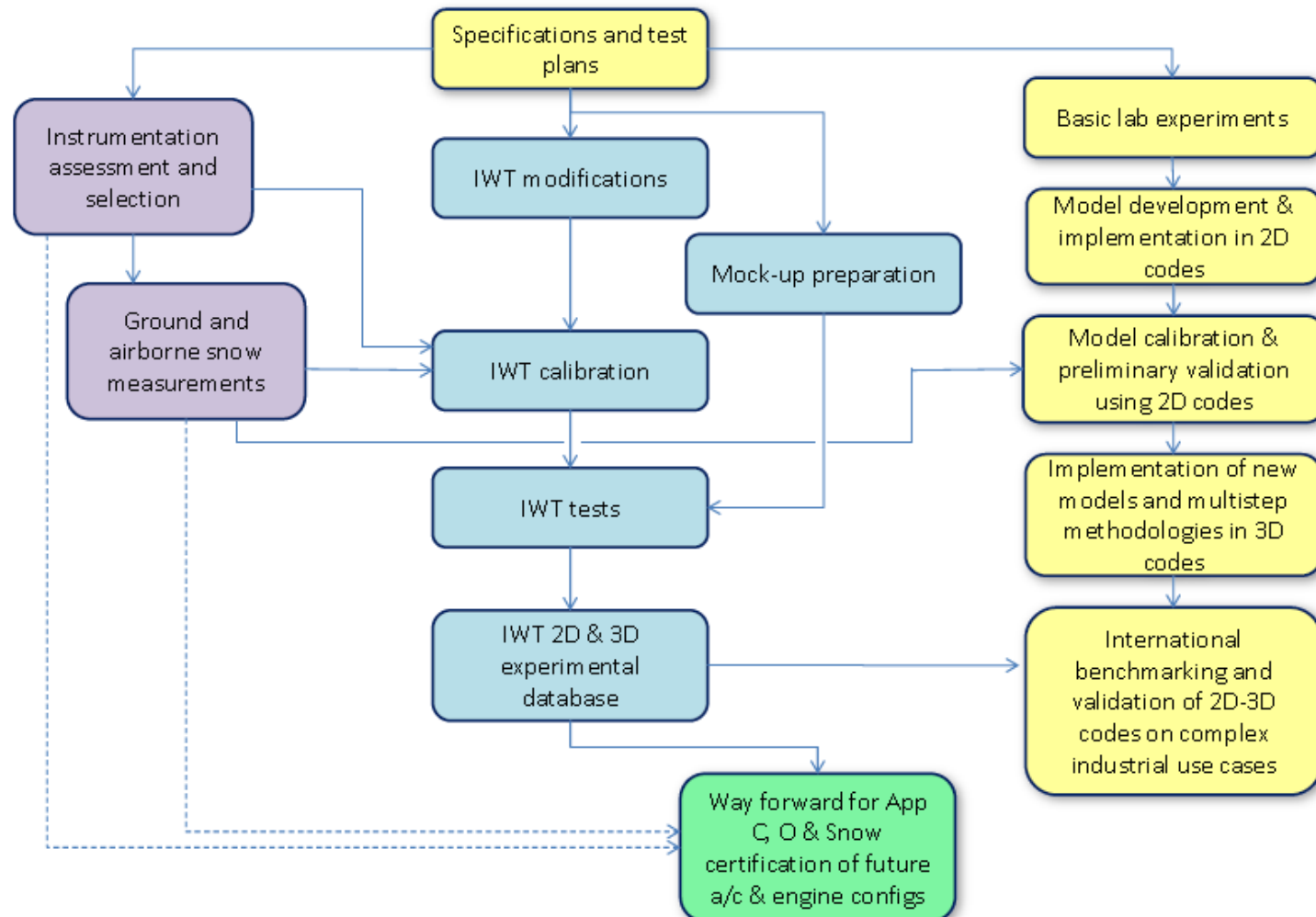
PARTNERSHIP

IAG	IAG INDUSTRIE
LDO	LEONARDO
LIEBHERR	LIEBHERR
MINDEF	MINISTERE DE LA DEFENSE
MIPT	MOSCOW INSTITUTE OF PHYSICS AND TECHNOLOGY (STATE UNIVERSITY)
MMHP	MIL MOSCOW HELICOPTER PLANT, JSC
NRC	NATIONAL RESEARCH COUNCIL CANADA
ONERA	OFFICE NATIONAL D'ETUDES ET DE RECHERCHES AEROSPATIALES
POLIMI	POLITECNICO DI MILANO
POLYMO	CORPORATION DE L ECOLE POLYTECHNIQUE DE MONTREAL ASSOCIATION
RR	ROLLS-ROYCE PLC
RTA	RTA
RV	RAINBOW VISIONS
SAF-AE	SAFRAN AIRCRAFT ENGINES
SONACA	SONACA
TsAGI	FEDERAL STATE UNITARY ENTERPRISE THE CENTRAL AEROHYDRODYNAMIC INSTITUTE NAMED AFTER PROF. N.E. ZHUKOVSKY
TUBS	TECHNISCHE UNIVERSITAT BRAUNSCHWEIG
TUDA	TECHNISCHE UNIVERSITAT DARMSTADT
TUS	TOKYO UNIVERSITY OF SCIENCE FOUNDATION

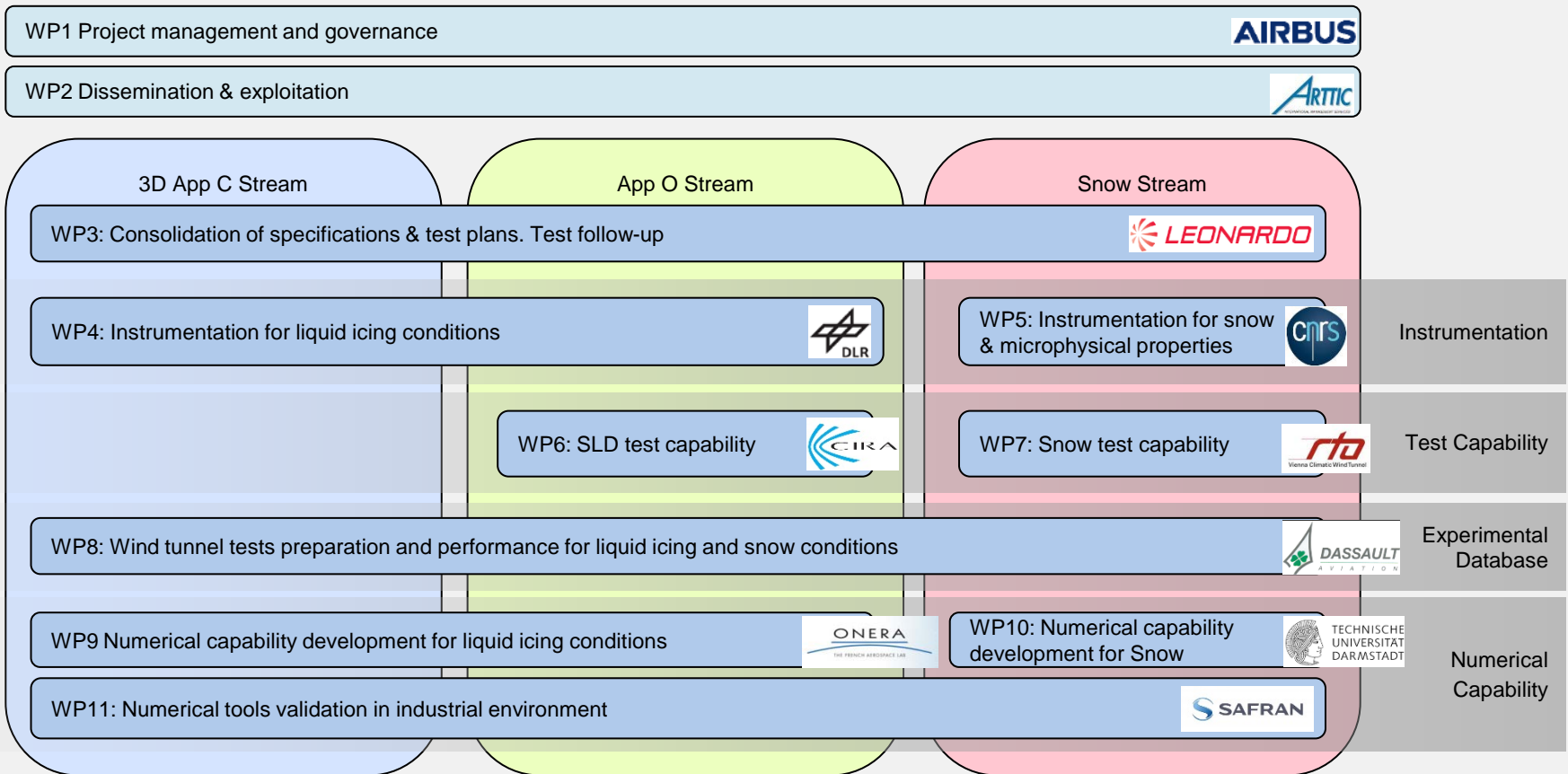
PARTNERSHIP

- **Consortium nationalities:** Austria, Belgium, Canada, France, Germany, Italy, Japan, United Kingdom, Russian Federation, Switzerland
- **Advisory board:** EASA, FAA, ADSE, AEROTEX, AIRBUS Defense&Space, CSTB, DAHER, EMBRAER, PIAGGIO, SAFRAN Helicopter engines, SAFRAN nacelles

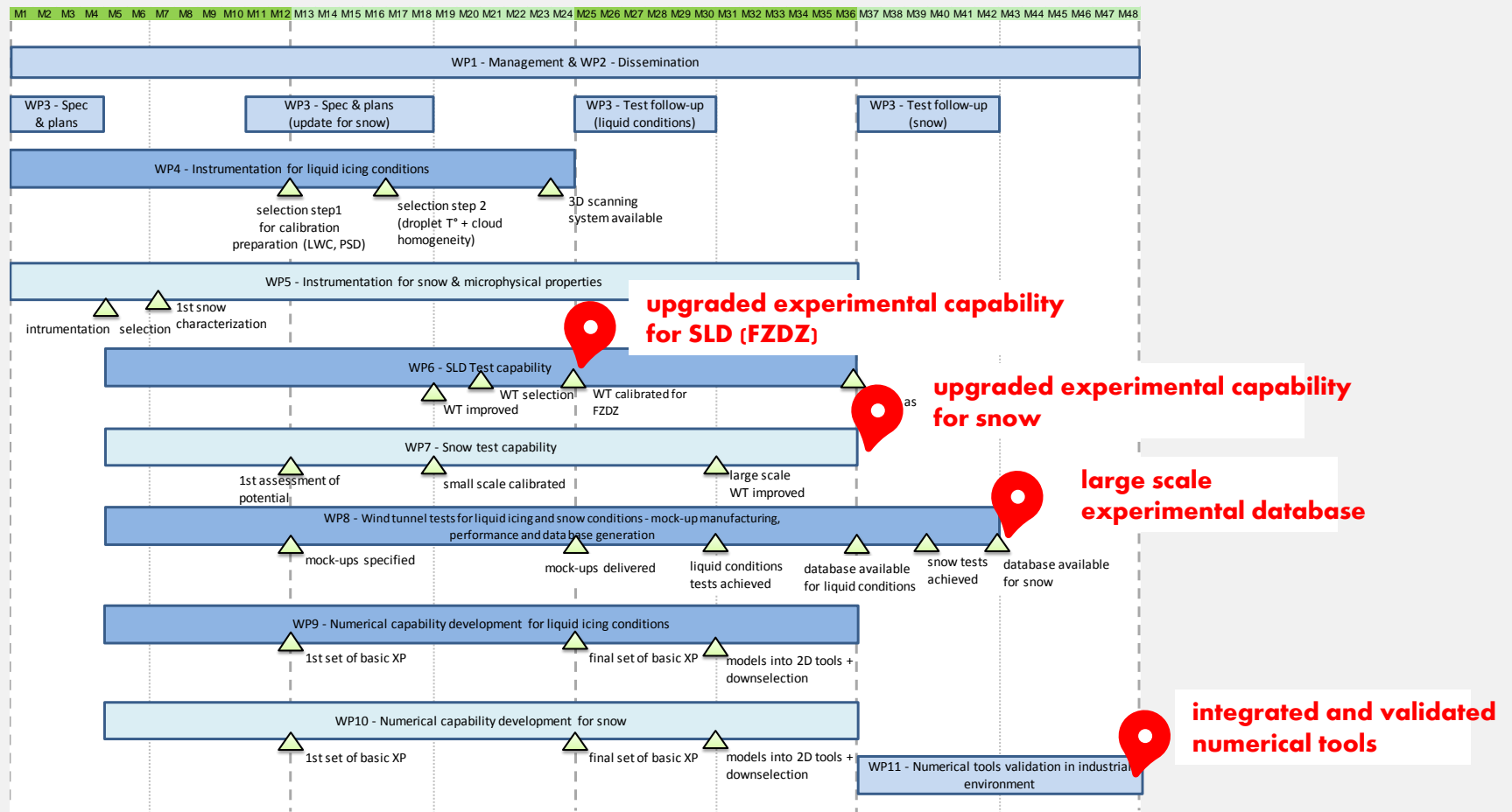
METHODOLOGY



ORGANIZATION



SCHEDULE & MAIN DELIVERABLES



QUESTIONS



THANK YOU

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824310. This text reflects only the author's views and the Commission is not liable for any use that may be made of the information contained therein.

