



Research and Technologies for Virtual Simulation and Testing: Activities in FP7 - Opportunities in H2020

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European Commission – DG RTD

AirTN – NextGen Seminar

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Good morning....best regards to all of you from Dietrich



Simulation in FP6-FP7 Aeronautics projects:

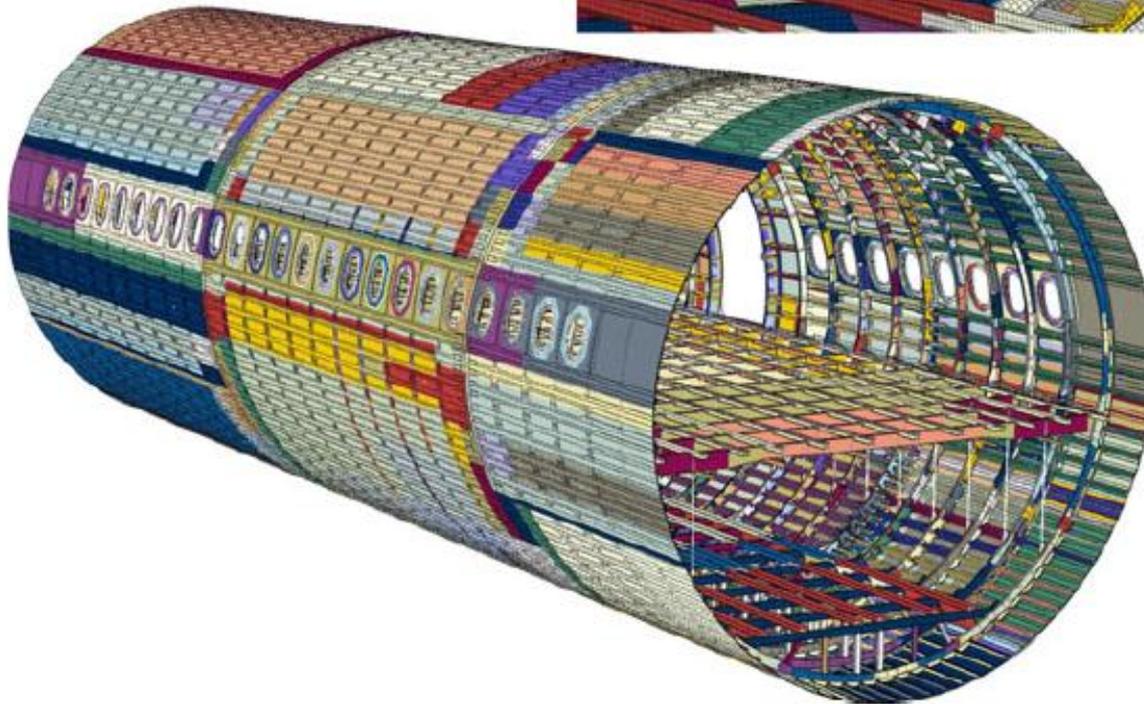
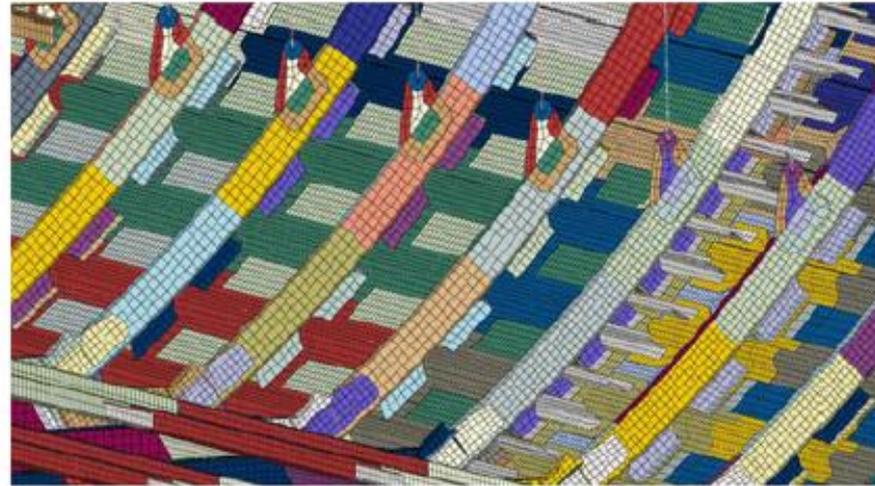
... just a representative subset

**REMF1, SMAES, gIFEM, ALCAS, CRAHVI, MUSCA,
EUROLIFT, FASTFLO, ALASCA, RB4AERO, ULTMAT,
TOPCOAT, MOET, ASCOS, to name only a few**

and of course the flagships:

VIVACE, MAAXIMUS, CRESCENDO and TOICA

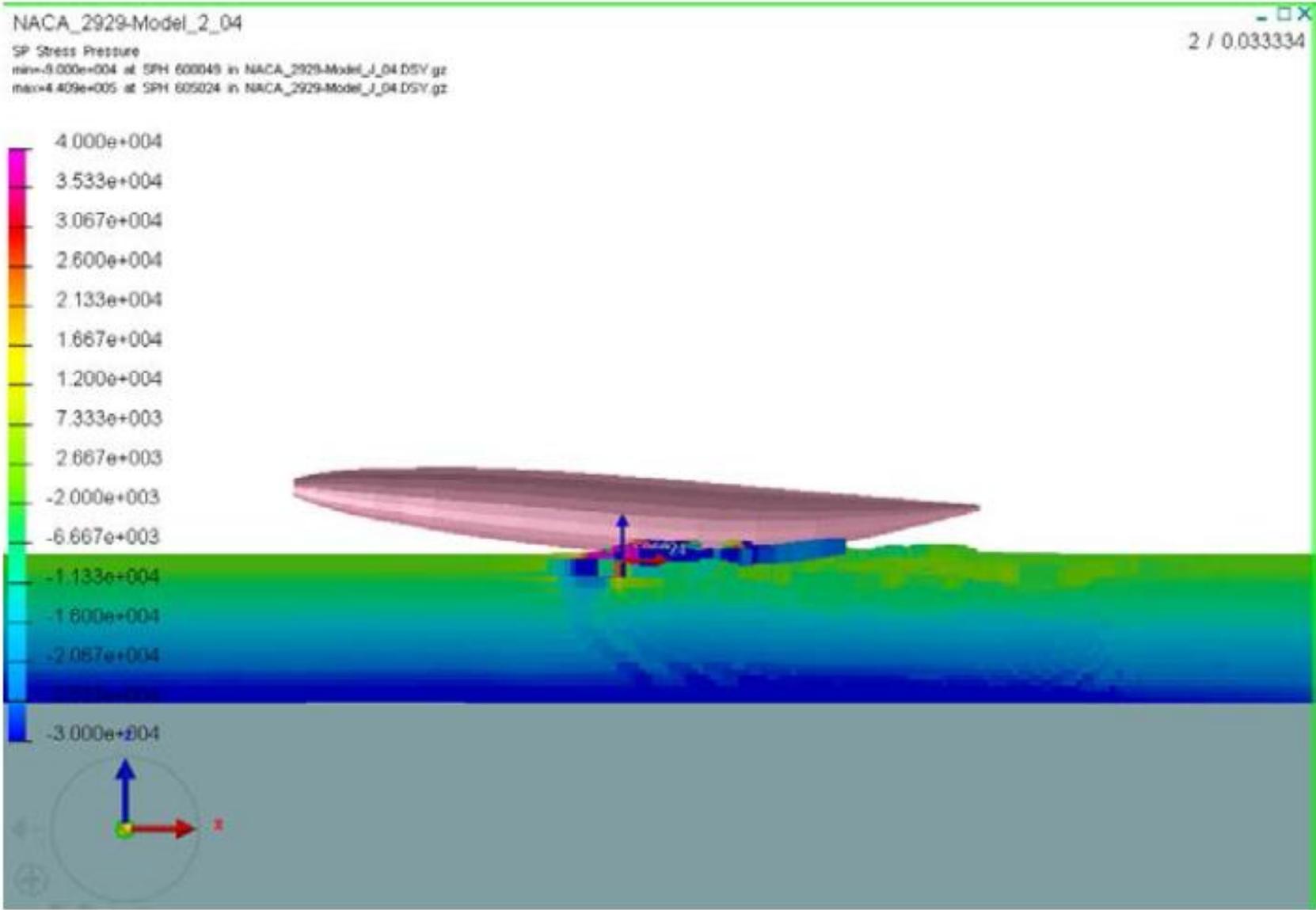
Nobody to impress !





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Nobody to impress !



- **Certification reform**
- **Simulation assisted certification**
- **Timely → long preparatory phase**
- **New products → already certified**
- **Derivatives only → short/medium term horizon**
- **Great opportunity to demonstrate compliance for changes to a baseline that has been already demonstrated**
- **This looks like more effort for now but long term gain is expected**

Other advantages include:

- **Infinite possibilities in complex systems**
- **to measure a 10^{-9} probability of failure for a 1 hour mission, one must test more than 10^{+9} hours – 114,000 years – good luck!**
- **For simple systems, worst case scenario is easy to identify, test and demonstrate compliance**
- **For complex systems of tomorrow, simulation assisted certification can substantially contribute by elimination and DoE**

Way forward:

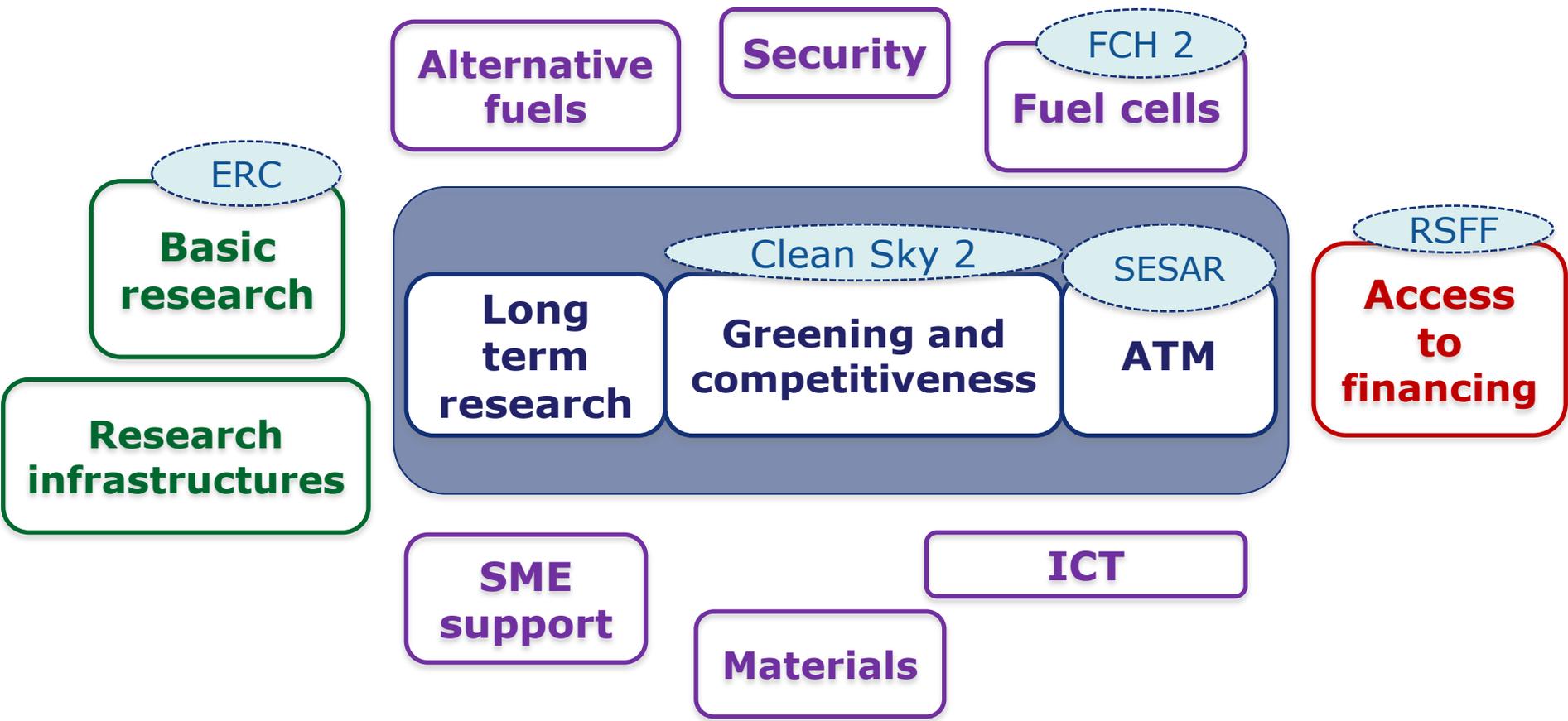
**EASA/FAA – industry joint initiative
(pilot, ambitious program)**

Supported by MS and the EC

**We need a file to prove the competitiveness gain
on a solid base the case and present it to the
portfolio of the new Commission (ENTR, MOVE,
RTD, INFSO).**

Juncker's 10 priorities provide all the basis.

Aviation Research in H2020



Clean Sky 2 JTP - will contribute towards:

“Certification processes that will shorten time-to-market, decrease non-recurring costs, reduce risk, and create the global leadership essential for a sustainable industrial base”.

EASA has clearly the mandate

... we can only contribute and work together ...



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Thank you for your attention

http://ec.europa.eu/transport/research/index_en.htm

<http://ec.europa.eu/research/horizon2020>