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HIKARI

High speed Key technologies for future Air transport
- Research & Innovation Cooperation scheme

Journeys at the Speed of HIKARI*

*Japanese for light

Objectives

HIKARI fosters international cooperation, which is the key to the development of High Speed Transport (HST) aircraft in the future, so as to be a real and feasible scenario of our future's daily life, allowing us, for example...

...to fly from Paris to Tokyo in less than three hours!

Lunch in Tokyo, breakfast in Paris... same day... in that order!

The primary output from HIKARI will be technology roadmaps relying on synergies between the different projects brought by the partners (i.e., ZEHST, ATLLAS, LAPCAT, etc.).

HIKARI concentrates its efforts on four main topics of public concern related to HST so as to make the general public aware of high-speed initiatives and goals:

Is it worth the effort?



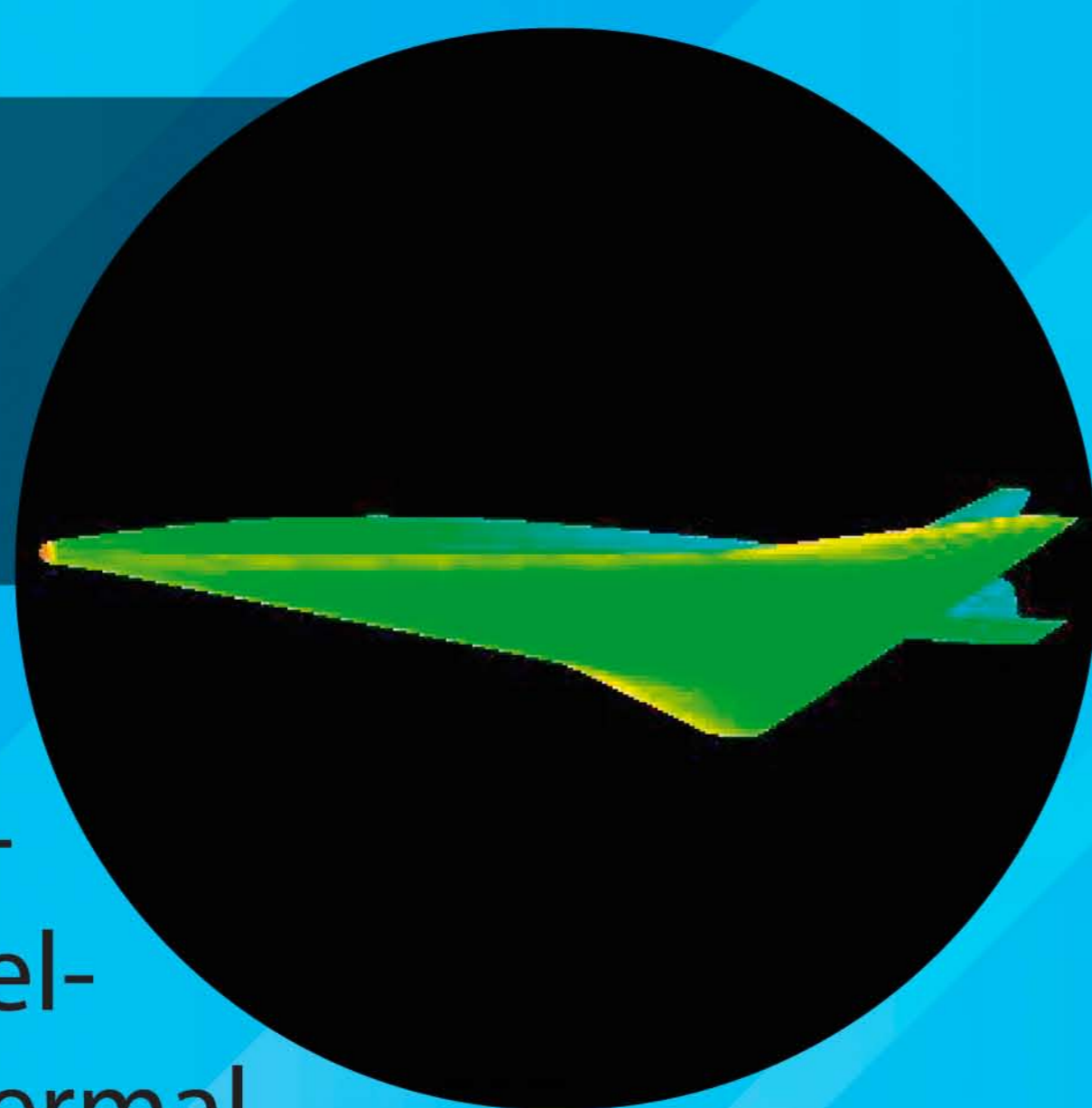
In order to prove the adequacy between HST and societal and market needs, HIKARI will perform a market analysis that will not only estimate future demand and set acceptable ticket prices, but also quantify the benefits of shorter travel times. Hence, HIKARI will set up criteria for the possible profitable development of a future high-speed aircraft.

Can it be green?



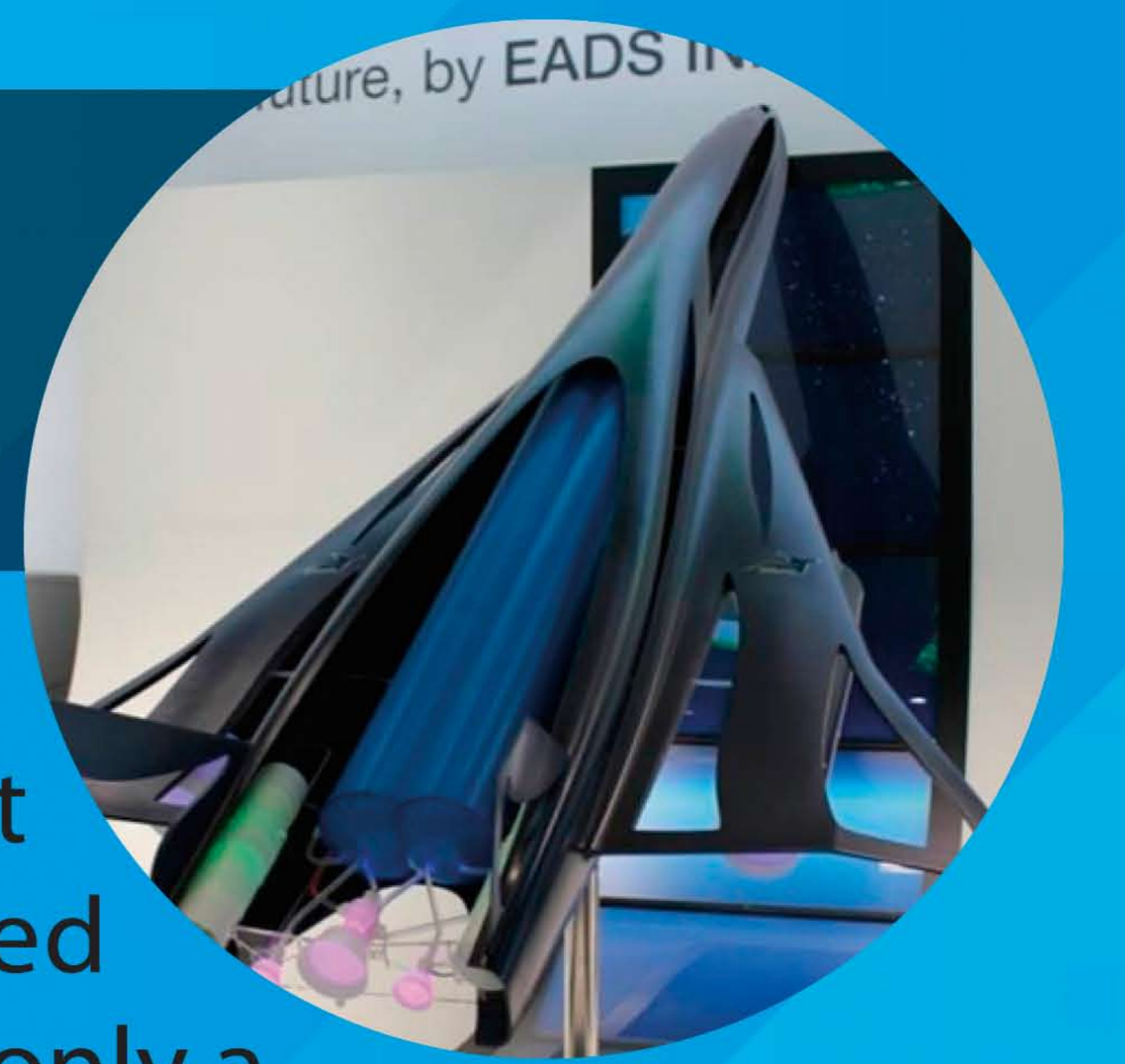
The aim of this research axis will be to analyse the impact of high speed emissions on the atmosphere and on the long term evolution of climate, while taking into account production and distribution issues, as a function of the type of fuel.

Do we have the power?



This topic will focus on the assessment of different options and the development of a complete thermal and energy management system. The stringent flight conditions that any high-speed vehicle is likely to encounter, as well as the potential use of ramjet or scramjet engines without any rotating parts, require for a different system compared to what we currently use which is dependent on electrical power generated by the rotating parts of the engines.

Aircraft or rocket?



HIKARI will focus on propulsion systems that require very specialized knowledge owned by only a few entities in the world, among which members of the HIKARI consortium. Concepts involving one single engine as well as combinations of different engine types will be studied, along with the respective tanks required for each option. This topic will also include an assessment of noise at take-off resulting from the options studied.

Partners



Performance
Control
Safety
Aerodynamics
Propulsion
Societal Acceptance
Materials
Environmental Impact

Coordinated by:



Travel at the speed of HIKARI:
www.hikari-project.eu



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