Open call for interest for a student innovation challenge on designing a next generation, commercially viable supersonic passenger aircraft

EASN and CERN are launching a pilot-project for massive open on-line (MOOP) based innovation, as part of the CBI program at CERN's IdeaSquare. The project is planned to initiate in 2016 around different engineering-driven student assignments, as part of the teaching curriculum of their home universities.

Technical challenge: a commercially viable supersonic passenger aircraft

Although supersonic flight is possible in terms of available technology, supersonic passenger planes do not fly today mainly because of economic reasons: the customer base ready to pay ten times more to cut their travel time in half is too small to make it commercially viable.

The aim of this initiative is not to compete or question other research projects on supersonic civil aircrafts[1] but rather to offer undergraduate students the opportunity to innovate collectively and in a new, interdisciplinary manner. Thus the student challenge: ***design an appealing supersonic, 300-passanger aircraft that, based on a new business model, demonstrates economic viability.***

Main deliverable

The main deliverable will be an *integrated* educational concept for such an aircraft, including the relevant drawings, wind tunnel simulations, cockpit and interior cabin designs and selection of proposed materials, all made publically available. *And it should be fun.*

At least one research article will be published in a journal[2] about the experience, recognizing as authors all students and other voluntary contributors who have made a pre-defined minimum contribution.

Who is invited

University students from all over the world studying aeronautics, engineering, electronics, business management, design and anyone else who can contribute to this challenging project in the above spirit of Open Science and Open innovation. Of course interested industries are mostly welcome.

When

The project will start in Autumn 2016 and will last for at least two years.

Organizational challenges – call for interested universities

It is understood that such a student offering must be well integrated into the teaching curriculum of each participating university. This requires planning and setting up a MOOC/MOOP platform structure in a way that universities can use to monitor and credit the contributions of their students

[1] See e.g. LAPCAT, SKYLON, HIKARI.

[2] For example, an online journal for describing innovation processes is being put in place at IdeaSquare.

(e.g. online courses and exams completed; material submitted and shared[3]).
Moreover, the project will require a tree-structure in which the leading universities will need to sub-coordinate at the top level: for example, work packages on designing the engines, wings, fuselage, cockpit, cabin interior and customer experience, X-plane simulations, business modelling, and organizing the collaboration. After running the project for two years and having collected all input and variations (for example, based on some choices given as a function of cruising speed), the university staff involved on the top level will at the end integrate and converge on the actual final deliverable.

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[3] As an example for sharing (course) material, see http://wikitolearn.org/