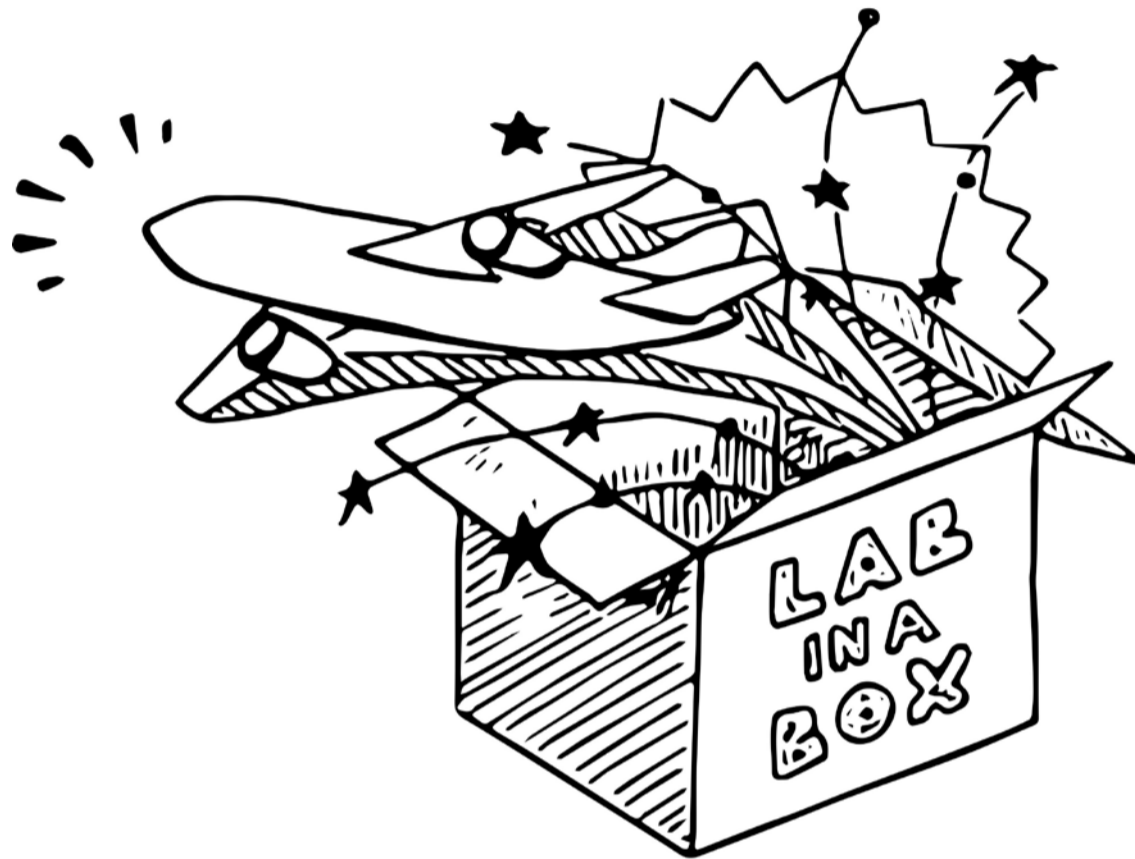


# LAB-IN-A-BOX

Impact of Hands-on Experiences on Learning Enhancement  
in Aerospace Engineering



## The project

The 'Lab-in-a-box' project aims at strengthening the connection between mathematics and physics with engineering mechanics. The idea is to design a portable experimental tool with which students can gain knowledge and insight of the physical phenomena. Impacts on learning will be evaluated within the context of aerospace engineering.

## Objective & approach

In accordance with the 'educational design research paradigm', the project aim is dual. Firstly the objective of the project is to design a portable tool that enables students to gain

hands-on experience at home or in the classroom. Practical experience is critical for increasing students' conceptual understanding, intrinsic motivation, deep learning and retention. Moreover a portable lab will tackle the problem of providing lab practice to a large number of bachelor students.

Secondly we aim at advancing knowledge about the impact of hands-on experience on learning enhancement. For this reason a systematic analysis of the specific learning environment and students' needs will be performed in order to evaluate the impact of the box and then being able to generalise it to other contexts (universities, courses).

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