

PROJECT

## DeMAAnD

### Dynamic aircraft MAterial property Database

**Funding:** European (Horizon 2020)

**Duration:** Sep 2016 - Mar 2018

**Status:** Complete

**Total project cost:** €299,901

**EU contribution:** €299,901



**Call for proposal:** H2020-CS2-CFP02-2015-01

[CORDIS RCN : 205520](#)

#### Objectives:

The DeMAAnD project has been set up to plan and execute an efficient mechanical material characterization program to deliver within the time duration set out by the JU a dynamic material property data base for typical aircraft materials, with a special focus on seat and crash absorbing structures of small aircraft.

This dynamic material characterization will be carried out over a wide range of strain rates, ranging from quasi-static loading up to high strain rates of 500 s<sup>-1</sup>.

The project brings together renowned experts in the areas of test method development, static and dynamic testing of aircraft materials and structures, simulation and design of aeronautical crashworthiness structures and data reduction and preparation for dynamic finite element codes and material models.

For the various strain rate regimes, the best suitable test equipment has been identified and is available within the consortium. This will ensure the determination of high quality material data and complete stress-strain curves from static up to high strain rate loading, allowing the derivation of the strain rate dependent material behaviour for all material properties needed for predictive crashworthiness simulations.

#### Parent Programmes:

[H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport](#)

**Institute type:** Public institution

**Institute name:** European Commission

**Funding type:** Public (EU)

#### Lead Organisation:

**Technische Universitaet Muenchen**

**Address:**

Arcisstrasse 21  
80333 MUENCHEN  
Germany

**Organisation Website:**

<http://www.tu-muenchen.de>

**EU Contribution:** €110,120

#### Partner Organisations:

**Deutsches Zentrum Fr Luft Und Raumfahrt E.v****Address:**

Linder Hoehe  
51147 KOELN  
Germany

**Organisation Website:**

<http://www.dlr.de>

**EU Contribution:** €117,656

**Inegi - Instituto De Ciencia E Inovacao Em Engenharia Mecanica E Engenharia Industrial****Address:**

Rua Dr Roberto Frias 400  
4200 465 Porto  
Portugal

**Organisation Website:**

<http://www.inescporto.pt>

**EU Contribution:** €72,125

**Technologies:**

Manufacturing processes  
Material characterisation

**Development phase:** Research/Invention

**STRIA Roadmaps:** Vehicle design and manufacturing

**Transport mode:** Air transport

**Transport sectors:** Passenger transport, Freight transport

**Transport policies:** Other specified

**Geo-spatial type:** Other