

1400MGE

## Use-Cases IA applied to Industry

### Realization

Use of AI and Machine Learning techniques to evaluate and develop new materials and composites for Helicopters.

For 7 different use-cases, implementation of a Machine Learning methodology adapted to "small data" issues.

### Available data

Industrial tests on composite materials (fire resistance, resistance to resin splits, paint corrosion ...)

### Setting up

For each of the use-cases processed, the models and forecasts produced have enabled different analysis axes to be put forward for the profession

For a use-case, a multi-criteria multi-stress optimization was performed in order to identify an optimum candidate composition

Each use-case was accompanied by acculturation meetings at the IA

Data-visualization portfolios have been developed to highlight the results and facilitate the understanding of the business.

### Modeling

Regression and classification problems

Forecast analysis

Local interpretability

(Shapley, Lime and Shap modules)

Multi-criteria Multi-stress optimization

Model incrementation

Year of Achievement

2020

Sector

Data Science / AI

Client

Team Henri Fabre



200 000 €



3 people



Value Added

Business knowledge