



#InvestEUresearch

# Horizon 2020 Work Programme for Research & Innovation 2018-2020

**EMRS Event**

Warsaw, 19th September 2018

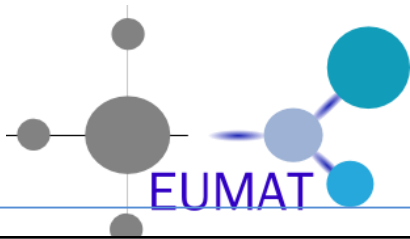
**Workshop:** Europe in Motion-EUMAT Session

**Time:** 13:45-16:10

**Proponent:** X. Beltrán(UPM), J. Gomez (AMS) & IK4-TEKNIKER

**Proposal title:** Fitting Material Manufacturing (FIMAT)

**Call:** NMBP 10 Adopting materials modelling for changes in manufacturing. Deadline January 2019



# Organisation / Company profile



IK4-TEKNIKER

## HISTORY

**229**  
PROJECTS

**25%**  
LED PROJECTS

## EUROPE IN FIGURES

**28 YEARS**  
OF EXPERIENCE

**4,6 M€**  
ANNUAL AVERAGE INCOME

## TECHNOLOGY TRANSFER

**PATENTS**  
Overall first filings 52  
Total filings 119  
First filings 2015 7  
Exploited patents 11

**START-UP'S**  
Companies participated 29  
Investee companies 6

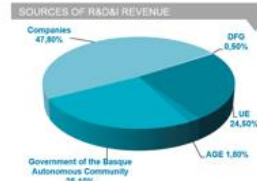
## CURRENT PORTFOLIO OF COMPANIES



**€**  
**24.000.000** €  
TOTAL REVENUE

**PEOPLE**  
**278**

## IK4-TEKNIKER IN FIGURES



## WHO WE ARE

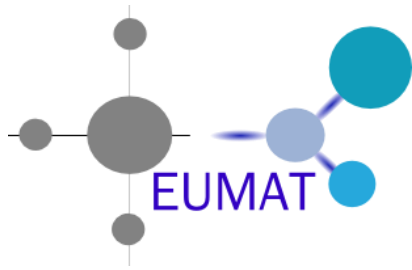
**R&D Centre, Eibar (The armouring city)**  
(not-for-profit Private Foundation)

**Applied research spanning 35 years.**

**Mission: To enhance the positioning and competitiveness of our clients through technology transfer.**

**Specialised in Manufacturing**

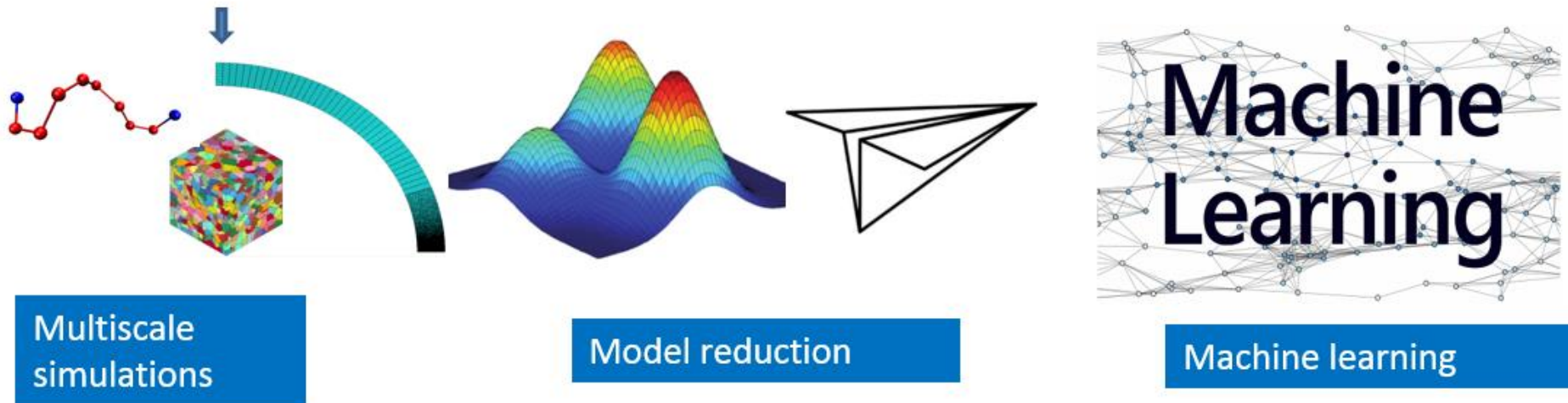
**Founder members of the IK4 Research Alliance.**

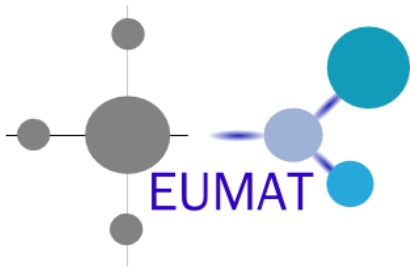


# FIMAT Project Idea

## Problematic to be solved

- **IDEA:** Availability of a platform to combine multiscale materials modelling, model reduction and machine learning to apply to manufacturing process
- Model reduction gives the speed and reliability necessary in industrial applications
- Machine learning methodologies enables real time processing solutions for production and quality control





# FIMAT Project Idea

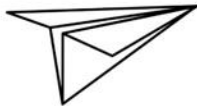
- **IDEA:**

## Material design

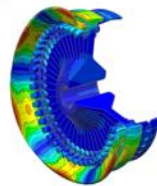
### Multiscale



### Model reduction



## Product design



ABAQUS

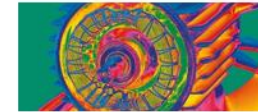


### Model reduction

## Production



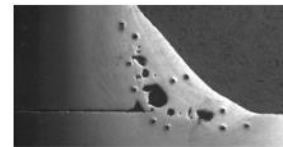
### NDT



### Modelling

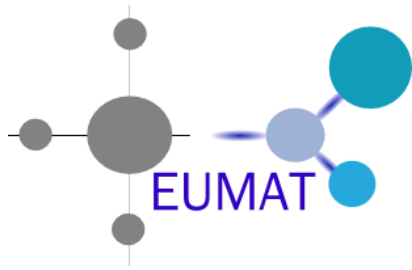


### Geometry



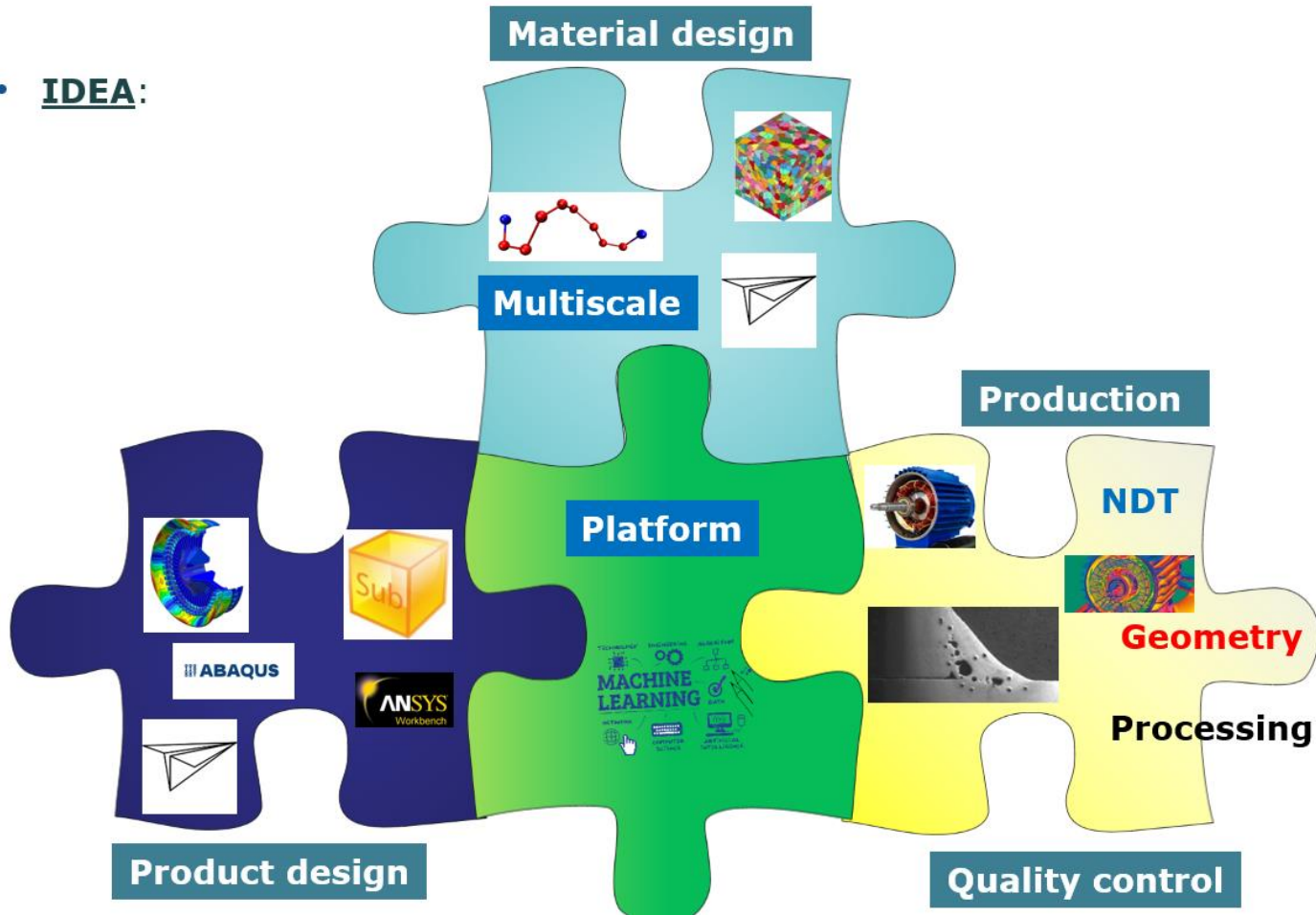
### Processing

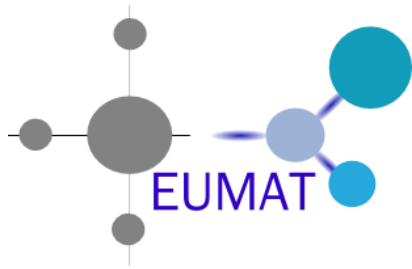
## Quality control



# FIMAT Project Idea

- **IDEA:**





# FIMAT Overview

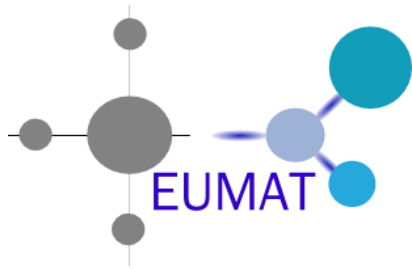
- **OBJECTIVES:**

To develop a new fast procedure for material and product design and quality control.

- **RESULTS:** TRL 6

- **IMPACT:** The combination of multiscale modelling with model reduction will simplify the use of academic codes and increased the speed of the industry design process

- Machine learning gives the reliability necessary in industrial applications



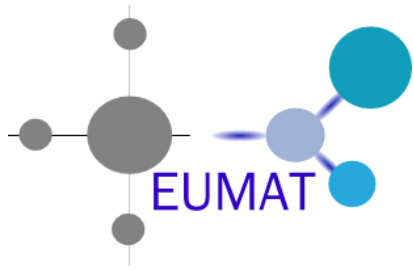
# Existing Partners & Partners sought

## Existing partners

UPM: (Translation environment. Platform, Coordination)  
TWI (SLM) (Technical management, characterization) (UK)  
ADVANCED MATERIAL SIMULATION (AMS, Modelling, Translator)  
TECNOVATIVE (Simulation)  
FLOWPHYS  
IK4-TEKNIKER (User of the Modelling tools, Characterization)  
VTT (Modelling, Propertune)  
EKON  
.....

## Expertise sought

Use case TBD  
Power, wire supplier, TBD.  
END USER AERONAUTICA (LMD), TBD.



# Contact details

## *Contact details*

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