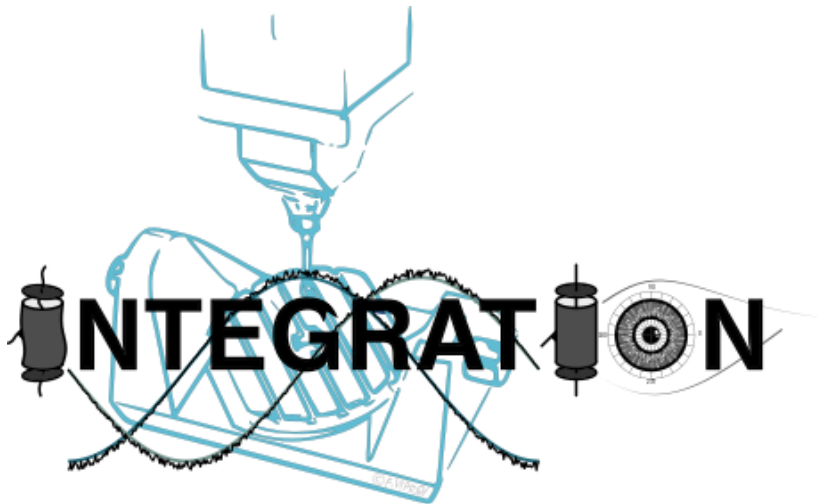


## Project : INTEGRATION

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## Traceable Identification of Geometric Accuracy on Rotary Axes – Development of Novel Contactless Material Standard



Project accepted for funding by the French National Research Agency's (ANR)  
Generic Call for Proposals 2020 (JCJC Project)

### Summary:

Characterisation of rotary axis based on **traceable dimensional measurement** on machine tools is a prerequisite for significantly improving **manufacturing processes**.

INTEGRATION is an innovative project consisting in developing a **calibrated material standard**, associated with procedures and good practice guide for a facilitated implementation in production processes. Using this material standard will guarantee **reliable measurements on machine tools** in the shopfloor, and significantly reduce geometric errors of rotation axes.

INTEGRATION is totally in line with **metrology 4.0** requirements thanks to innovative measuring and controlling systems directly on machine-tools. These high-accuracy ( $< 10 \mu\text{m}$ ) and traceable dimensional measurements are carried out on machine tools located in a harsh environment. INTEGRATION project meets the industrial need by contributing to a new productive organisation in which the machine is a smart, agile and flexible production and control means granting for metrological traceability.

### Consortium:

#### **Project Coordinator:**

Fabien VIPREY, Associate Professor at Arts et Métiers, LaBoMaP - Arts et Métiers

#### **Project Partners:**

Gérard POULACHON, Full Professor at Arts et Métiers, LaBoMaP - Arts et Métiers

Sylvain LAVERNHE, Full Professor at Université Paris-Saclay, LURPA - ENS Paris-Saclay

Hichem NOUIRA, Ing. Dr. HDR at LNE, LNE - Paris

#### **Interns and PhD students:**

Daniel MALDONADO PIMIENTO, PhD Student, September 1<sup>st</sup>, 2021

Gahada EL MECHRAFI, Research Internship in accordance with International Master of Research KIMP- APS, March 1<sup>st</sup>, 2021 – July 24<sup>th</sup>, 2021



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