



ArcelorMittal



Where will you have your next challenging professional experience?

ArcelorMittal is the world's number one steel company, with **222,000 employees in more than 60 countries**.

In a global business mode, ArcelorMittal is the **leader in all major global markets**, including automotive, construction, household appliances and packaging.

We are visionary thinkers creating opportunities everyday. This entrepreneurial spirit brought us to the forefront of the steel industry.

Join ArcelorMittal Global R&D and envision the steel of tomorrow!!

ArcelorMittal Global R&D is spanning the Globe with 12 sites dedicated to research (operating in process, products, application and steel solutions) within 8 countries and more than 25 nationalities.

Because quality outcomes and innovation spirit depend on quality people, we seek to attract and nurture the best people to deliver superior and innovative solutions to our customers.

Would you want to integrate a multicultural company with challenging missions and passionate people, ArcelorMittal is for YOU!

We are looking for Interns, VIE, apprentices willing to work in a multicultural environment in different domains.

Location		Contact					
Research center:	Maizières	Last name:	Teaca	E-mail :	mihaela.teaca@arcelormittal.com		
Cluster :	Automotive center	First name:	Mihaela				
Department:	AUP ²	Job title:	Research Engineer			Phone number:	03 87 70 43 23

Training offer	
Mission title: Detection of cracks during Hole Expansion Tests by using Infrared Thermography	
Start date: 1 st quarter 2022	Duration: 6 months
Worklocation: Maizières-Lès-Metz	
Areas	
<input type="checkbox"/> Purchasing <input type="checkbox"/> Commercial / Marketing <input type="checkbox"/> Finance / Audit <input type="checkbox"/> Legal / Communication <input type="checkbox"/> Supply Chain / Logistic	<input type="checkbox"/> Production / Process / Exploitation <input checked="" type="checkbox"/> Research & Development / Metallurgy Innovation <input type="checkbox"/> Recycling / Process and Product Development <input type="checkbox"/> Human resources / Health / Safety / Environment <input type="checkbox"/> Strategy & Business Development



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The mission : accountabilities and activities

The trainee will have the possibility to perform experimental tests.

The environment

The trainee will work within Products Research Center in Maizières-les-Metz where many trainees are recruited every year. This research center is located in the greatest ArcelorMittal's research campus. ArcelorMittal can help the trainee to find housing in Metz.



Maintenance



Information System / Industrial Computer Science

The purpose of e mission:

Edge formability is necessary to successfully manufacture some auto-components. It can be described as the ability of steel sheet to be stamped without failure at a sheared edge or the hole. It has been evaluated using Hole Expansion tests (HER) where a conical punch is forced through a pre-drilled hole of 10mm until they start the formation of a crack. The edge formability measurement is known as hole expansion ratio (HER)

In Automotive Center, at least 10 000 tests are performed on various grades and thickness of steel sheets per year. However, the crack apparition is observed visually by an operator. As a consequence HER values suffers scattering because the test must be stopped manually after visual crack detection.

In order to tackle this problem Infrared Thermography has recently used to accurately assess. The next step consist to fully automate the process including the automatically stop and the measure of diameter to obtained hole expansion rate value.

The trainee will be in charge with

- To do HER according to the ISO16630 methods using camera IR
- to find solution to fully automate the process
- to obtained hole expansion rate value by using image from camera IR

Trainee's profile

Studies level: Bac +4

Discipline: Materials science, Mechanics, IT and Computing

School/University :

Required profile and competencies

Skills required in mechanics

- Good knowledge in physical and computer measurement
- Autonomy, Initiative spirit
- Synthesis Capacity

To put back to appropriate trainee correspondent