Stretchable Wearable Platform for Augmented Perception: System Integration and Embedded Optical Interconnects - 12 months

Type of contract: full-time – 1 year
Category: non-managerial position

Job family: Engineer/Post Doc
Field of activity: Research and development

Place of work: Gardanne (13) , France
Earliest start date: 03/2027
Unit: Mines Saint-Etienne/ CMP / FEL
The position reports hierarchically to: Professor Sylvain BLAYAC

Joining Mines Saint-Étienne means committing to an institution where science and innovation build a more sustainable future. It is a school of excellence where everyone has the opportunity to unlock their full potential and contribute to tackling the challenges of tomorrow.

Ranked among the top engineering schools in France and recognized worldwide, our school, a member of the *Institut Mines-Télécom*, educates the talents of tomorrow while actively addressing major industrial, digital, and environmental challenges. By joining us, you become part of a community of 528 members of staff, 2,500 students and take part in an ambitious project: combining academic excellence, cutting-edge research, and positive societal impact.

The *Institut Mines-Télécom* brings together France's leading *Grandes Ecoles* to tackle major industrial, digital, energy, and environmental challenges. With its eight public *Grandes Écoles* and two affiliated Graduate Schools, it is the leading public institute dedicated to engineers and managers. Together, we imagine and build a sustainable future by educating the leaders who will shape tomorrow's transitions.

🎯 What we expect from you

The Flexeo technology enables the development of individual electronic devices on ultraflexible substrates. Within the Flexeo3D project , the objective is to integrate these devices into stretchable matrices to develop wearable prototypes for augmented perception.

The postdoctoral researcher will contribute to the development of a complete, autonomous system integrating sensors, a microcontroller, a power source and sensory-feedback actuators, in close collaboration with two PhD students working on sensing and haptic feedback technologies. The ultimate goal is to integrate the system into an ergonomic, breathable wearable sleeve.

A key challenge is the development of flexible and stretchable interconnections between system modules. Particular attention will be paid to investigating optical communication channels as a potential solution for data transmission. This will involve a state-of-the-art review, the design and fabrication of dedicated test structures, and the evaluation of optical bus communication technologies.

Building on the developed integration technologies, the researcher will contribute to the realization of a fully functional wearable demonstrator, in close collaboration with the researcher responsible for the electronic system design.

Experimental work in the laboratory and technological development are essential and will partly be conducted in our cleanroom and our prototyping Platform (ID-Fab) These efforts will contribute to the

creation of radically new demonstrators, opening new avenues for exploration in augmented perception

🔍 What we are looking for ?

A person with a PhD or Master's degree in Engineering Sciences, physics and material science.

The ideal profile we would like to recruit is the following:

Knowledge

- Engineering sciences, optics and optoelectronic devices.
- Thin-film fabrication processes
- 3D design.

Experience and practical skills

- Hands-on experience in guided optics and optical/optoelectronic devices.
- Practical experience in experimental development, prototyping and laboratory work.
- Experience with stretchable devices would be an advantage.

Personal qualities

- Resourceful, pragmatic and curious, with a hands-on mindset (mandatory).
- Autonomous and proactive, with the ability to work in a collaborative R&D environment.
- Good scientific communication skills.

If you feel that your background and skills are a good fit for this position, even if you do not meet all the requirements, we encourage you to apply !

🌎 Why join Mines Saint-Étienne?

We support each of our employees on the path to excellence, with the conviction that together, **we** can have a lasting and significant impact on our world.

Joining Mines Saint-Etienne is the opportunity to find:

- A stimulating environment: Cutting-edge experimental resources, a welcoming working environment and a solid international network (T.I.M.E., EULIST).
- A real impact: Contractual research projects worth €11 million/year, mainly with industrial partners, A science culture centre, *La Rotonde*, which has been committed to science outreach for 25 years, welcoming over 50,000 visitors per year.
- An incomparable quality of life: 49 days of paid leave, partial remote working, 75% reimbursed public transport, financial support for carpooling and cycling and a social barometer where 83% of employees praise the quality of life at work.

Let's build a more sustainable future, through science, engineering, and projects that make sense.

📩 Apply now!

🔗 Application materials (resume - maximum 2 pages- , cover letter - maximum 1 page-, letter of recommendation if applicable, proof of identity) should be submitted via the RECRUITEE platform before December 20th, 2026 :

https://institutminestelecom.recruitee.com/o/engineerpost-doc-position-stretchable-wearable-platform-for-augmented-perception-system-integration-and-embedded-optical-interconnects-cdd-12-months

As part of its Equality, Diversity, and Inclusion policy, the École des Mines de Saint-Étienne is committed to fair treatment of all applicants.

Additional Information

Employment Terms :

- o Application deadline: December 20th, 2026
- o 12-month fixed-term contract under public law
- o Full-time
- o Executive-level position
- o Desired start date: March 1, 2027

- The positions offered are open to all, with accommodations available upon request for candidates with disabilities.
- Position open to civil servants (Category A) and/or contract employees
- Any application may be subject to an administrative investigation
- Proposed salary range : €35,553 to €37,092 + annual bonus + 3% geographic location allowance— depending on profile.
  Compensation is determined based on the candidate's profile (job category, age, employment track, salary guarantee period), in accordance with the rules defined by the Institut Mines Télécom management framework.

For internal use only at Institut Mines Télécom
¬ Category II – Job Category P or R – Postdoctoral Researcher or Research engineer, according to the Management Framework

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📞 Contacts

- **For the content of the position :**
  Sylvain BLAYAC
  blayac@emse.fr ,

- **For HR and administrative aspects :**

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Useful links :

https://www.mines-stetienne.fr/

https://www.youtube.com/watch?v=QUeuC5iQiN0