JOB OFFER
Aerial Robotics Researcher
MECA > Robotics and Autonomous Systems
Project ATTENTION
Publication: 19 DEC 2025

The Robotics & Autonomous Systems research unit at the Royal Military Academy is hiring a **full-time researcher** to support its research activities in autonomous navigation for drones in GNSS-denied environments.

CONTEXT

The Royal Military Academy (RMA) is fully recognized as a university, fulfilling the same criteria as civilian universities. The RMA conducts scientific research on behalf of the Belgian Defence and through competitive research projects funded by national and international sources, including the European Union.

The Robotics & Autonomous Systems (RAS) research unit is part of the Department of Mechanics of the Faculty of Polytechnics at RMA. RAS does applied research on all types of autonomous robots and systems, including marine vessels, unmanned aerial vehicles, and mobile ground robots. We focus on defensive and security applications, such as reconnaissance, surveillance, and demining, aiming to improve the autonomy of robot systems in the field.

The RAS unit's aerial division consists of six researchers, all working on autonomous navigation of UAV's. The successful applicant can therefore expect to collaborate heavily with other researchers on similar topics with supervision and guidance by a senior researcher of the RAS unit. The lab is equipped with a drone cage for indoor flight tests and is supported by technicians and a mechanical workshop.

PROJECT

The research is embedded in the ATTENTION project. ATTENTION aims to enable robust, stealth-capable drone operations in GPS-denied and hostile environments by fusing multispectral imaging, such as RGB (visible light), SWIR (short-wave infrared), and LWIR (long-wave infrared), with inertial odometry and deep learning. The objective is to enhance object detection, recognition, and navigation without relying on active sensors or communication, supporting covert, autonomous, and resilient defence missions.

MAIN TASKS

- **Develop the Concept of Operations (CONOPS):** Formulate user and system requirements, intended use-cases, and representative test trials by interacting with end users from the Belgian army.
- **Develop visual-inertial odometry algorithms** that can estimate the position of the drone using onboard sensors such as the IMU and (multi-spectral) cameras.
- **Develop vision-based geo-location algorithms** that can localize the drone in the environment based on map-matching with pre-existing remote-sensing or satellite imagery.
- **Integrate the drone hardware and software:** build the drone system, integrate the selected sensors, and program the embedded computer with the developed algorithms.
- **Assist with the field trials** to gather representative datasets for developing the algorithms and for testing the final developed system with the project partners.
- **Represent RMA in the project** by attending meetings, supporting questions from partners and assisting with the project deliverable reports.
- **Contribute to the writing of conference papers and journal articles** and presenting the research results at international scientific conferences, workshops and symposia.

SKILLS AND EXPERIENCE

This position is open for **junior profiles** (0-3 years of experience, thus young graduates are also encouraged to apply) or **experienced profiles** (3+ years of experience).

We are looking for candidates with a Master's degree in Engineering (e.g., Mechatronics, Robotics, Mechanical, Electrical or Computer Engineering), Applied Sciences, or a closely related field.

Must-have skills

- Strong programming skills in C++ and/or Python.
- Background in autonomous navigation.
- Experience with ROS or ROS2, and system-level software integration.

Nice-to-have skills

- Experience with UAV hardware platforms and embedded systems.
- Training or experience in perception, computer vision, control and/or estimation.
- Training or experience in visual-inertial odometry, geo-localization and/or photogrammetry.
- Experience with software development tools (e.g. Docker, Git, …).
- Prior experience as a researcher or work in the defense sector is a plus.

Personal skills

- Capable of working independently while under supervision.
- Excellent communication skills in English (both oral and written).
- Minimum knowledge of French or Dutch is an added value for collaboration with peers.

SPECIFIC REQUIREMENTS

- The researcher may be exposed to classified information and will therefore have to obtain the required security clearance. The candidate must consent with the background check required to obtain this clearance, which will be executed by Belgian Defense.
- **Only applicants with a nationality of a country that is both part of NATO and the EU will be eligible.**
- Working for RMA-Patrimony requires living in Belgium for the duration of the study.

APPLICATION

Please send by email:

- your CV
- a motivation letter

to Dr. Maxim Vochten (maxim.vochten@mil.be) and to ERM-DEAO-STAFF-HRMGT-PATRIMONY@mil.be

Please use the following format in the email subject header: "**ATTENTION application <*Firstname*> <*Lastname*>**" and **mention your nationality in the email body**.

The application deadline is: **18/01/2026**, after which we make a selection of the candidates. The interviews will take place online. The date and time of the interview will be communicated to the preselected candidates.

CONTRACT

- Probable date of recruitment: From **March 2026**, earlier or later in consultation with the applicant.
- Status: Full-time employment based on an open-ended contract with the Patrimony of the Royal Military Academy (you will not be a civil servant).
    - Please note that your contract will be open-ended, but the financing of the contract will be tied to the funding project, which is guaranteed until **the beginning of 2030**. The financing of your contract beyond that period is therefore not 100% guaranteed. However, the Patrimony has a policy to keep the good elements on board and the research focus of this job offer fits within our core research activities, so there is a high chance that we will be able to offer you follow-up projects beyond that date if you decide to stay.
- Wage scale: class **NA11** (holder of a Master's degree in Science or equivalent), class **NA21** (holder of an Ir degree or equivalent Master's in Engineering Sciences, Doctor's degree in the same area of expertise). RMA-Patrimony applies a merit-based research career track, allowing researchers to advance in wage scale based upon annual evaluations. Wage simulator: Simulateur de salaire | BOSA.
- Holiday pay.

EXTRA LEGAL BENEFITS

- Possibility to benefit from a bilingualism allowance (Dutch/French) following a SELOR test.
- End-of-year bonus.
- Free DKV hospitalization insurance. Possibility of additional affiliation for one or more persons living under the same roof: spouse, child(ren) (50% of the price per additional member).
- Bike allowance / Free public transport (home-work commute).
- Meal vouchers (6€/ day).

- Free access to campus sports facilities outside working hours.
- On-campus restaurant and cafeteria with democratic prices (discount on the daily menu).
- Flexible working hours within the 38-hour week.
- Teleworking possible with allowance (2 days / week max).
- Holidays:
    - 29 days holiday / year from the 1st year of contract (then from 45 years: +1-day holiday every 5 years)
    - 1 week OFF every year between Christmas and New Year's Eve (independent of the annual balance of holidays).
- Advantages and interesting offers thanks to the Benefits@work card (discounts, vouchers...).
- Entitlement to services offered by the 'Office Central d'Action Sociale et Culturelle de la Défense' (OCASC): among others holiday centres, discount on travel organised by the tour operator...
- Possibility to benefit from the nursery funded by Belgian Defence (subject to availability).

WORKPLACE

Royal Military Academy, Avenue de la Renaissance 30, 1000 Brussels.

Occasional travels abroad for scientific conferences.

We value diversity and equal opportunities. Whether you are a man, a woman or X, or come from any background, we firmly believe that diversity enriches our community, and we encourage all qualified candidates to apply.