



Job offer
Royal Military Academy - Patrimony

Robotics Technologist (M/F/X)
Department of Mechanics
Research Unit: Robotics & Autonomous Systems
Publication: 28/06/2024



Job description and associated tasks

The Robotics & Autonomous Systems unit of the Belgian Royal Military Academy (RMA) is looking for a Robotics Specialist with a Bachelor degree in electronics-ICT, data science, computing, automation, AI, programming, software development, electromechanics, aerospace, applied informatics, vehicle technologies, unmanned aircraft systems, or similar. The role of this Robotics Specialist will be to assist a team of about 20 robotics engineers with developing unmanned aerial, ground and maritime systems, which implies that strong experience in the domain of robotics is required.

The Royal Military Academy values diversity and equal opportunities. **We enthusiastically welcome applications from all individuals, regardless of gender, origin, or other personal characteristics.** 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.

Context:

The Royal Military Academy of Belgium is a military institution responsible for the basic academic, military and physical training of future officers, and for the continuing advanced training of officers during their active career in the Belgian Defense department (www.rma.ac.be). It is fully recognized as a university, fulfilling the same criteria as civilian universities. The Royal Military Academy is also conducting scientific research at university level for projects funded by the Belgian Defense department or external sources.

You work within the multi-national research cell 'Robotics & Autonomous Systems' - RAS (<https://mecatron.rma.ac.be/>) of the department of Mechanical Engineering of the Royal Military Academy. As a university laboratory, we conduct research in all matters related to unmanned systems: on one hand trying to develop novel "good" applications for these systems and on the other hand trying to find solutions to counter the potential malicious use of these systems. As a military research lab, we focus on application areas in the domain of public security and defence. As a military research institute and part of Belgian Defence, we focus on niche fundamental research axes and apply those to practical applications like swarming drones for inspection, unmanned vessels for patrolling the windmill parks, ground robots for detecting and neutralising landmines etc.

In this position, you will work together with a large team of research engineers. Each of these research scientists works on her or his own project and your role will be to assist them in the implementation of the different projects, e.g. through assisting in the development of novel robotic platforms. Another task will be to assist with system integration in international projects. The RAS-team is highly involved in collaborative research projects at European scale, in the aerial, ground and maritime robotics domain. As a result, we very often need to integrate together with international partners multiple novel sensing, computation or communication tools on our robot platforms.

What we offer

- Highly varied job content, giving you the opportunity to work on a very wide range of novel robotics systems (air, ground, maritime) in a very international context
- Opportunity to work in and with an international & dynamic team of research engineers, experts in the fields of robotics and machine learning
- The flexibility and freedom to innovate and realize your own ideas
- The ability to have an impact and work on societally relevant topics. As an example: many of our research projects are currently seeking solutions for mine clearance in Ukraine.
- An employer that strives towards maintaining a good work-life balance for its employees
- We will offer you training and a trajectory to obtain the A2 pilot licence
- A competitive salary package supplemented with benefits like meal vouchers.
- Possibility to travel for field trials with partners.

Main Tasks

- Assist with the development of unmanned maritime, aerial and ground systems
- Assist with system integration of sensing, computing and communication tools on the robots
- Assist with the programming of the robotic systems
- Assist with the field trials of the robotic systems
- Assist with the acquisition of (components for) the robotic systems.
- Harmonize the architectural design of the robotic systems to foster component reusability.

Required skills

Technical skills

The applicant shall have a Bachelor degree in electronics-ICT, data science, computing, automation, AI, programming, software development, electromechanics, aerospace, applied informatics, vehicle technologies, unmanned aircraft systems, or similar and should have relevant experience in the field of mechatronics.

“MUST HAVE” skills:

- Proven experience with mechatronic systems (electronics & hardware), mechanical assembly, and troubleshooting
- Demonstrated ability to think outside the box and devise innovative solutions to technical challenges in the field (a "MacGyver" mindset)

“HIGHLY RECOMMENDED” skills:

- Workshop skills
- Training or experience in system integration
- Proficiency in 3D printing technologies and 3D component design software (CAD) for rapid prototyping and repairs
- Proficiency in technical documents production
- Training or experience in unmanned ground OR aerial OR maritime systems is recommended

“NICE TO HAVE” skills:

- Drone Piloting skills (we will offer you training and a trajectory to obtain the A2 pilot licence, but it would be good if you have already affinity with flying drones)
- Knowledge of PCB design and soldering
- Experience in programming (Python, C/C++);
- Knowledge of ROS (<https://www.ros.org/>), preferably ROS2,
- Training or experience in Perception
- Training or experience in Control Engineering
- Experience with complex software architectures assemblies, deployment and testing (e.g. Docker, Conda), Virtual Machines

Personal skills

- You are resourceful and are able to adapt and utilize available resources effectively to overcome unexpected obstacles.
- You have a practical mindset, showcasing a hands-on approach to problem-solving, with a focus on finding practical and efficient solutions.
- You communicate your results in a clear, concise and precise manner.
- You take initiative, you are involved and result-oriented.
- You think in an innovative and creative way. You are flexible for change and adapt yourself.
- You are honest, loyal toward the institution and respect confidentiality.
- You improve the team-spirit and solve interpersonal conflicts.
- You solve problems autonomously and find alternatives or solutions.
- You behave in a respectful way toward the others, their ideas and opinions as well as toward procedures and instructions.
- You will be working very closely together with industrial partners and will get insight in their proprietary intellectual property. Moreover, you will be working very closely together with the Belgian Armed Forces and will get insight in their modus operandi. Confidentiality is therefore an absolute must.

Other skills

- The applicant shall have very good knowledge of English (oral & written), which will be tested during selection
- Minimum knowledge of French or Dutch is an added value for collaboration with peers.

Specific requirement

- The researcher is likely to 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.
- The researcher will be working within the context of European Defence Fund projects. Due to this project framework, this position is **only open for NATO / EU citizens**.
- Working for the Patrimony requires living in Belgium.

Application

You will be working in a military environment. That is why everyone is expected to undergo a security verification. Please add to your application the filled out document. The form can be downloaded from:

<http://www.rma.ac.be/nl/aanvraag-veiligheidsverificatie> (Dutch) or https://rma.ac.be/sites/default/files/2021-03/Demande%20d%27Avis%20de%20S%C3%A9curit%C3%A9_F.pdf (French).

There is unfortunately no English version of this document.

Send by email:

- a motivational letter;
- a CV
- a scan of your ID card (both sides);
- the filled out security document

to Mr. Geert DE CUBBER (geert.de.cubber@mil.be) AND to Mrs. Helena BRUYNINCKX (erm-deao-rsw@mil.be).

Please mention clearly the reference of the job offer: **“Robotics Technologist”**.

Application deadline: **21/07/2024**.

After the application procedure, an initial shortlist of candidates will be selected. Those candidates will be invited for an (online) interview. In the unlikely case that we would hold in-presence interviews, then these would take place at the Royal Military Academy, Hobbemastraat 8, 1000 Brussels. The date and time of the interview will be communicated to the preselected candidates.

Miscellaneous

Contract

- Probable date of recruitment: **Autumn 2024**, in consultation with the applicant.
- Status: **Full-time employment** (38 hours / week) based on an **open-ended contract** with the Patrimony of the Royal Military Academy (you will not be a civil servant).
To be very clear: your contract will be open-ended, but the financing of the contract will be tied to a project that ends in Autumn 2027. The financing of your contract beyond that period is therefore not 100% guaranteed. However, the RMA-RAS unit has a policy to keep the good elements and this position will in any case be required beyond that date as well, so if we're happy with you there is a high chance that we will offer you a follow-up beyond that date if you decide to stay.
- Wage scale: **NBI1**. RMA-Patrimony applies a merit-based research career track, allowing personnel to advance in wage scale based upon annual evaluations. Your bruto and netto salary can be simulated precisely via this tool: <https://bosa.belgium.be/nl/themas/werken-bij-de-overheid/verloning-en-voordelen/loonwedde/salarissimulator>
- 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);
- Free access to campus sports facilities outside working hours;
- On-campus restaurant and cafeteria with democratic prices (discount on the daily menu);
- Meal vouchers (6€/day)
- Flexible working hours within the 38-hour week + Teleworking possible with allowance;
- 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
- 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 of benefiting 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, field trials, etc.

Points of contact

- Questions concerning the job content: to Mr. Geert DE CUBBER (geert.de.cubber@mil.be)
- Questions concerning the recruitment modalities: Mrs. Helena BRUYNINCKX (erm-deao-rswo@mil.be).
- More information about :
 - the Royal Military Academy, see <http://www.rma.ac.be>
 - The RAS (Robotics and Autonomous Systems) research unit: <https://mecatron.rma.ac.be/>