**Raphael Silveira e Silva**  
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[raphael silva's portfolio](https://raphael-silva-engineer.github.io/mechanical-engineer-robotics/)

Aug 11, 2025

**Hiring Manager**  
ARX  
Munich, Germany

**Dear Hiring Manager,**

Since the beginning of my career, engineering has been more than just my profession—it’s been my way of thinking, creating, and solving real-world problems. With over 15 years of experience designing, prototyping, and delivering robotic vehicles (AGVs) and complex electromechanical systems, I bring a proven ability to turn bold concepts into reliable, field-tested machines — exactly the type of innovation and precision required to support ARX’s mission in autonomous ground systems for challenging environments.

My expertise extends across the full product lifecycle, from R&D to production, with a focus on durability, serviceability, and manufacturability under extreme conditions. I am an advanced user of **Autodesk Inventor**, with equally strong skills in SolidWorks, and have applied both in the development of mission-critical platforms. Key relevant projects include:

* **Autonomous AGV with Sensor Payload Integration** – Led the complete mechanical and electromechanical design, integrating LiDAR and stereo vision into a compact, high-stability chassis optimized for navigating challenging indoor environments such as hospitals and industrial facilities. The system incorporated advanced safety features for operation around people and for overcoming complex floor layouts and mobility obstacles.
* **Compact UV Curing System for Harsh Environments** – Engineered a high-precision, ultra-compact module operating within a 2 mm clearance from fast-moving componentes in industrial conditions, applying DFM/DFA and tolerance stack-up analysis to ensure reliability.
* **Precision Punch-Cutting System for Automotive OEM** – Delivered a long-life, high-accuracy system for Citroën production lines, with a focus on repeatability and ease of maintenance.

I thrive in collaborative, multidisciplinary teams and am equally comfortable taking ownership of independent tasks — a balance I see as essential in ARX’s fast-paced, high-stakes environment. My hands-on approach to problem-solving, coupled with deep mechanical design expertise, aligns perfectly with your focus on rugged, high-performance systems for defense and civilian applications.

I am eager to bring my skills, passion, and proven track record to ARX, contributing to the advancement of cutting-edge unmanned ground systems. I welcome the opportunity to discuss how my experience and capabilities can support your team’s goals.

Sincerely,  
**Raphael Silveira e Silva**