

## **STATEMENT OF PURPOSE**

### **Subject: Request for grant of study visa to pursue Masters of Engineering in Mechatronics and Robotics at Schmalkalden University of Applied Sciences Germany.**

Respected Sir / Madam,

I am writing to submit my application for a student visa to pursue a Master's degree in Mechatronics and Robotics at Schmalkalden University of Applied Sciences in Germany. My name is Ridima Gangrade, and I hold a Bachelor of Technology in Mechatronics Engineering from the University of Petroleum and Energy Studies (UPES), Dehradun, India. Currently, I serve as the Export Assembly Zone Manager for Harley-Davidson Motor Company at UNO Minda Pvt Ltd. In this role, I utilize my technical expertise to optimize assembly processes, improve product quality, and reduce cycle times in production lines. My career so far has strengthened my passion for mechatronics and robotics, and I am excited to further hone my skills and knowledge through this Master's program in Germany.

My academic background in Mechatronics Engineering laid a strong foundation in the integration of mechanical systems, electronics, and computing technologies. During my studies, I was introduced to cutting-edge technologies and techniques, which further deepened my interest in the field. I completed an enriching internship at Hero MotoCorp Magneti Marelli Auto Ltd, where I gained hands-on experience working with two-wheeler systems, focusing on Electronic Fuel Injection (EFI) and throttle body technologies. Utilizing Simulink for model development during this internship allowed me to sharpen my skills in system simulation and control systems.

Currently, as the Export Assembly Zone Manager at UNO Minda Pvt Ltd, I have successfully led initiatives aimed at improving efficiency on assembly lines. I have applied Value Stream Mapping to identify and eliminate bottlenecks, resulting in reduced cycle times and enhanced performance. Additionally, I have been part of a team focused on industrial IoT and AI-based safety measures, implementing preventive maintenance systems to improve machine reliability and reduce downtime. This professional experience has equipped me with valuable practical skills that I aim to build upon during my Master's studies.

My passion for mechatronics was ignited during my undergraduate studies when I was inspired by renowned companies like Tesla, FANUC, Siemens, and Rexroth Bosch. These companies' innovative contributions to automation and robotics motivated me to explore how mechatronics can drive technological advancements in various industries. Throughout my studies, I sought opportunities to deepen my understanding of robotics, control systems, and sensor technologies.

During my final year of undergraduate study, I collaborated with faculty members on innovative projects related to agriculture, medical technologies, and pandemic response. One of the most exciting projects involved designing a sustainable system for the agriculture sector and developing a drone launching system, where I applied 3D printing and laser-cutting techniques. These experiences fueled my desire to explore more advanced systems, further solidifying my commitment to pursuing a career in mechatronics and robotics.

Germany, known for its academic excellence and a strong focus on research and innovation, is the ideal destination for me to advance my career in mechatronics and robotics. The country's thriving technology industry and renowned educational institutions provide an environment where students can immerse themselves in cutting-edge research and real-world applications. Schmalkalden University of Applied Sciences, with its focus on practical engineering education, aligns perfectly with my aspirations. The university's state-of-the-art laboratories and workshops, equipped with the latest technologies, provide the ideal setting to gain hands-on experience in the areas that are most critical to my career goals.

I am particularly drawn to the university's emphasis on practical applications in automation control, vibration engineering, sensor systems, and robotic vision. These subjects are essential for the future of mechatronics and robotics, and I am eager to engage with experienced faculty, collaborate with like-minded peers, and participate in innovative research projects. This academic exposure will help me stay at the forefront of technological advancements in the field. Obtaining this Master's degree in Mechatronics and Robotics will significantly enhance my technical expertise and open new opportunities in my career. Through this program, I aim to deepen my understanding in areas such as automation, control systems, robotic vision, and digital signal processing. These skills are vital for the development of advanced mechatronic systems, and I plan to leverage them in roles that focus on innovation and technology integration within the automotive or robotics industries. My long-term goal is to contribute to the development of cutting-edge solutions, such as autonomous systems and smart manufacturing technologies, and eventually take on leadership roles in research and development. By gaining hands-on experience with the latest technologies at Schmalkalden University, I will be well-prepared to pursue these ambitions and drive future advancements in the field.

In addition to my academic and professional experiences, I have been deeply involved in community service, which has given me a strong sense of social responsibility. I have volunteered at orphanages and old age homes, which has provided me with insights into diverse societal needs and fostered empathy. This engagement has reinforced my desire to use my engineering skills to develop technologies that can improve the quality of life for people around the world. Moreover, as the Chairperson of the ASME at UPES, I developed leadership, collaboration, and communication skills that will support my growth both academically and professionally. I also gained valuable experience organizing technical workshops and events that brought together students and industry experts.

I am confident that pursuing this Master's program at Schmalkalden University will equip me with the skills and knowledge necessary to drive innovation in the fields of mechatronics and robotics. The combination of academic excellence, hands-on learning, and the opportunity to engage in advanced research will enable me to make meaningful contributions to the development of cutting-edge technologies. I would be very grateful if you would consider my application and grant me a visa to pursue this exciting academic journey in Germany. I am eager to take the next step in my career and contribute to the advancement of technology in the coming years.

Sincerely,

Ridima Gangrade