**Company Description**

We are an advance technical solutions provider with special focus on Real Time Process Automation, Embedded Systems and Advance Manufacturing Engineering, developing customer-oriented laser industrial solutions. One challenging field of application is the cost-effective monitoring and control system to be integrated in Additive Manufacturing (AM) processes, such as Laser Metal Deposition (LMD), for quality improvement and manufacturing cost reduction. We are looking for a proactive, dedicated and autonomous student for the further development of the laser vitrification process to join our team as soon as possible.

The CESFAM project (Cost Effective Sensor Fusion for AM/LMD Quality Control) will be focused on the LMD process with powder input. The manufacturing system consists of a robotic LMD cell with a 4 kW Rofin FL040 fiber laser source, Sulzer Metco Twin10C powder feeder and a deposition head with a Precitec YC52 discrete powder nozzle mounted on a Fanuc 710IC Robot. The system is currently equipped with a Near Infra Red (NIR) solution (CLAMIR) for coaxial monitoring of the melt pool. In addition, several three-dimensional digitizing systems such as structured light scanners (Gocator 3109), line profile scanners (Gocator 2440), ToF sensors (Lidar) and stereo vision systems will be analysed for further fusion.

**Main functions, requisites & benefits**

**Main functions**

- Analysis of process and materials requirements
- Sensor integration, data acquisition and measurement interpretation
- Definition of parameters, preparation and execution of laser tests
- Co-Development of process control approaches
- Document tests, results and draw conclusions from experiments performed in the laboratory

**Requisites**

- Interest in photonics and real time process control
- Bachelor / master student of industrial engineering / mechanical engineering / electrical engineering / telematics engineering or a comparable course of study
- Your use of standard MS Office applications is routine
- Beneficial are programming skills (C#, Python, Matlab) and experience in Thermography, machine vision and laser applications
- Good English and German skills, as well as a high degree of independence and organizational skills
- Keen to set goals and deliver output to a high standard
- Good interpersonal and communication skills

**Benefits**

- Self-dependent activities that you can incorporate into your studies within the framework of flexible working hours
- The opportunity to write your bachelor or master thesis in a highly innovative topic
- A working environment characterized by team spirit and motivation
- Open corporate culture with flat hierarchies
- Multicultural team
- Occasional Business travel required
- Duration of employment: initially 6 months, extensions desired