Funded by the Erasmus+ Programme of the European Union

**Project title**: River waste plastics recovery

**Number of students: 4 to 6**

**Project duration**: 20 weeks

**Project frame** (Bachelor/Master, small project): Bachelor, Master, 20 weeks project

**Background:**

During the recent years the presence of immense amounts of ocean plastics has become a recognized environmental problem. It has become obvious that hazards of e.g. suffocation and toxicity to animal and plant life in aquatic environments have become a global concern, while the quantities of plastics still accumulate at an ever increasing pace. Most of these plastics originate from rivers, and more upstream from dense communities, in combination with inappropriate governmental regulations.

All over the world many parties have already undertaken initiatives to start the mitigation of waste leakage into the environment or cleaning it up (e.g.: <https://theoceancleanup.com/sources/>).

**The challenge:**

Multiple partners of the TPAC have the ambition to mobilise and combine the many different initiatives and convert marine waste plastics into useful products. They therefore have requested to do further research in order to prepare for a market for river plastics waste (re-) processing. The following topics can hence be part of this project:

* River-plastics extraction initiatives in the world
* Plastics extraction technologies used
* Waste plastic quantities in rivers of Europe and variations during daily and yearly cycles
* Composition of marine plastic waste (material types and cleanlimness)
* Known reprocessing technologies and resulting products
* Recommendations for further development of business cases for products to be made from marine plastics

**The company:**

The TPAC research group offers many facilities and equipment that can be used for (re-) processing of (waste) thermoplastics. The group has strong connections with other research groups, (local) government and entrepreneurs in the plastics and composites processing industry. It has built up a strong record of innovative solutions for recycling challenges.

**Supervisor:**

Rik Voerman (j.h.d.voerman@saxion.nl)

Portfolio manager of the projects running at the TPAC. The TPAC is based at the Lightweight structures research group of the Saxion University of Applied Science in Enschede, The Netherlands.

Background: experienced in sustainable process improvement in the composites and plastics industry.

International experience: industrial process improvement projects in China, India, Peru, Senegal, Denmark, Germany, UK, Portugal, the Netherlands.

**Candidate backgrounds**

Possible study programmes:

Mechanical Engineering

Industrial Design

Business administration

Industrial Engineering & Management

Applied Physics

**References and complementary description:**

None