Drying system

Context:
The association EPFL Xplore wants to develop a 3D printed parts recycling machine. After one year of development, a first version of the machine is ready and some filaments were extruded. Nevertheless, to improve the capacity, the reliability and the understanding of the machine and its parameters, a lot of work remains to be done. This is why we offer semester projects to EPFL students. The recycling process of 3D printing filament can be decomposed in the following steps: grinding, drying, extrusion, cooling and spooling.

Project description:
The aim of this project is to develop a drying system that can be added to the existing production line to fully integrate this part of the recycling process. The dryer should be able to hold plastic pellets at temperatures up to 90°C for 5 hours and then protect the material from ambient moisture. It should also be able to deliver pellets to the start of production in a controlled manner.
Furthermore, the student will be an integral part of the Xplore Wall-E Team, actively participating in its weekly meetings and working sessions. This collaboration will facilitate close interaction with other team members, and the student is expected to share their findings and progress with the team regularly.

Tasks:
- **Literature Review and Familiarization**
- **Coding**
- **Prototyping**
- **Mechanical Design**
- **Manufacturing**

Requirements:
- Autonomous work
- Experience in mechanical design

Contact:

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