## Context of the research activity

Lamicolor is a company with more than 55 years of experience in the high pressure decorative laminate (HPL) sector. Lamicolor products, which supply major brands in the furniture and caravan sector, have characteristics of durability, high quality and surface resistance. In addition to investments in increasing safety, productivity, energy efficiency and product quality, the company has invested in a plant for the valorization of production surpluses so as to obtain clean energy for its processes and other materials that may have outlets in other markets (so as to maximize the circularity of your product). All this was carried out with a view to accelerating the energy transition processes, actively contributing to the reduction of greenhouse gases and minimizing the use of non-renewable resources. Lamicolor's equipped structures include an experimental laboratory at the operational headquarters and a laboratory at the Environment Park in Turin, in collaboration with the Italian Institute of Technology (IIT) following the victory of the CoSyET (Components and Systems for Energy) tender Transition); these are laboratories that the doctoral student will be able to use for the development of the project.

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The PhD will include a study program on process techniques and the specific performances of both the solid residue and the output syngas. The candidate will focus on the optimization and search for the correct process parameters, so as to maximize the energy balance and optimize the characteristics of the solid residue depending on the potential markets. The research path will
### Objectives

include the equipment relating to the plant and the analysis equipment that the doctoral student will find available at the Environment Park in Turin. The PhD student's work will also have to pay attention to the efficiency of production processes and their sustainability, reducing environmental impact and improving energy efficiency. This will also involve experimenting with new recipes. The doctoral student will be able to develop simple and reliable predictive tools that allow predicting the performance of the system.

### Skills and competencies for the development of the activity

| The ideal candidate should be a material scientist or engineer, chemical or physical engineer, or a physicist. Expertise in electrochemistry, advanced processes and nanotechnologies, as well as problem solving ability and practical experience in laboratory would be an additional value. Candidates should have a strong motivation to learn through advanced research. |