Visit in Demonstration region Emilie Romagna – Italy, IMAL-PAL, 17/01/2018

The team of BIOREG project visited IMAL-PAL facility in 2018 as a part of the project strategy to learn more about the Demonstration regions and to explore how the good practices can be transferred into recipient regions. During this visit in Italy, CEDEN presented BIOREG and the French background for wood waste valorisation to the local stakeholders.

**IMAL-PAL - Supplier of manufacturing equipment for wood-based panel industry**

IMAL-PAL presented the company and the market. IMAL-PAL (IMAL, + PAL + GLOBUS) has a long experience in wood particle preparation, gluing, on-line quality controls, process controls and board handling and is in particular well known in the panel industry for its continual innovation. The group has spent the last few years developing and investing in forming press technology to complete its product portfolio and to strengthen its position as a reliable and competitive partner for the supply of complete lines for the production of PB, MDF, OSB, insulation board, pellets and pallet blocks.

The systems and equipment of the IMAL- PAL group may be found in virtually every PB, MDF and OSB production plant around the world.
The company manufactures equipment for the preparation (grinders, disc sieves, conveyors, optical sorting, magnet for ferrous, and extraction of non-ferrous metals) of wood and wood waste as a raw material for particle board production or a fuel for energy recovery. Turnkey units producing chipboard pallets dices from 30,000 m³ to 200,000 m³ of finished products per year (the IMAL based in Modena produces these units).

IMAL-PAL has a pilot plant for the production of MDF from wood waste in Italy. During the visit, various aspects of wood waste valorization in the board industry were discussed, which are summarized below:

- Current status of optical sorting technology:
  - About 70% MDF extraction efficiency,
  - 95% extraction of plastics from plastics, especially black rubbers particularly unsuitable for the manufacture of MDF on the other hand it seems that plastics are not extracted for wood waste used for the production of panels (melted in the panel),
  - Development of the optical sorting process on both sides of the carpet which significantly improves the extraction performance.
• The maximum rate of incorporation of MDF into the panels is 10%, but it could be possible to increase to 20-25% according to him. The major problem is a fouling / premature wear of the machines requiring an increased maintenance.

• The production of dice pallet in reconstituted wood should be increase in the coming years. The solid wood-based dices may often cause a crack problem at the time of assembly of the pallets.

• The 0-5 mm fraction is generally extracted within the panel preparation lines and valorized as fuel for energy generation.

• In order to maximize the recycling rate for wood waste in the panel industry, upstream sorting (ideally at source but at least before the first grinding) to generate different wood waste streams dedicated to different subsequent valorization channels, is essential.

• Wood waste is classified in 4 different classes, similar to Germany or Britain.