



CONTENTO TRADE SRL

Innovazione tecnologica per l'ambiente

## LIFE "SUSTAINABLE CRUISE"

### OBJECTIVES

In this project two processes treatment and valorization the residue of pulp removal will be matched.

The first process (Direct treatment) involves direct input of the residue in a turbo desiccation system.

The second process (Integrated treatment) involves preliminary treatment intended to extract from the residue exiting the pulper the low boiling point fraction, oily compositions and fats before sending residue in the turbo desiccating system.

The **Integrated Treatment** is based on two technologies combination: Instantaneous Controlled Decompression (DIC), developed by Contento Trade and Turbo technology based on a thin film developed by Vomm; the Direct treatment instead is based on Vomm Turbo technology.

In **Direct Treatment** the residue exiting from the pulper is sent to the Vomm turbo reactor where it is desiccated with a controlled temperature to bring it to a grade of humidity requested for the next stages.

Water separated from the residue is eliminated in a form of steam. The material exiting Turbo desiccation system, drastically reduced in volume, will be suitable to be stored occupying minimal space.

The Integrated Treatment involves the residue exiting the pulper introduction in a appropriate conditioning system to bring it to an appropriate temperature to be introduced in a DIC reactor where, after being subjected to eventual vapor pressures, passes to Instantaneous decompression.

This decompression separate low boiling point composites, oily substances and a part of the

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water from the residue and provoke its texturisation (increase of its surfaces by microalveolus formation).

### THIS PROCESS ADVANTAGES AND INNOVATIVENESS

Vomm turbo technology is a process that could feature numerous industrial applications in many sectors, from pharmaceutical to purifying sludge treatment: we are talking about a process that unites versatility of use, low energy consumption and a perfect treatment temperature control that indicate its suitability for being used in naval ambient where, until this time, it was never used before.

Two pilot plants will be developed as part of the project:

- A complete Vomm turbo desiccation system capable of treating more than 100 kg/h of the residue exiting the pulper. The system is suitable to be used in naval sector and specifically studied for the direct treatment on non defatted residue.
- Instantaneous Controlled Decompression prototype reactor capable of treating about 50 kg/h of the residue exiting the pulper.