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About the project:

Project Acronym: FurnitReuse
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Project Partners:



MFKK - Invention And Research
Center Services Company Ltd



SUT-Politechnika Śląska

HERMEX- Handel Export Import Henryk
Horzowski

TGAMA-UAB TECHNOGAMA



IGB-FRAUNHOFER-GESELLSCHAFT ZUR
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FurnitReuse

Developing innovative method
for recycling used chip board
furniture and
plastics by producing new
environment friendly reusable
multipurpose composite material



www.furnitreuse.polsl.pl

The Need

Each year thousands of tons wood based furniture including scrapped particle board and panels finish their lives being thrown away by their users. Plastics such as ABS used in desktop computers, screens and peripherals pose challenge for recyclers. At present there is no effective method for utilizing such waste otherthendumpinginlandfillsorincineration.

- space on landfills needed for storage waste
- contributes to the global warming by generating Co2
- potentially harmful substances released while combusting painted plates

The Aim

We blend crushed particle boards and plastics such as ABS in strictly controlled process deploying innovative heating technique to obtain:

new type of a composite material.

The range of proposed application of the composite material is vast including: transportation (replacement of wood pallets) garden infrastructure.

The proposed process is environmentally friendly as no chemical compounds needs to be added to activate and control it.

The Innovation

The recycling machine enables the process of combining shredded wood and plastics to obtain a new composite material of controlled characteristics.Achievement of desired degree of mix between wood and various plastics (blending chamber with reconfigurable paddle).Maintaining uniform and stable conditions for the combining process (intelligent control system and sensors)

Achievement of high uniformity of the composite due to concentrated microwave heating (microwave heating chamber with microwave generators capable of rapid increase of the mix temperature up to 250 oC)

