



APPLICATIONS:



CONSUMER
GOODS



PACKAGINGS

DEVELOPMENT:



FORMULATION

CURRENT-STATUS

The transfer of nano-scaled additives into lightweight foams with e.g. increased mechanical properties is not market available. Development of petro- or bio-based particle foams is currently made either by large companies or by research institutes. A service for (smaller) companies to develop new materials like particle foams, which are tailored to their needs, applications and products including inline characterization and holistic data management is not offered in the market at the moment.

CHALLENGE

The Fraunhofer ICT particle foaming pilot line will enable a fully controlled development/ production environment for particle foams tailored to the needs of the respective customers with nano-scaled additives incorporation to (bio)polymers to increase functionality, e.g. anti-microbial properties. Particle foams are produced, tested and characterized e.g. for pre-foaming and moulding.

BENEFITS FOR COMPANIES AND SME'S

Product ideas existing at companies can be transferred into products much faster with the help of the new and upgraded pilot line available after INN-PRESSME and for pilot series production, increasing the innovation rate of companies in the bio-sector.

Faster development cycles and real-time characterisation methods integrated in INN-PRESSME enables better understanding of the material-process-properties relationship for a new material as soon as the customer decides to move from pilot to industrial scale. This will allow the establishment of more productive (estimated to be about 30%) and especially stable production processes.

This results in reduced off-spec production and quicker process ramp-up during the transfer to the customers' production, reducing waste production in total by 25%.

APPLICATION EXAMPLES

PACKAGING - FOAMED BOXES FOR LOGISTICS/ TRANSPORT OF GOODS:

The incorporated nano-scaled additives shall enable a higher performance of the bio-based materials with regards to mechanical properties and abrasion resistance.

CONSUMER/ SPORTS GOODS -FASCIA ROLLS:

The improved, nano-enabled material properties will enable the use of bio-based materials in this high demanding application. Additionally antimicrobial properties will add extra functionality.