Antimicrobial FLEXible POLymers for its use in hospital environments

Fact Sheet

Project Information

FLEXPOL
Grant agreement ID: 721062
Project website
Start date 1 January 2017 End date 31 December 2019

Funded under H2020-EU.2.1.2.
Overall budget € 5 471 662,91
EU contribution € 5 171 943,34

Coordinated by FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.
Germany

Objective

FLEXPOL aims to develop a pilot line for the production of a cost effective antimicrobial (AM) adhesive film for its use in hospitals.
The obtained adhesive film will inhibit growth of a wide range of microbes and will be suitable for high-touch surfaces, providing a durable protection with good resistance. It will assure the highest level of hygiene and patient safety, reducing the use of disinfectants.
These objectives will be achieved, using a multi-functional approach combining prevention of adhesion with killing of microorganisms, by means of essential oil (EO) emulsions embedded in a micro and nanopatterned polypropylene matrix.
FLEXPOL covers the following key aspects:
-It addresses the development, upscaling and demonstration in a relevant industrial environment of the production of films with AM, biocompatible and anti-adhesive
properties. Existing extrusion and nanoimprinting pilot lines will act as the starting point in which new additives based on blends of EO will be incorporated.

-Previously validated technologies constitute the basis of the approach. These technologies will be extended to large scale production and demonstrated in a real operational environment. The pilot line will include real time characterization for inspection of the film at the nanoscale.

-Robustness and repeatability of film fabrication and its behavior in a real environment will be studied. The effectiveness of the solution will be compared with standard protocols.

-Materials are chosen according to their cost for large-scale application. Productivity and cost of the fabrication process will be analyzed attending to energetic optimization of the product fabrication and the raw material cost.

-Access to the pilot line for AM films in this or a different application will be ensured to European Industries at a cost that promotes technology transfer.

-Non-technological aspects key for the marketing of the product (such as regulatory issues, HSE aspects, LCA...) are considered.

Field of science

/engineering and technology/materials engineering/coating and films
/humanities/arts/modern and contemporary art/film
/social sciences/economics and business/economics/production economics/productivity

Programme(s)

Topic(s)

Call for proposal

H2020-NMBP-PILOTS-2016

Funding Scheme

IA - Innovation action

Coordinator

FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.
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AIMPLAS - ASOCIACION DE INVESTIGACION DE MATERIALES PLASTICOS Y CONEXAS

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