OPEN INNOVATION ECOSYSTEM
FOR **SUSTAINABLE**
NANO-FUNCTIONALIZED
PLASTIC & **PAPER**
SURFACES & **MEMBRANE**

FLEX FUNCTION 2 SUSTAIN

Procter & Gamble Use Case

Marine degradable flexible packaging

Objective:

Develop less environmentally persistent materials for flexible packaging.

Context

Currently, flexible packaging in Fast-Moving Consumer Goods (FMCG) requires H_2O permeation barrier and the mechanical strength needed to withstand the converting and sealing process without damaging the barrier. The starting point are non-degradable polymers based on mineral oil in combination with aluminium barrier. FMCG products may be stored longer than 1 year in state of the art storage, provided with sufficient moisture barrier performance.

Our ambition

- Enable marine degradable flexible packaging based on marine degradable non-plastic materials;
- Deliver a moisture permeation barrier;
- Demonstrate sealing performance without losing moisture barrier performance;
- Demonstrate shelf life of longer than 9 months (accelerated aging + real storage);
- Gain 3rd party certification for “marine degradable” packaging;

Intermediaries Results

- Materials (i.e. substrate, adhesive, PVOH based barrier and sealing) developed by PG, HPX and Fraunhofer IVV;
- Different coating methods discussed with Coatema to solve the drying issue with the aimed coating thickness;
- Industrial equipment identified and several coating trials in progress at Jura-Tech;
- Marine degradation tests in progress at IPC;

Recyclable and marine degradable flexible packaging structure

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