



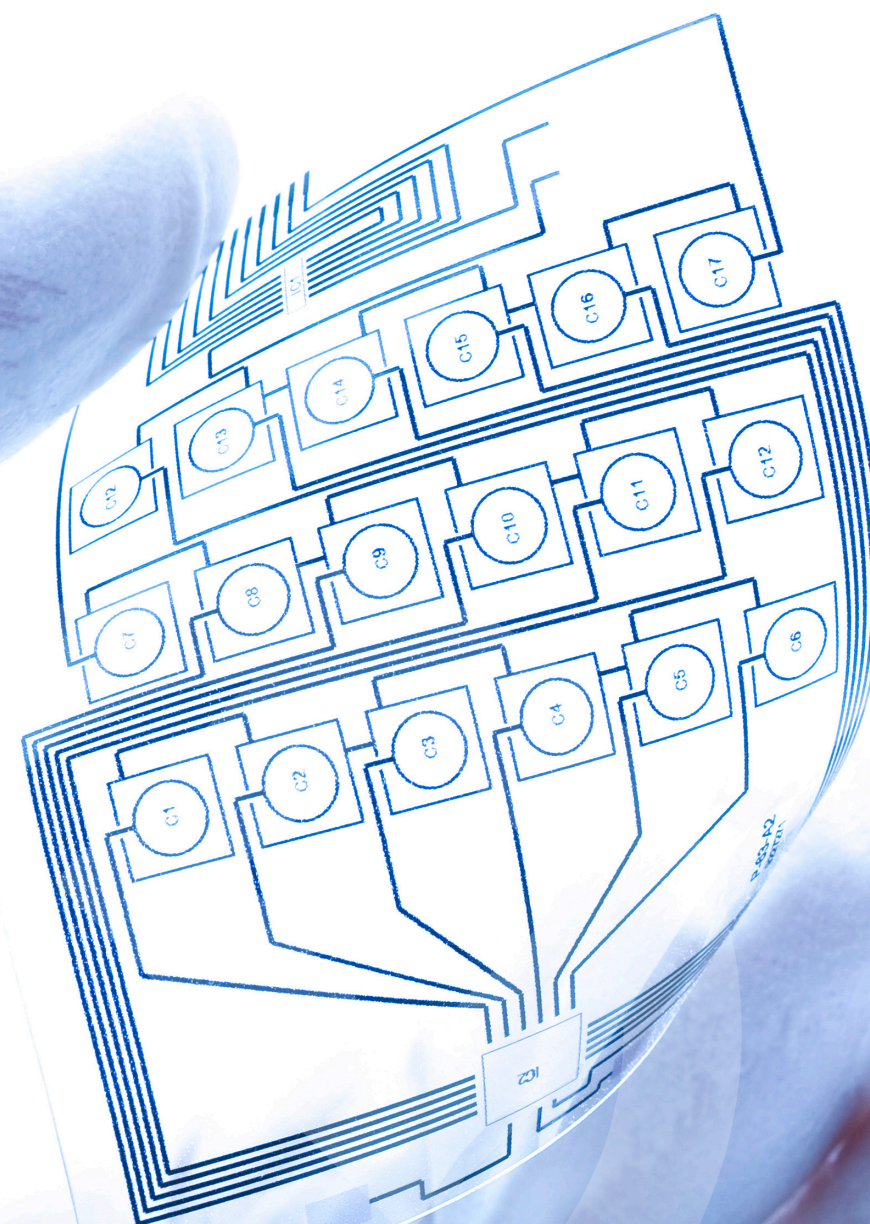
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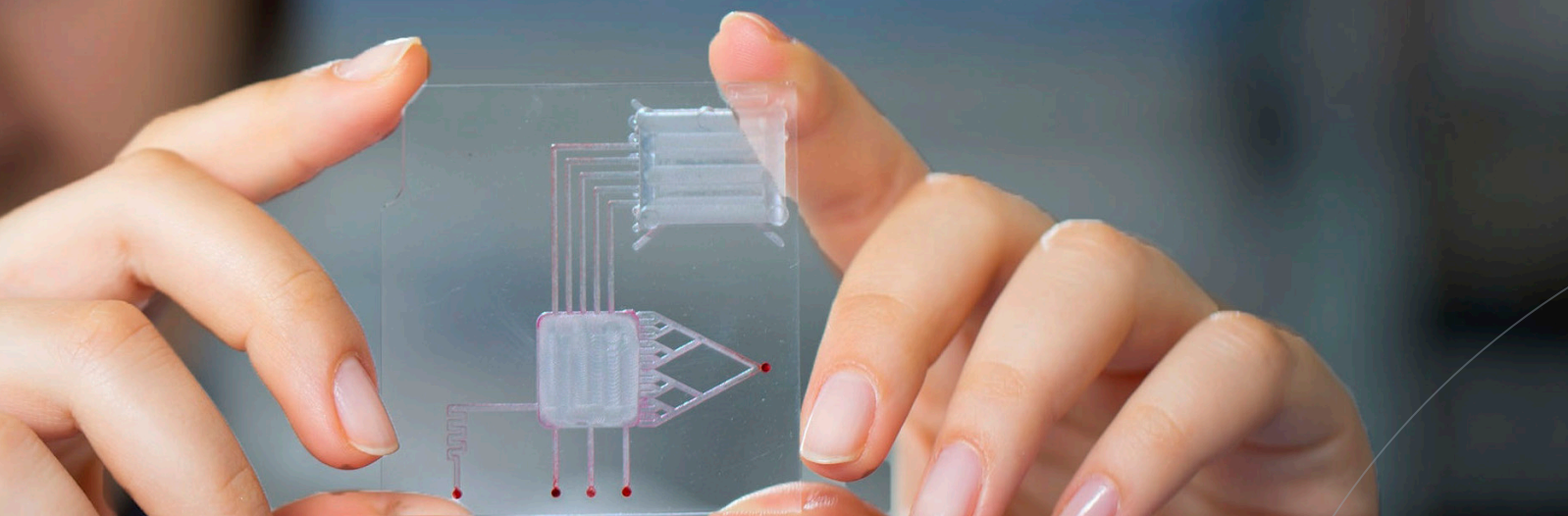
FUNCTIONAL PRINTING AND COATINGS

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The printing technologies have been traditionally used for the reproduction of texts and images for different applications, such as magazines, catalogues, press, labels, packages and textile printing, among other products. Currently, the different printing techniques allow to place other functional materials on different formats, such as plastics, metal, wood, cardboard, glass and textiles.

Inks, varnishes, lacquers and coatings in general, used in the printing and finishing processes, are polymeric matrixes in solution, which incorporate different properties: optical, mechanical and physical. Likewise, they can have different functionalities: chromoactives, conductive, semiconductor, dielectric, etc.

Aimplas works both to bring added value to traditional printed products and to develop new products and materials with advanced properties for the printing or deposition by means of industrial techniques.



R&D lines

- Incorporation of new functionalities in traditional printed products:
 - » Traceability, monitoring, anti-counterfeiting, etc.
 - » Barrier properties, bactericide properties, mechanical properties, surface properties.
 - » Development of intelligent packages and labels.
 - » Development of active packaging.
- Development of inks, varnishes and lacquers with new and improved functionalities and properties.
- Development of indicators: time-temperature, freshness, moisture, leakage, etc.
- Printing of flexible electronic components: RFID antennas, printed circuits, resistors, etc.



Technical assessment

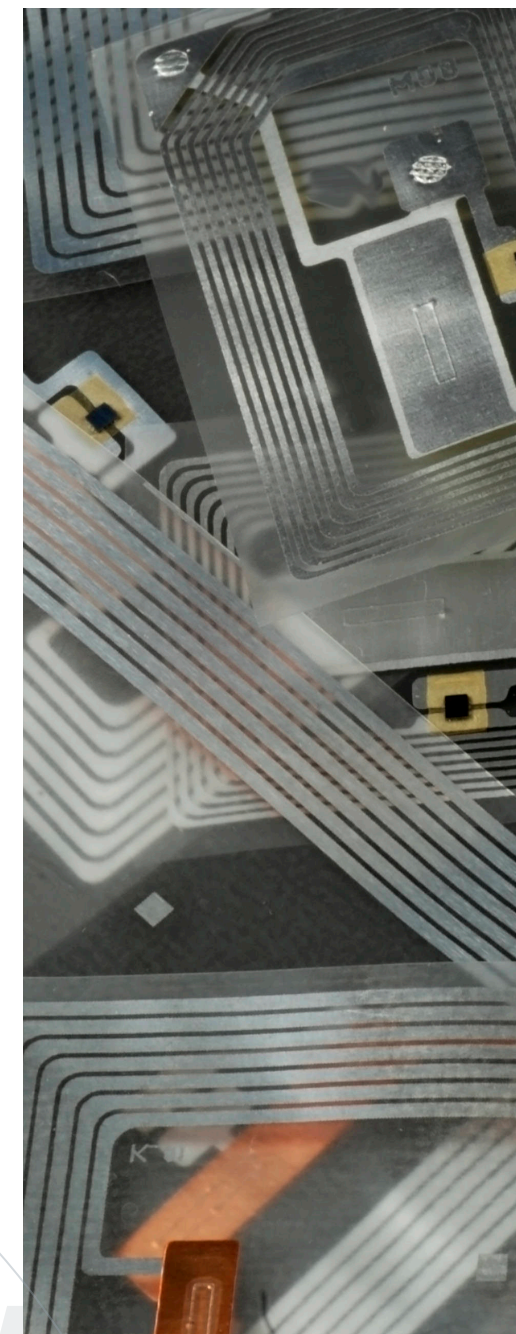
- Study and determination of optimum dispersion conditions of additives, fillers and/or nanomaterials in polymeric matrixes.
- Study of technical and economic feasibility to develop new products.
- Analysis of the substrate/ink/machine interaction: selection of the combinations of the most adequate materials and processes to develop new products.
- Printing of small print-run demonstrators.
- Accomplishment of the legislation applicable to printed products (contact with food, waste management, labelling, emissions, etc.).
- Sustainability of the printed product: biodegradable materials, recyclability, life cycle assessment and carbon footprint.

Analysis and testing

- Optical properties: colour, brightness, transparency.
- Physical-mechanical properties: adherence, abrasion, roughness and scrub and scratch resistance.
- Surface tension and contact angle.
- Contact with food legislation: global and specific migration.
- Accelerated weathering
- Identification/quantification of additives (FTIR, Chromatography).
- Identification/quantification of fillers and reinforcements (FTIR, TG, Raman).
- Identification of printed structures and layer thicknesses (FTIR, SEM, DSC).

Training

- Specialised and customised training for the company.
- Identification of perspectives for the future on the printing industry (seminars, technical workshops).



Competitive Intelligence

Elaboration of specific state of the art, patent searching, standards, legislation, sector news and scientific-technical reports.