



Votre partenaire scientifique et technique aux compétences multiples

A horizontal bar composed of six colored segments: red, olive green, purple, light green, blue, and orange.

Expertise – Quality – Speed – Confidentiality

SME offering scientific and technical services

A multidisciplinary team of 47 people

- PhD, Engineers, Masters, Bachelors...
- Scientific backgrounds

Dedicated laboratories





FOOD TECHNOLOGIES

- Nutrition
- Extraction



PACKAGING

- Raw materials
- Finished products



ENVIRONMENT



TEXTILES

4 fields
of expertise

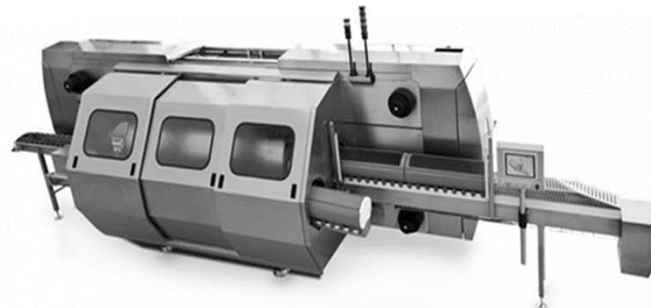


- ✓ **Management of public and private projects for industrial food companies:**
 - ✓ Shelf life extension by non thermal technologies
 - ✓ Improvement of food stability, accelerated ageing tests
 - ✓ Formulations of food to achieve specific composition, texture, nutritional claims, functional properties.

- ✓ **Chemical analyses in food and feed :**
 - ✓ Nutriments
 - ✓ Contaminants
 - ✓ Additives
 - ✓ Specific parameters for oxidation monitoring (...)



Food formulation robot



High Pressure Processing



Texture analyser



Chromatographic analysis
UPLC -MS

- ✓ Treatment of biomass with **traditional and green extraction processes (lab & pilot scale)**
- ✓ **Valorisation** of food processing by-products and agricultural biomass wastes
- ✓ **Development / optimisation** of vegetal extracts and extraction processes
- ✓ **Focus on hot pressurized solvent extraction** : supercritical CO₂ (non polar) – subcritical water (polar)
- ✓ **ATEX zone** with pilot maceration plants (**25 & 400 L**)
- ✓ **Concentration and purification tools** : Spray & freeze dryers, membrane filtration, centrifugal partition chromatography, preparative chromatography,...
- ✓ **Analytical characterization** : GC-MS, UPLC-DAD-MS, ICP-MS, phytochemicals (terpenes, polyphenols,...),...



Supercritical CO₂ pilot plant



Subcritical water pilot plant

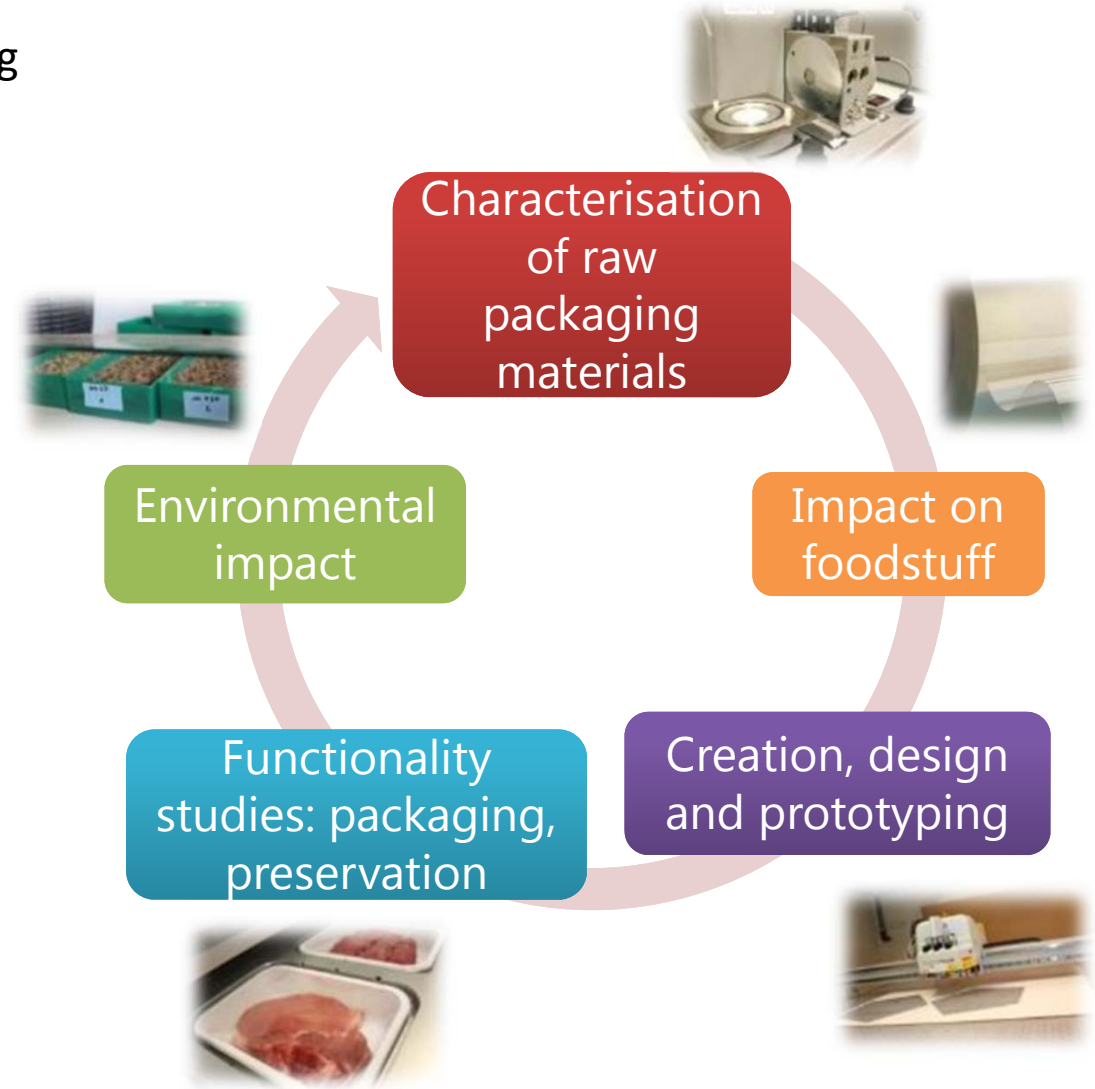


400L maceration plant



Centrifugal partition chromatography

- ✓ **Physicochemical characterisation** of raw packaging materials and finished products (WVTR/OTR/Sealability/gas composition/...)
- ✓ Experience in **paper/board/plastic/complex**
- ✓ Study of **container/content interactions** (food contact properties)
- ✓ **Design** of new packaging in accordance with **customer specifications**
- ✓ **Shelf-life improvement** of packaged food and accelerated ageing
- ✓ Study of **active** and **intelligent packaging** (with specific activities)
- ✓ Evaluation of the **environmental impact** through LCA and biodegradability tests.



- ✓ **Lab analyses** for water (surface, waste water...) and waste (sludges, composts, biocombustibles...)
- ✓ **Development of new analyses methods** in function of legislation and industrial needs
- ✓ **Advices for companies** (technology and legislation) for water and waste treatment
- ✓ **Life cycle analyses** for new products and processes
- ✓ **Development of innovating technology processes in the field of:**



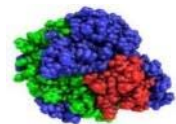
Advanced Oxidative



Algae-bacteria Symbiosis



Bacterial Treatment



Enzymatic Processes



Draining Depolluting Parking Lot



Process Development

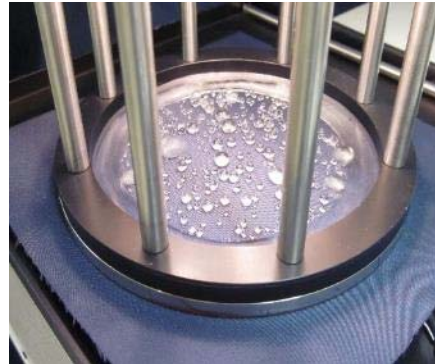
Industrial Valorisation



- ✓ **Various analysis on fibres** (natural and chemical) for wide range applications (garment, building, automotive, filtration, domestic uses...)
- ✓ **Chemical expertise for all textile materials (fibres, yarns, composites, non-woven)**
- ✓ **Development / optimization** of textile and fibres treatments (dyeing, bleaching, functionalization)
- ✓ **Mechanical testing** on fabrics and non-woven (bursting behaviour, tensile strength, pilling, abrasion, optical properties),
- ✓ **Particle size Analysers** : morphology and size characterization of **fibres and powder from 0,5µm to 50 mm**),
- ✓ **Analytical characterization** : formaldehyde, azo-dyes, allergen dye, phthalates...



Particles size Analysers
natural fibres



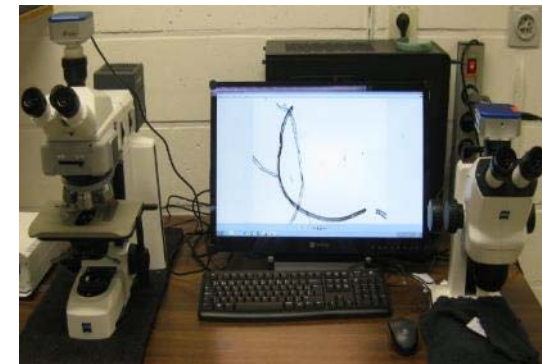
Waterproofness



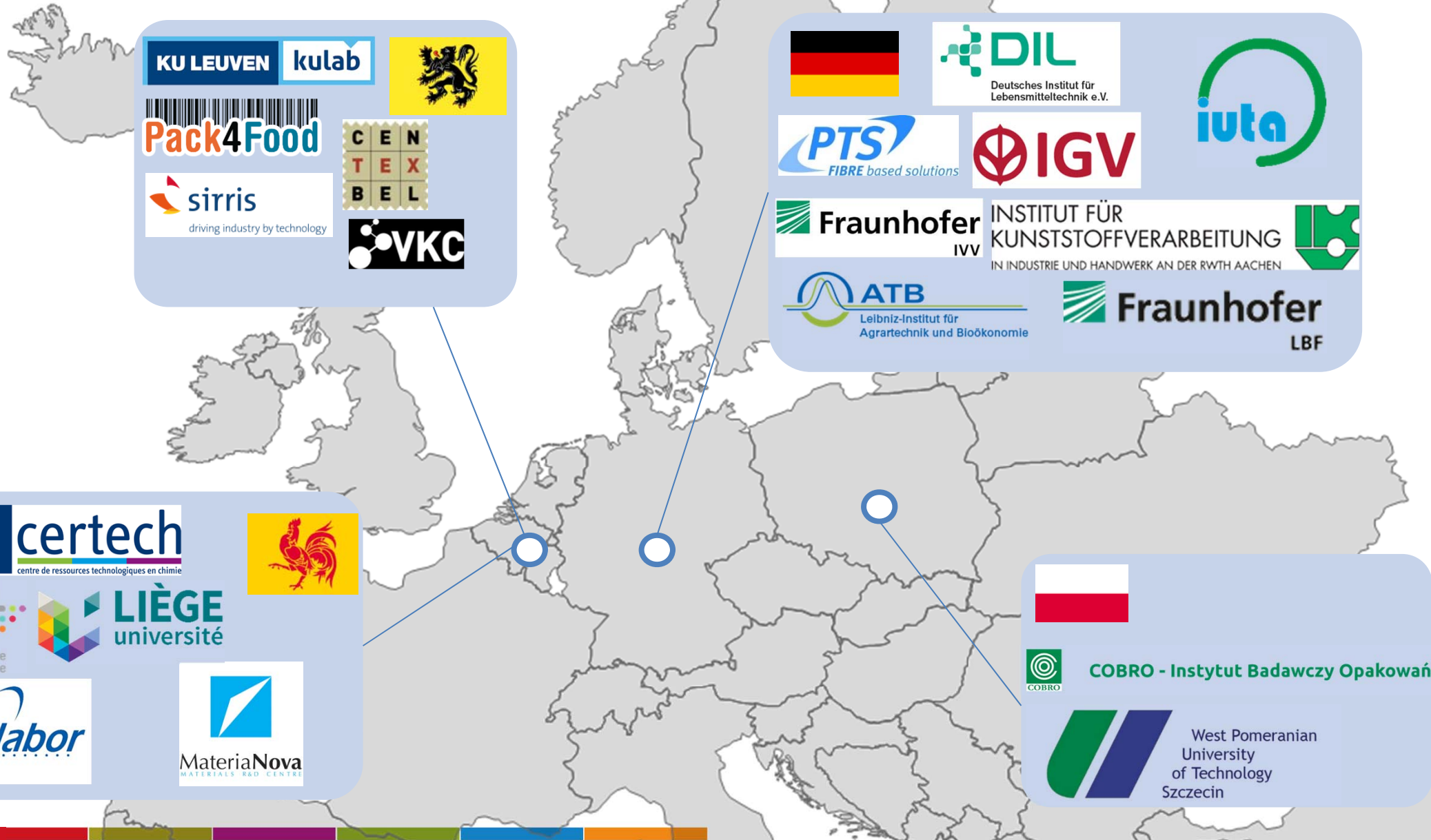
Bursting behaviour



Tensile Test



Fibres analysis and
characterization



Department	Acronym	Title
Extraction	BYPROVAL	New valorization pathway for fruit/vegetable waste by a combination of extraction and biogas production
Extraction	SALICHEM	Saline plant uses for chemicals and energy production
Extraction	EXTRUMIBI	Formulation and application of temperature-stable bio-based antimicrobial agents
Extraction	SUBWEX	Subcritical water as green solvent for extraction of plants
Environment	AOPTI	Assessment of Advanced Photocatalytic Oxidation process for Micropollutant Elimination in Municipal and Industrial Waste Water Treatment Plants
Environment	AOP4WATER	Reducing fresh water consumption in high water volume consuming industries by recycling AOP-treated effluents
Environment	ALBAPRO	Algae-Bacteria operation processes for waste water treatment and biomass production
Textile	FLAXHEMPLAST	Development of an optimal flax compound for large volume production processes
Packaging	HIMIDWRAP	Humidity and water regulating active packaging
Packaging	REMOPACK	Removing of specific undesirable odours with the development of new food packaging materials
Packaging	PADS	Green fibres based packagings with moisture management and aroma release function for oven and microwave preparation with focus on multifunctional pads
Packaging	SELECTPERM	Food packaging materials with O ₂ /CO ₂ selective permeability
Packaging	ACTIPOLY	Active polyvalent packaging based on environmentally friendly fibre material with thermoformable properties to extend shelf-life of fresh food for the reduction of waste
Packaging	SOLAPACK	Preventing the migration of critical substances by using sorption layers for paperbased packaging materials

Assisted bacterial fermentation for the production of high added molecules for health and cosmetic sectors

Celabor expertise: Assisted technics, extraction and purification processes

Search of partners: bacterial fermentation expertise

Lignocellulose biomass valorization: alternative pretreatment of lignin for the recovery of high added value molecules

Celabor expertise: assisted technics, green extraction and purification processes

Partner 1: chemical conversion

Search of partners: enzymatic conversion

Extraction of natural dyes from retail-wastes for the development of new bio-materials

Celabor expertise: extraction and purification processes

Search of partners: biopolymer processing





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Thank you for your attention!

