Bioplastics are biobased and/or biodegradable polymers. These materials are split into two groups: biobased polymers equivalent to existing fossil-based polymers (PE, PET, biobased PA, etc.) and biobased and/or biodegradable polymers with innovative structures (PLA, PHA, PBS, PBAT, etc.).

The term “biobased” (in agreement with the norm EN 16575 : 2014) represents a part of material made completely or partially from renewable resources. This part can represent a variable proportion of the material. To this day, there is no established minimum rate that specifies the use of this term.

We can talk about a biodegradable material if it can be decomposed and absorbed by micro-organisms (bacteria, fungus, algae, etc.). The result of this process is the formation of water, CO₂ and/or methane and possibly by-products non toxic for the environment (residues, a new biomass). (Technical Datasheets, ADEME, 2012.)
Presentation of the company:

**2007**

Mother company

NaturePlast
Bioplastics Expert

SAS with a capital of **174,666 €**

*NaturePlast* remains the only European supplier of all kinds of bioplastics produced in the world.

**2010**

Daughter company

BiopolyNov
Bioplastics — R&D

CIR and CII agreement
(Research and Innovation tax credit)

SASU with a capital of **30,000 €**

*BiopolyNov* is the only R&D center dedicated to the improvement and modification of bioplastic properties in Europe.

Members of the team:
- Founder, CEO and Domestic Sales Executive
- Export Sales Manager
- Technical Manager, Collaborative Project Manager
- R&D Manager
- Project Manager
- Quality Manager
- Workshop Manager
TO SUPPORT OF FRENCH AND EUROPEAN INDUSTRIES

(manufacturers and end users)

in the transfer of technology to bioplastics.
Our areas of expertise:

3 areas of expertise
To support your projects

Service
- Training
- Technico-economical study
- Project engineering

R&D
- Customised formulation
- Characterisation
- Production of compounds

Distribution
- Raw material
- Compounds
Who do we work for?

5 main types of customers we support and advise

- End users
- Technical Centres and Universities
- Current and future manufacturers of bioplastics
- Suppliers of fillers (fibres, by-products)
- Plastic converters
Company history:

2008
First opening of share capital to investors

2007
Creation of NaturePlast (trading activity)

2009
Beginning of expertise activities (trainings, studies)

2010
Creation of the R&D centre BiopolyNov

2011
The launch of our first French collaborative R&D project « Agroboost »

2012
The launch of our first European collaborative R&D project « Succipack »

2015
The launch of the by-products recovery activity

2017
Opening of capital stock to the AGRIAL group and acquisition of the first industrial compounding line.
Our three ranges of products:

**RAW MATERIAL**
bioplastics

NaturePlast is the only supplier in Europe providing all biobased and/or biodegradable bioplastics.

**COMPOUNDS**
bioplastics

NaturePlast produces a range of bioplastic compounds with optimised properties.

**BIOCOMPOSITES**
fibres and by-products

NaturePlast produces a range of biocomposites containing natural fibres or by-products from different activities.
Our sectors of activity:

- Agriculture and horticulture
- Pet industry
- Construction
- Cosmetic packaging
- Food packaging
- High Tech
- Luxury industry
- Toys
- Medical
- Stationery
- Disposable products
- Baby product industry
- Plastic bags
- Sport and leisure
- Textiles and nonwoven
- Transport
Our production equipment:

### Characterisation equipments:

1/ Thermal:
- HDT / Vicat (ISO 75 / 306)

2/ Mechanical:
- Tensile / Flexural (ISO 527 / 178)
- Charpy Impact (ISO 179)

3/ Rheologic:
- MFI (ISO 1133)

4/ Physico-chemical:
- Shore Hardness (ISO 868)
- Accelerated ageing station
- Water content analysis Karl Fischer (ISO 15512)
- Density (ISO 1183)

### Production equipments:

- **Laboratory** twin-screw **extruder** (21mm)
- **Industrial** twin-screw **extruder** (27mm)
- Prototyping by extrusion, calendaring, blowing
- **Injection** machine (80 T)

### Equipment for the valorisation of by-products:

- Dryer
- Grinder
- Sifter

Thanks to our network of industrials and R&D, we have access to other equipment that help us to finalise/validate our work.
Our expertise:

4 Major thematics in which Biopolynov is specialized.

- **Optimisation of bioplastics’ properties**
- **Modulation of bioplastics’ shelflife**
- **Valorization of by-products**
- **Adding of function to a biopolymer**
Our R&D projects by BiopolyNov:

- **Services for clients**
  - Direct services: Compounding / Injection / Characterisations
  - In order to remove the main obstacles to the development of bioplastics
  - Development of new materials by incorporating by-products

- **In-house R&D** in collaboration with NaturePlast

- **R&D projects** to develop formulations answering to application specifications

- **100 formulations** developed per year (clients/collaborative projects /in-house R&D)
Our R&D projects – NaturePlast:

6 Current R&D collaborative projects of which NaturePlast is a partner:

Regional, national and European funding

- **MATADORE - RAPID DGA** – Controlled biodegradation of technical pieces in natural environment
- **BIOCOMPLACK - H2020 FTI Pilot 2015** - Optimization of PLA’s barrier properties
- **URBIOFIN - H2020 BBI JTI 2016** - Valorization of municipal waste to produce biobased materials (including PHAs)
- **MYPACK – H2020 SFS 2017** - Development of innovative technologies for food packaging
- **WOW ! – Interreg NWE** – Production of biobased materials (including PHAs) using waste water
- **DEEP PURPLE – H2020 BBI-JTI-2018** – Conversion of urban bio-waste into sustainable materials (including PHAs) by photo-bio-refinery process

6 Finished projects

AGROBOOST, SUCCIPACK, NICEDAY, BIOSOURC’AIR, SEAPLAST, COPROPLAST

The NaturePlast-BiopolyNov team is the leader of tasks consisting in the modification/optimisation of materials:

- Sourcing of suppliers / supplying of materials
- Research and Development of formulations
- Compounding / injection of test pieces / characterisations
Our R&D projects – MATADORE:

**MATADORE**

**PROJECT:** Development of new materials with controlled biodegradation for civil and military applications

**FINANCER:** DGA RAPID

**BUDGET:** 450 k€ for 3 parties (including 200 k€ for NaturePlast)

**DURATION:** 42 months (ending in April 2019)
Our R&D projects – BIOCOMPLACK:

**PROJECT:** Development of food packaging with high barrier properties.

**FINANCER:** H2020 FTI Pilot 2015

**BUDGET:** 2,7 M€ for 5 parties (including 350 k€ for NaturePlast)

**DURATION:** 30 months (ending in December 2018)
PROJECT: Development of a **innovative biorafinery** for the transformation of **solid municipal waste** into new biobased products.

**FINANCER:** H2020 BBI JTI 2016

**BUDGET:** 15 M€ for 16 parties (including 400 k€ for **NaturePlast**)

**DURATION:** 48 months (ending in May 2021)
Our R&D projects – MYPACK:

**PROJECT:** To develop, ease and promote access to the market of durable technologies in the field of food packaging.

**FINANCER:** H2020 SFS 2017

**BUDGET:** 5,8 M€ for 18 parties (including 400 k€ for NaturePlast)

**DURATION:** 48 months (ending in 2021)

PLA based packaging with thermal resistance > of 100°C
Our R&D project – WOW:

**W**ider business **O**pportunities for raw materials from **W**astewater

**PROJECT:** Production of raw material coming from the **valorisation of waste water treatment** for application in circular economy.

**FINANCER:** Interreg NWE

**BUDGET:** 6.5 M€ for 12 parties (including 280 k€ for NaturePlast)

**DURATION:** 42 months (ending in 2021)