

PRESS RELEASE

Fashion Development Materials is born, the new Bio-on business unit dedicated to bioplastic materials for fashion and the luxury sector.

- **FDM, Fashion Development Materials**, is added to the **5 business units** that **Bio-on** created a year ago.
- A dedicated team will develop new materials based on Minerv PHA bioplastics, 100% natural and biodegradable, targeting the fashion and luxury industry.
- The new materials also respond to the need to reduce the pollution caused by synthetic fibers that are released into the environment. A dramatic phenomenon similar to that caused by plastic microbeads used in cosmetics that pollute seas and rivers.
- The strategy of setting up the business units has generated important results in just one year, allowing to optimize the company organization the company and to accelerate the ability to respond to the growing demand for PHA bioplastics coming from different sectors.

bio-on / fdm

Fashion Development Materials

Bologna, 3rd September 2018 – **Bio-on**, listed on the AIM segment of the Italian Stock Market – Borsa Italiana and operating in the sector of bioplastic of high quality, presents today the new business unit **Fashion Development Material (FDM)** specialized in the **development of new high-tech materials for the fashion and luxury industry, based on Minerv PHA bioplastics, natural and 100% biodegradable**. The goal is to identify processes, technologies and patents to produce fabrics, yarns, flexible surfaces, films, etc. made of bioplastic and designed to replace today's materials, many of which are synthetic and polluting.

*«The search for innovative and eco-sustainable materials, which respect the environment and people, is now a priority also in the luxury and fashion sector - explains **Marco Astorri**, President and CEO of **Bio-on** - and today the creativity of the best designers is expressed also through the choice of natural and biodegradable materials. We are already collaborating with some of the most important worldwide fashion brands and thanks to this experience we launch today our sixth business unit to respond to the market in a more rapid, timely and personalized way».*

The materials, which will be developed by a dedicated team, respond also to the need to reduce the pollution caused by the synthetic fibers that are used today by the fashion industry and that, invisibly, are released at each washing, ending up in the environment and seas. A dramatic situation similar to that caused by the plastic micro-beads used in cosmetics that pollute seas and rivers. In both cases Bio-on has developed innovative solutions starting from PHA bioplastics, which comes from a completely organic process and are 100% biodegradable.

Fashion Development Material (FDM) is added to the 5 business units that Bio-on created one year ago: **Bio-on Plants**;

Cosmetic, Nanomedicine & Smart Materials (**CNS**); Recovery and Fermentation (**RAF**); Engineering (**ENG**) e Structural Materials Development (**SMD**).

In the last 12 months, the activities of the business units, in addition to representing an optimization of the company organization, have allowed the development of the Bio-on business model through the creation of "newco" dedicated to specific market sectors. Thanks to the recognized potential and the positive impact that Bio-on biopolymers can generate, these new companies have attracted the attention and entry as business partner of some of the most important players in the reference markets.

All the **Minerv PHA bioplastics (polyhydroxyalkanoates)** developed by **Bio-on** are made from renewable plant sources with no competition with food supply chains. They guarantee the same thermo-mechanical properties as conventional plastics with the advantage of being 100% eco-sustainable and naturally biodegradable.

Here's what the 5 **Business Units** launched on 31st of August 2017 from Bio-on do:

Bio-on plants

It manages the first Bio-on production plant inaugurated on 20th of June 2018 in Castel San Pietro Terme near Bologna, where the company has invested 20 million euros. The new plant is located over an area of 30,000 m², 3,700 of which is covered and 6,000 m² for building. It is the result of a reconversion of a former factory (without occupying new land) in which the best technologies currently available on the market have been used. Bio-on Plants has followed and coordinated the construction, will take care of future expansions and the construction of new plants. In the last year Bio-on Plants has managed important "numbers". 380 piles of 30 meters high and with a diameter of 600 mm; 3,500m³ of concrete; 480,000 kg of reinforcement iron; 680,000 kg of erected steel structures; 130,000 hours of work.

Headquarters: Castel San Pietro Terme (Bologna)



CNS

The CNS Business Unit (*Cosmetic, Nanomedicine & Smart Materials*) deals with the development and commercialization of functionalized biomaterials and devices, capable of providing "Ultra-Green Performance" exploiting the unique characteristics of biodegradability in water and biocompatibility typical of PHA bioplastics.

The areas of activity are Cosmetics, Biomedical, Nutraceutical, Bioremediation, Organic Electronic, Smart Materials. In particular in the world of cosmetics through the development of micro powders for the replacement of the current polluting and environmentally harmful plastics. Over the last year, the CNS Smart Labs, a highly-equipped research center, has been completed in record time, thanks to an investment of 2 million euros, it is spread over an area of over 400 square meters and divided into 5 thematic areas. CNS has realised the "**Powder Boutique**" laboratory, a sort of technological tailoring, which develops the technologies and know-how to modify the morphology of the biopolymers in order to maximize performances with respect to the applications. The researchers of the CNS business unit have generated a huge IP portfolio consisting of different patents and international patent applications (PCT).

Headquarters: Castel San Pietro Terme (Bologna)

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Cosmetic, Nanomedicine & Smart Materials

SMD

This Business Unit is in charge of developing different product grades for injection, extrusion, thermoforming and film coating technologies. The structural materials are basically those obtained starting from granules or pellets. As a rule, they are large or complex plastic items with high-performing forms and functions.

In the last year the SMD Business Unit has developed, among others, new formulations suitable for the realisation of food containers with high impact resistance materials. It continued the development of Minerv Supertoys, the bioplastic grades designed for toys with the highest safety standards for use by children.

The activity also focused on the development of a new fully biodegradable food packaging with barrier performance that allows at least 10% extension of the "shelf life", thus overcoming the obstacles in the performance that have, so far, limited the use of totally biodegradable biopolymers in food applications.

Headquarters: Bentivoglio (Bologna)

bio-on /smd

Structural Materials Development

RAF

This Business Unit deals with the research and development of new agricultural wastes to be used in fermentation for the production of PHA biopolymers, the demonstration and scale-up of new plants for the fermentation and recovery of PHAs biopolymers with a high degree of purity. Over the last year, the number of trials has increased through the application of new technologies in the fermentation processes and thanks to the increase of bioreactors available. New cell lines able to produce bioplastic were also identified. RAF has tripled the fermentation units in recent months. Operators also increased exponentially with the introduction of 10 new employees. This led to a doubling of production capacity linked to research and development activities.

Headquarters: Castel San Pietro Terme (Bologna)

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Recovery and Fermentation

ENG

This Business Unit develops and supplies the complete documentation on dedicated and bankable industrial feasibility studies: Project description, Designation list, Standards, Design Criteria, Process, Process control system, Storage and Warehouse, Utilities, Electrical Installation. Industrial scale-up with the production modules definitions. It realizes complete process design packages (PDPs) from the laboratory to the industrial scale production plant with production modules of 5, 10, 20 thousand tons / year. Bio-on / ENG has taken care of the commissioning and start-up phase of the plant in Bologna (in addition to those granted under license) through the drafting of the necessary protocols and procedures. In the life cycle of the projects, Bio-on / ENG follows the initial phase of the authorization process and has carried out project management activities for the multidisciplinary engineering phases, procurement of materials and equipment necessary for the plant and subcontracting for the execution of the works of construction and assembly.

SEDE: Bio-on S.p.A. (Bologna)

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Engineering

Informazioni per la stampa

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Bio-on S.p.A.

Bio-on S.p.A., an Italian Intellectual Property Company (IPC), operates in the bioplastic sector conducting applied research and development of modern bio-fermentation technologies in the field of eco-sustainable and completely naturally biodegradable materials. In particular, Bio-on develops industrial applications through the creation of product characterisations, components and plastic items. Since February 2015, Bio-on S.p.A. has also been operating in the development of natural and sustainable chemicals for the future. Bio-on has developed an exclusive process for the production of a family of polymers called PHAs (polyhydroxyalkanoates) from agricultural waste (including molasses and sugar cane and sugar beet syrups). The bioplastic produced in this way is able to replace the main families of traditional plastics in terms of performance, thermo-mechanical properties and versatility. Bio-on PHAs is a bioplastic that can be classified as 100% bio-based, certified by USDA (United States Department of Agriculture), and completely biodegradable, certified by Vincotte. The company's strategy envisages the marketing of licenses for PHAs production and related ancillary services, the development of R&D projects (also through new collaborations with universities, research centers and industrial partners), as well as the realisation of industrial plants designed by Bio-on.

Issuer

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