

## PRESS RELEASE

# Bio-on inaugurates in Italy the first special bioplastics production plant. 100% natural and biodegradable.

- 20 million Euro investment behind new production hub, the first owned by Bio-on. Highly sustainable project converted from a former factory: occupies no new land and is powered by electric energy generated by an advanced trigeneration plant.
- New factory will produce various types of special biopolymers, particularly Minerv Bio Cosmetics, the natural and biodegradable bioplastic designed to replace harmful microbeads in today's cosmetics.
- New plant, located in Castel San Pietro Terme near Bologna, is also the headquarters of CNS division laboratories (Cosmetic, Nanomedicine & Smart Materials) employing over 20 researchers.
- New Bio-on plant, currently employing 45 people, expects to double its workforce by the end of the year.

**Bologna, 20 JUNE 2018** – **Bio-on**, operating in the high quality bioplastic sector and listed on the AIM segment of Borsa Italiana, today inaugurated its first owned plant designed to produce 100% natural and biodegradable special PHAs bioplastics for high added value niche markets such as the microbeads used in the cosmetics sector.

"We are extremely proud," explains **Bio-on Chairman and CEO Marco Astorri**, "because this factory demonstrates all-Italian excellence and is the beginning of a new era in the global green chemical industry. From today, thanks to our bioplastic, many companies will have the chance to protect the environment and give ecological credentials to their products, in compliance with ever more stringent limits on the use of conventional plastics."

The new production hub is located in **Castel San Pietro Terme** just outside **Bologna** in an area of 30,000 m<sup>2</sup>; it has 3,700 m<sup>2</sup> covered space and 6,000 m<sup>2</sup> land for development. Current production capacity is 1000 tons per year, which can be quickly doubled. The plant, managed by **Bio-on Plants**, the division responsible for production, future expansion and new plants, is equipped with the very latest technologies and the most advanced research laboratories. Here, over **20 researchers in the CNS division (Cosmetic, Nanomedicine & Smart Materials)** can test new carbon sources from agricultural waste to produce new types of biodegradable bioplastic and increase the range of technologies offered by Bio-on. Bio-on also demonstrates its focus on sustainability in its choice of site, opting to convert a former factory without occupying any new land. **The overall investment in the production hub and new research laboratories is 20 million Euro.**

"We are very pleased because since March 2017, when the first stone was laid, we have kept to our schedule and kept the promises we made to the market," says **Marco Astorri**. "Our technicians and partners have been incredibly reliable throughout the process."

"Like all complex industrial plants, the new production hub is running a series of tests before becoming fully operational in the autumn. The entire production cycle is run from an innovative control room at the heart of the plant," explains **Riccardo Casoni, Bio-on Plants director**, "and this is where the entire industrial process will be tested before production begins 24/7."



The first product to come out of the Castel San Pietro Terme plant will be **Minerv Bio Cosmetics**, the bioplastic microbeads for cosmetics designed to replace the oil-based plastic particles currently used, which are harmful and non-biodegradable. These microbeads, which are used as thickeners or stabilisers in such widely used products as lipstick, lip gloss, mascara, eye-liner, nail polish, creams, shampoo, foam bath and even toothpaste, pollute the environment because once they are rinsed off after use, they become a permanent part of the natural cycle: plankton in the rivers and seas swallow these plastic particles and thus introduce them into the food chain. **The level of pollution is so serious that the USA was the first country to bring in a law (Microbead-Free Waters Act of 2015) banning the use of oil-based polymers in body care products.** Some countries, such as Canada, UK, Sweden and France, recently followed suit while others, such as Ireland, Netherlands, Italy, have announced they will do so\*. Using **Minerv Bio Cosmetics** bioplastic in cosmetics products **eliminates these pollutants** because the micro particles of bioplastic are naturally biodegradable in water and, therefore, do not enter the food chain. What is more, the biopolymer developed at the **Bio-on** laboratories actually decomposes into a nutrient for some micro-organisms and plants present in nature. The benefit for the environment is therefore two-fold.

The new production hub is also the headquarters of Business Units **RAF (Recovery And Fermentation)**, which develops and optimises bioplastic fermentation and extraction processes to obtain the best possible product yield; and **CNS (Cosmetic, Nanomedicine & Smart Materials)**, which uses cutting-edge scientific equipment to test new types of bioplastic and develop new applications. The areas of operation are Cosmetics, Nanomedicine, Biomedical, Nutraceuticals, Bioremediation, Organic Electronics and Advanced Materials. CNS laboratories are the base for over 20 researchers from various parts of the world and many different scientific disciplines, such as chemistry, physics, biology, pharmacy, materials engineering, biotechnologies, electronics, and mathematics with an average age of 30.

All the **Minerv PHAs** 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.

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*\* The ban on using products containing microbeads has been implemented differently and on different dates by the countries listed. Source: Bio-on, Wikipedia and BeatTheMicrobeads.org.*

## **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 conventional plastics in terms of performance, thermo-mechanical properties and versatility. Bio-on PHAs is a bioplastic that can be classified as 100% natural and completely biodegradable: this has been certified by Vincotte and by USDA (United States Department of Agriculture). The Issuer's strategy envisages the marketing of licenses for PHAs production and related ancillary services, the development of R&D (also through new collaborations with universities, research centres and industrial partners), as well as the realisation of industrial plants designed by Bio-on.

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