Novamont opens world's first commercial plant for bio-production of a major intermediate chemical

Revitalizes an abandoned industrial site; uses Genomatica's GENO BDO™ technology; production capacity of 30,000 tons

Novara, Italy and San Diego, CA, September 29, 2016 – Novamont, the Italy-based world leader in bioplastics, with 1,000 patents in biopolymers and biochemicals, announced they have opened the world's first commercial-scale facility for the bio-based production of a major intermediate chemical, in Bottrighe (Adria), North East Italy. Novamont's MATER-BIOTECH plant will produce 30,000 tons of 1,4-butanediol (BDO) per year from renewable sources rather than fossil fuels to make products (e.g. bioplastics) with a higher content of renewable resources. The plant benefits from a partnership that combines technology developed by Genomatica, a leader in the biotechnology industry, and Novamont's unique skills and pioneering know-how in developing low-impact processes.

Novamont's plant also establishes a model for economic revitalization, through the redevelopment and conversion of manufacturing sites that were no longer competitive into 21st-century biorefineries.

The plant and product

Novamont's plant will produce 30,000 tons of renewable BDO per year, 70% more than the original target of 18,000 tons. The plant's capacity was expanded due to higher anticipated demand for renewables, continually-improving process performance, and competitive economics. The plant is up and running now and is expected to reach full production rate in 2017.

Novamont has opened the world's first commercial-scale plant for the bio-based production of a major intermediate chemical. Using Genomatica's GENO BDO™ process, it will produce 30,000 tons of BDO per year from renewable sources rather than fossil fuels.

BDO produced by the plant enables Novamont to deliver its fourth-generation of Mater-Bi bioplastics with greater sustainability. Mater-Bi is used to make biodegradable, compostable products such as fruit and vegetables bags, mulch film and coffee capsules. The products made with this new BDO will save an estimated 56% of greenhouse gas emissions compared to the use of conventional BDO.

Adds significantly to the local economy

Novamont invested 100 million euros (approximately $110 million dollars) to build the plant. This sum is generally considered to be low compared to plants that produce chemicals from fossil fuels, even more so since it is a first-of-its-kind plant. Up to 300 people were employed during construction and 75 people are employed at the plant, including the re-hiring of people employed at the former plant.

In addition, the plant is a starting point for further integration with both feedstock supplies and product manufacturing in the region. This represents a fundamental development of Novamont's biorefinery concept as applied to bioplastics and biochemicals, as currently put into practice through six interconnected sites and four new proprietary technologies. Starting from these technologies, Novamont has built the first plants in the world in deindustrialized sites in Italy, with a view to catalyze the creation of integrated value chains, from agriculture in marginal soils to final products, across several market sectors. Novamont's approach to embedding technologies into the infrastructures of the bioeconomy has been one of the most consistent in both Italy and Europe, both in financial terms and in applying new technologies at industrial scale, with important impacts as well for agriculture.

As part of today's grand opening, Novamont hosted an international conference, "Reconnecting Economy and Society through Innovation: A new bio-economy infrastructure for the regeneration of local areas" at the Regional Land Reclamation Museum in Taglio di Po, Rovigo, Italy, followed by a tour of the plant. The conference discussed the broad topics of moving to a circular economy and the revival of industrial sites, with the MATER-BIOTECH plant as a leading example of creating new economic opportunities through innovation.

The technology: Genomatica's GENO BDO™ process and services

The new BDO plant uses Genomatica's GENO BDO™ process technology to convert sugars to BDO. Genomatica's licensed technology enables production of a bio-BDO that can be used the same way as conventional, while delivering better economics and sustainability. Genomatica's process was developed using their whole-process approach, which features industrial-strength engineering of microorganisms, techno-economic analysis and "commercial-scale-first" thinking, to ensure that a process will work reliably at commercial scale. Additionally, Genomatica worked with Novamont during plant design and construction, technology transfer and plant startup to ensure a smooth and positive outcome.

About Novamont

The Novamont Group is a world leader in the development and production of bioplastics and biochemicals through the integration of chemistry, the environment and agriculture. It is led by CEO Catia Bastioli, awarded "European Inventor of the Year 2007" by the European Patent Office and the European Commission for her inventions related to starch-based bioplastics. With 600 people, the Novamont Group posted sales of €170 million in 2015 and made continuous investments in research and development activities (6.4% of its 2015 turnover, 20% of people); it has a portfolio of around 1,000 patents. The Group has its headquarters in Novara, a production facility in Terni and research laboratories in Novara, Terni and Piana di Monte Verna (CE). The Novamont subsidiaries are based in Porto Torres (SS), Bottrighe (RO), Terni and Patrica (FR). It has foreign offices in Germany, France and the United States and a representative office in Brussels (Belgium). It operates through own distributors in Benelux, Scandinavia, Denmark, the United Kingdom, China, Japan, Canada, Australia and New Zealand.

About Genomatica

Genomatica is a widely-recognized leader in bioengineering. It develops biobased process technologies and helps customers develop solutions that enable a "better way" to produce chemicals, from alternative feedstocks, with better economics, sustainability and performance. Genomatica is distinctive in its total-solutions approach, supported by its bioengineering platform, which intimately intertwines and co-optimizes microorganism design, bioprocess design and economics.

Genomatica has earned widespread acclaim for its technology and commercialization achievements. Awards include the Kirkpatrick Award, for "the most noteworthy chemical engineering technology commercialized in the world," and the 2015 World Economic Forum Technology Pioneer award. To learn more, see www.genomatica.com.

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