



Developments at Anellotech Plant Bring 100% Bio-based Plastic Bottle Closer to Reality

Breakthroughs at Anellotech's TCat-8® pilot plant advance work on 100% bio-based plastic bottle prototypes, affirming the company's commitment to innovative production of cost-competitive renewable chemicals.

Pearl River, NY, 16 July 2018 – Sustainable technology company Anellotech recently achieved new milestones at its TCat-8® pilot plant in Texas, thereby progressing its 100% bio-based bottle collaboration with global consumer beverage company Suntory.

Anellotech's TCat-8® pilot plant is using Bio-TCat™ technology, an efficient thermal catalytic process which converts non-food biomass feedstock material into BTX aromatics, a group of renewable chemicals identical to their petro-based counterparts. The first shipment of BTX has now been sent to joint development partners IFPEN and Axens for purification studies to make bio-paraxylene – the key aromatic chemical needed to make 100% renewable beverage bottles a reality. Bio-paraxylene from TCat-8® will be used to make renewable PET resin for prototype bottle manufacture and product testing.

Since the announcement of a successful two-week continuous pilot plant trial in March 2018, over 1,200 hours of cumulative on-stream time have been achieved at TCat-8®, while BTX has been generated for product testing and evaluation and process development data collected for future commercial plant design. Anellotech also continues to produce other aromatic products through its Bio-TCat™ process, including benzene and toluene. These can be used to make a range of bio-based polymers such as nylon, polycarbonates, acrylonitrile butadiene styrene (ABS) and industrial chemicals such as LAB (linear alkyl benzene), which is used in laundry detergents.

David Sudolsky, President & CEO of Anellotech, said "Following our announcements earlier this year on process development and continuous operation, we are glad that significant progress continues at our TCat-8® pilot plant. We continue to move the technology towards commercialization, and shipping the pilot plant's product for downstream evaluation is another major milestone. Having collaborated with Suntory since 2012 to advance development of cost-competitive bio-aromatics, we hope bio-based plastics made from our Bio-TCat™ process and a 100% bio-based bottle soon become a reality."

Anellotech CEO David Sudolsky will be talking more about these developments and Anellotech's work in [a breakout session](#) at the BIO World Congress tomorrow, Tuesday 17 July. Join him from 10.15am at 'Renewable Chemicals Making Headway into New Materials and Consumer Biobased Products'.

About Anellotech

Anellotech is a sustainable technology company focused on commercializing innovative production of cost-competitive renewable chemicals and fuels from non-food biomass. Its patented Bio-TCat™ technology is an efficient thermal catalytic process for converting biomass into BTX aromatics (a mixture of benzene, toluene and xylene) which are chemically identical to petroleum-based counterparts and can be used in a range of chemical applications. BTX aromatics can also be used to make commodity plastics such as polyester (polyethylene terephthalate or “PET”), polystyrenes, polycarbonates, nylons and polyurethanes which are used to manufacture consumer goods such as beverage bottles, food packaging, clothing, footwear, carpeting, automotive and electronic components. As well as BTX, Bio-TCat™ technology has produced heavier aromatics AnelloMate™, which can be used as a high-quality biofuels blendstock for transportation fuel to help decarbonise transportation fuels supply chains. The Bio-TCat™ process is being demonstrated with pulpwood feedstocks at Anellotech’s TCat-8® pilot plant in Silsbee, Texas. Bio-TCat™ can also use other non-food, renewable feedstocks which are all less expensive than sugar. Jointly designed with IFPEN, the plant will generate scale data to optimize the Bio-TCat™ process with tonnage-scale production, as Anellotech advances towards commercial-scale plant designs. Anellotech’s Bio-TCat™ technology will help aromatics chemical producers and brand owners meet environmental sustainability goals for their products, due to its low carbon footprint and its non-food biomass feedstock.

To learn more, please visit: www.anellotech.com

About Suntory

Suntory is one of the world’s leading consumer beverage companies with over \$25 billion annual sales and has partnered with Anellotech to advance development and commercialization of cost-competitive aromatics, including bio-paraxylene, the key component needed to make 100% bio-based PET bottles. Suntory currently uses 30% plant-derived materials for its Mineral Water Suntory Tennensui brands and is pursuing the development of a 100% bio-based PET bottle through this alliance, as part of its commitment to sustainable business practices. The alliance began in 2012 under a collaboration agreement and Suntory has since provided more than \$30 million in funding to date.

About Axens

Axens is Anellotech’s partner for commercialization, global licensing, basic engineering design, start-up and technical support for licensees. It is an international provider of licensed advanced technologies, catalysts, adsorbents and services, which has a global reputation for engineering design excellence and licensing in the production of aromatics. Globally, 45% of all refineries have at least one Axens technology license.

About IFPEN

IFP Energies nouvelles (IFPEN), the French public research entity, collaborates with Anellotech to leverage its expertise in catalytic reactor modeling, catalyst regenerator design and aromatics processing. In addition to extensive activities at its R&D center in Lyon, France, IFPEN has dedicated three full-time senior engineers and technical experts to work at Anellotech’s USA location for two years during the start-up of the TCat-8® development unit in 2016.

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