Press release

nova-Institut GmbH (www.nova-institute.eu)
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Reducing the use of plastics without changing production technology?

130,000 t of biocomposite granulates are available for greening in Europe. World's largest biocomposites conference in November in Cologne (Germany).

pictures from left to right © Source: nova-Institut | Flaxwood | Trifilon | Sulapac | Bioblo Spielwaren | Coperion | Amorim

Today's customers expect companies to reduce plastics in their products. But this is difficult without compromising performance and processability. Biocomposites can be the solution: 30 to 80 % of plastics are replaced by biogenic fillers such as wood flour or cork, or by natural fibres for reinforcement. The advantage is that these granulates can be processed on your existing machines without major modifications, whether by injection moulding, extrusion or additive production (3D printing). At the same time, the products differ from normal plastic products in their very pleasant feel and unusual appearance. Also, mechanical properties change, the products become stiffer and more tensile and bend-resistant due to the natural fibres.

nova-Institute has now published a list of all European producers and suppliers of biocomposite granulates. The list includes 30 producers from nine different countries. The amount of granulates produced and sold in 2018 was almost 130,000 t. This is a considerable increase compared to previous years and double-digit growth is expected in the next few years.

Major producers and suppliers of wood and natural fibre filled and reinforced plastic granulates with their production quantities in Europe in 2018

Note: If your company is missing in the list or ranked incorrectly, please contact Dr. Asta Partanen (asta.partanen@nova-institut.de).

Granulate Producer	Country	Polymers	Fibres	Production range 2018 in tonnes
AMORIM	PT	PP, TPE/TPS, Rubber	Cork	50,000 – 100,000
Beologic	BE/AT	PP, ABS, PBS, PC, PE, PHA, PHB, PLA, PMMA, PS, PVC, SAN, TPE	Wood and natural fibres and others	10,000 – 20,000
Advanced Compounding	DE	PP, PA, PE, Biopolymers	Wide range of natural fibres, pine	5,000 – 10,000
Tecnaro	DE	PP, PBAT, PBS, PE, PLA, Lignin	Wood and natural fibres	5,000 – 10,000
ADmajoris	FR	PP, Biopolymers	Wood and natural fibres and others	1,000 – 5,000
APM	FR	PP, rPP, PBS, Biopolymers, ABS, PVC, TPE	Natural fibres	1,000 – 5,000
Golden Compound	DE	PP, PBS, PBSA	Fibres from sun flower shells	1,000 – 5,000
Jelu Werke	DE	PP, Biopolymers	Wood and natural fibres and others	1,000 – 5,000
Naftex	DE	PA, PP, PLA, Biopolymers	Wood, bamboo, natural fibres	1,000 – 5,000
PlasticWOOD	IT	PP, Biopolymers	Wood	1,000 – 5,000
Stora Enso	SE/FI	PP, rPP, PS, Biopolymers	Wood and cellulose fibres	1,000 – 5,000
UPM	FI	PP, Biopolymers	Wood and cellulose fibres	1,000 – 5,000
Addiplast	FR	PP	Wood and natural fibres, cellulose fibres	500 – 1,000
Biowert	DE	PP, PE, PLA	Grass fibres, flax	500 – 1,000
FKuR	DE	PP, Bio-PE, Bio-PET, PBS, PHA, PLA	Wood, bamboo, cork, natural fibres	500 – 1,000
Hexpol	SE/BE	TPE	Cork	500 – 1,000
Rhenoflex	DE	PP, Polyester, PLA, PP, TPU, EVA	Corn cob, wood, rice husks, straw	500 – 1,000
Transmare	NL	PP, PE, PLA	Wood, flax and hemp fibres	500 – 1,000
Others				< 500
Total	**EU**			**130,000**

Created within the framework of the project „WeRümA – Material development on the basis of beet chips for market-relevant applications". This project is funded by the European Union and the state of North Rhine-Westphalia.

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What are the reasons for this success?

For one thing, there has never been a greater demand for alternatives to classic plastic products. For another thing, larger quantities of high quality granulates are available on the market for the first time. The manufacturers – often active for more than 10 years already – have used the time to further optimize their granulates. The larger volumes in turn allow for lower prices. Never before has it been so inexpensive to make your production greener without compromising on performance and processability.

Today, there are biocomposites for virtually every application: consumer goods, toys, handles and shoes, façade and terrace elements, floors, automotive interiors, and even space applications.
The Portuguese cork manufacturer AMORIM is the largest producer of such granulates with over 50,000 tons per year. Almost everyone owns or knows products such as shoes, handles for sports equipment or bathroom floors, which are made from those cork materials. Next comes Biologic from Belgium (>10,000 t/year) and Advanced Compounding and Tecnaro from Germany with over 5,000 t/year each. These three companies offer a wide range of polymers as well as a wide variety of wood and natural fibres as fillers and reinforcers. Even recycled blue jeans fibres or wine residues can now be processed into plastics. In the meantime, UPM (Finland), Sappi (South Africa) and Stora Enso (Sweden/Finland), large companies from the wood-based products and pulp sectors, have also entered into the production of biocomposites. The two tables above and below give a comprehensive overview of the 30 biocomposite granulate manufacturers in Europe.

Among the biocomposite granulates, cork granulates account for the largest share with approx. 60%. Wood and cellulose fibre granulates account for slightly more than 25% and natural fibre granulates for 15%.

The use of biogenic fillers and reinforcing materials greatly reduces the proportion of fossil carbon in the granulate and increases the proportion of renewable carbon accordingly. This makes it possible to leave more fossil resources in the ground and consequently to protect the climate. If one wants to have even more renewable resources in the product, bio-based and/or recycled plastics can be used. This makes it possible to produce materials that completely dispense with fossil carbon and are based purely on renewable carbon. Most biocomposite granulate producers therefore also offer different bio-based plastics as well as PP and PE as recyclates.

In November this year, the world's largest conference on biocomposites will take place in Cologne. In addition to biocomposite granulates, which will be presented comprehensively in numerous applications, high-performance materials will also be on the agenda. The Innovation Award "Biocomposite of the Year 2019" will also be elected by participants.
8th Biocomposites Conference Cologne, 14–15 November 2019, Germany
www.biocompositescc.com

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Further biocomposite granulate producers and suppliers

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Granulate Producer	Country	Polymers	Fibres	Production range 2018 in tonnes
Aqvacomp	FI	PP, PBS, Biopolymers	Cellulose fibres	< 500
Biofibre	DE	PP, PBAT, PBS, PE, PLA, rPP	Wood, natural fibres	< 500
Fasal	AT	PP, ABS, Biopolymers	Wood, cellulose fibres, paper, natural fibers	< 500
GreenGran	NL	PP, Biopolymers	Natural fibres	< 500
HempFlax	NL	PP, PLA	Natural fibres, wood, cellulose, agricultural waste fibres	< 500
Linotech	DE	PP, PLA	Wood and natural fibres	< 500
MAIP	IT	PHP, PP	Wood, sisal	< 500
PC Paper Compound	DE	Biopolymers	Paper fibre	< 500
PolyOne	USA/EU	PP	Wood, MDF fibres	< 500
Sappi	SA/DE	PP, PBS, PLA	Cellulose	< 500
Trifilon	SE	PP	Hemp and flax fibres	< 500
Total	**EU**			**3,000**

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