The plastic polluting the seas transports non-native animal species across the globe.

- Nikolai Maximenko and Jan Hafner of the International Pacific Research Center in Hawaii, two of the most important scientists in the world studying the marine environment, illustrate the "plastic routes" across the oceans.
- A meeting promoted by Bio-on to raise awareness of the dramatic consequences that plastic pollution is creating in seas around the world.
- The studies, conducted to date in the Pacific Ocean, will be extended to the Mediterranean Sea thanks to Bio-on's support.

MILAN, 22 September 2017 – Every year, approximately 8 million tons of plastic ends up in the seas across the planet*; pieces as large as entire ships; fragments a few centimetres long eaten by birds and fish; microscopic particles that enter the food chain, including our own. It is an enormous problem not only for the marine environment, the consequences of which are not yet fully understood and about which much more awareness is needed. The studies by **Nikolai Maximenko and Jan Hafner**, researchers at the ***International Pacific Research Center*** *(School of Ocean & Earth Science & Technology)* at the ***University of Hawaii***, are decisive in understanding how these immense quantities of plastic move around the oceans.

For the first time in Europe, Maximenko and Hafner presented their discoveries at "**Problem Plastic, plastic pollution through the eyes of science**" held at the WWF Milano Hub by **Bio-on**, a leading player in the new eco-sustainable chemical industry thanks to its revolutionary Minerv PHAs bioplastic.

The two researchers illustrated their mathematical models that describe the "**plastic routes**" using various data sources: satellites, buoys, open ocean observations, maps of ocean currents, seas and winds, etc. This is a relatively young discipline and still in its early stages but, after the catastrophic tsunami that hit Japan in 2011, it has grown rapidly thanks to the observation of a high quantity of debris crossing the Pacific Ocean and washing up on the shores of Hawaii and North America.

Thanks to these studies, the *Marine Debris Research Team* at the *International Pacific Research Center* has reached the conclusion that, contrary to expectations, **many species that have colonised the plastic debris in the sea are able to survive for years, long enough to reach distant lands and invade the ecosystems on the new coastlines. Plastic waste floating in the sea thus becomes a dangerous carrier for the transportation of non-native animal species from one side of the globe to the other.** The Hawaii researchers have identified which non-native species could reach a new area, by estimating its likelihood. For example, hundreds of varieties native to eastern Japan, some of which are potentially invasive, have been found on the residue of a ship pushed by the currents to the coast of Oregon, in the United States.

Nikolai Maximenko and Jan Hafner announced that their studies will soon be extended to the Mediterranean Sea, thanks to the support of Bio-on.

Bio-on is listed on the AIM segment of Borsa Italiana. All the 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.

* According to the most recent estimates, the quantity of plastic that ends up in the oceans every year is between 4.8 million and 12.7 million tons. A middle way of approximately 8 million tons of plastic is widely taken into consideration. From ***Plastic waste inputs from land into the ocean*** (Science, 13 February 2015) J. R. Jambeck et al.
Link *http://science.sciencemag.org/content/347/6223/768*

Press information:
Simona Vecchies 3351245190 – press@bio-on.it – Twitter @BioOnBioplastic

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.

Issuer
Bio-On S.p.A.
Via Dante 7/b
40016 San Giorgio di Piano (BO)
Telephone +39 051893001 - info@bio-on.it

Nomad
EnVent Capital Markets Ltd
25 Savile Row W1S 2ER London
Tel. +447557879200
Italian Branch
Via Barberini, 95 00187 Roma
Tel: +39 06 896.841 - pverna@envent.it

Specialist
Banca Finnat Euramerica S.p.A.
Piazza del Gesù, 49
00186 Roma
Lorenzo Scimia
Tel: +39 06 69933446 - l.scimia@finnat.it