



Press Release – April 26, 2023

Institute ranked 3<sup>rd</sup> in the national invention applications ranking in 2022

## **RAIZ among the most innovative and leading entities in the forest bioeconomy**

RAIZ – Instituto de Investigação da Floresta e Papel, a R&D Laboratory owned by The Navigator Company, University of Aveiro, University of Coimbra and University of Lisbon, through the Higher Institute of Agronomy, has just reached a top position on the national list of the most innovative entities in Portugal. With a total of 20 patents submitted to the INPI – National Institute of Industrial Property, in 2022, RAIZ now ranks 3<sup>rd</sup> in the national ranking of inventions, consolidating its position as a leader in forest-based bioeconomy.

The patents submitted in 2022 by The Navigator Company's R&D and knowledge transfer centre include the creation of a new generation of innovative and groundbreaking products and technologies from a Portuguese raw material: *Eucalyptus globulus*. This species has enabled, among many examples, the development of new bioproducts, such as cellulose-based biocomposites and bioplastics, with the potential to be used in different industries such as plastic injection and molding, filaments for 3D printing and textile industry.

Processes and products developed by Navigator, through RAIZ Institute, together with several partner entities, enable new eucalyptus pulp applications, as shown in the Inpactus project, the largest investment made to date in Portugal in an R&D program in the field of forest-based bioeconomy, in the amount of €15 million.

In addition to generating cutting-edge knowledge and training of highly qualified professionals, Inpactus assisted in the launching of four innovations already in the market - three toilet paper products and another kraftliner packaging paper produced from high-yield pulp - and eight potential new products and businesses in the field of forest-based bioeconomy. The contribution of this project is also clearly there in the

66 prototypes and 114 proofs of concept generated, among other innovative and ground-breaking products created.

Among the multiple results of Inpactus it is also worth highlighting the development of an innovative process for the production of high-yield pulp. This was the starting point for one of the most important launches in Navigator's recent history: the new range of gKRAFT packaging papers, offering an alternative to fossil-based products such as plastic.

The ranking disclosed by the National Institute of Industrial Property now highlights the leadership position of RAIZ among the most innovative entities in Portugal. On the other hand, it reaffirms Navigator's commitment to creating responsible value for society through sustainable, recyclable and biodegradable products and solutions helping carbon fixation, oxygen production, biodiversity protection, soil formation and water cycle improvement.

### **Planted forests contribute to a circular bioeconomy**

The list of 20 patents submitted in 2022, out of a total portfolio of about 40 patents held by RAIZ, is the result of the work and dedication of the team of researchers in developing innovative and sustainable solutions.

This research work is a proof of the high potential of traditional pulp production process to generate other valuable flows that can be used for new value-added products. Indeed, where today wood and biomass are converted into cellulosic fibre, paper products and energy, in the near future it will also be possible to produce biomaterials, biofuels or biochemicals, alternatives to petroleum products.

This capacity for innovation and industrialization of knowledge has been always there at Navigator since it was established and when, in 1957, the then Portuguese Pulp Company located in Cacia, became the first in the world to produce, on an industrial scale, bleached pulp of *Eucalyptus globulus* using the kraft process. This pioneering spirit helped increasing the added value of our forest and made this Company one of the world's largest producers of white eucalyptus globulus pulp and printing and writing papers.

This commitment to innovation and sustainability is reflected on the Company's 2030 Agenda, which aims to "Create Value with Accountability", as well as in its corporate

object, because for Navigator “it is the people, their quality of life and the future of the planet that inspire and move us”.

## **The Navigator Company**

The Navigator Company is an integrated producer of forests, pulp, paper, tissue, sustainable packaging and bioenergy solutions, whose activity is based on state-of-the-art factories worldwide, with cutting-edge technology. It is acknowledged as a benchmark of quality in the industry worldwide.

People, their quality of life and the future of the planet inspire and move The Navigator Company. The Company is committed to creating sustainable value for its shareholders and society as a whole, leaving future generations a better planet through sustainable natural, recyclable and biodegradable products and solutions that contribute to carbon fixation, oxygen production, biodiversity protection, soil formation and combating climate change.

The production of pulp and paper by The Navigator Company is based on the use of forests planted exclusively for this purpose. Every year, Navigator's plant nurseries generated more than 12 million trees. These plant nurseries – among the largest in Europe – produce more than 130 different species of trees and shrubs. Many of these, although not economically viable, are financed by the Company, to preserve biodiversity and ensure the continuity of species.

Forests managed by The Navigator Company in Portugal have a carbon stock, excluding carbon in the soil, equivalent to 6.1 million tons of CO<sub>2</sub>, a value that remains stable thanks to the sustainable management model followed by the Company.

The Group develops a vertically integrated forestry activity, with its own dedicated forestry research institute, planting a vast forest area in mainland Portugal (1.2% of the country's area) and 100% certified by the FSC®<sup>1</sup> and PEFC™<sup>2</sup> systems. The Company has an output capacity of 1.6 million tons of paper, 130 thousand tons of tissue per year, and 375.5 MW of installed power for energy production. In 2022, 66% of the energy produced by Navigator in its four industrial complexes come from renewable sources, including biomass. The company takes the leading role in this sector with 34% of the total in the country using this ecological and non-fossil fuel.

In November 2021, The Navigator Company launched a new line of packaging products, under the new gKRAFT brand, to speed up the transition from the use of plastic to the use of natural, sustainable, recyclable and biodegradable fibres, in line, once again, with its commitment towards sustainability and environmental preservation.

The Company is the third largest exporter in Portugal and the largest generator of Added Value in Portugal, representing approximately 1% of the national GDP, about 2.4% of national exports of goods, and more than 30,000 direct, indirect and induced jobs. In 2022, The Navigator Company had a €2.465 billion turnover. More than 80% of the Group's products are sold outside Portugal to around 130 countries.

It is worth mentioning that Navigator became the first Portuguese company, and one of the first worldwide, to define the ambitious commitment to anticipate by 15 years the carbon neutrality of its industrial complexes, and to meet this objective the company allocated more than € 200 million, part of which has already been implemented with the construction of a Biomass Boiler in Figueira da Foz and another falls within the scope of the company's application to the Decarbonization of the Industry component of the RRP, thus enabling it to achieve in 2026 compliance with the goals initially proposed in the Decarbonization Roadmap for 2029.

This commitment is the result of a responsible business management strategy, acknowledged in 2022 by CDP (formerly the Carbon Disclosure Project, now Disclosure Insight Action) which awarded it the maximum "A" rating for its world leadership in combating climate change. The Navigator Company has been acknowledged for its role in reducing emissions and climate risks and the development of a low-

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<sup>1</sup> FSC – Forest Stewardship Council® (FSC® License no. – C010852)

<sup>2</sup> PEFC – Programme for the Endorsement of Forest Certification schemes (PEFC License no./13-23-001)

carbon economy. The Company also saw its performance in forest management duly acknowledged and was awarded by CDP Forest with an "A-" rating, thereby ensuring it a leading position in this area as well. CDP Forest assesses the robustness of the systems put in place by the Company to track and monitor the origin of its raw materials, based on the certification of the forest management model under its responsibility and demanding wood procurement policies.

At the end of 2022, The Navigator Company saw its greenhouse gas emission reduction targets approved by the Science Based Targets initiative (SBTi). Until 2035, the Company is committed to reducing greenhouse gas emissions in scopes 1 and 2 (referring to emissions released into the atmosphere as a direct result of its operations and indirect emissions from electricity purchased for its use) by 63%, compared to 2020. And by 37.5% scope 3 emissions, which occur in the value chain. These goals are in line with internationally acknowledged science-based criteria and methodologies within the framework of the global climate agenda, thus restating Navigator's leadership in sustainability.

In 2023, the Company was again classified as a low-risk company for investors and acknowledged as a "ESG Industry Top Rated company" in the 2023 Sustainalytics' ESG Risk Rating.

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