



THE
NAVIGATOR
COMPANY



Investment

The Portuguese Case

January 2019

THE NAVIGATOR COMPANY

an integrated producer

TISSUE

130,000 ton Reels
+ 120,000 ton Converting
3 Machines
2 Sites

PAPER

1.6 M ton
of UWF paper
5 machines
2 sites

ENERGY

2.5 TWh
of electricity
8 power plants



R & D

Leader in Eucalyptus
globulus cloning
Co-production projects
between industry and
academia : **Impactus**

FOREST

112,000 ha of forest
(under management)

PULP

1.6 M ton of BEKP pulp
(0.3 M market pulp)
3 sites

PROFILE

EUROPEAN LEADER IN UWF

The Setúbal paper mill (2009) had a significant impact on the Portuguese economy:

It positioned the company as **Europe's leading manufacturer of uncoated woodfree paper (UWF)**, the category that includes office paper, and the 6th largest producer worldwide

The Navigator Company is also the leading European manufacturer of **bleached eucalyptus pulp (BEKP)** and one of the largest in the world

95% of pulp and paper sales go to 130 countries, over 5 continents

It represents roughly **2.4% of Portuguese exports of goods** and approximately 1% of national GDP.

It is also the company that generates the most National Value Added- its products are obtained essentially from **Portuguese resources** and raw materials

Many of the resources that the Company uses are produced in Portugal and purchased from more than **5,500 suppliers across all areas of the Portuguese economy**

Portugal's largest producer of renewable energy from biomass

PORTUGUESE NAVIGATOR BRAND, THE GLOBAL BEST-SELLER IN THE PREMIUM OFFICE PAPER SEGMENT

The Company manages around **112 thousand hectares of woodlands** and is Portugal's leading producer of plants

Its forest management is certified by **PEFC (PEFC /13-23-001)** and by **FSC® (FSC - C010852)**

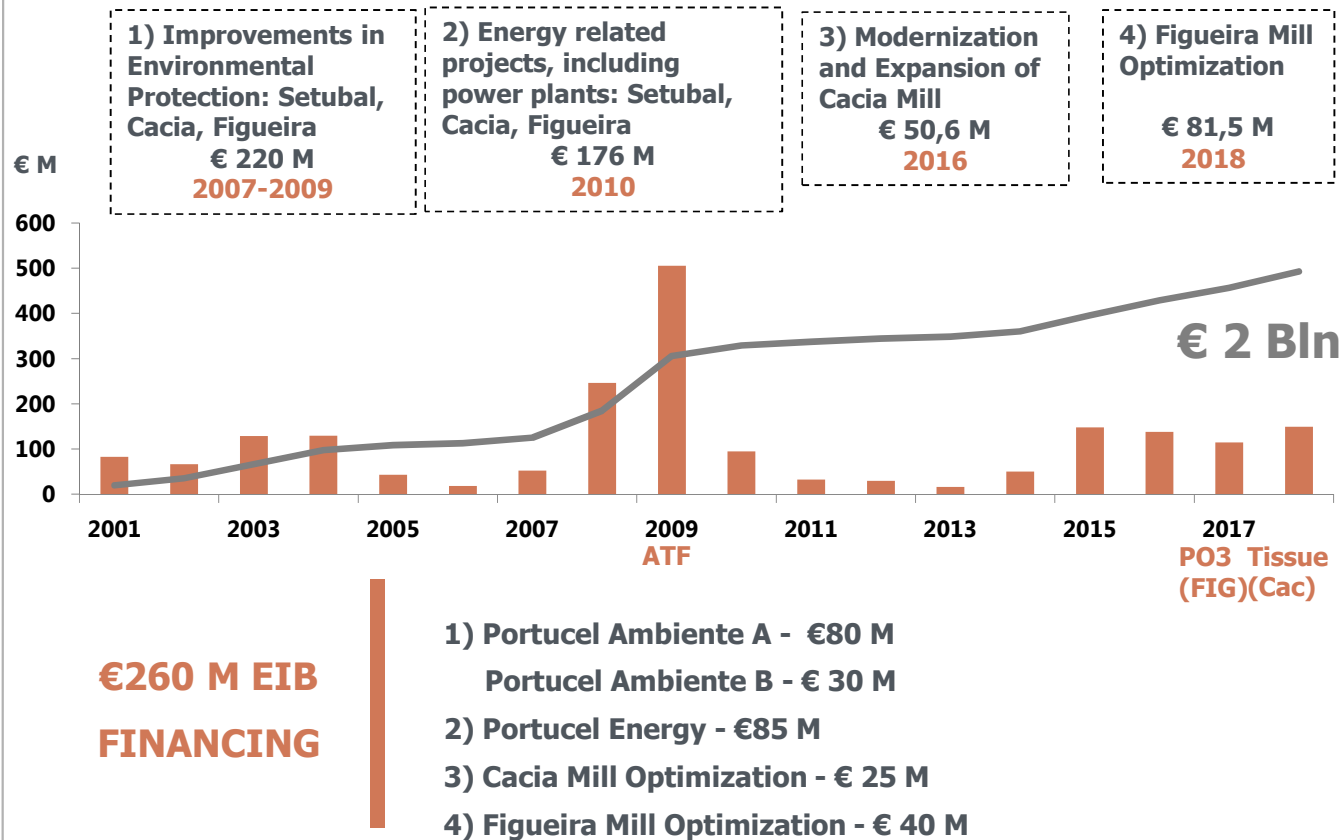


A marca da
gestão florestal
responsável



NAVIGATOR HAS INVESTED MORE THAN € 2 BILLION

- > Investments in Portugal since the beginning of the century
- > Up to €260 M EIB financing in 4 investment projects



SETÚBAL PAPER MILL ABOUT THE FUTURE

INVESTMENT

Paper mill
€ 525 million

Co-generation plant
€ 75 million

Capacity
600 thousand tons
paper / year

8,800 solar panels
The Setúbal paper mill
has the **largest**
photovoltaic plant
installed in any
industrial environment
in Portugal (2.2 MW of
power)



START-UP OF PULP EXPANSION AT F. FOZ

Project completed and ramping-up



Optimization Project 3

Ecoefficiency:

Total CAPEX of € 81.5 million

MAIN GOALS

Increase the annual pulp production from 580,000 to 650,000 tAD

Increase the **efficiency** of pulp process

Reduce wood and chemicals specific consumption

Implementation of BAT (ex: O₂ delign)

Environmental advantage for flue gas and liquid **effluent emissions**

Collection and burning of diluted odorous gases

CACIA TISSUE PAPER MILL

INVESTMENT

Paper Mill

€ 121 million

Capacity

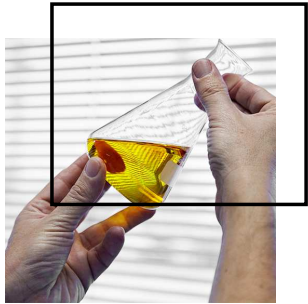
70,000 tonnes of reel
tissue per year +
55,000 tonnes of
converting tissue per
year

4 Processing lines

Rolls of toilet tissue,
napkins, kitchen rolls
and industrial AFH



RESEARCH AND INNOVATION



CREATING INNOVATIVE PRODUCTS & TECHNOLOGIES

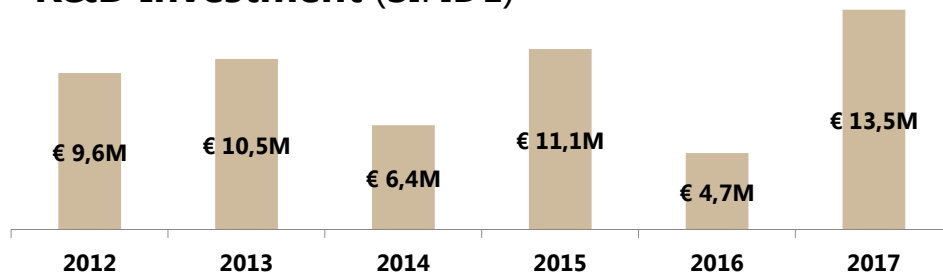
RAIZ & Inpactus project
Total Budget I **€15.3M.**

Inpactus:

A co-promotion R&D project between industry and academia.

A step forward to a green, global, sustainable and competitive bioeconomic environment in Portugal, based on eucalyptus pulp and paper industry!

R&D Investment (SIFIDE)



Research and Development

RAIZ, a Forestry and Paper Research Institute 94%
owned by the Company

**Its mission is to boost the industry's
ability to compete on a sustainable basis, by:**

Improving pulp and paper quality

Cutting production costs

Minimising environmental impact

Researching new products and processes

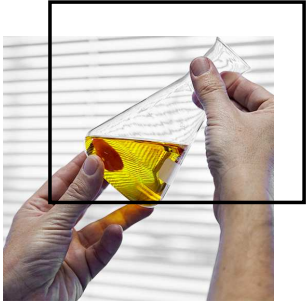
Innovation

Development of innovative concepts:

By launching brands
with a distinctive positioning

By introducing products tailored to previously
unexploited consumer segments in the office
paper sector

INNOVATION – PATENT BOX



Incentives to Innovation

The Company has developed a system to stimulate new products and processes ultimately leading to its patent registration

Projects that involve:

- Breakthroughs/ improvement of industrial performance
- Projects of I&D
- Inventions

....are subject to intense scrutiny before considering patent registry

Protection of return on investment in innovation

Recognition of creativity

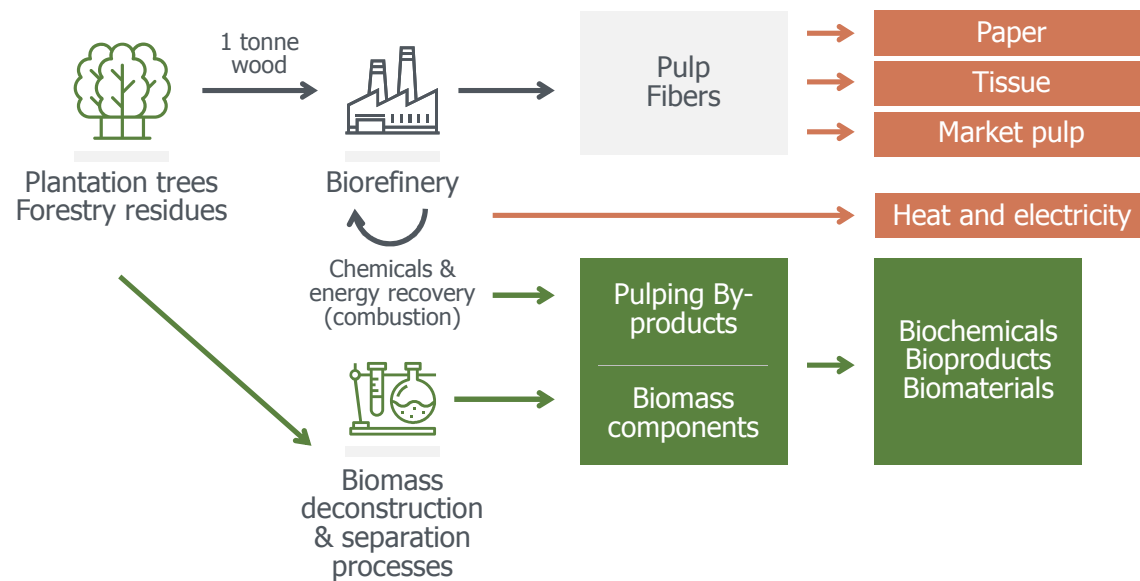
In the last cycle of evaluation of the adequacy of projects to patent registration, out of 35 carefully analysed projects.....



.....there were 6 that met the criteria

FOCUSED ON BUILDING THE FUTURE BIO-ECONOMY

RAIZ &
Inpactus
project



Examples of bioproducts from biorefinery

Essential oils

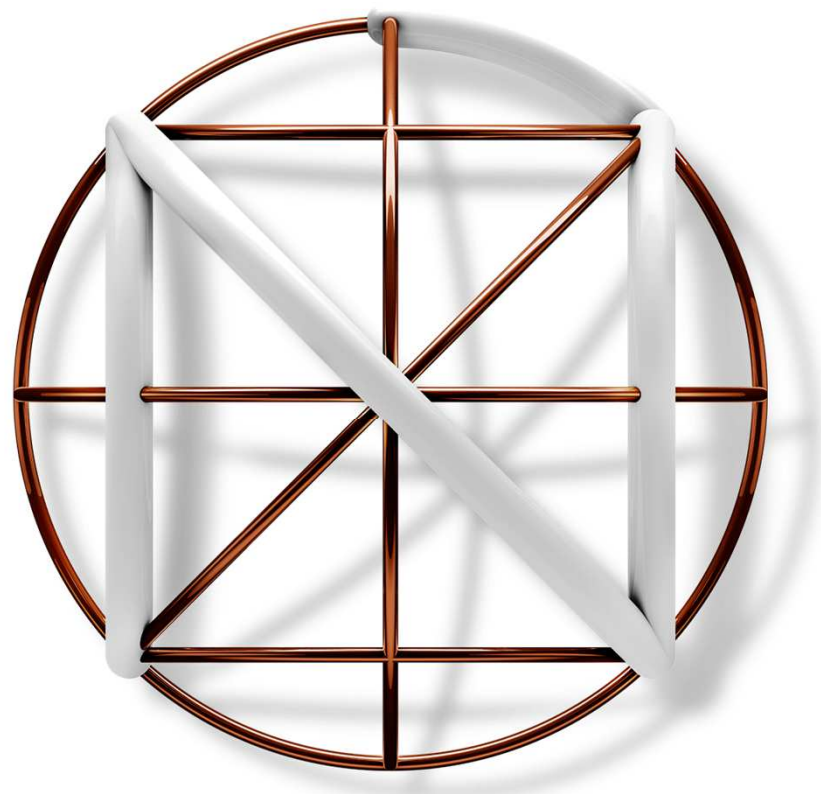
Sugars for bioethanol and bioplastics

Thermoplastic bio composites

Lignin-based foams for thermo insulation

Bacterial cellulose for biomedical applications

Nanocellulose for paper coating and food additives



THANK YOU