



Lamberti
science of surface

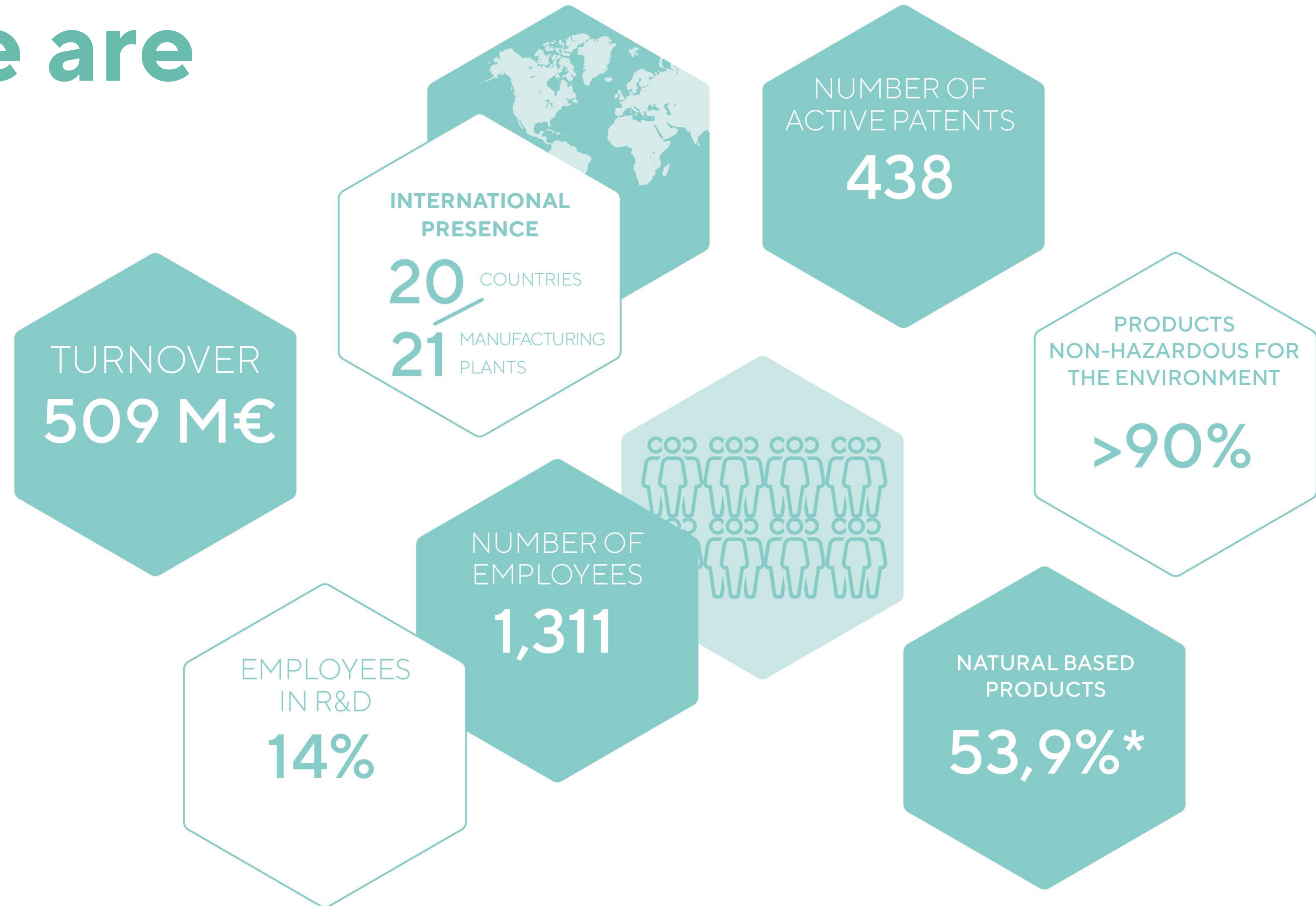
Bio Resins and Additives

Introduction to Lamberti product portfolio in Biobased and Biodegradable

Gabriele Costa – Global product Manager Bio Resins and Additives
gabriele.costa@lamberti.com



Who we are



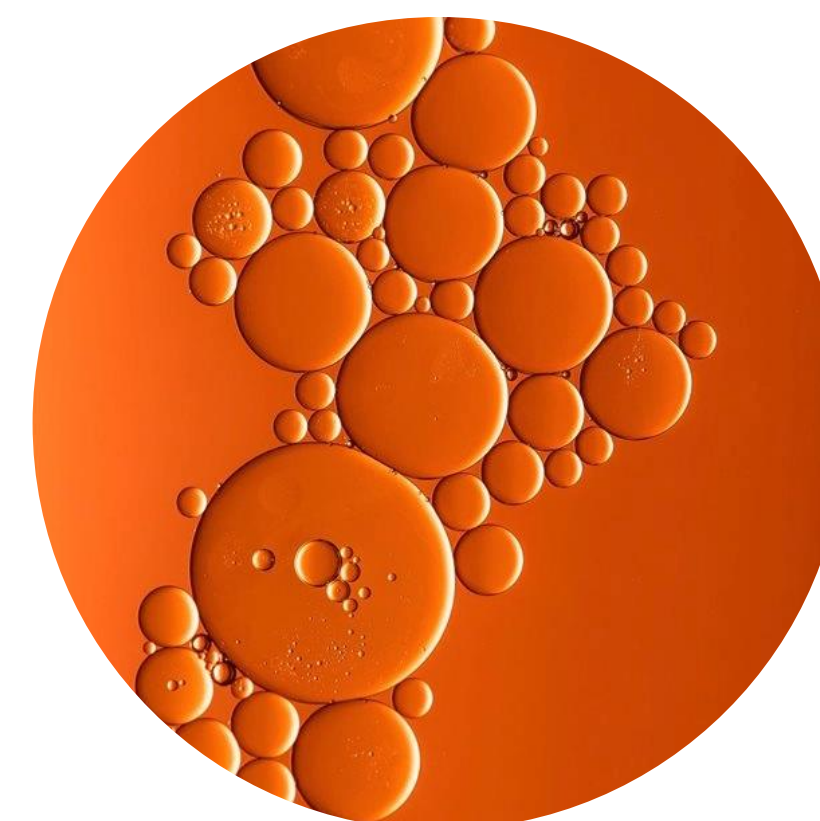
Technologies



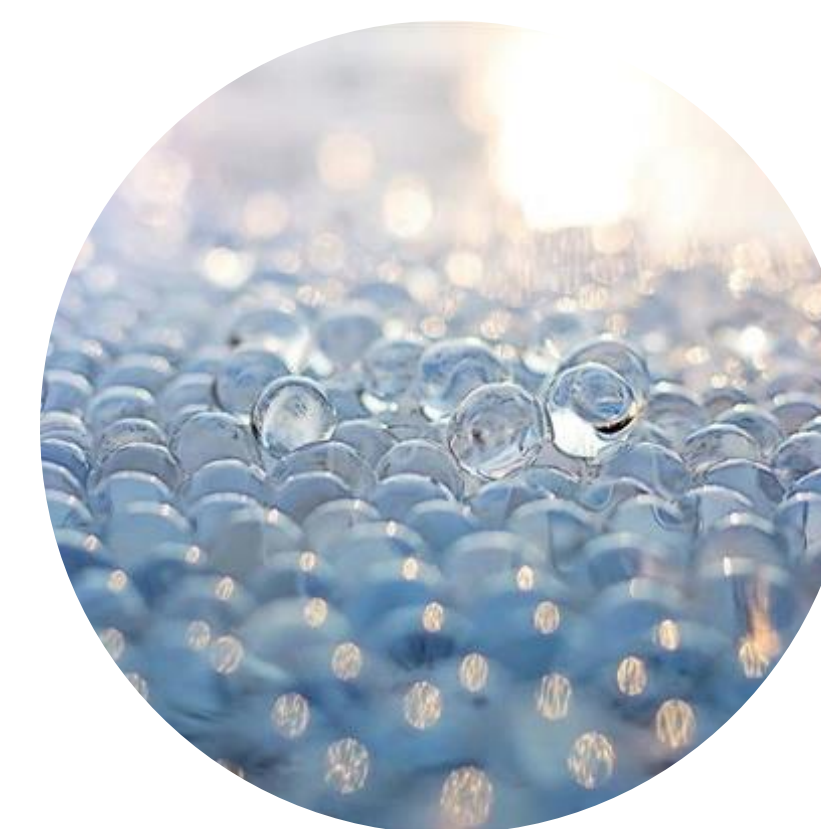
**Natural
Polymers**



**Waterborne
Synthetic
Polymers**



**Surfactants
And Fatty
Derivatives**



**Waterborne
Synthetic
Beads**



What we care



1

The Individual,
Winning Spirit
And Integrity



2

Innovation and
Creativity



3

Working
Together



4

Sustainable
Industrial
Development



5

Economic
Stability and
Independence

Major threats and challenges for our planet are:

- **Climate Changes**
- **Biodiversity Loss**

A European Green Deal

Striving to be the first climate-neutral continent

- 1. There are no net emissions of Greenhouse gases by 2050**
- 2. Economic growth is decoupled from resources use**
- 3. No person and no place is left behind**

Proposal on a european “Climate Law”
enshrining the 2050 climate neutrality

Comprehensive plan to increase the EU 2030
climate target to at least 50% and towards 55%
in a responsible way



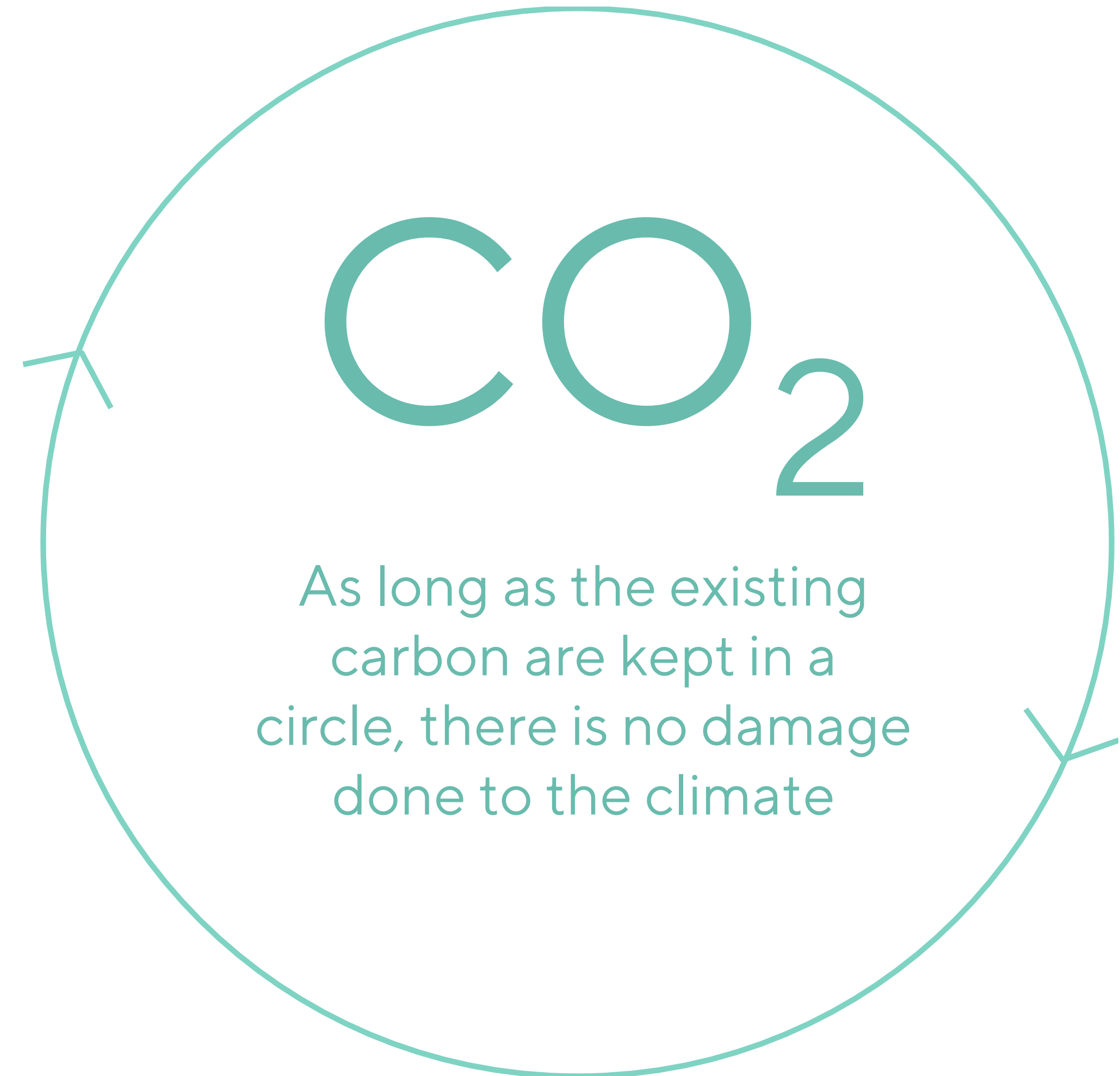
The key challenge is to replace the demand for fossil carbon by alternative sources:

- Sustainable Biomass
- CO₂
- Recycling of carbon in waste stream

Renewable carbon

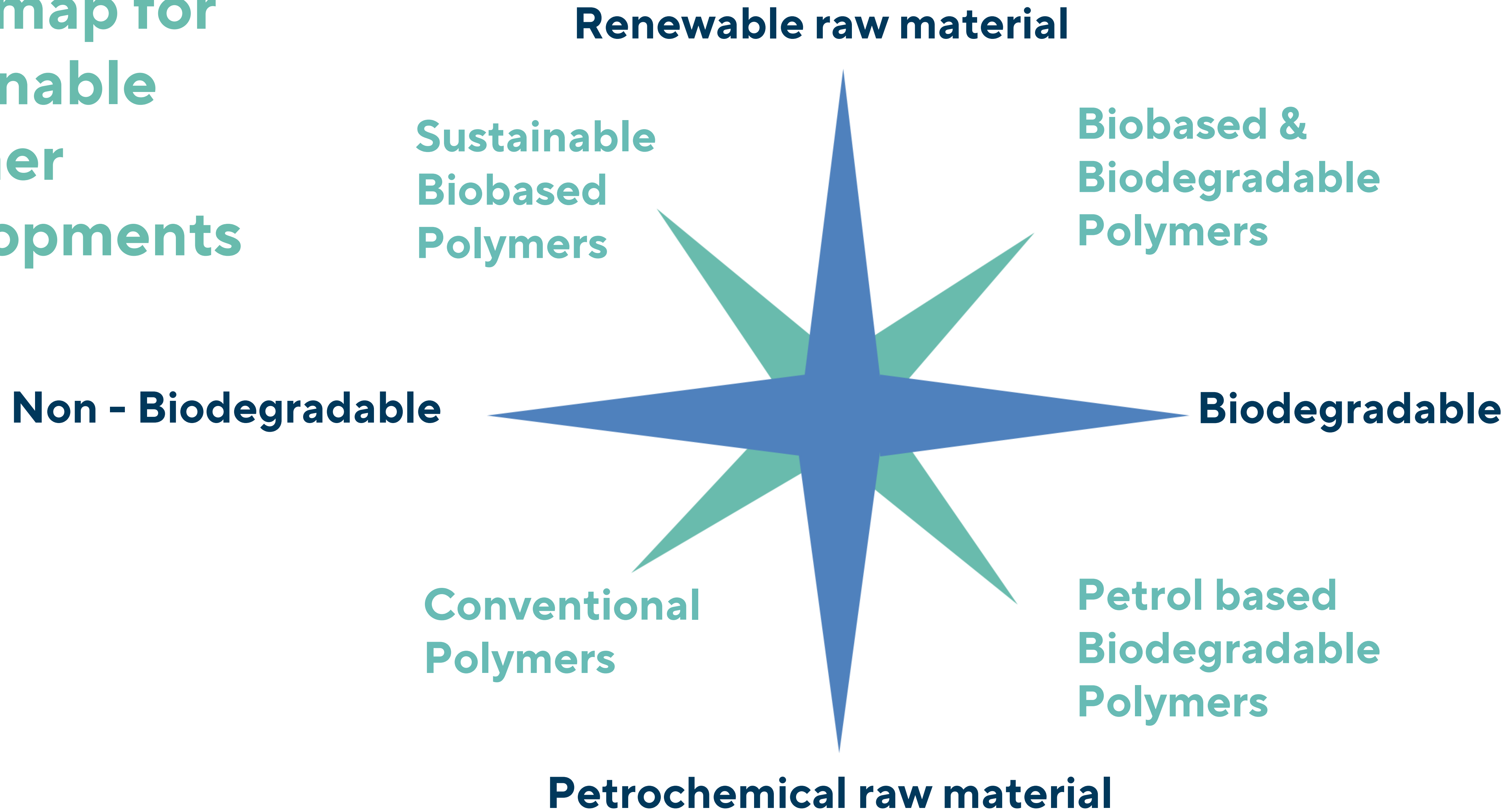
Tested and controlled by

- Radiocarbon analysis and elemental analysis by third party **ASTM D6866**
- By mass balance approach according to **EN16785-2:2018 - PART 2**



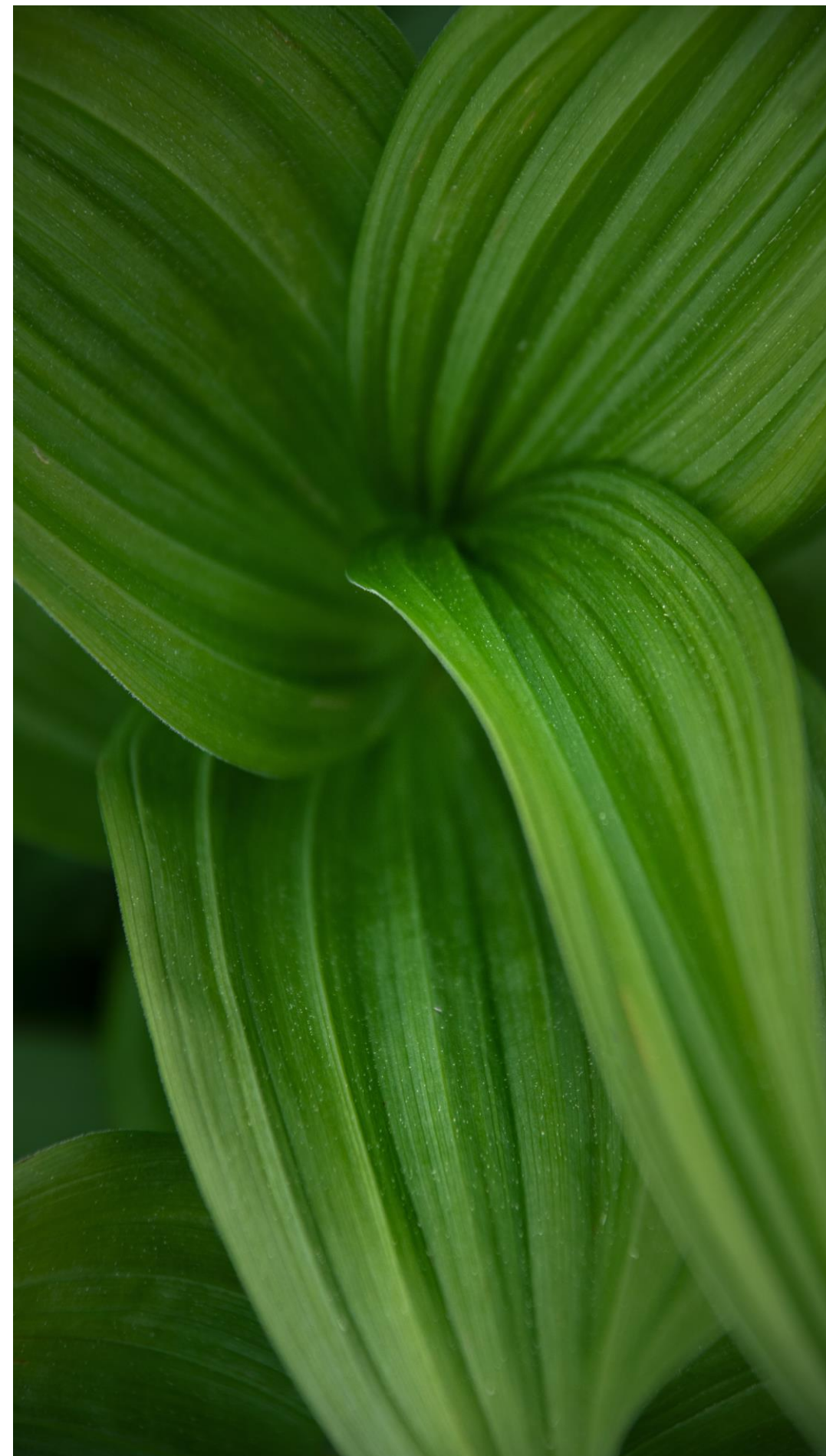


Road map for sustainable polymer developments



Sustainable Synthetic Biobased Polymers

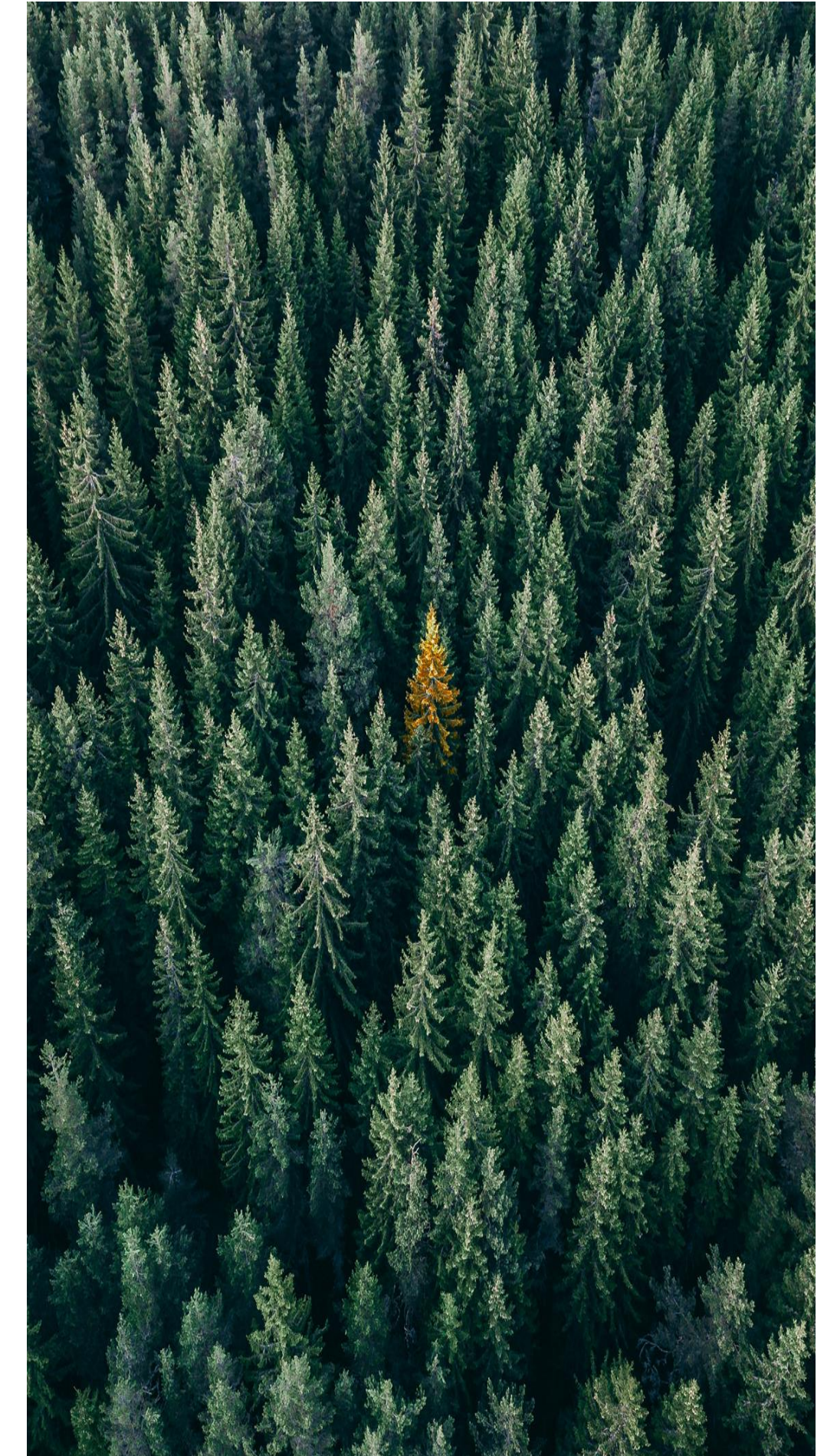
- Film formers
- Matting additives
- Wax emulsions



 **Rolflex[®]**



 **Decosphæra[®]**



Adiwax Bio

Biobased Polyurethane dispersion are designed for high level applications.

 Rolflex®

 Decosphæra®

HIGH RENEWABLE CONTENT



- From 45% to 70% Measured according to
- ASTM D 6866 as a fraction of total organic carbon
- EN16785-1 :2015 and as a fraction of total polymer weight
- Internal calculation

LONG LASTING PERFORMANCE



- superior hydrolysis resistance
- high elongations and mechanical performance
- High chemical resistance

EASY TO BE USED



- Very easy to be formulated with standard fossil derivatives polymers
- Easy to achieve desired compromise between sustainability and Price
- Quality controlled and Certified by third party laboratories ASTM D6866

Water and Biobased PUD: A step forward in sustainability



- GHG emission reduction by renewable source.



- Up to 70 % of carbon content sourced from renewable source, to partially replace crude oil.



- Low volatile organic compounds, even free of solvents and hazardous chemicals.





Biobased product for Leather finishing

PRODUCT	BIOBASED CARBON CONTENT [%]	CHEMICAL NATURE	SCALE	SOLID CONTENT [%]	SOLVENT % [TYPE]	100% MODULUS [MPa]	ELONGATION AT BREAK [%]	TENSILE STRENGTH [MPa]
ROLFLEX BIO OP 80	66.1 ± 3.0	Inherent Matt Polyether PU	Industrial	32	0	n.d	n.d	n.d
ROLFLEX BIO OP 85	66,9**	Inherent Matt Polyether PU	Lab	32	0,9% [NBP]	n.d	n.d	n.d
ROLFLEX BIO QB 642	69.4 ± 3.0	Polyether based PU	Industrial	30	3% [DMM]	1,7	800	12
ROLFLEX BIO HP 34	48.3 ± 3.0	Polyether based PU	Industrial	35	5,5% [DMM]	15,5	340	39
DECOSPHAERA BIO 8 TR	51.5 ± 3.0	PU microbeads	Industrial	100	0	n.d	n.d	n.d
ROLFLEX BIO HP 79	62.2 ± 3.0	Polyester based PU	Industrial	35	<1% [MEK]	14	280	23
ROLFLEX BIO 118	32.8 ± 3.0	Polyester based PU	Industrial	32	8% [DMM]	n.d.	n.d	n.d
ROLFLEX BIO LA 81	67.9 ± 3.0	Acrylic binder	Industrial	28	0	n.d	n.d	n.d
ROLFLEX BIO HS 20	48,9**	Polyether based PU	Industrial	59	0	3	550	13
ROLFLEX BIO 948	28,3**	Polyether based PU/AC	Lab	35	4,5% [DMM]	20	240	32
ROLFLEX BIO 440	61,5**	Polyether based PU	Lab	40	0	n.d	n.d	n.d

BIOBASED CONTENT

ACCORDING TO ASTM D 6866

****ACCORDING TO INTERNAL CALCULATION**

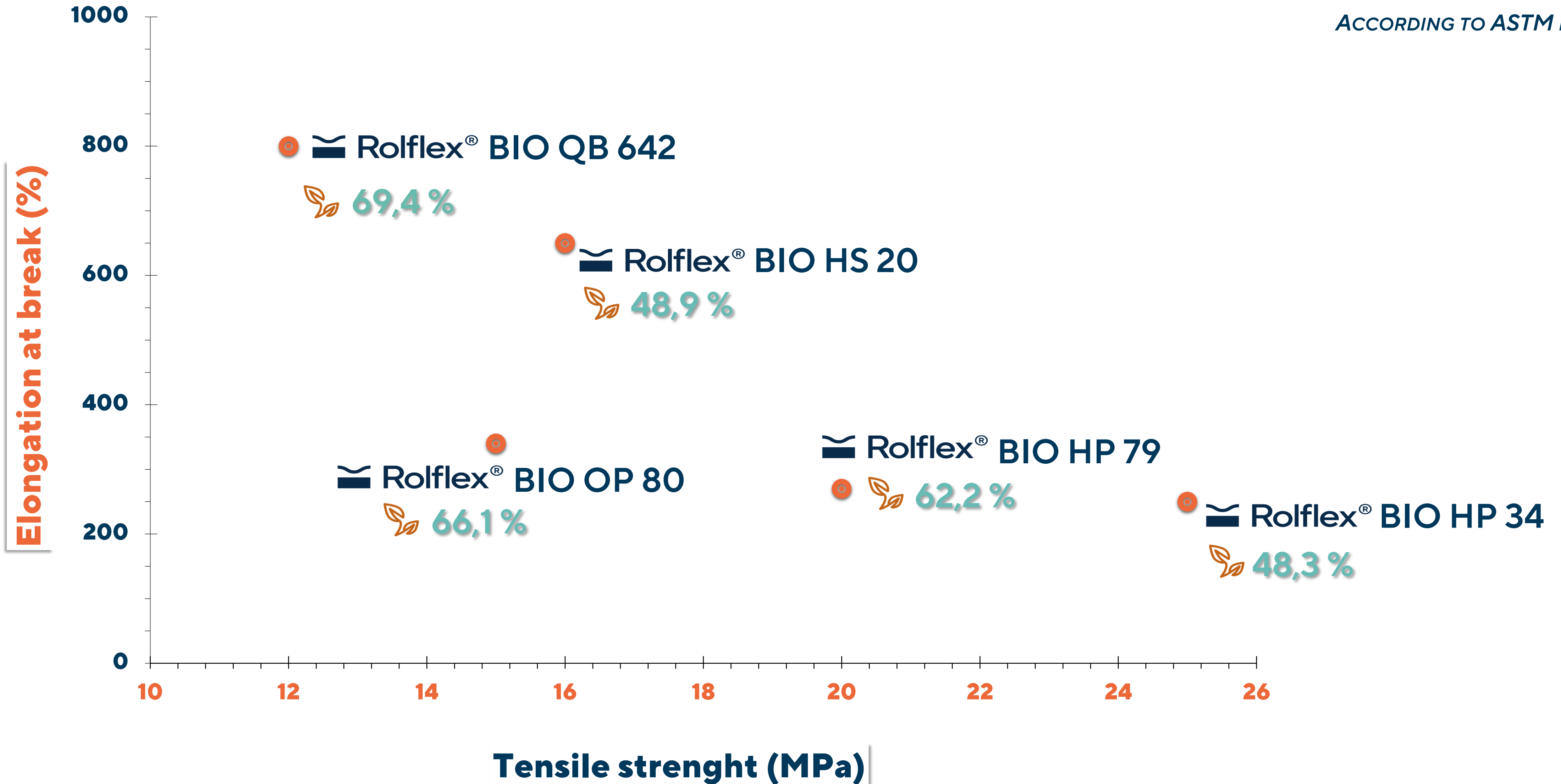


Our Film forming Waterborne Polyurethane Biobased

 **Rolflex[®] BIO**

 **Biobased Content (%)**

ACCORDING TO ASTM D 6866,



Our Biobased Matting agents.

 **Decosphæra[®] BIO**

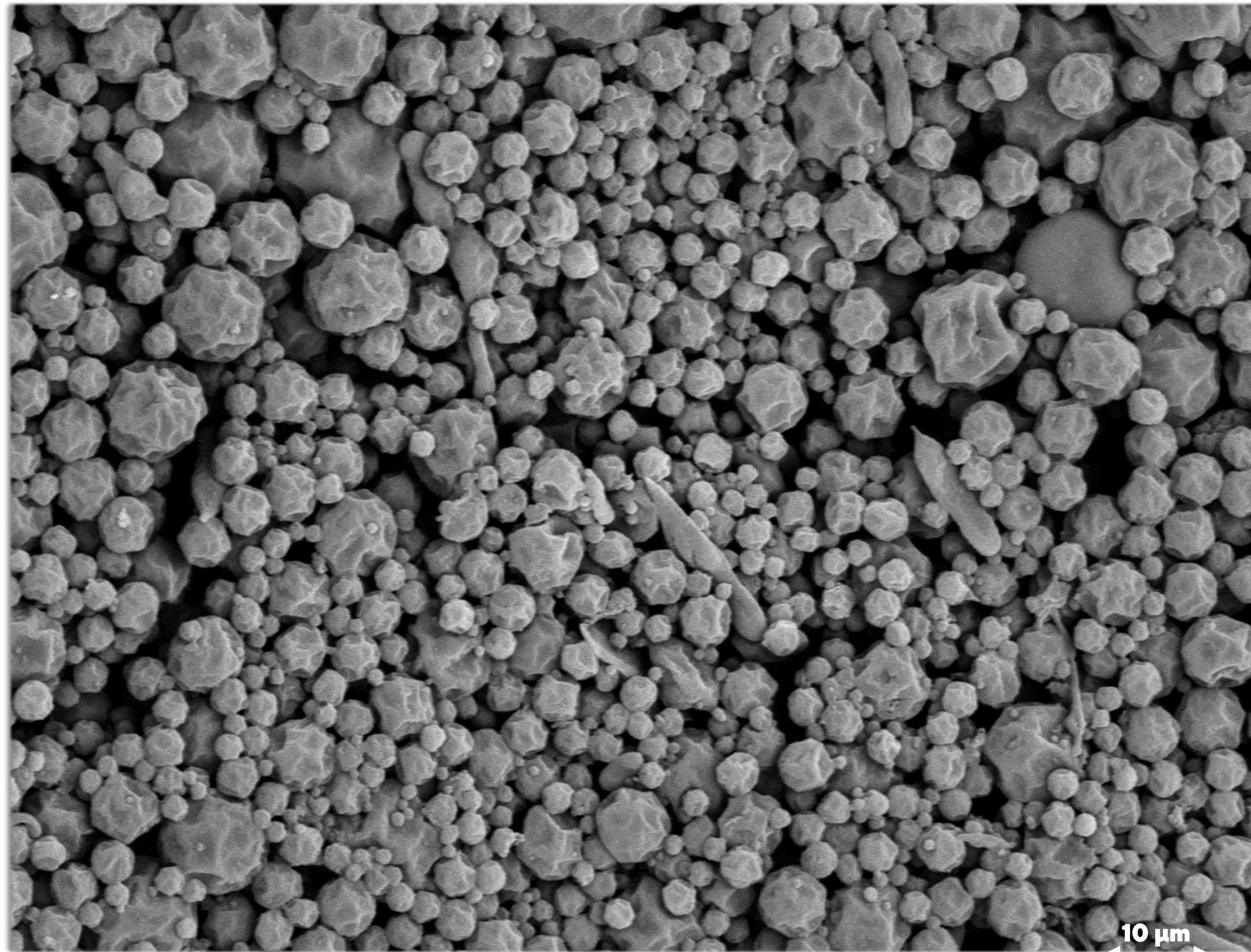
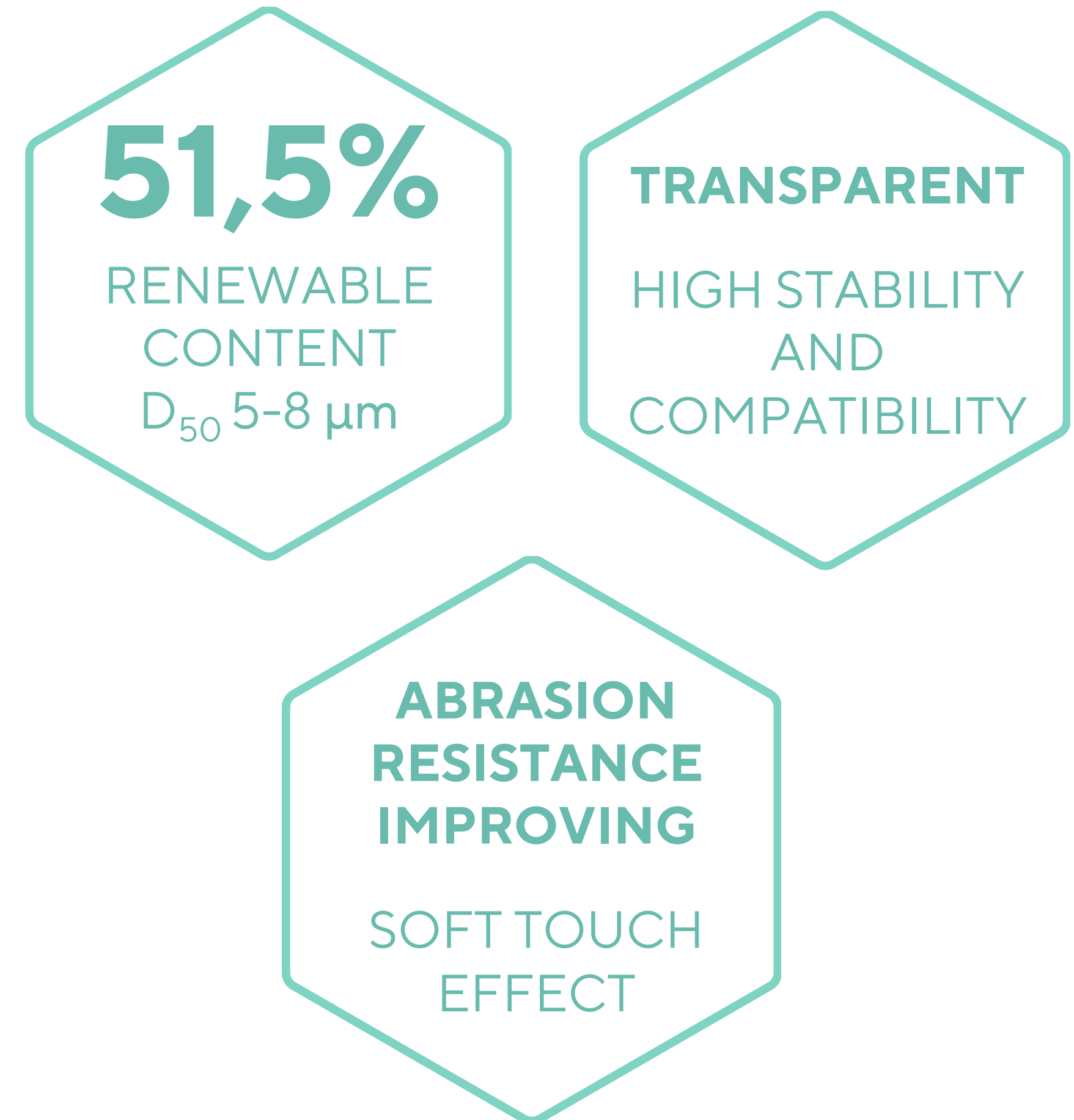


FIGURE 1. SEM PICTURE OF DECOSPHERA BIO 8 TR



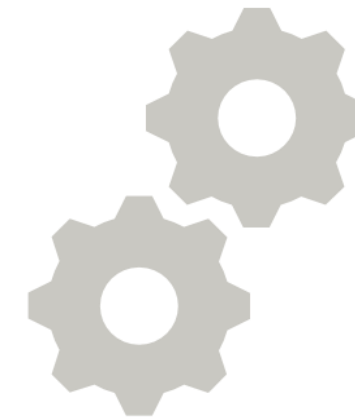
Sustainable chemistry is reality... Let's work together!



- We're turning to a sustainable way of production



- A huge portfolio of solutions for surface coating: film formers, surfactants, rheology modifiers, additives



- Several articles industrialized with many different partners in Europe.



- A wide range of versatile and performing products from natural derivatives, designed also for regenerated or recycled new materials.

