

New production technology

from the **BioPAINT** project

With the contribution of the LIFE Programme of the European Union

W A T E R B O R N E

yields waterborne short oil alkyd resins for wood coatings

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What is IVM Chemicals

A dedicated wood coating company

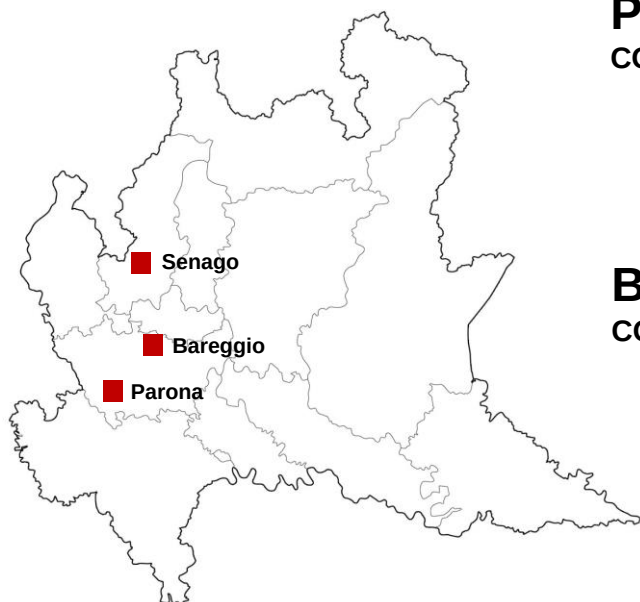


resin and paint producer

Group Turnover	250/300 Mio €
Tons Produced	80.000
Total Employees	900
R&D/Tech Assistance staff	150



Production and R&D



Parona – R&D
COATINGS & POLYESTER RESINS

Bareggio – R&D
COATINGS

Senago – R&D
POLYURETHANE
ELASTOMERS & ADHESIVES



SUBSIDIARIES



Milesi Vernis sa
(1975 - France)



IVM Chemicals GmbH
(1990 - Germany)



Industrias Quimicas sa
(1994 - Spain)



Milesi Hellas
(2001 - Greece)



IVM Chemicals srl
(from 1946 but merged 2007 -
Italy)



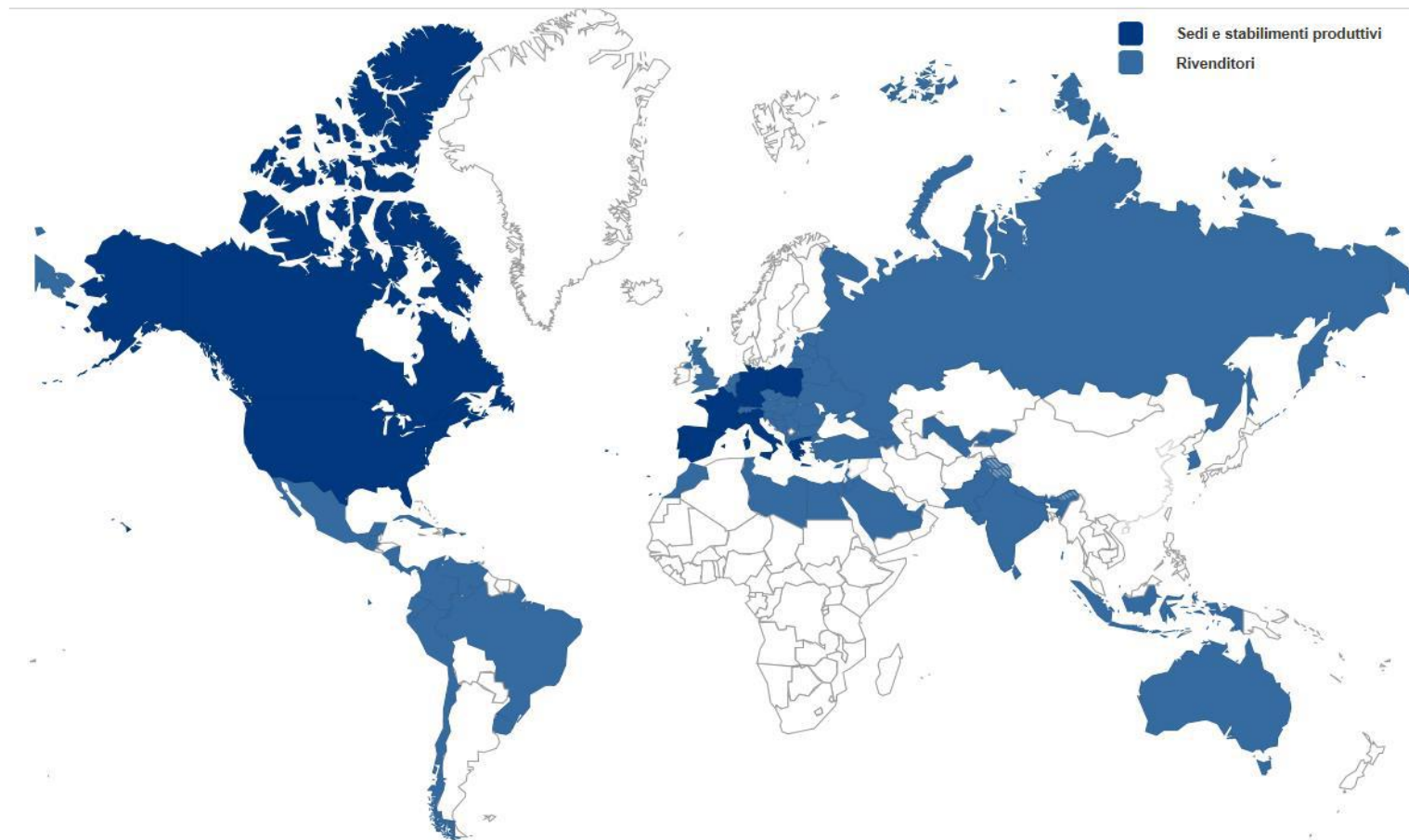
IVM Chemicals Sp.Z.o.o
(2007 - Poland)



IVM Chemicals Inc.
(2015 - USA)



WORLDWIDE



IVM has been working for over 20 years to improve the sustainability of wood coatings:

**LESS NOXIOUS
MATERIALS**

=

**HEALTHIER
AND LESS
POLLUTING**

**LOWER CARBON
FOOTPRINT
(GHG contribution)**

=

**BELOW
2.4 Kg CO₂/kg**

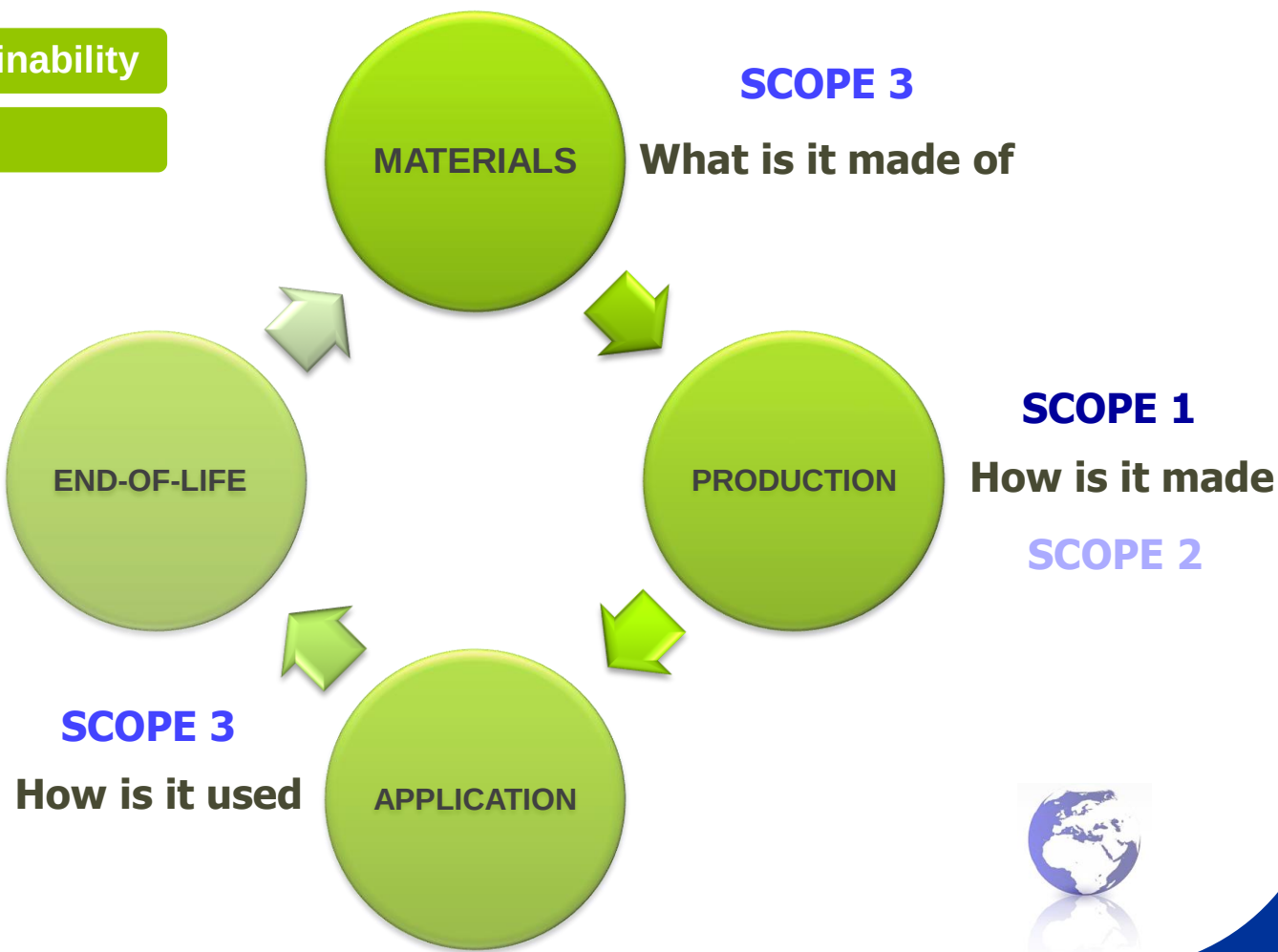


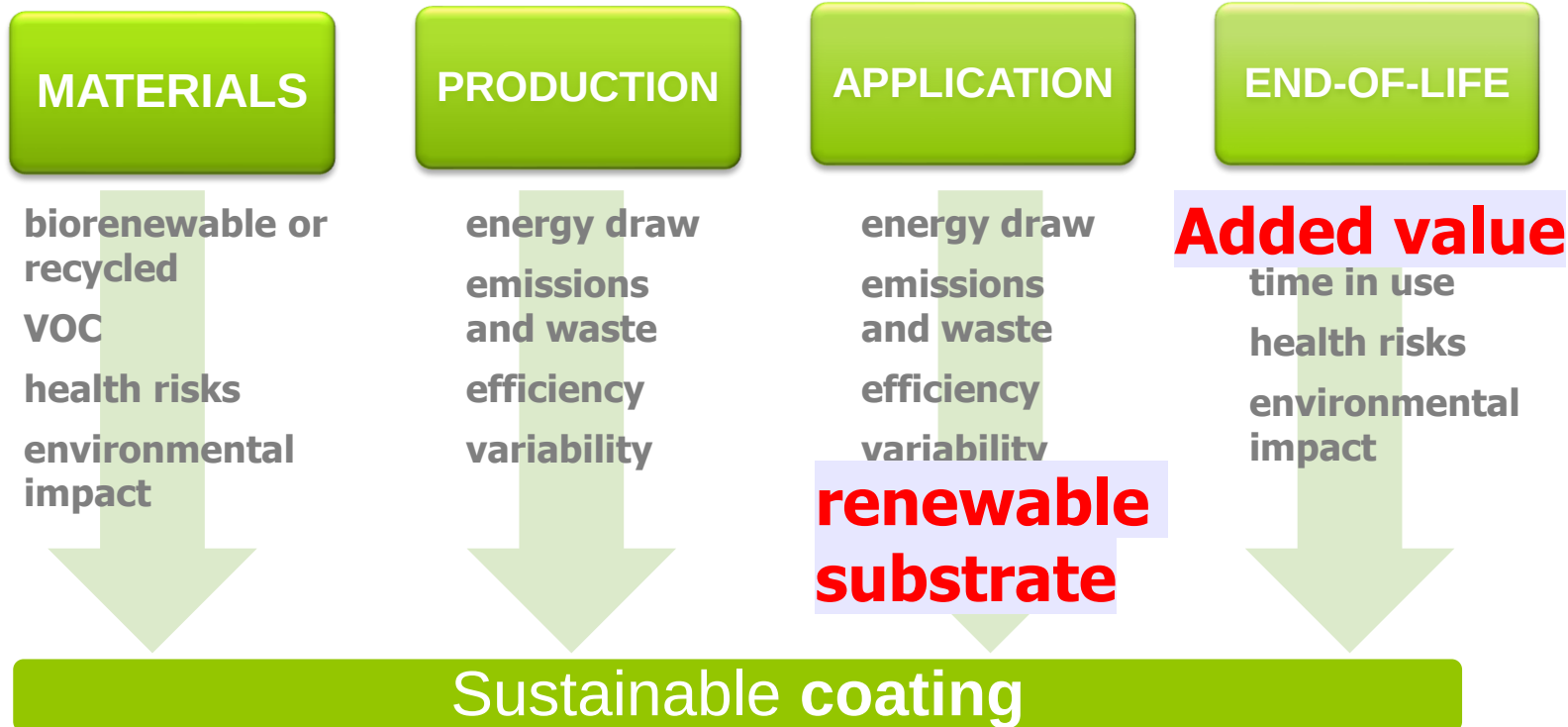


A product sustainability

depends on:

SCOPE 3
How long does
it last and how
is it disposed of

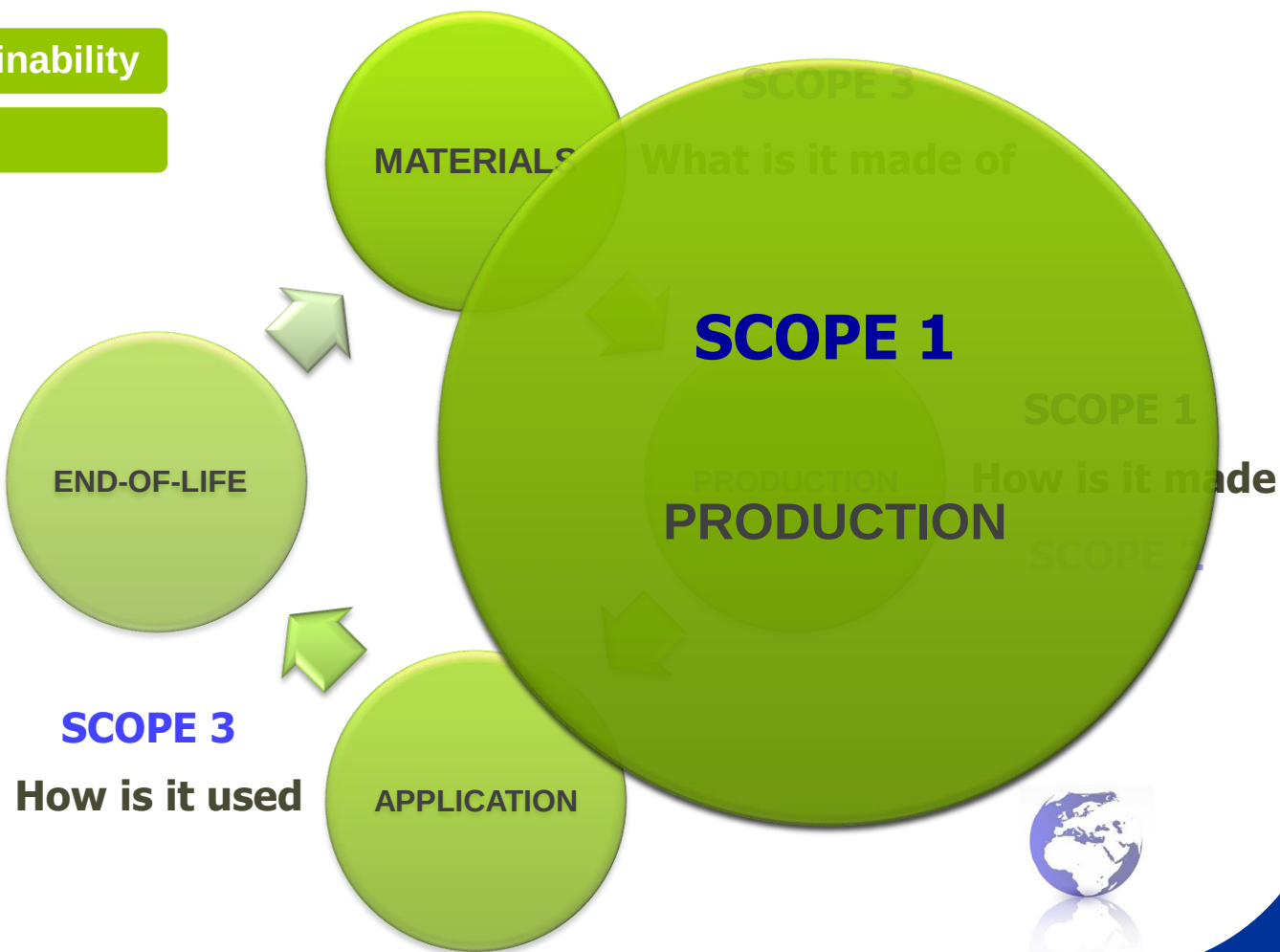




A product sustainability

depends on:

SCOPE 3
How long does
it last and how
is it disposed of



Resins and paint production plant in Parona

SCOPE 1



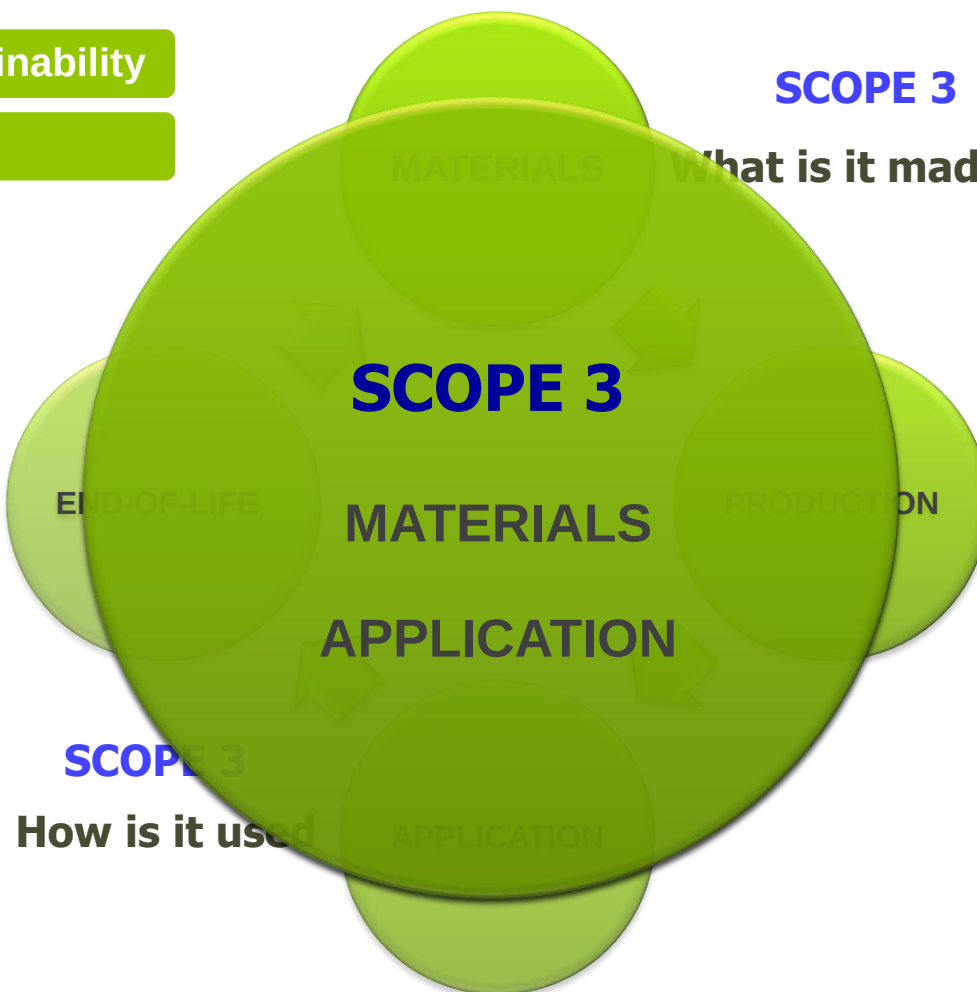
- State of the art
- Highly efficient
- Zero emissions



A product sustainability

depends on:

SCOPE 3
How long does
it last and how
is it disposed of



Wood coatings become sustainable solutions

**IVM is uniquely placed:
it produces
both resins and coatings**



**NEW RESINS
FOR NEW COATINGS**



from here...



... to here



**Materials
Application**

New products



Waterborne products

UV-cured products

Aromatic-free products

High-biorenewable content resins

Harö-line, high biorenewable content SB paints





Two highly innovative EU-funded projects



2018-2021

New UV-cured resins
and coatings



2021-2023

New waterborne resins
and coatings



LIFE is the main EU financing tool for environmental and climate progress

LIFE funds projects aiming to:

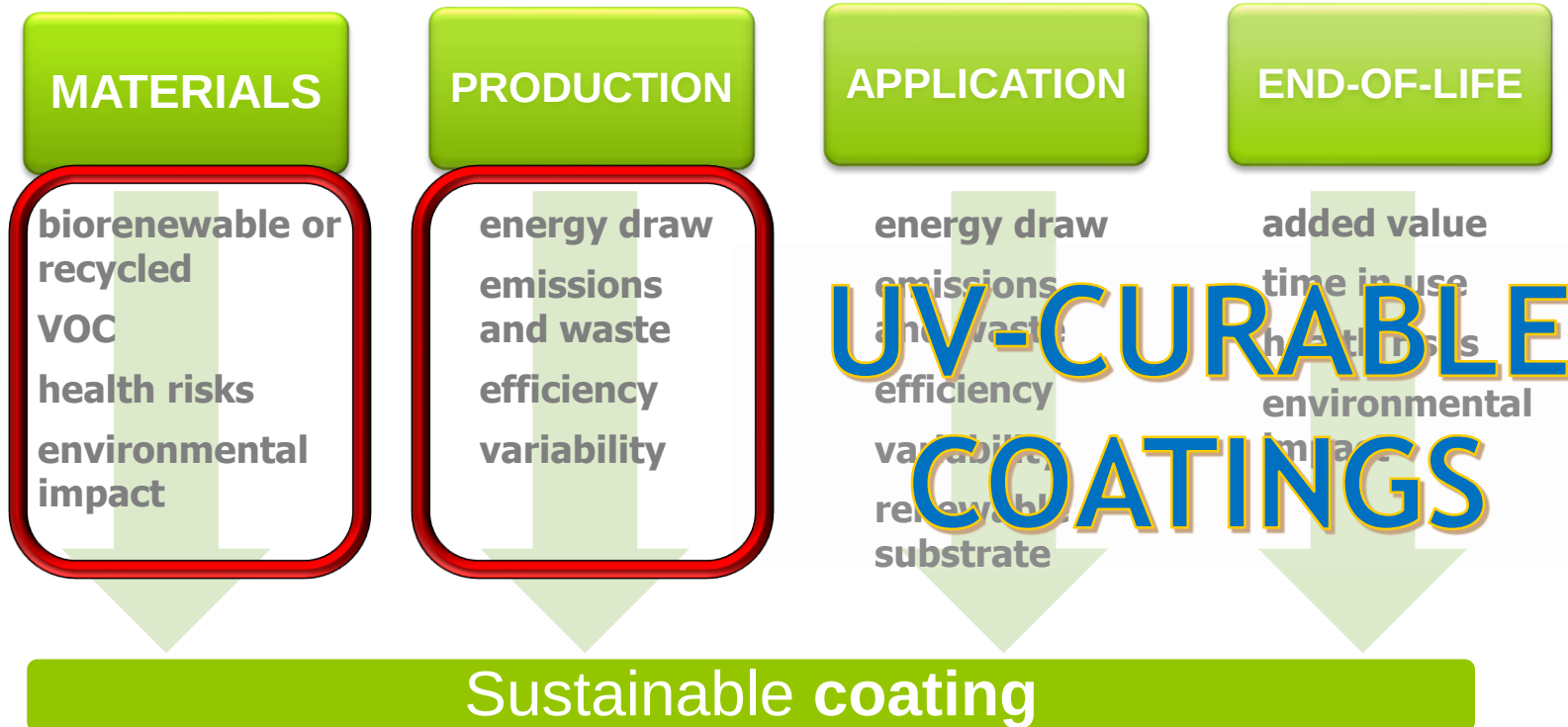
- Improve environment and health**
- Lower impact of human activities** on environment and climate
- Enhance greater biodiversity**
- Protect nature**

LIFE by numbers

2021-2027 budget = **€5,4 billions**
(increasing from €3,4 billion in 2014-2020 budget)

**Funding of LIFE-BioPaint certifies
IVM's technical capability
and commitment
to sustainable development**





Better products



Production designed for perfection

- Fully automated
- Closed circuit
- T-controlled
- No emissions
- Dedicated lines for each component
- Perfect dosing each time
- Lines cleaned after each dosing
- Dispersion optimized by feedback
- Cleaning integrated and optimized

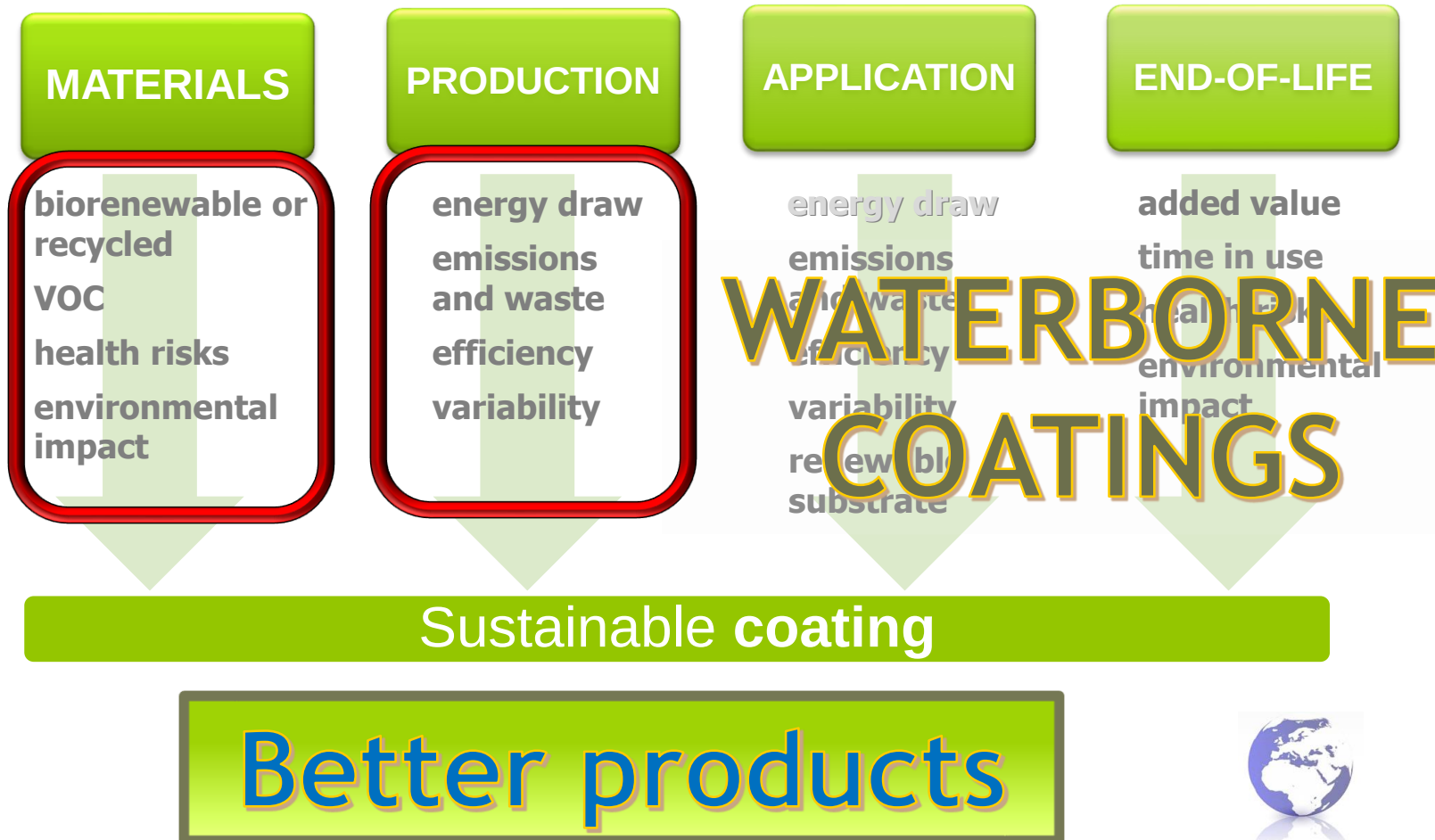
Enabling NEW bio-based UV resins and coating products with

- Lowest carbon footprint
- No VOC emissions
- Lowest waste generation
- Lowest energy use



Best quality, lowest impact





MATERIALS

SCOPE 3

NEW RESINS

REPLACING

WB short oil, high Mwt alkyd polyols

Safer

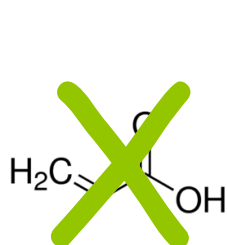
No VOC

Low climate and environmental impact (by LCA)

About 65% biobased content on solids

components

- **unsafe**
- **polluting**
- **with high climate impact**



MATERIALS

SCOPE 3

NEW COATINGS

WITHOUT

- **Waterborne with no or minimal VOC**
- **Cured coatings comparable to best SB PU products**

Reducing use of petrochemical-based materials
Reducing use of acrylic resins (and acrylic acid)
About 50% biobased content on solids

- **aromatic solvents**
- **heavy metals**
- **benzophenones**
- **formaldehyde**
- **etc.**



PRODUCTION

SCOPE 1

Design and build the pilot of a
novel resin production line

By dispersing alkyds in water rather than solvents, no **VOCs** are emitted

Consume **less energy** than current plants

Produce **minimal (water) waste**

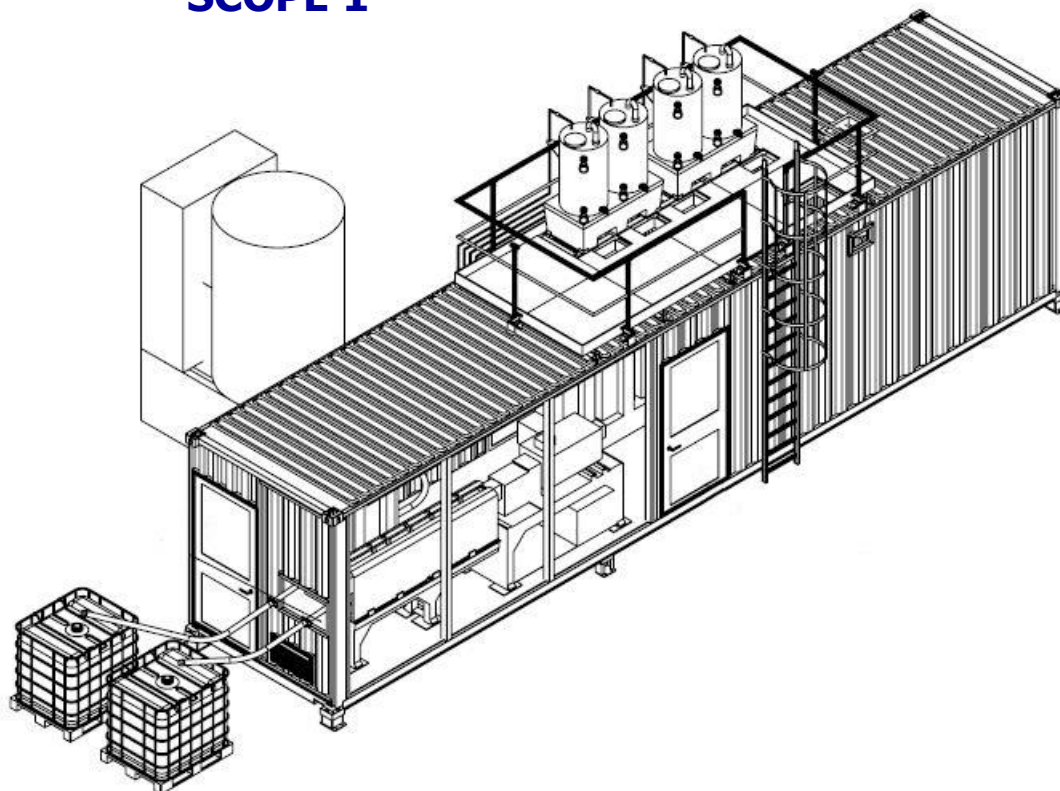
Ensure **maximum product quality, repeatability and reliability**



PRODUCTION

SCOPE 1

Extrusion emulsification in a box



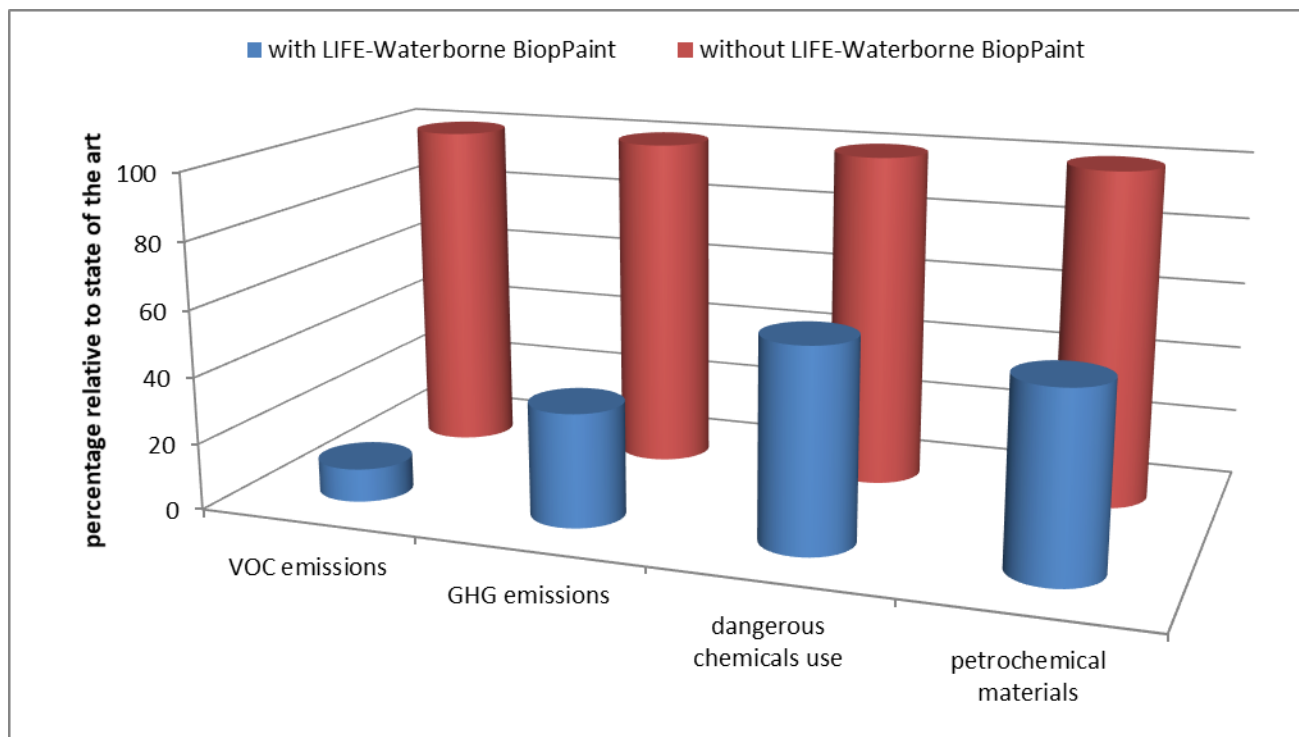
- Maximum production flexibility
- Compatible with ATEX production environment



			% alkyd					
		% solids	emulsion on formula	solids on binder	drying speed	resistance to liquids	notes	
	2K clear topcoat for industry	37,03	0	0	= (in oven)	= or >	glossier	
		36,39	50	69				
	2K white topcoat for industry	46,59	0	0	= (in oven)	=	glossier whiter	
		46,43	9	20				
	2K clear self-sealer	26,96	0	0	= (at RT)	=	glossier	
		27,13	62	100				
	2K clear topcoat max resistance	28,52	0	0	= (at RT)	<	similar hardness	
		28,29	40	71				
	1K clear topcoat	31,99	0	0	< (at RT)	<	emulsifier to be optimized	
		31,24	38	55				
	2K white topcoat, minimal cost	46,59	0	0	< (at RT)	=	whiter	
		46,94	45	100				



Expected environmental results



66% lower CO2 emissions

90% lower VOC emission

45% less petrochemicals

40% less dangerous materials



QUESTIONS?

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