

Polynt Compounds

High performant & sustainable material solutions

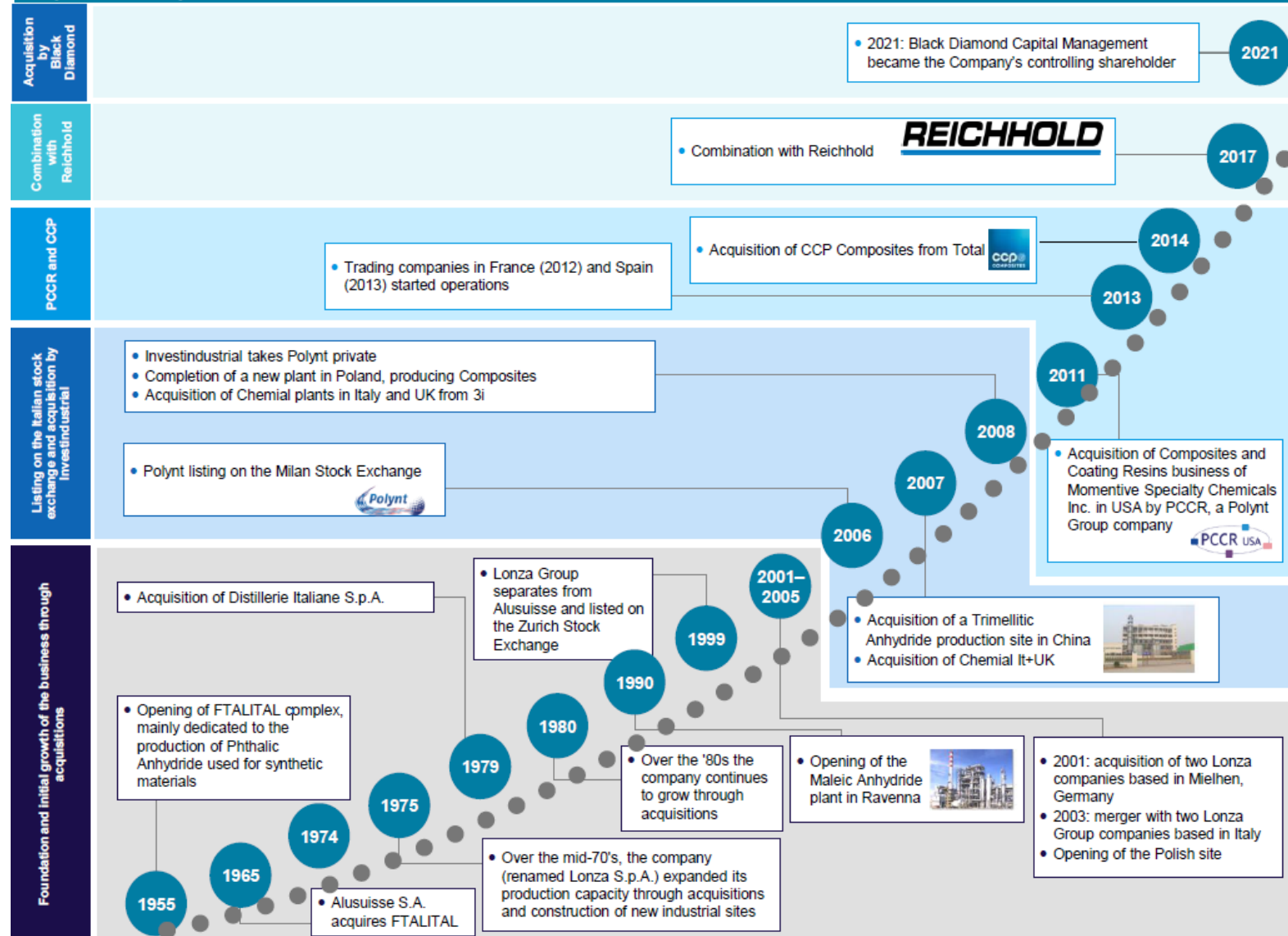
Business initiation "Lightweight construction and sustainability solutions for the automotive industry in Poland"

Katowice, March 28th 2023

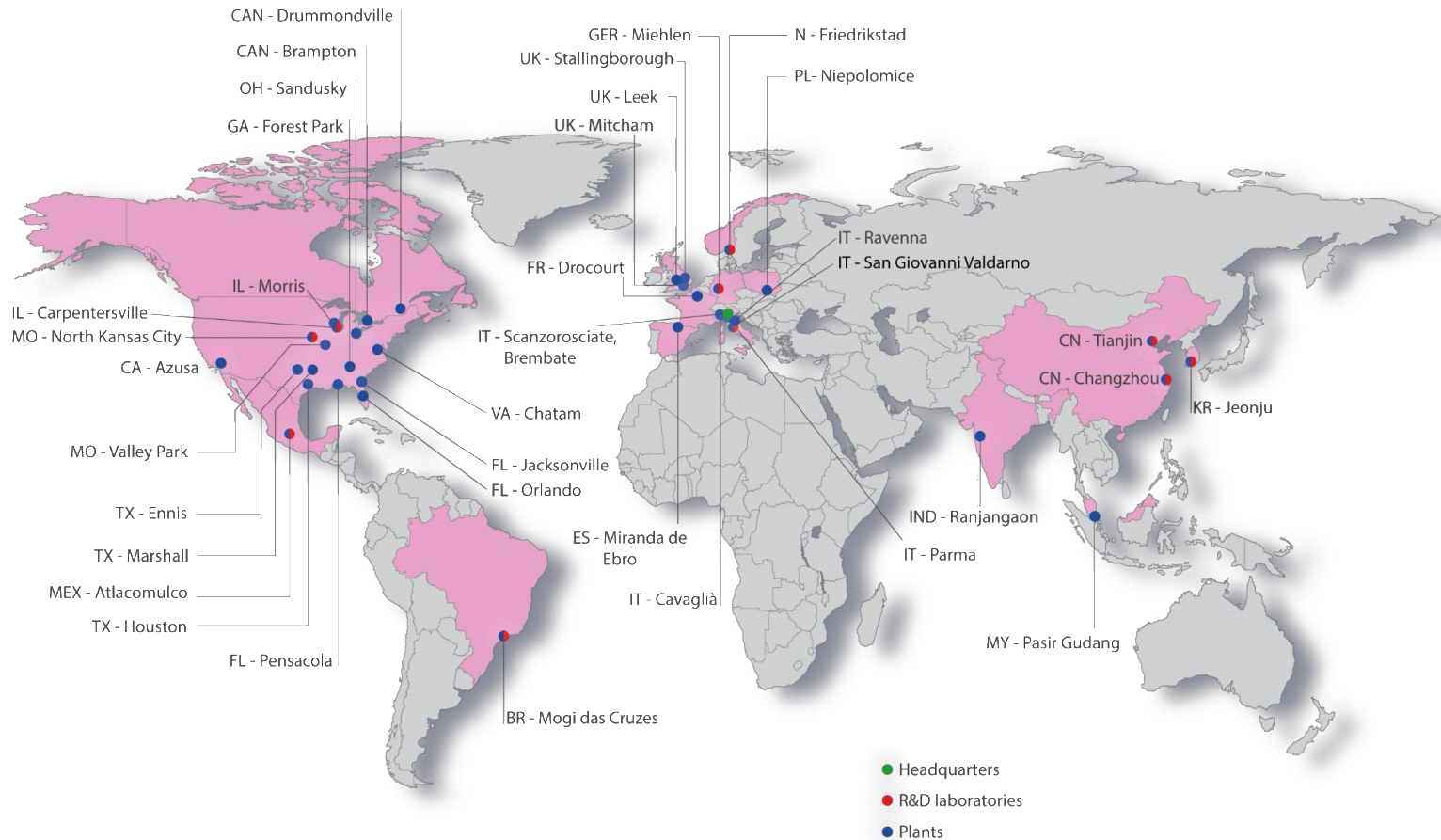
Polynt: more than 60 years of success in the chemicals industry



Corporate development timeline



Polynt at a glance



Turnover

2.0 bn € /year



Volume

1.0 m tons



Sites

41



People

3.500

Product Portfolio at a Glance - Composite

UP Resins

Standard, DCPD
Low and Free Styrene
Bio-based



Compounds

BMC, SMC
CF-Compounds



Gel Coats

Standard
Specialties
Low Styrene



Coating Resins

Alkyd Resins
Polyester Resins
Latex, etc.



Vinyl Ester Resins

High Performance for CF-SMC
Novolac
Bis-phenol



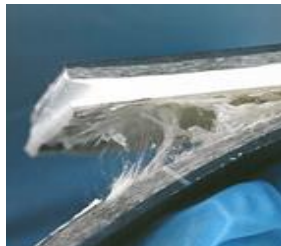
LP Additives & Systems

Class-A
Aesthetic Applications



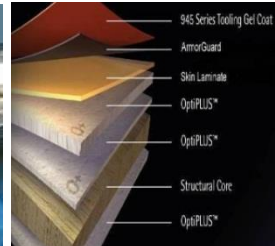
Bonding Pastes

Standard
High Performance



Others

Tooling Systems
Barrier Coats
Epoxy Systems



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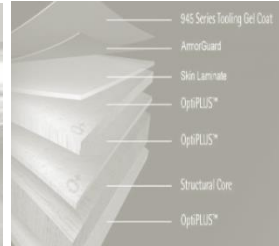
Coating Resins

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Polyester Resins
Latex, etc.



LP Additives & Systems

Class-A
Aesthetic Applications



Others

Tooling Systems
Barrier Coats
Fire retardant systems

SMC / BMC European Production Sites

POLYNT Composites

- *Brembate di Sopra (Italy)*
- *Miehlen (Germany)*
- *Niepolomice (Poland)*

Production of BMC and SMC

- capacity 90.000 ton/y

Production of CF-SMC

- capacity 3.000 ton/y



SMC/BMC advantages

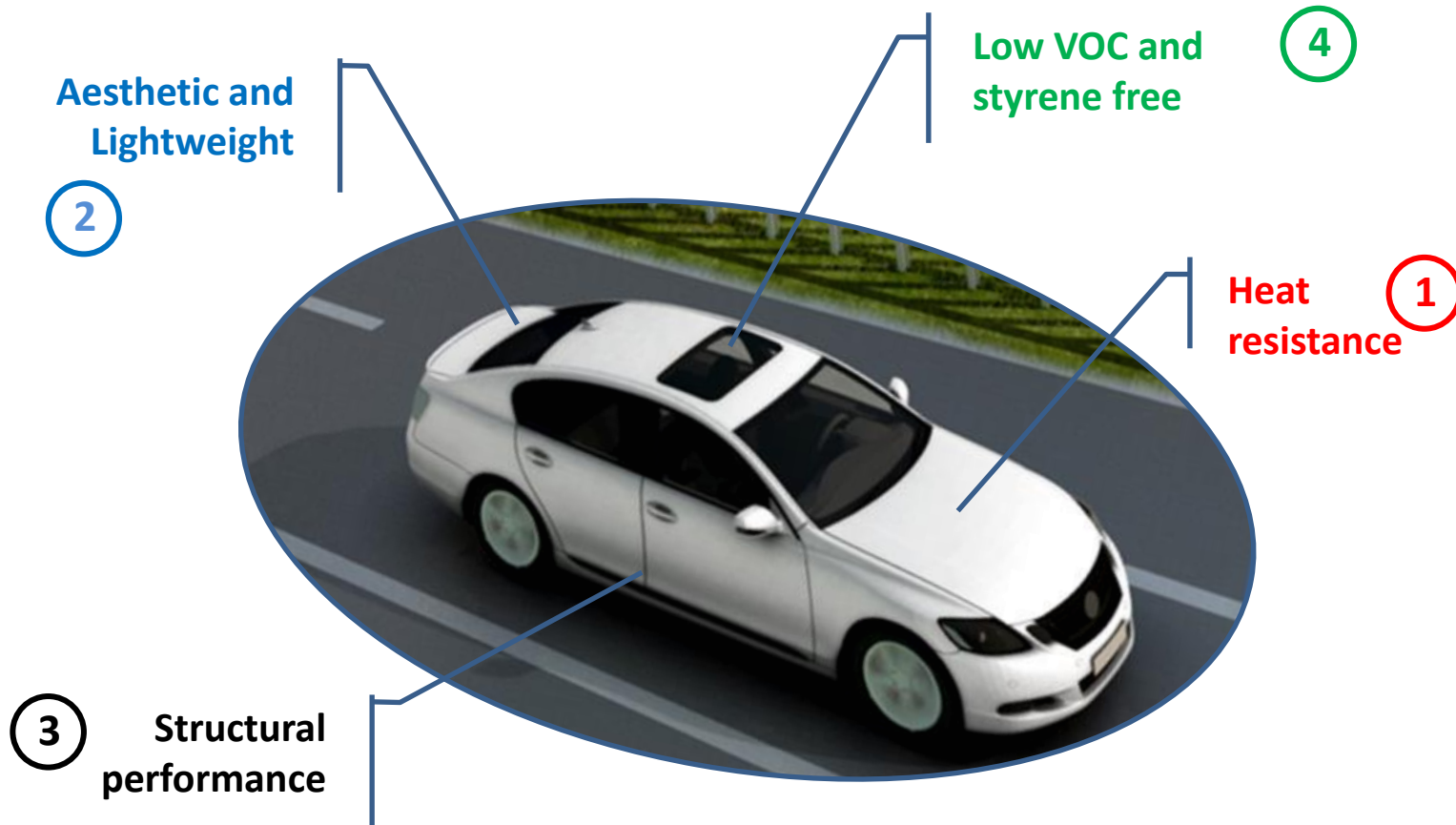
SMC Part

- Design freedom and integration options
- Class A surface and online paintability option
- Noise dampening behaviour
- Antenna cover up (*incl. 5G*)
- Price optimized and competitive solution

Process

- Flow process with less scrap
- Easily scalable technology
- Easy to produce high volumes (*stable process*)
- Short production cycles
- In Mould Coating

High performance compounds



Applications Vehicle Industry



Engine Hood

Truck

Spoiler

Bus & Truck



Body Panels

Agricultural Vehicle



Roof Top C

Construction machines



Foot Steps

*Bus, Truck, Construction and
Agricultural Vehicle*

Class A SMC



- ✓ Best surface smoothness with low to no O-Peel
- ✓ Low tendency to warp
- ✓ Low density (1.2 running in applications)
- ✓ Online painting
- ✓ Good mechanical properties

- Premium Class A
- Top Class A
- Structural Class A



- Class A: Outer panels, roof
- Thermal expansion coefficient similar to steel / aluminum
- 2-shelled construction possible

Structural and Lightweight SMC

Structural part: under floor protection

- Low density ($1,20 \text{ g/cm}^3$)
- ✓ Very low weight
- ✓ Temperature resistance



SMC Low VOC



- Low VOC and low odor formulation according new regulation for cabin applications
- Styrene free formulation using a comprehensive range of styrene free products including unsaturated polyester and low-profile additives developed by Polynt

- Sun roof frame, tail gate
- ✓ Low tendency to warp
- ✓ High mechanical property
- ✓ Unpainted



SMC for battery covers and housings

- ✓ More than **50 years of experience** in electrical and medium voltage applications
- ✓ Existing projects **successfully supplied for over 5 years** – VW E-Up
- ✓ Established production process with **low cycle times** to fulfil the needs
- ✓ UL (Underwriter Laboratories) listing available to prove **functional capability**
- ✓ High **fire retardant** systems – adjustable
- ✓ Design **freedom** and function integration
- ✓ **No spontaneous failure compared to metal or other solutions**



protects life because of giving more time to leave the vehicle

Grade of materials available

SMC 13/27 RN-1090/42110

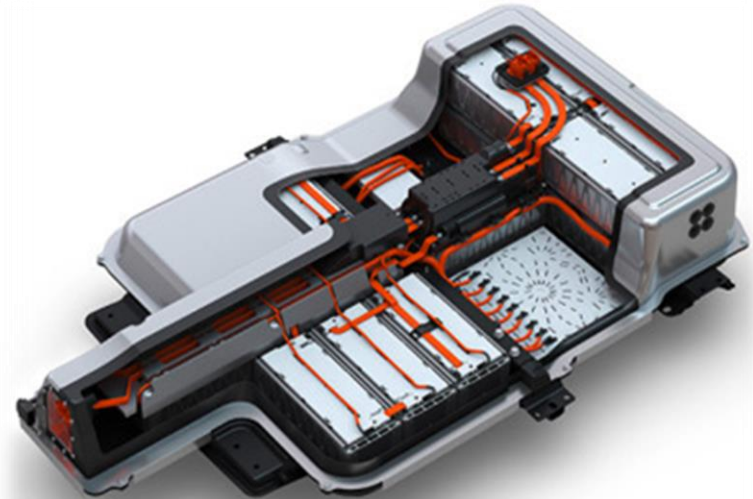
- Material is approved from BMW
- Flammability UL 94 / V0-2,0 mm
- Density: 1,80 g/cm³



Battery Cover / Seat mounting - Material Handling Equipment

SMC 17/25 RN-9500

- Material is approved from VW
- Flammability UL 94 / V0-2,0 mm
- Density: 1,90 g/cm³



Established supply chain

- Broad knowledge in the chemical and composites market
- Strategic partnerships and developments with key-customers (OEMs and TIER1s)
- Close relationships with Research Institutes and other external scientific entities
- Proven experience in scale-up from bench scale to pilot plants and mass production
- Up-to-date laboratories guarantee complete studies and characterizations of all products and support customer needs with the Technical Service Teams
- Synergy of different R&D centers among Regions and Divisions of Polynt
- Local R&D Centers close to the important markets
- Integrated know-how (Anhydrides, UPR, GC, BP, Compounds)
- Very short time-to-market approach
- Tailor made products and approved standards



YOUR GLOBAL PARTNER IN THE COMPOSITES



Thank you for your attention !

Any Questions ?

Links:



SMC/BMC Design Guide 1