



North American
Pultrusion Conference

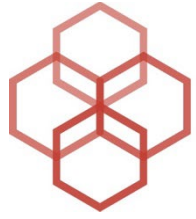
The European Composites and Pultrusion Industry: Market Developments and Sustainability

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AVK



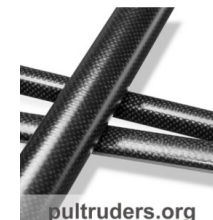
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Introduction



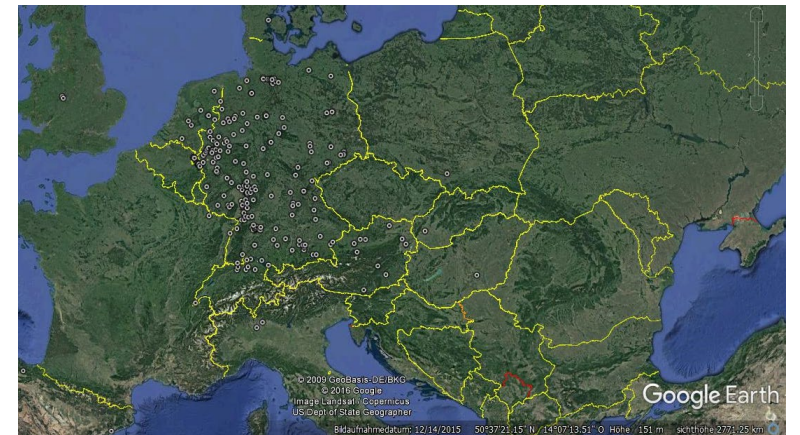
About the EPTA

- EPTA - The European Pultrusion Technology Association
- Created in 1989 by leading Pultruders in Europe
- Since 2006 EPTA is under the umbrella of the AVK
- > 40 member companies across the whole value chain of pultrusion technology and production



About the AVK

- Founded in 1924
- Members across the entire value chain of reinforced plastics
- More than 250 (inter)national member companies (1/4 non German)
- > 1700 personal contacts inside the companies
- „Full service provider for our members“



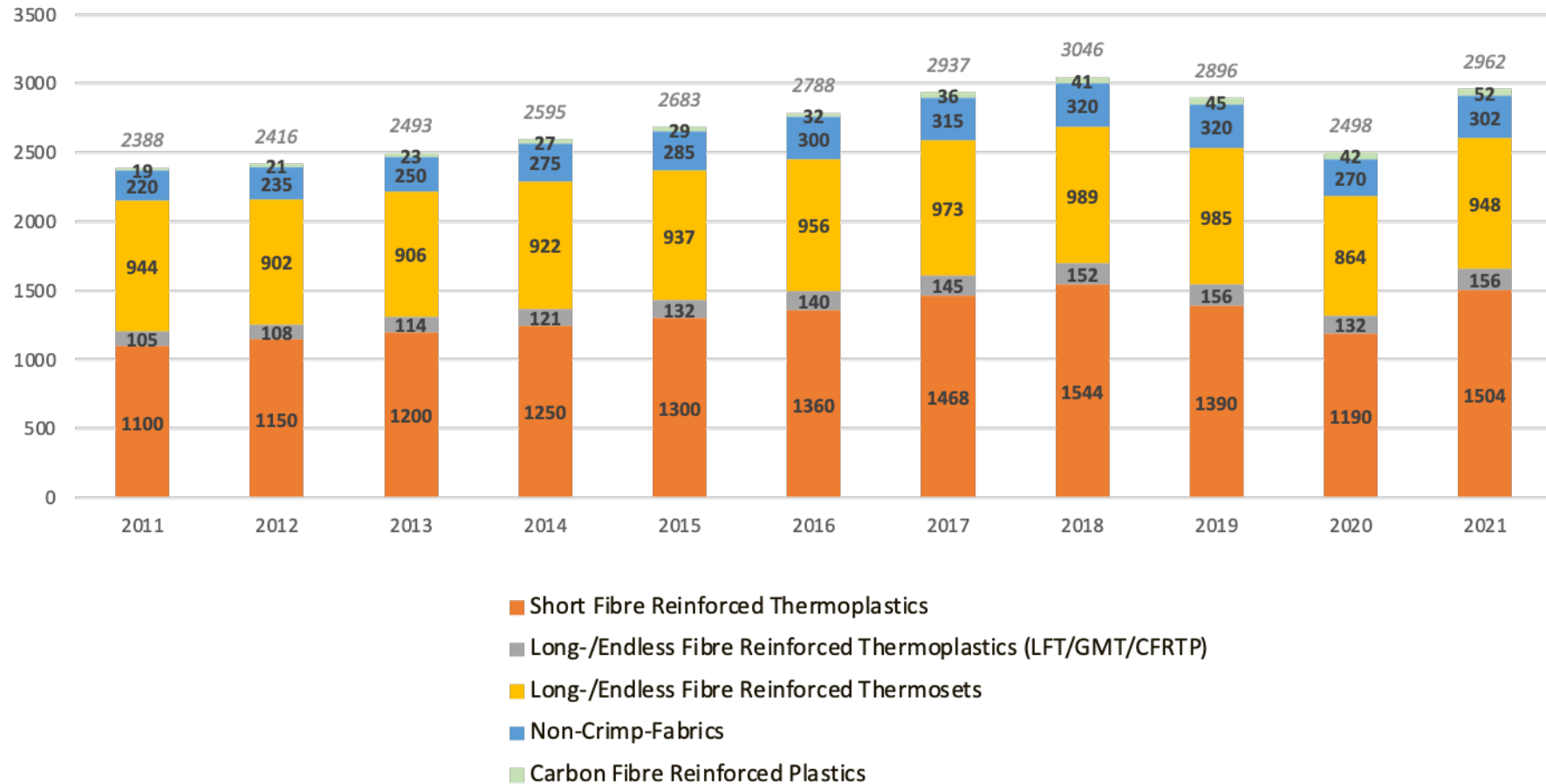
The European Composites and Pultrusion Industry

Market Developments

The Worldwide Composites Market - Facts

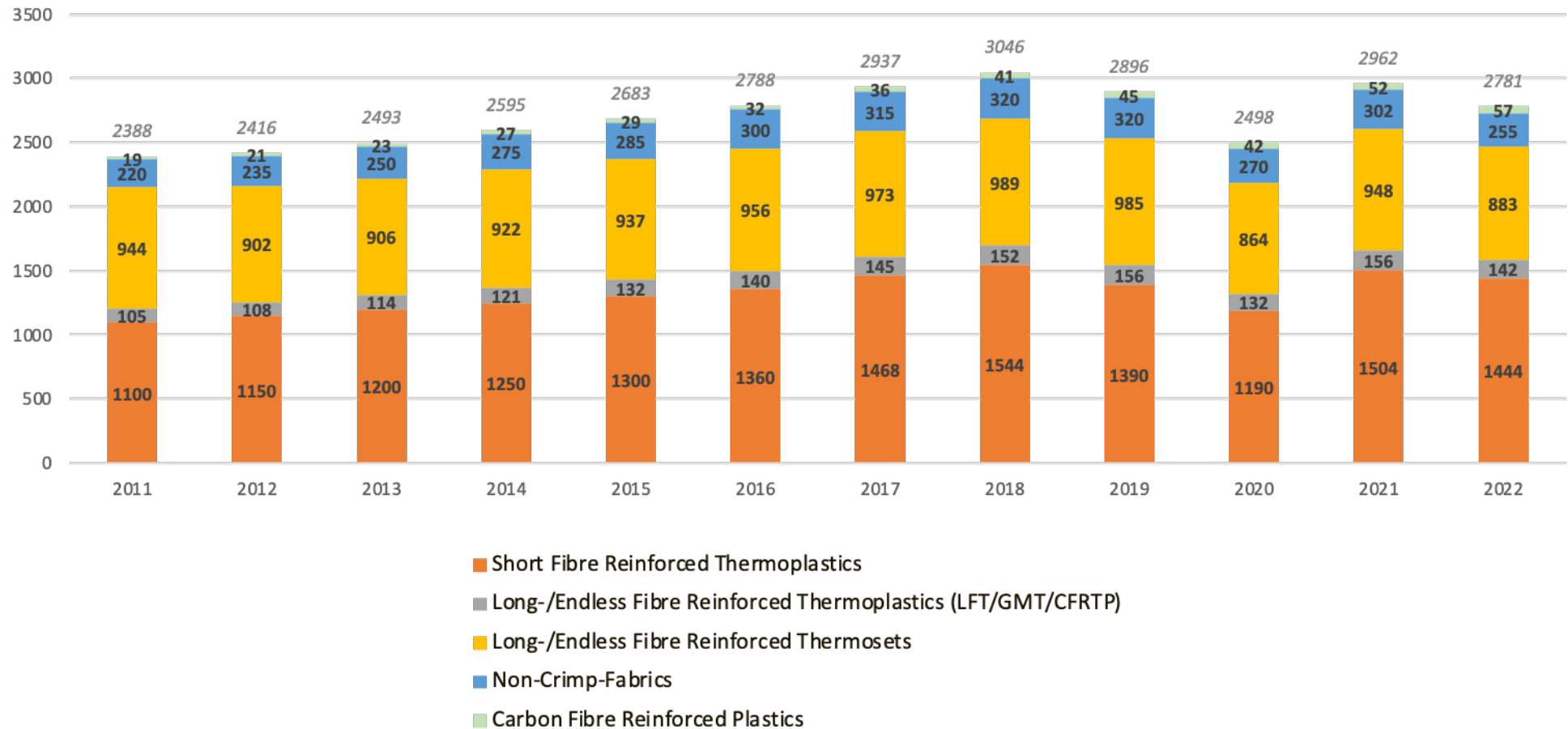
- Worldwide Composites Market 2022
 - 12,7 million tons
 - Increase compared to 2021 (12,1 million tons) \approx 5 %
- Different regional developments
 - Market share Asia \approx 50 %
 - Market share Americas & Europe \approx each ca. 25 % of world market
- 95 % of the Reinforcements are Glass Fibres
- Carbon Fibre Reinforced Plastics: Market share of 1-2 %
- Shortfibre Reinforced Thermoplastics are the biggest market segment
- Thermosets are still the biggest group in the field of Long- and Endlessfibre systems

The European Composites* Market in kt (2021)



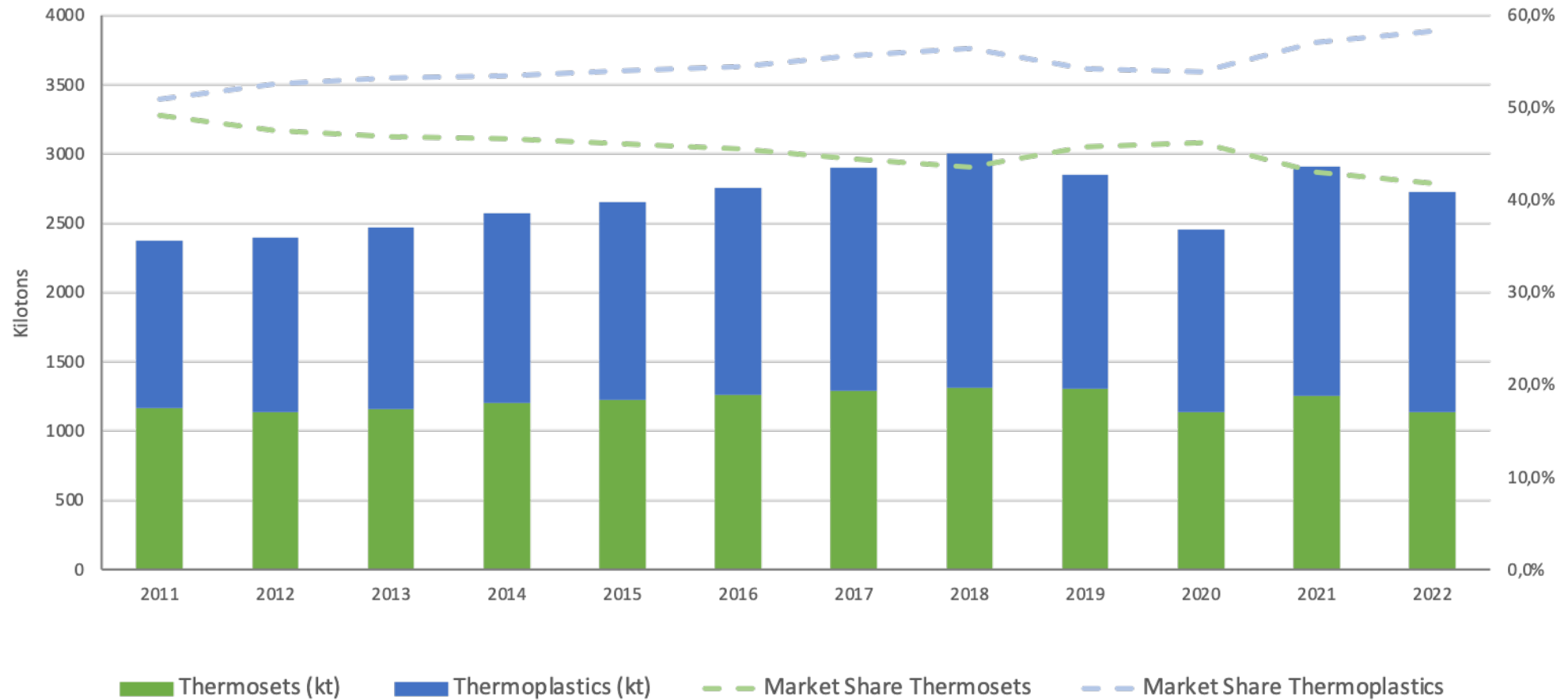
* Not included: Natural Fibre Reinforced Plastics

The European Composites* Market in kt (2022)

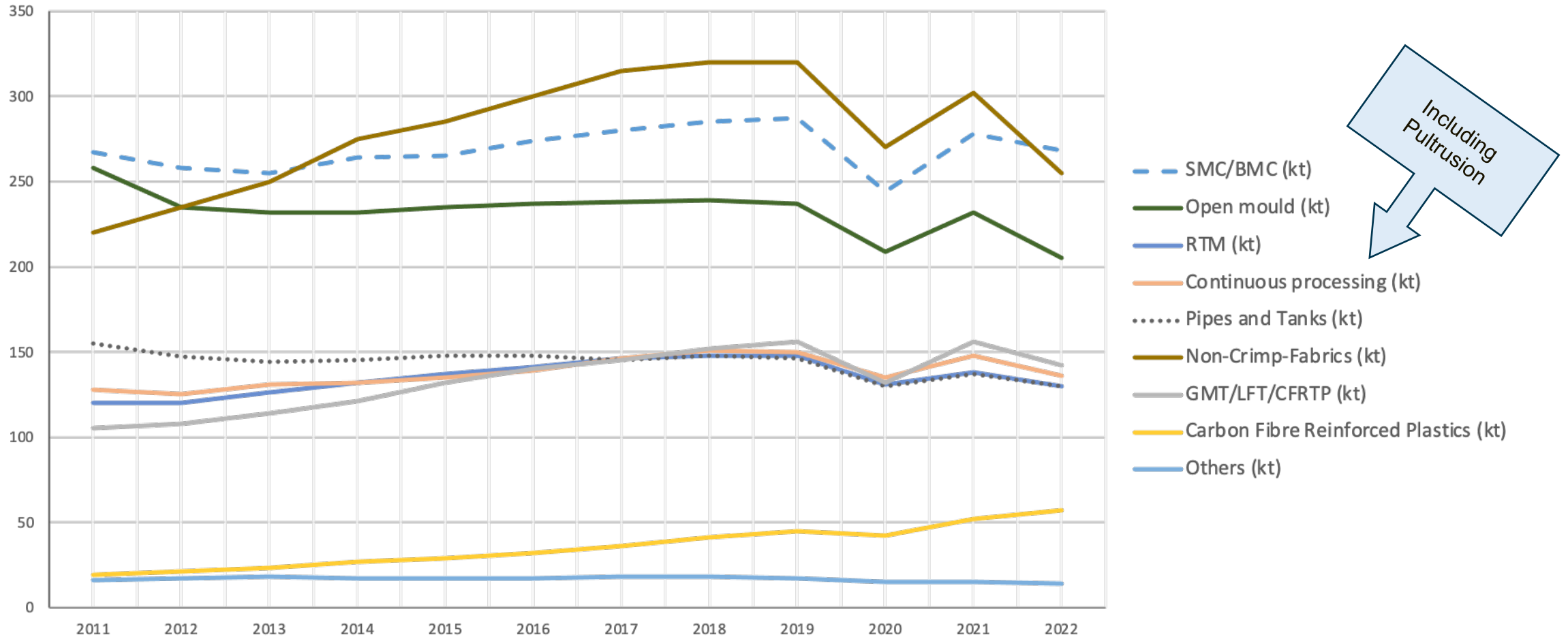


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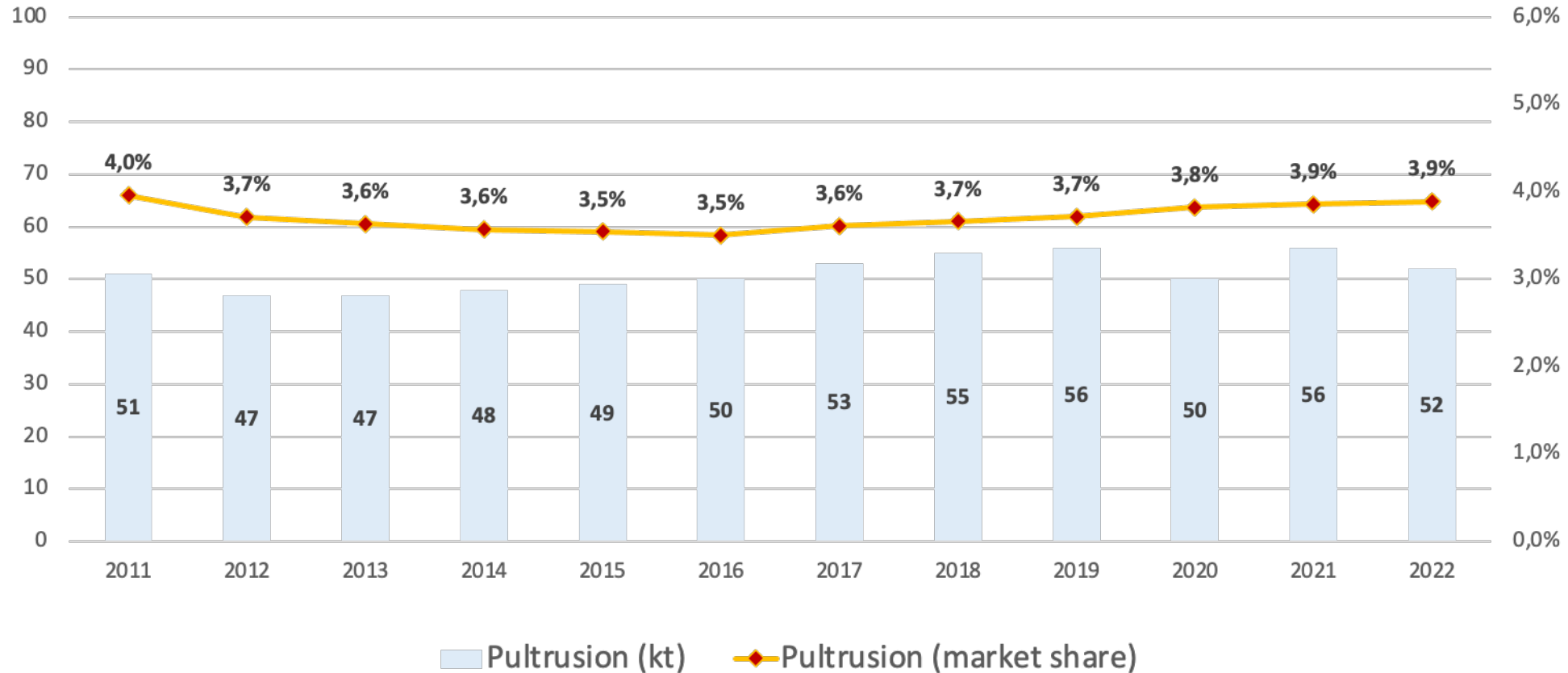
Glass Fibre Reinforcements –Material Systems



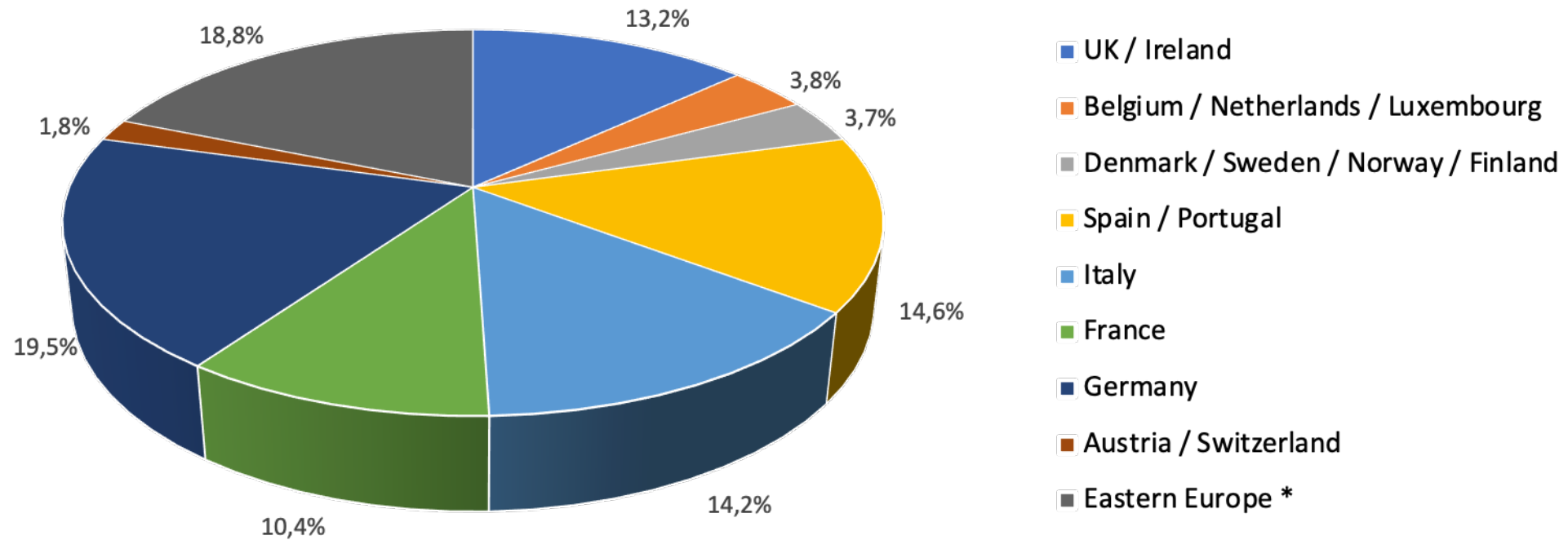
European GFRP & CFRP Market Development (kt)



Market Development Pultrusion Industry (kt)



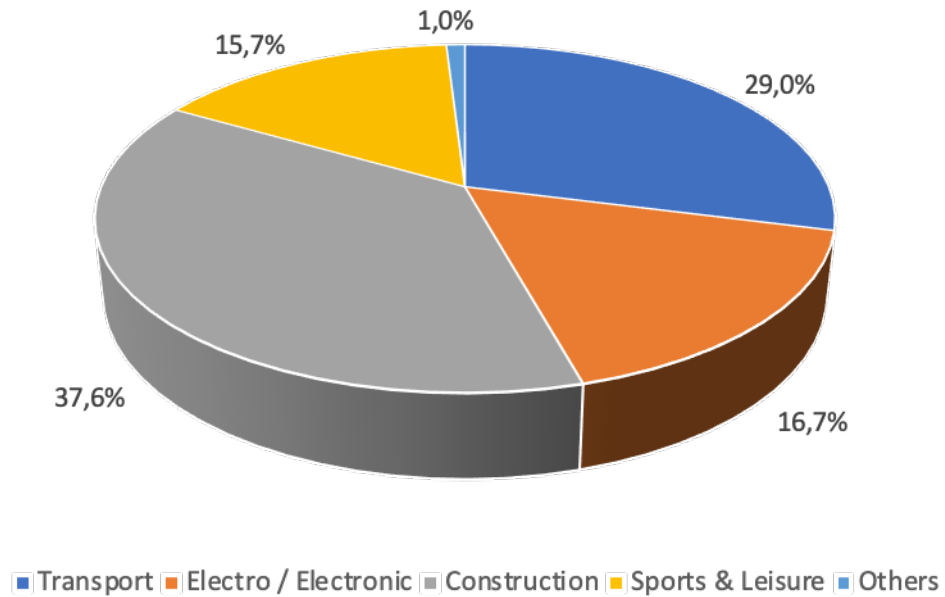
European GFRP & CFRP Market Development (kt)



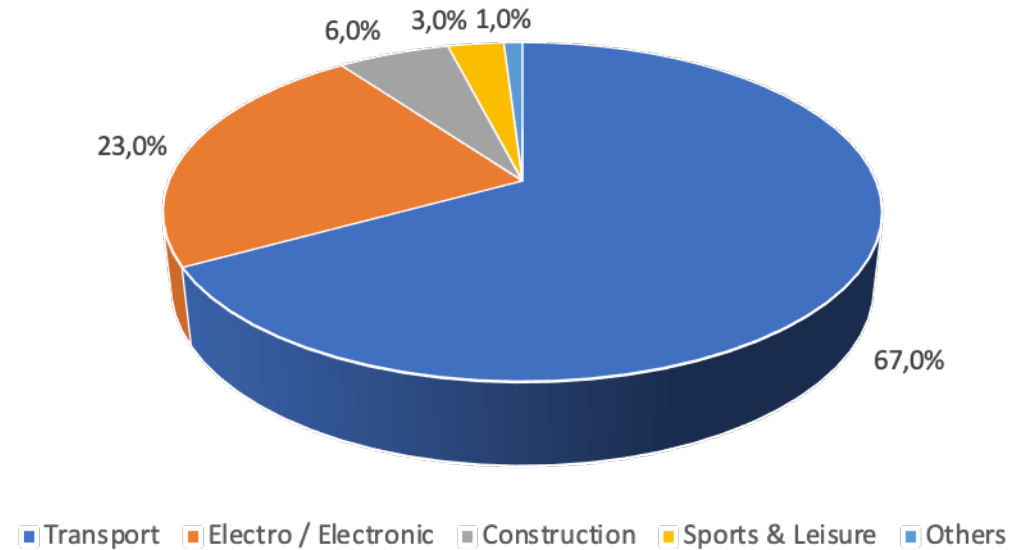
* Poland, Czech Republic, Hungary, Romania, Serbia, Croatia, Macedonia, Latvia, Lithuania, Slovakia and Slovenia

European Composites* Market - Applications

Applications Thermosets

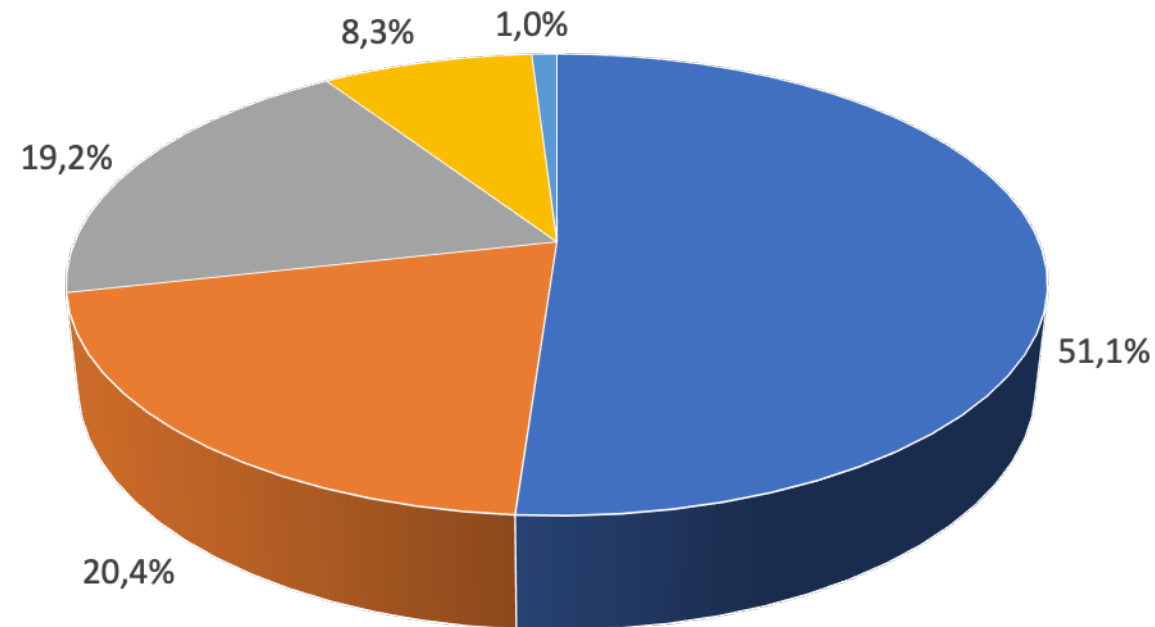


Applications Thermoplastics



*without CFRP

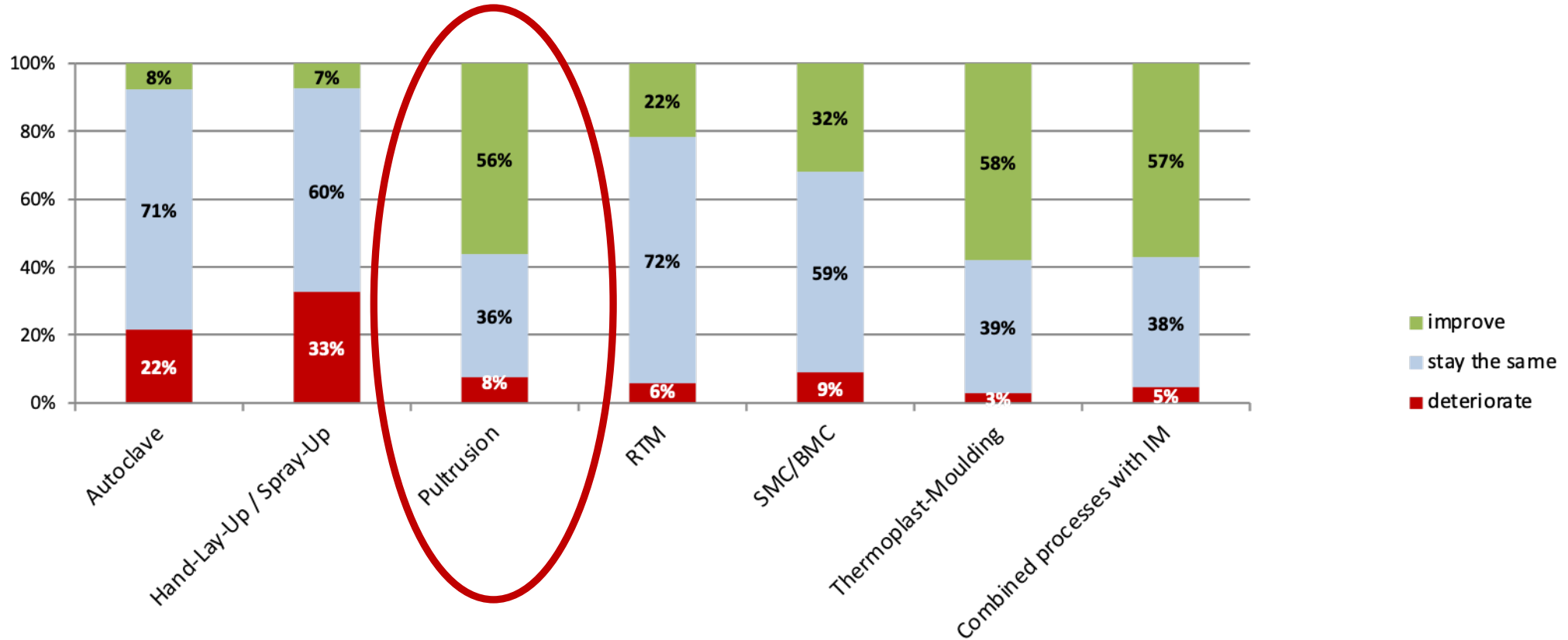
European Composites* Market - Applications



■ Transport ■ Electro / Electronic ■ Construction ■ Sports & Leisure ■ Others

*without CFRP

European Composites Market – Trends



Source: Composites Germany - Composites Market Survey 2/2022 - 100% missing data resulting from rounding inaccuracies

The European Composites and Pultrusion Industry

Sustainability

Composites Production in Europe – it's challenging!



European Composites Market – Trends

- Enormous increase of prices in the last month (logistics, energy prices)
- General political situation remains tense - High uncertainties
- Transportation: lowest admission rates in 30 years (passenger cars)
- Redesign-Thinking in (e-)mobility offers a lot of chances
- Construction market stable - Reaction of construction industry to market changes is medium-term
- High potential for composites esp. for construction & mobility applications
- Material advantages (beneath lightweight potential) become better known
- LCA-Advantages in several Applications

European Composites Market – Trends

- Enormous increase of prices in the last month (logistics, energy prices)
- General political situation remains tense - High uncertainties
- Transpo **Sustainability is becoming a core topic for** ger cars)
- Redesign **the future of composites material!**
- Construction market stable - Reaction of construction industry to market changes is medium-term
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- Material advantages (beneath lightweight potential) become better known
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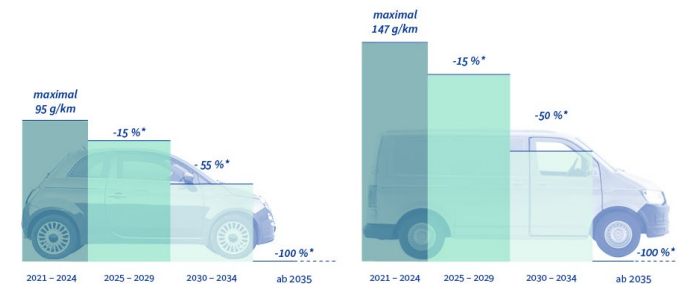
Sustainability becoming a core topic

- "Lightweight construction" as a central topic in the mobility sector is on the decline.
- Composites are often chosen for other/additional properties - The overall concept of a product/component must "work".
- Sustainability is increasingly becoming a fundamental decision for or against the use of specific materials - terms are often not clearly defined.
- The political pressure to act is increasing enormously due to national or European-wide targets - concerns central areas of industry.



Sustainability becoming a core topic

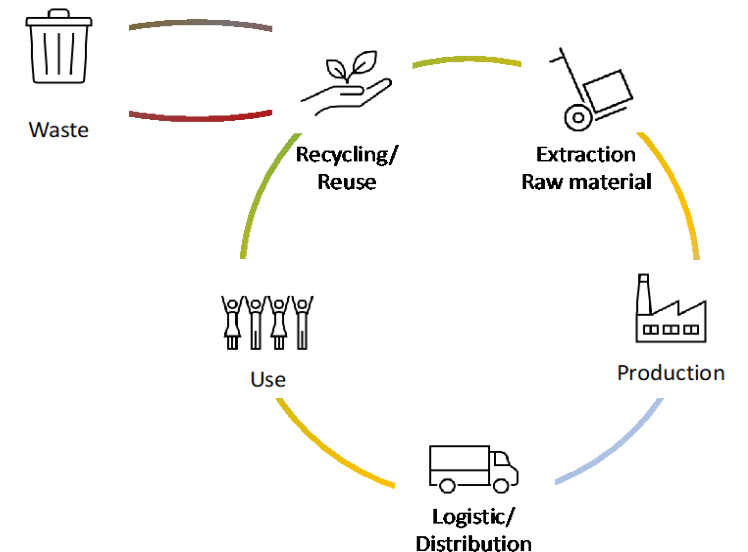
- Political initiatives (e.g.)
 - European “Green Deal” – a package of policy initiatives designed to put the EU on track to make a green transition, ultimately achieving its goal of becoming carbon-neutral by 2050.
 - “Fit for 55” - EU’s 2030 goal is to reduce greenhouse gas emissions to at least 55% below 1990 levels by 2030 - Climate neutrality by 2050
 - Proposals to amend existing legislation on climate, energy and transport
 - Among others: Stricter CO₂ emission standards for new passenger cars
 - Corporate Sustainability Reporting Directive (CSRD) - auditing will be mandatory from 2024 (environmental, social and governance factors)



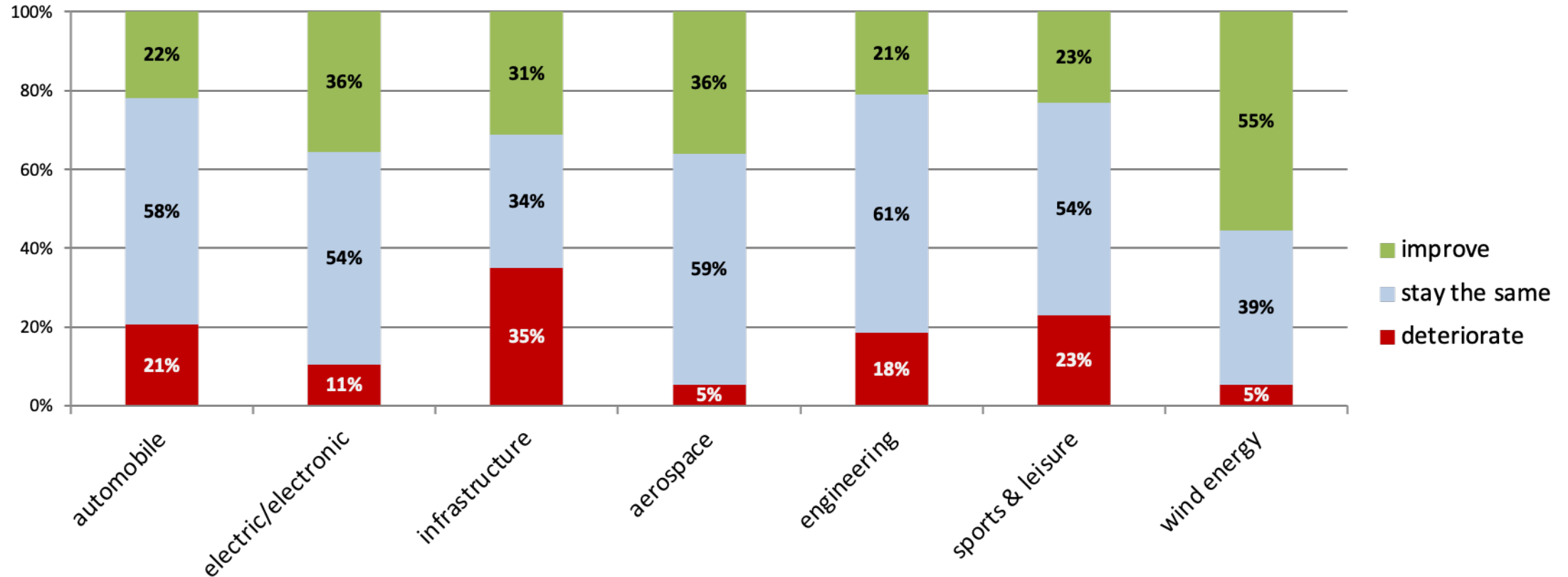
Source: Council of the European Union <https://www.consilium.europa.eu/>

Sustainability becoming a core topic

- Sustainability/recycling
 - Sustainability as a core issue becomes an important growth driver
 - "Overemphasis" on recycling vs. LCA
 - Reusability vs. recycling
 - Unclear definition of "circular economy" for composites
 - Different regulations, laws and opportunities
 - Lack of waste codes
 - Ecology and economy only work together
 - R&D vs. industrial scale (TRL)
 - ...



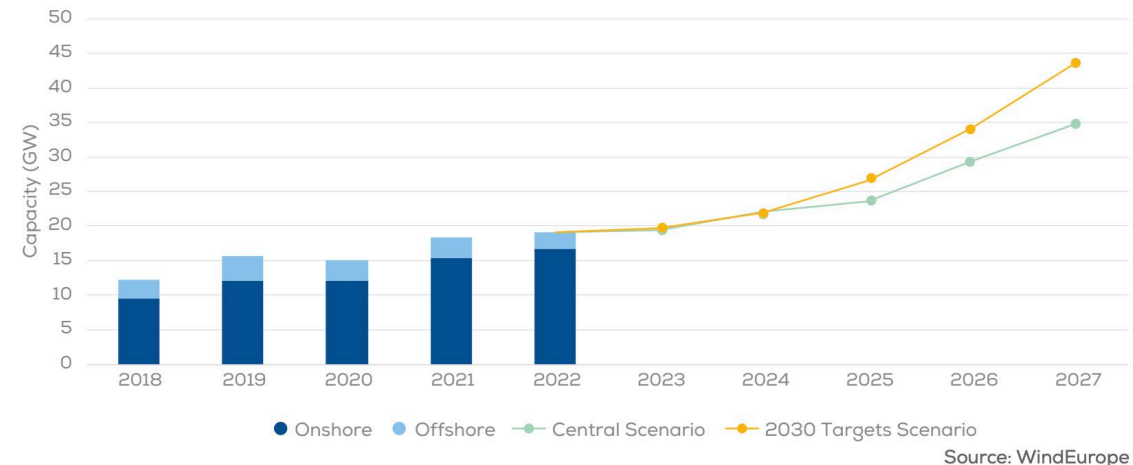
Sustainability – Challenges & Chances



Source: Composites Germany – Market Survey 2/2022

Sustainability – Challenges & Chances

- Europe built 19 GW of new wind energy capacity in 2022.. That's 4% up on 2021. But it's much less than what's needed for the EU's 2030 goals. (reducing greenhouse gas emissions to at least 55% below 1990 levels by 2030)
- The EU's climate and energy security goals require it to build over 30GW of new wind farms every year to 2030



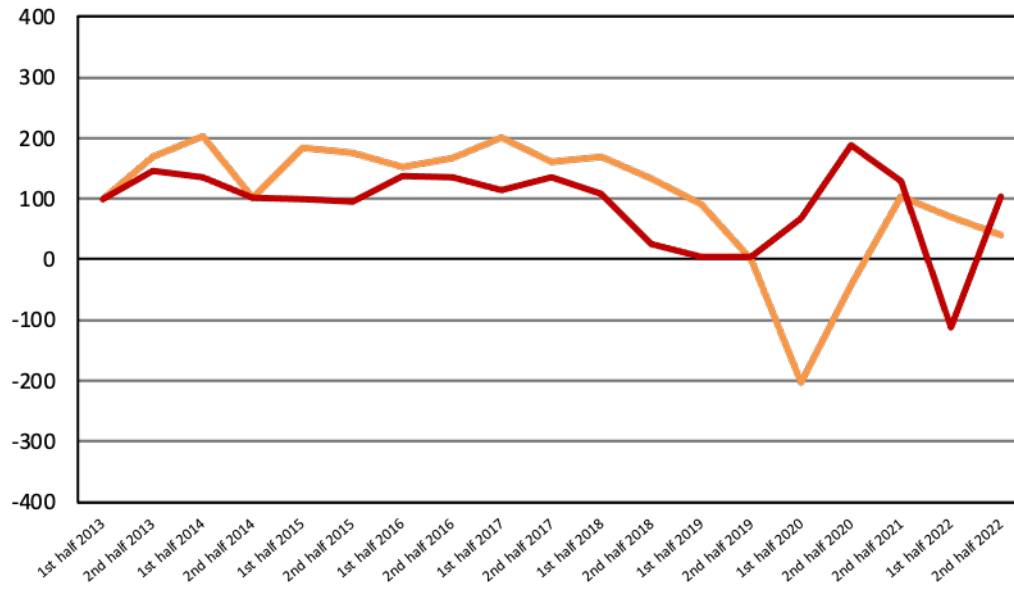
Source: Windeurope.org; <https://windeurope.org/intelligence-platform/product/wind-energy-in-europe-2022-statistics-and-the-outlook-for-2023-2027/>

Sustainability – Challenges & Chances

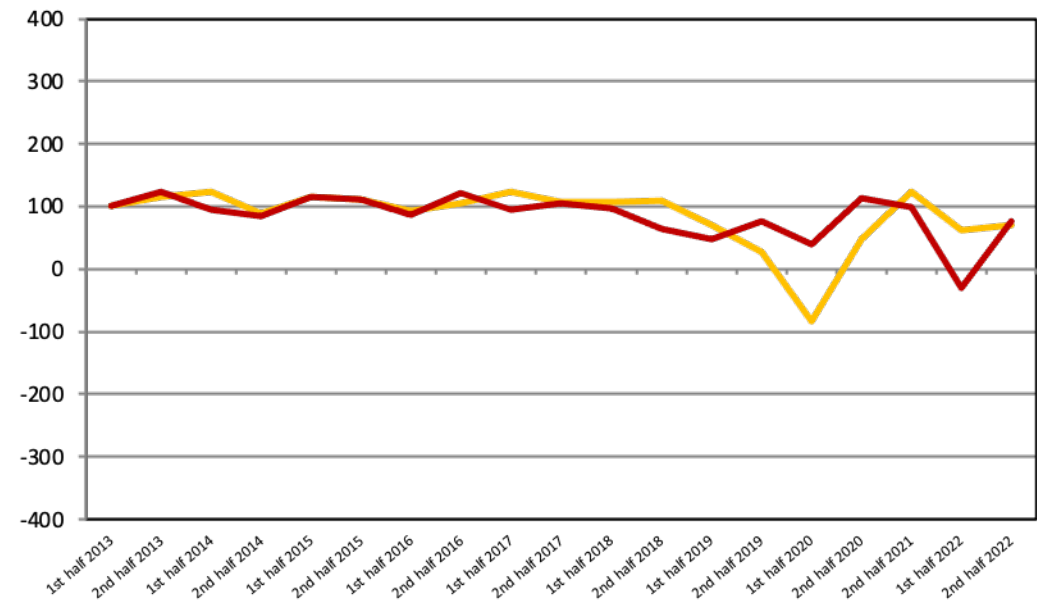
- Central advantages of Composites in sustainability
 - Transport - Low CO2 emissions – material & use phase
 - Construction - extension of maintenance intervals & very long service life
 - Reduction of costs & emissions
 - Material - Very high intrinsic value even after first use phase
 - High chances for open loop solutions
- Composites are on a good way to the future!

Industry expectations - Composites Development Index

Overall assessment **general business situation**



Overall assessment **own business situation**



— Current business situation — Future business situation

Note: The Composites Index 1st half 2021 could not be generated due to a data breach! – index: 1st. half 2013= 100; Source: Composites Germany – Market Survey

Thanks a lot for your attention!

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