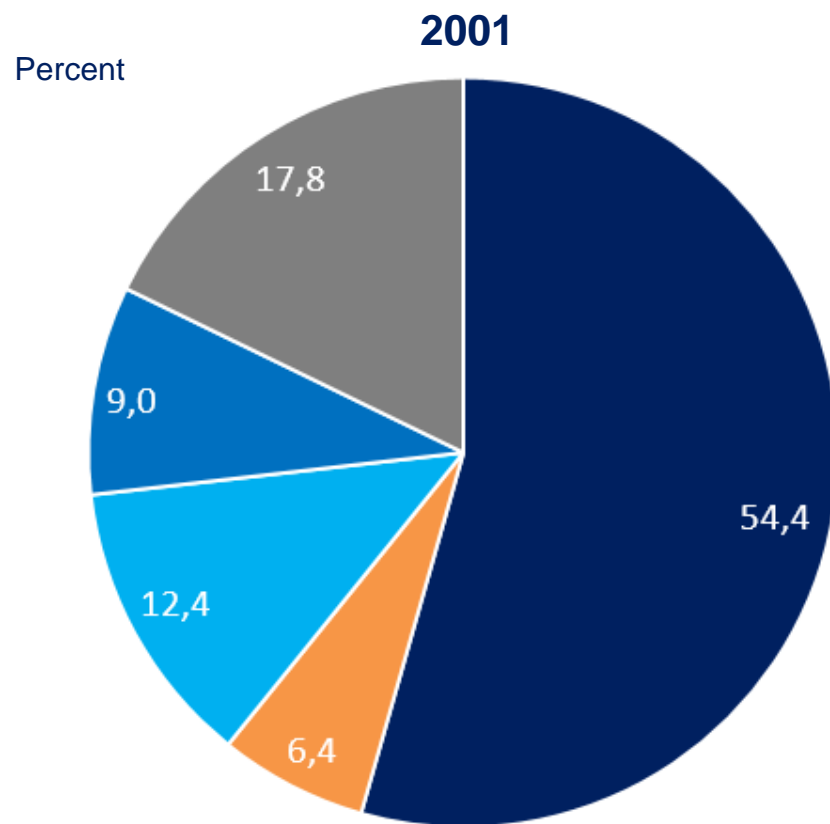


EUROMAP Press Conference

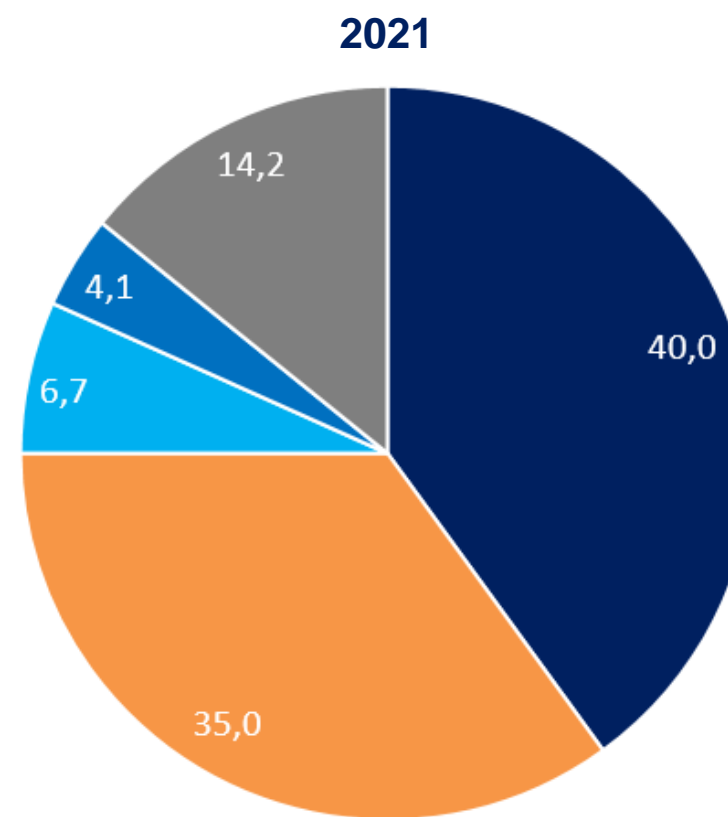
5 October 2022

Global Economic Overview of Plastics and Rubber Machines

Shares on World Production of P&R Machinery



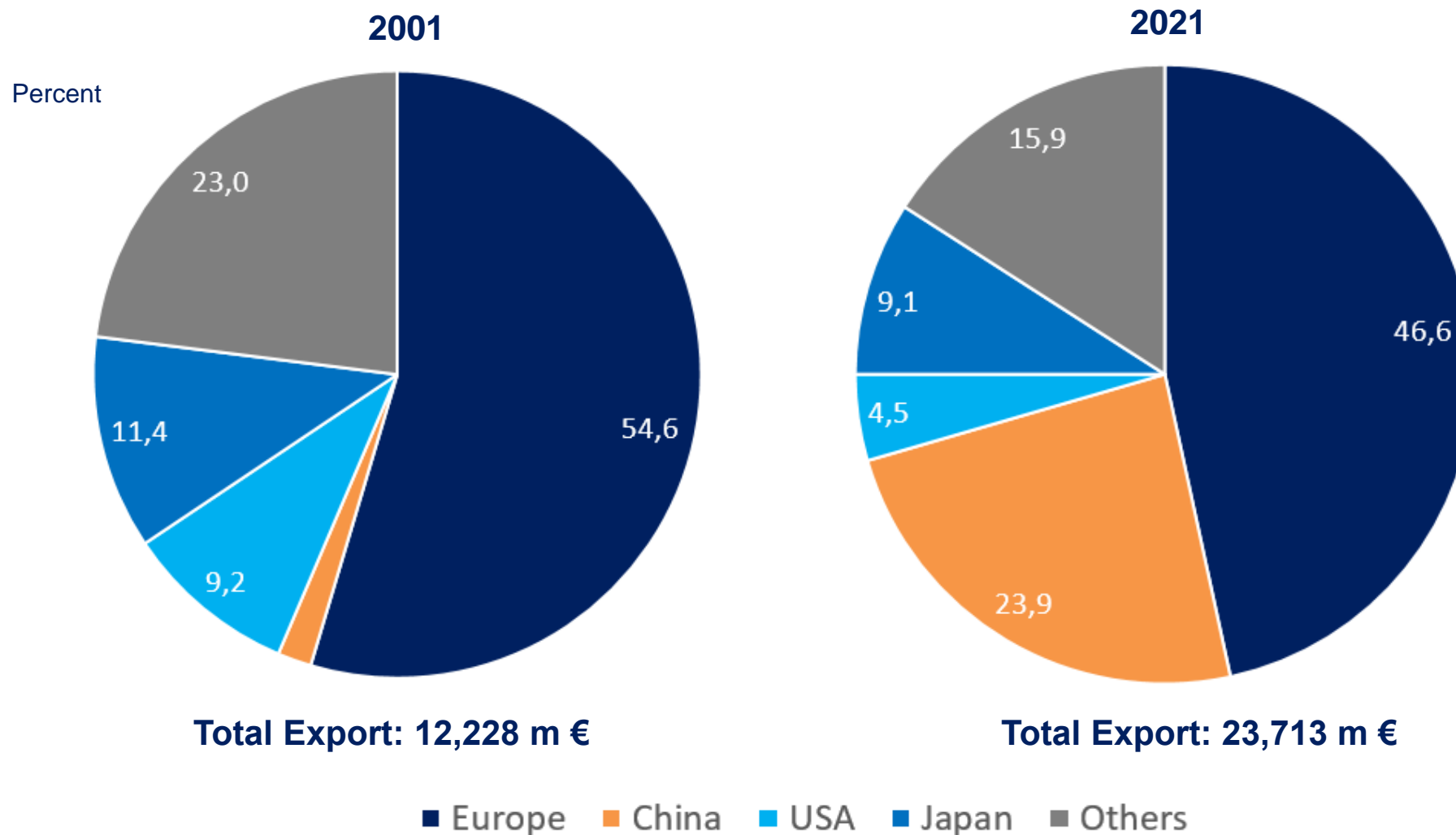
Total Production: 17,055 m €



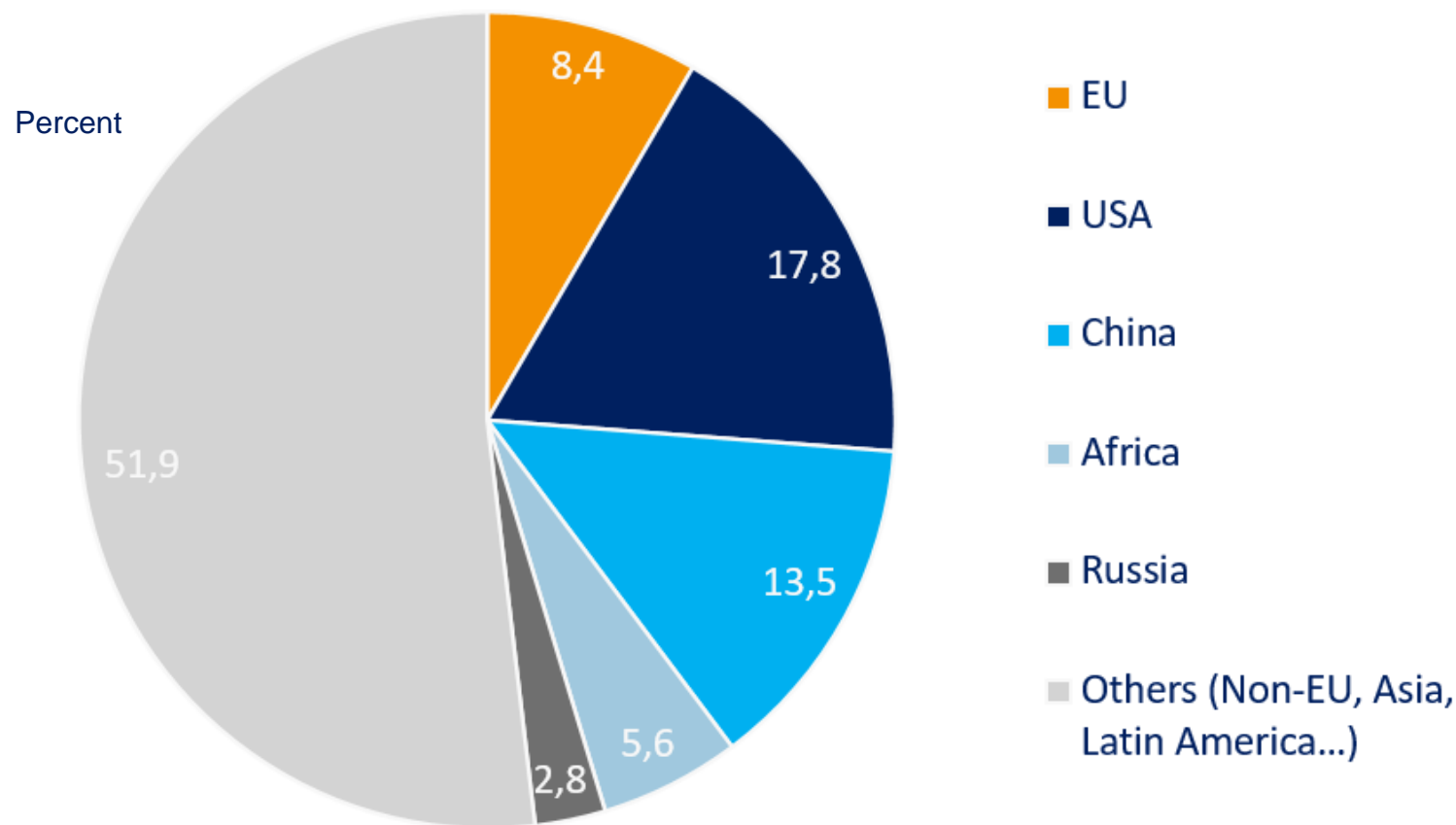
Total Production: 38,597 m €

■ Europe ■ China ■ USA ■ Japan ■ Others

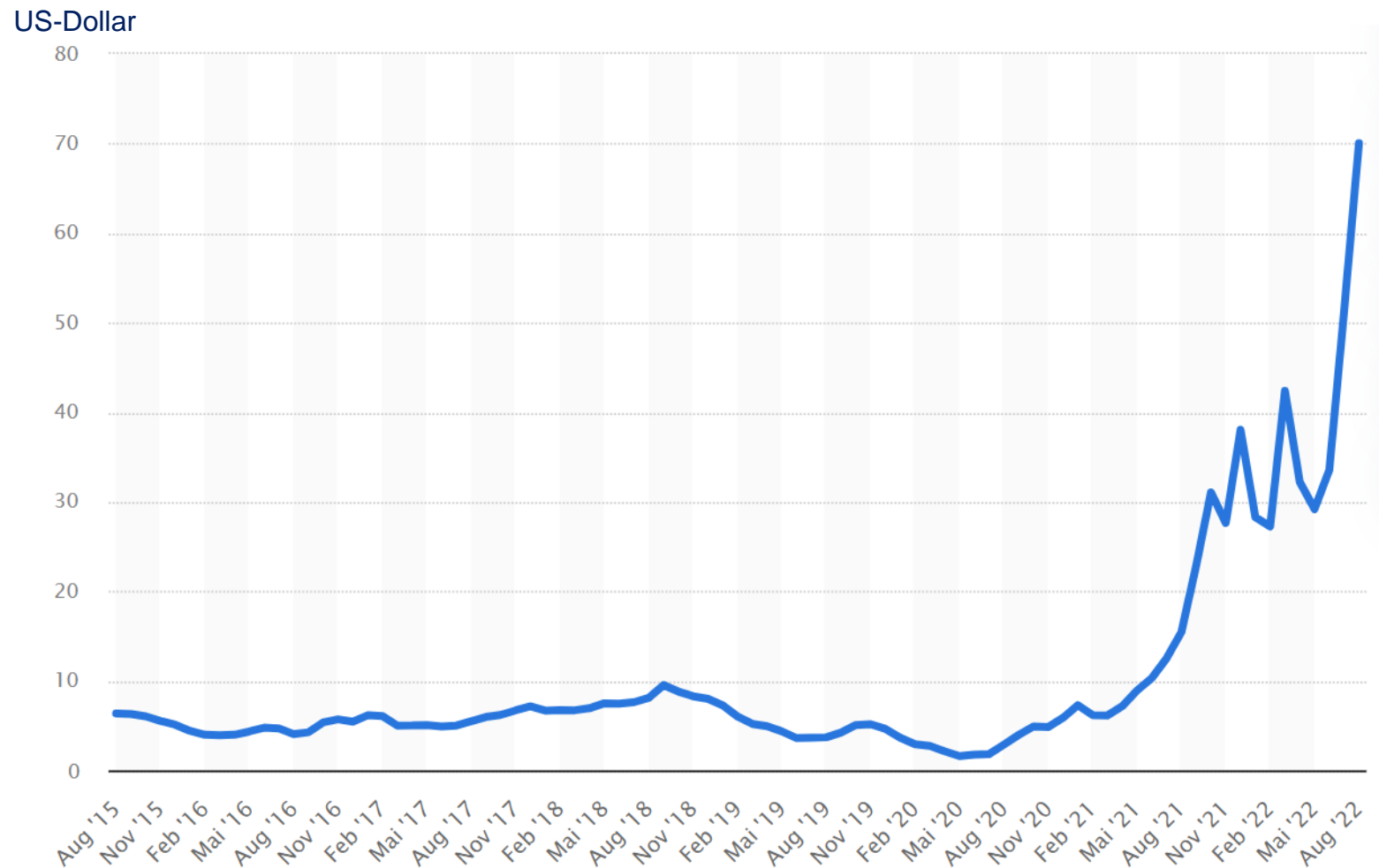
Shares on World Export of P&R Machinery



Total exports of P&R Machinery to different regions excluding intra-European exports (2020)

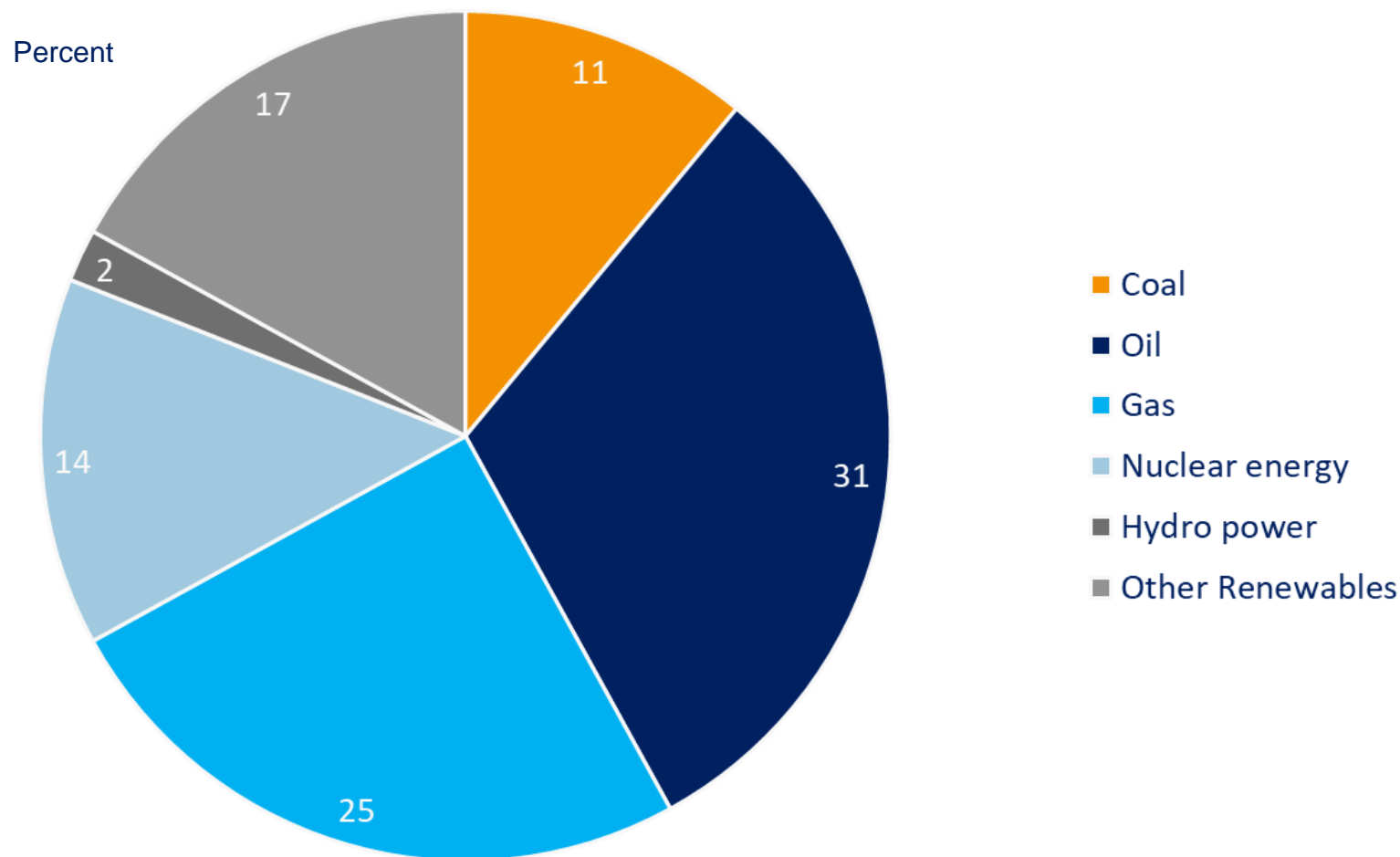


Average price for natural gas in Europe



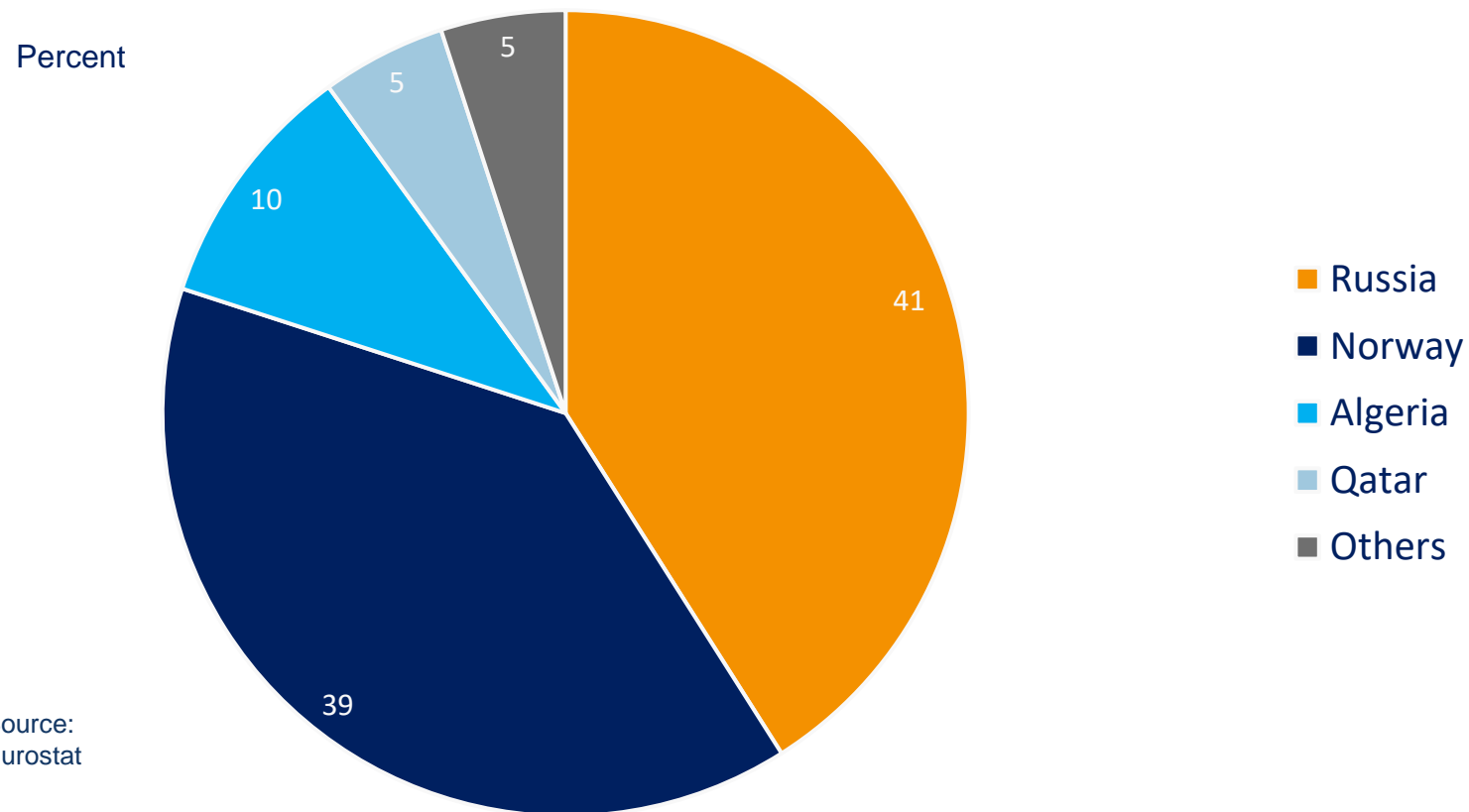
Source:
Statista

EU energy consumption by energy source (2020)



Source:
Int. Energy Agency

Natural gas for EU in 2018



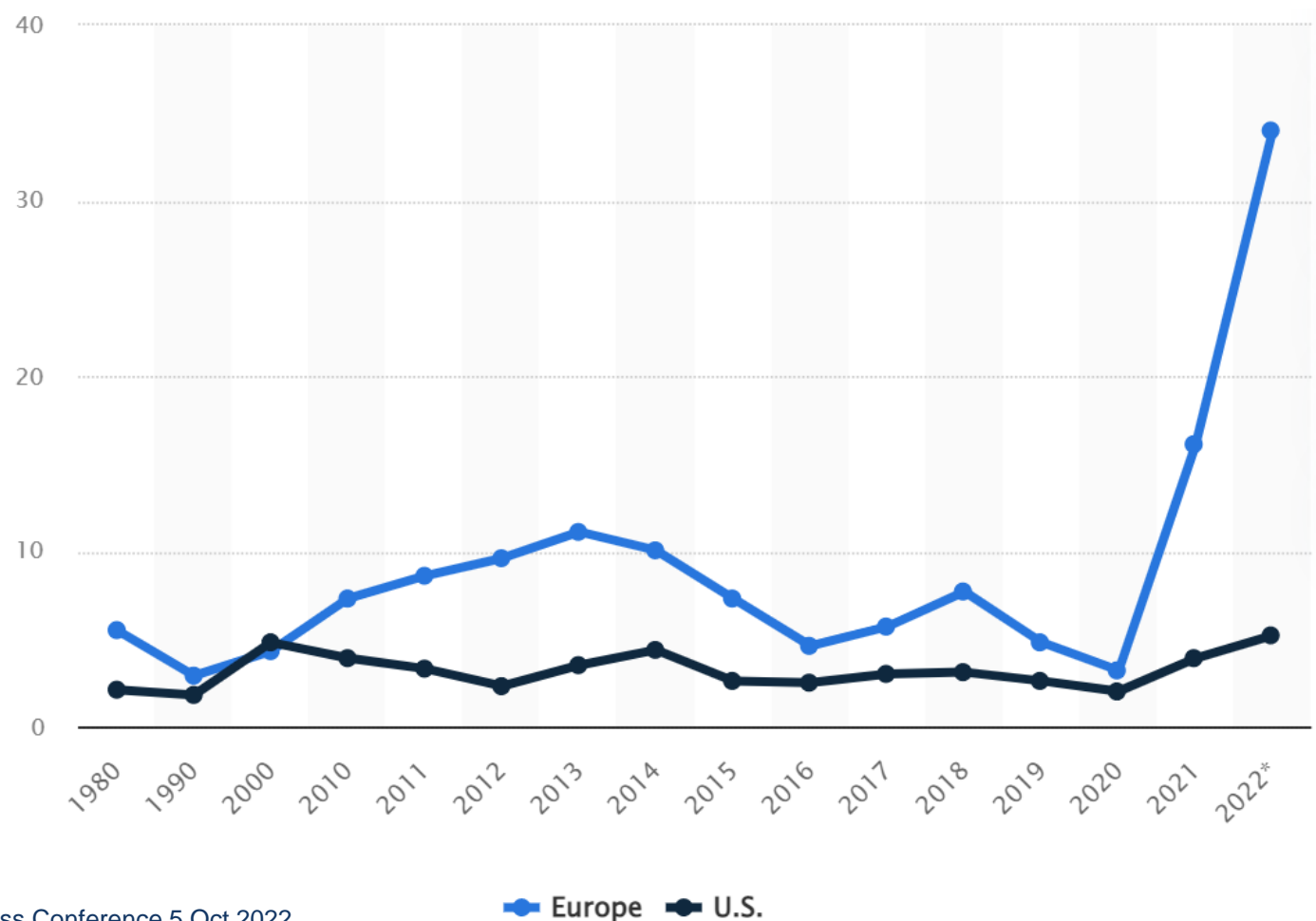
Gas storage level in the EU as of 09/2022: **90%**

Share of Russian Gas in Europe as of 09/2022: **8%**

Source: Entsog

Rising Costs for Energy

Natural gas commodity prices in Europe and the US from 1980 to 2021, with a forecast for 2022 (in US Dollars per million British thermal units)



Source: Statista

Steel prices on the up

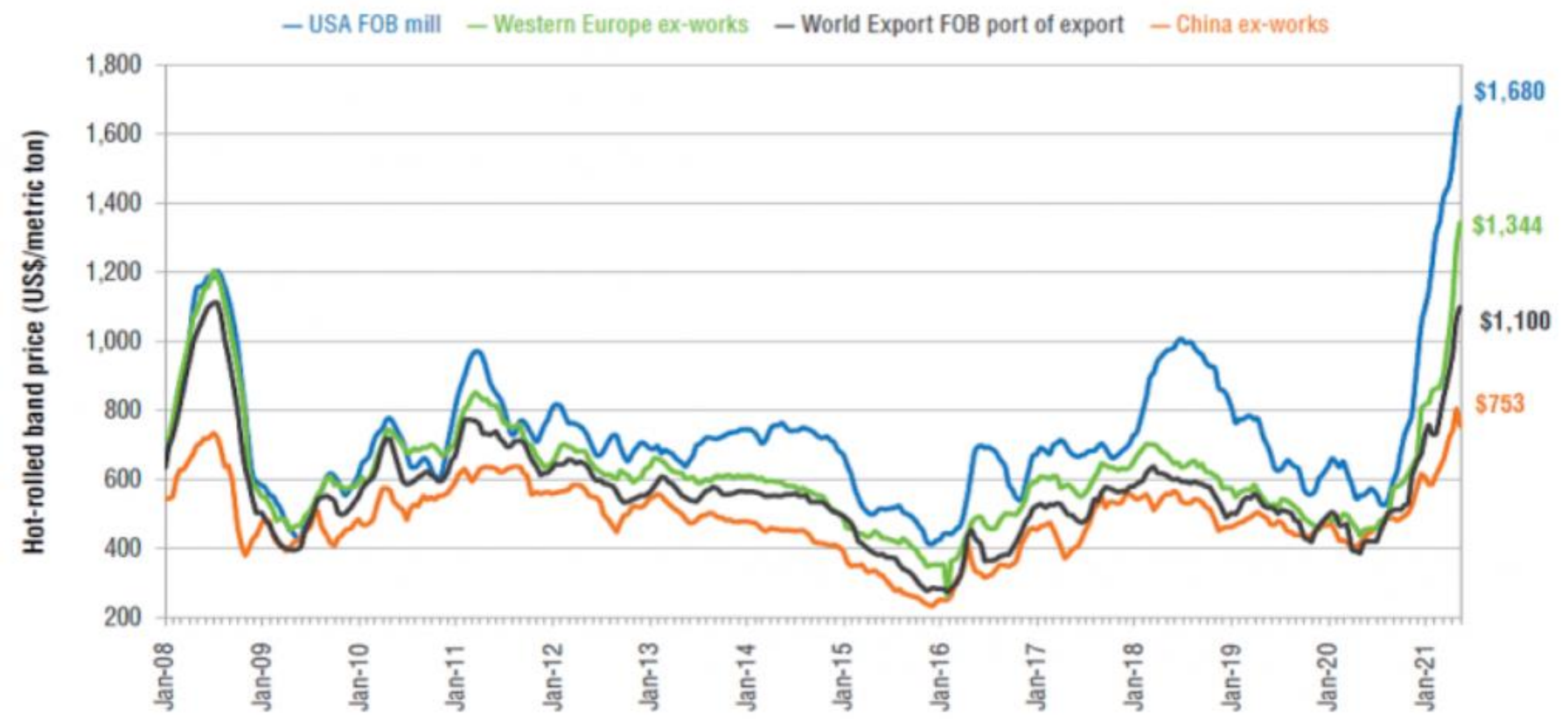
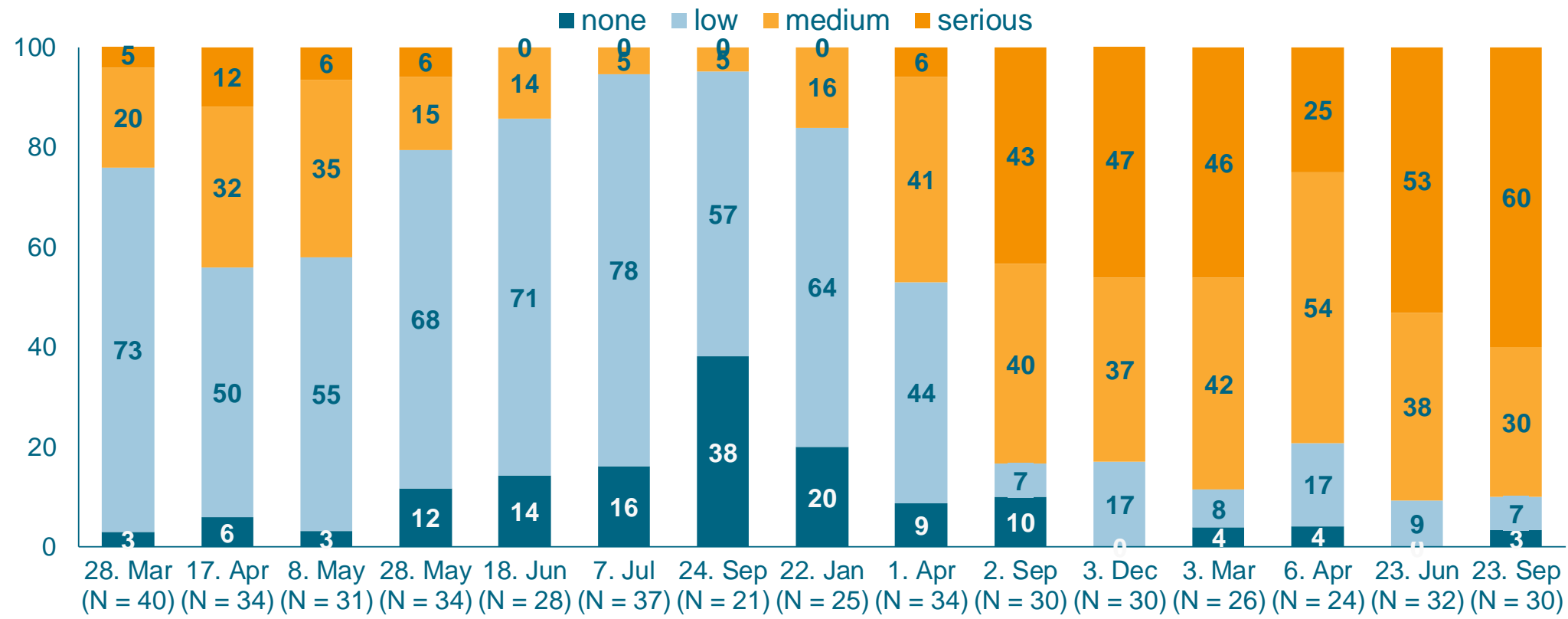


Figure 17: SteelBenchmarker™ HRB price.
Source: World Steel Dynamics.

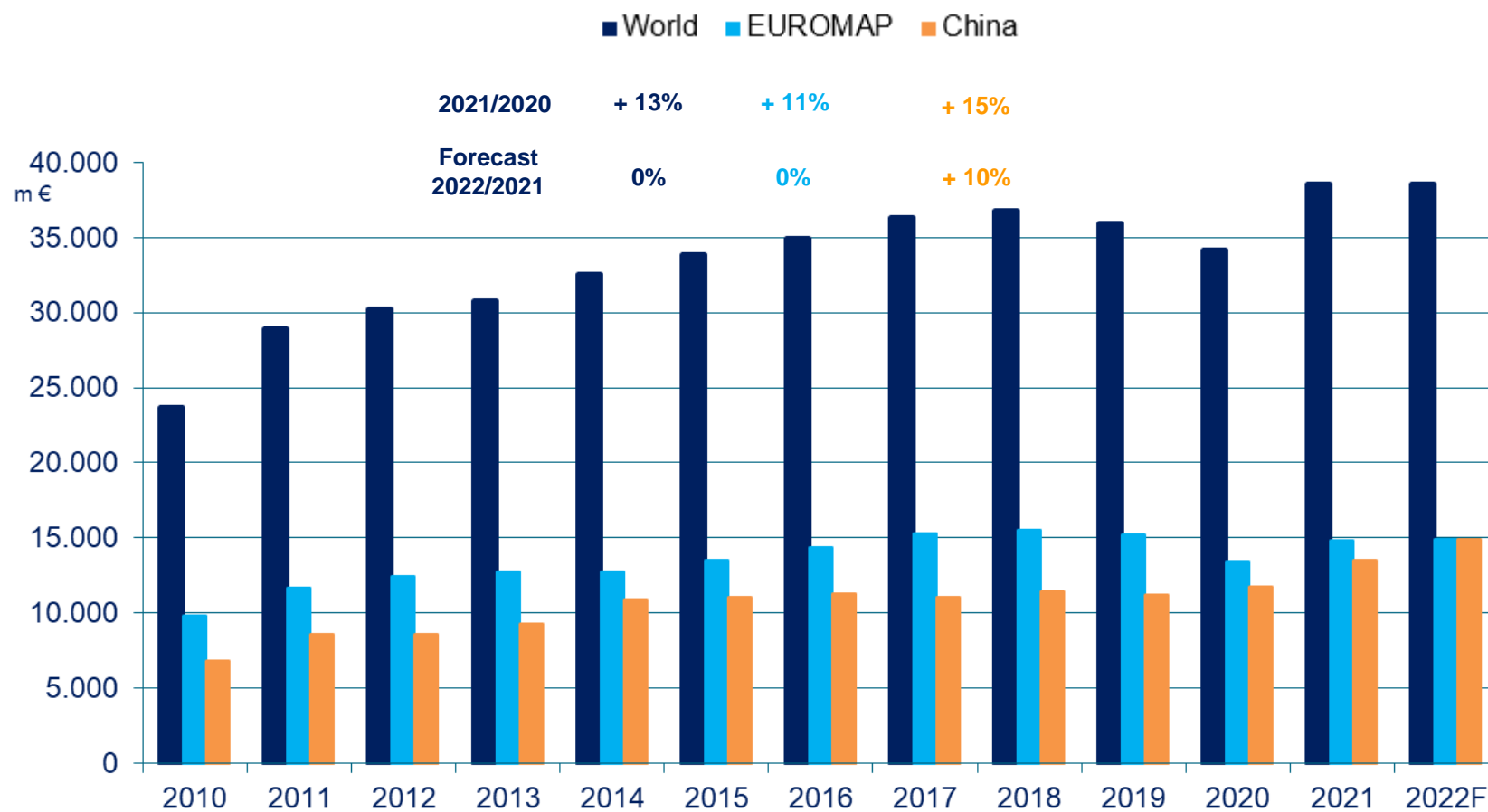
Supply Chain Disruptions

Evaluable answers



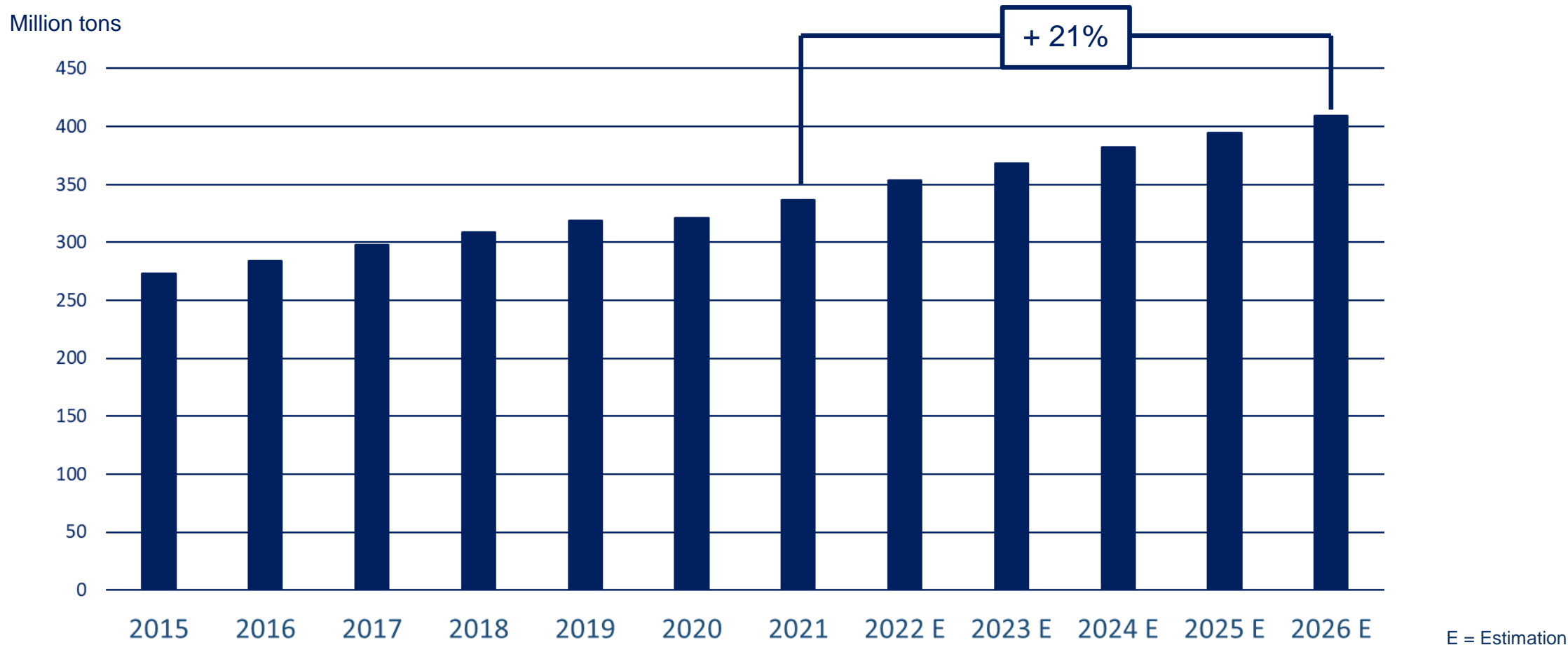
Source: VDMA flash surveys, March 2020 to September 2022

Global Perspective Production* P&R Machinery



* Estimates F = Forecast

Worldwide Plastic Consumption



Driving Topics of K2022



K 2022

- Exhibition Centre fully occupied, net area of more than 178,000 sqm (K 2019: 177,059 sqm).
- Breakdown of the area:
 - Mechanical engineering 118,700 sqm (2/3)
 - Raw materials 42,750 sqm
 - Processors 8,500 sqm
 - Services 7,100 sqm
- 3,026 exhibitors from 60 countries (K 2019: 3,300, 63)
 - China: 307 exhibitors, 9,300 sqm (2019: 369 / 9,339)

Digitalization / World Production Language

Challenges:

- Need for efficient and stable processes (especially when using material with varying properties like recyclates).
- Need for tracking of material and products (driven by customers and regulations).
- Lack of skilled personnel.

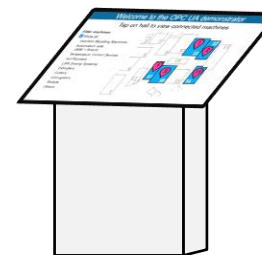
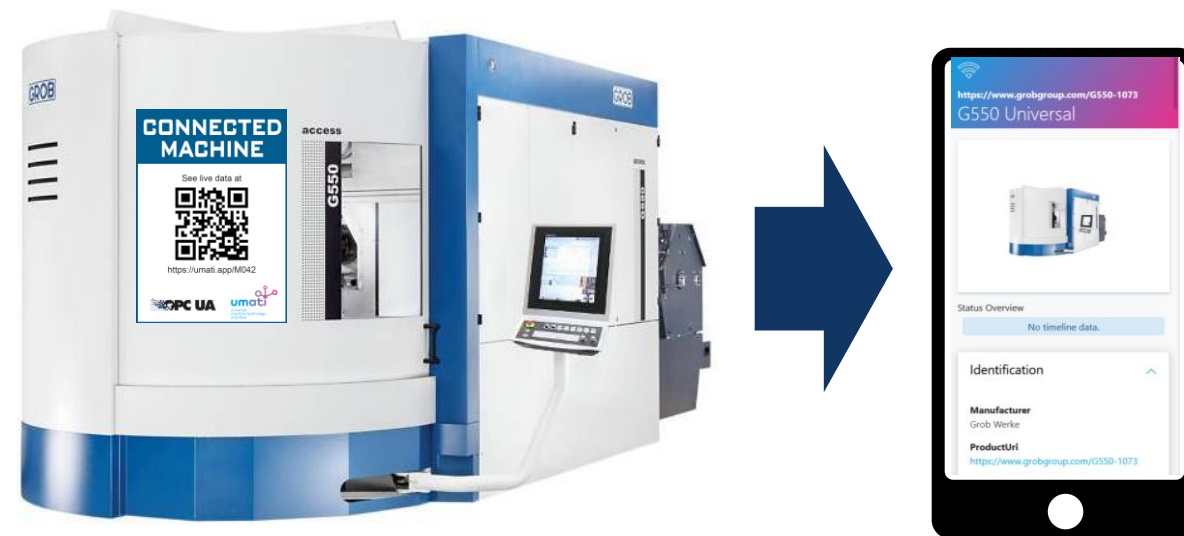
Solution: Highly automated process chains with data exchange between machines and components → standardised digital interfaces needed:

- OPC UA as common technology (**how** to exchange data).
- Companion specifications developed by EUROMAP for multiple machine types (**which** data to exchange).

OPC UA and EUROMAP specifications live at K

- Live data from connected machines visible on
- visitors' smartphone: QR-Codes on connected machines lead to mobile website,
 - interactive screen at VDMA Dome.

Participation: approx. 40 companies (partly with multiple machines) from 7 countries.



Connected to Machine Model 3000

Status: ● OK

Identification

Manufacturer: Grob Werke

ProductUri: <https://www.grobgroup.com/G550-1073>

CONNECTED MACHINES @ K 2022
Standardized communication for the world of machines

OPC UA **EUROMAP** **umati**

Circular Economy Forum at K 2022



„The Machine“ key process steps of the plastics cycle 40 participating companies providing best practice

Recycling

Material Handling

Processing

Injection Moulding – Extrusion – Blow Moulding – Foaming – Additive Manufacturing



Central info point for circular economy and digitalisation

