

STATISTICS WEBINAR 2025

Data from the 2025 surveys
05/12/2025 10:30 – 12:00 CET
EPMA Members only

Content

- EPMA surveys- Bruno Vicenzi
- Key Figures - Kenan Boz
- AM Trend Survey - Kenan Boz
- HIP Trend Survey - Kenan Boz
- P&S Trend Survey - Bruno Vicenzi
- MIM Trend Survey - Bruno Vicenzi
- Comparison of indexes - Bruno Vicenzi
- PM Statistics - Bruno Vicenzi
- Q&A - All

EPMA surveys

Bruno Vicenzi
Technical Manager



- **Data collected (confidentially!)**

- Statistics on automotive, medical, aerospace (free data from internet)
- Statistics
 - Powder produced for Europe: Iron and Steel (including Stainless)*, Nonferrous (Copper, ...)
 - Production in Europe: P&S, MIM, AM, HIP, HM
- Trend surveys: P&S, MIM, AM, HIP
- How is the business, how the business will be, trends, main markets ...
- Benchmarking surveys: linked to ISO 90001 and automotive sector

*Including a quarterly survey
for the largest producers

- **Data communicated**

- Statistics:
 - Free of charge to full members, sold to Associate & Individual (3,000€) non members (5,000€)
 - Presented at the General Assembly / Congress Plenary by the EPMA President
- Trend Surveys :
 - Full file only to participants (names of companies not communicated, individual data not communicated)
 - An extract and an aggregated index are presented during the General Assembly and later in more – even full - detail in Sectoral Group meetings (usually at the annual congress)
- Benchmarking surveys: only to participants

- **Participation is of utmost importance to build the information on the status of PM in Europe, and to steer our activity!**

Key Figures

Kenan Boz
Technical Manager

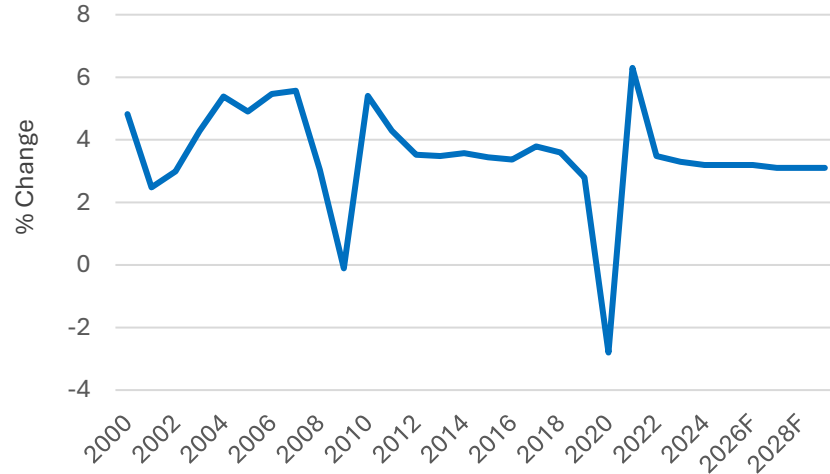


- EPMA collects data of PM related topics to reflect an overview and Trends in PM Industry
- The results are published every year under five categories and shared with its members as well:
 - Economic
 - Automotive
 - Aerospace
 - Medical
 - Energy
- Report of 2025 will be published and also shared with our members in a couple of days.



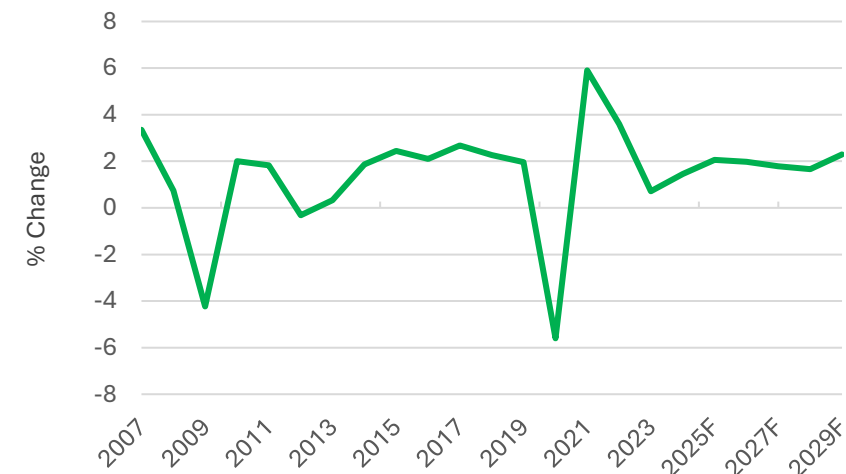
ECONOMIC

World GDP



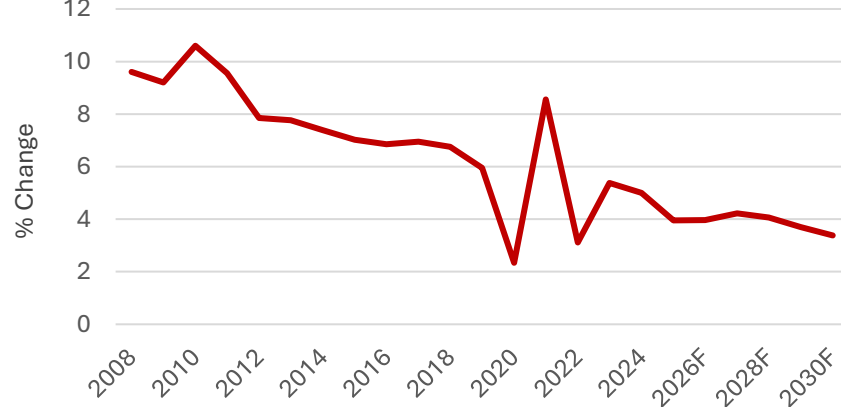
Source: imf.org

EU GDP



Source: imf.org

China GDP

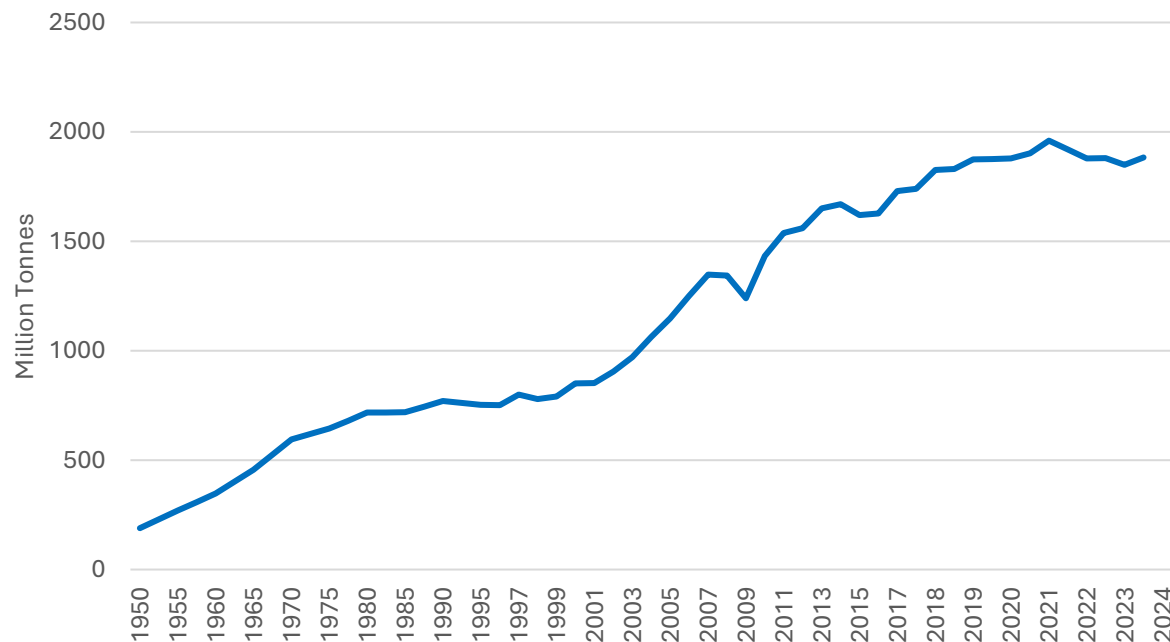


Source: imf.org

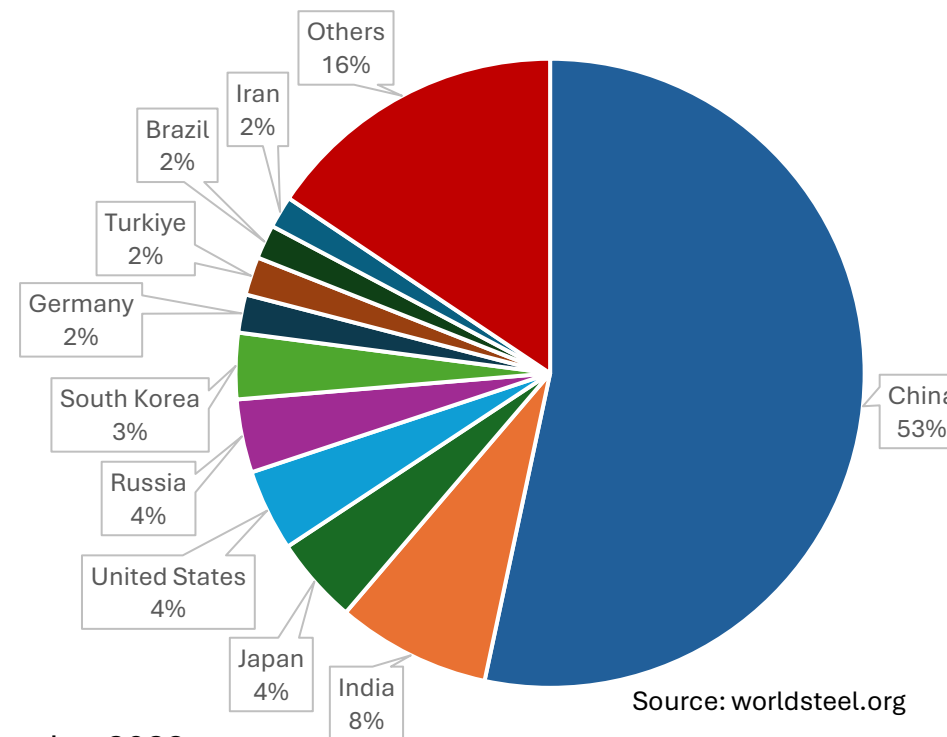
- An overall recovery GDP in important regions, after the slowdown in 2020 due to Covid.
- The war in Ukraine and the high inflation rates hampers the growth in the EU. A recovery is expected after 2028
- World GDP expected growth stable as 3.1% for the next years.
- China has a slowing down trend, but still higher than the World in average.

ECONOMIC

World Crude Steel Production (1950-2024)



World crude steel production in 2024



- Total world crude steel production was 1,883 Mtonnes in 2024, 1.9 % increase compared to 2023.
- %53.3 of the Global production is realized by China, followed by India as 8%.
- In 2024, steel demand in China is expected to remain around the level of 2023. The decline in real estate investments continues to impact steel demand negatively. However, this loss is offset by growth in infrastructure investments and the manufacturing sector.
- In 2025, China's steel demand is projected to decline by 1% as the real estate sector continues to struggle.

ECONOMIC

World Commodity Metal Prices – APT Tungsten*



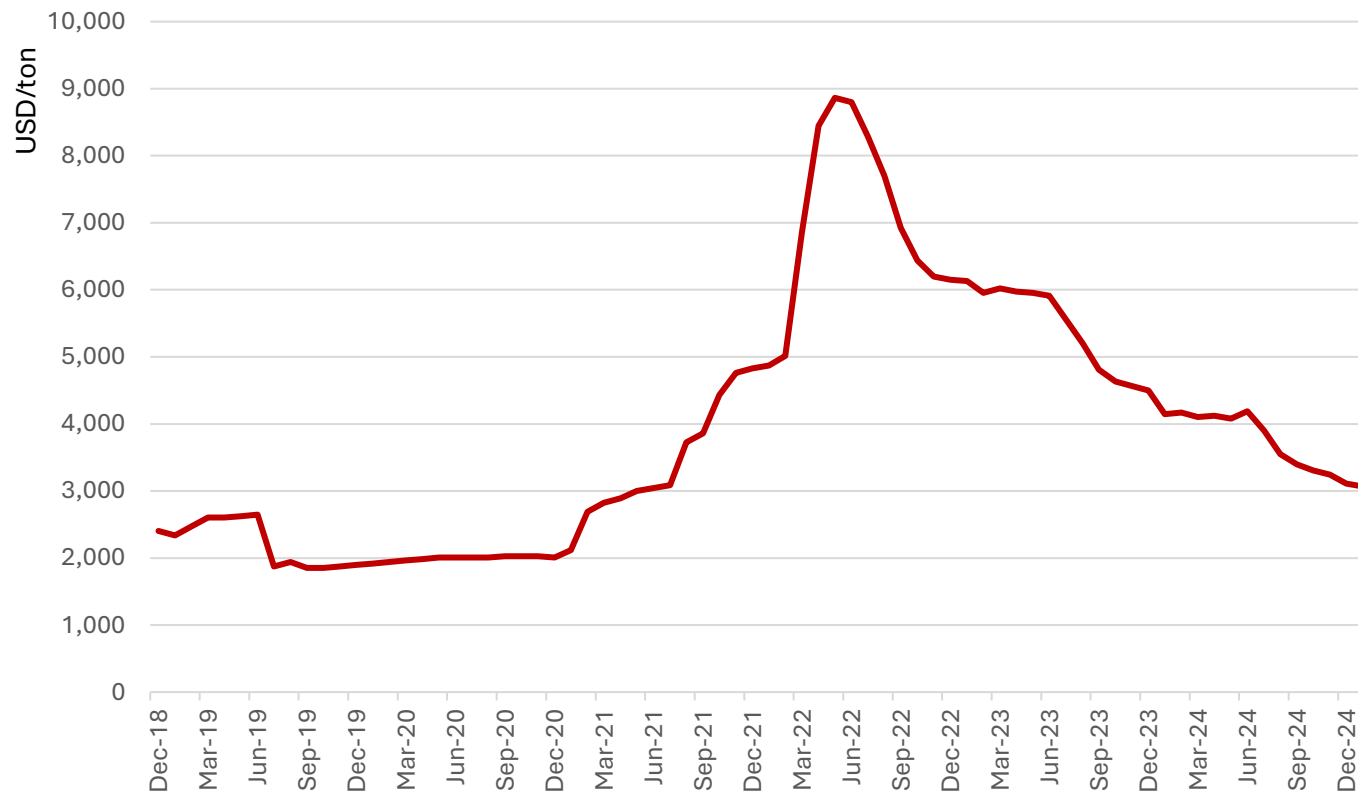
*APT : Ammoniumparatungstate

Increase in APT prices are due to:

- Mining Quotas in China: China imposed stricter mining quotas and environmental regulations.
- Environmental Compliance: Many smaller producers shut down or slowed operations due to tighter pollution controls, further limiting supply.
- Rising Demand: Automotive, Aerospace, defence, electronics and semi conductors.
- Speculative buying: Buyers held larger inventories anticipating continued price hikes, tightening spot market availability.

ECONOMIC

World Commodity Metal Prices – Ferro Chromium



Peak in 2022: Prices surged due to energy crises, supply disruptions, and strong stainless-steel demand.

Decline since 2023:

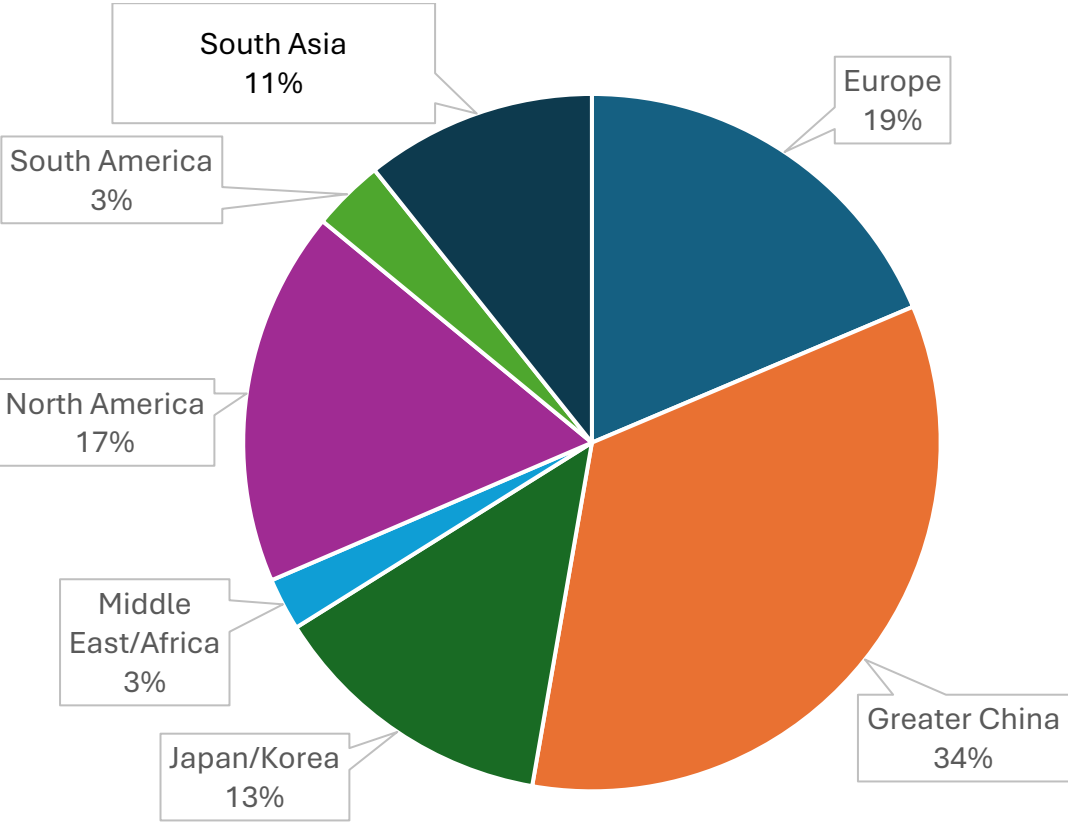
- Oversupply from expanded production capacity (especially in China).
- Stabilization of energy costs and easing of logistical bottlenecks.
- Weakening stainless steel demand in Europe and Asia.

Current Trend (2025): Prices remain well below 2022 highs, though ultra-low-carbon grades show slight recovery due to niche demand.

AUTOMOTIVE

World Motor Vehicle Production (All Vehicle Types)

*Including a quarterly survey for the largest producers



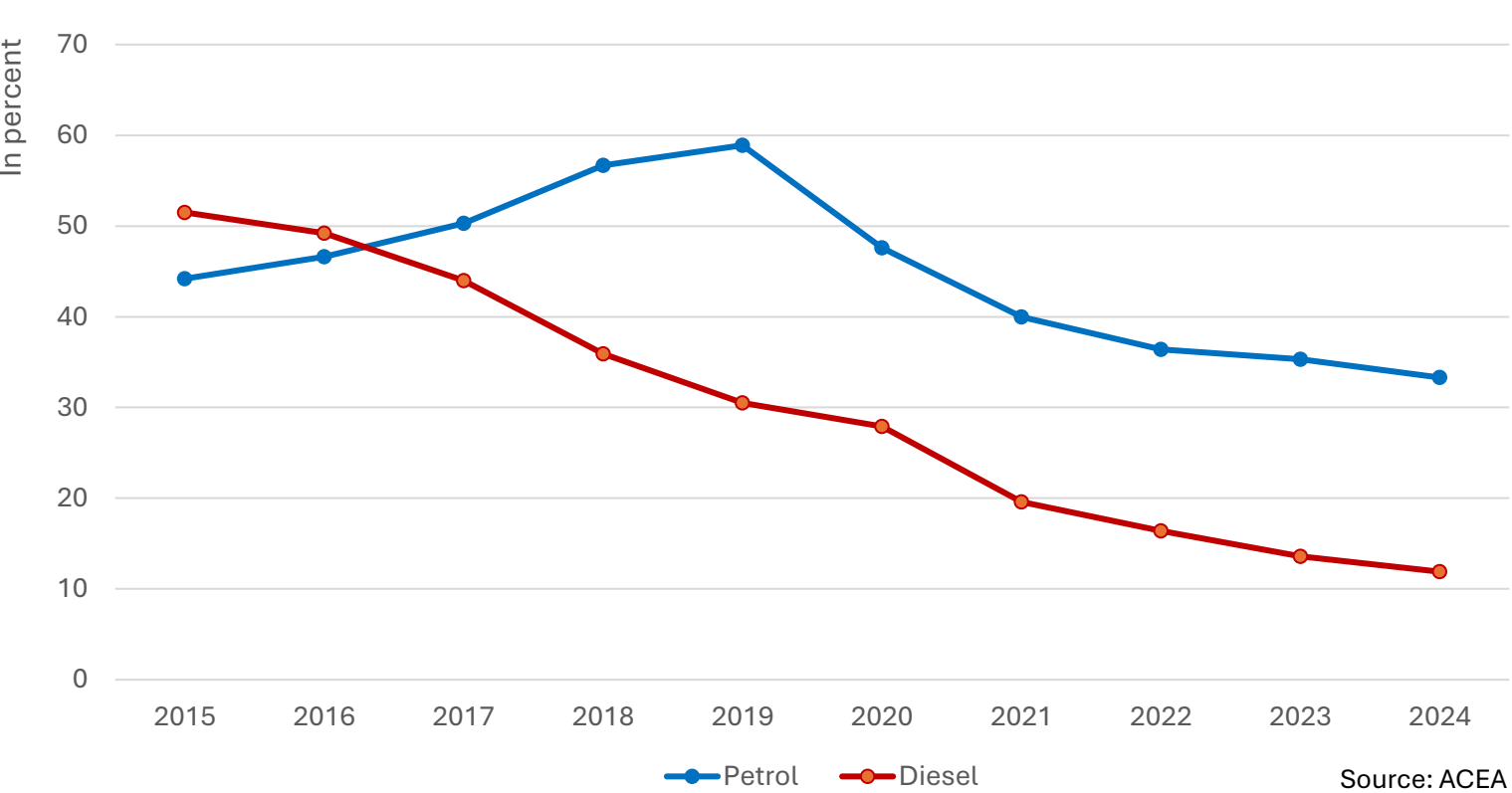
Source: acea.be, oica.net

Region	2018	2019	2020	2021	2022	2023	2024
Europe ¹	23,049,000	22,060,000	16,921,000	16,247,148	16,216,888	18,122,449	17,231,668
Greater China ²	28,297,000	26,149,000	25,225,000	25,552,563	27,020,615	30,160,966	31,556,748
Japan/Korea	13,423,000	13,323,000	11,574,000	10,990,190	11,592,568	13,241,037	12,361,933
Middle East/Africa	2,556,000	1,998,000	2,017,000	1,989,576	2,086,998	1,171,872	2,255,239
North America	17,535,000	16,902,000	13,375,000	13,517,963	14,798,146	16,166,628	16,107,477
South America	3,574,000	3,421,000	2,314,000	2,729,921	2,958,117	2,970,263	3,079,944
South Asia ³	9,883,000	8,933,000	6,195,000	8,054,921	10,343,396	11,713,384	9,911,329
TOTAL	98,317,000	92,786,000	77,621,000	79,081,382	85,016,728	93,546,599	92,504,338

1. Includes Turkey and CIS countries
2. Includes Hong Kong and Taiwan
3. Includes Australia

AUTOMOTIVE

The Market for Combustion Engines is Collapsing

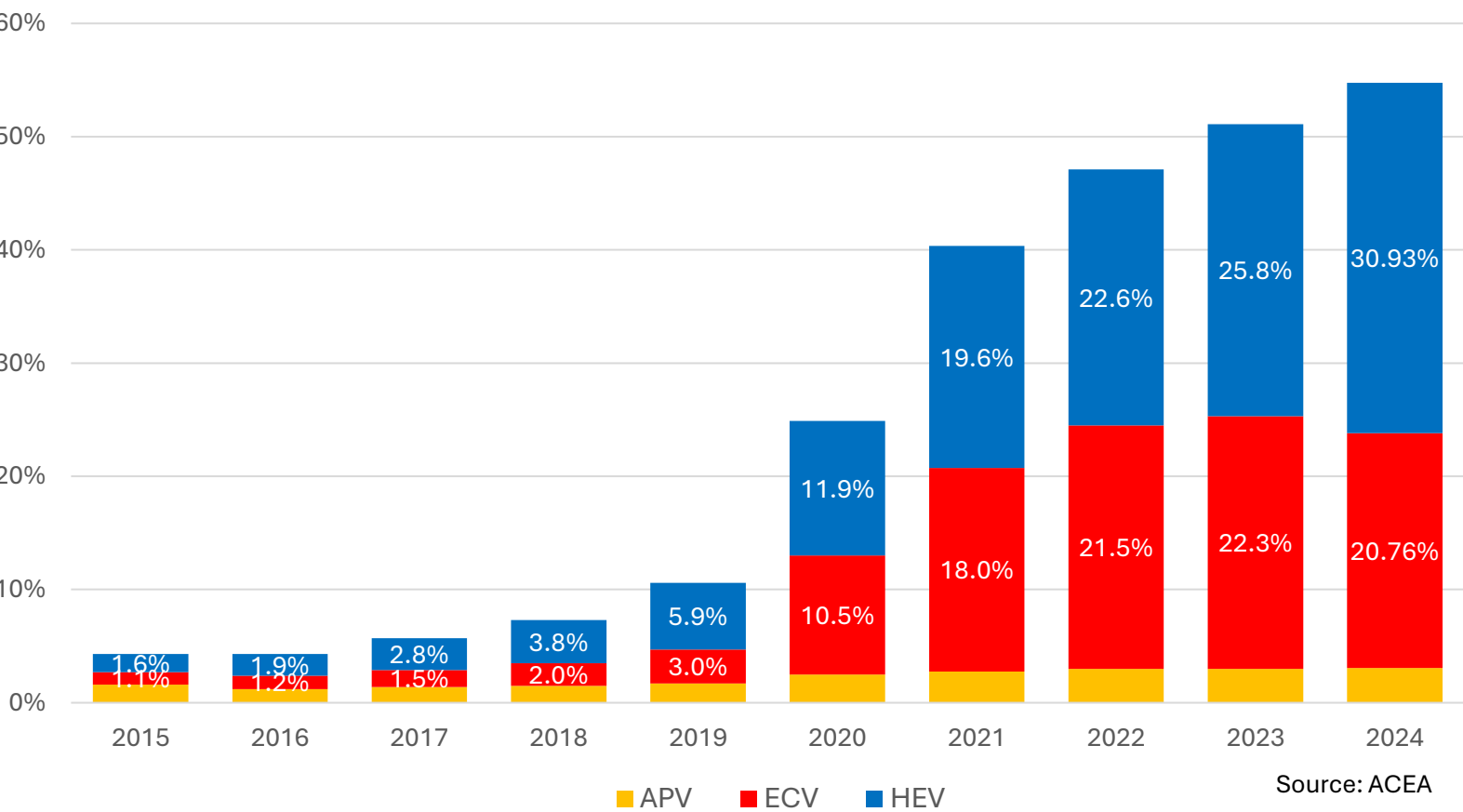


	Petrol	Diesel
2015	44.2%	51.5%
2016	46.6%	49.2%
2017	50.3%	44%
2018	56.7%	35.9%
2019	58.9%	30.5%
2020	47.6%	27.9%
2021	40%	19.6%
2022	36.4%	16.4%
2023	35.3%	13.6%
2024	33.3%	11.9%

In 2024, **diesel cars** share dropped from 13.6%, to 11.% and **petrol cars** also fell from 35.3% to 33.3% with respect to 2023.

AUTOMOTIVE

European Passenger Car Registrations for Alternatively Powered Vehicles

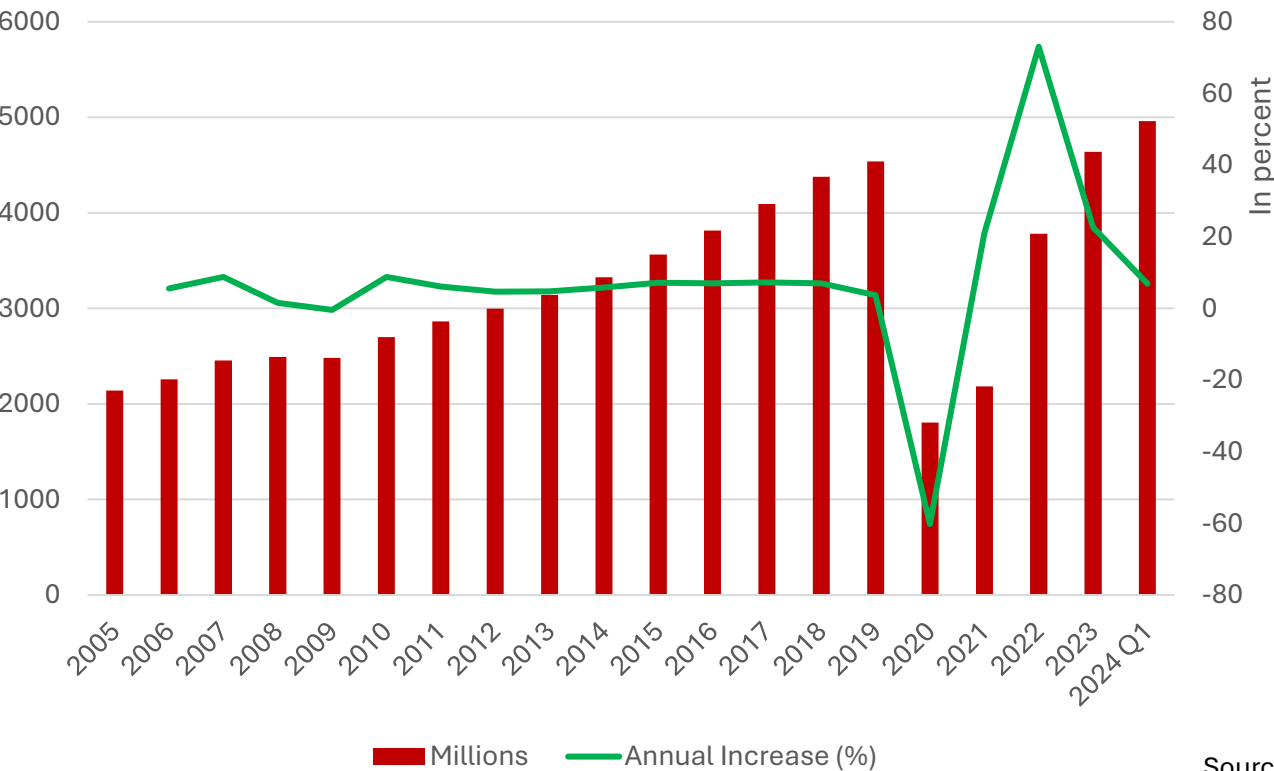


	HEV	ECV	APV
2024	30.93%	20.76%	3.07%
2023	25.8%	22.3%	3.0%
2022	22.6%	21.5%	3.0%
2021	19.6%	18%	2.8%
2020	11.9%	10.5%	2.5%
2019	5.9%	3.0%	1.7%
2018	3.8%	2.0%	1.5%
2017	2.8%	1.5%	1.4%
2016	1.9%	1.2%	1.2%
2015	1.6%	1.1%	1.6%

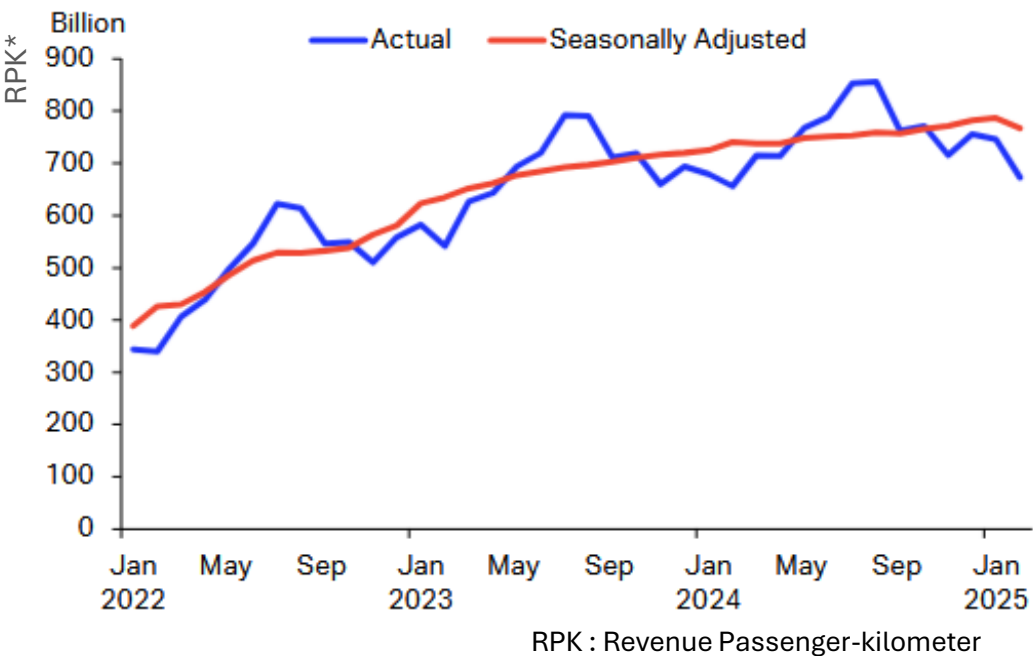
HEV: Hybrid Electric Vehicles
ECV: Electrically Chargeable Vehicles
APV: Alternatively Powered Vehicles

AEROSPACE

Global Passenger Traffic - International and Domestic



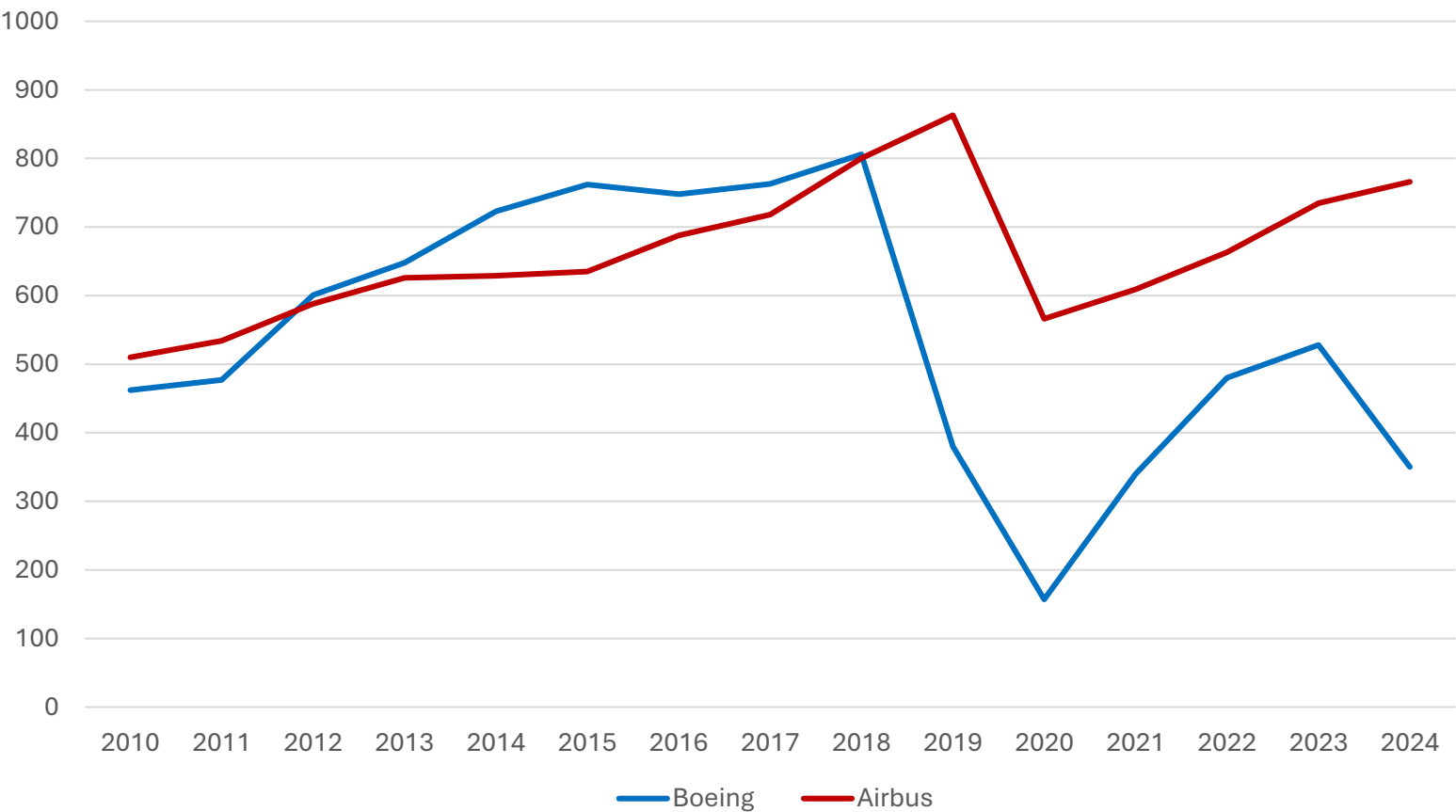
Air Passenger Volumes



Source: IATA Economics, IATA Monthly Statistics

AEROSPACE

Commercial Aircraft Deliveries in 2024

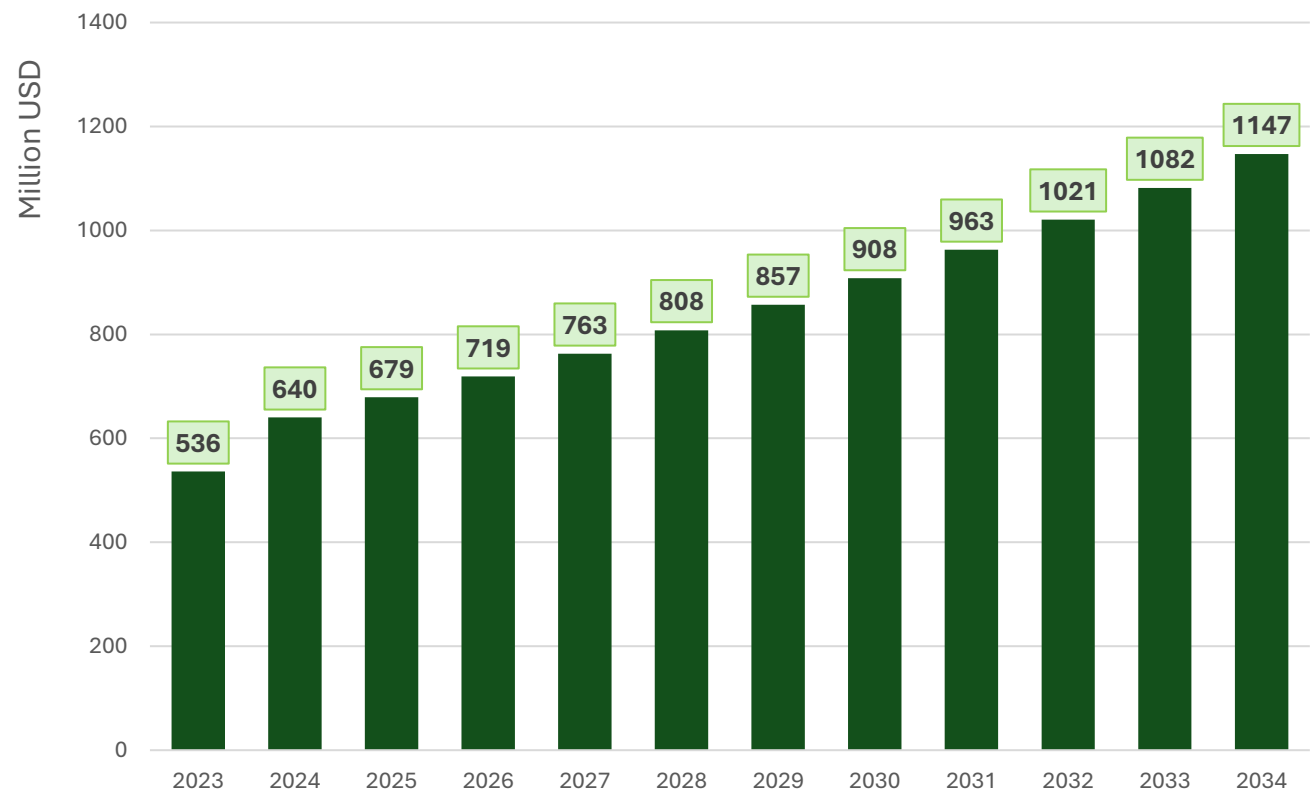


Source: boeing.com, airbus.com

Year	Boeing	Airbus
2024	350	766
2023	528	735
2022	480	663
2021	340	609
2020	157	566
2019	380	863
2018	806	800
2017	763	718
2016	748	688
2015	762	635
2014	723	629
2013	648	626
2012	601	588
2011	477	534
2010	462	510

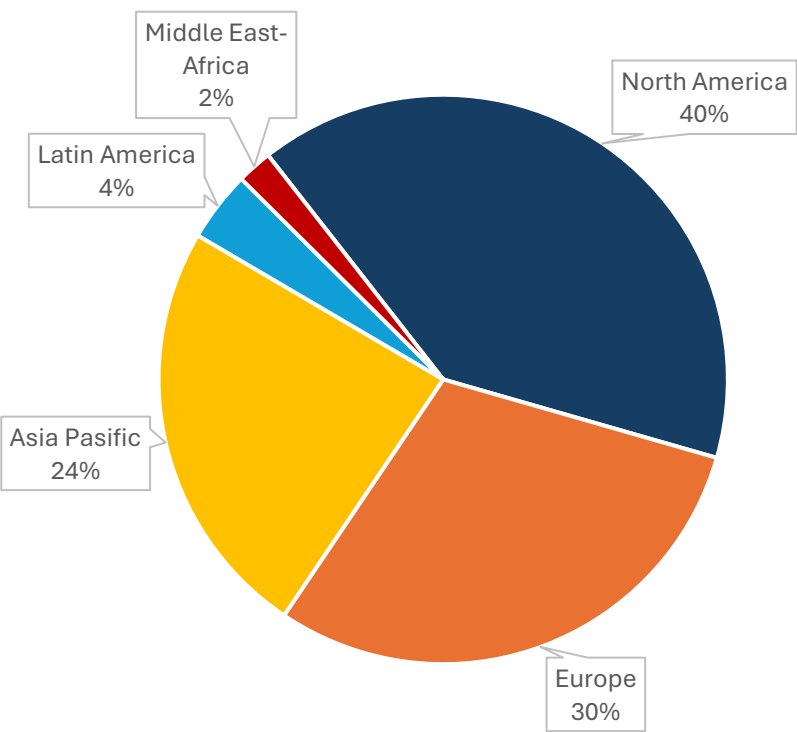
MEDICAL

Global Medical Device Sales - Forecast



Source: finance.yahoo.com

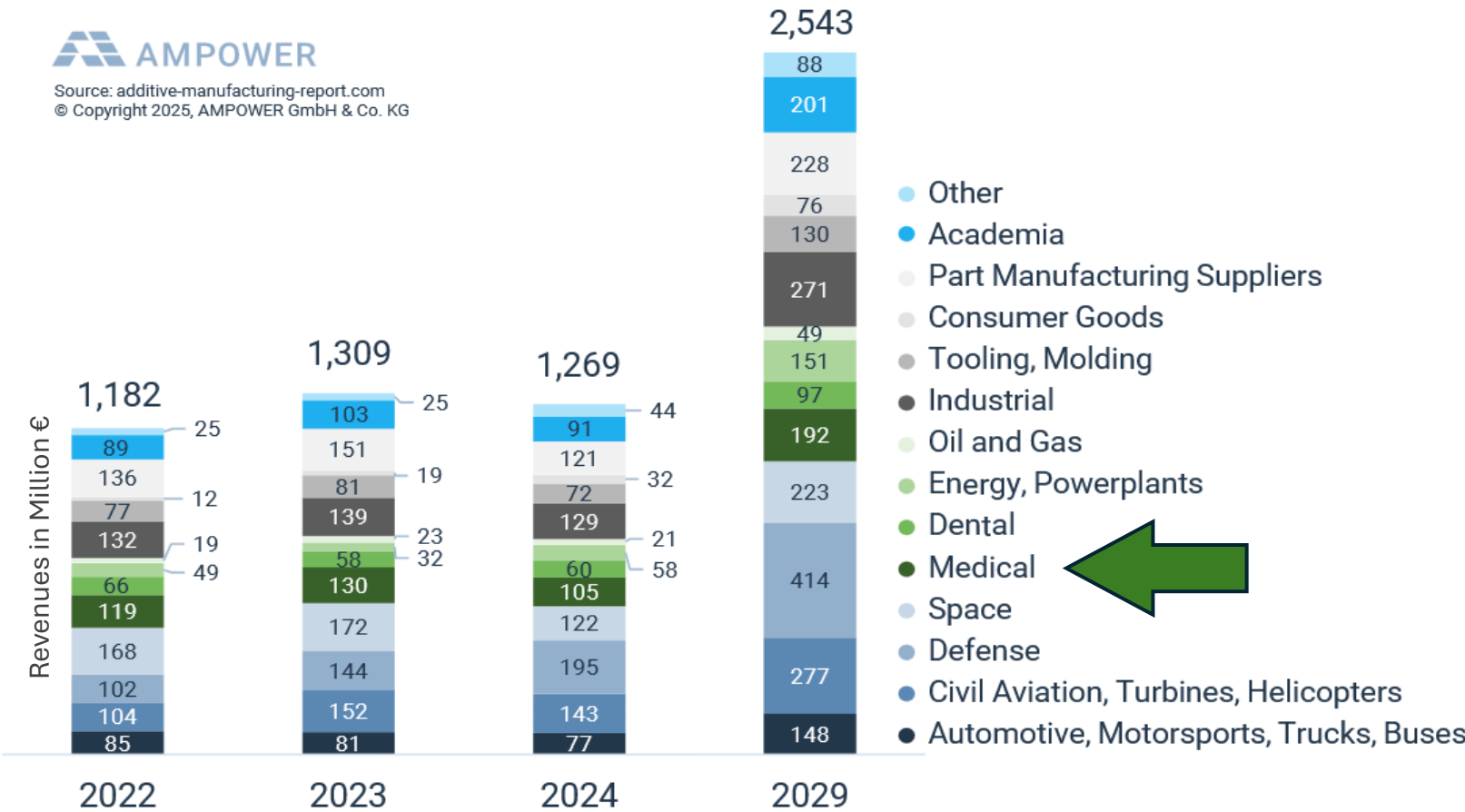
Revenue Shares by Region - 2024



Source: precedenceresearch.com

MEDICAL

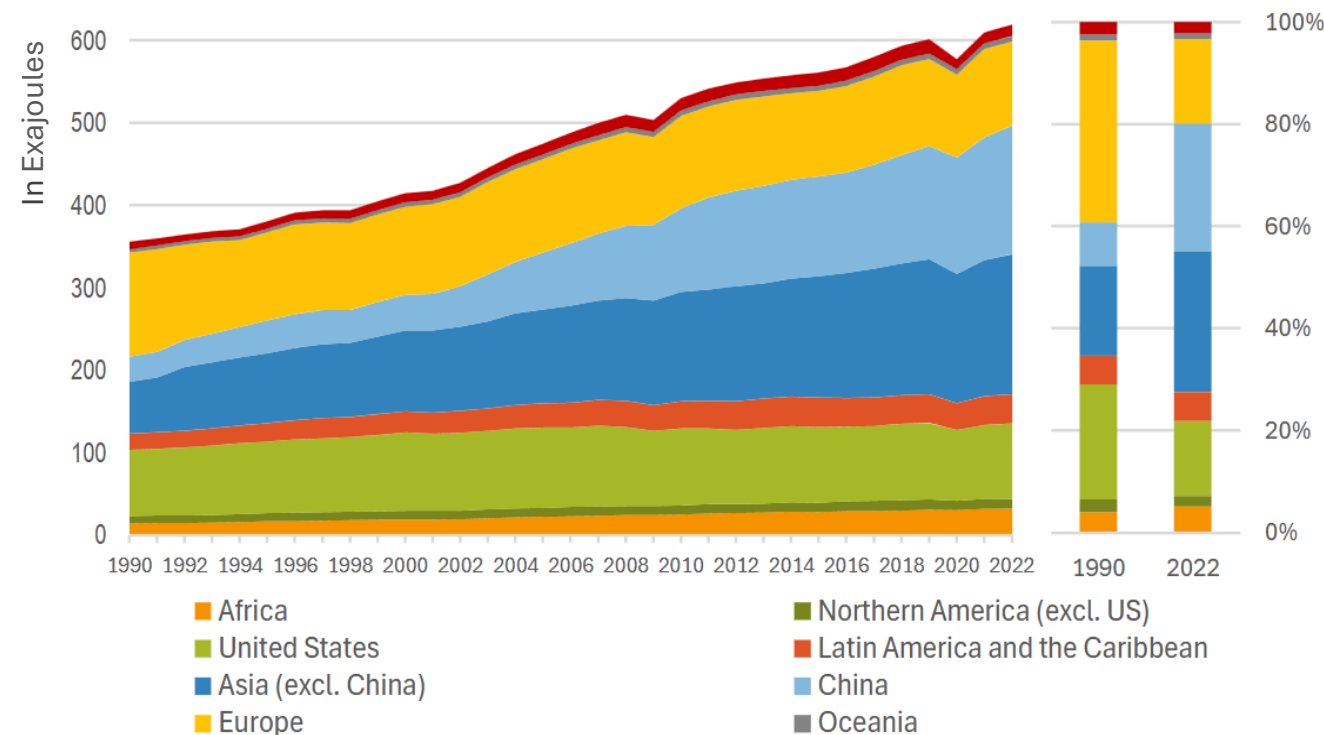
Additive Manufacturing in Medical Industry revenue



Metal equipment revenue by industry 2022 to 2024 and forecast 2029 [eur million]

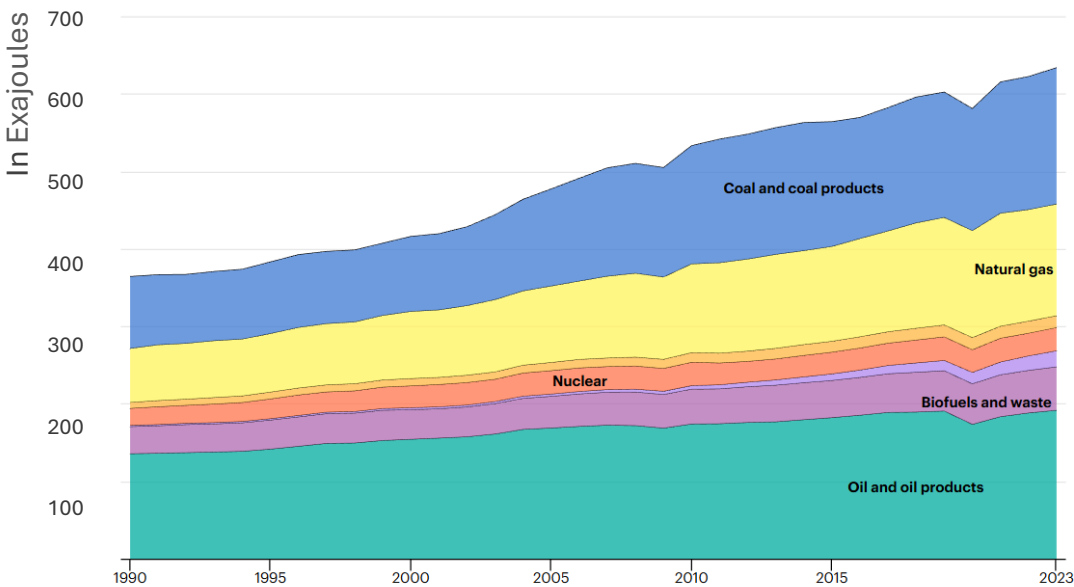
ENERGY

World Total Energy Supply by Region



Source : un.org

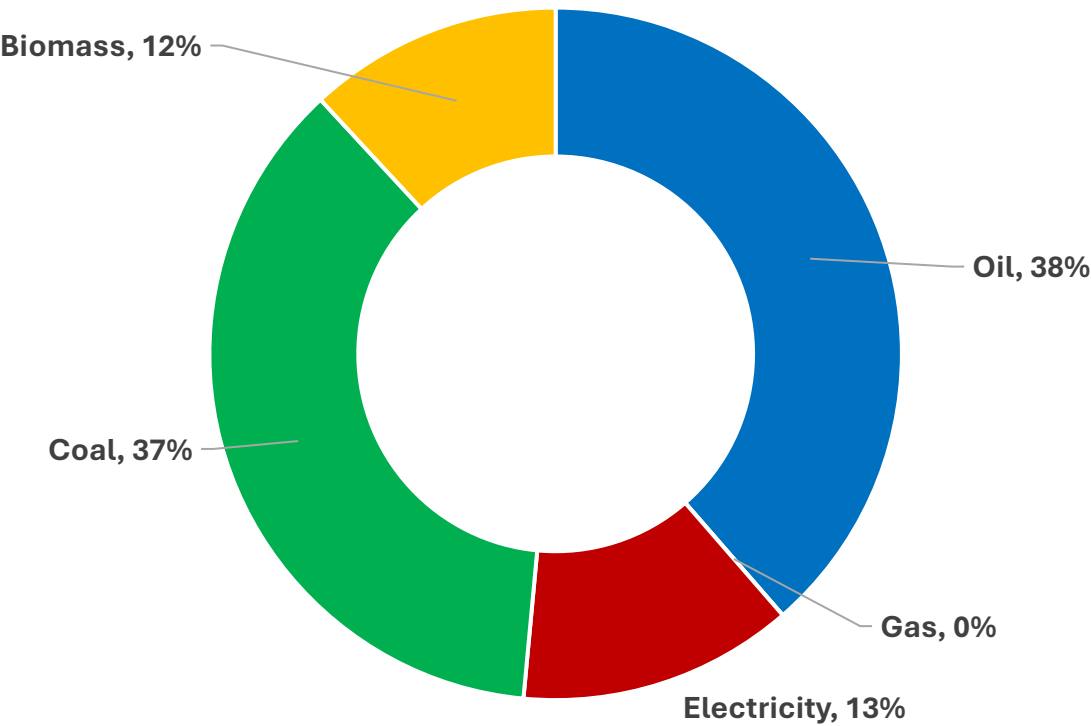
World Total Energy Supply by Source



Source : iea.org

ENERGY

World Energy Consumption by Source - 2023



World Total Energy Consumption by Region - 2023

Country	Mtoe
China	4,060
United States	2,172
India	1,135
Russia	838
Japan	391
Brazil	336
Canada	297
South Korea	291
Iran	317
Indonesia	298
Germany	246
Saudi Arabia	279
Other	4,401
TOTAL	15,061

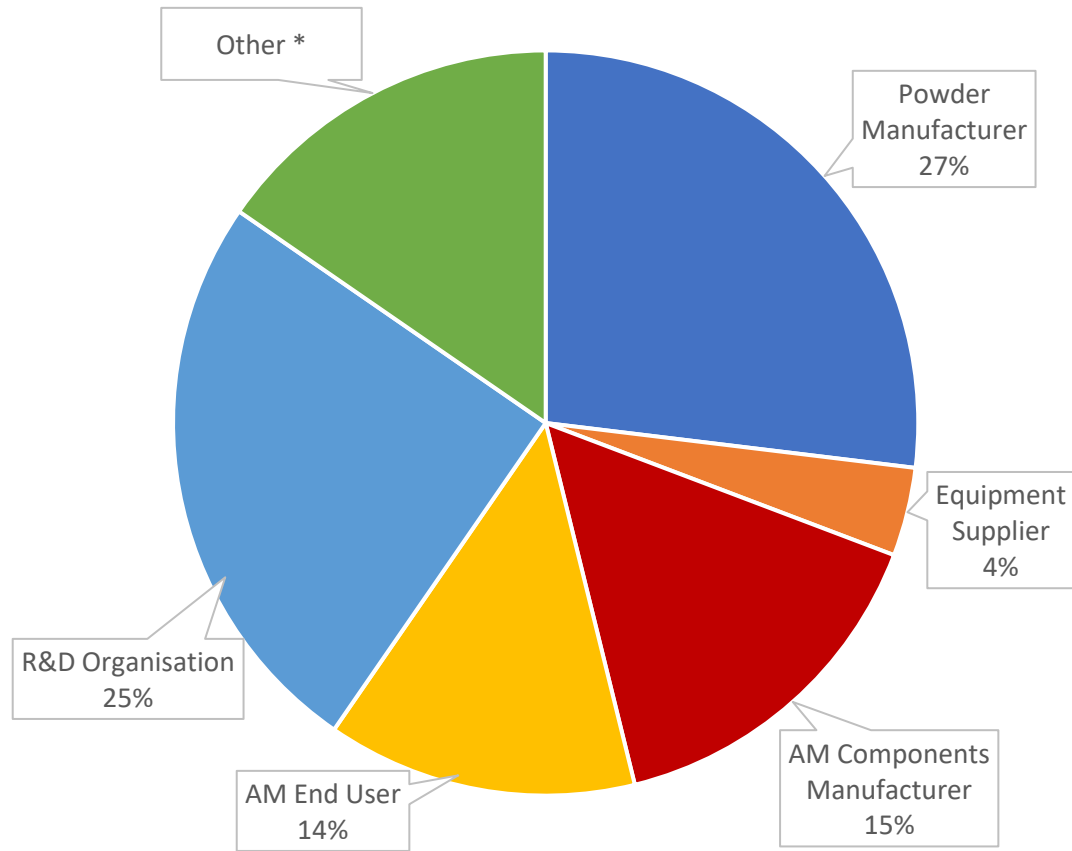
AM Trend Survey

Kenan Boz
Technical Manager



What type of company is yours?

Number of Responses for this question : 37



*Other responses:

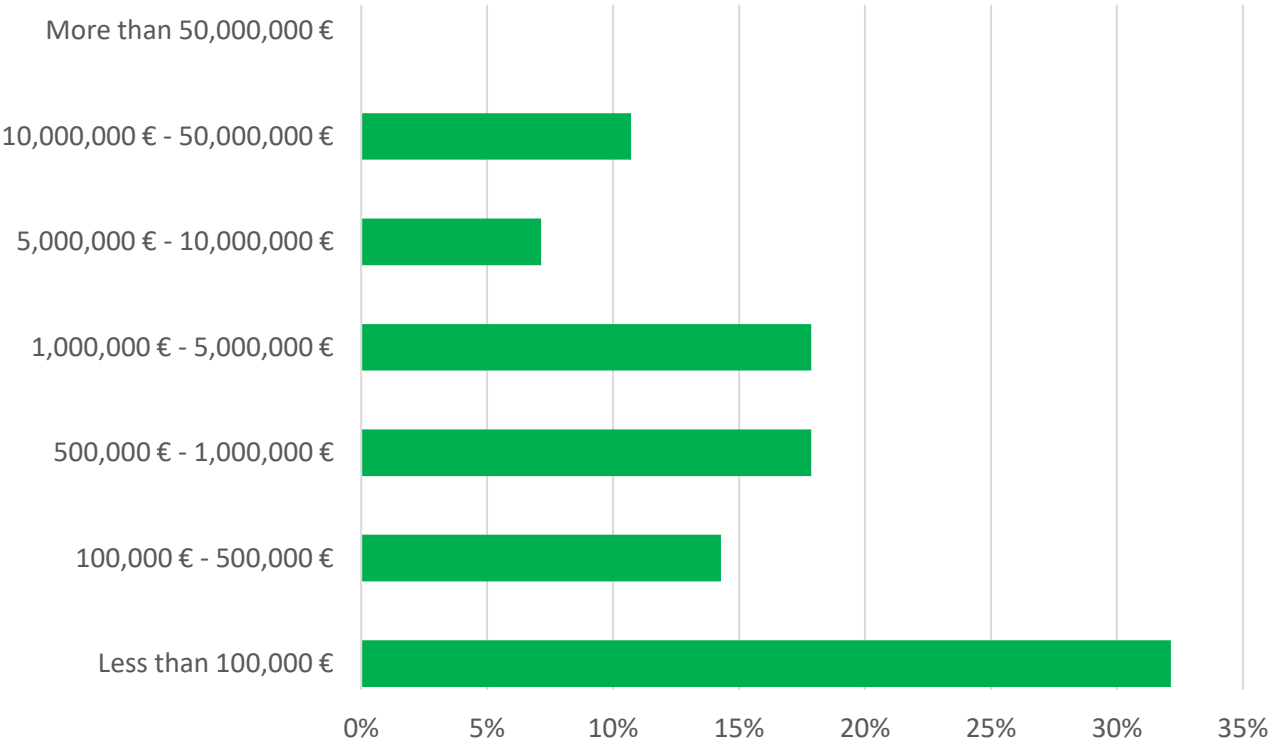
- VET & Higher Education
- Tool Manufacturer
- AM post-processing

Number of participants per year

2016	54
2017	72
2018	54
2019	33
2020	47
2021	36
2022	51
2023	57
2024	49
2025	37

What is your company's current AM sales?

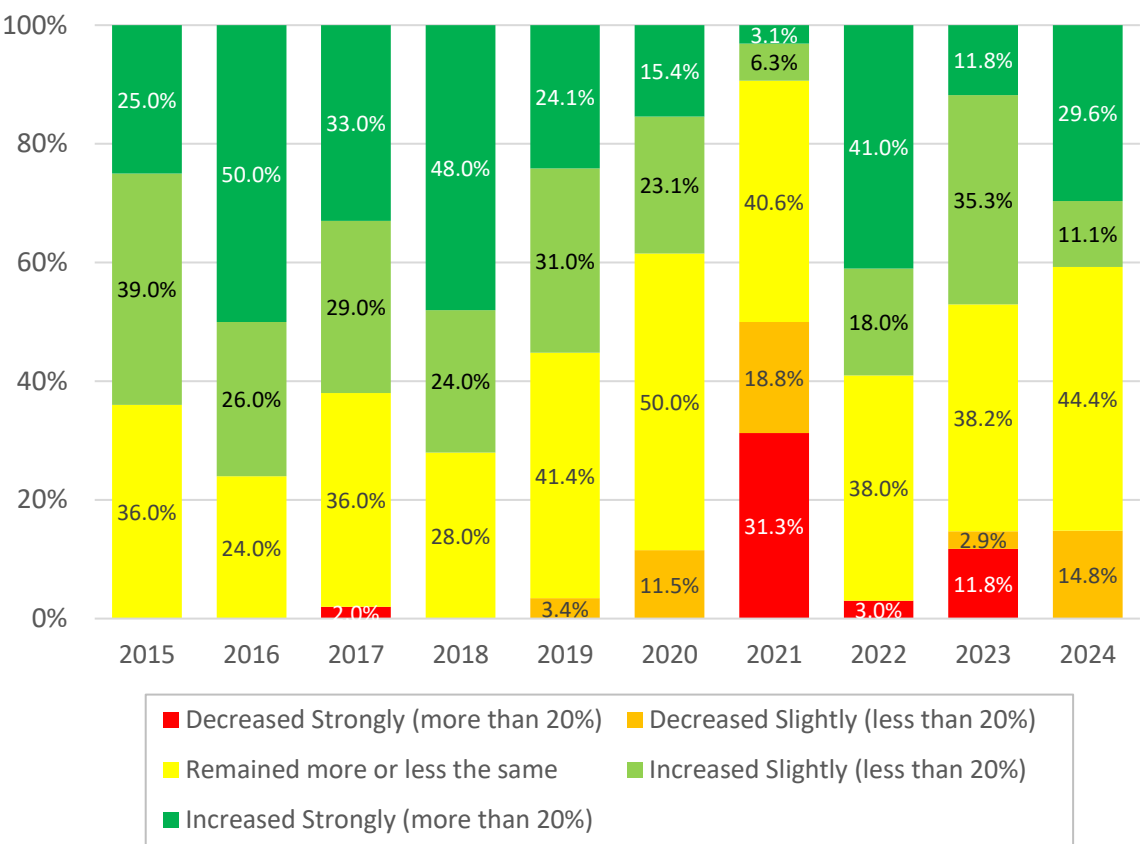
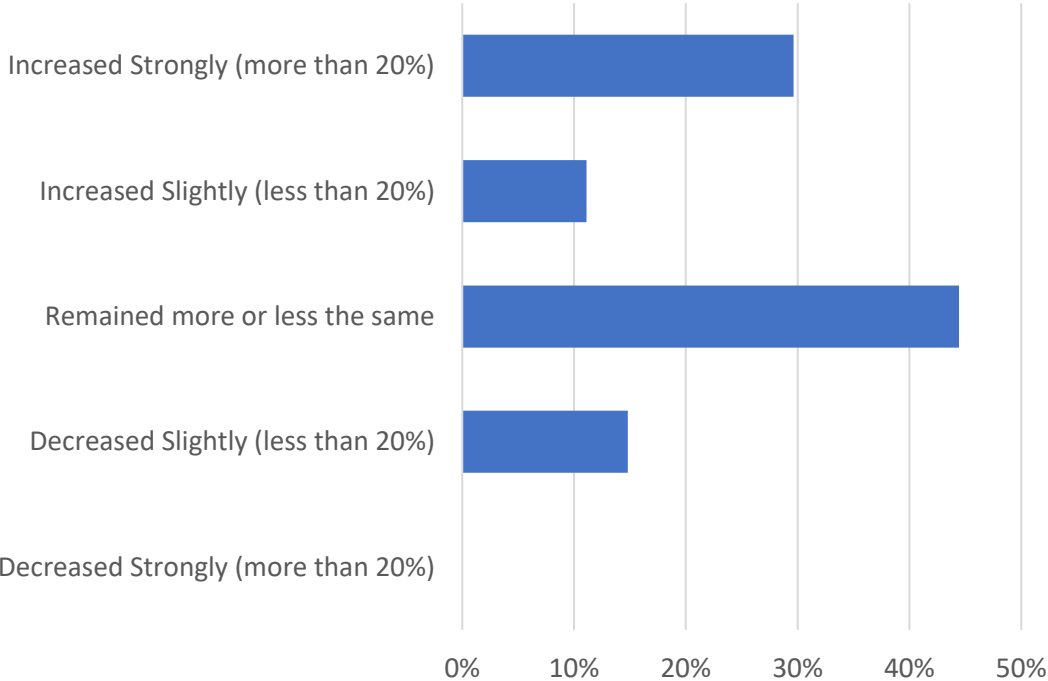
Number of Responses for this question : 35



Range	Weight*	No. of Response	Percentage
Less than 100,000 €	0.5	10	32.14%
100,000 € - 500,000 €	1	11	14.29%
500,000 € - 1,000,000 €	2	5	17.86%
1,000,000 € - 5,000,000 €	5	5	17.86%
5,000,000 € - 10,000,000 €	10	2	7.14%
10,000,000 € - 50,000,000 €	15	2	10.71%
More than 50,000,000 €	20	0	0.00%

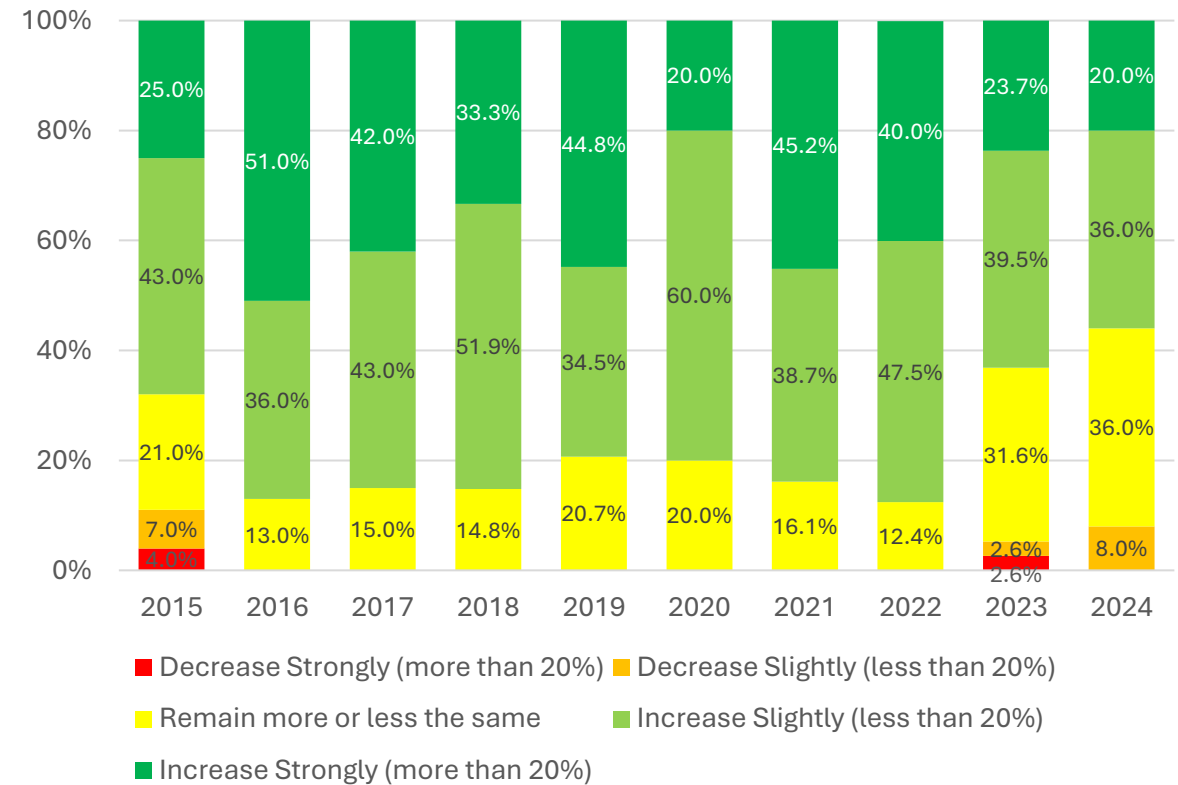
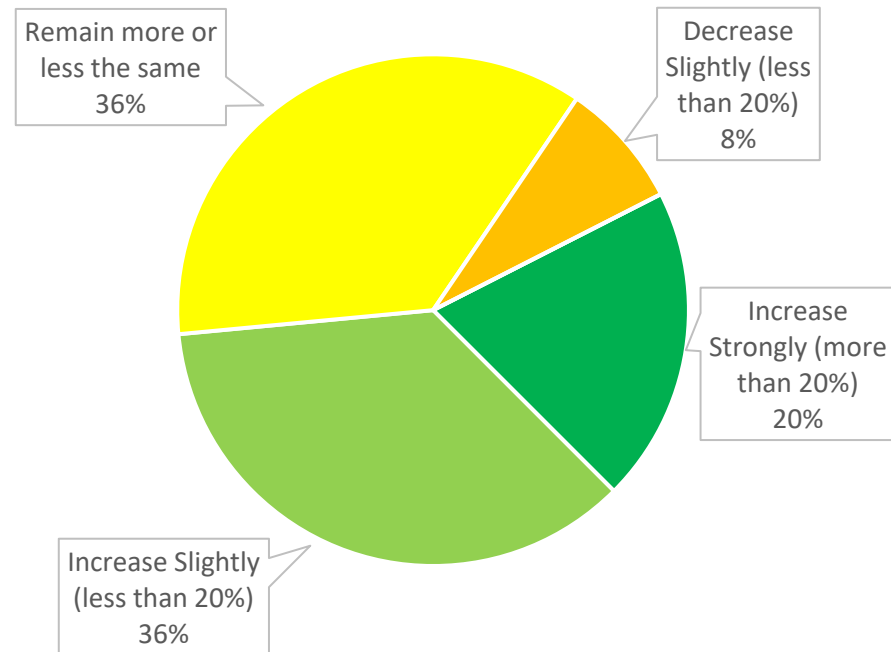
In 2024 how did your AM income perform?

Number of Responses for this question : 27



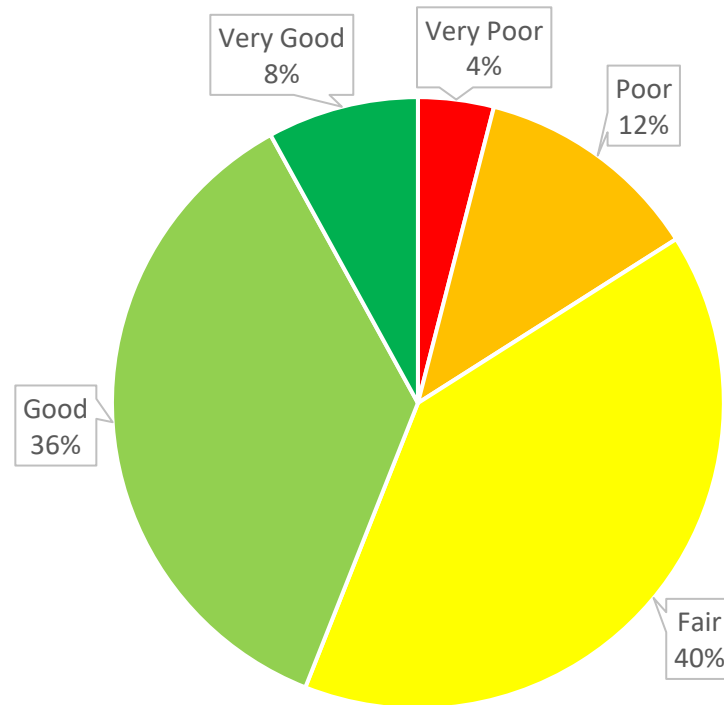
According to you, what will be the trend for your AM income in the next 12 months?

Number of Responses for this question : 25

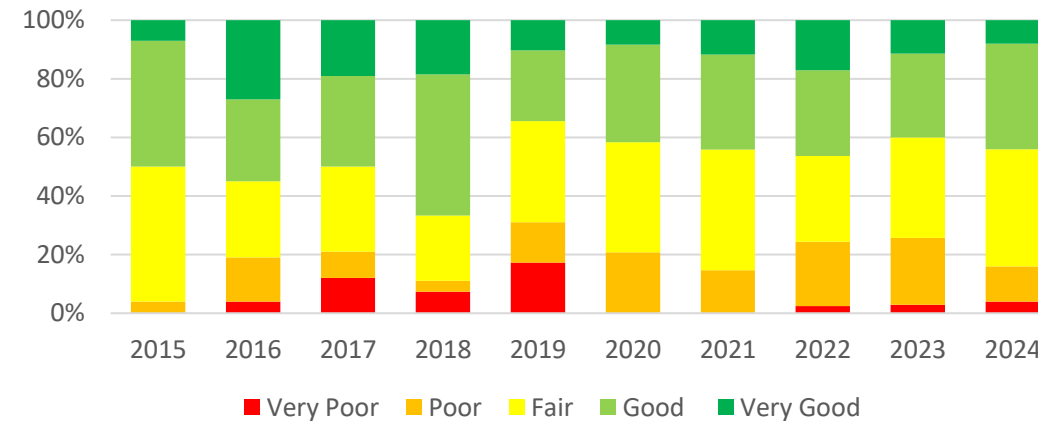


How do you rate your AM business nowadays?

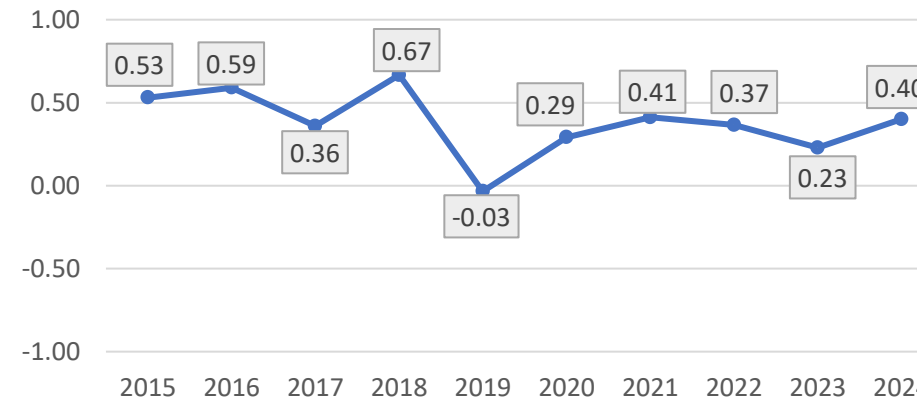
Number of Responses for this question : 25



Trend for State of Business (2015-2024)



State of Business Index (2015-2024)

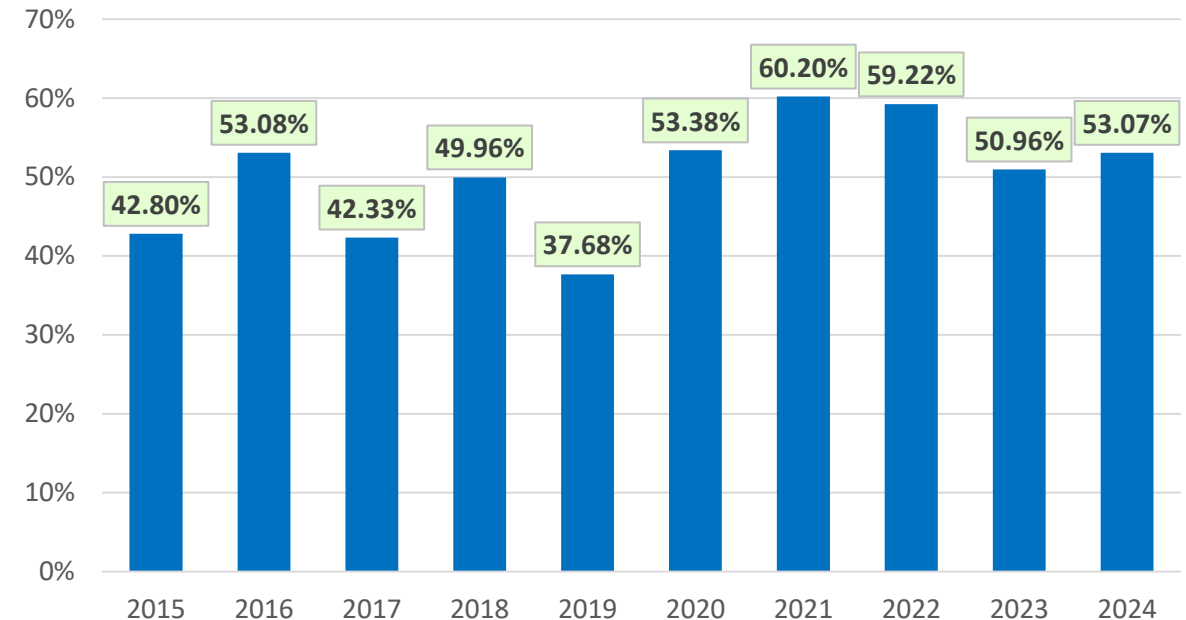
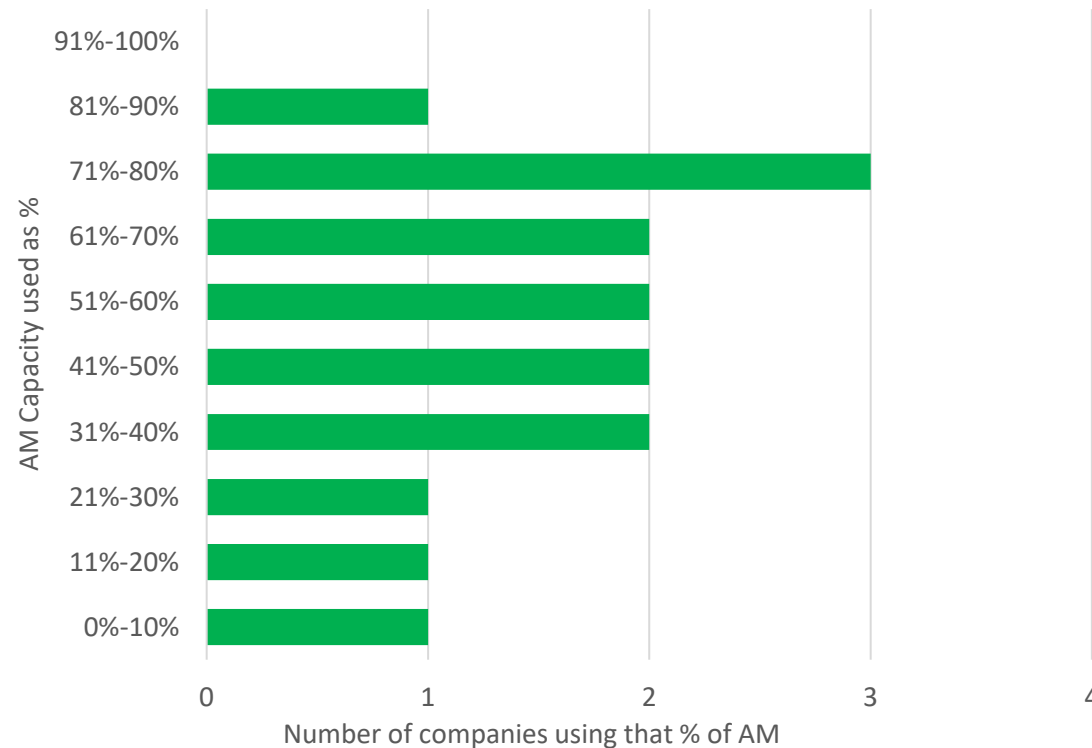


Index Calculation Values :

Very Good : 2
Good : 1
Fair : 0
Poor : -1
Very Poor : -2

How much of your current AM capacity is used at the moment?

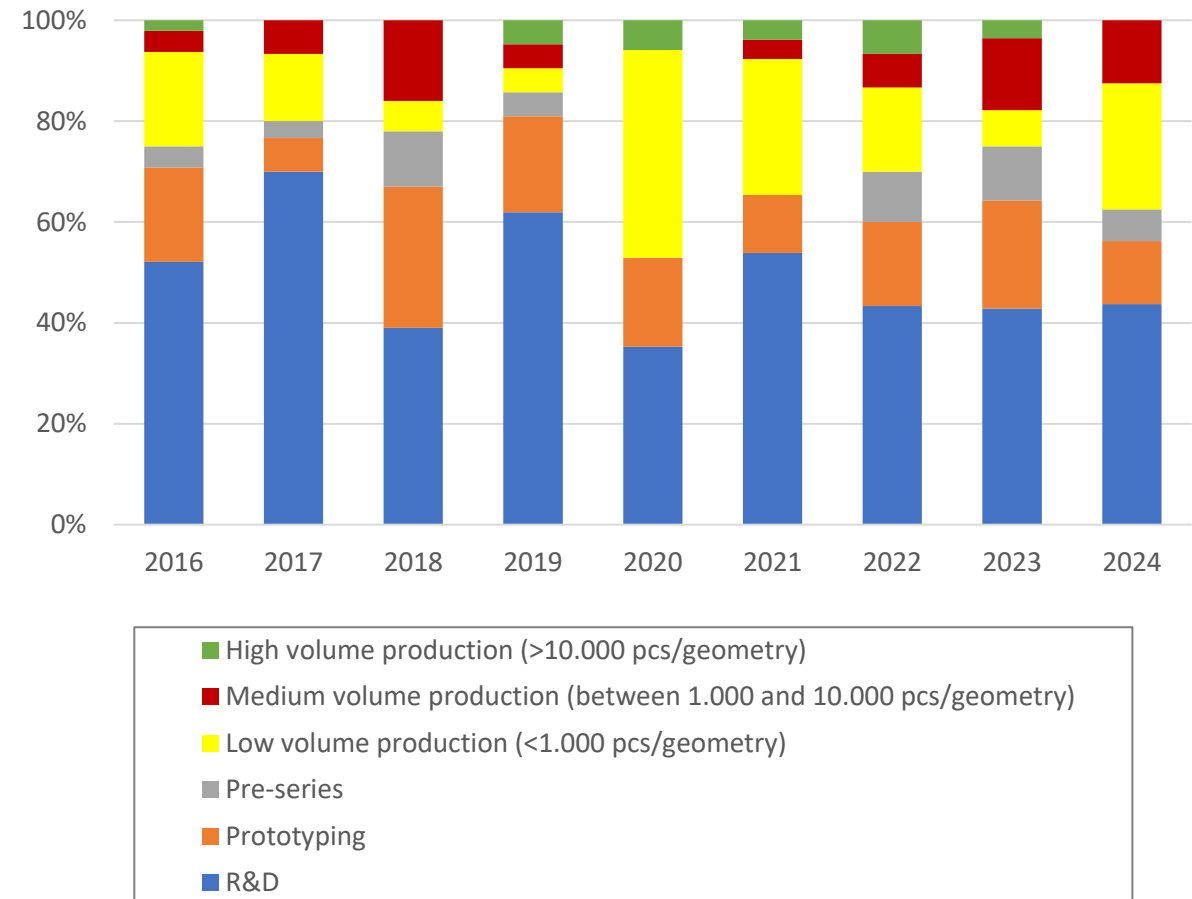
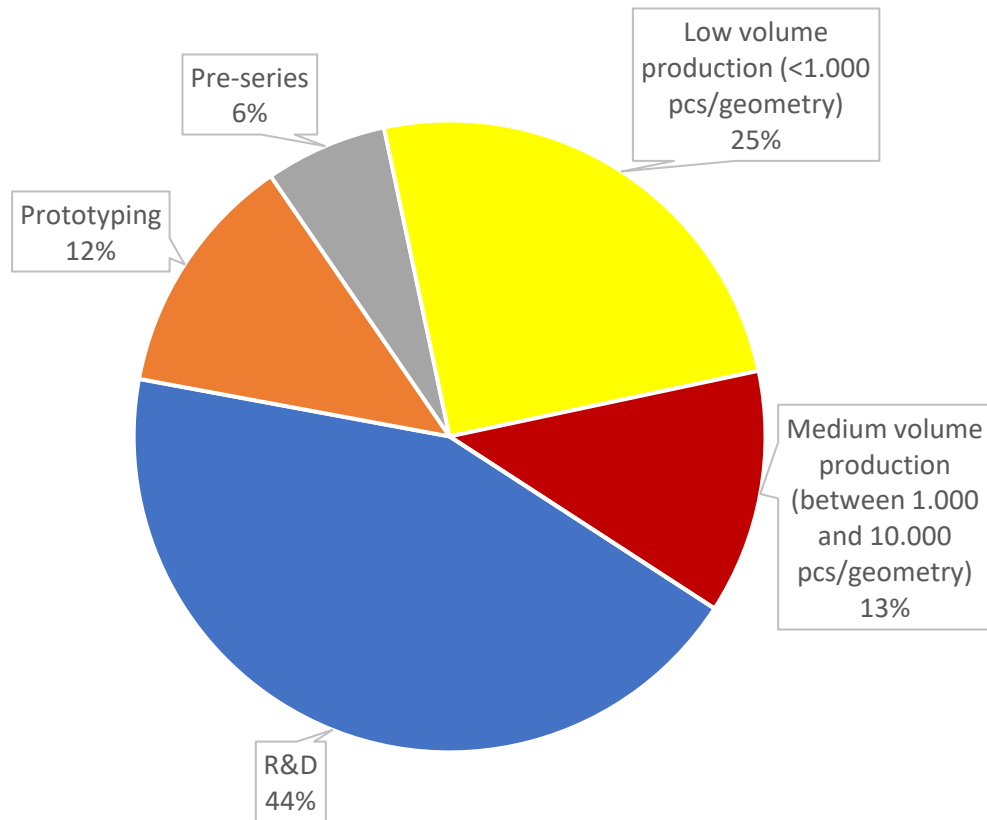
Number of Responses for this question : 26



Average AM Capacity used in 2024: **53.07%**

What is the main usage of your AM equipment?

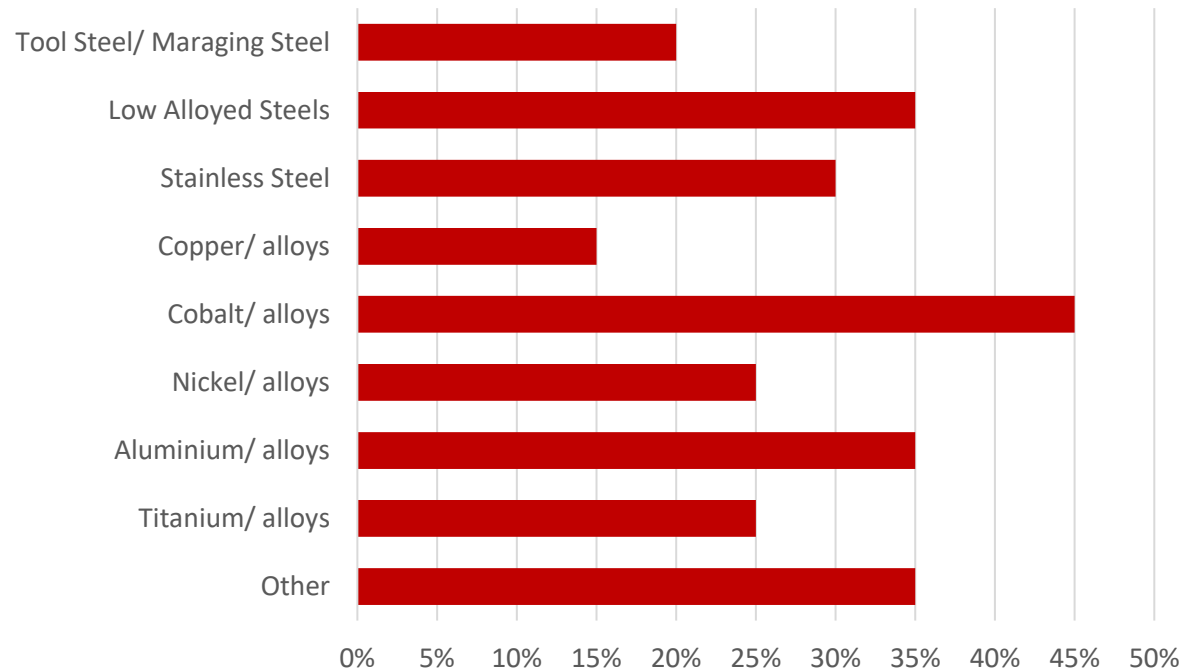
Number of Responses for this question : 16



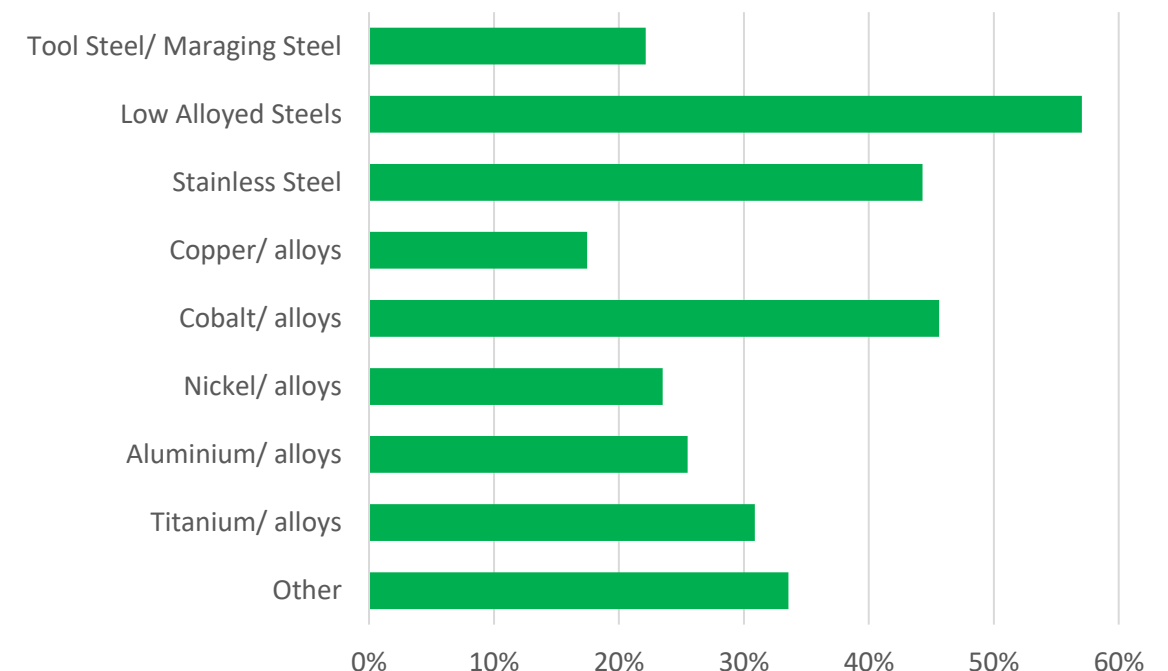
What Materials do you use in your AM Process(es)?

Number of Responses for this question : 20

Unweighted Results:



Weighted Results:



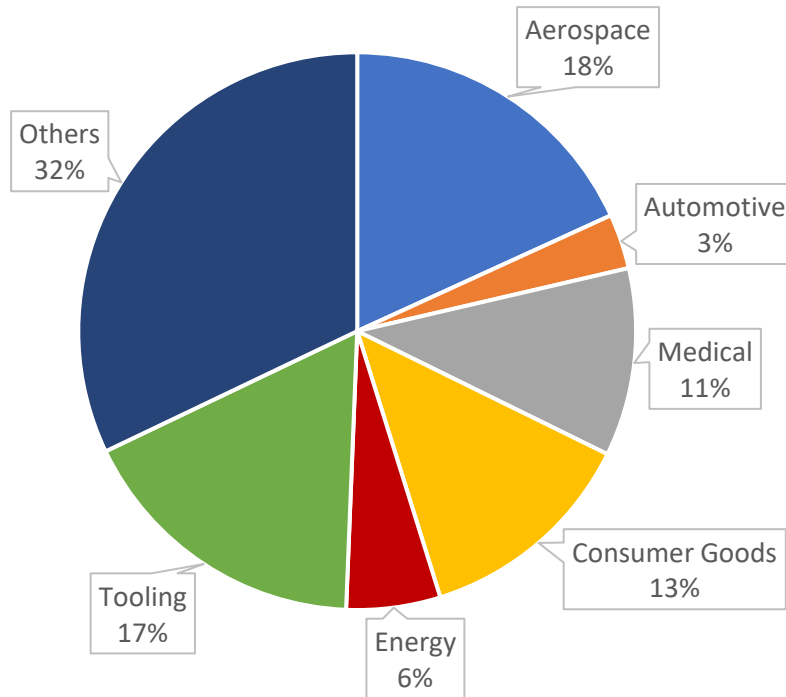
Other Responses:

- Hard Metals
- Ceramics
- Precious metal alloys

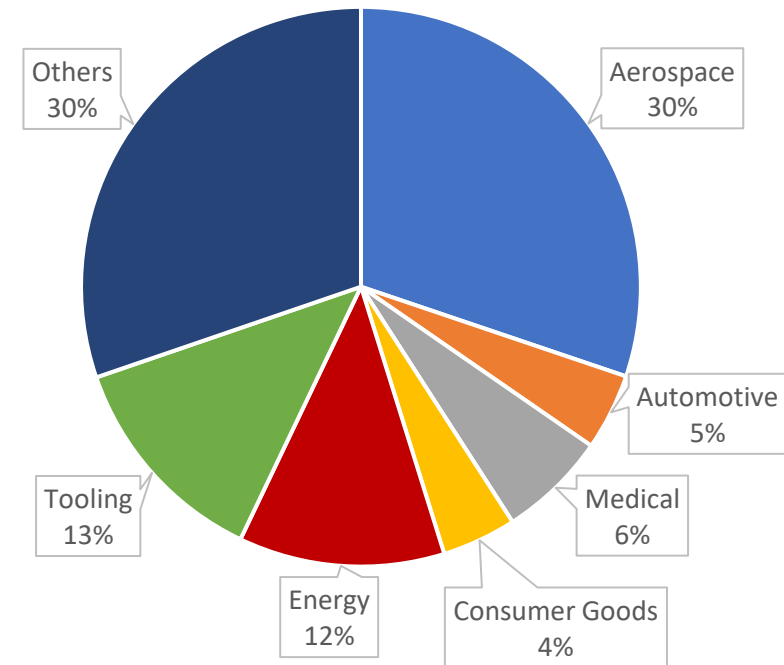
What is your approximate production percentage by sector in 2024 (as value)?

Number of Responses for this question: 11

Unweighted Results:



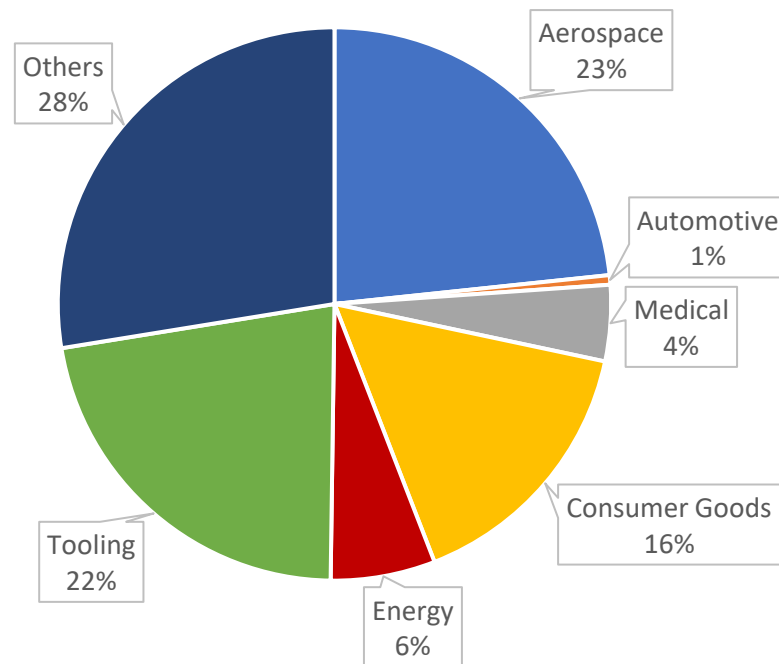
Weighted Results:



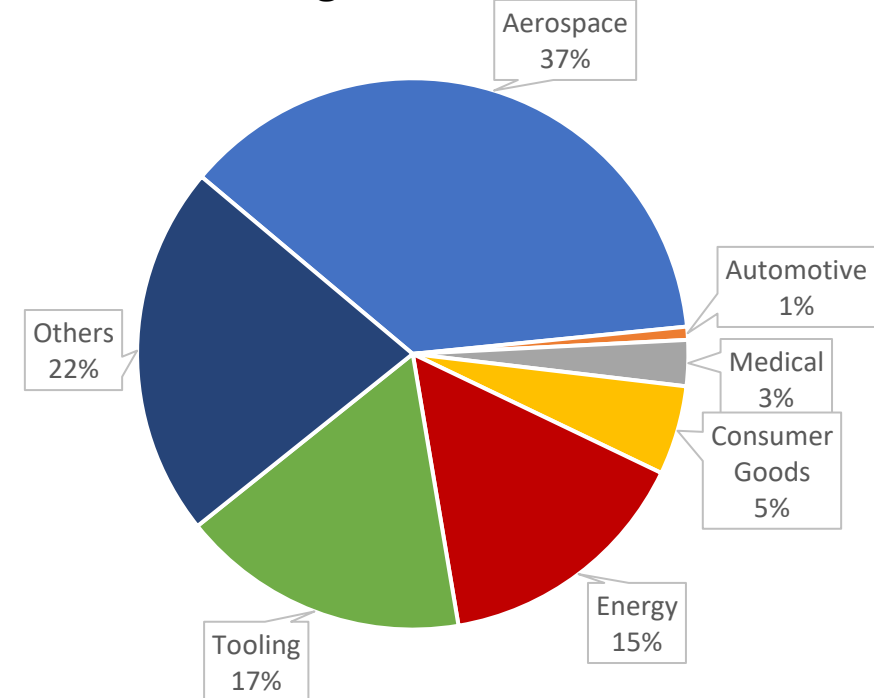
What is your approximate sales percentage by sector in 2024 (as value)?

Number of Responses for this question: 10

Unweighted Results:

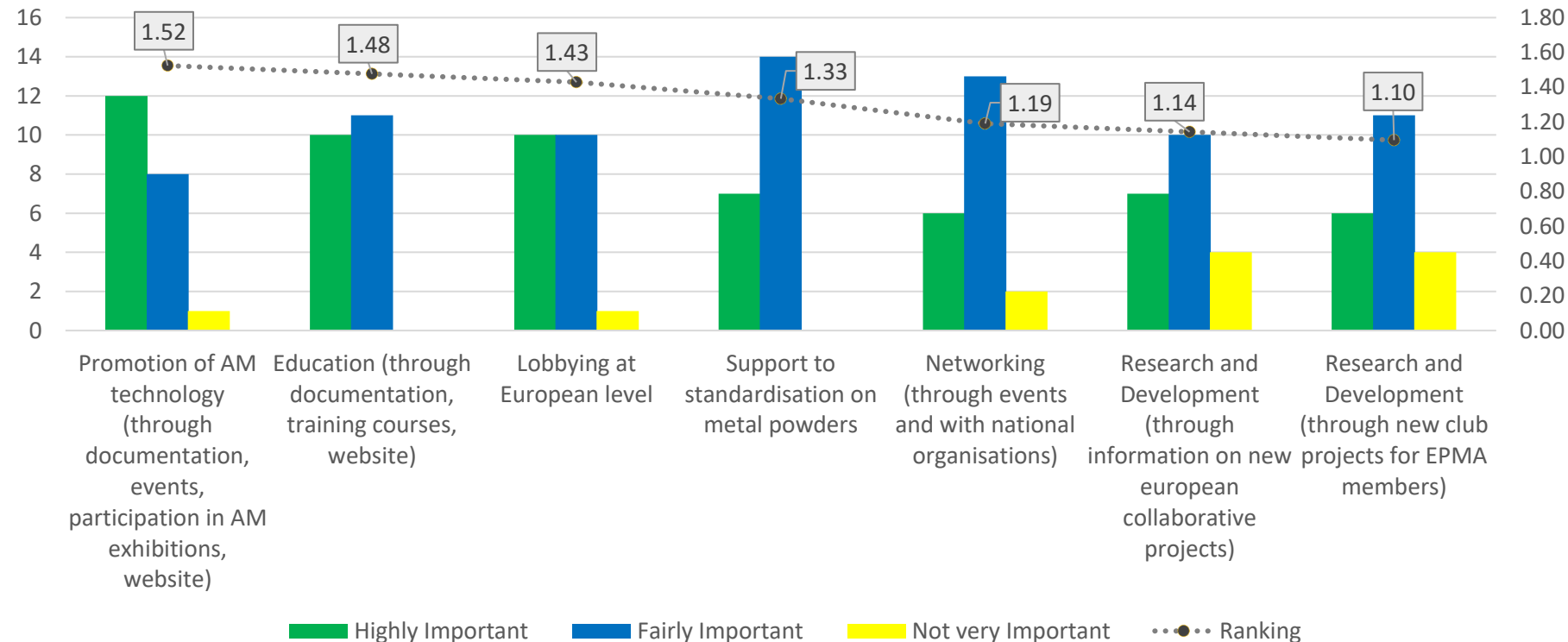


Weighted Results:



In your opinion, which of the following EuroAM topics are the most important?

Number of Responses for this question : 31



*Index Calculation Values :

Highly Important : 2 Fairly Important : 1 Not very Important : 0

Conclusions

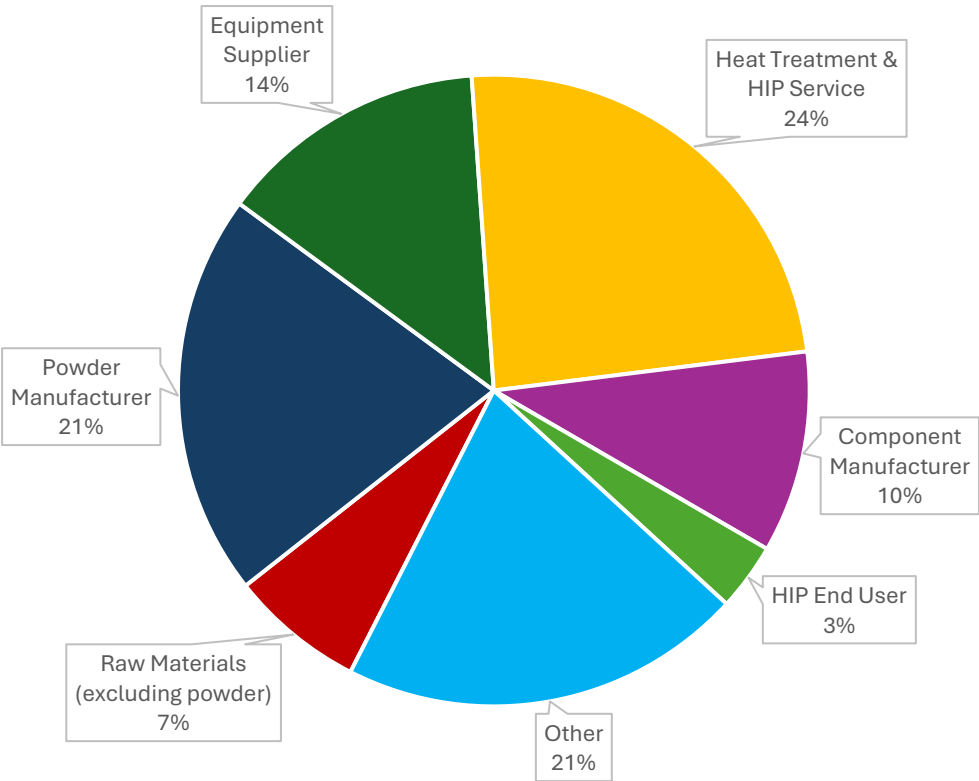
- Overall positive outlook that is lower than last year.
- The business is expected to decelerate for the next period with a negative impact on growth due to Russian-Ukraine crisis and other global instabilities that effect the EU.
- The main challenge is the price competition with other manufacturing technologies.
- AM Industry is getting more mature:
 - ✓ Production and revenues are getting more stable.
 - ✓ Spreading out more evenly in different market segments
 - ✓ More interest in different alloy systems
 - ✓ Need for more variety in material supply
- Sectors are getting diversified but still Aerospace is the sector where AM is most popular. Tooling is on the rise.
- AM companies are getting more aware and active on Sustainability issues with respect to previous years.
- Still room for improvements
 - ✓ Promotion of AM Technology
 - ✓ Education & Training
 - ✓ Lobbying at EU level

HIP Trend Survey

Kenan Boz
Technical Manager



What type of company is yours?



Number of participants per year

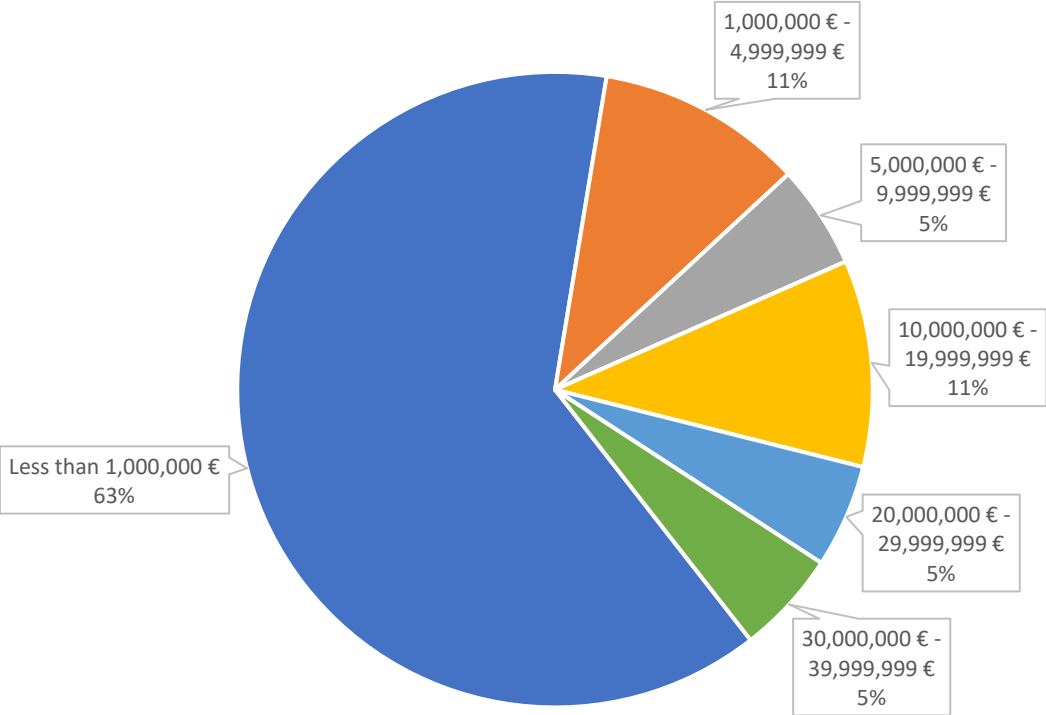
2016	30
2017	26
2018	24
2019	11
2020	16
2021	16
2022	19
2023	23
2024	18
2025	21

Other responses:

- Consultant on Heat Treatment & HIP
- Research & Development

What is your company's current HIP sales range?

Number of Responses for this question: 19

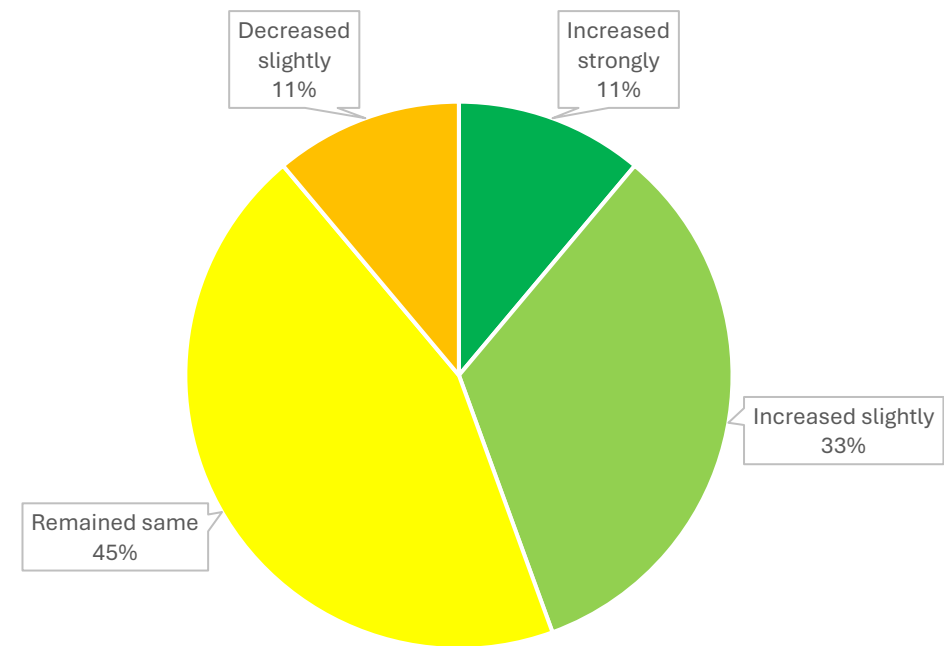


Range	Weight*	No. of Response	Percentage
Less than 1,000,000 €	0.5	12	63.2%
1,000,000 € - 4,999,999 €	1	2	10.5%
5,000,000 € - 9,999,999 €	2	1	5.3%
10,000,000 € - 19,999,999 €	5	2	10.5%
20,000,000 € - 29,999,999 €	10	1	5.3%
30,000,000 € - 39,999,999 €	15	1	5.3%
40,000,000 € - 49,999,999 €	20	0	0.0%
50,000,000 € - 79,999,999 €	30	0	0.0%
80,000,000 € - 99,999,999 €	40	0	0.0%
More than 100,000,000 €	50	0	0.0%

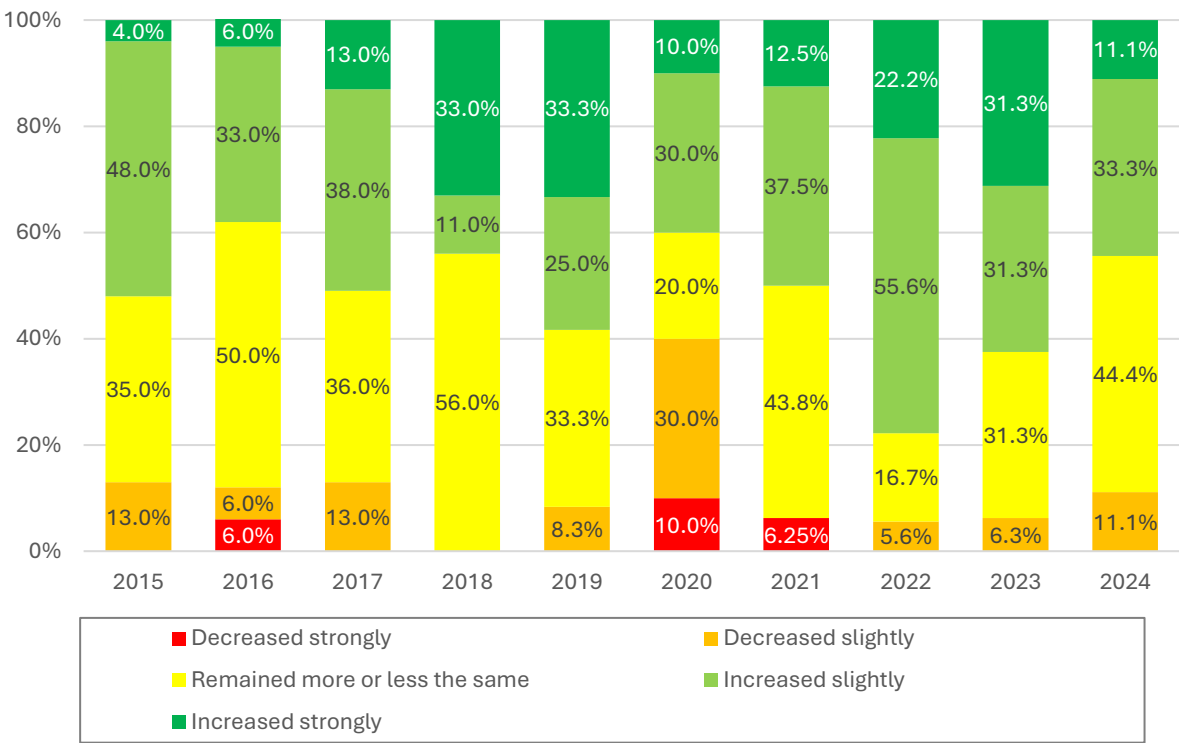
* Weighted values are used in the analysis of some of the responses to get more reasonable results.

In 2024 how did your HIP income perform?

Number of Responses for this question: 18

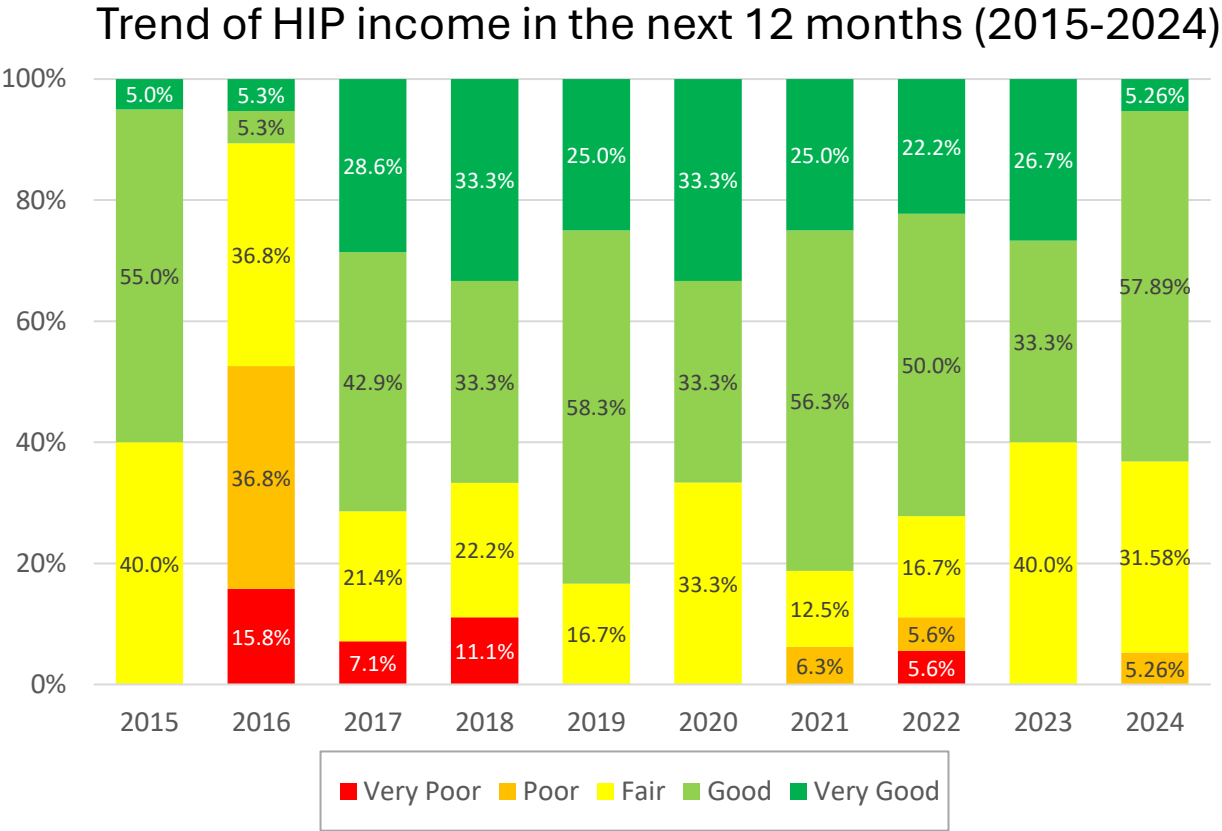
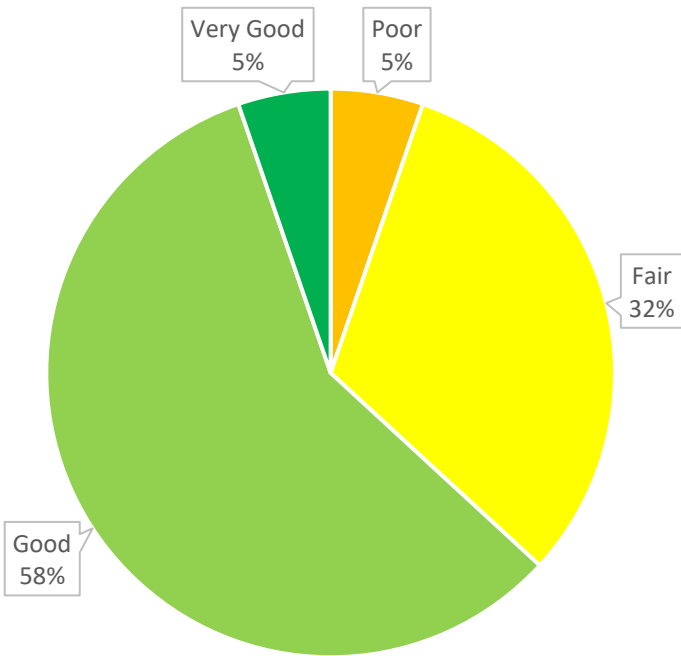


Trends in HIP income (2015-2024)



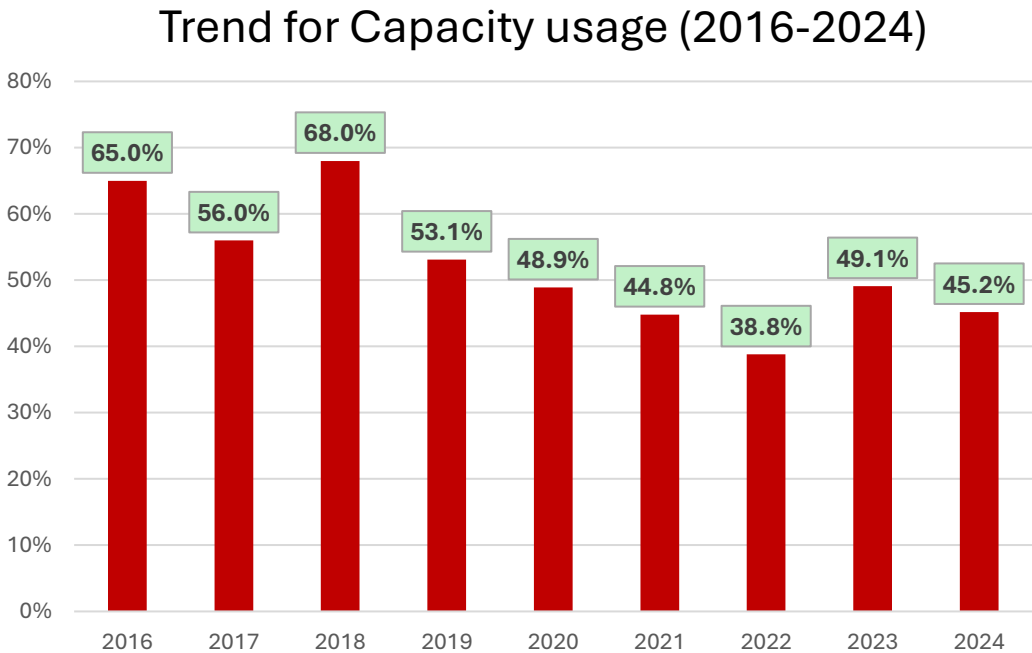
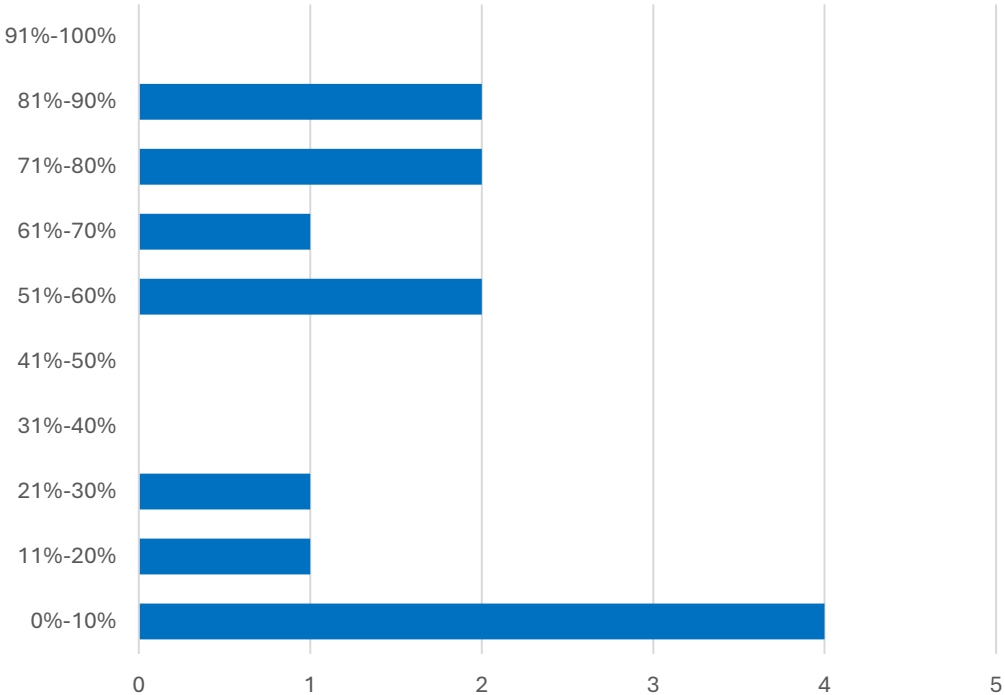
HIP-related business over the next 12 months?

Number of Responses for this question: 19



How much of your current HIP capacity is used at the moment?

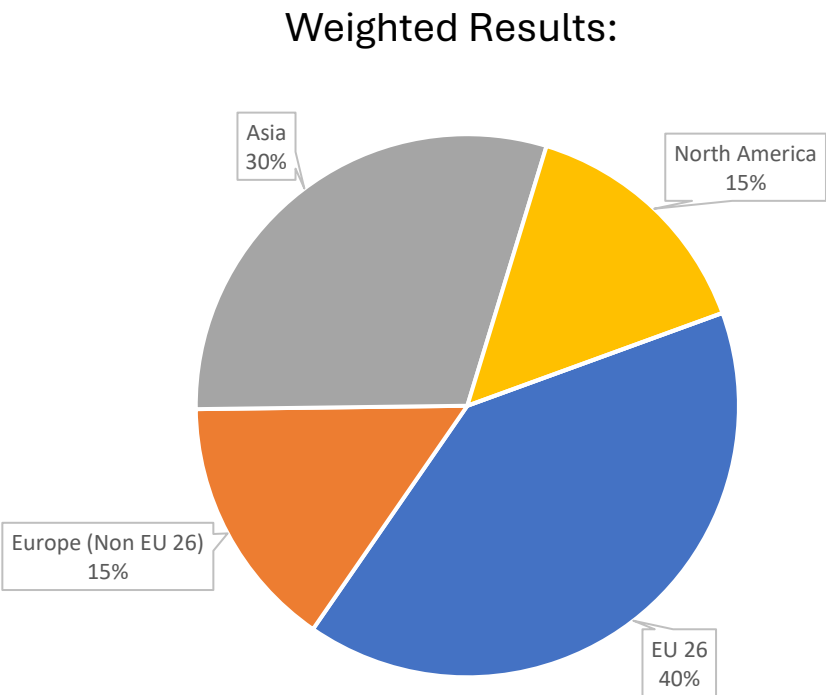
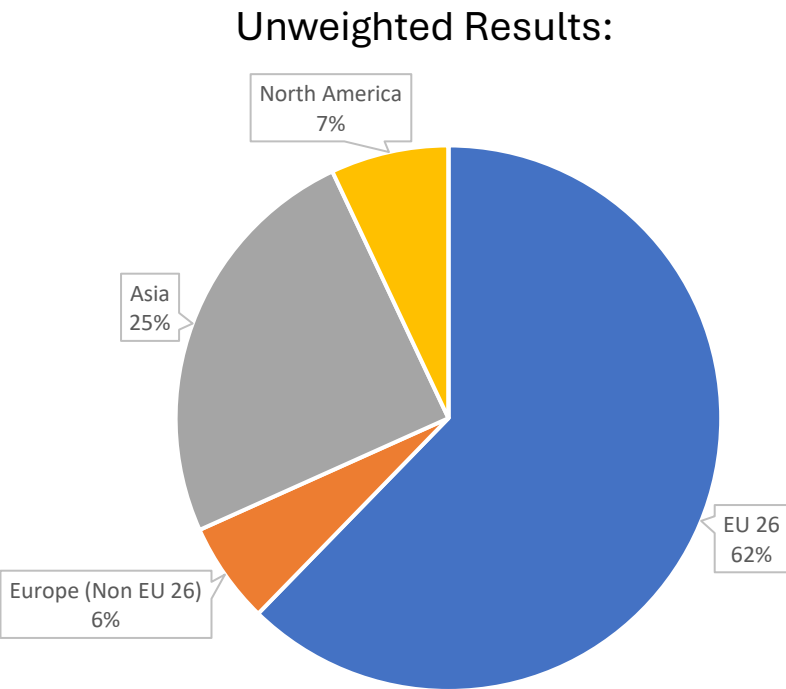
Number of Responses for this question: 13



Average HIP Capacity used in 2024: 45.2%

What is your geographical breakdown of HIP Sales as %?

Number of Responses for this question: 14

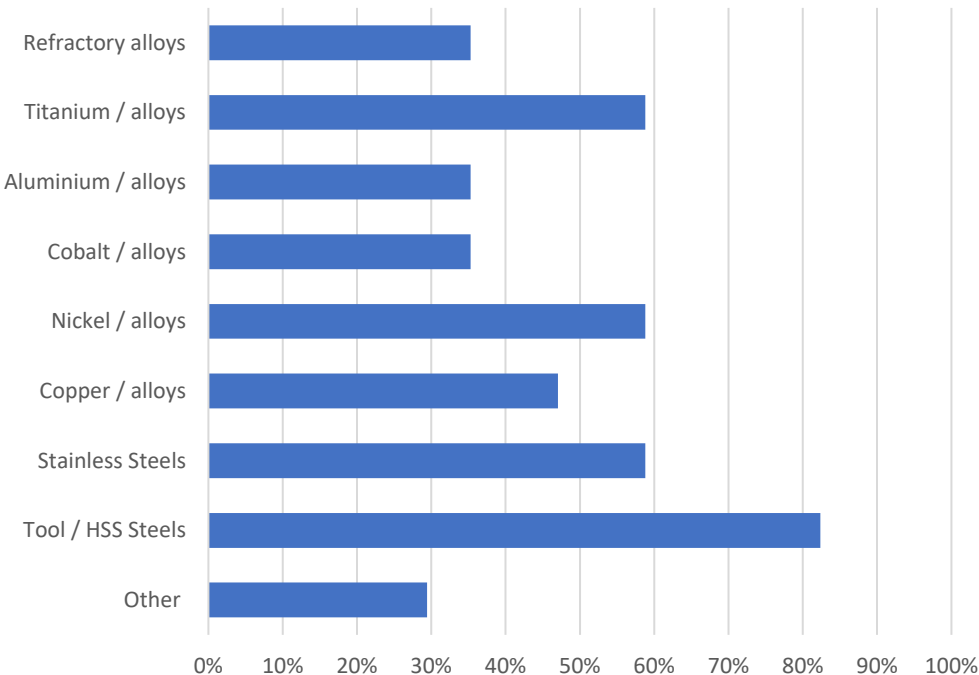


Weighted results show that larger companies are more involved with international customers outside of the EU.

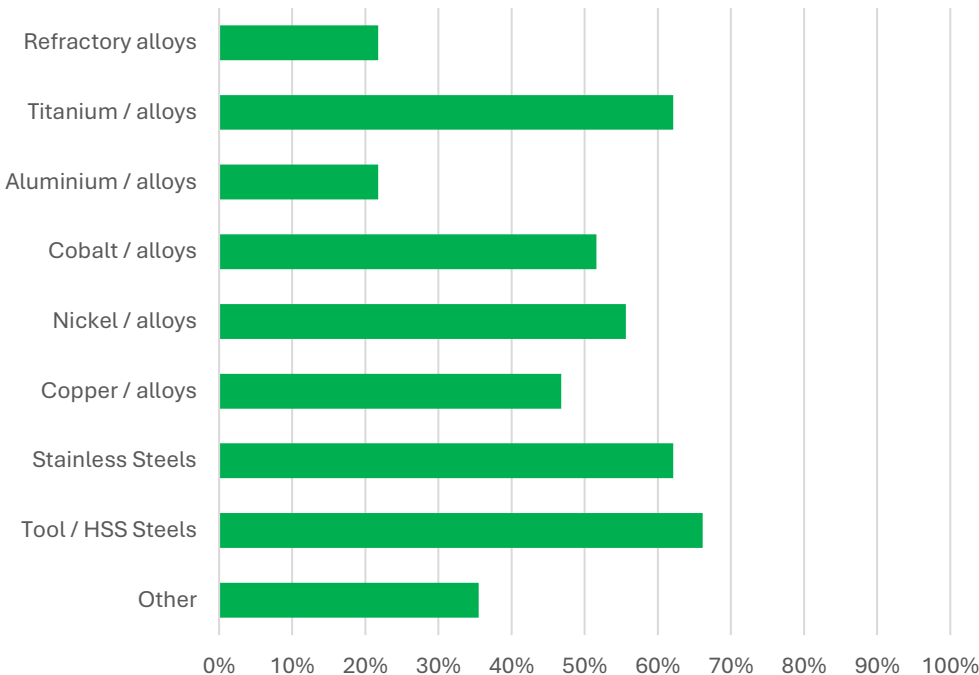
What Materials do you use in your HIP Processes?

Number of Responses for this question: 18

Unweighted Results:



Weighted Results:

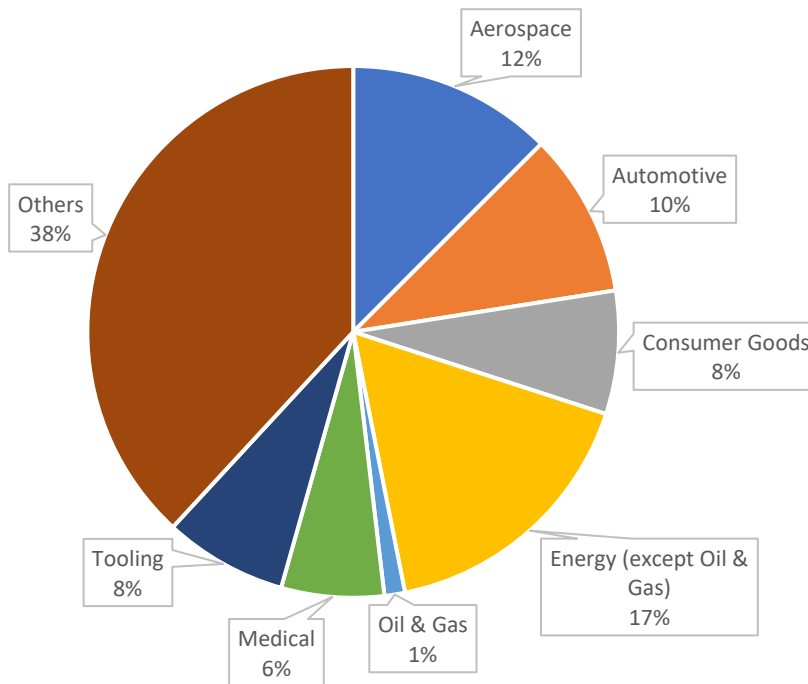


OTHER: Precious Metals (Gold, Silver), Ceramics

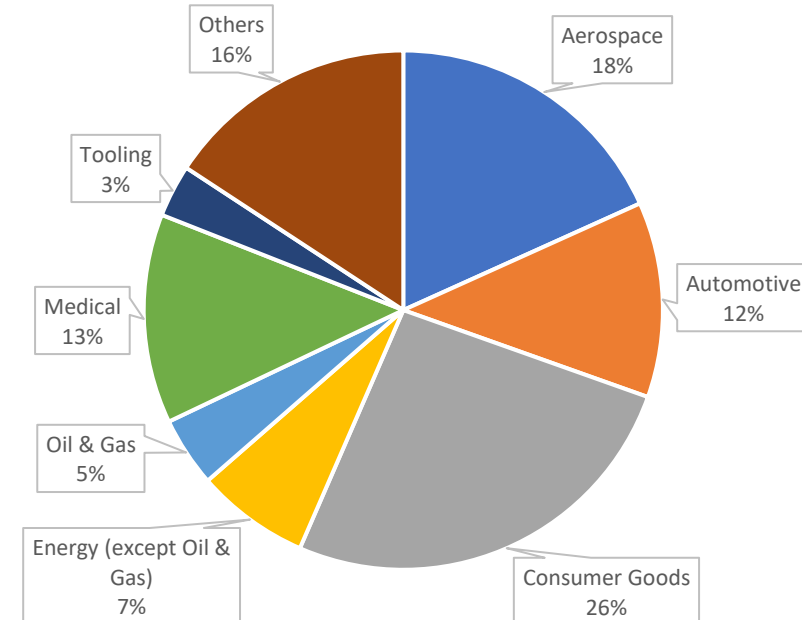
What is your approximate HIP production % by sector?

Number of Responses for this question: 11

Unweighted Results:



Weighted Results:



Press&Sinter Trend Survey

Bruno Vicenzi
Technical Manager



- Data Collection from February to April 2025.
- Non-Disclosure agreements were offered to Participants if desired.
- The number of respondents is still low, and so the percentage comparison to the European market
- 10 parts manufacturers in Trends (+1)
- Companies that participated in this and the preceding survey (for 2023): 8, i.e. 80% of the participants in present survey, and 89% of participants in previous survey.
- Compared to market size, about 33% of the estimated market took part in the survey, always too **low**. This figure, and generally participation, must increase.
- A positive point is retention of respondents, that allows a better comparison year-on-year.

	Responses unweighted		Responses weighted		Category weight
Less than 10'000'000 €	30.00%	3	3.30%	1.5	0.5
10'000'000 – 50'000'000 €	40.00%	4	8.79%	4	1
50'000'000 – 100'000'000 €	0.00%	0	0.00%	0	5
100'000'000 – 150'000'000 €	10.00%	1	21.98%	10	10
More than 150'000'000 €	20.00%	2	65.93%	30	15
Answered:		10			
Skipped:		0			

Sales Trends: Global sales



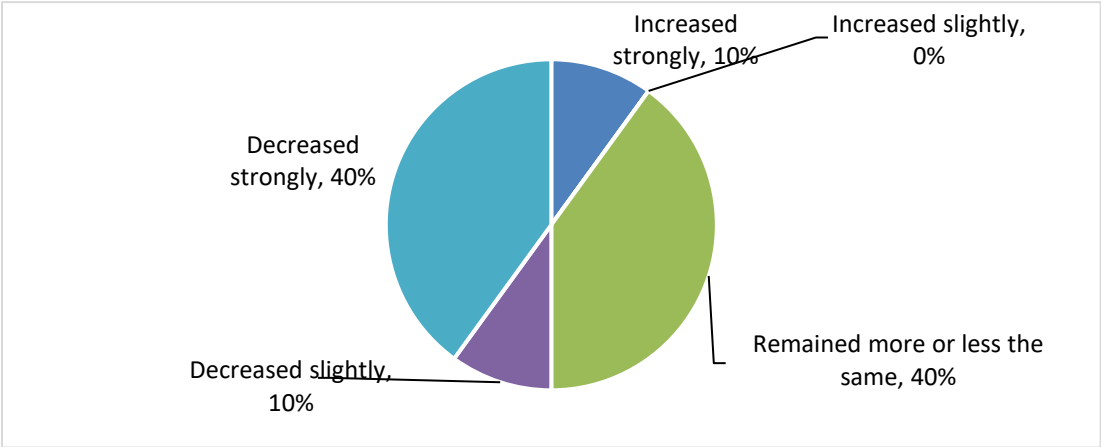
In 2024, how did your Global Ferrous Structural Parts related sales perform compared to 2023?
(Slight = less than 5%; Strong = more than 5%)

	Responses unweighted		Responses weighted	
Strong decrease (more than 5%)	40.00%	4	69.23%	31.5
Slight decrease (less than 5%)	10.00%	1	21.98%	10
More or less the same	40.00%	4	6.59%	3
Slight increase (less than 5%)	0.00%	0	0.00%	0
Strong increase (more than 5%)	10.00%	1	2.20%	1
Answered:		10		
Skipped:		0		

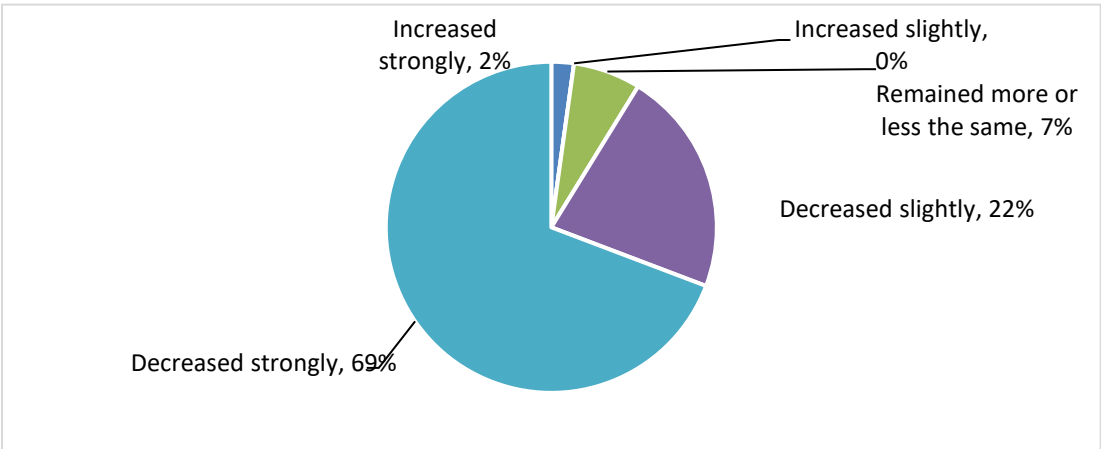
General decrease (lost production to existing companies) with one exception (growth due to new customers in usual markets)

From Statistics:
PM Structural Parts and Bearings Sales -7.6%

unweighted



weighted



Sales Trends: Global sales

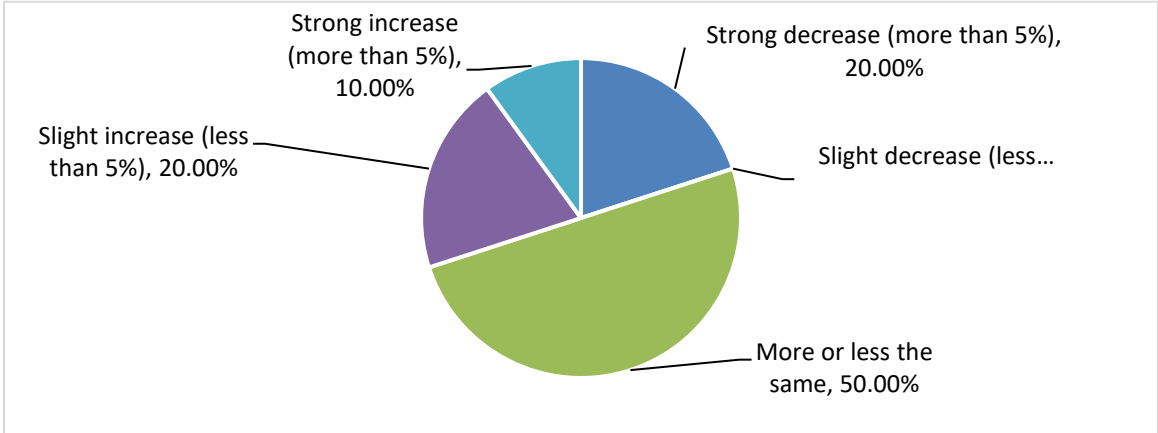


According to you, what will be the trend for your Global sales in the next 12 months?
(Slight = less than 5%; Strong = more than 5%)

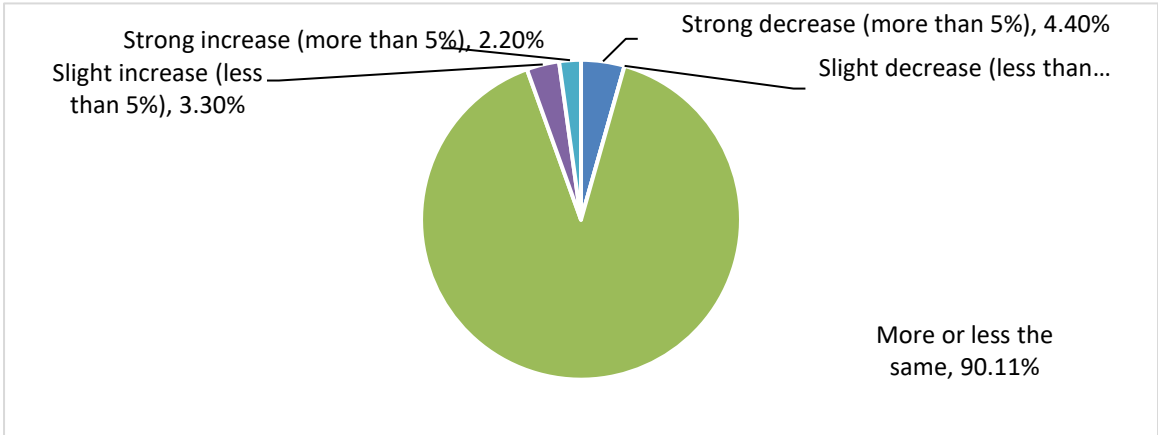
	Responses unweighted		Responses weighted	
Strong decrease (more than 5%)	20.00%	2	4.40%	2
Slight decrease (less than 5%)	0.00%	0	0.00%	0
More or less the same	50.00%	5	90.11%	41
Slight increase (less than 5%)	20.00%	2	3.30%	1.5
Strong increase (more than 5%)	10.00%	1	2.20%	1
Answered:		9		
Skipped:		1		

The outlook for 2025 was mostly suggesting a limited overall change (especially looking at larger companies)

unweighted



weighted

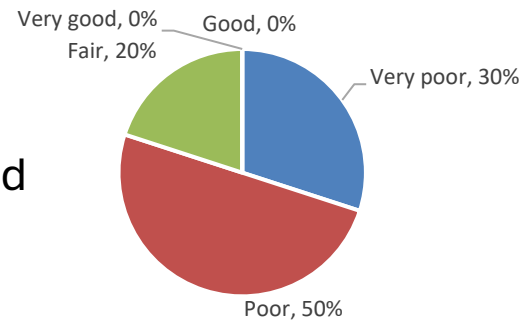


Status and Outlook: Global S&O

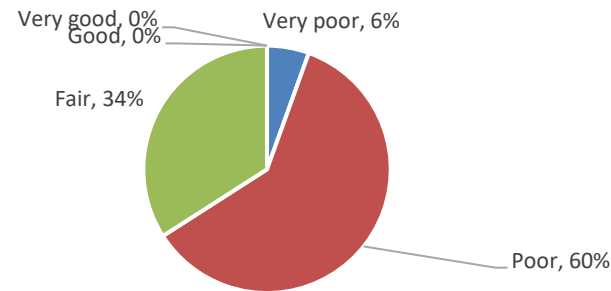


How do you rate the Global business nowadays?

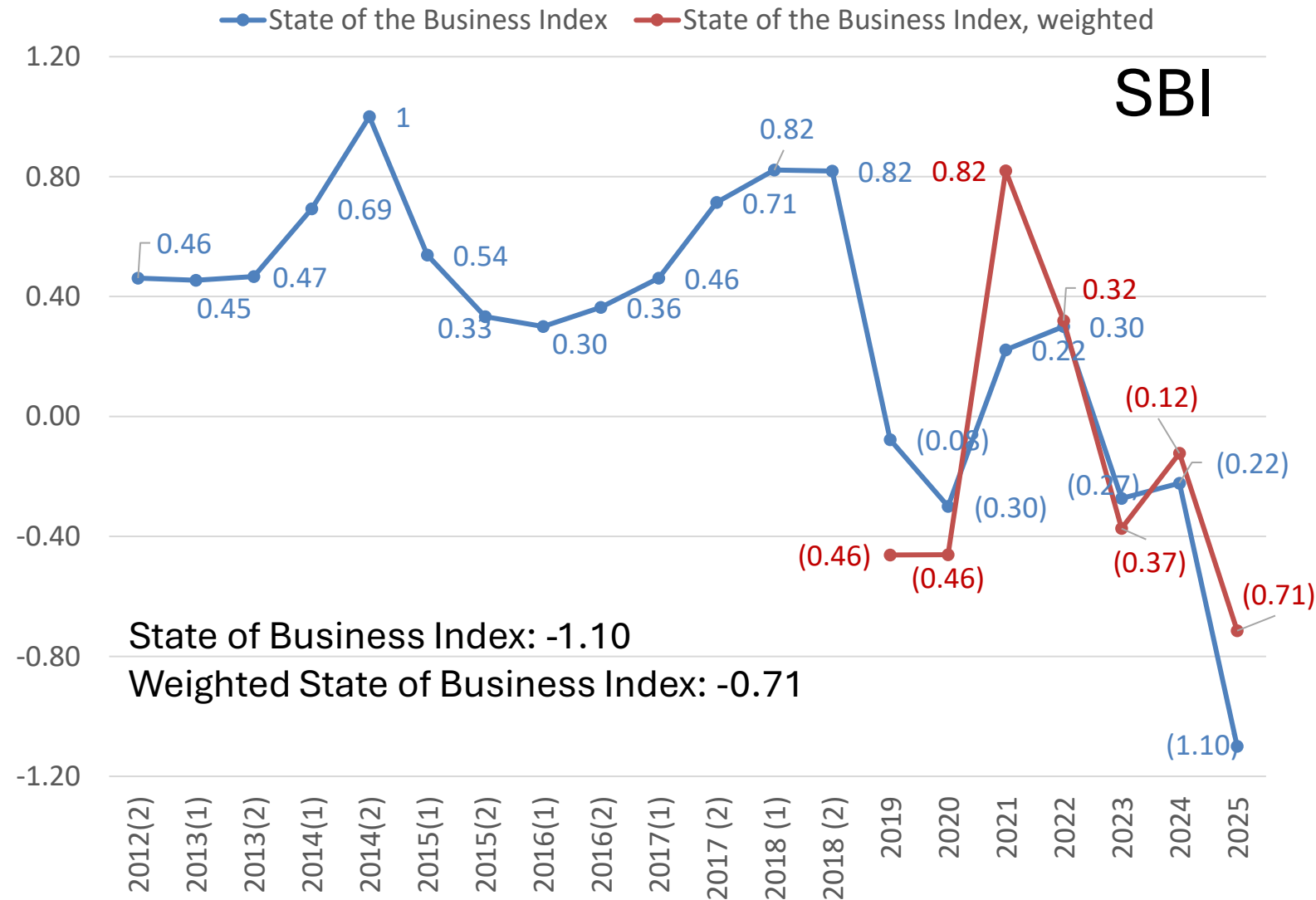
unweighted



weighted



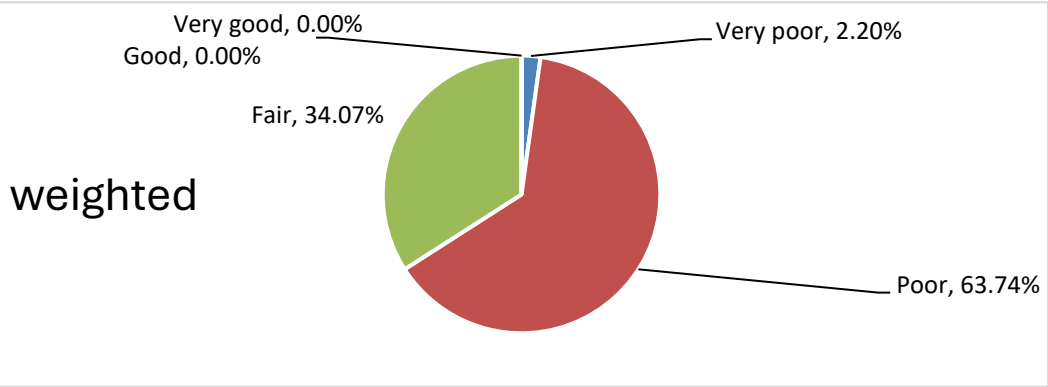
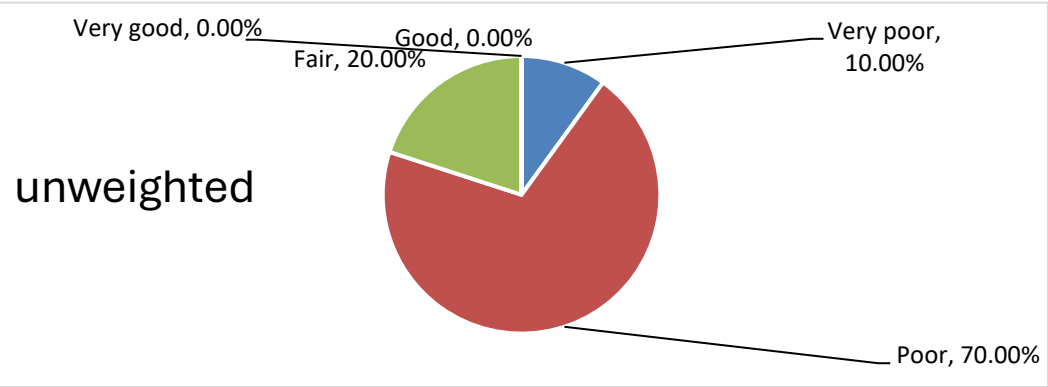
Start of 2025: not positive!
No positive rating
Less negative for larger companies



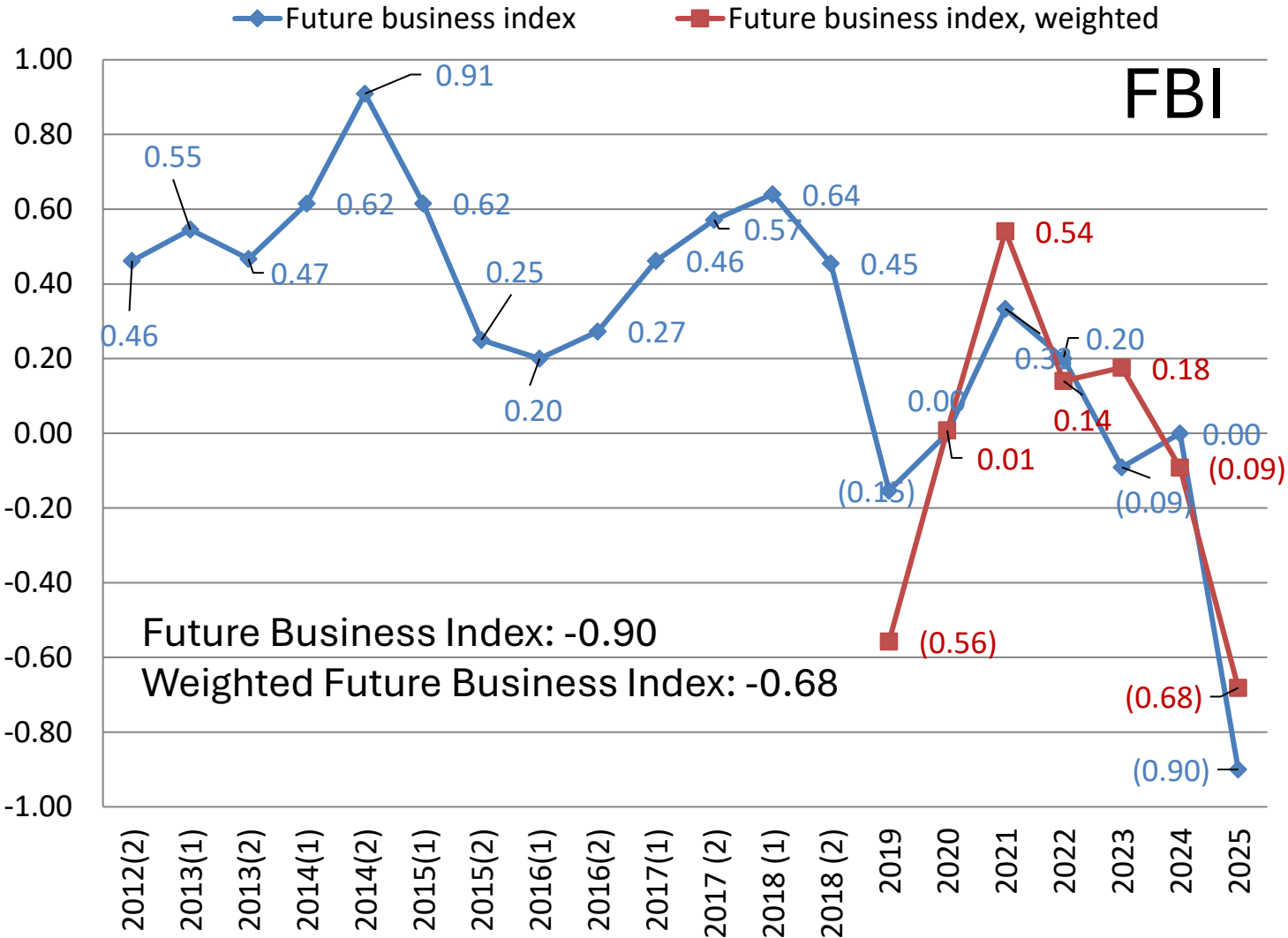
Status and Outlook: Global S&O



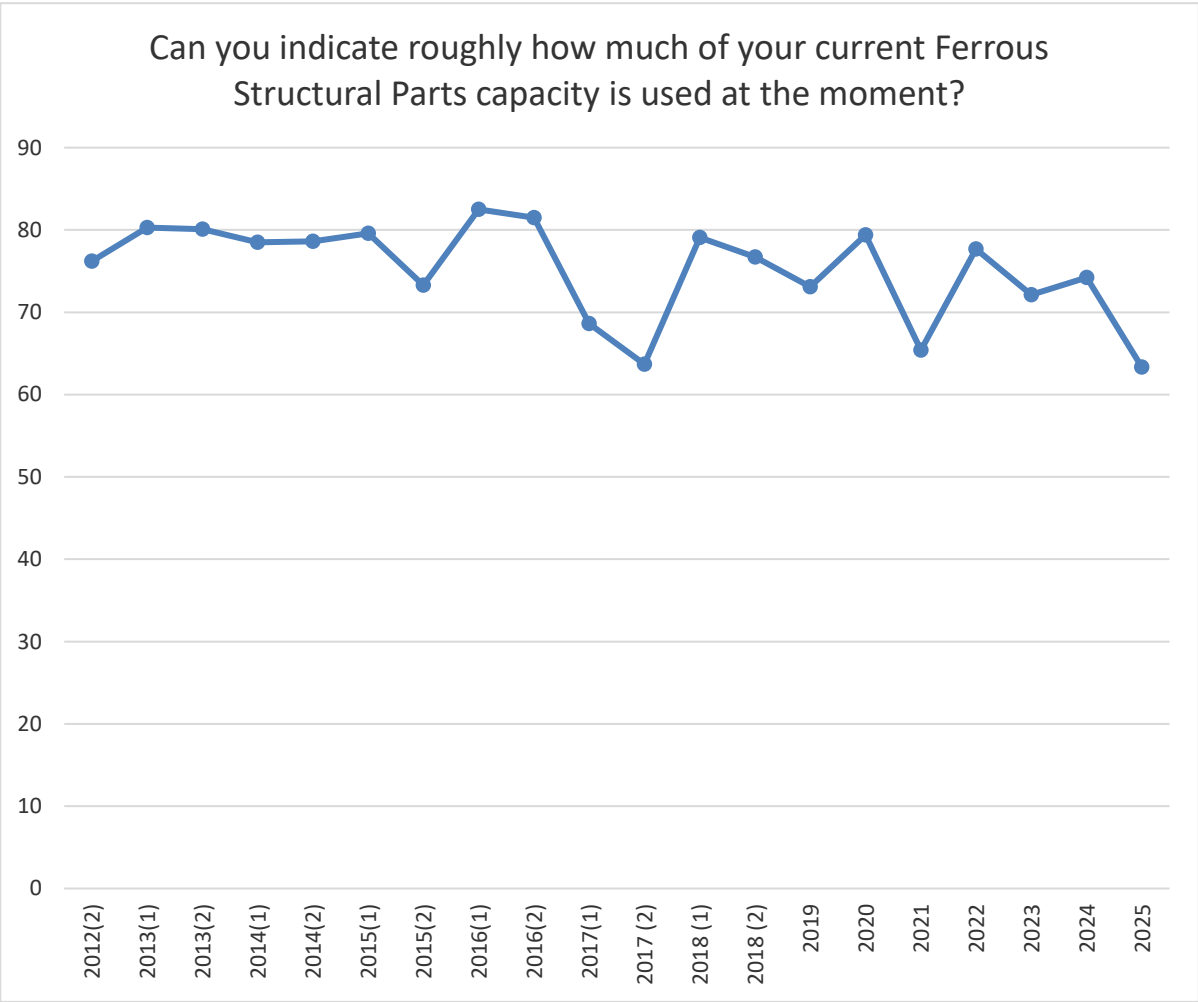
How do you rate the Global trend of business over the next 12 months?



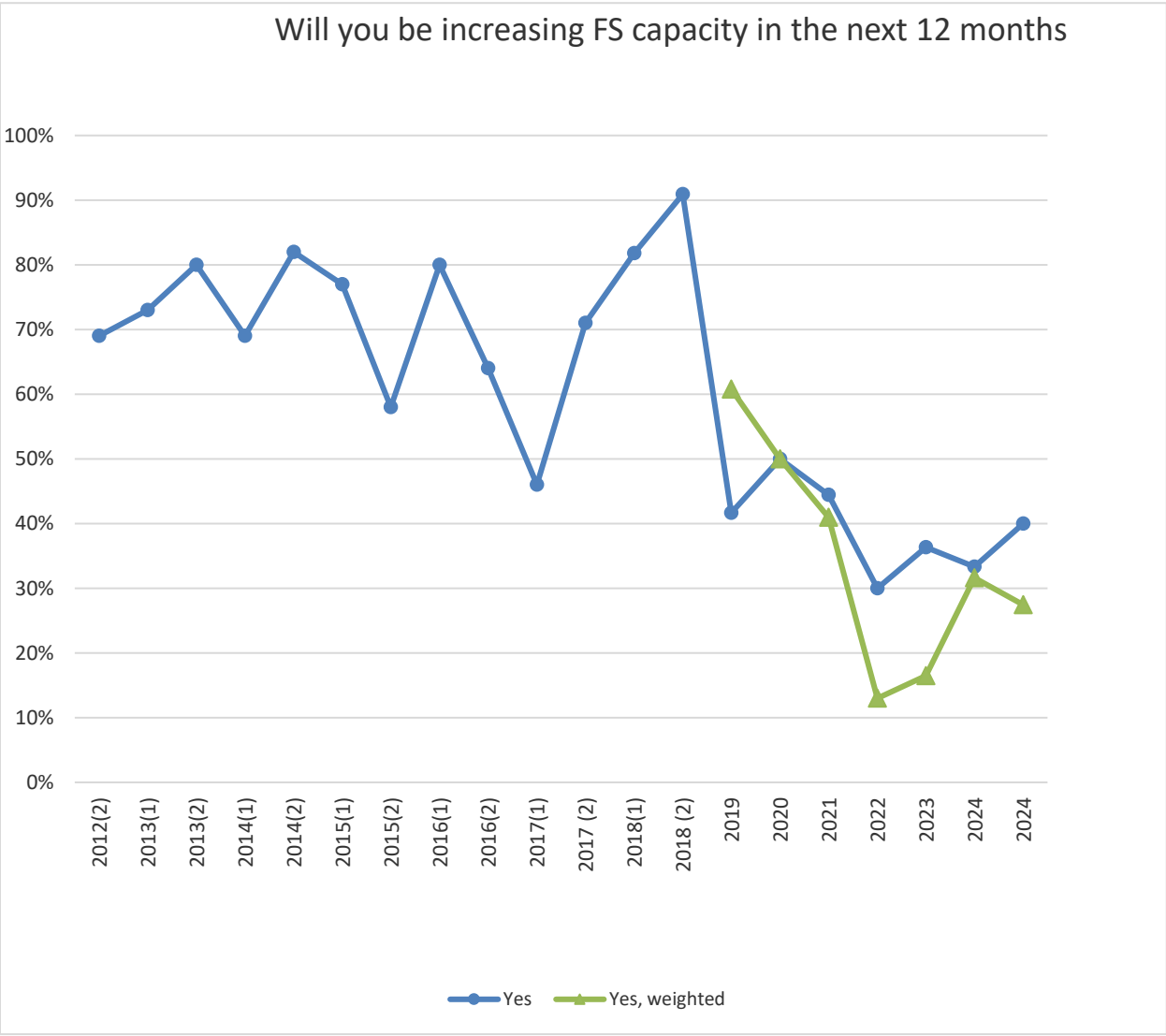
Next 12 months: Negative outlook
Slightly less negative for larger companies



Capacity utilisation/propension to investment



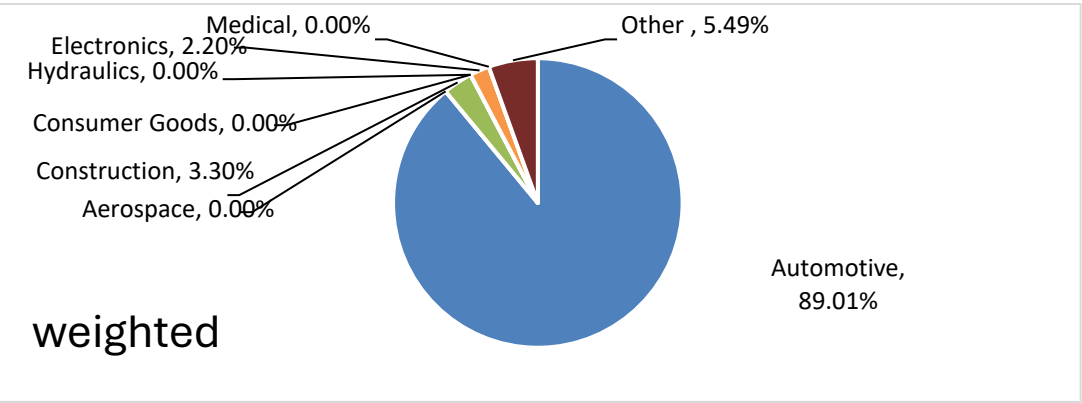
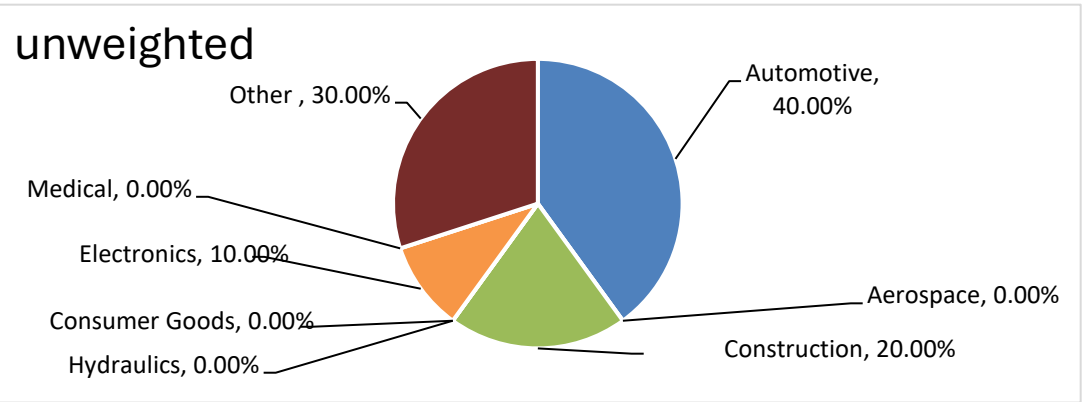
GLOBAL Capacity for Ferrous Structural Parts used since 2012, average, unweighted



Acceptance of P&S Ferrous Structural Parts



Best medium-term prospects for Ferrous Structural Parts?



Automotive is especially high ranked by the larger companies

Other: 2 mention defence, 1 “non-automotive”

Negative factors for acceptance

weighted	Extremely important	Very important	Important	Not very important	Irrelevant	Score	Ranking	Previous ranking
Price competition with other technologies	0.00%	38.46%	37.36%	24.18%	0.00%	2.143	2	2
Technical competition with other technologies	0.00%	2.20%	72.53%	25.27%	0.00%	1.769	7	3
Price competition from low-production-cost countries	35.16%	37.36%	26.37%	1.10%	0.00%	3.066	1	1
Customers reluctant to access new technologies in a period of economic uncertainty	1.10%	0.00%	92.31%	6.59%	0.00%	1.956	5	4
Long time to market	0.00%	32.97%	35.16%	31.87%	0.00%	2.011	4	8
Difficult to market the technology due to the lack of trained agents	0.00%	1.10%	69.23%	27.47%	2.20%	1.692	8	7
Insufficient awareness of Ferrous Structural Parts by customers and their designers	2.20%	1.10%	96.70%	0.00%	0.00%	2.055	3	5
Bad quality parts supplied by some companies that damage customer trust on all Ferrous Structural Parts companies	0.00%	0.00%	36.26%	60.44%	3.30%	1.330	9	6
Lack of an international standard on properties of Ferrous Structural Parts materials	0.00%	0.00%	92.31%	4.40%	3.30%	1.890	6	8
Answered		10						
Skipped		0						

Price competition from low-cost countries is the main issue for most companies.

MIM Trend Survey

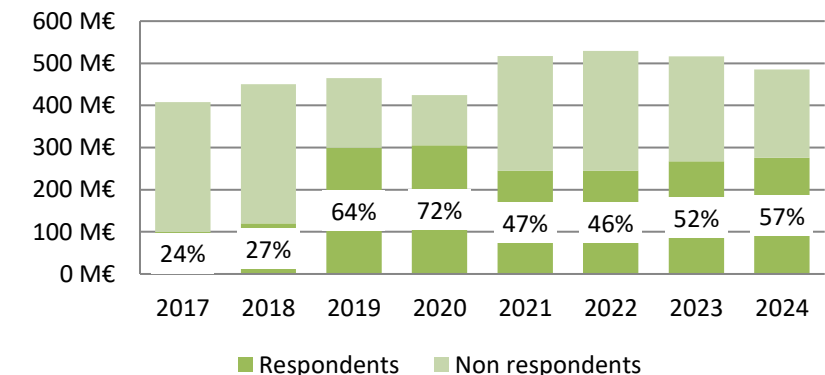
Bruno Vicenzi
Technical Manager



- Only 1 online survey with different parts (questions can be skipped):
 - Total of about 40 questions
 - Respondents are anonymous
 - Trend Survey results are public
 - Benchmarking Survey results are only for participants
- Data collection from February to March/April 2025
- Non-Disclosure agreements were offered to participants if desired.
- 18 respondents (+1), 18 parts manufacturers (+2)
- Retention from last year: 14 (88%) companies in Trends and Statistics, 8 (88%) in Benchmarking

	2018	2019	2020	2021	2022	2023	2024	2025
Raw Materials (excluding powder)	0	0	0	1	0	0	0	0
Powder Manufacturer	0	1	2	1	0	0	0	0
Feedstock Manufacturer	0	0	0	0	0	0	1	0
Equipment Supplier	3	1	1	4	1	0	0	0
MIM Components Manufacturer (Including end users making own parts)	11	10	13	14	14	15	16	18
MIM End User (Not producing parts)	0	2	0	0	0	0	0	0
Other (please specify)	4	0	2	1	3	2*	0	0
	18	14	18	21	18	17	17	18

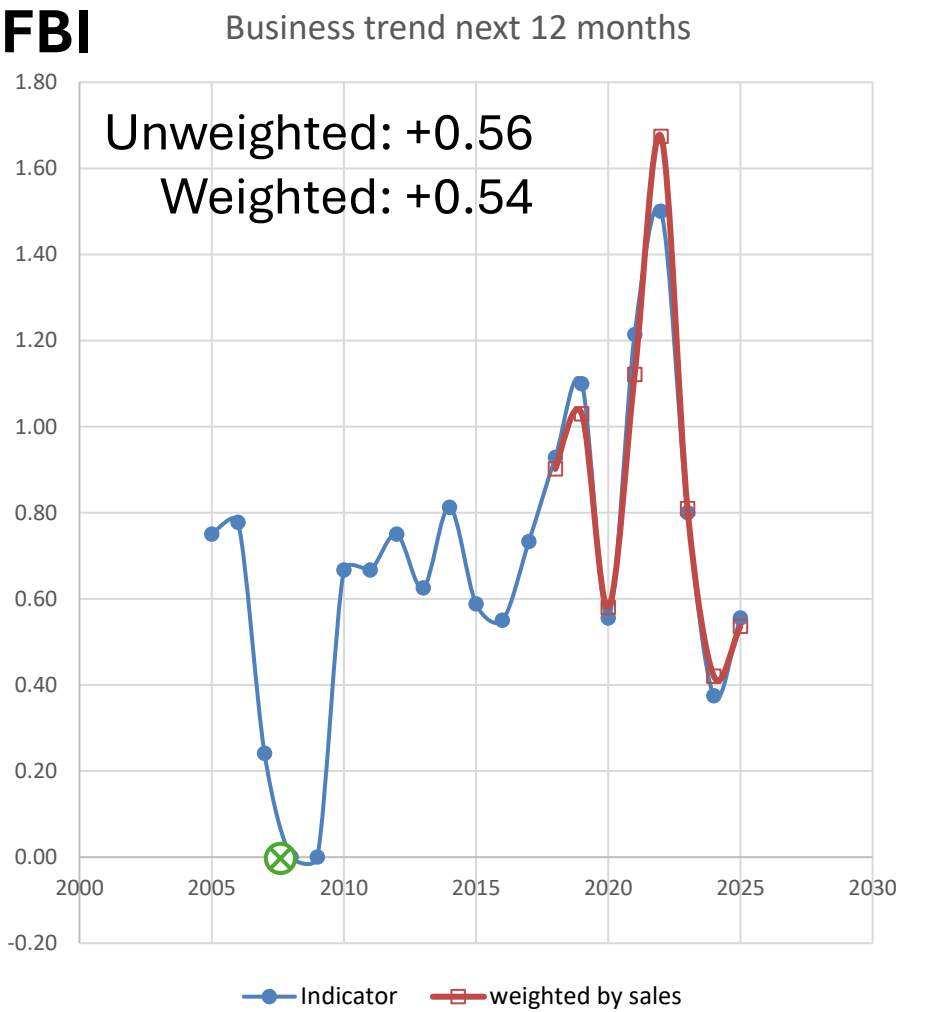
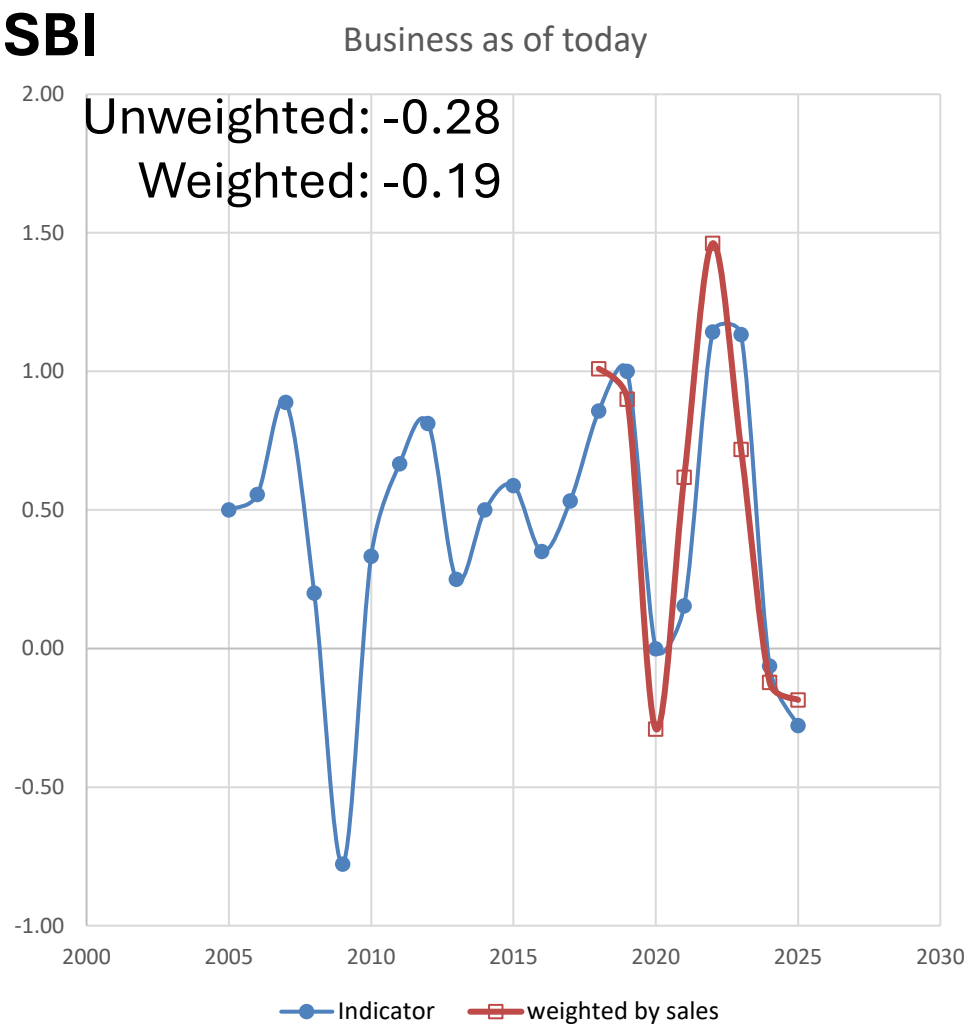
Incidence of survey respondents on total European MIM market



State of Business and Future Business Indexes



The State of Business Index is lower than last year, slightly better for bigger companies.

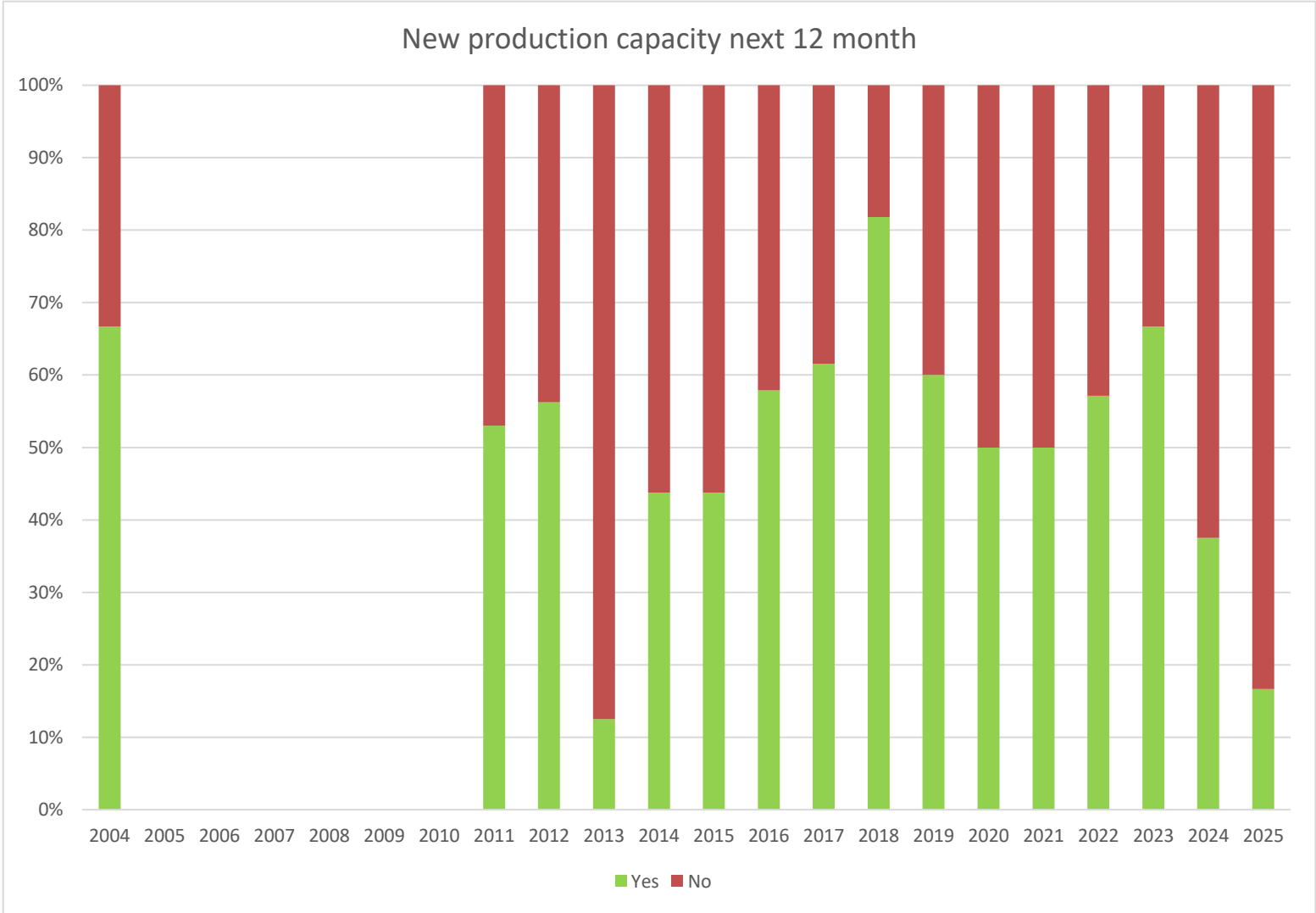


The confidence rebounds slightly (but the confidence last year was not followed by the actual performance) .

Planned Capacity Expansion over the next 12 months



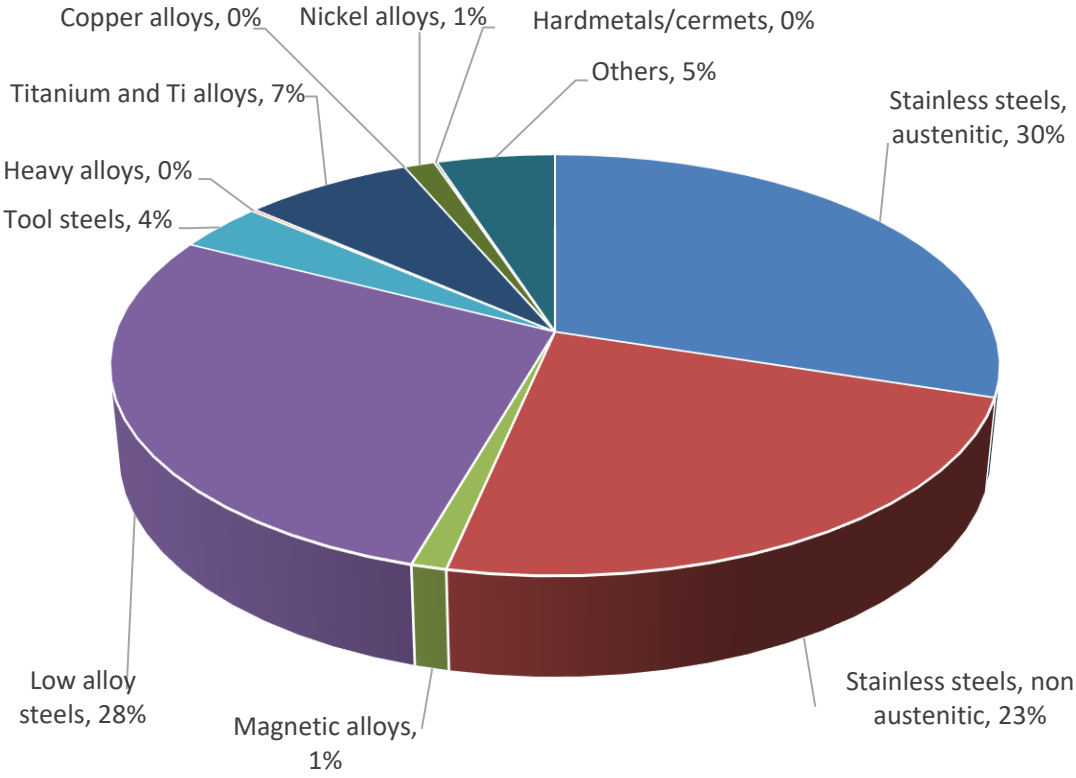
Tendency to investment for capacity over the next 12 months close to all-time lowest level



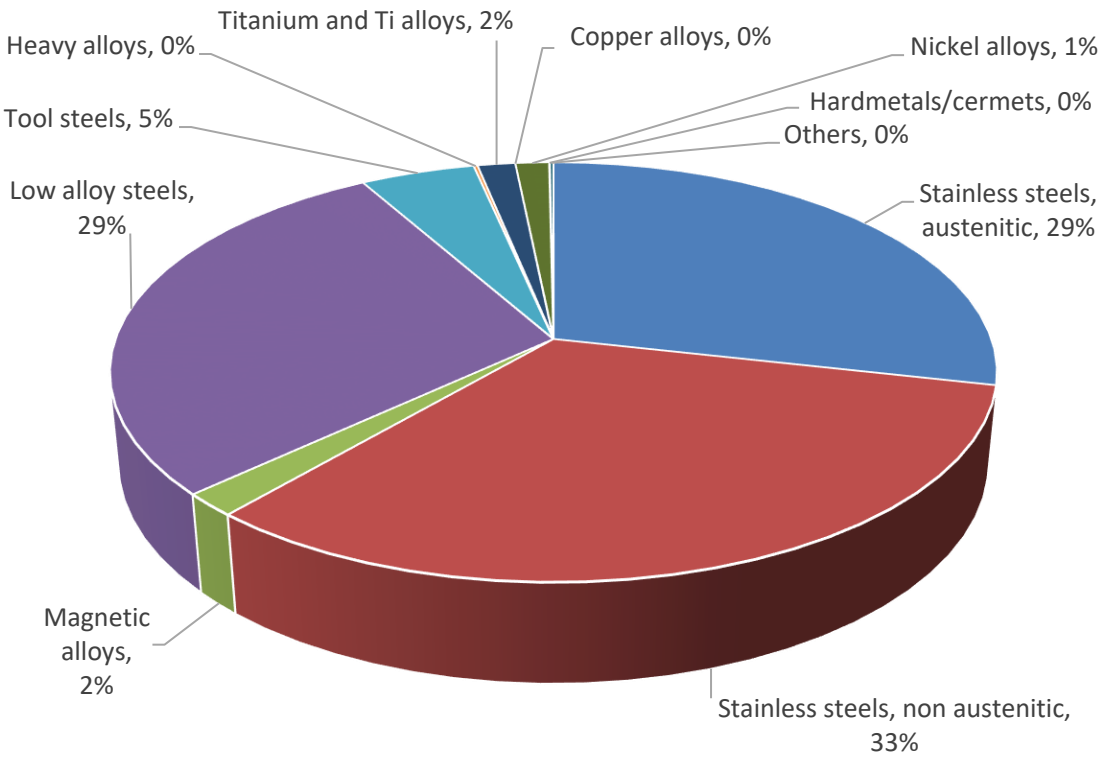
Materials share



Stainless steels and low alloy steels dominate

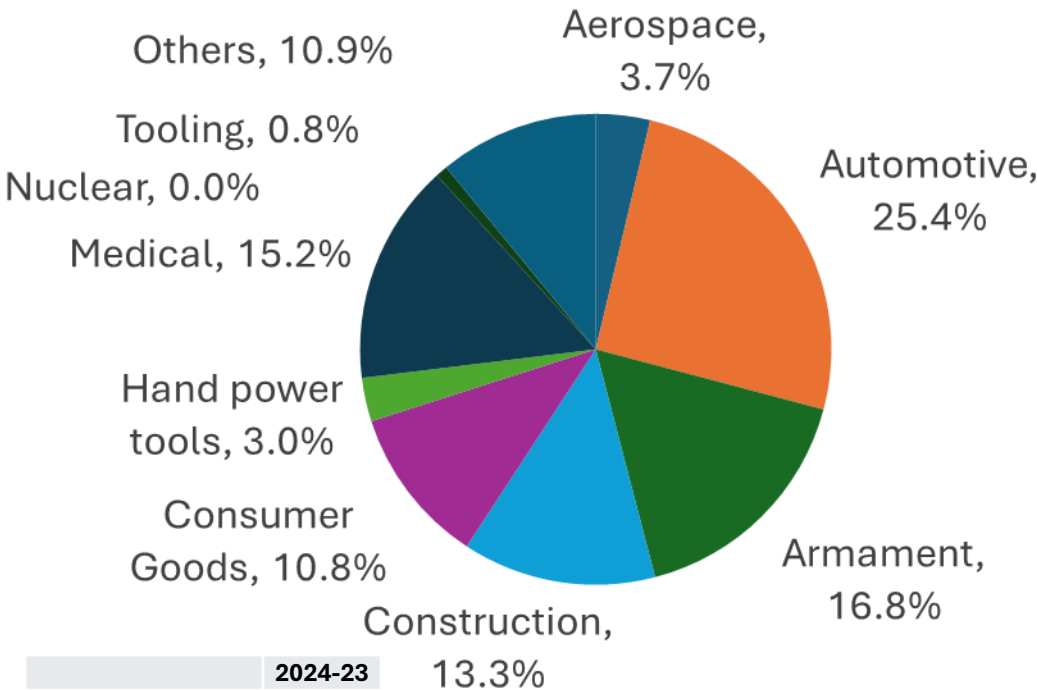


Unweighted
(number of respondents
using that material)



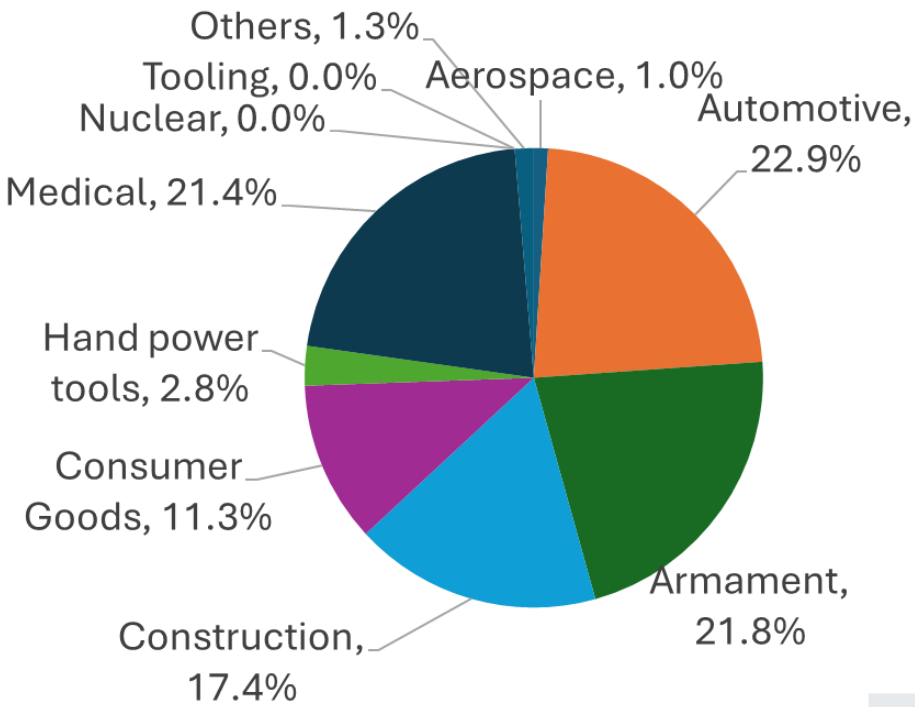
Weighted
(actual share
by tonnage)

MIM Sales and Volumes by Sector



	2024-23
Aerospace	+1.1%
Automotive	+4.2%
Armament	+0.6%
Construction	+2.3%
Consumer Goods	-9.2%
Hand power tools	-0.3%
Medical	-3.2%
Nuclear	+0.0%
Tooling	+0.2%
Others	+4.3%

Sales: Automotive, aerospace, construction increasing. Consumer goods, medical decreasing.



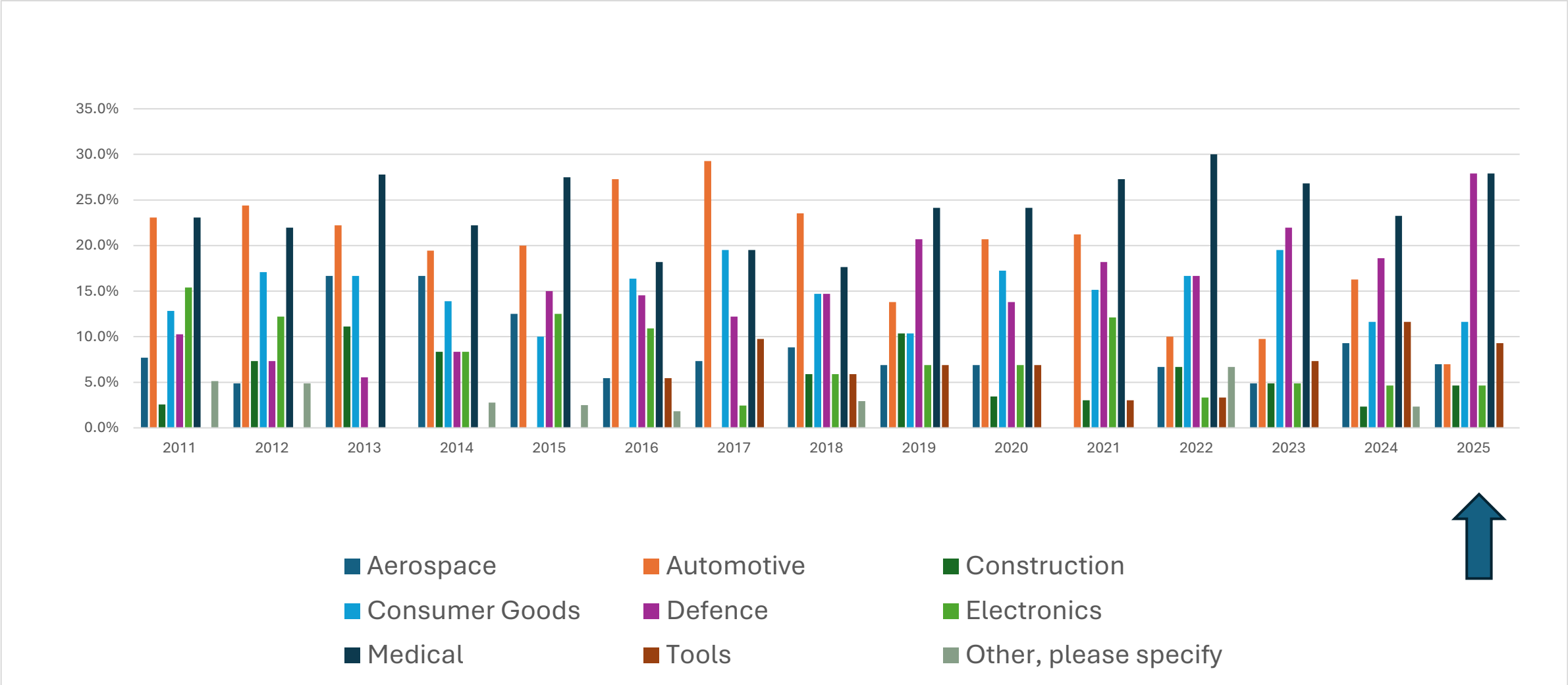
	2024-23
Aerospace	-0.6%
Automotive	-4.2%
Armament	+1.2%
Construction	+12.2%
Consumer Goods	-14.7%
Hand power tools	-1.0%
Medical	+7.1%
Nuclear	+0.0%
Tooling	+0.0%
Others	-0.1%

Volume: construction, medical, armament increasing. Consumer goods, tooling (and others) decreasing.

Best medium term prospects for MIM

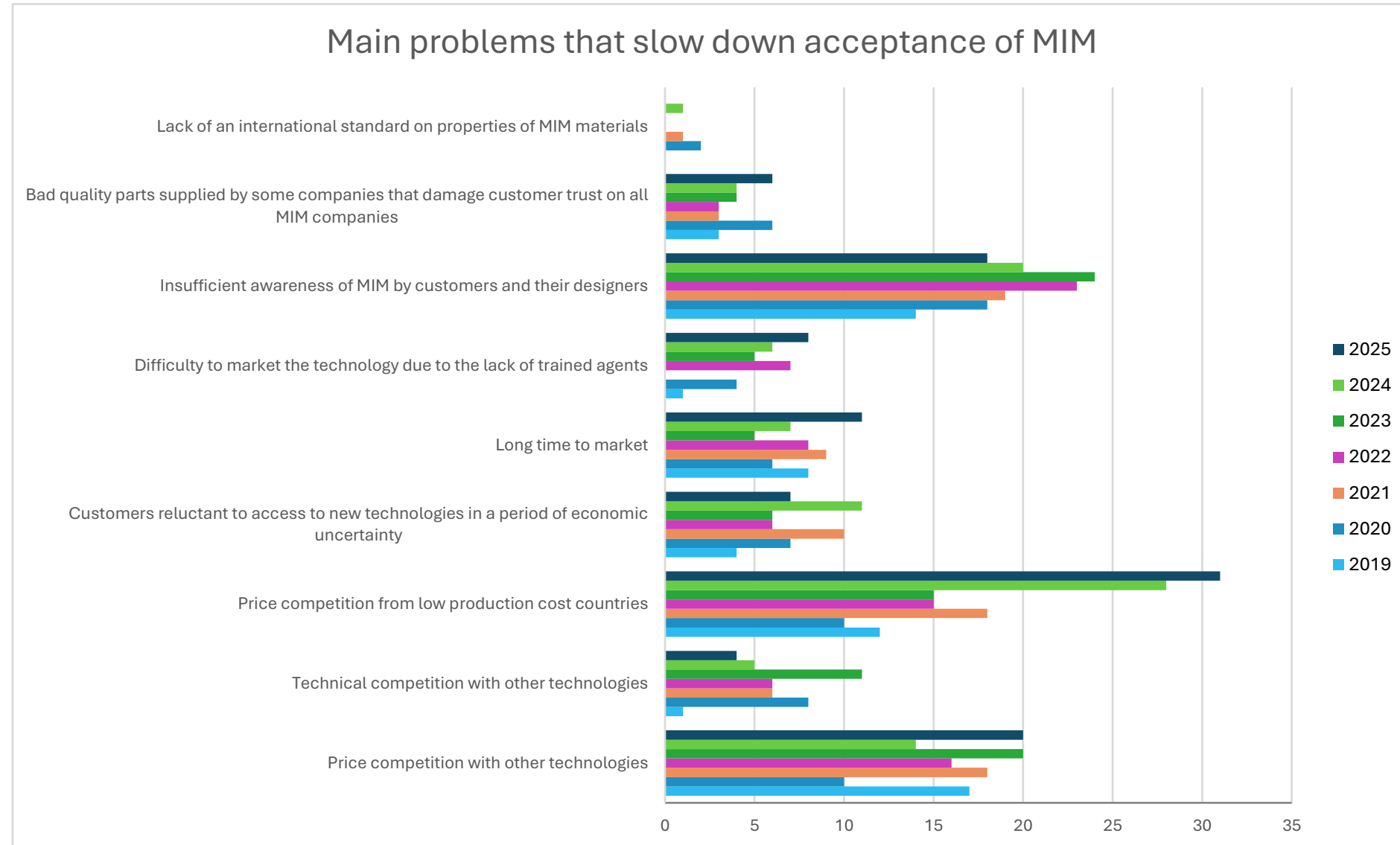


Defence and Medical dominate. Automotive is not in the first 4.



Main Interference with the Development of the MIM Business

1. Price competition (low-cost countries (up)/ technologies
2. Awareness of MIM



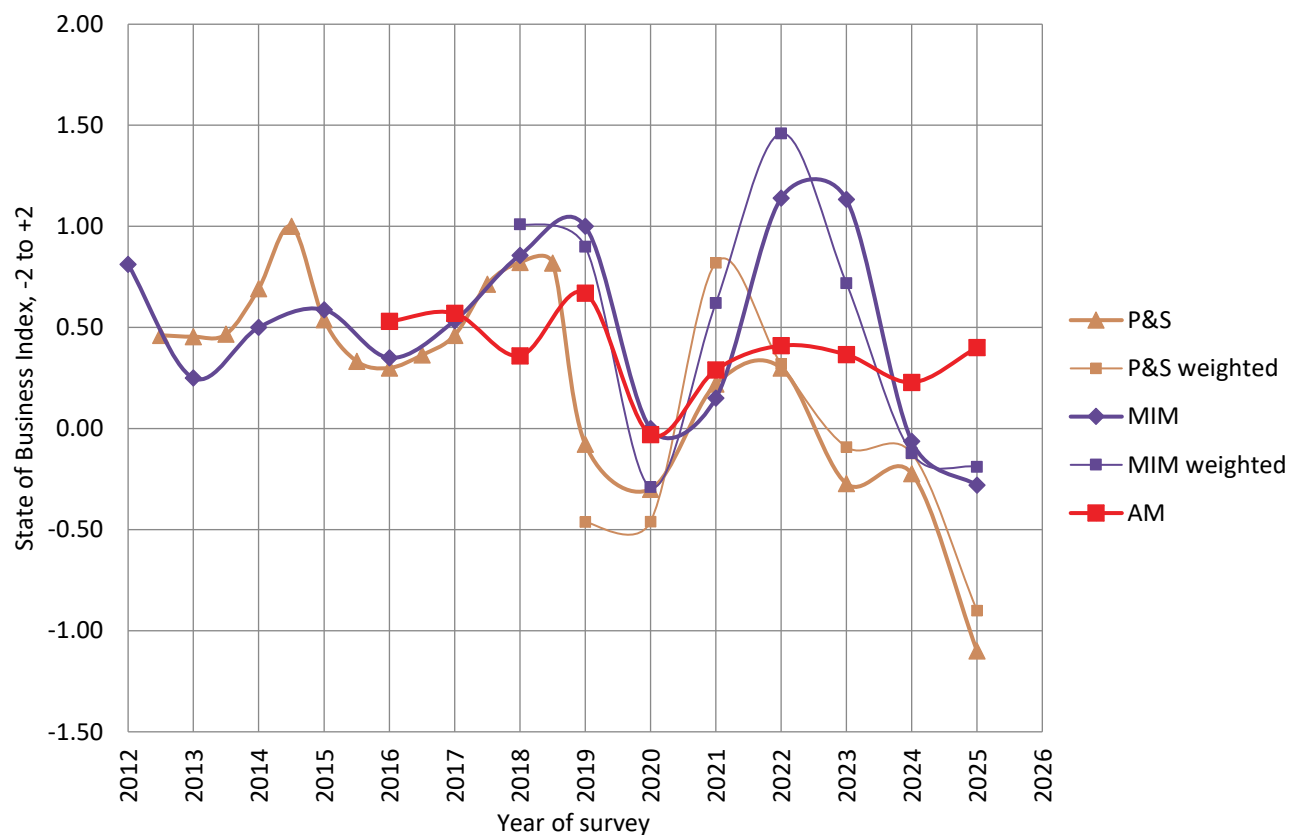
Comparison of indexes

Bruno Vicenzi
Technical Manager

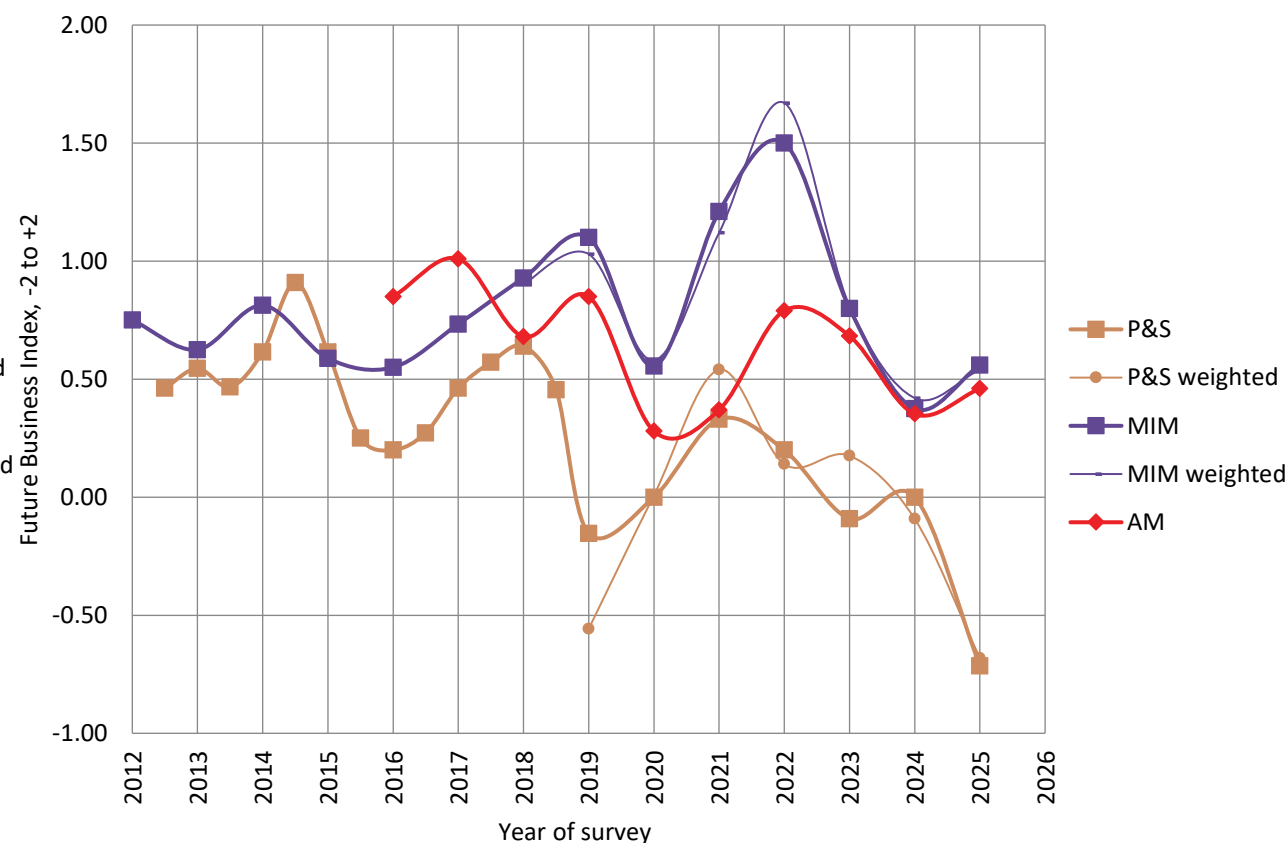


- Indexes compared across different European PM sectors

State of Business Index (SBI)



Future Business Index (FBI)



PM Statistics

Bruno Vicenzi
Technical Manager



EPMA Powder Metallurgy Statistics

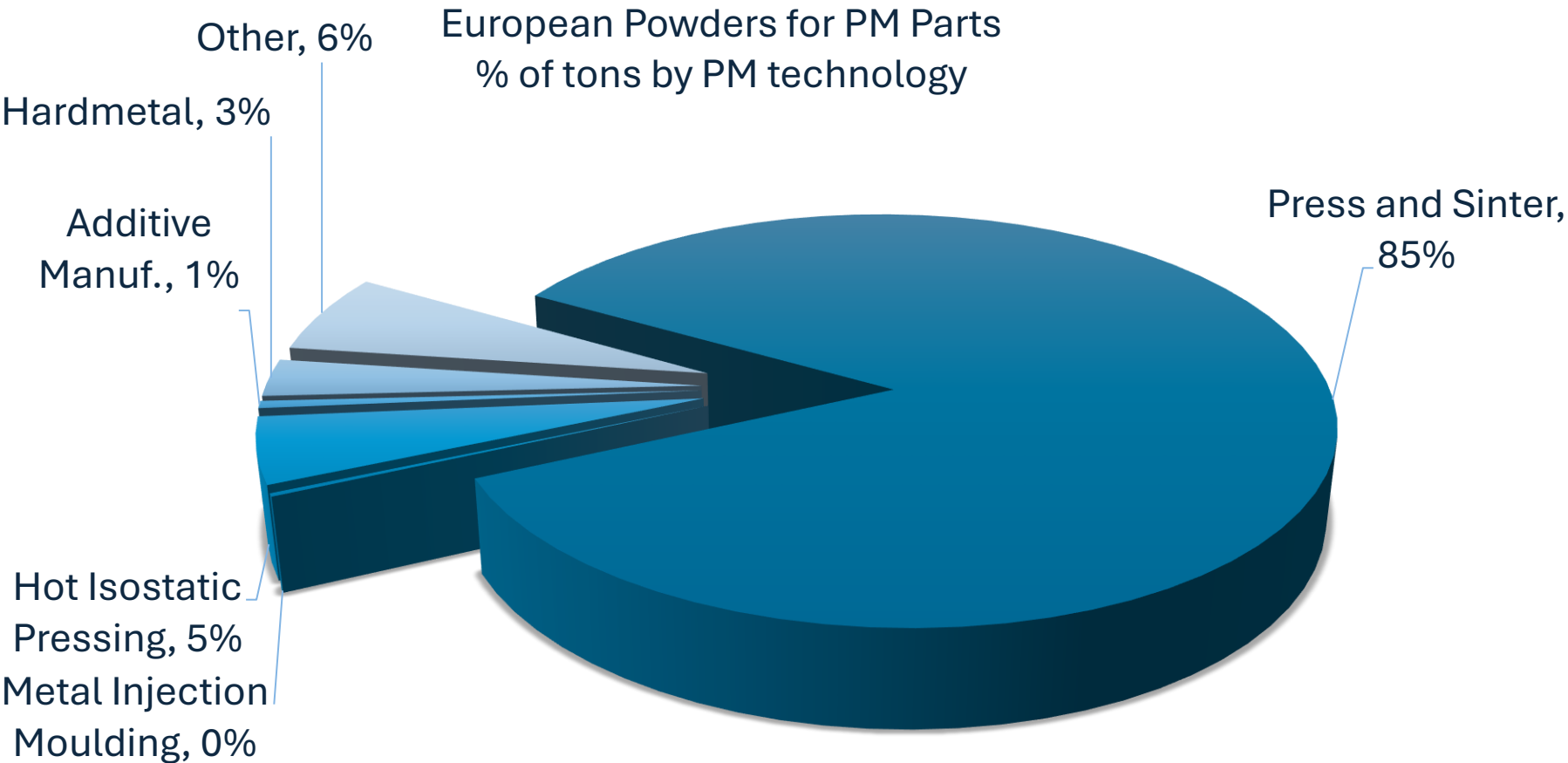
EU metal powder production



- Overall Metal Powder Production decreased by 2.1% to 211 kt in 2024 vs. 2023
- Metal powder for PM parts decreased by 5.7% to 171 kt in 2024 compared to 2023

All uses Tot	-2.1%
Iron & Steel powders	-3.8%
Non-Ferrous powders	+7.1%

PM uses Tot	-5.7%
Iron & Steel powders for PM	-4.0%
Non-Ferrous powders for PM	-15.9%



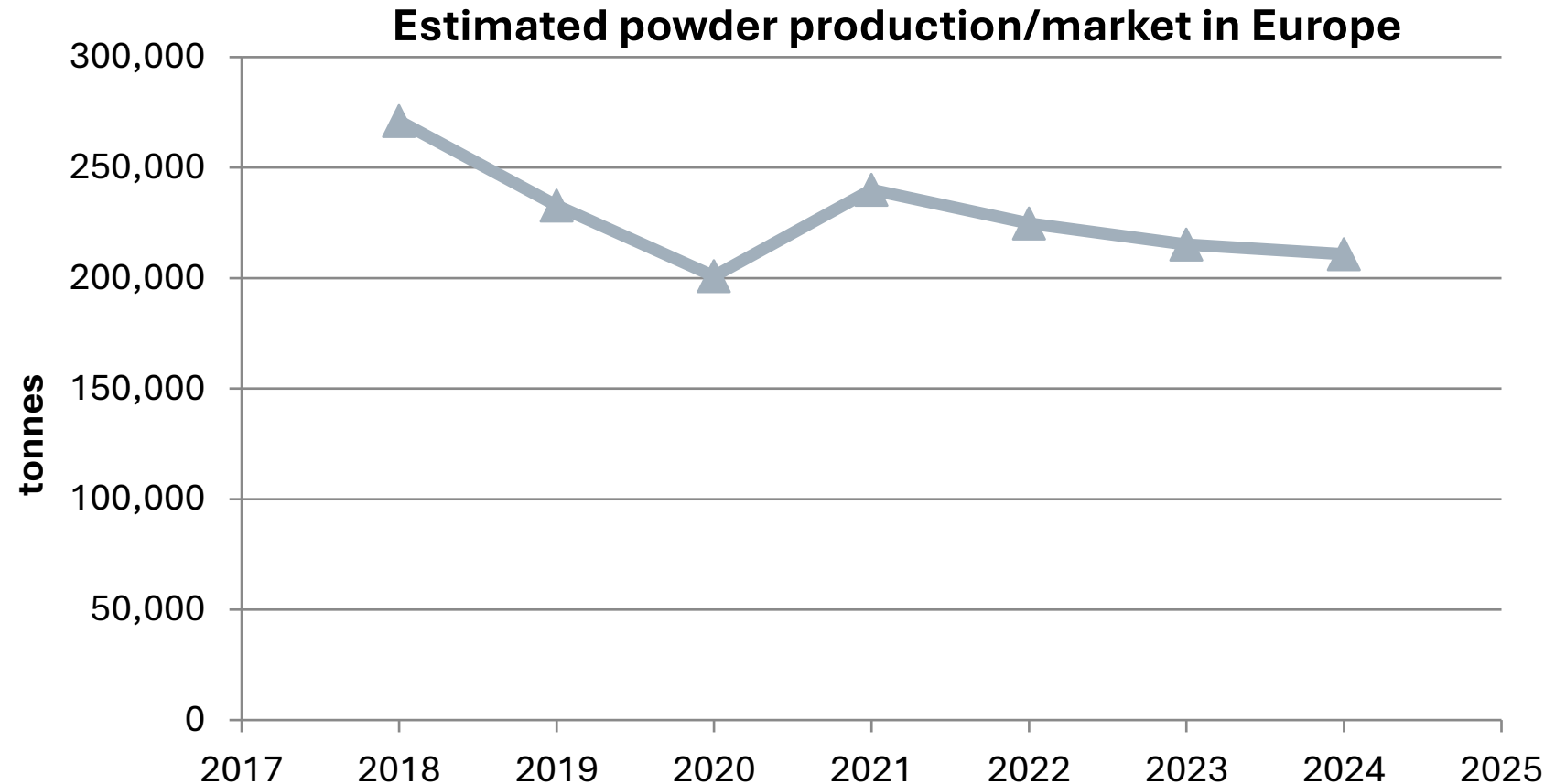
Source: Powder Manufacturers

EPMA Powder Metallurgy Statistics

EU metal powder production



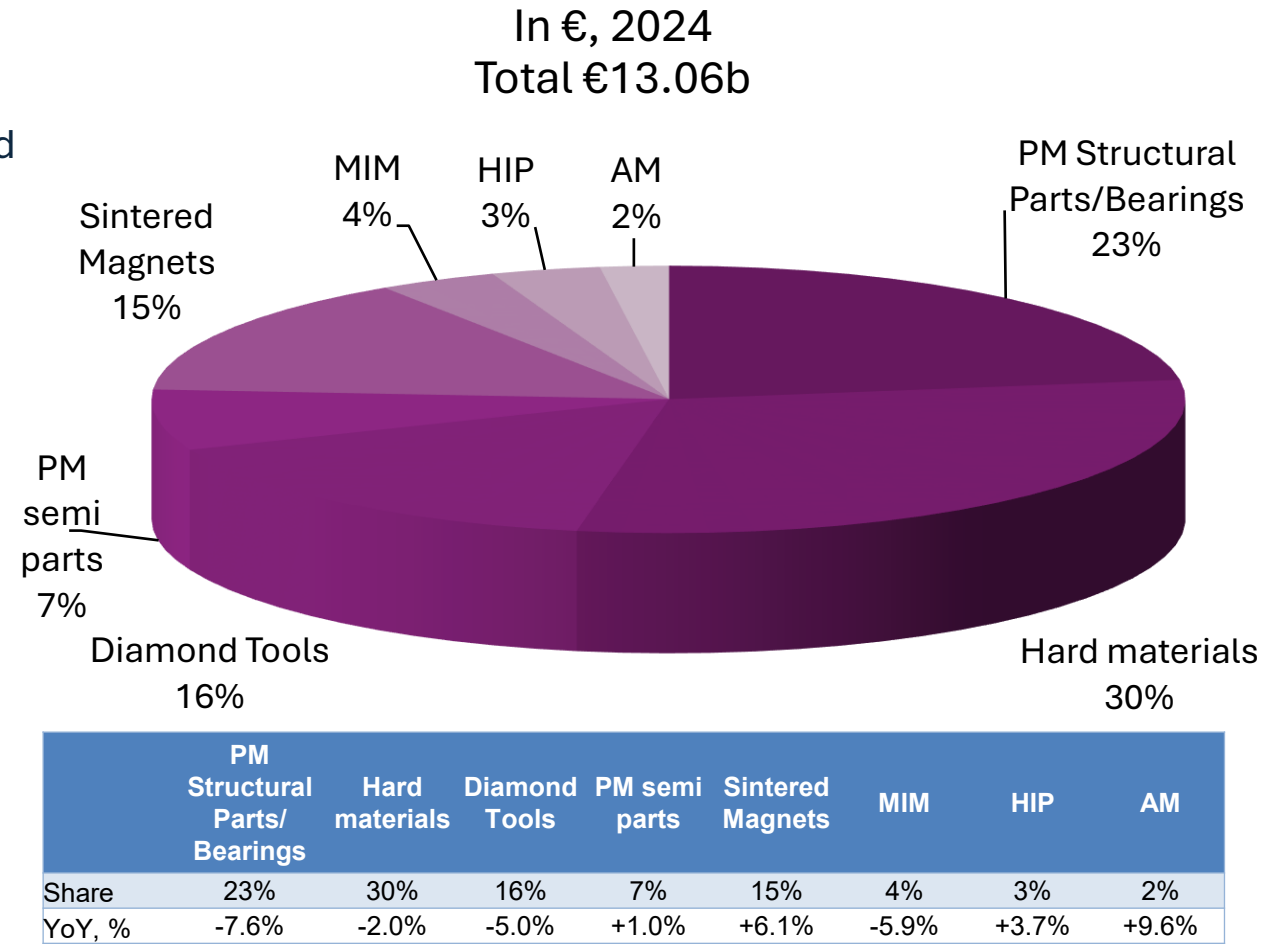
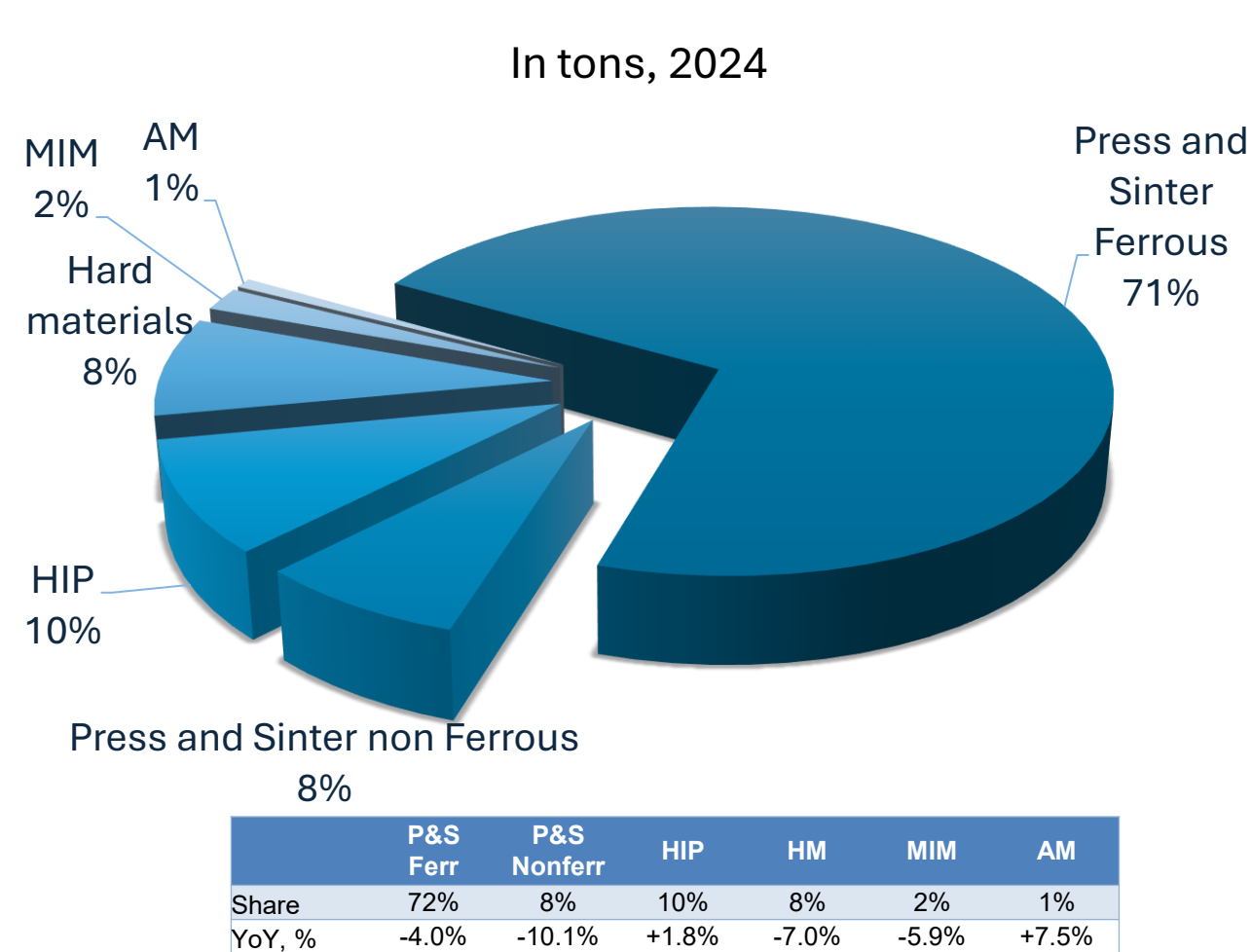
- The decrease is a consolidated trend



Source: Powder Manufacturers

EPMA Powder Metallurgy Statistics

European PM Parts by technology



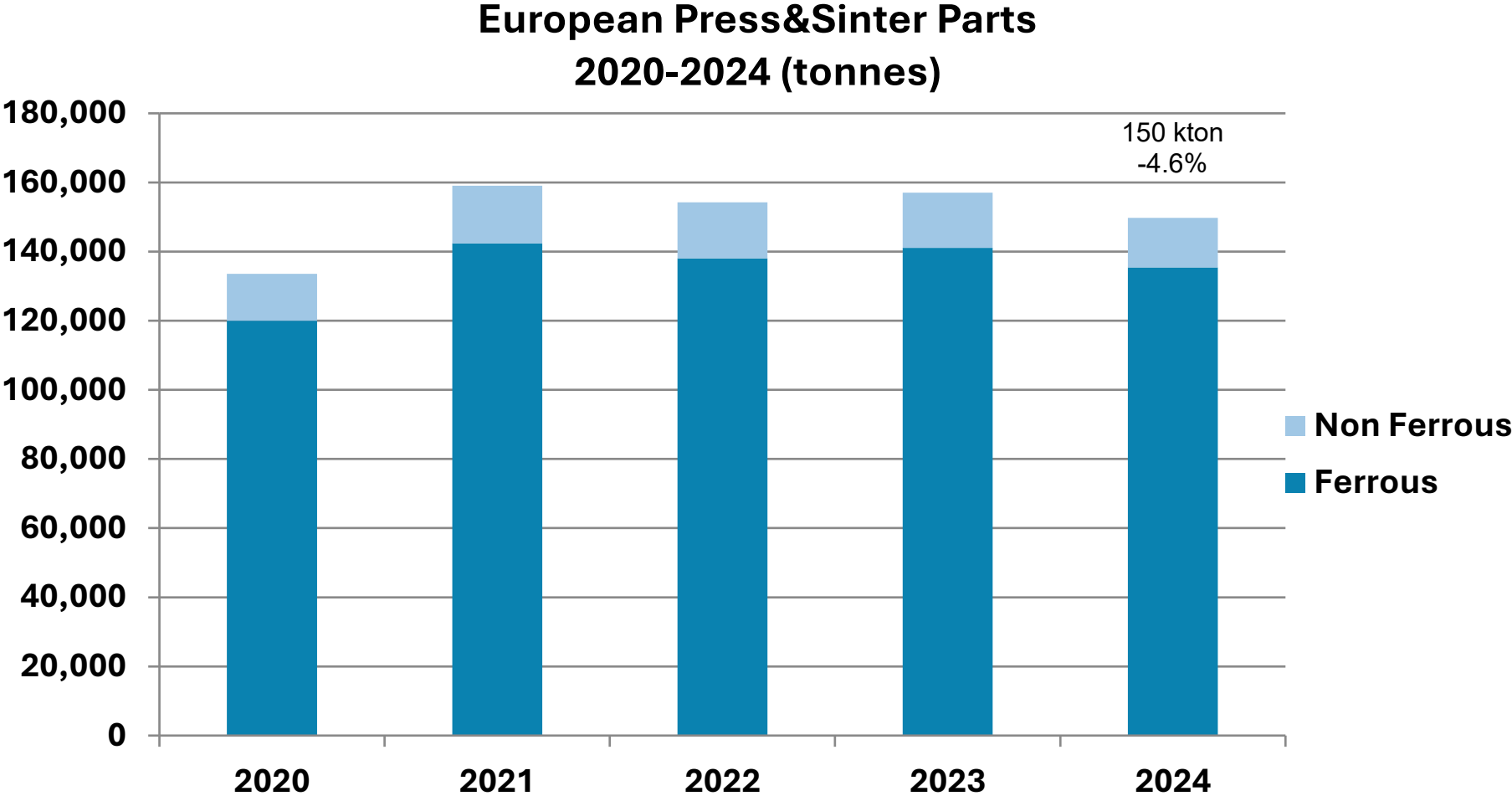
-2.3% in 2024 (in value)

e1

Source: PM Part manufacturers

EPMA Powder Metallurgy Statistics

Press&Sinter

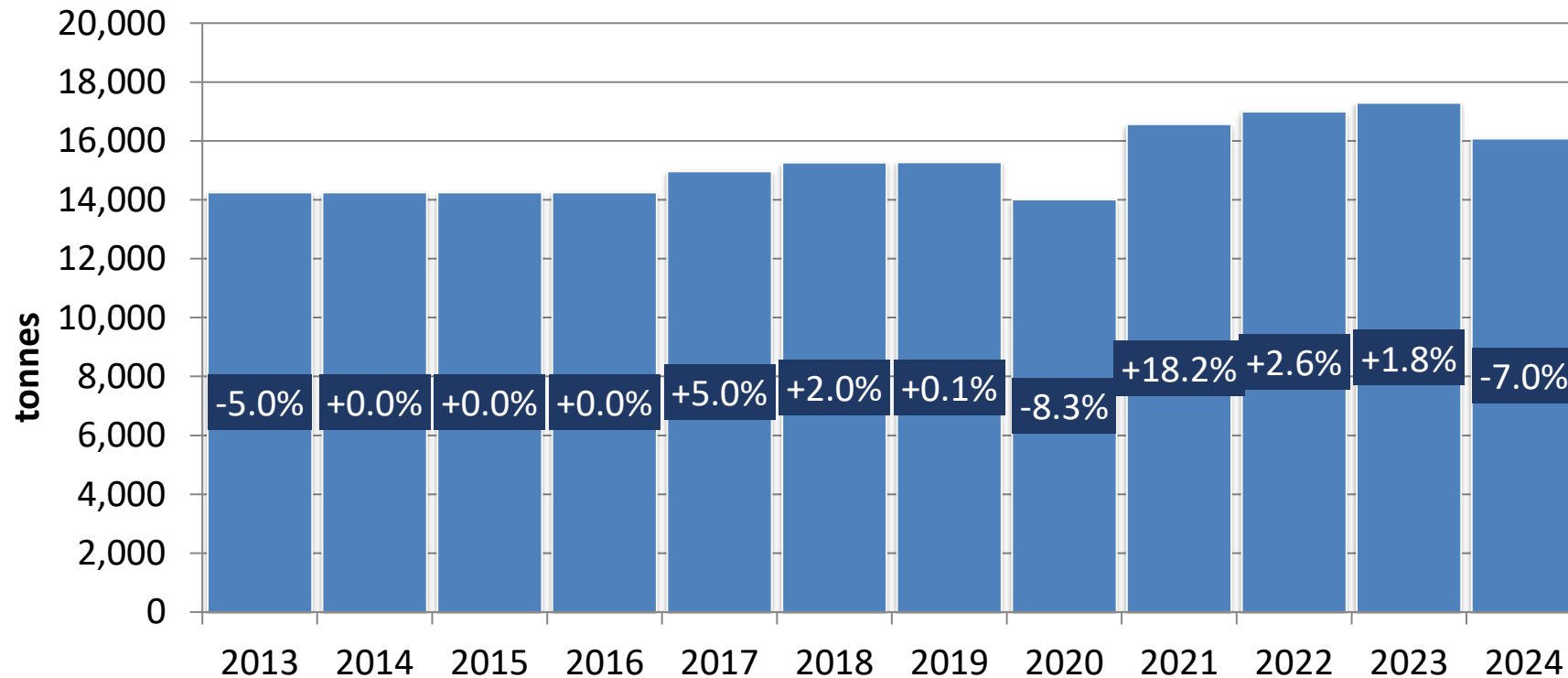


From EPMA’s surveys for P&S Statistics among part manufacturers

Hard Materials

- Suffered from user sectors slowdown
- By value in 2024
 - Hard Metal Carbide tool sector -2%
 - Diamond tool sector -5%

Estimated Hard Materials Production in Europe 2013-2024

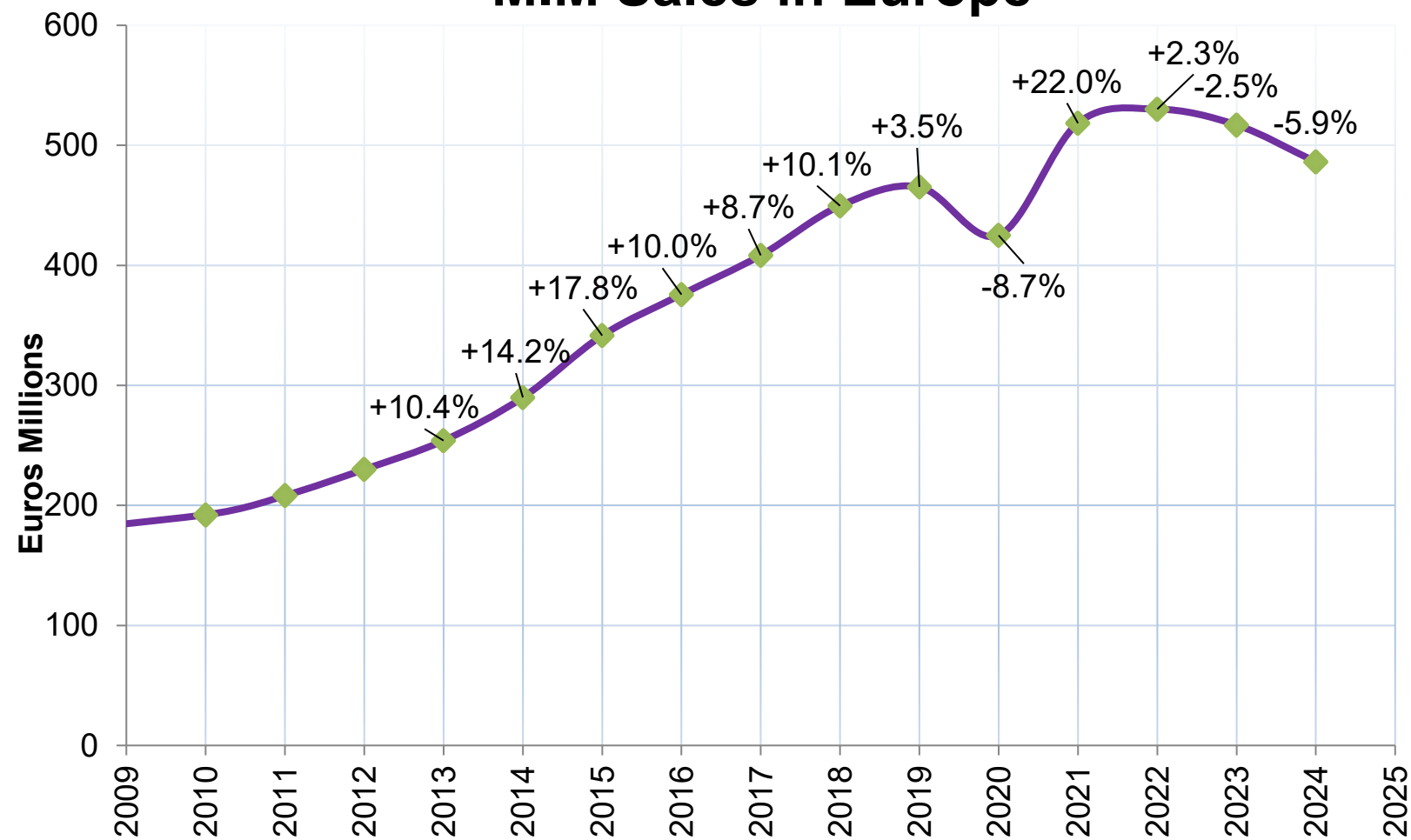


EPMA Powder Metallurgy Statistics

Metal Injection Moulding



MIM Sales in Europe



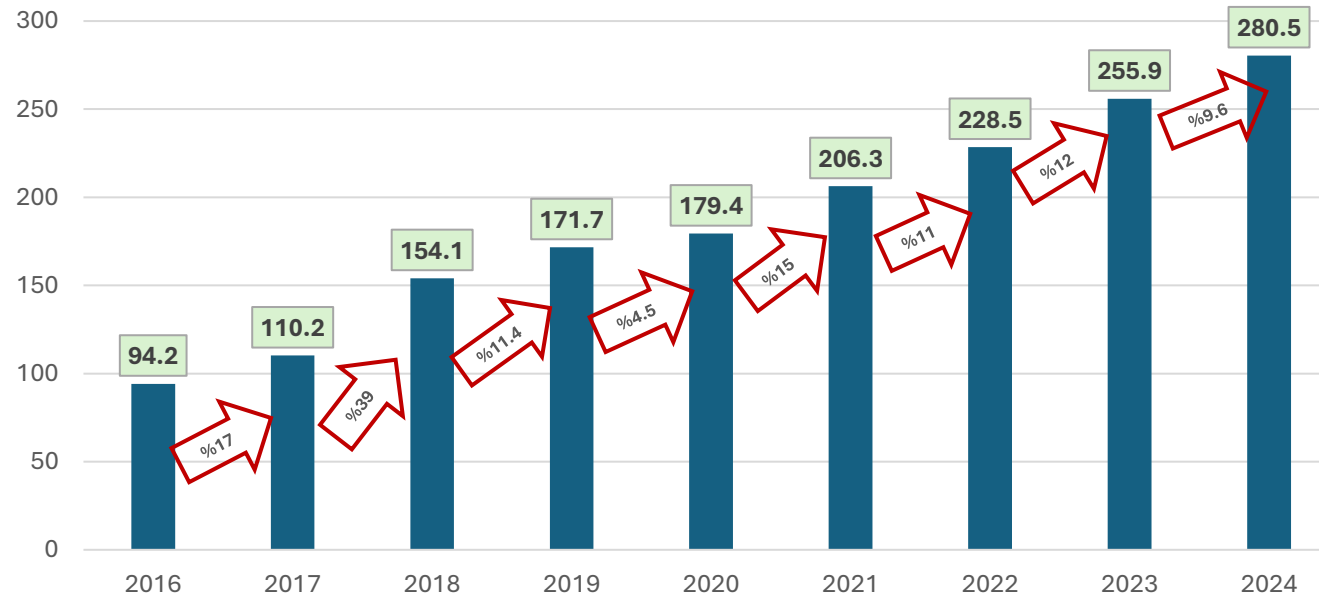
EPMA Powder Metallurgy Statistics

Additive Manufacturing

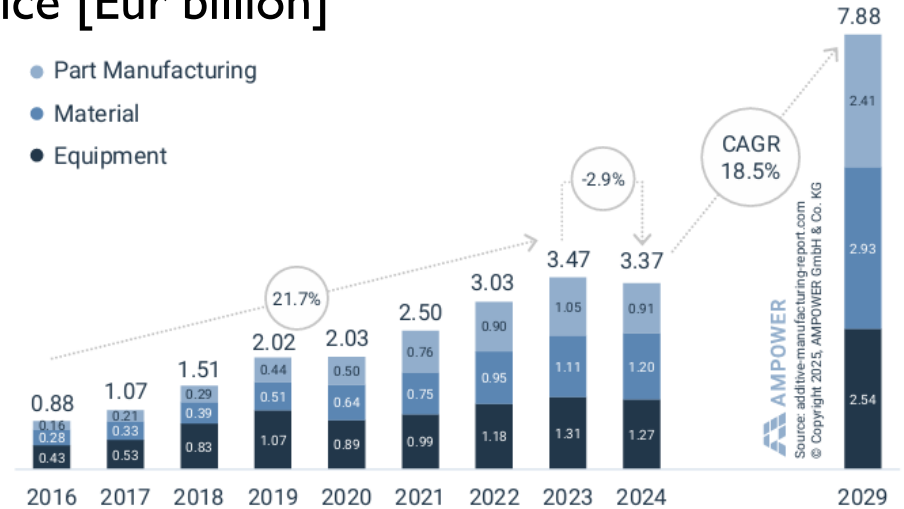


Source: AMPOWER

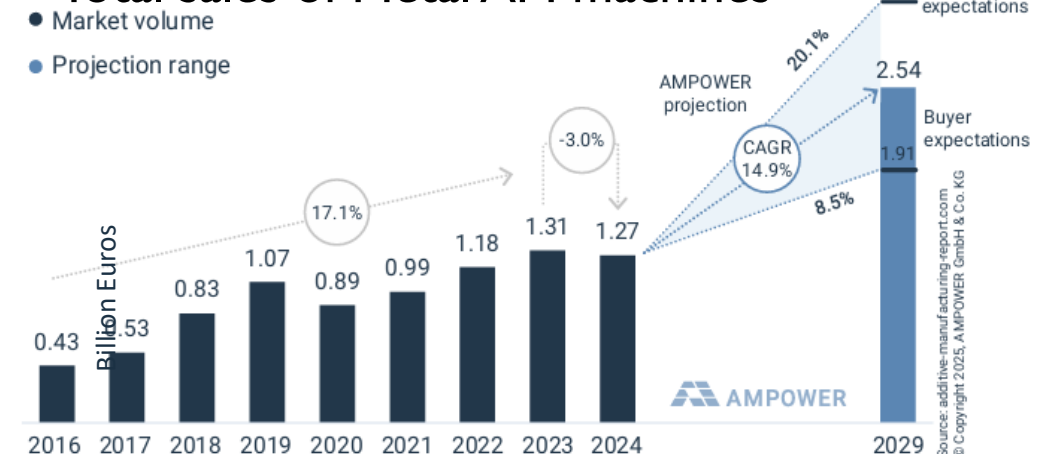
Metal AM powder sales in Europe (million €)



Total Global Sales of Metal AM systems, materials and service [Eur billion]



Total sales of Metal AM machines



Questions and answers

Thanks for joining!