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The oil & gas valve industry in Italy

BUSINESS STRUCTURE, TRENDS AND OUTLOOK

Edition 2022

Bergamo, May 24th 2022

IVS INDUSTRIALVALVESUMMIT

CONFINDUSTRIA BERGAMO

- → **Business Structure and Italy’s role in the European valve industry**
- → Recent trends
- → Outlook (beyond Russia)

The Italian Oil&Gas Industry at a glance

- ✓ ***From the most recent data, the Italian industry of O&G valves results to be one of the "hidden champion" of the Italian manufacturing***:
  - ✓ *More than 250 enterprises, 11.400 employees… and 3,2 billion of euros of turnover.*
  - ✓ *… similarly to bio-medical and motorcycles… and similarly to the whole national extracting/renewable sources industry the Italian energy is produced in manufacturing.*
- ✓ ***Two-thirds of the national production of valves is carried out in Lombardy… where the province of Bergamo plays a pivotal role:***
  - ✓ *About 90 percent of the national production is generated within a 100km radius of the province.*
  - ✓ *Bergamo counts more then 100 enterprises employed in valves production, which allow its industry to contribute as a "key player" (1,4 billion, almost 5 thousand employees, 4,2% of the regions' total) to the achievements of one of the regions with the highest manufacturing vocation.*
- ✓ ***Thanks to these numbers, the industry plays a central role in Europe, as well:***
  - ✓ *38% of the UE28 production is "Made In Italy" (1° producer, above Germany and France)*
  - ✓ *The Italian leadership in the industry is granted by a mixture of a wide and well differentiated supply, with an absolute leadership position in the ball valves, butterfly valves, and parts and components.*

How did the industry face the pandemic?

- ✓ ***The pandemic has heavily affected the demand for O&G valves.***
  - ✓ *Global investments in the sector of O&G dropped by roughly 30% throughout 2020. The recovery of 2021 has exhibited slow rates which have not allowed the industry to re-gain its pre-pandemic standards. Consequently, the global demand of O&G valves imports has reported lower levels in 2021 versus 2019 (-2%).*
- ✓ ***Unavoidably, the COVID-19 shock has affected the evolution of the Italian industry:***
  - ✓ *In 2020, it has been registered a shrinkage of Italian companies' turnover (-3,7%), a result that is nevertheless superior to the one of a wide sample (150+ companies) of international competitors (-11,8%)*
  - ✓ *Still in 2021, the Italian export has not yet re-gained its pre-pandemic level (-7%), with a reduction in the market share (of 9,9%) which has not jeopardized its position in the world ranking of the major world exporters at 3° place, behind China (28,5%) and Germany (12%).*
  - ✓ *Italian companies have nevertheless obtained outcomes that are at least in line with those of their competitors in 62 markets (68% of total exports)*
- ✓ ***These results can be ascribed to two factors in particular:***
  - ✓ ***Geographic specialization:** Italy has suffered due to the considerable decrease of imports in its own main market of reference (MENA: accounts for 20% for Italy, only 10% for global markets), which is in turn connected to the choices of local O&G producers (voluntary cuts to the OPEC production).*
  - ✓ ***Fly to Quality:** a number of Italian companies has prioritized "more complex", and consequently "more profitable" markets and clients, abandoning the segments with higher risk of commoditization. A signal of these choices clearly emerges for the companies in Bergamo which, in 2020, have significantly increased gross marginality (exceeding 11%, +3 points):*

→ higher than 68% with respect to the Italian average

→ higher than 46% with respect to all competitors

Outlooks: the role of Russia in the valves market... and of European sanctions

✓ ***The Russian Oil&Gas valves market activates annually imports for almost 800 million of euros, of which 41% from China.***

✓ ***With regard to Italian products, the Russian market is valued at 100+ million of exports per year (3,5%)…***

✓ *However, in order to evaluate the overall effect of European sanctions to Russia, **the global imports of machineries for O&G should also be taken into account (2,3 € blns).***

✓ *European imports account for 48% of global imports, of which 23% are ascribed to Germany, and 12% to Italy (235 millions).*

✓ ***Collectively, the sanctions imposed at the European headquarters concern flow of imports for more than 1,5 billion of euros (valves and machinery for O&G) of which about 340 million have Italian origins.***

Outlook: beyond Russia (1/2)

- ✓ ***In 2021, for every dollar globally invested in production of new energy sources, 68 cents have concerned fossils sources...***
  - ✓ *… and 32 renewable sources… meanwhile, only two years ago, the balance amounted to respectively 74 and 26 cents.*
  - ✓ *The "green transition" is in place… and it is moving fast. Among the fossil sources, the gas production holds its place, while oil production falls behind.*
  - ✓ ***Overall, in 2021 Oil&Gas investments have increased (+7,6%), although they remain significantly below the pre-crisis standards (-26%).***

- ✓ **Not even the exceptional increase in prices (Oil and Gas) has - for now - triggered a new cycle of investments in new activities of drilling and extracting.**
  - ✓ At least four underlying factors have contributed to slowing down the start of a new cycle:
    - ✓ *Uncertainty caused by the pandemic*
    - ✓ *The presence of a large unexploited production capacity in OPEC countries*
    - ✓ *Uplifted attention to the profitability expected from new investments*
    - ✓ *Embedding in investments choices of the large major of ESG evaluations*

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Outlook: beyond Russia (2/2)

FOSSIL SOURCES: WHAT CAN WE KNOW FROM WHAT WE DO NOT KNOW

- ✓ ***The majors in the Oil&Gas industry have highly differentiated outlooks regarding the long-term evolution of the world oil demand:***
  - ✓ *With respect to the current 100 million barrels/day, in 2030 the demand could either increase to 110 mln barrels per day, or decrease to 90 mln barrels per day. In 2050, the range between the two extreme outlooks reaches over 48 million of barrels per day.*
  - ✓ *Nevertheless, even in an outlook of accelerated "green" transition (in absence of new investments in fossils sources production), the activities necessary for the maintenance of existing plants require an increase of ordinary maintenance expenses of 6% per year.*

RENEWABLE SOURCES: TWO BRIGHT SPOTS FOR VALVES PRODUCERS:

- ✓ ***The production of energy from hydrogen is expected to grow by 12 times before 2030, thanks to a relevant policy support (cf. NGEU)… with subsequent great opportunities for the specialized valves producers (for instance, zero-leakage valves)***
- ✓ ***Also for the GNL production – the energy source of the transition toward a "zero emission" future – is forecasted a significant growth (+80%) over the 2030 horizon… with a further boost linked to the decision to substantially decrease in a short period of time the reliance from pipe imports from Russia. This represents a further good news for the Italian valves industry.***

The Italian industry of tapes and valves

A core sector of Made in Italy IM&E industry (2019)

	Number of enterprises	Production value (€ blns)	Number of employees
Oil & Gas valves	255	3,2	11.400+
Oth. industrial valves*	682	4,4	16.600+
Household taps	336	1,3	5.700-
TOTAL Tapes & Valves	1274	9,0	33.700

* *Hydraulic valves, valves for food & beverage industry, valves for pharmaceutical industry, etc.*

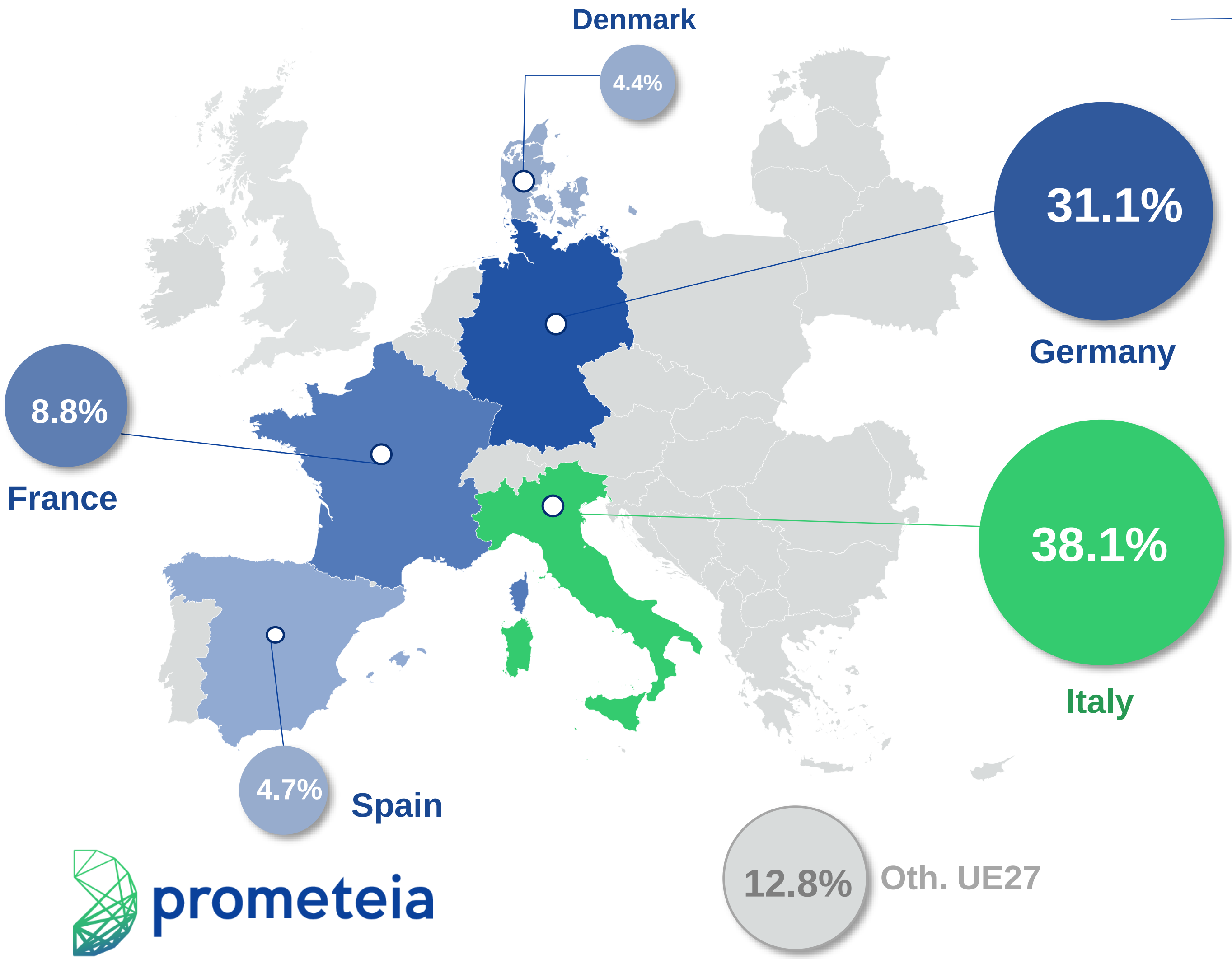
Source: Prometeia's calculation on ISTAT data and Companies balance sheets

The O&G valve industry in Europe

Italy is the European leading manufacturer of O&G valves (almost 40% of EU Tot. Production)

The main European production countries: sold production value*

% share on total, €, average 2018, 2019, 2020



total UE27

8.13€ blns

* Production value generated at national production plants

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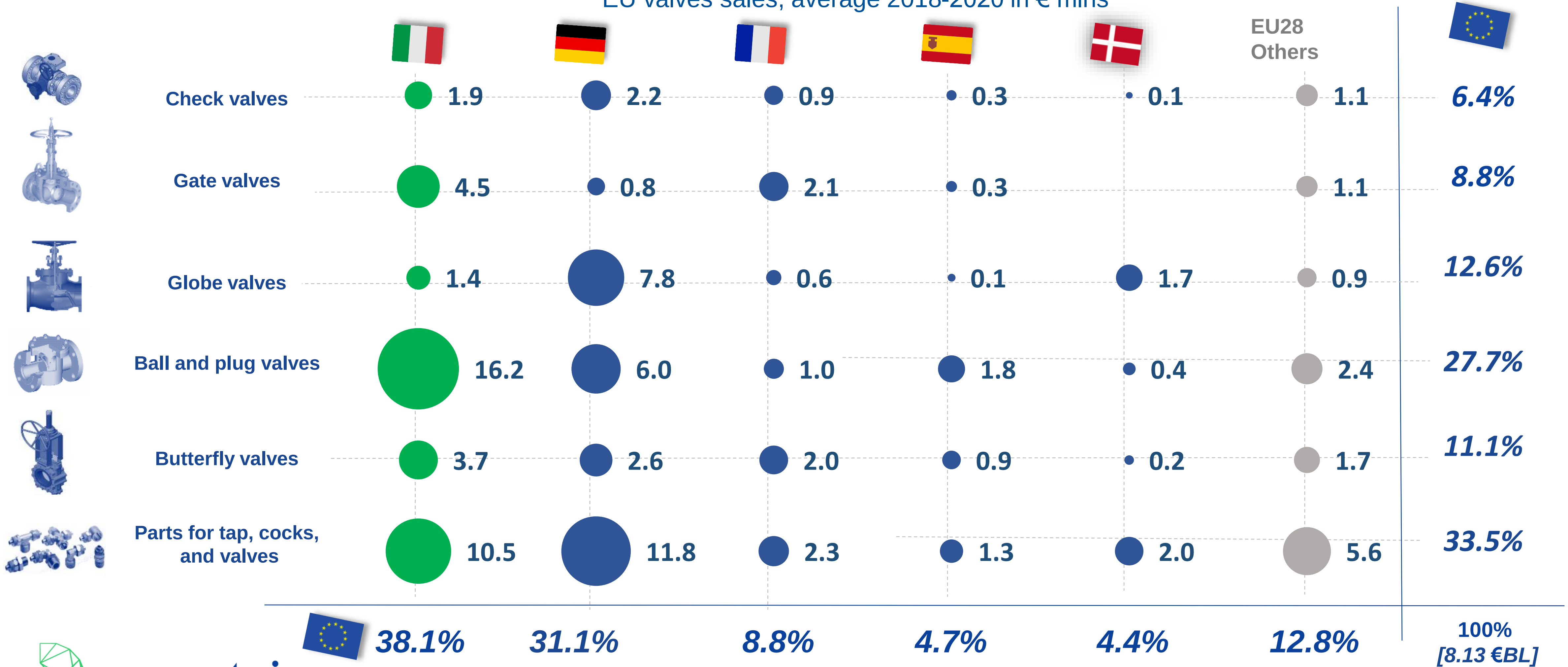
EU27 valves production by type

Itay leads in Ball and Plug, Butterfly, Gate valves and parts production

The main European production countries: sold production value by country and product*

EU valves sales, average 2018-2020 in € mlns



	🇮🇹	🇩🇪	🇫🇷	🇪🇸	🇩🇰	EU28 Others	🇪🇺
Check valves	1.9	2.2	0.9	0.3	0.1	1.1	6.4%
Gate valves	4.5	0.8	2.1	0.3		1.1	8.8%
Globe valves	1.4	7.8	0.6	0.1	1.7	0.9	12.6%
Ball and plug valves	16.2	6.0	1.0	1.8	0.4	2.4	27.7%
Butterfly valves	3.7	2.6	2.0	0.9	0.2	1.7	11.1%
Parts for tap, cocks, and valves	10.5	11.8	2.3	1.3	2.0	5.6	33.5%
🇪🇺	38.1%	31.1%	8.8%	4.7%	4.4%	12.8%	100% [8.13 €BL]

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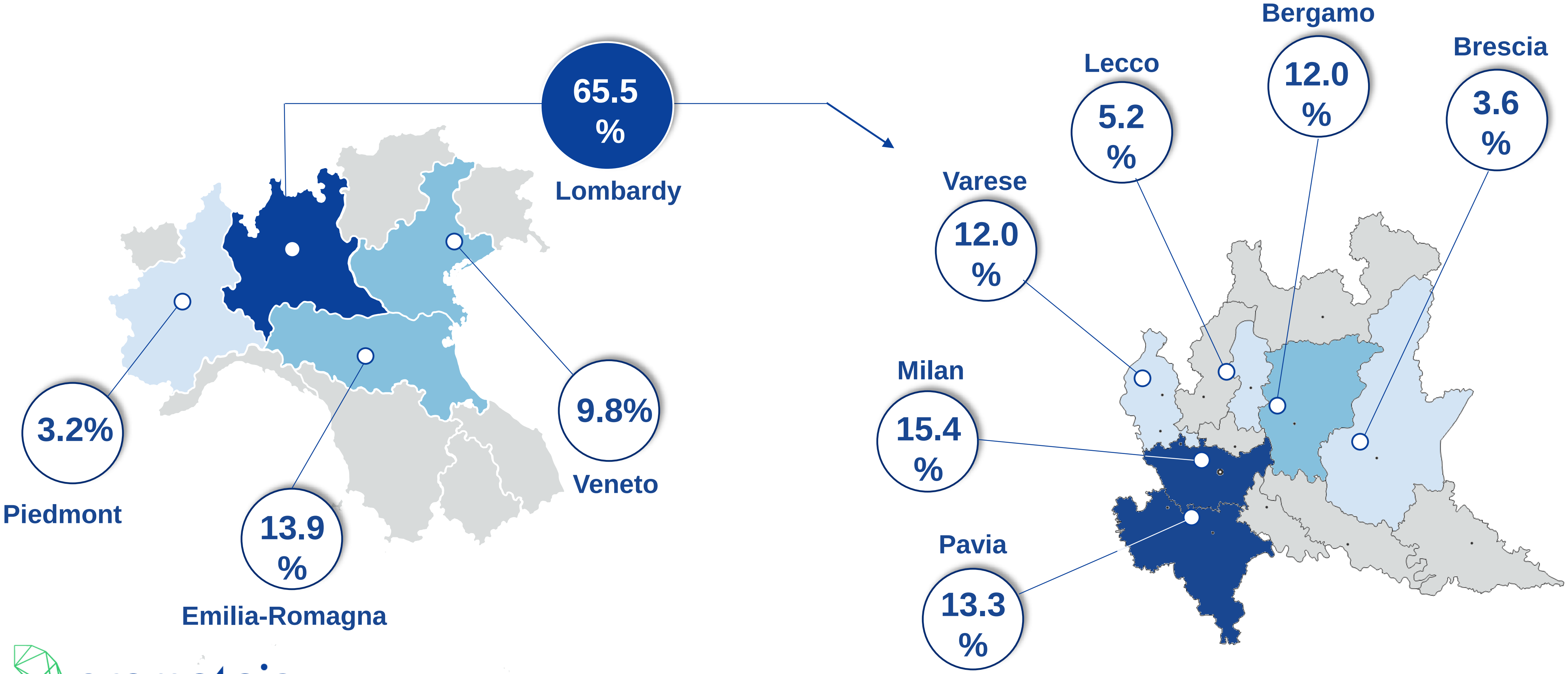
The O&G valve industry in Italy

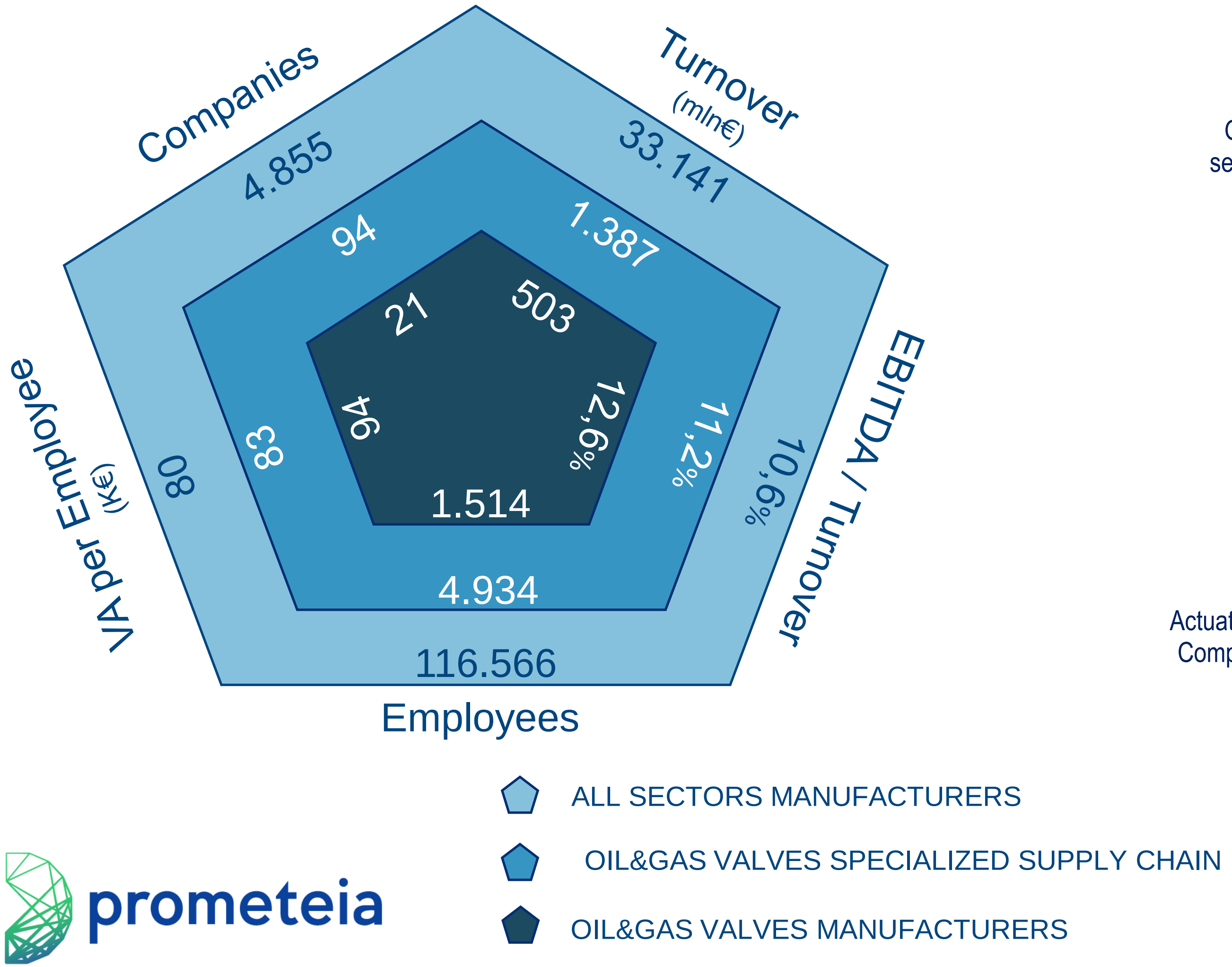
65.5% of the Italian production is concentrated in Lombardy

The map of territorial specialization: % share of the Italian production value (2019)

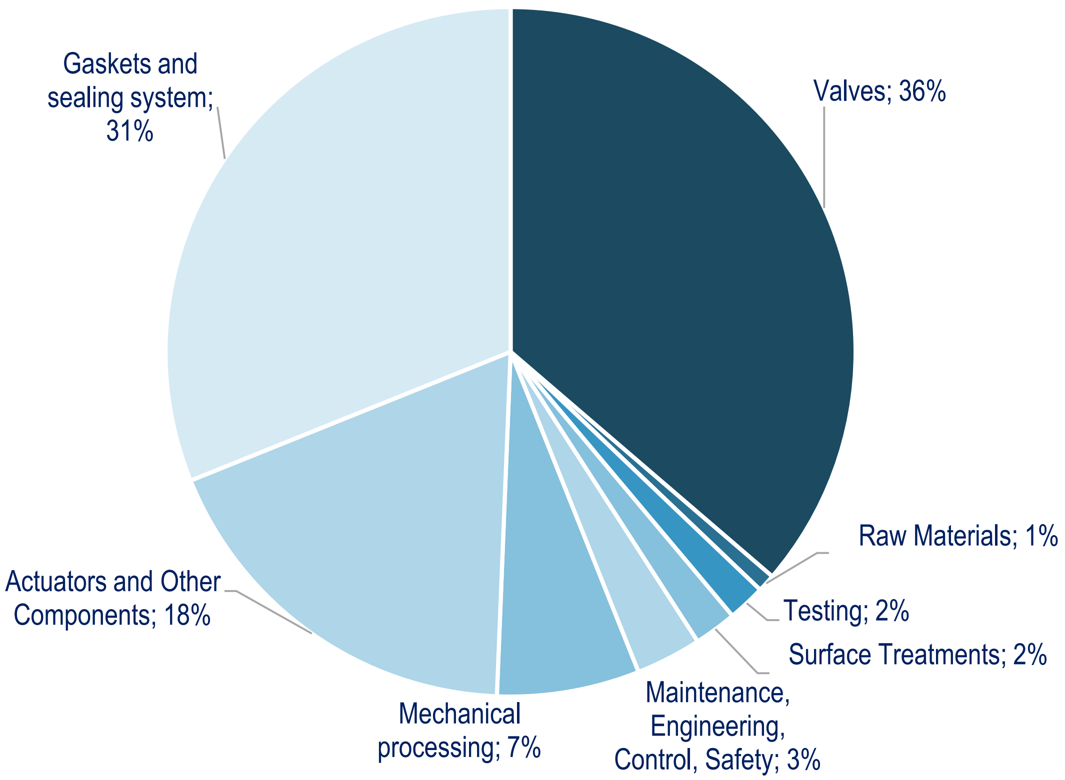


Oil&Gas Valves – A core Bergamo Industry

Valves manufacturers rely on a larger specialized supply chain



Main products in the Oil&Gas Valves Supply Chain (% of Turnover)



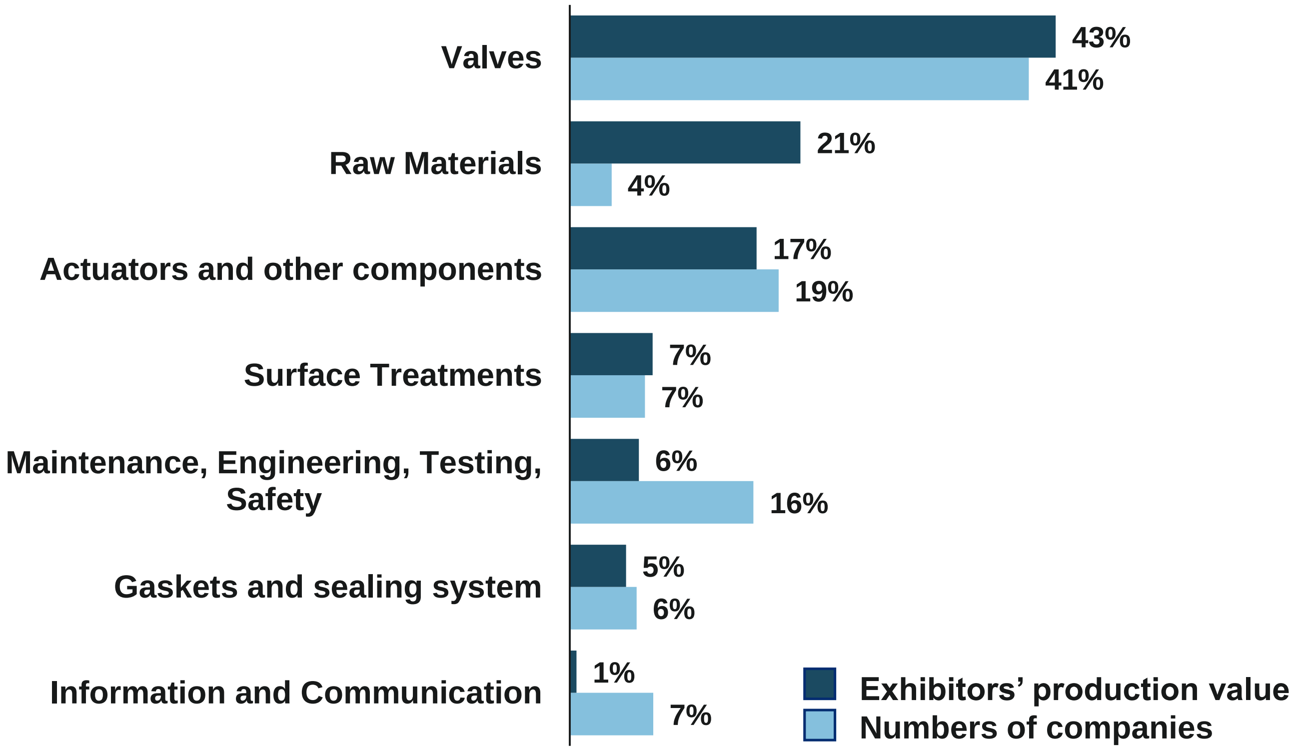
Source: Studi Confindustria Bergamo on BVD – AIDA (2019) data

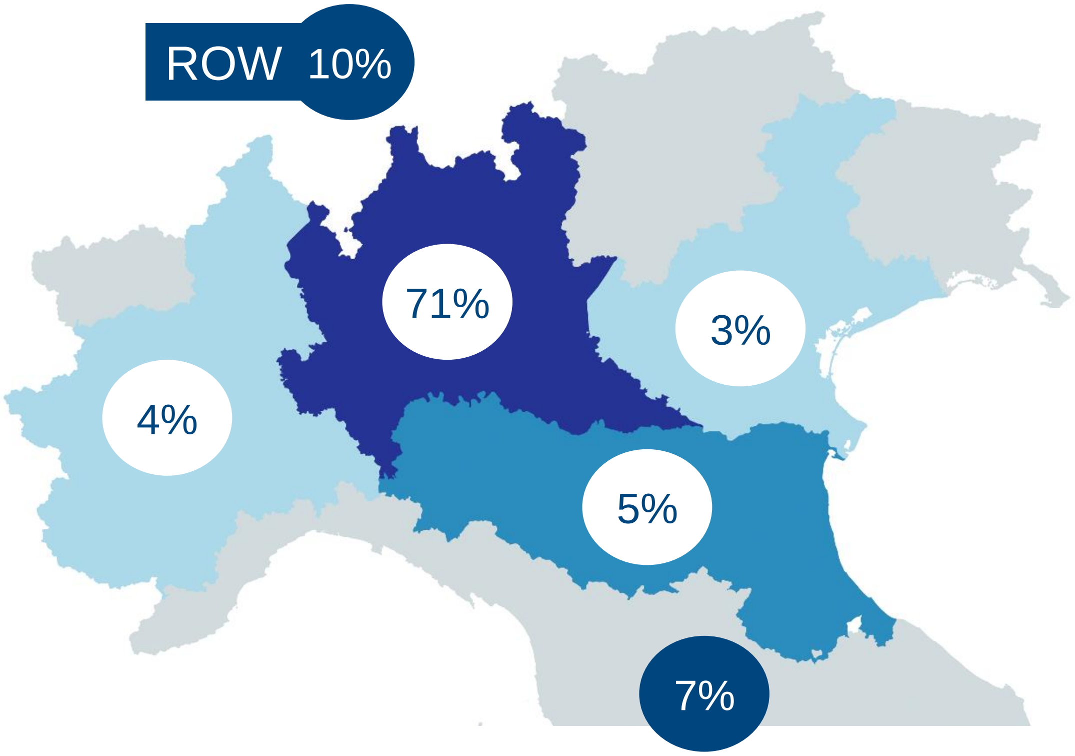
Industrial Valve Summit 2022

Exhibitors’ activities

Exhibitors	2017	2019	2022
No.	195	242	280
Production Value (bln€)	4,6	5,2	5,9

Exhibitors and their production value by main product
% of total





Source: Studi Confindustria Bergamo on BVD – AIDA/Orbis data (2020; production value available for 249/280 companies)

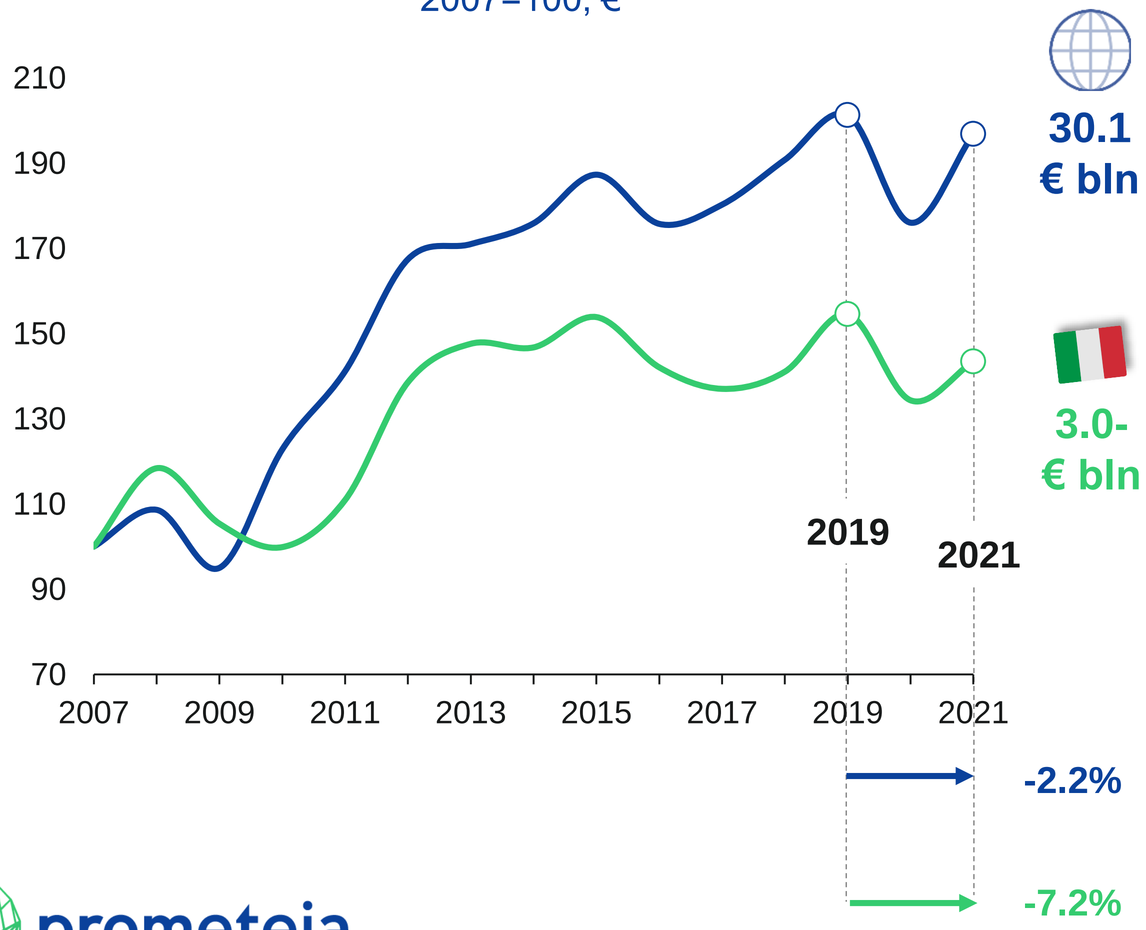
Italy in O&G valves global trade (1/4)

Italian exporters fared relatively worse than peers in the aftermath of the pandemic...

... losing approx. ½ point of export market share

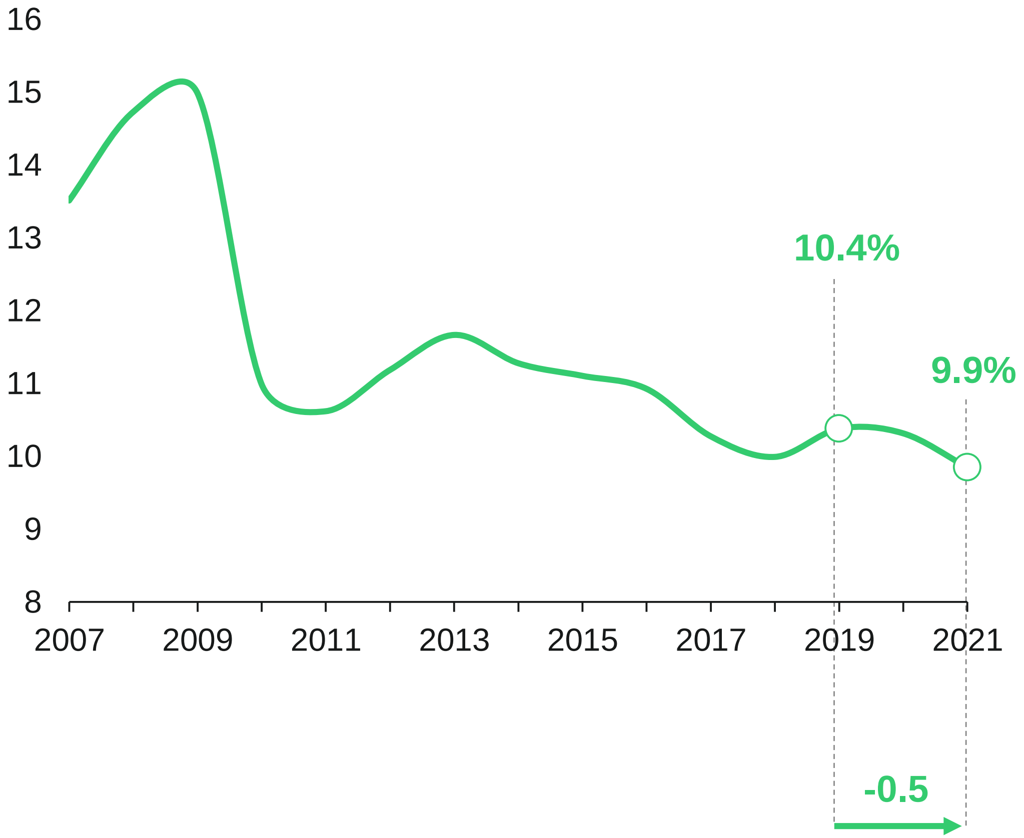
World imports and Italian exports of O&G valves

2007=100, €



Italy's share of World O&G valves market

ITA export as % of World imports, €

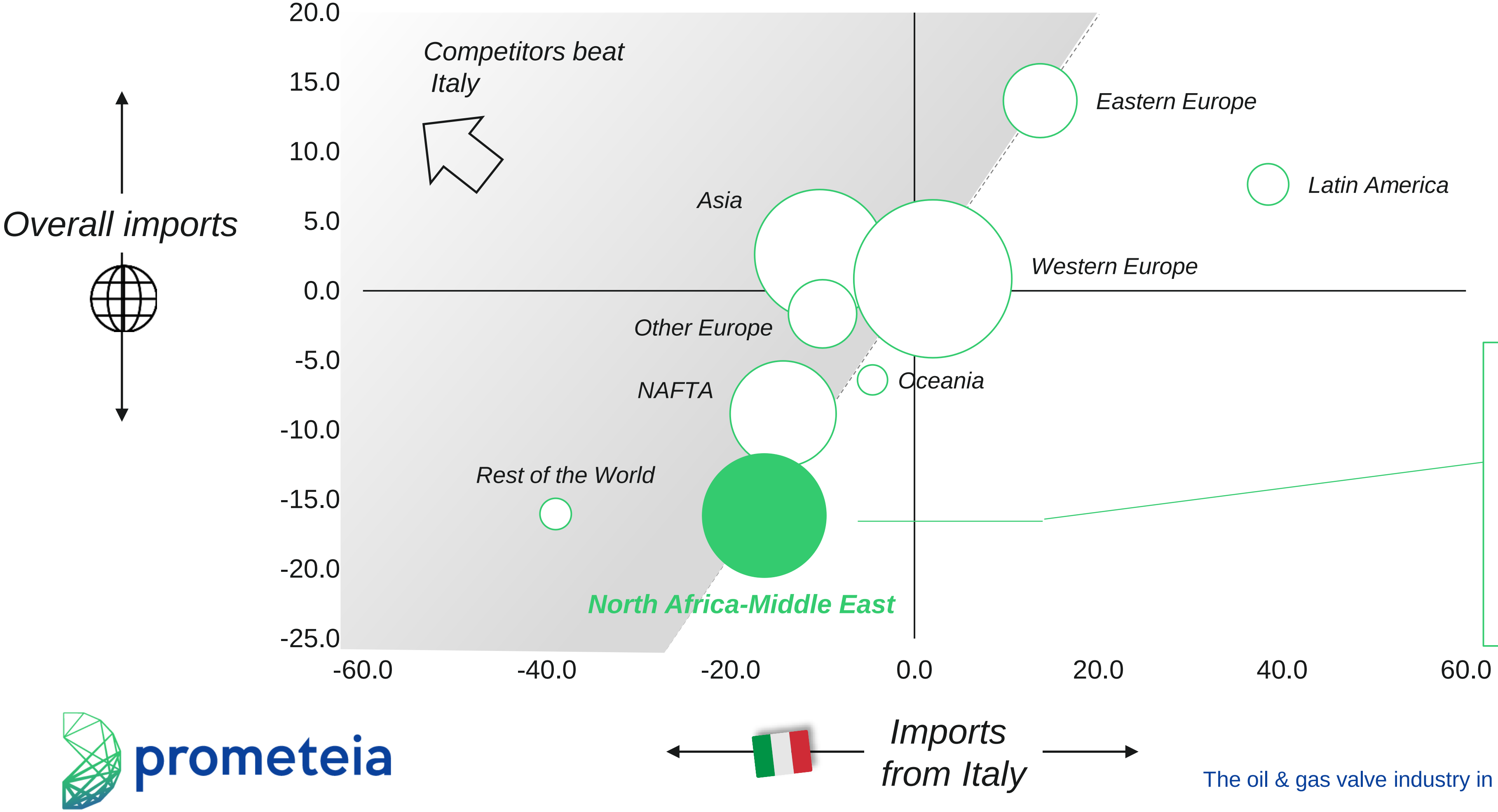


Italy in O&G valves global trade (2/4)

... whose underperformance affected the Italian export recovery in the last 2 years

World imports and Italian exports of O&G valves in the last two years

Imports from Italy and overall imports, 2021 / 2019 % chg. (€)

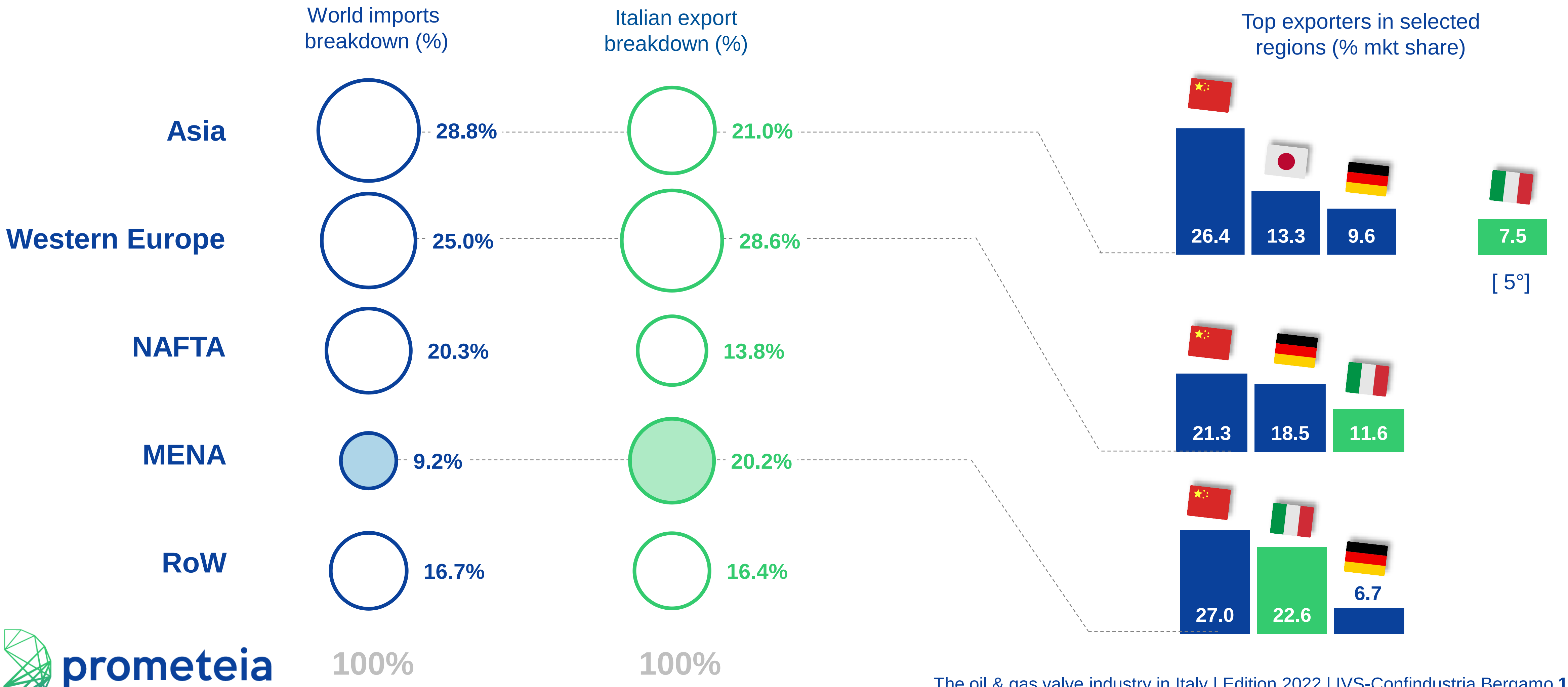


***Middle-East / Northern Africa** relevance is **disproportionally larger for Italy** (~20%) **compared to peers** (~9% on average). Voluntary production cuts by OPEC members (most of them located in the MENA region) and consequent fall in investments had a **far more relevant impact for the former**, compared to the latter.*

Italy in O&G valves global trade (3/4)

One in five valves exported by Italy (in value) is directed to MENA markets ...

Geographic Framework of sales (in €, 2019-2021 average)

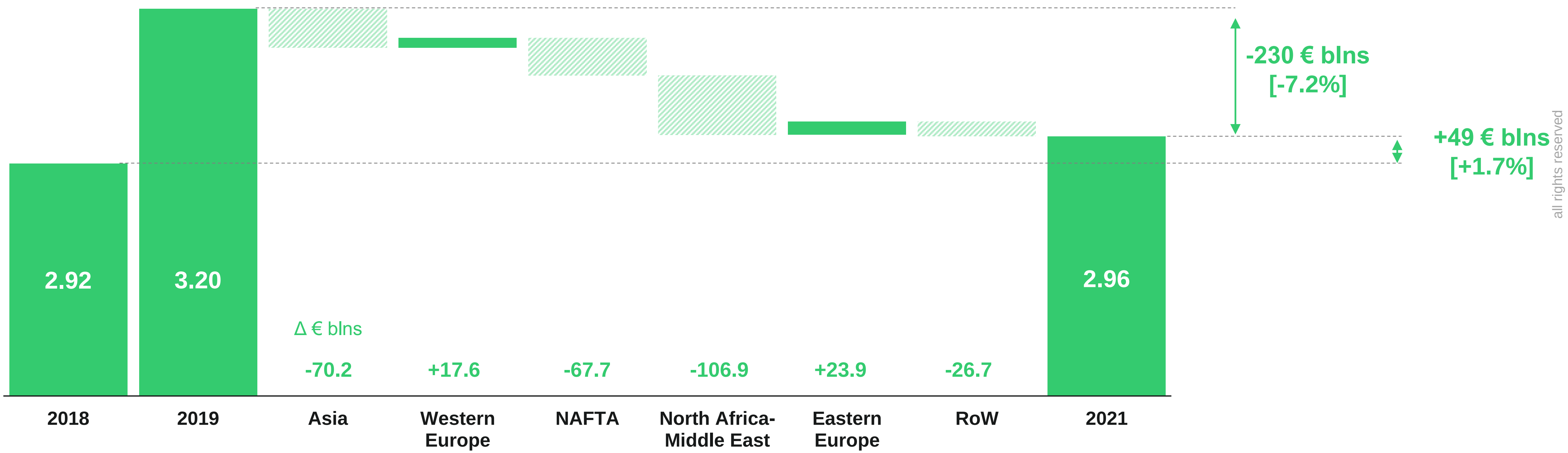


Italy in O&G valves global trade (4/4)

Overall sales abroad were 7.2% lower in 2021 compared to 2019... albeit 1.7% higher than in 2018

Italian export of O&G valves

Regional contribution to Italian export growth, Δ 2021 - 2019 in € blns.



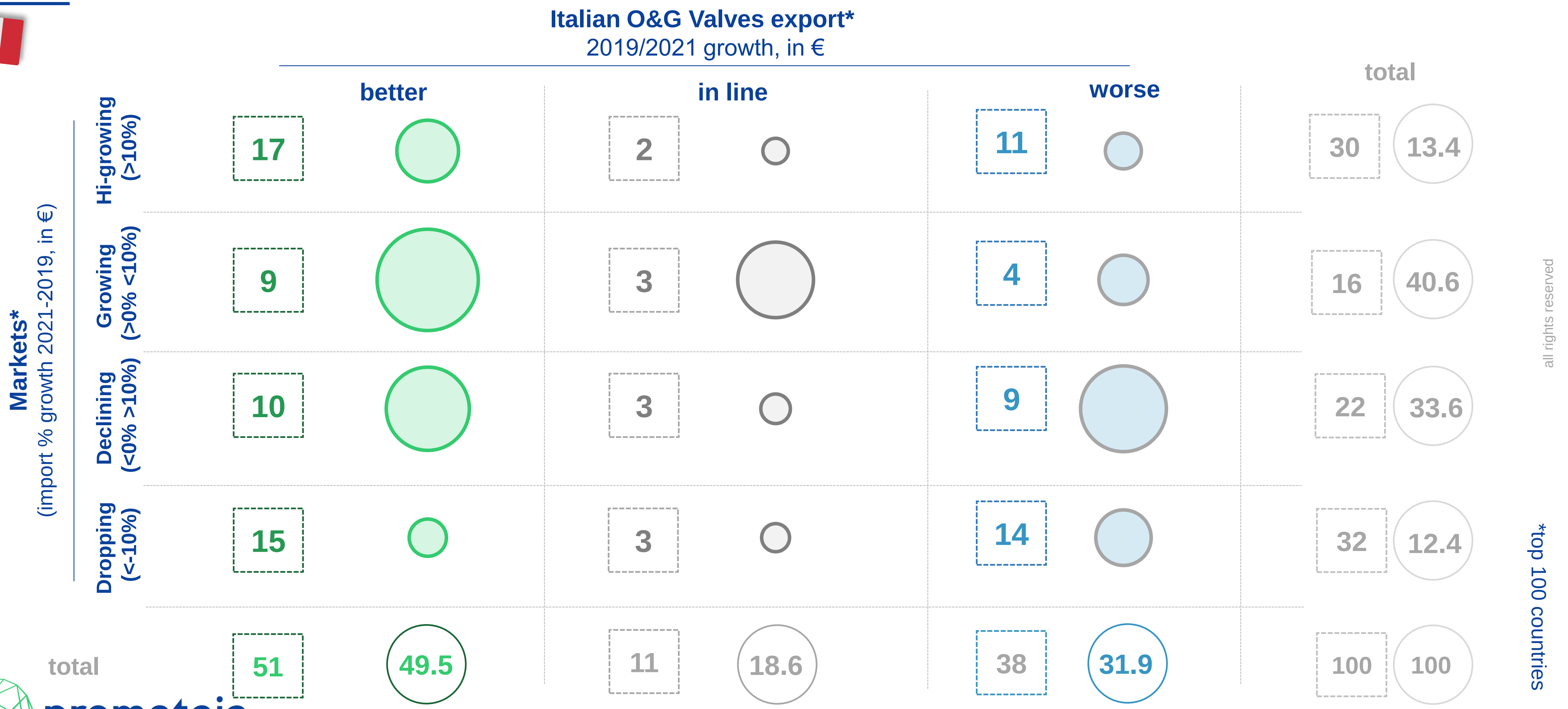
Middle-East / Northern Africa *accounted for almost 50% (107 over 230 € blns) of the overall export loss in the "pandemic years" (2020-2021)*

Italy O&G valves maintained competitiveness ...

Italian export growth matched those of competitors in 62 markets (51+11) over 100 (2021 vs 2019)

Export ITA (%)

# of countries



Italian O&G Valves export*
2019/2021 growth, in €

Markets* (import % growth 2021-2019, in €)

	better		in line		worse		total	
Hi-growing (>10%)	17		2		11		30	13.4
Growing (>0% <10%)	9		3		4		16	40.6
Declining (<0% >10%)	10		3		9		22	33.6
Dropping (<-10%)	15		3		14		32	12.4
total	51	49.5	11	18.6	38	31.9	100	100

*top 100 countries

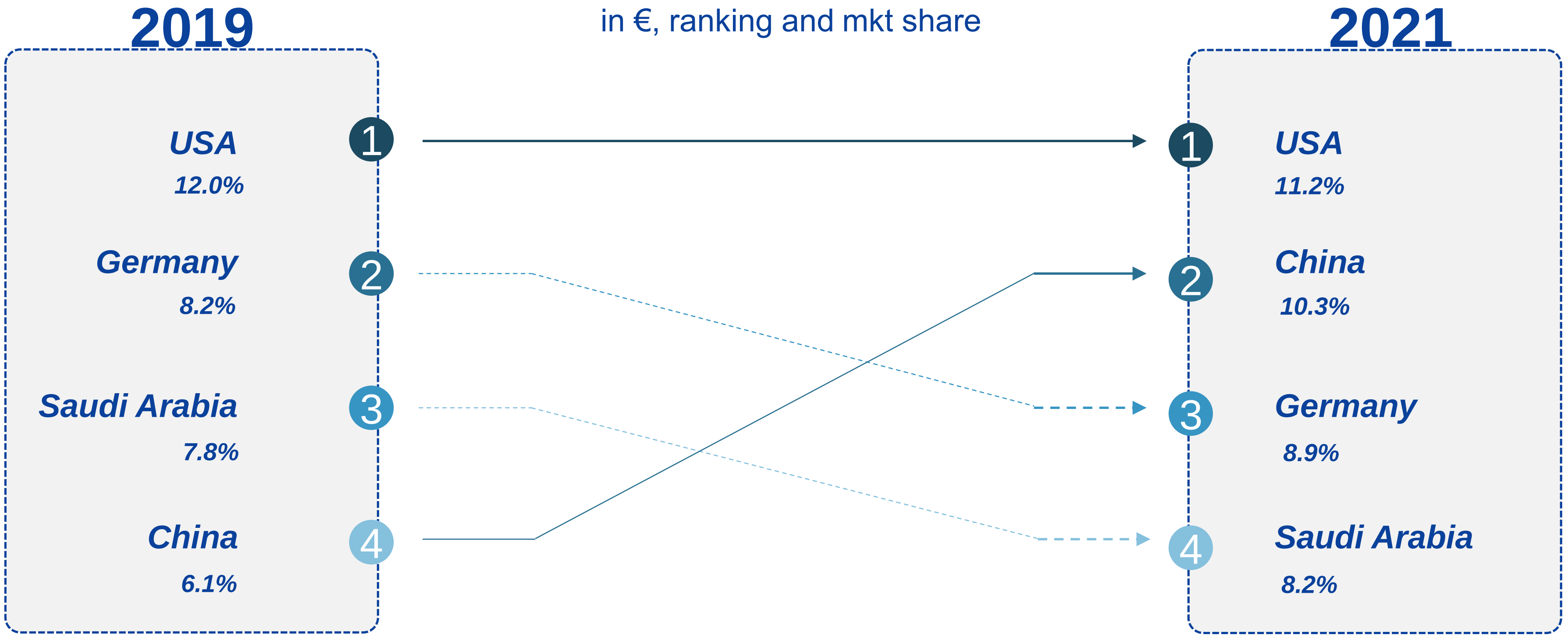
... in fast-changing & concentrating landscape

USA topped the ranking, China gained 2 position, at the expenses of Germany and Saudi Arabia ...

... which anyhow increased their share

Italian O&G Valves export by destination

in €, ranking and mkt share



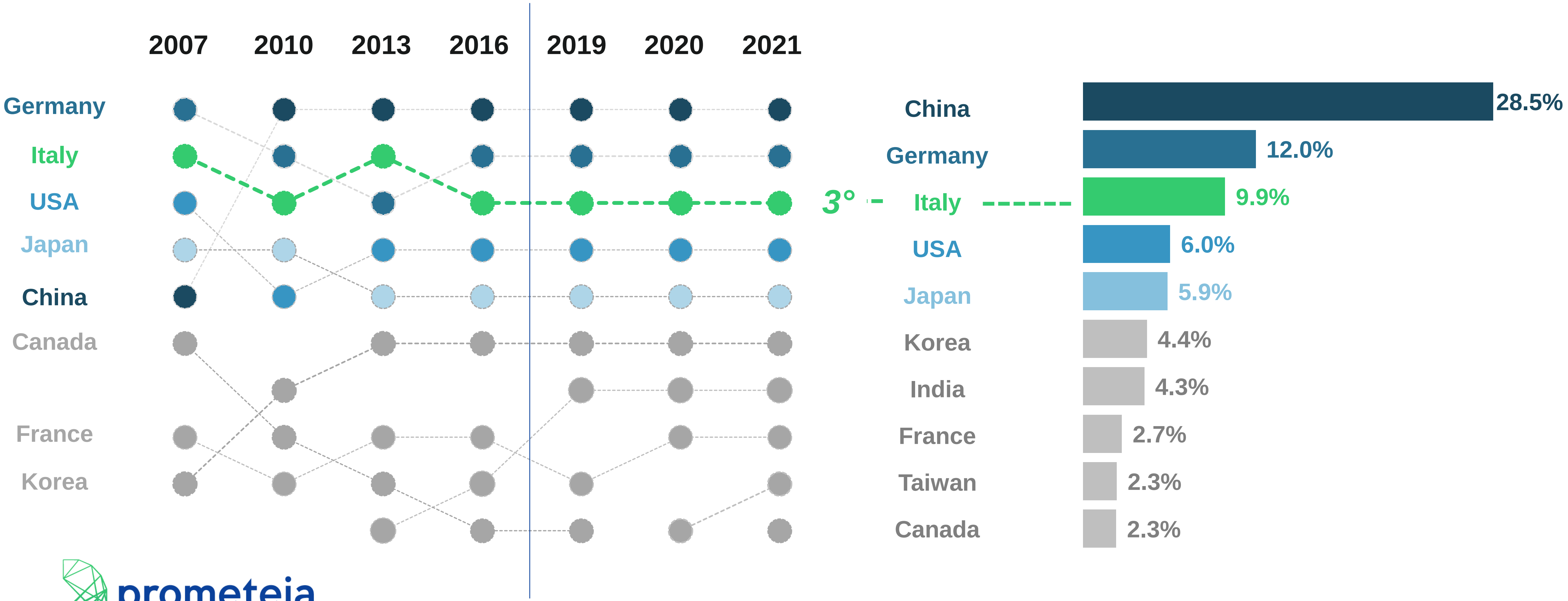
Top 4 markets accounted for **34.1%** of Italian export value in 2019...

... almost 5 p.c. points less than in 2021 (**38.5%**)

World top exporters of O&G valves

Italy still holds the bronze medal in global Valves trade – China dominates the ranking, followed by Germany

World top-10 exporters of O&G valves (€)



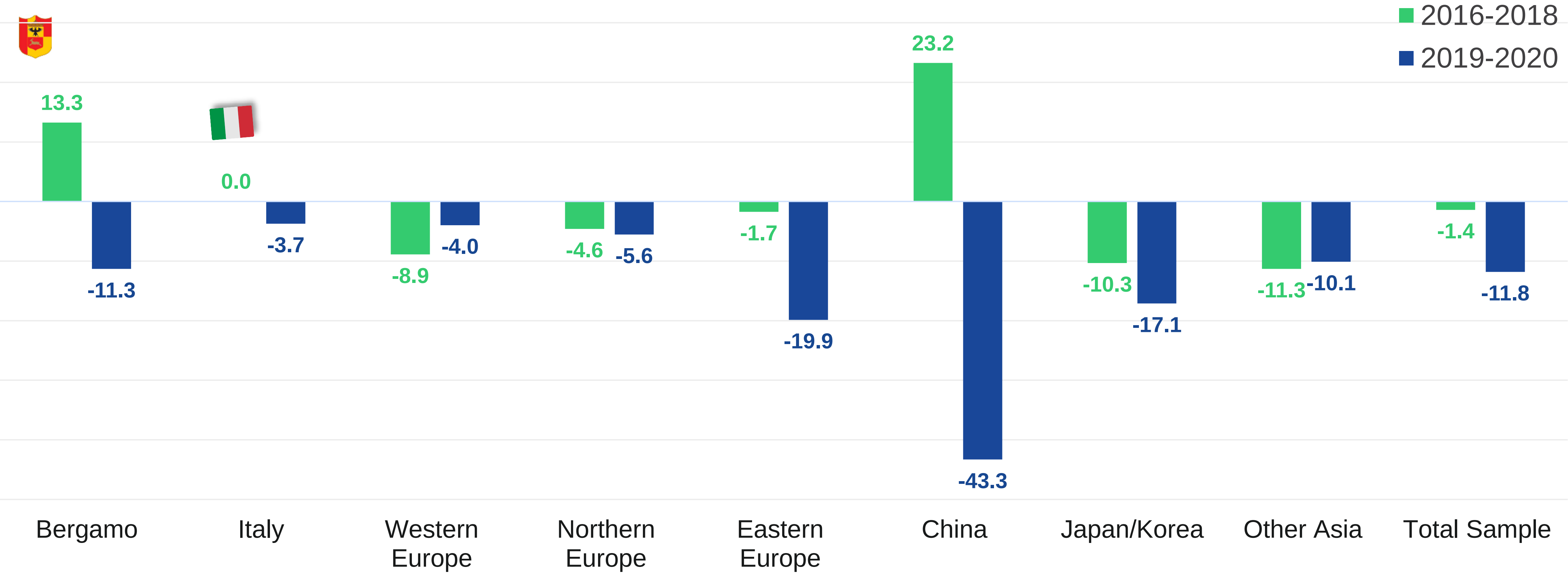
Place in ranking, 2007-2021

World market share, 2021

Turnover: most of the companies suffered in 2020

Bergamo performed well both at national and global level before the pandemic

Total turnover evolution 2016-’18: % change, median value by cluster

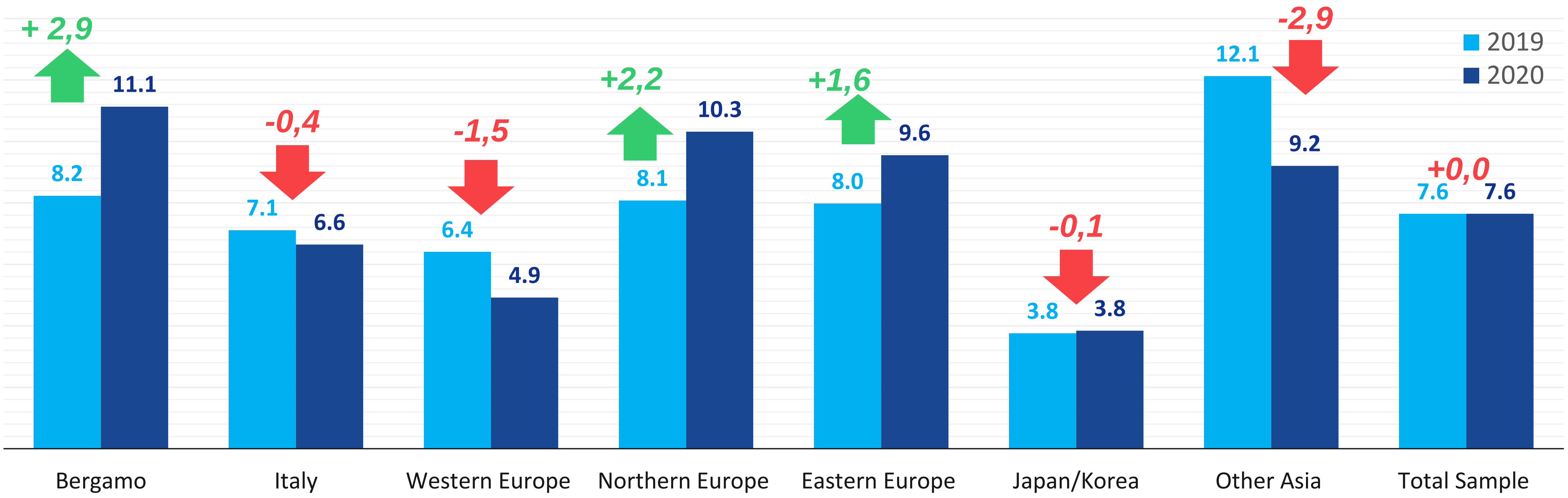


Source: Prometeia’s calculation on balance sheet of a sample of 152 firms for a production value of 6.9 € blns in 2019

The industrial profitability

Italy remains competitive in terms of marginality as a result of Bergamo's positive performance

Industrial profitability: EBITDA, % share on total turnover, median value by cluster



Note: China is missing due to the lack of data availability

The data relating to Bergamo companies differ from those shown on slide 18 because it refers only to companies with turnover >5 € mlns and because it's calculated using the median method and not as a sum

Source: Prometeia's calculation on balance sheet of a sample of 152 firms for a production value of 6.9 € blns in 2019

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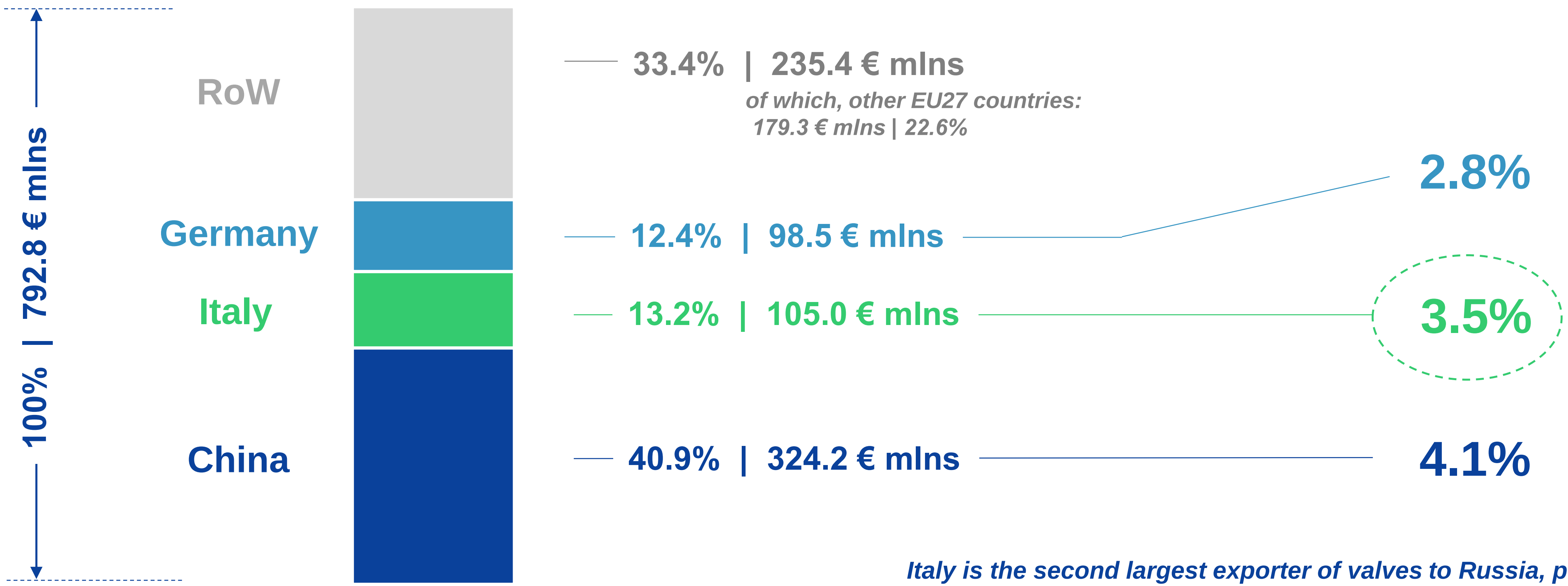
An insight on Russia | an 800- € mlns market

... accounting for 3.5% of Italian O&G valves export (~ 105 € millions) now under EU *embargo**

Russian imports of O&G valves: 2019-2021 avg.
in €, % on total imports

Russian share of O&G valves on total export
in €, % on total exports by country. 2019-'21 avg.



Italy is the second largest exporter of valves to Russia, preceded by CHN (not impacted by sanctions) and followed by DEU.

***cfr. Appendix 1**

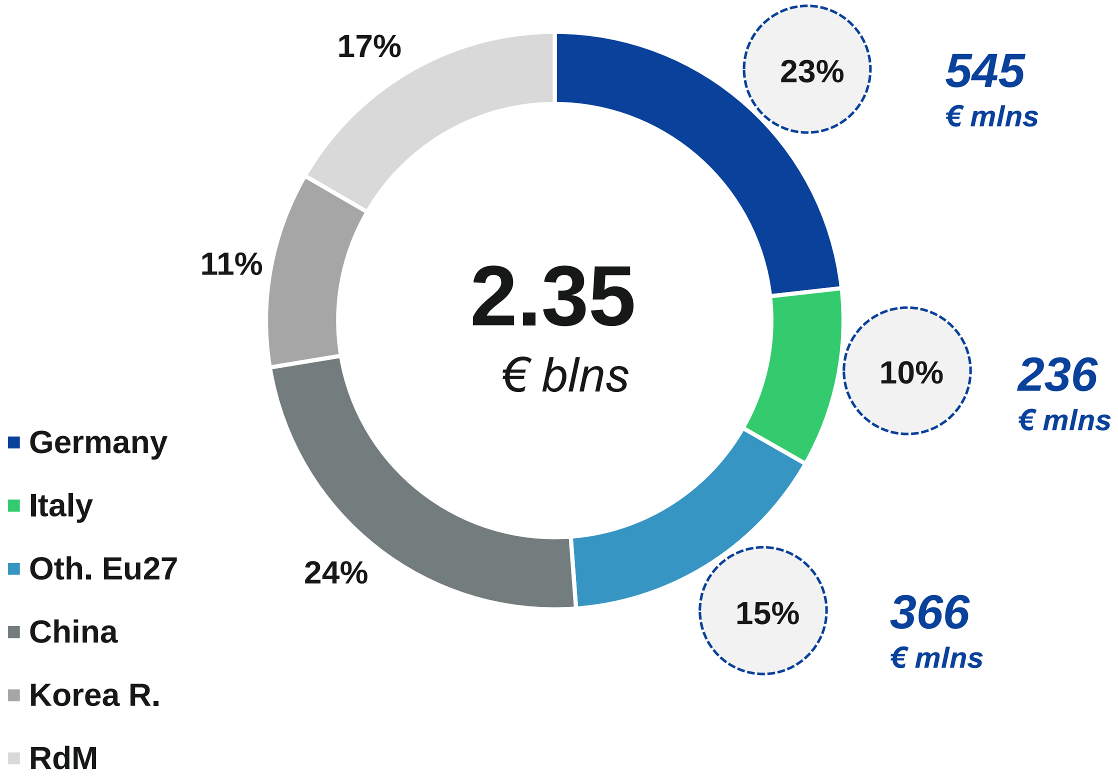
An insight on Russia | second round effects also matter

Germany is the second largest exporter of O&G machinery to Russia...

... and the third market for ITA O&G Valves export

Russian imports of O&G machinery (under embargo by 2022 EU sanctions*)

in €, % on total imports



*cfr. Appendix 2

48% *of O&G machinery goods (both upstream and mid-downstream) imported by RUS in 2021 (worth* ***1.14*** *€ blns) originated from European countries and are now subject to a full embargo by EU*.*

Western Europe *accounts for 24%- of overall Italian O&G valves export, part of these used as components for O&G machinery sold in Russia.*

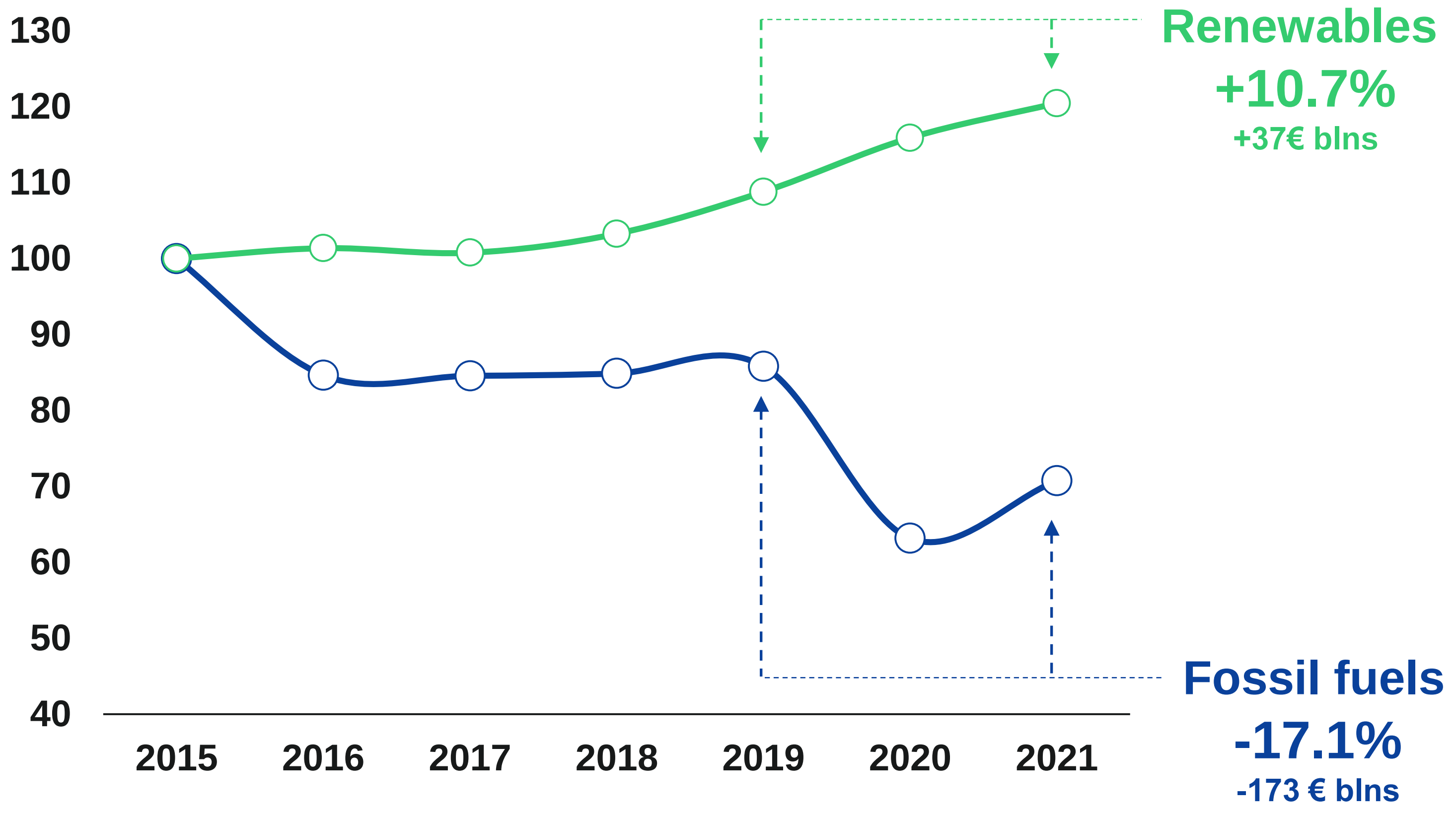
Italy *O&G manufacturing companies account for approx. 10% of total Russian import market for O&G machinery*

Impact of EU sanctions package will likely be felt ***both in a direct*** *(see previous page)* ***and indirect*** *(through lower demand for machinery components)* ***manner****.*

Renewables gathered the bulk of *new* investments in 2020-’21 ...

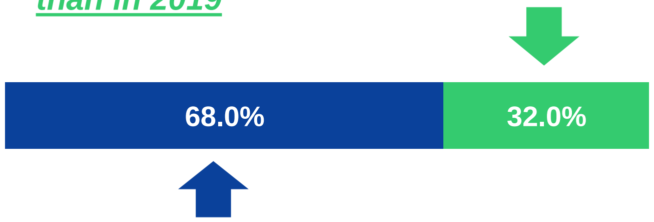
O&G investments fell 17% below the pre-pandemic levels in 2021

Global energy investments, 2015-2021
in current $, 2015=100



Prometeia calculations based on IEA, World Energy Investment 2021

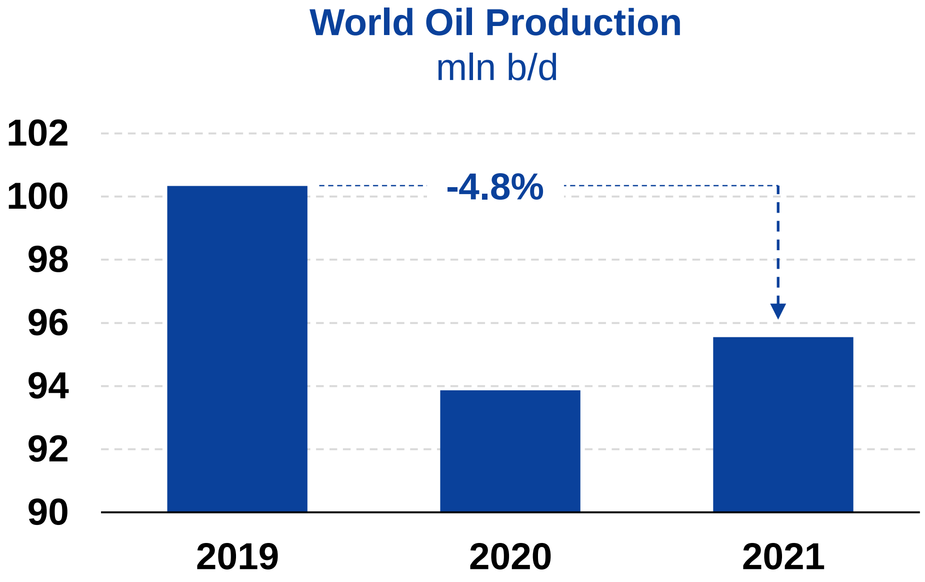
Thanks to a favorable economic and political environment, to the growing attention paid to ESG standards (even by O&G majors) and to a widespread popular support, ***renewables dominated the energy investments landscape*** *in recent years. 2021 was not an exception, and “green” investments surged to a fresh record.* ***For each dollar invested in energy in 2021, 32 $c were devoted to renewables – 6 $c more than in 2019***

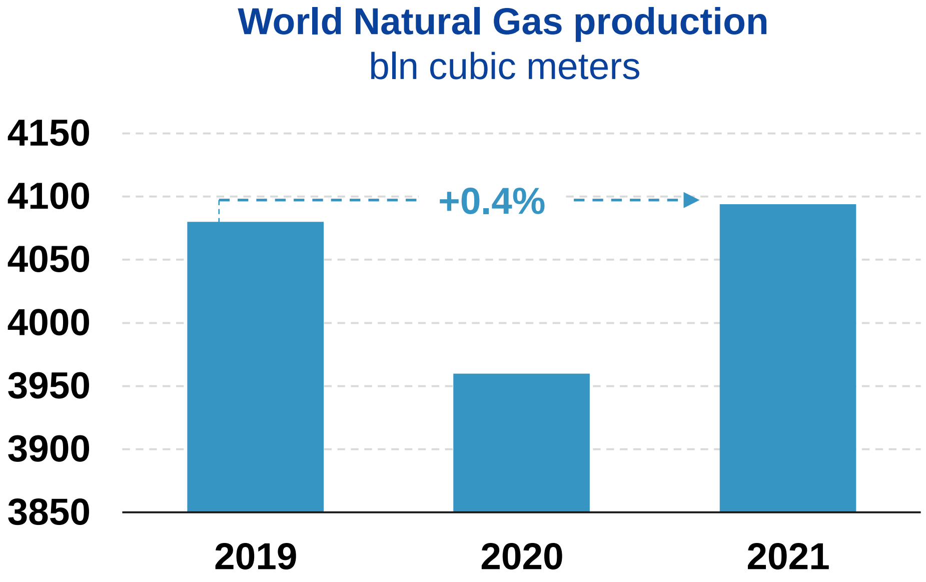


For each dollar invested in energy in 2021, still 68 $c have been directed to fossil fuels exploitation. *Prices and revenues recovered in 2021, albeit* ***not enough to persuade the O&G companies to devote additional spending to upstream activities****. Indeed, pandemic-related uncertainties on oil demand, the speed of energy transitions and the large spare capacity held by OPEC countries triggered a conservative approach both for majors and National Oil Companies (NOCs).*

... as lower demand impacted on fossil fuels production ...

Opec countries finalized an unprecedented production cut in mid-2020. Gas output proved far more resilient





of which:

OPEC	**-8.8**
NAFTA	**-2.0**
Oth. NON OPEC	**-3.1**

of which:

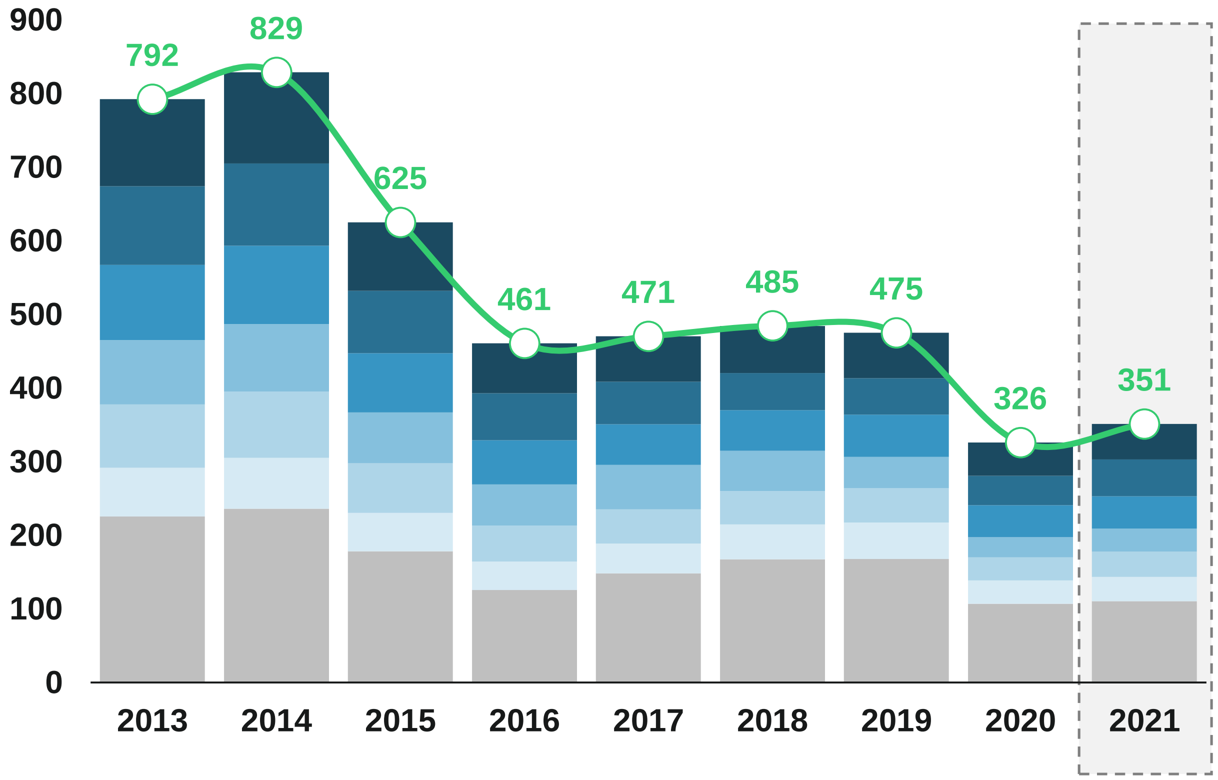
NAFTA	**7.8**
MIDDLE EAST	**2.1**
ASIA-PACIFIC	**3.3**
EUROPE	**-14.2**
ROW	**-5.0**

Prometeia calculations based on IEA, EIA, BP data

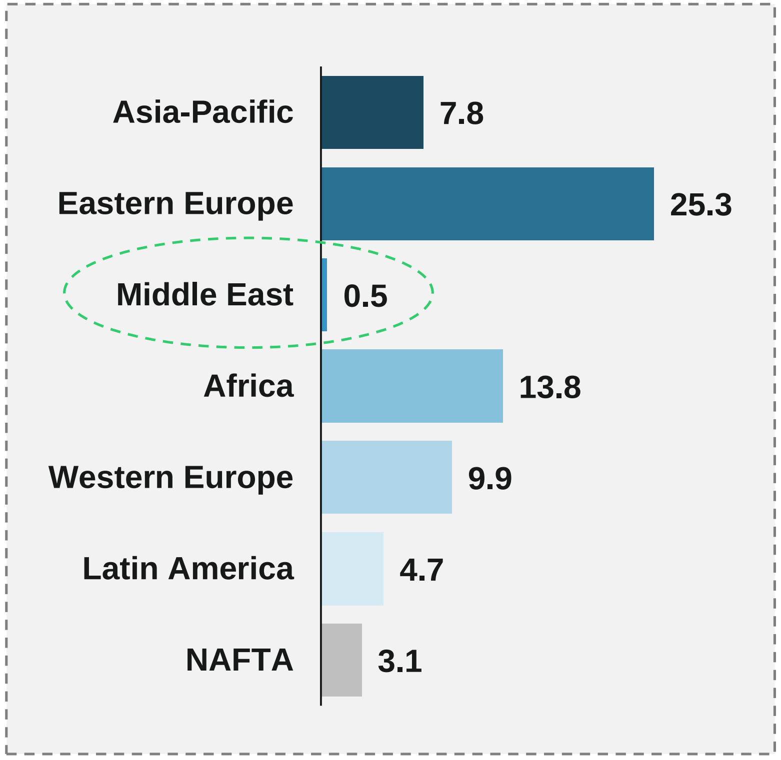
... and O&G spending showed no appreciable rebound

Upstream industry struggled to boost investments over the years and 2021 was no exception

Global O&G Upstream Investments, 2013-2021
in $ blns , 2015=100



Global O&G Upstream Investments, 2021 / 2020
% chg



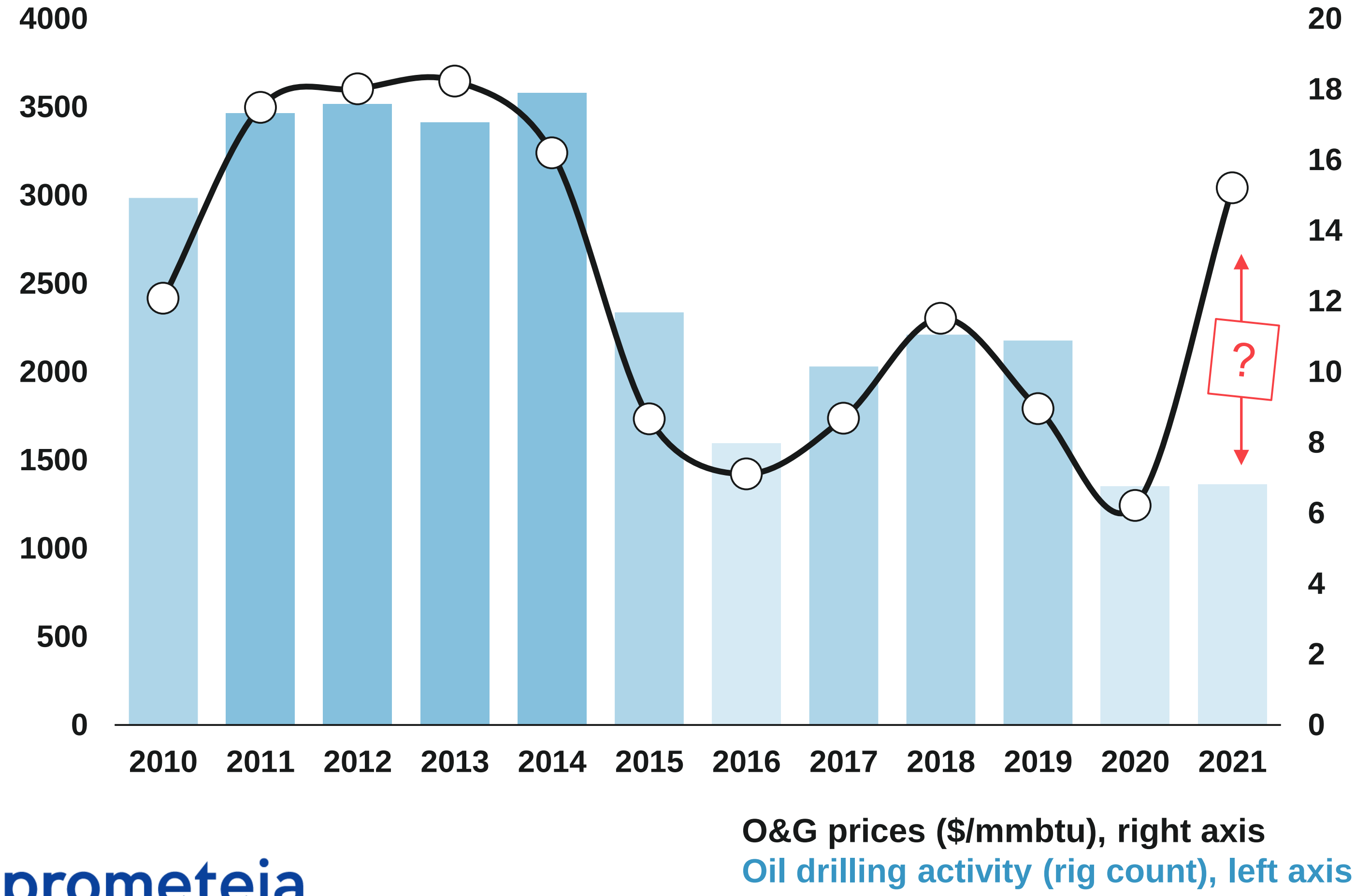
Prometeia calculations based on IEA, World Energy Investment 2021

O&G rig numbers highlight the lack of investments in 2021

Global drilling activity flat y-o-y in 2021 compared to 2020, ~37% lower than in 2019, despite the price recovery

O&G: drilling activity and prices

Rig Count (#) and average price for Nat. Gas (LNG Asia) and Crude Oil (Brent)*



Prometeia calculations based on Baker Hughes World Rig Count data

2021 vs 2019

Oil price Brent	**+10.5%**
Nat. Gas price LNG Asia	**+232.9%**
Nat. Gas+Oil price*	**+69.8%**
Drilling activity (O&G)	**-37.5%**

** Brent ($/mmbtu) and LNG Asia ($/mmbtu), weighted according to relative production volumes*

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What hindered the recovery in O&G investments?

A combination of factors, ranging from voluntary oil production cuts to sustainability push

Uncertainty

*2020 economic downturn was not triggered by a typical economic weakness - rather by external factors, thus making the prediction of oil consumption path extremely problematic. **Pandemic hiccups** and the emerging of Covid-19 variants, uncertainties related to the **US shale industry recovery** and **unprecedented amount of OPEC spare capacity** (how much and when the supply comes back following the mid-2020 cuts?) acted as a **significant investment deterrent for oil majors investments**.*

Voluntary output cuts

*In the wake of 2020 pandemic-induced crash in oil prices, the OPEC+ (I.e. OPEC and Russia) cumulatively cut a historic 9.6 million barrels per day of crude production. Overall, the **lower production levels led to a drop in E&P investments**, which is particularly evident in the most financial-distressed members, to an extent that many of them (such as Angola, Libya, Nigeria) were unable to increase production to the necessary to meet the individual output target.*

Capital discipline

*Instead of drilling at whatever costs (largely contributing to oil and gas ranking among the worst performing sector in the past years) in the aftermath of the pandemic US oil majors focused on their most profitable oil projects while shelving the others. As **O&G companies maintained the focus on capital discipline** (and returns to investors) the solid rebound in oil prices from late-2020 failed to trigger a steep recovery in exploration and production expenditure.*

ESG standards

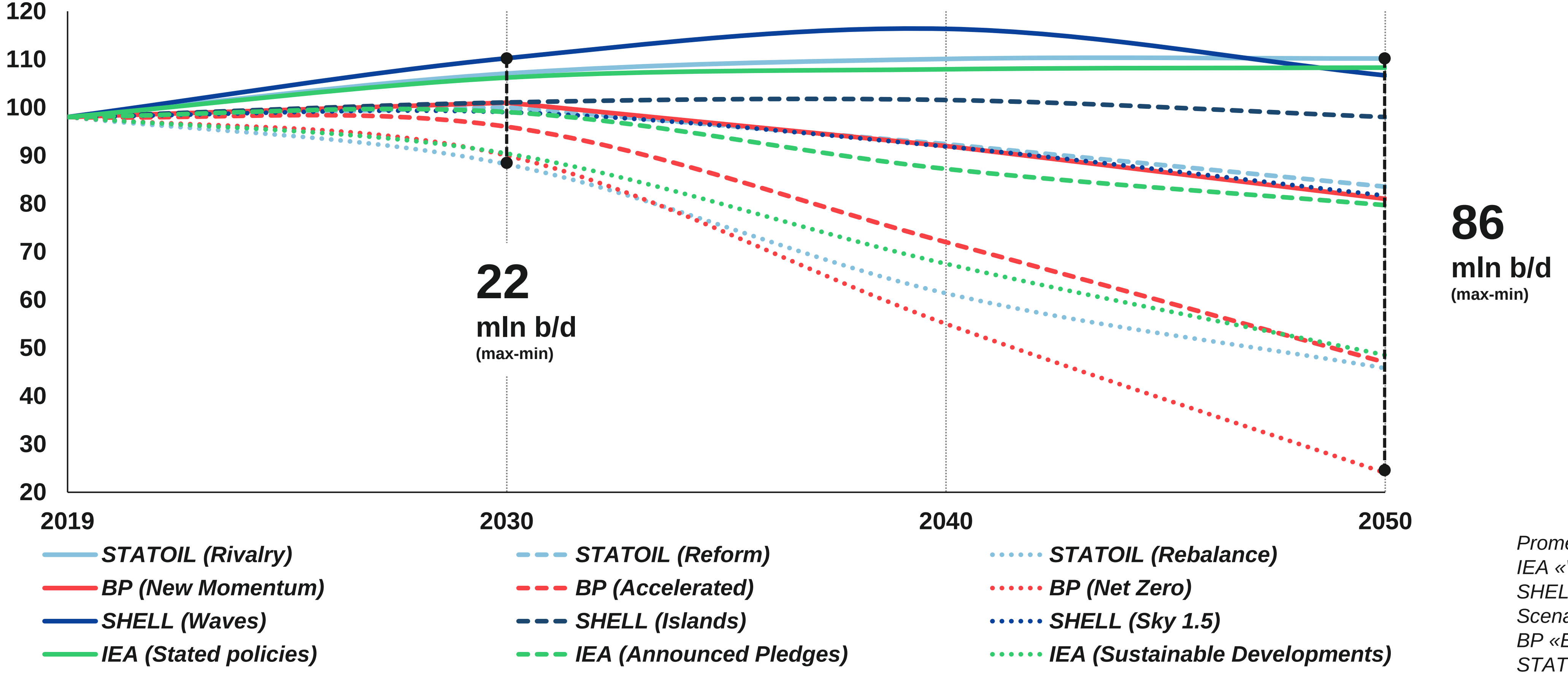
*Corporations performance are nowadays measured not solely by the ability to generate returns, but even on **how those returns are generated**. Even though the pressure of ESG standards is being felt throughout the entire O&G value chain, the upstream is the sector faced the most scrutiny for its impacts on the environment. Lower access to financing, investor demands to decarbonize, and the "oil-demand-will-soon-peak" paradigm led the supermajors to shift incremental resources to renewables – **divesting from O&G E&P activities***

What next?

So many different scenarios for oil (and energy) consumption growth path

World Oil consumption under different scenarios

mln b/d, growth path to 2050

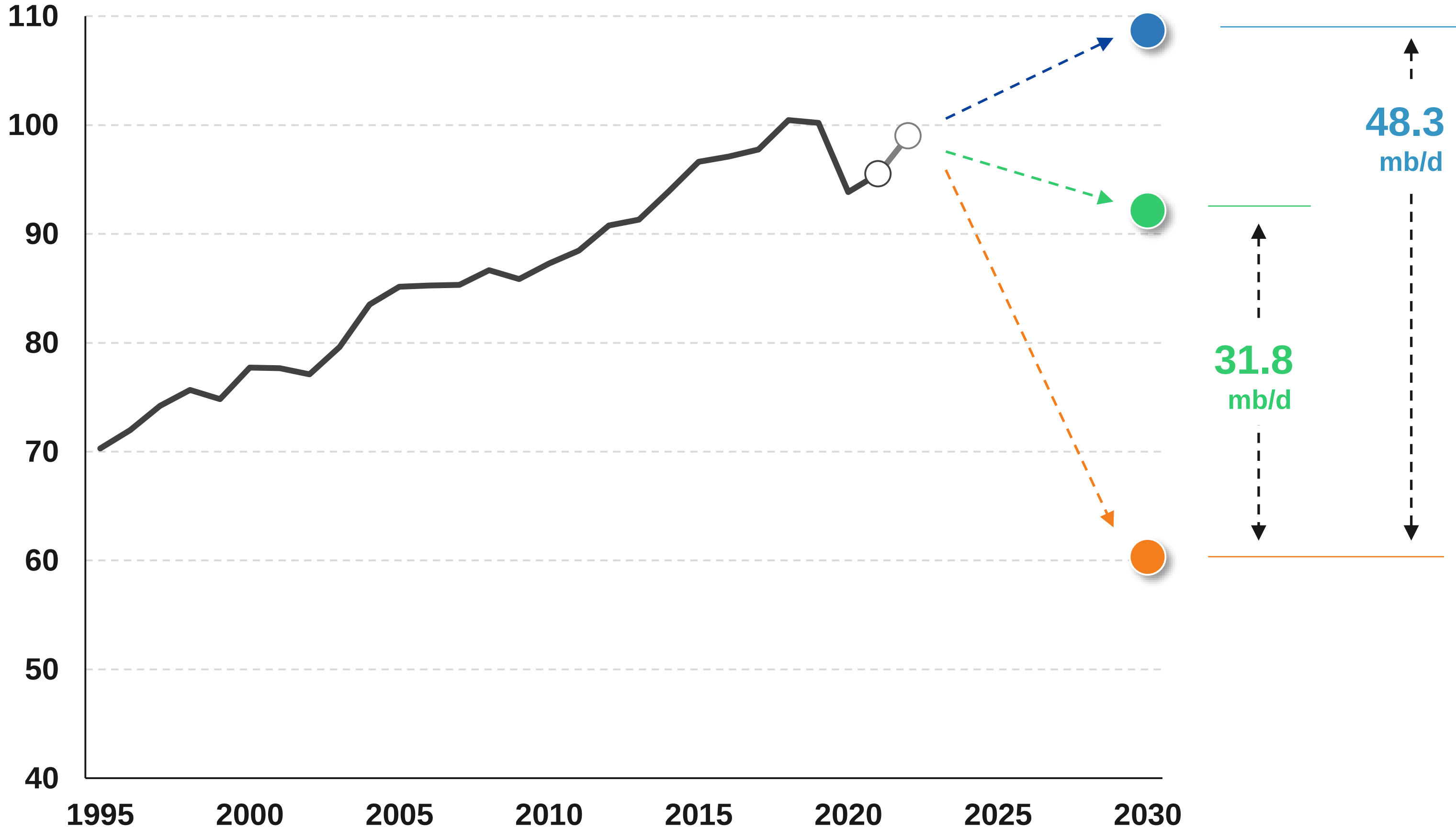


Prometeia calculation based on
IEA «World Energy Outlook 2021»
SHELL «The Energy Transformation Scenarios»
BP «Energy Outlook 2022»
STATOIL «Energy Perspectives 2021»

What next?

Even the most “*sustainable*” projections require a growth in global O&G spending

World Oil Production (2007-2021) and 2030 IEA Projections
mln b/d



Under IEA’s WEO 2021 “Stated Policies Scenario” the World will need approx. 108 mb/d of oil in 2030. **48+ mb/d of new capacity** will be then needed to close the gap between production and demand*

Under IEA’s International Energy Outlook 2021 “Sustainable Development Scenario” the **World would still need approx. 92.1 mb/d of oil in 2030**. Approx. **32 mb/d of new capacity** will be needed to close the gap between production and demand*

*Given natural declines rates, **producers need to invest in order just to keep production flat**. Decline rates are in the region of 6% per year. Assuming **no new investment in oil upstream**, world production would reduce by approx. 35 mb/d in 2030 (almost -40%) compared to 2021 levels*

Prometeia calculations based on EIA data, IEA, WEO 2021 scenario.

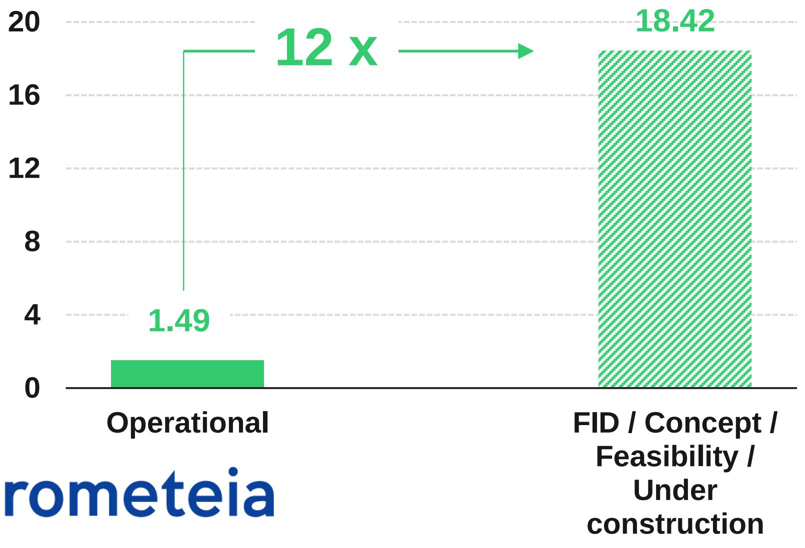
What next?

2 “*bright spots*” for the future

Hydrogen

According to IEA, as of 2021 17 governments have already released hydrogen strategies, and more than 20 have announced they are working to develop hydrogen programs. **Hydrogen is one of the pillars of the net zero economy.** In the wake of the exponential growth that the hydrogen economy will experience in the coming decade, global demand for specialized components (such as zero-leakage valves) and higher technologies materials (hydrogen resistant alloys, low temperature elastomers) used in hydrogen applications will also grow, offering **sound growth opportunities for companies at the forefront of innovation.**

Global electrolysis capacity: operating and projected to 2030
As of 2021, mln ton H2 / y

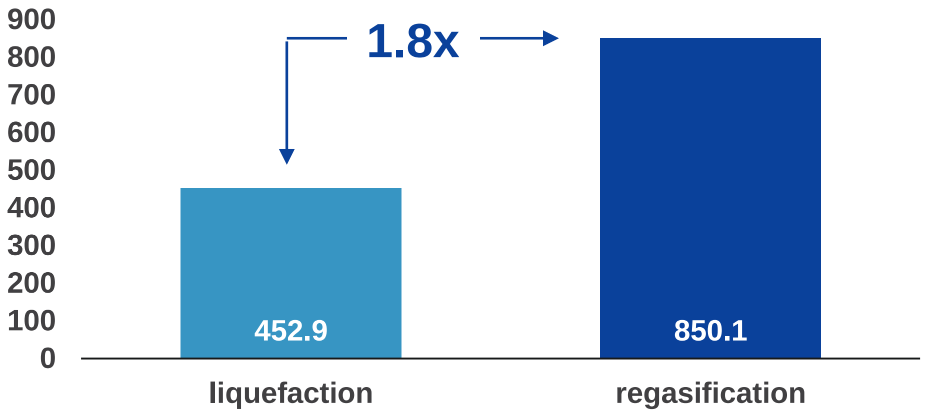


Prometeia calculations based on IEA, Hydrogen Project Database 2021.

Liquefied Natural Gas (LNG)

While at global scale there is significant regasification capacity, as far as concerns liquefaction terminals (the most expensive piece of the entire LNG chain) the situation is far different. In the coming years, **structural rise in natural gas demand** (to replace coal and other more polluting fuels) in a high price environment is expected to **underpin a fresh wave of investments in LNG liquefaction capacity**. From this point of view, the EU aim to diversify from Russian gas represent an unprecedented bullish signal both to LNG exporters (Qatar, USA) as well as for pipe developers in MENA ad Mediterranean region.

Global LNG import / export capacity
MT / y



Prometeia calculations based on IGU World LNG Report 2021

Confidentiality

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