



Messe München

Connecting Global Competence

THE HEARTBEAT OF OUR INDUSTRY

bauma - industry barometer -

Report on the findings of the online survey



32nd Edition of the World's Leading Trade Fair for Construction Machinery, Building Material Machines, Mining Machines, Construction Vehicles and Construction Equipment.

April 8–14, 2019, Munich

•→ www.bauma.de

bauma

Method / approach

Field time

- June 13 to August 10, 2018

Population & sample

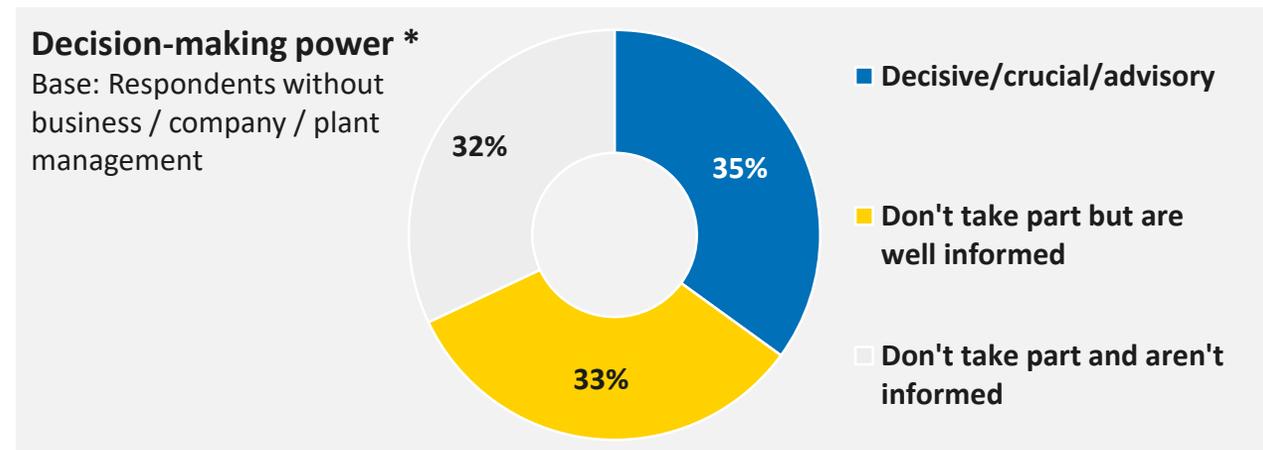
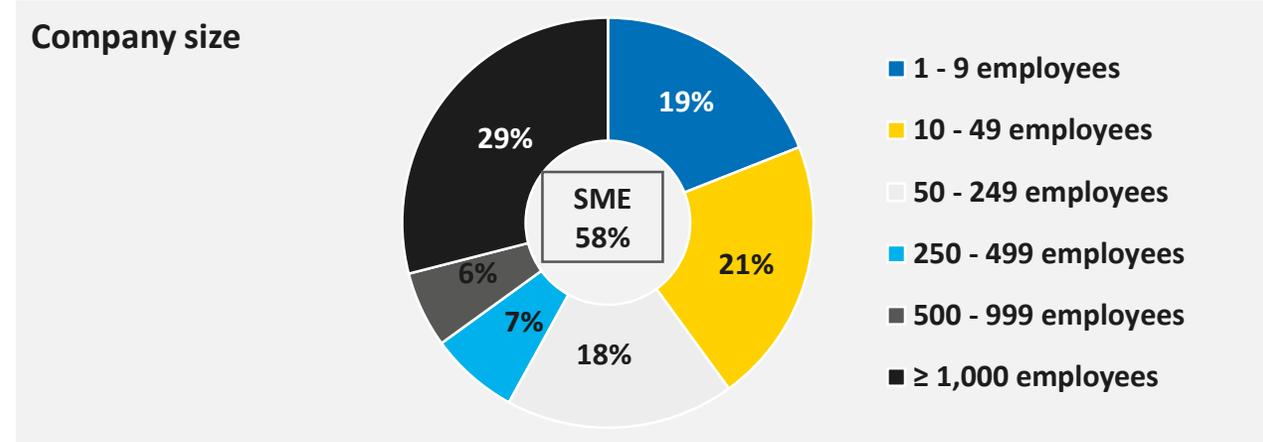
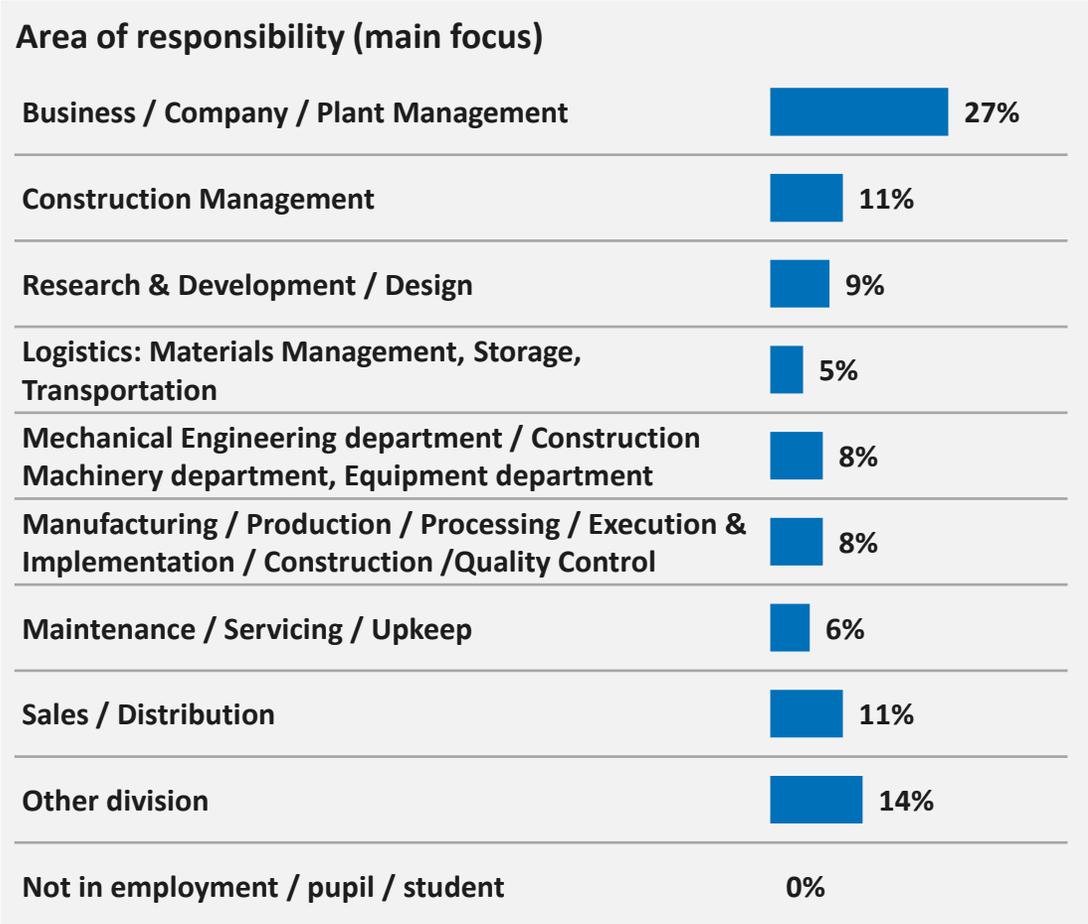
- bauma 2016 visitors and exhibitors, 160,000 invitations sent via IfaD, invitations for China and India sent via MMG, n= 9,828 interviews

Survey methodology

- Online follow-up survey via email (1 reminder) in GER + ENG + CHI + HIN

Structure (1/3)

- Area of responsibility (main focus), company size, decision-making power -

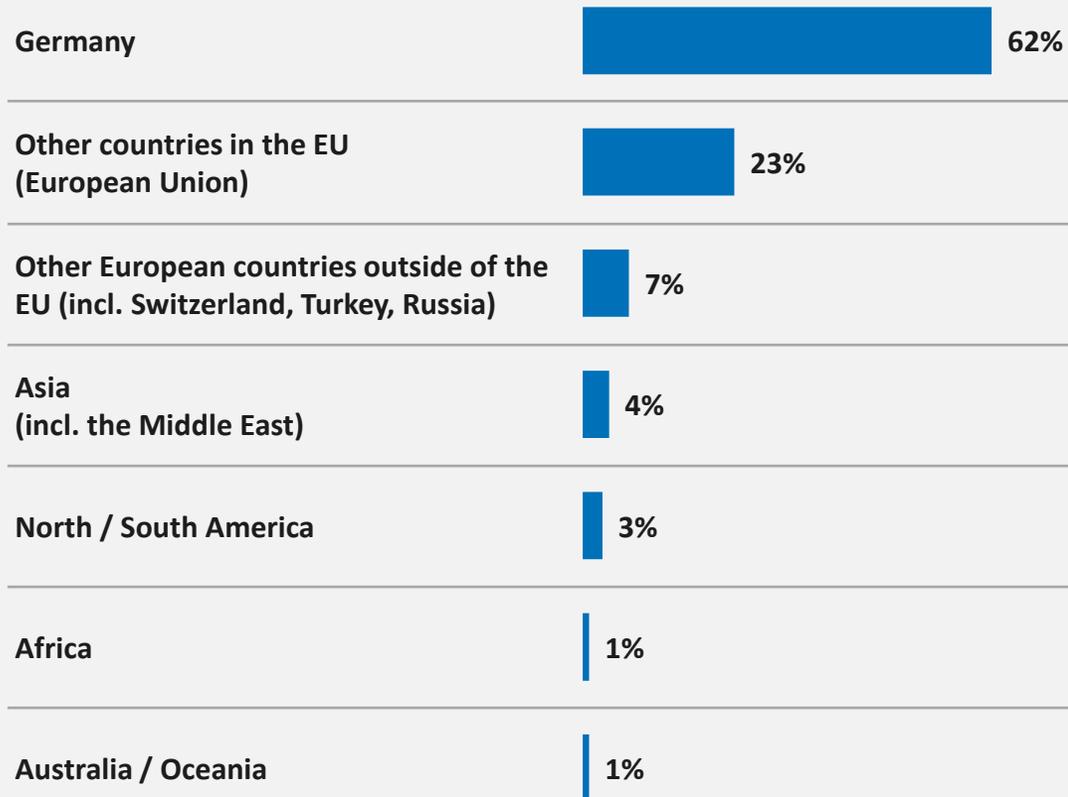


Base: All respondents (with details) / rounding differences possible / *Wording in survey more detailed

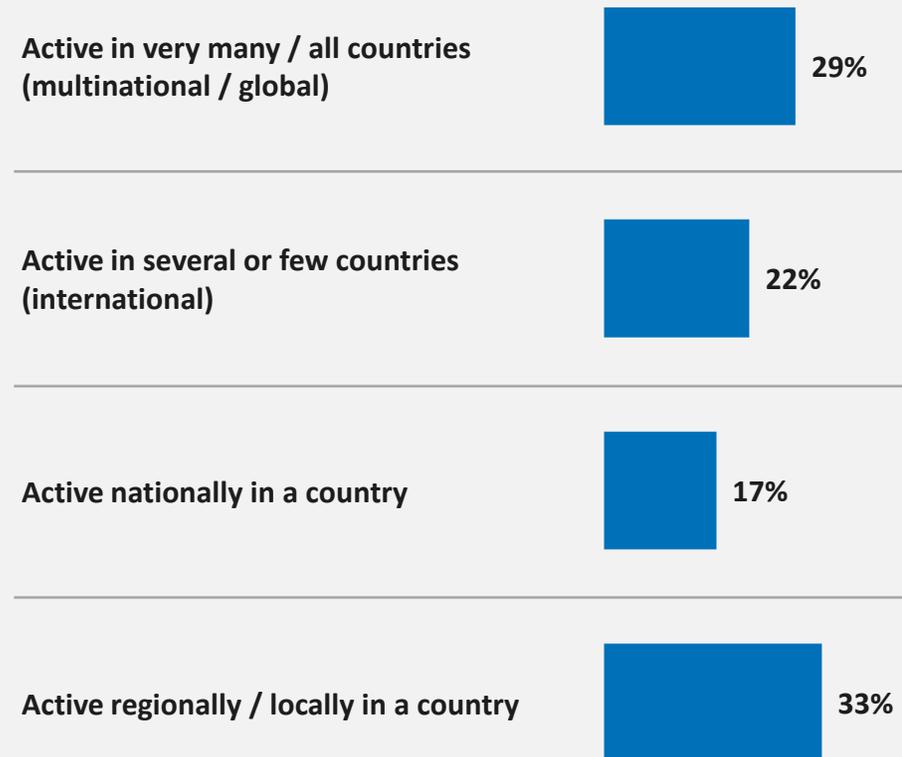
Structure (2/3)

- Origin & geographical focus -

Domestic market / company headquarters



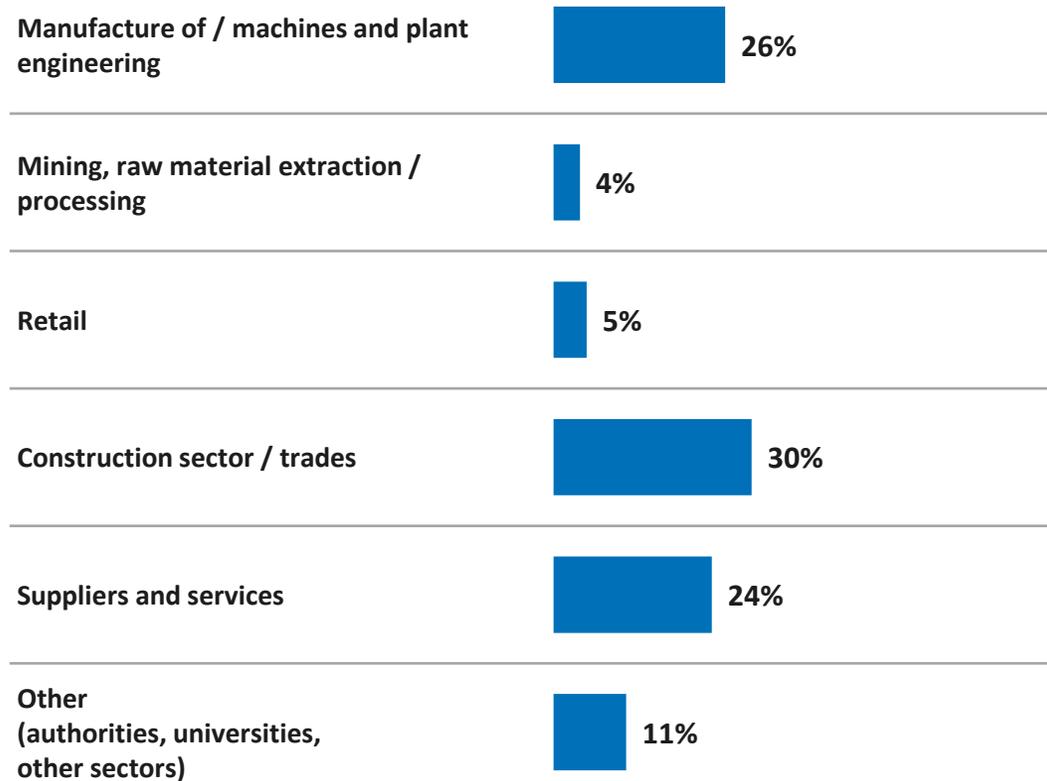
Geographical focus



Base: All respondents / rounding differences possible

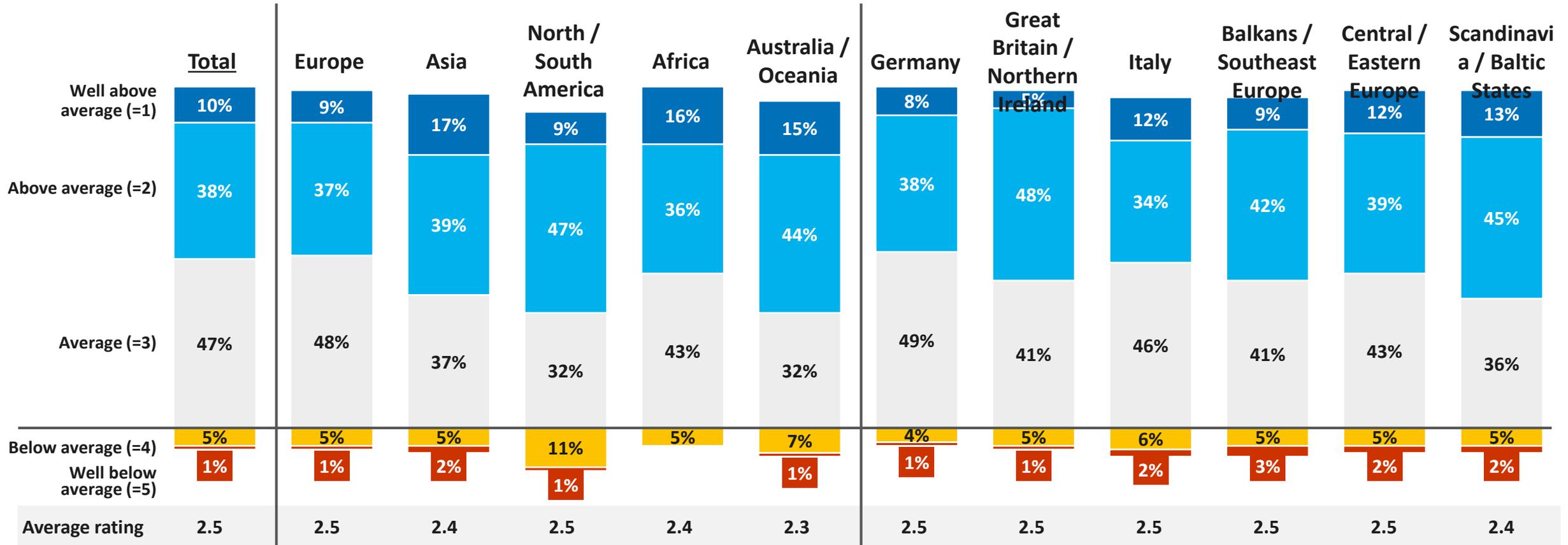
Structure (3/3)

- Sector -



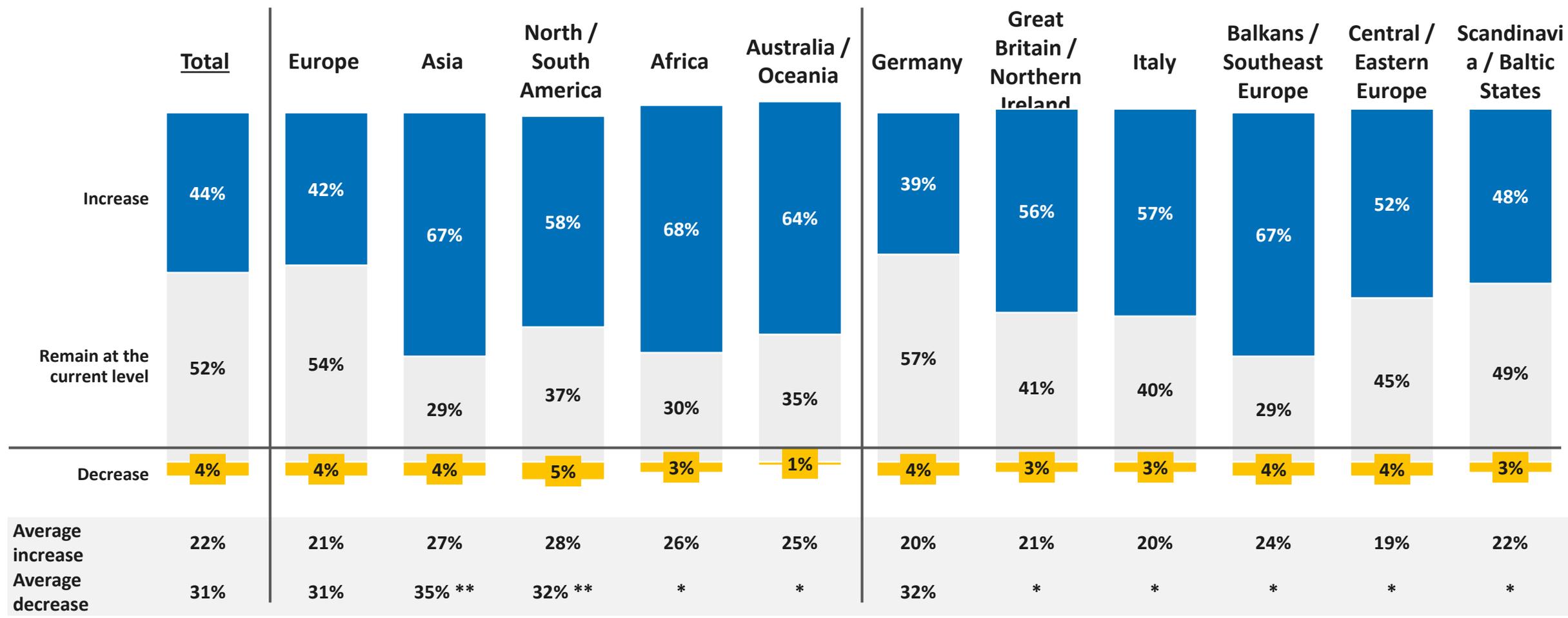
Base: All respondents / rounding differences possible

Assessment of current level of total investment in comparison to previous years



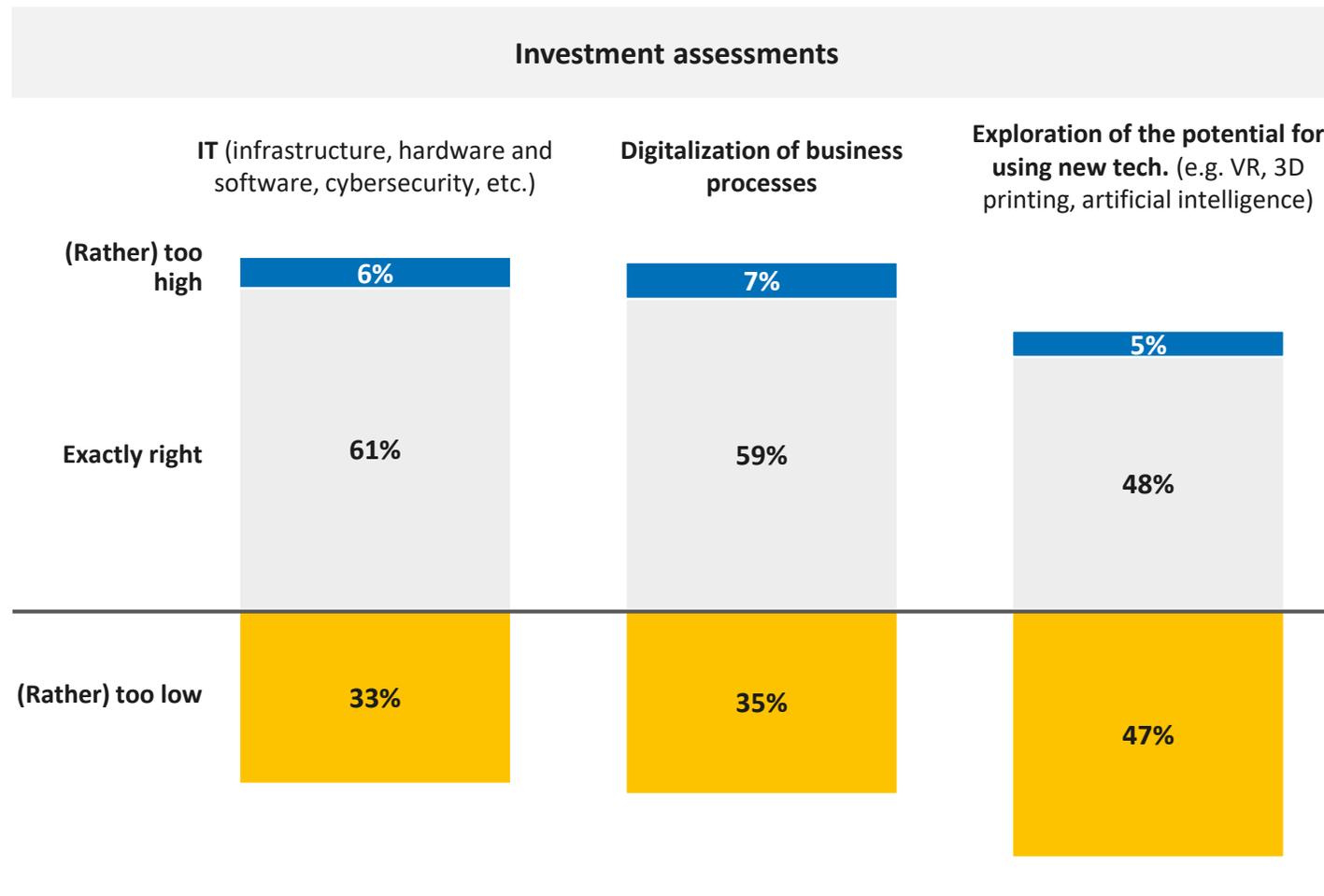
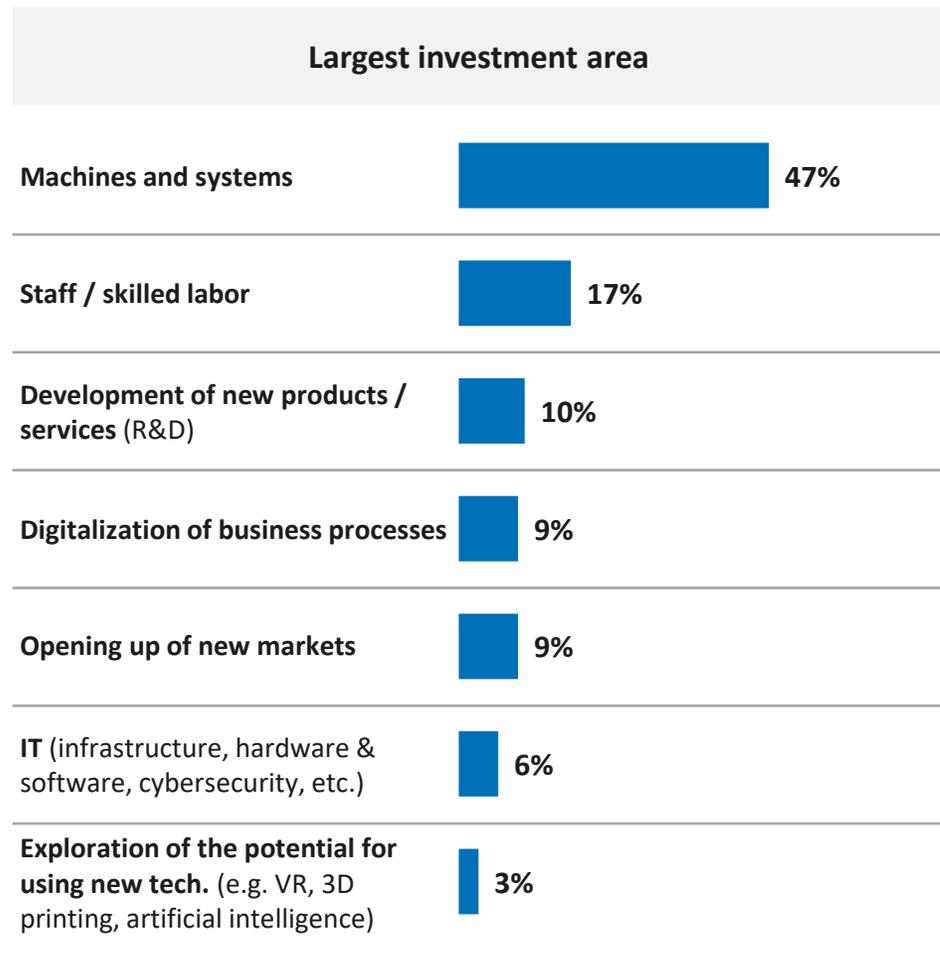
Base: All respondents with decision-making power with details / rounding differences possible

Estimation of future investment development



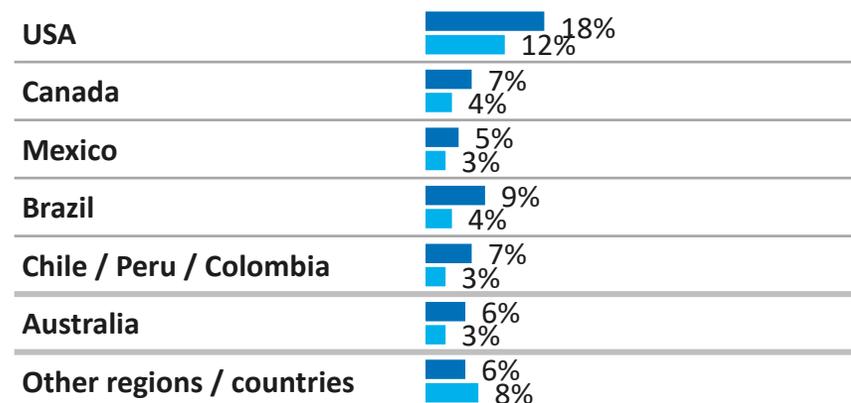
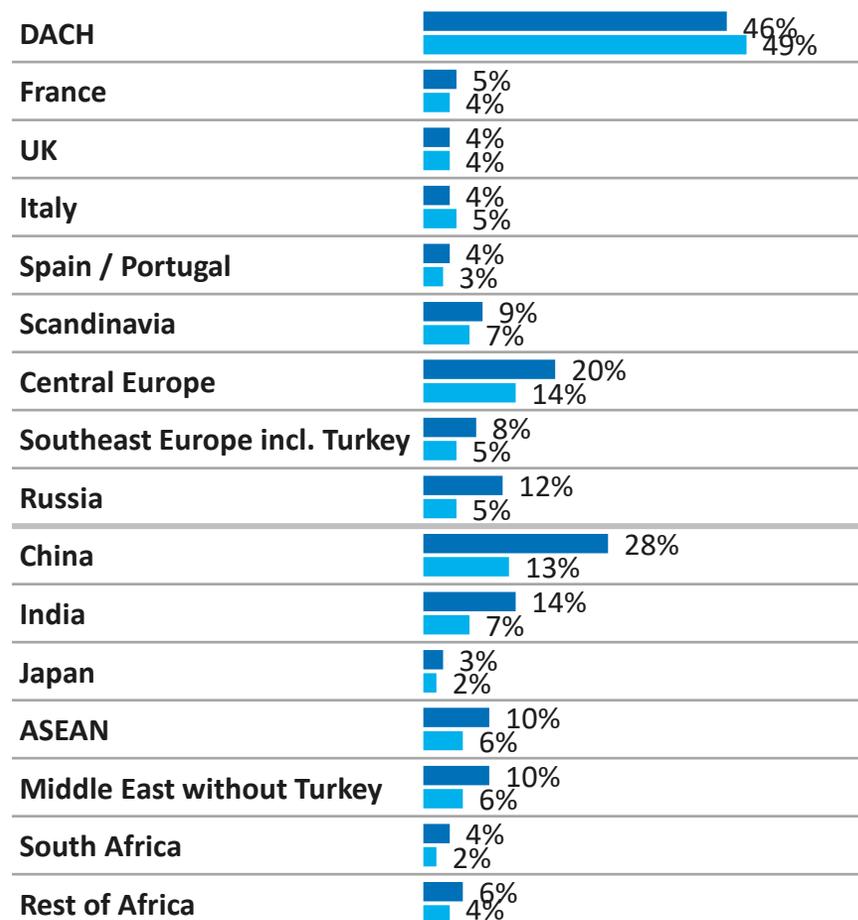
Base: All respondents with decision-making power with details / rounding differences possible / ** small base n<20 / *too small a base for representation n<10

Largest investment area & investment assessments



Base: All respondents with decision-making power with details / rounding differences possible

Market growth & investment planning



Base: All respondents ¹and/or with decision-making power whose company is not only locally active, with details / multiple answers possible

Market growth - TOP 5 regions -

	Europe	Asia	North / South America	Africa	Australia / Oceania	Germany	Great Britain / Northern Ireland	Italy	Balkans / Southeast Europe	Central / Eastern Europe	Scandinavia / Baltic States
Most important region	DACH 49%	India 35%	USA 39%	Rest of Africa 53%	ASEAN 24%	DACH 56%	UK 63%	Italy 36%	Central Europe 39%	Central Europe 65%	Scandinavia 54%
Second most important region	China 28%	China 34%	China 25%	DACH 23%	India 19%	China 31%	China 20%	DACH 33%	Southeast Europe incl. Turkey 36%	DACH 24%	Central Europe 24%
Third most important region	Central Europe 21%	ASEAN 27%	Chile / Peru / Colombia 24%	Middle East without Turkey 19%	China 18%	Central Europe 19%	DACH 18%	USA 29%	DACH 19%	China 15%	China 23%
Fourth most important region	USA 17%	Middle East without Turkey 27%	Brazil 17%	South Africa 15%	USA 13%	USA 16%	USA 18%	Central Europe 25%	China 17%	USA 14%	DACH 19%
Fifth most important region	India 13%	USA 17%	DACH 17%	China & USA each 11%	DACH and Scandinavia each 8%	India 13%	Central Europe 12%	China 23%	USA 14%	Russia 13%	USA 19%

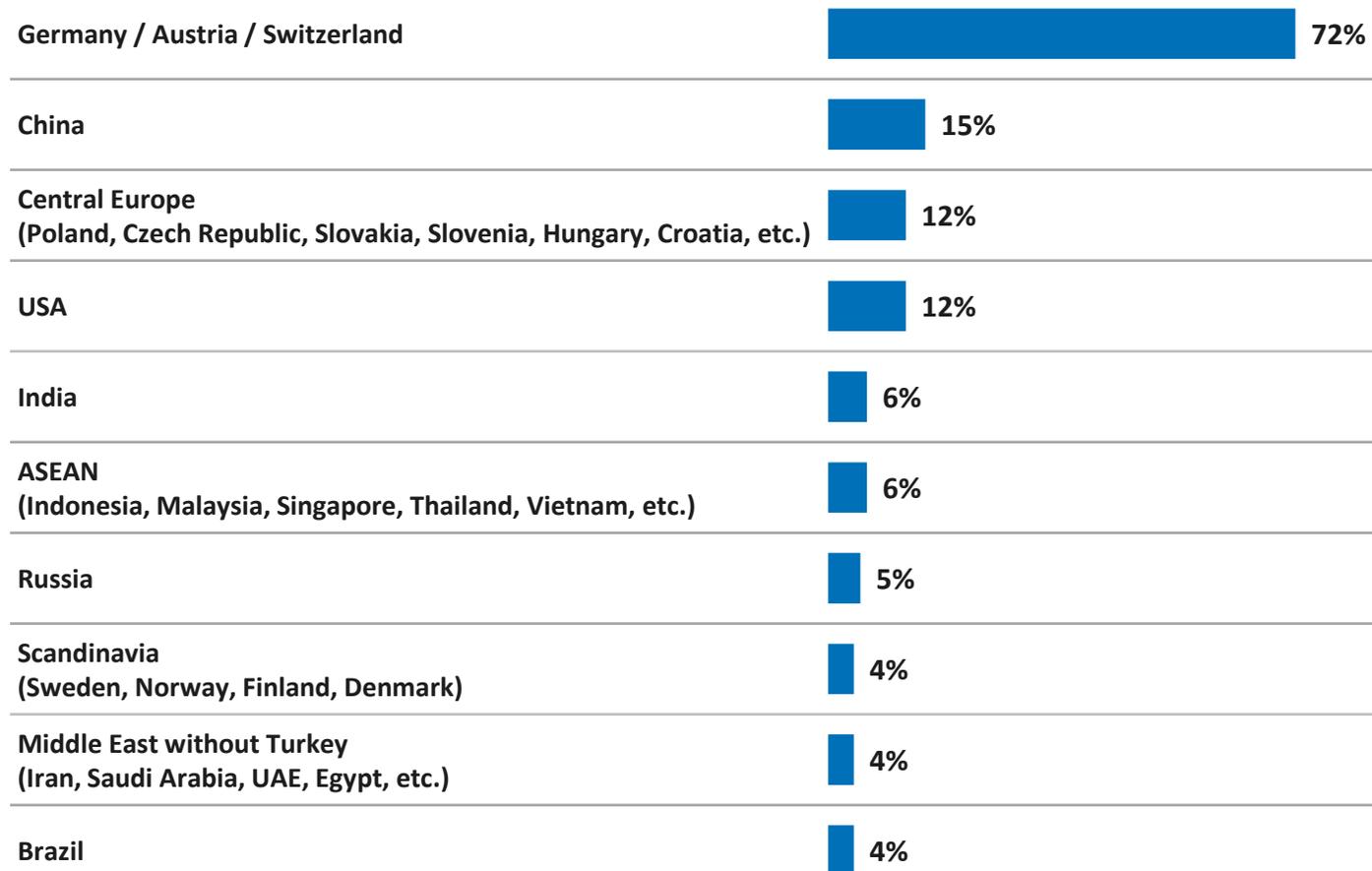
Base: All respondents with details / multiple answers possible / without taking into account "Other regions / countries not listed here"

Investment planning - TOP 3 regions -

	Europe	Asia	North / South America	Africa	Australia / Oceania	Germany	Great Britain / Northern Ireland	Italy	Balkans / Southeast Europe	Central / Eastern Europe	Scandinavia / Baltic States
Most important region	DACH 55%	China 31%	USA 41%	Rest of Africa 50%	USA 14%	DACH 72%	UK 80%	Italy 56%	Central Europe 43%	Central Europe 77%	Scandinavia 61%
Second most important region	Central Europe 16%	India 27%	Chile / Peru / Colombia 19%	South Africa 22%	China 11%	China 15%	DACH 12%	USA 20%	Southeast Europe incl. Turkey 37%	DACH 16%	Central Europe 20%
Third most important region	China 12%	Middle East without Turkey 25%	DACH 14%	DACH 20%	DACH, UK & ASEAN each 7%	USA 12%	USA 12%	DACH 19%	DACH 10%	Scandinavia 8%	USA 13%

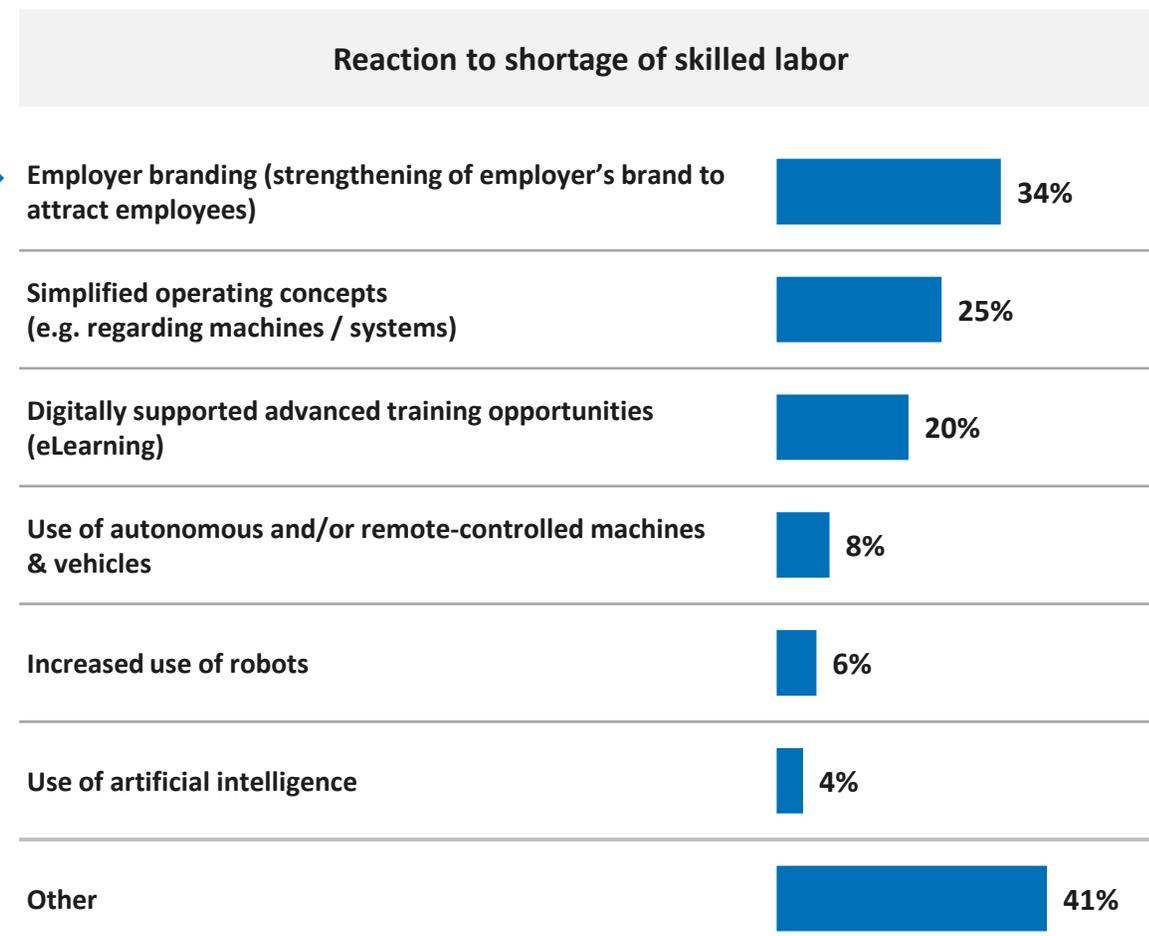
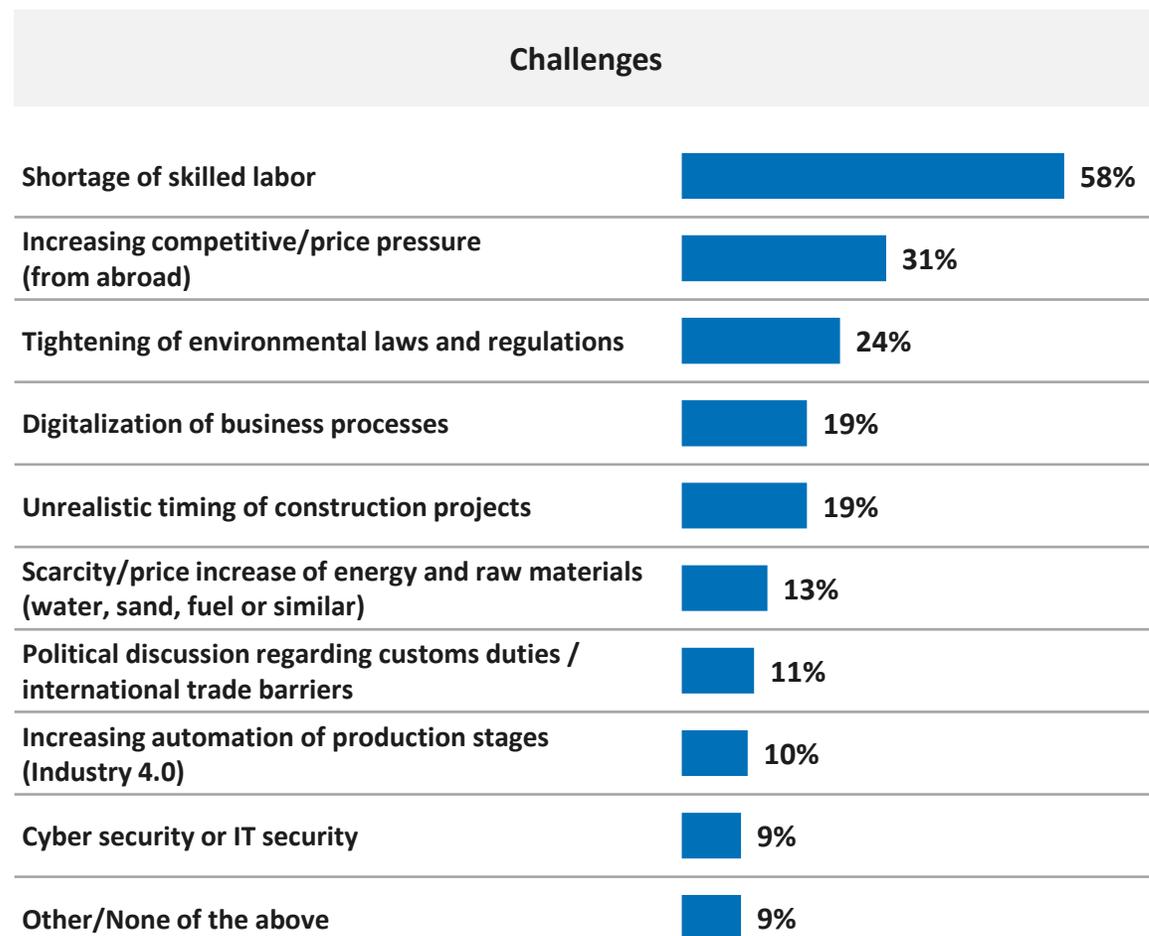
Base: Respondents with decision-making power whose company is not only locally active, with details / multiple answers possible / without taking into account "Other regions / countries not listed here"

Investment countries of German companies - TOP 10 regions -



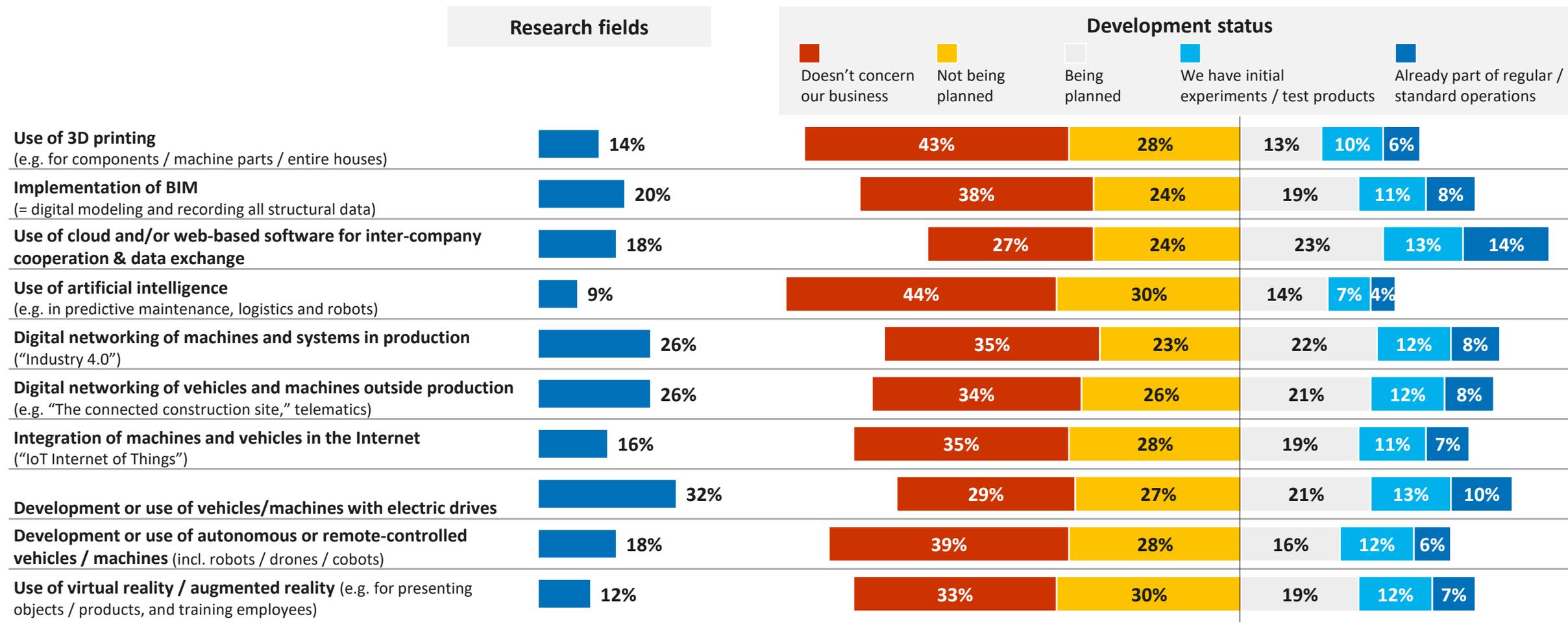
Base: Respondents from Germany with decision-making power whose company is not only locally active, with details / multiple answers possible / without taking into account "Other regions / countries not listed here"

Challenges & reaction to shortage of skilled labor



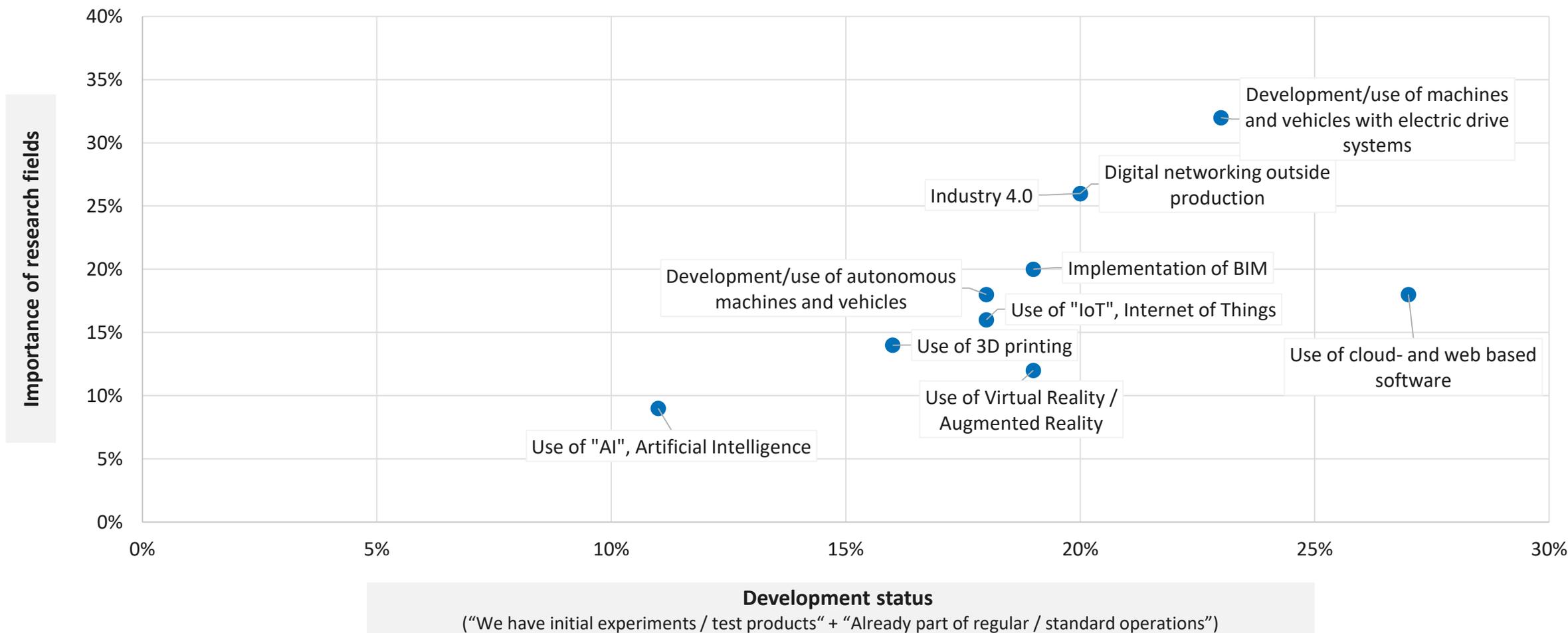
Base: All respondents for whose company the shortage of skilled labor is a major challenge (with details) / multiple answers possible

Research fields & development status (1/2)



Base: All respondents with details / multiple answers possible (research fields) / rounding differences possible (development status)

Importance of research fields & development status (2/2)



Base: All respondents with details / multiple answers possible (research fields) / rounding differences possible (development status)

Research fields by region

	Europe	Asia	North / South America	Africa	Australia / Oceania	Germany	Great Britain / Northern Ireland	Italy	Balkans / Southeast Europe	Central / Eastern Europe	Scandinavia / Baltic States
Use of 3D printing	13%	14%	23%	17%	9%	13%	14%	15%	14%	15%	12%
Implementation of BIM	20%	16%	15%	24%	12%	19%	18%	17%	23%	14%	21%
Use of cloud or web-based software for inter-company cooperation & data exchange	18%	17%	25%	20%	28%	18%	19%	21%	21%	18%	20%
Use of artificial intelligence	8%	23%	18%	15%	15%	8%	6%	12%	12%	14%	10%
Digital networking of machines & systems in production ("Industry 4.0")	26%	25%	25%	19%	11%	26%	19%	34%	17%	26%	20%
Digital networking of vehicles & machines outside production	27%	16%	18%	19%	15%	30%	19%	15%	13%	18%	14%
Integration of machines & vehicles in the Internet	16%	25%	20%	13%	23%	14%	10%	20%	21%	28%	24%
Development or use of vehicles/machines with electric drives	32%	26%	26%	17%	28%	32%	41%	24%	37%	30%	38%
Development or use of autonomous or remote-controlled vehicles / machines	17%	29%	22%	20%	34%	16%	21%	18%	22%	24%	27%
Use of virtual reality / augmented reality	12%	12%	14%	19%	15%	12%	11%	12%	10%	11%	13%

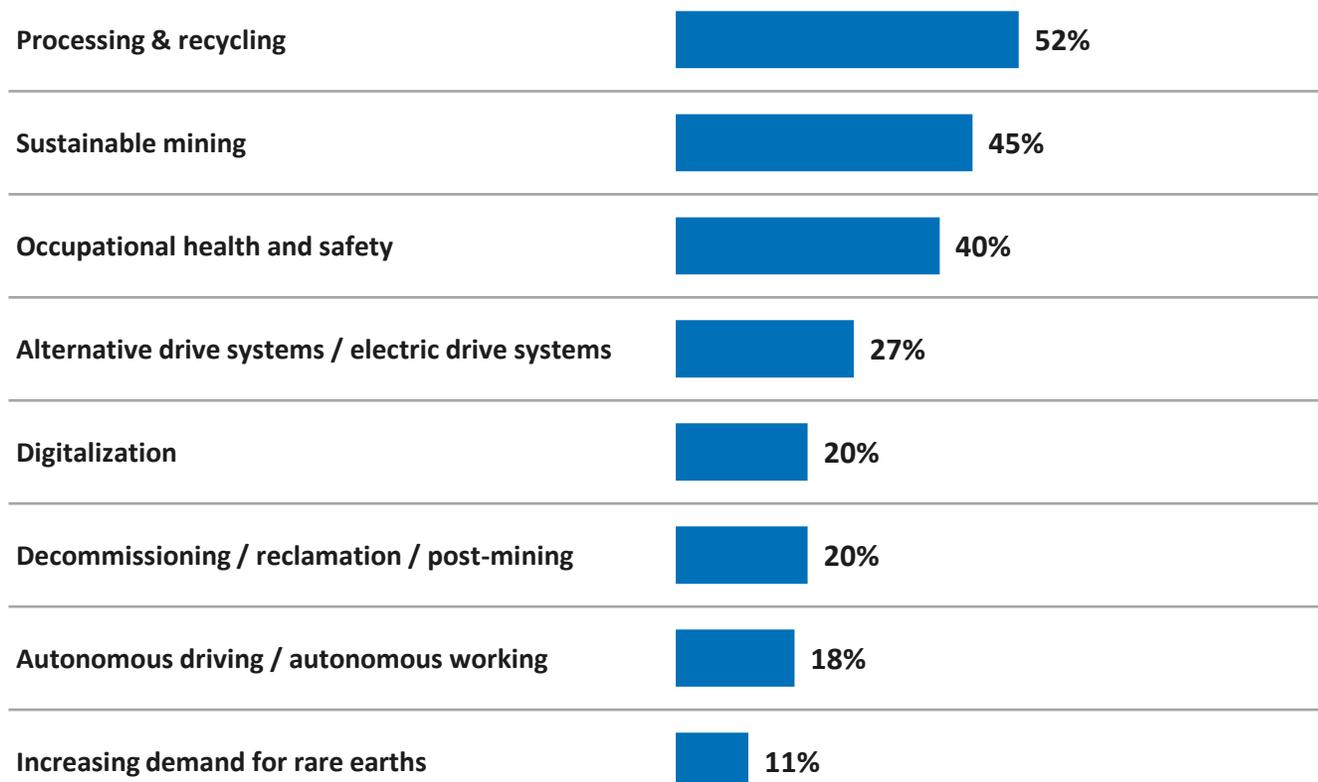
Base: All respondents with details / multiple answers possible / **emboldened** means Top 5 of the relevant region

Hot topics

	Total	Europe	Asia	North / South America	Africa	Australia / Oceania	Germany	Great Britain / Northern Ireland	Italy	Balkans / Southeast Europe	Central / Eastern Europe	Scandinavia / Baltic States
Alternative drive systems / e-mobility	25%	26%	17%	22%	15%	25%	27%	20%	17%	16%	17%	28%
Sustainability / environmental protection / energy efficiency	44%	44%	41%	48%	38%	46%	45%	36%	34%	43%	34%	39%
Digitalization	34%	35%	22%	23%	17%	19%	37%	13%	31%	30%	35%	34%
BIM (Building Information Modeling)	16%	16%	19%	19%	26%	11%	14%	28%	14%	22%	16%	22%
Connected construction sites	27%	27%	22%	24%	35%	32%	29%	28%	15%	27%	21%	17%
Industry 4.0	23%	23%	34%	21%	18%	9%	22%	9%	48%	13%	31%	16%
IoT (Internet of Things)	8%	8%	18%	17%	8%	9%	6%	12%	16%	15%	14%	12%
Autonomous driving / autonomous working	14%	14%	22%	18%	10%	32%	14%	13%	12%	16%	14%	20%
3D printing	11%	11%	13%	19%	14%	2%	10%	18%	15%	14%	14%	8%
Telematics	10%	10%	13%	15%	6%	23%	10%	21%	9%	10%	12%	9%

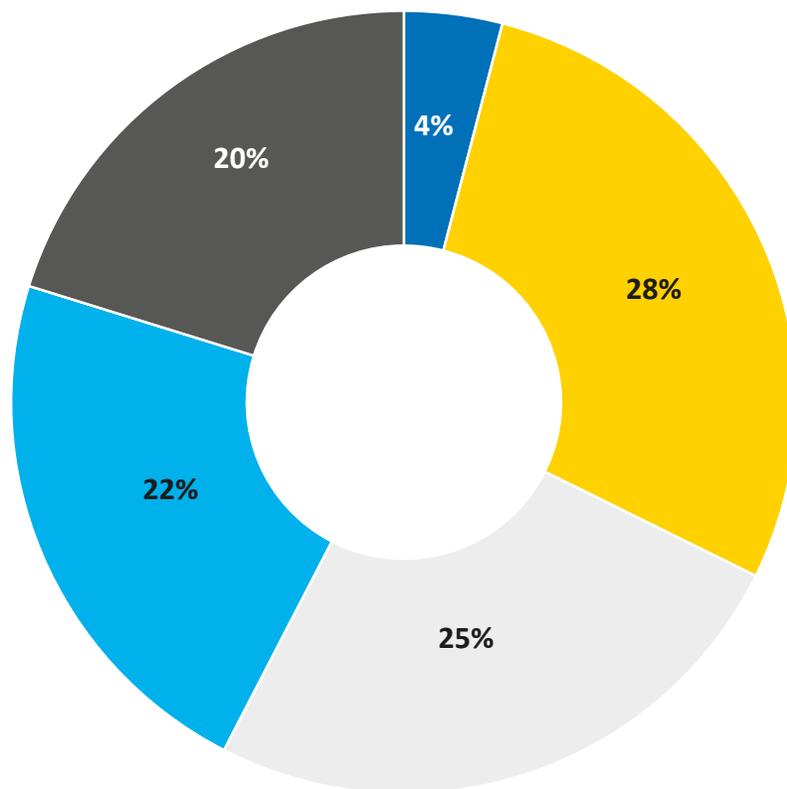
Base: Respondents without the mining, raw material extraction & processing sector with details / multiple answers possible

Hot topics for the mining and mining machinery industry



Base: Respondents from the mining, raw material extraction & processing sector with details / multiple answers possible

Digitalization status

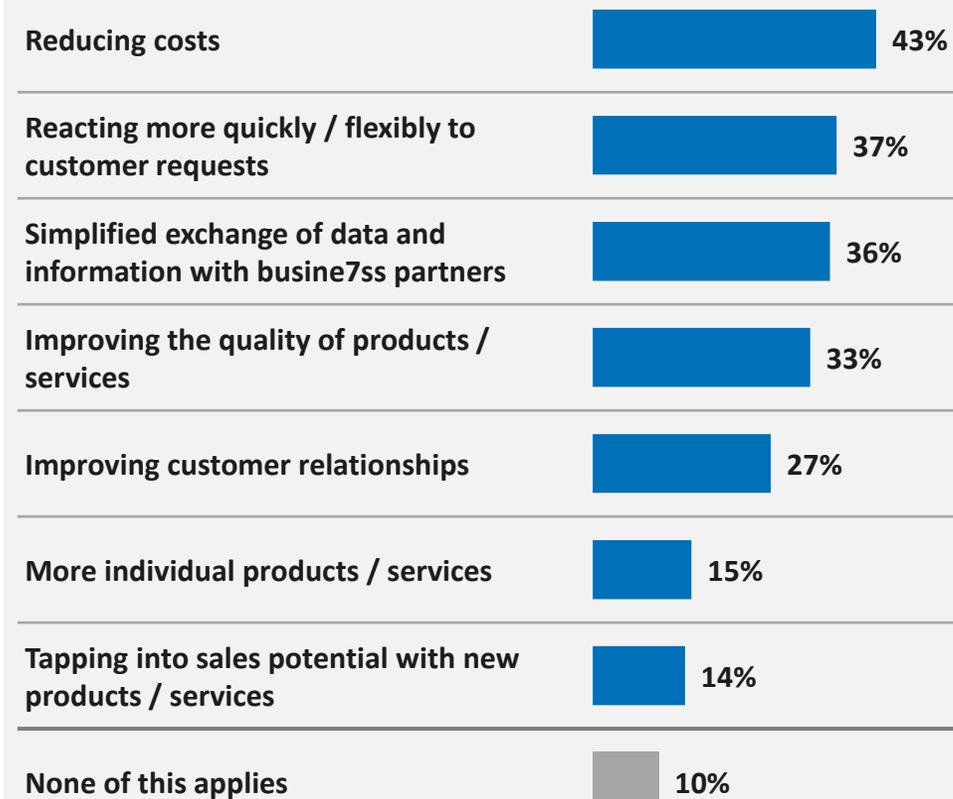


- We are assuming a leading position in the digitalization of business processes & have already digitalized many of them
- We have already digitalized some processes, will expand the transformation
- We have begun digitalization, but have some catching up to do
- We are waiting for proven solutions for digitalization
- We see no reason to act and deal with the digitalization of business processes

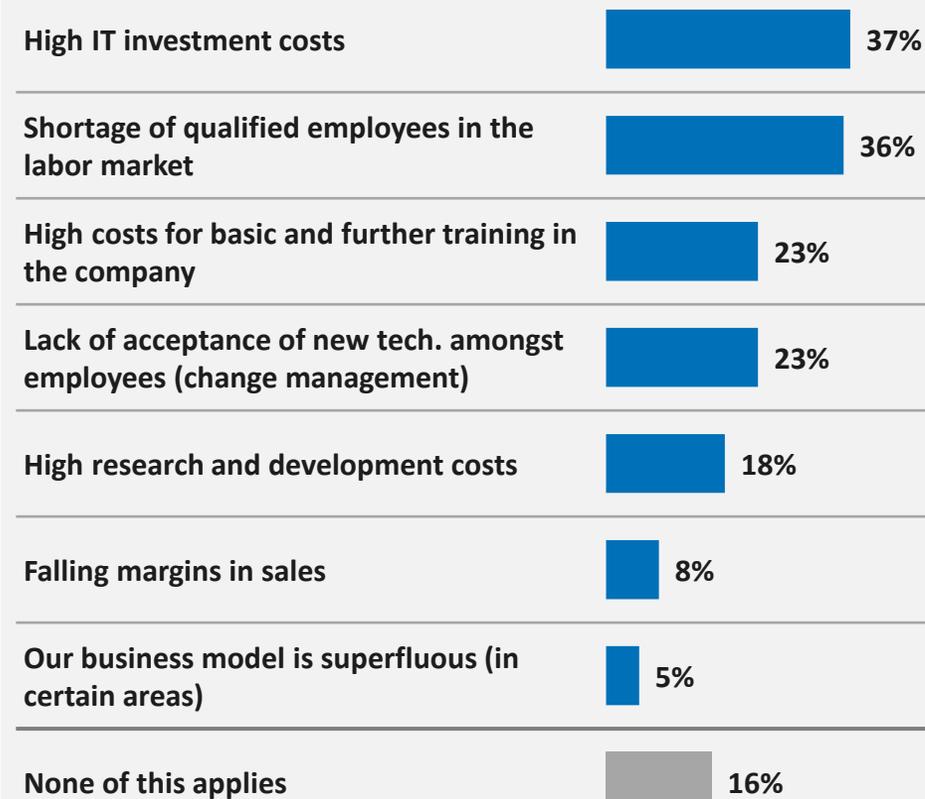
Base: All respondents with details / rounding differences possible

Opportunities & risks of digitalization

Opportunities



Risks



Base: All respondents with details / multiple answers possible