European Architectural Barometer Q3 2022

Decision Making in the Construction Industry

October-2022

ARCHVISION a product by USP Marketing Consultancy

About European Architectural Barometer

THE GOAL

The objective of the European Architectural Barometer of Arch-Vision is to offer profound insight into the current economic situation and trends among architectural firms in the Netherlands, Germany, the UK, France, Spain, Italy, Belgium and Poland. The European Architectural Barometer provides knowledge about the future building volumes and the way in which these building volumes will be realised (trends).

THE RESEARCH TOPICS

Recurring topic: Economic developments of architectural companies in Europe (order book and turnover development)

Quarterly theme topics in 2022:
Q1: Sustainability and Circularity
Q2: Trends in Material Usage
Q3: Decision Making in the Construction Industry
Q4: Love Brands

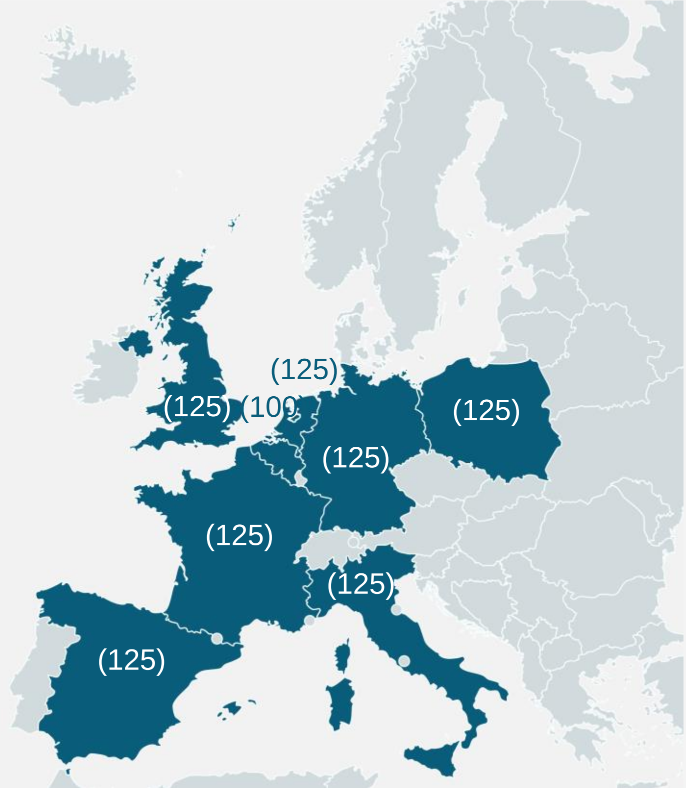
THE TIMELINE

Report Q4	Report Q1	Report Q2	Report Q3
January	April	July	October

COUNTRY SCOPE

(number of interviews conducted)

Background characteristics of the interviewed respondents can be found in [the country-specific profiling, the architect chapter, and in the appendix as a European overview.]



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Dummy data has been used on the following slides, this means no real data of this edition is shown.

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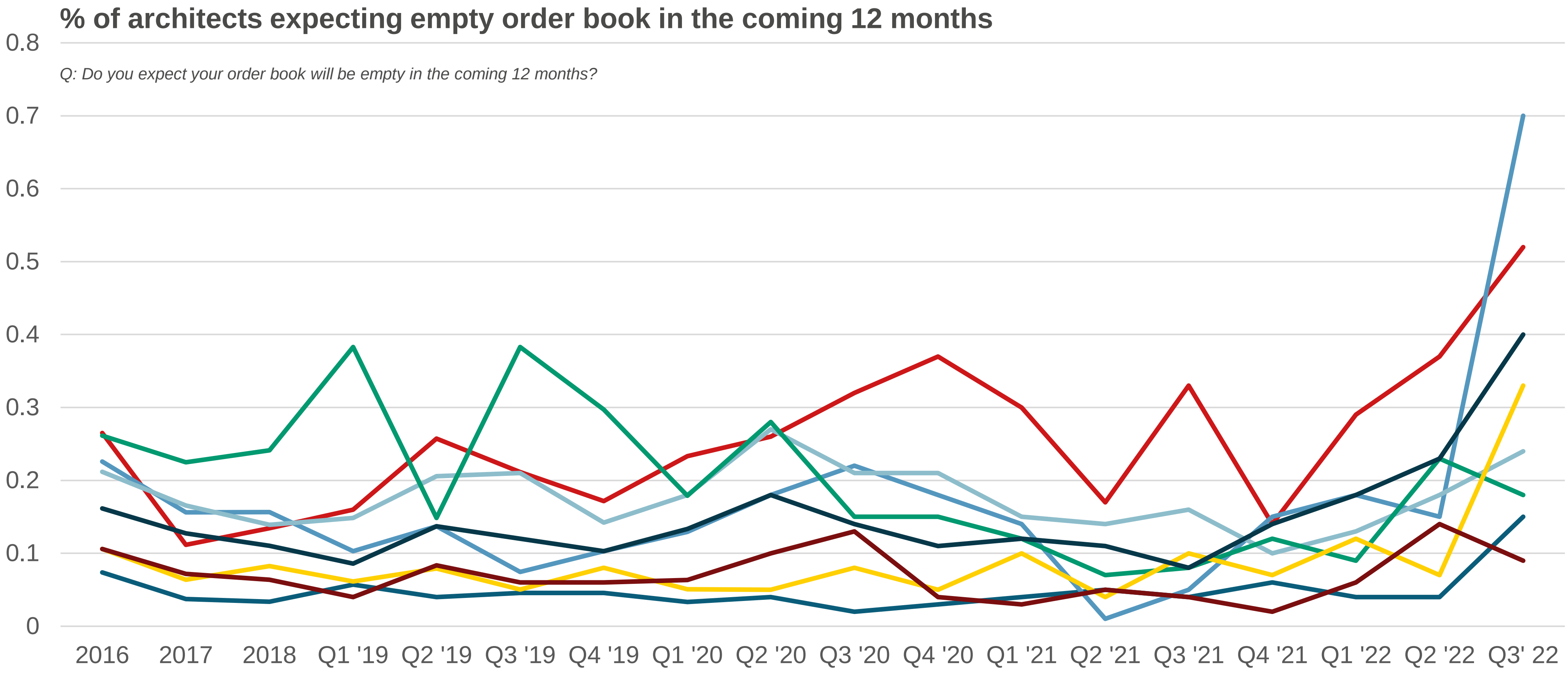

% of architects expecting empty order book in the coming 12 months
Q: Do you expect your order book will be empty in the coming 12 months?
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2016
2017
2018
Q1 '19
Q2 '19
Q3 '19
Q4 '19
Q1 '20
Q2 '20
Q3 '20
Q4 '20
Q1 '21
Q2 '21
Q3 '21
Q4 '21
Q1 '22
Q2 '22
Q3' 22

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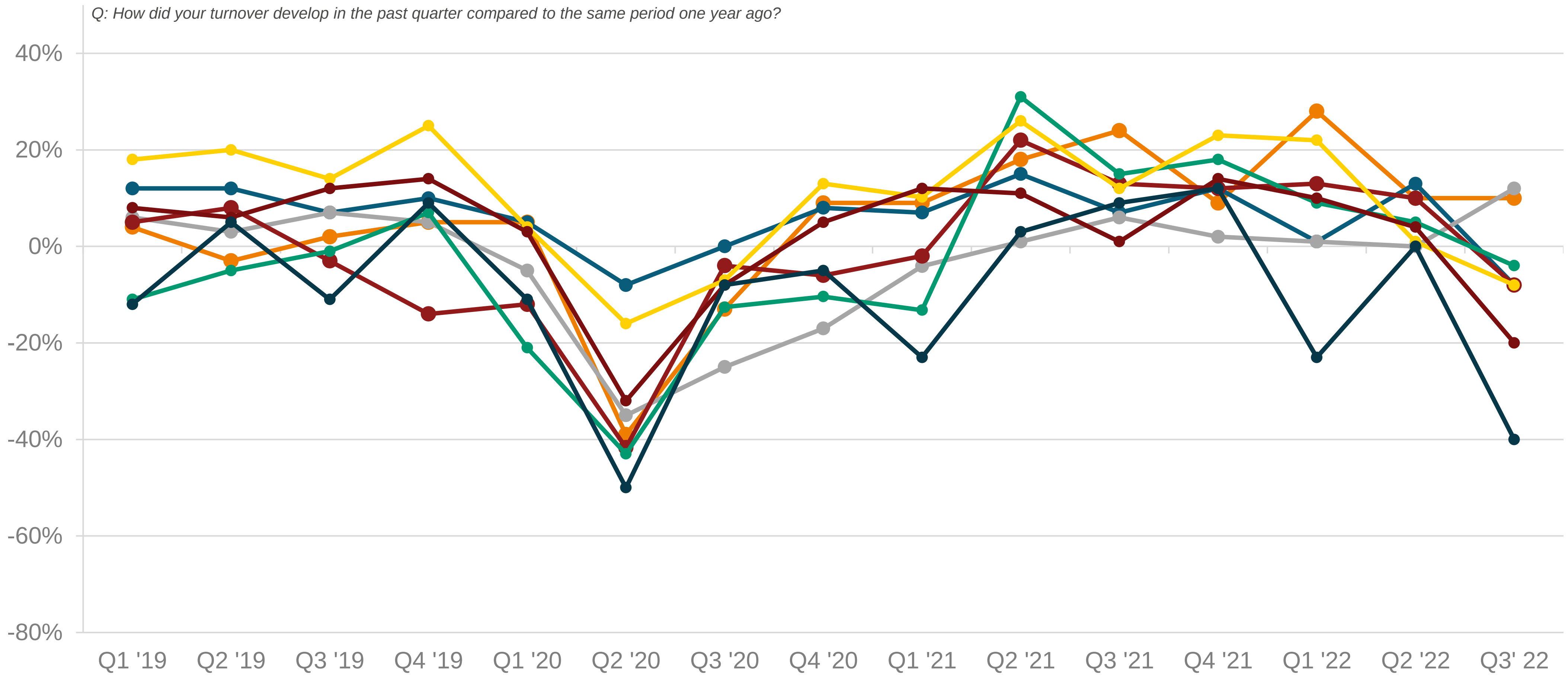
Architects' experience regarding their turnover
(saldo of architects reporting increase minus architects reporting a decrease)



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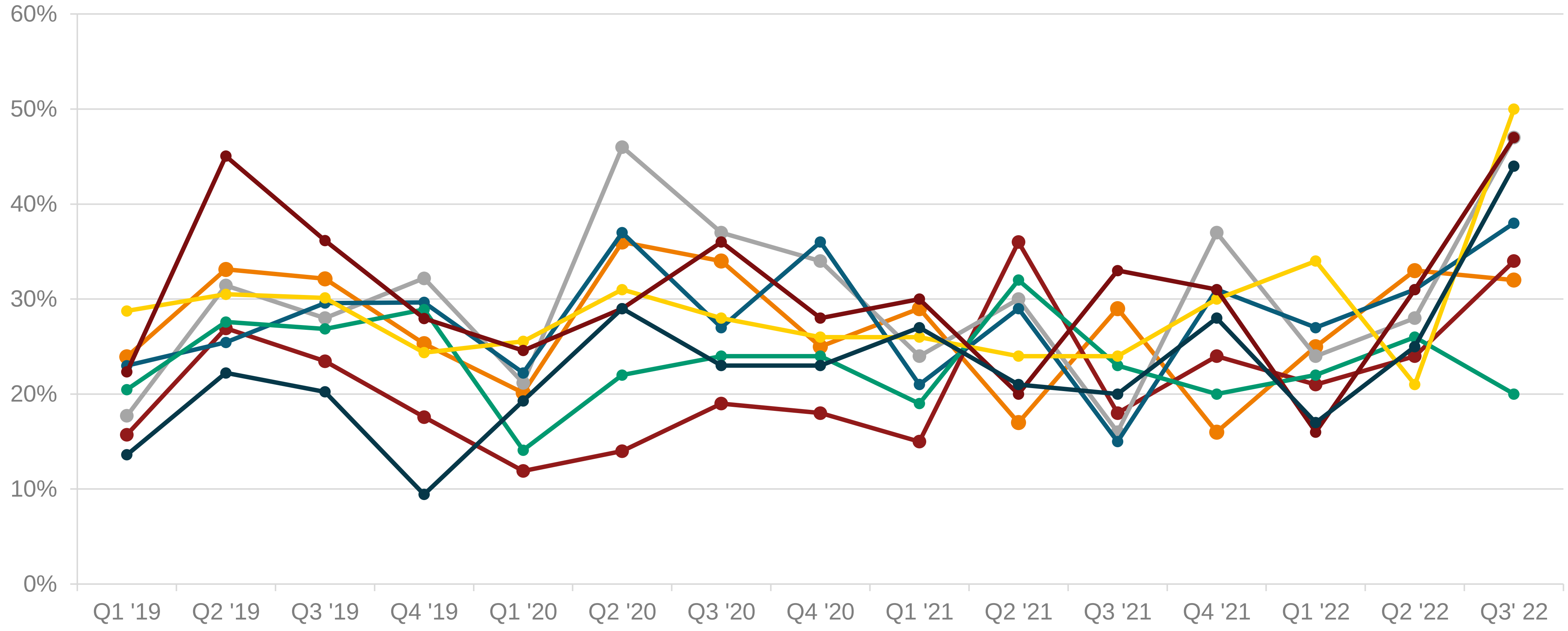
% of architects experiencing cancelled projects

Q: How many projects have been cancelled in the past quarter?



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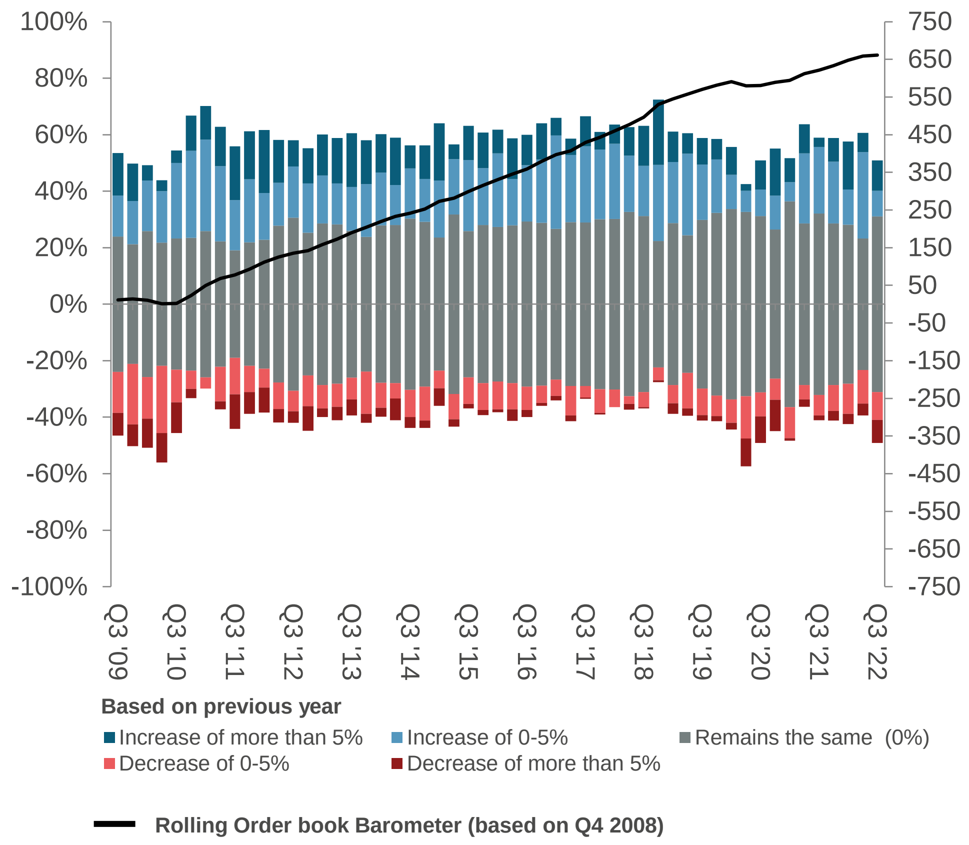
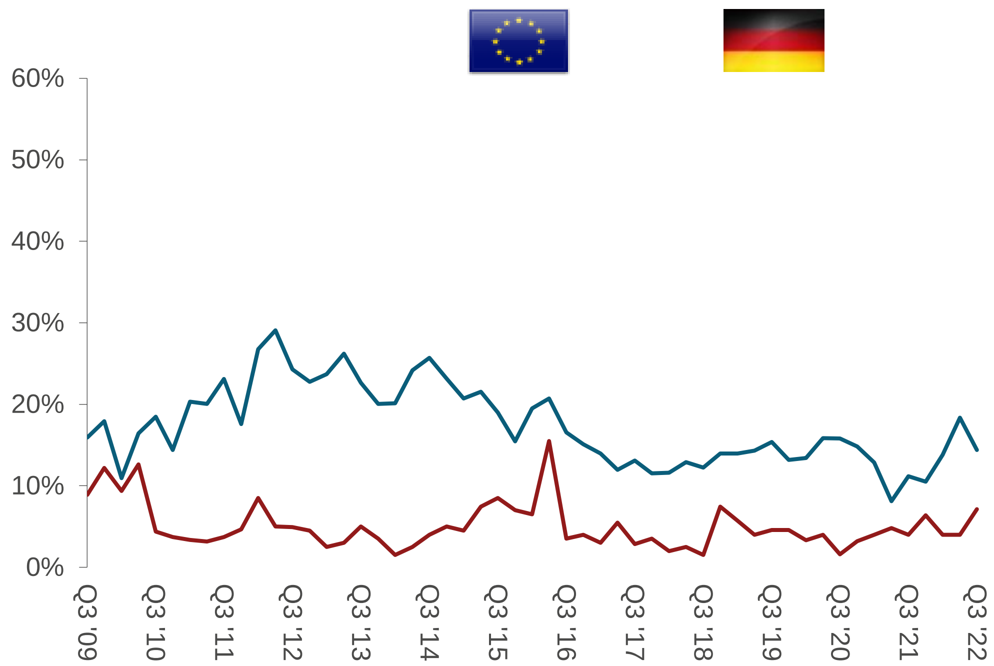
Development of order book



Expecting empty order book in 12 months



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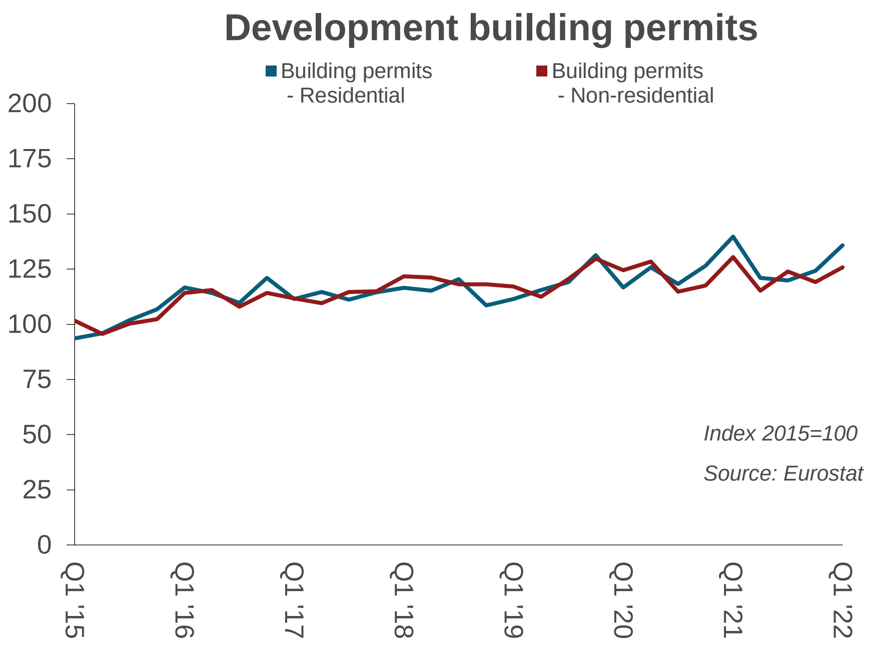

Economic and construction related indicators	Value Q2 2021	Value Q1 2022	Value Q2 2022	Q-2-Q development
GDP (quarterly growth rate) (%)*	n/a	n/a	n/a	Positive
Consumer confidence indicator**	n/a	n/a	n/a	Negative
Industrial confidence indicator**	n/a	n/a	n/a	Negative
Construction confidence indicator**	n/a	n/a	n/a	Negative
Production value buildings (index 2015=100)**	n/a	n/a	n/a	Negative
Architects with postponed projects (%)***	n/a	n/a	n/a	Negative
Architects with cancelled projects (%)***	n/a	n/a	n/a	Negative
Building permits residential (index 2015=100)**	n/a	n/a	n/a	Positive
Building permits non-residential (index 2015=100)**	n/a	n/a	n/a	Negative

*Source: * Country statistical office; ** Eurostat, *** Arch-Vision*

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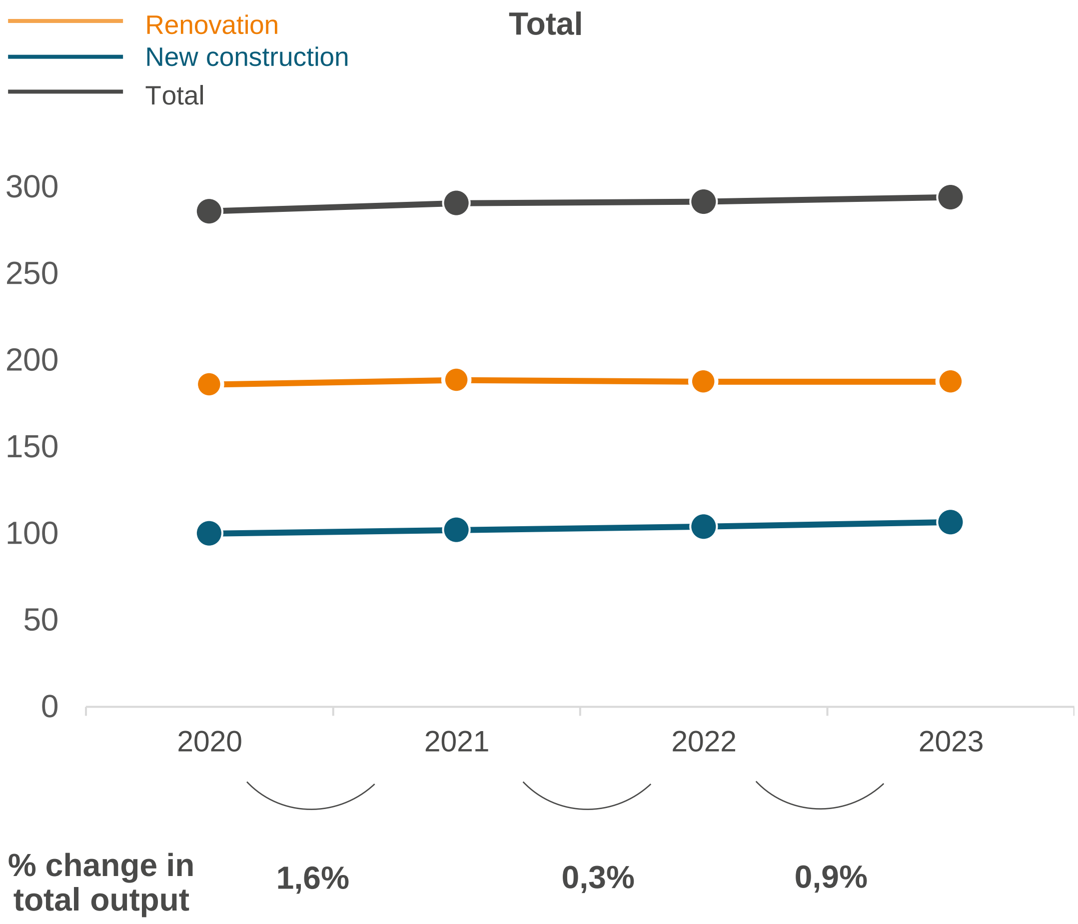
(% change year over year)



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The decision power of architects

Can you indicate what your role is on the following parts of the process? [end-decision maker, co-decision maker, not involved]

	Total 2022 n=xxx		2019* n=xxx	2017* n=xxx
	End-decision makers	**Co-decision makers**		
Aesthetical design	33%	66%	40%	45%
Material/ product choice	33%	66%	**	45%
Technical specification	33%	66%	40%	45%
Structural design	33%	66%	40%	**
Brand choice	33%	66%	40%	45%

* End decision makers only

conclusion

The decision power of architects

Can you indicate what your role is on the following parts of the process? [end-decision maker, co-decision maker, not involved]

	Total 2022		Germany	United Kingdom	France	Italy	Spain	Netherlands	Belgium	Poland
	n=xxx		n=xxx	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx
	End-decision makers	**Co-decision makers**								
Aesthetical design	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Material/ product choice	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Technical specification	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Structural design	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Brand choice	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%

* End decision makers only

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Decision power for **aesthetical design**
Can you indicate what your role is in the following parts of the process?

Belgium
end-decision maker: **52%**
co-decision maker: **47**%

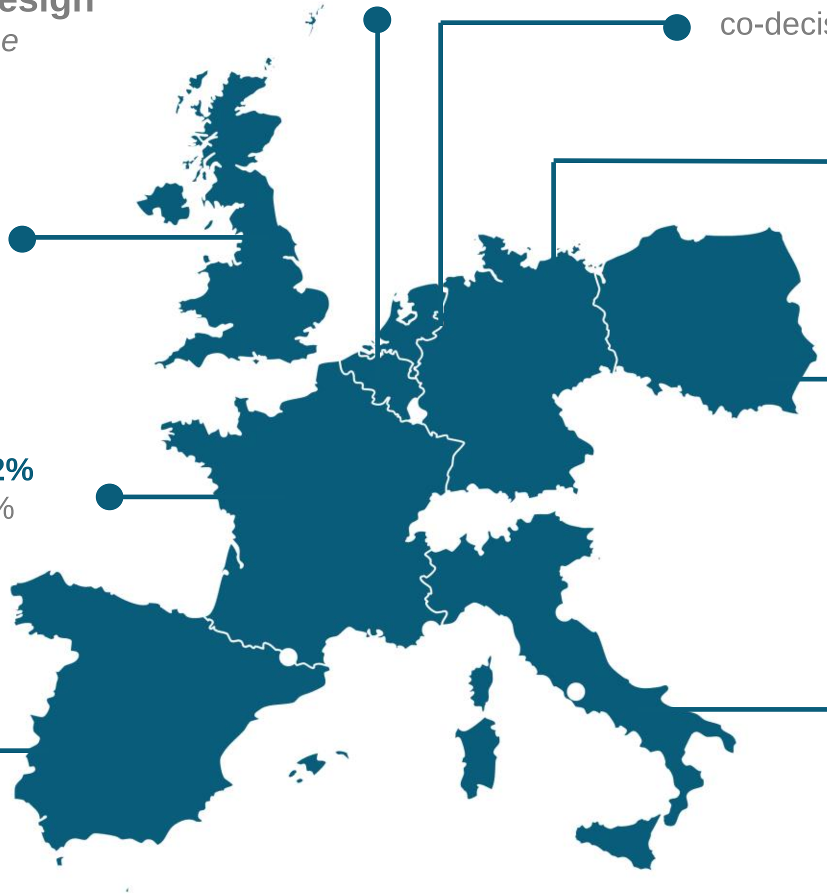
The Netherlands
end-decision maker: **52%**
co-decision maker: **47**%

Germany
end-decision maker: **52%**
co-decision maker: **47**%

The United Kingdom
end-decision maker: **52%**
co-decision maker: **47**%

Poland
end-decision maker: **52%**
co-decision maker: **47**%

France
end-decision maker: **52%**
co-decision maker: **47**%



Italy
end-decision maker: **52%**
co-decision maker: **47**%

Spain
end-decision maker: **52%**
co-decision maker: **47**%

conclusion

Decision power for **brand choice**

Can you indicate what your role is in the following parts of the process?

Belgium
end-decision maker: **20%**
co-decision maker: **60**%

The Netherlands
end-decision maker: **20%**
co-decision maker: **60**%

Germany
end-decision maker: **20%**
co-decision maker: **60**%

The United Kingdom
end-decision maker: **20%**
co-decision maker: **60**%

Poland
end-decision maker: **20%**
co-decision maker: **60**%

France
end-decision maker: **20%**
co-decision maker: **60**%

Italy
end-decision maker: **20%**
co-decision maker: **60**%

Spain
end-decision maker: **20%**
co-decision maker: **60**%

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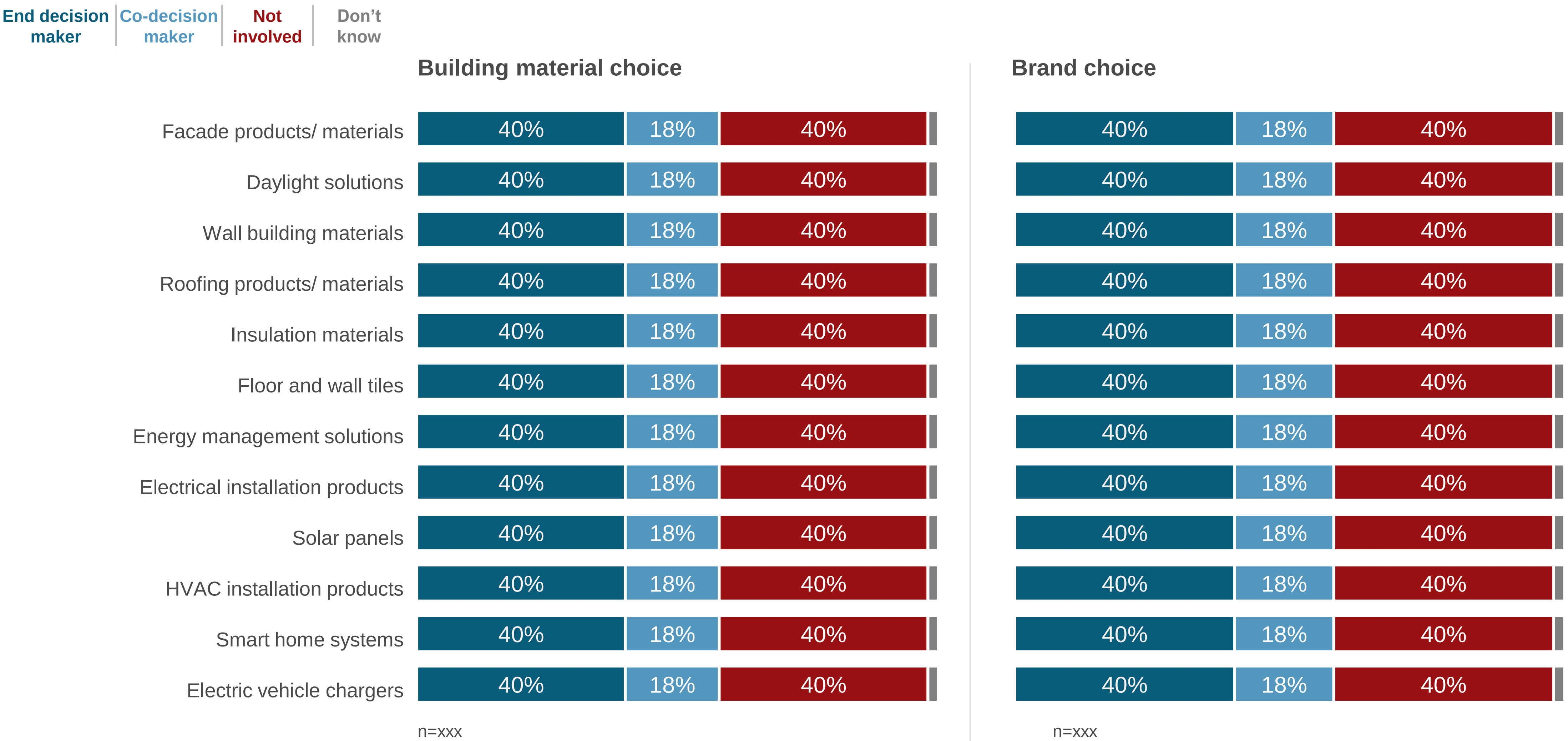

*Only asked if included in decision making process

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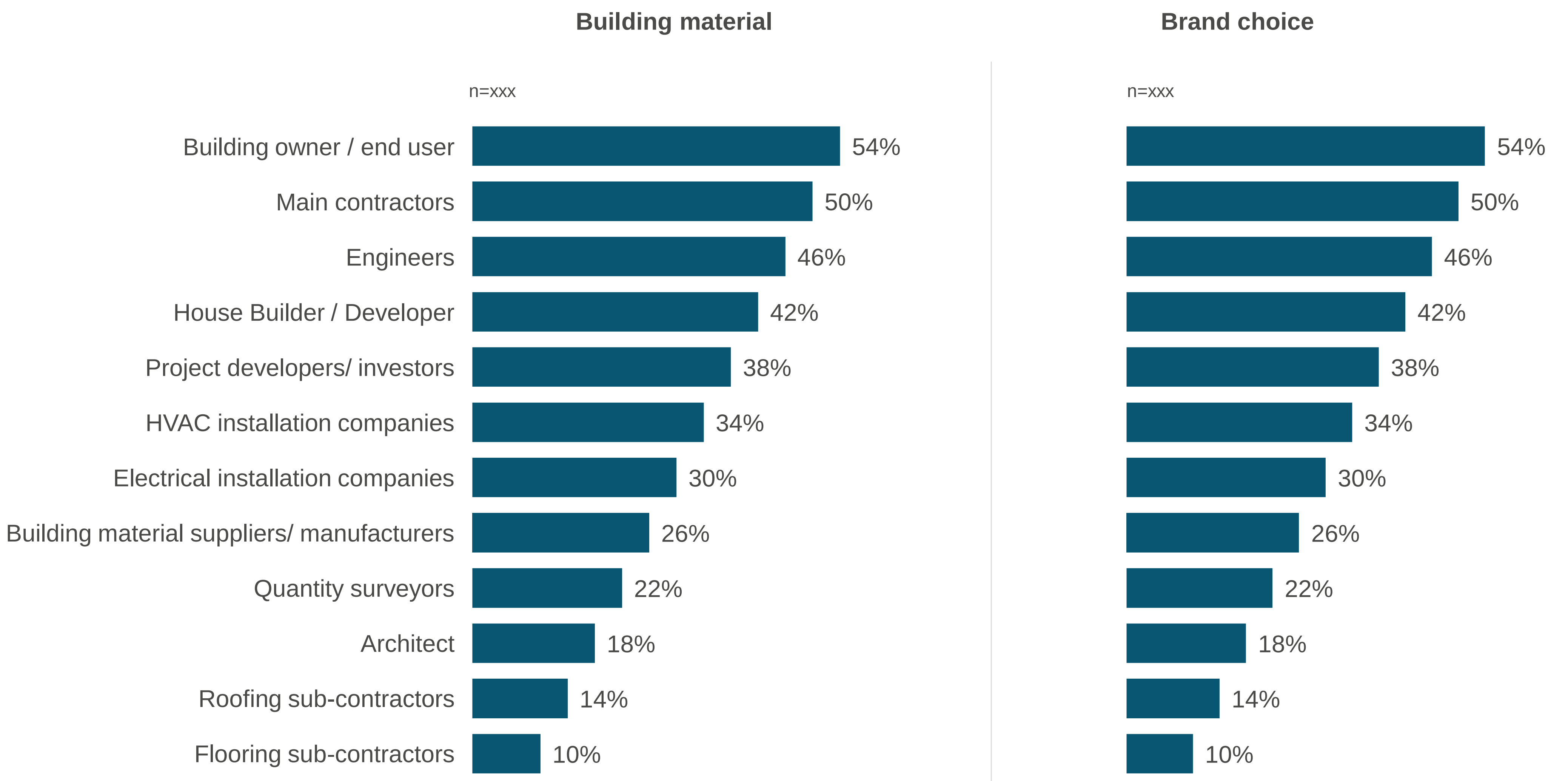
Building material
Brand choice
n=xxx
n=xxx
Building owner / end user
Main contractors
Engineers
House Builder / Developer
Project developers/ investors
HVAC installation companies
Electrical installation companies
Building material suppliers/ manufacturers
Quantity surveyors
Architect
Roofing sub-contractors
Flooring sub-contractors
54%
50%
46%
42%
38%
34%
30%
26%
22%
18%
14%
10%
54%
50%
46%
42%
38%
34%
30%
26%
22%
18%
14%
10%

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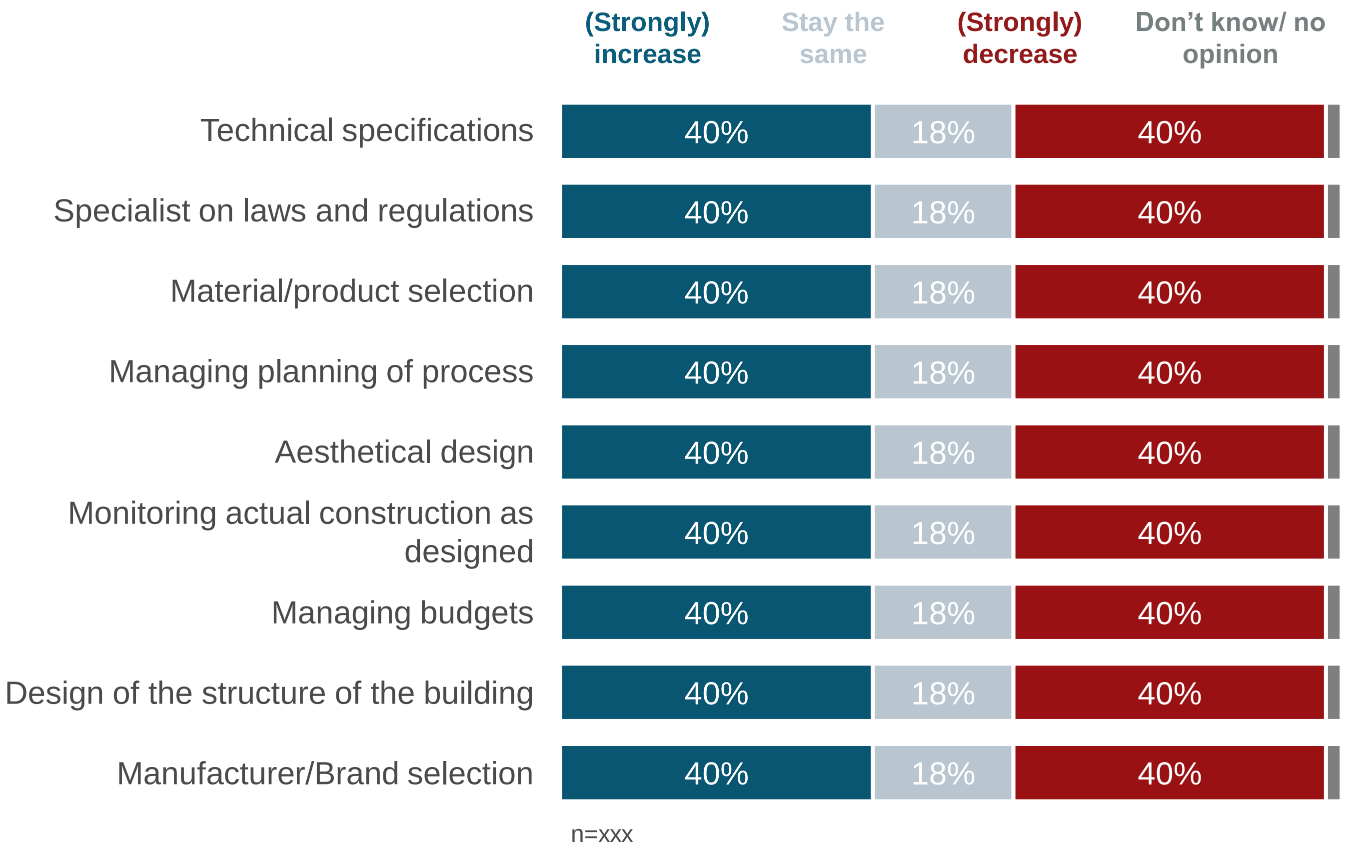
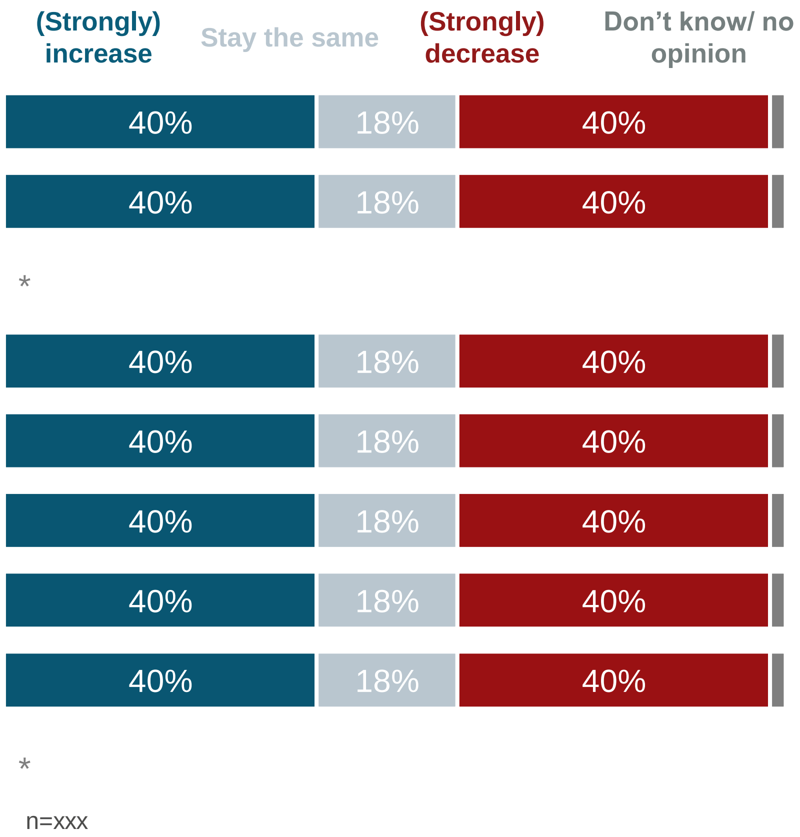
What do you think will happen to your role in the following aspects in the coming two years?



2022



2019

*No data available

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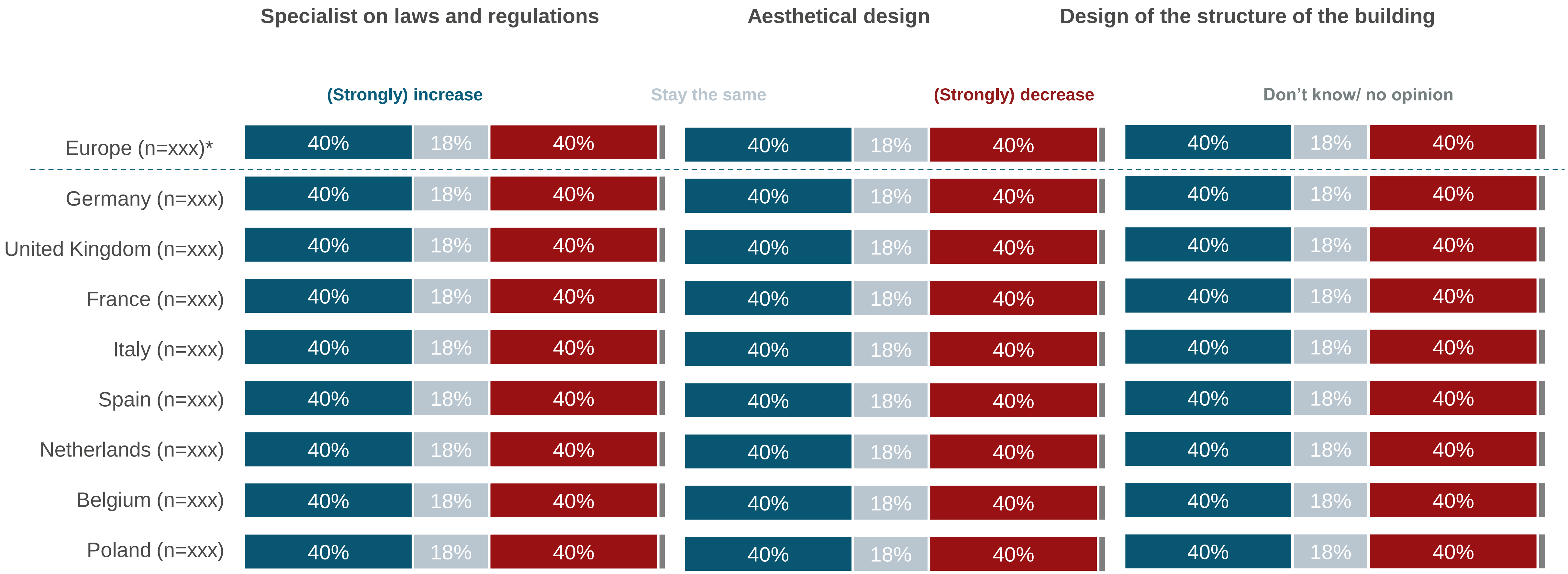

n=xxx

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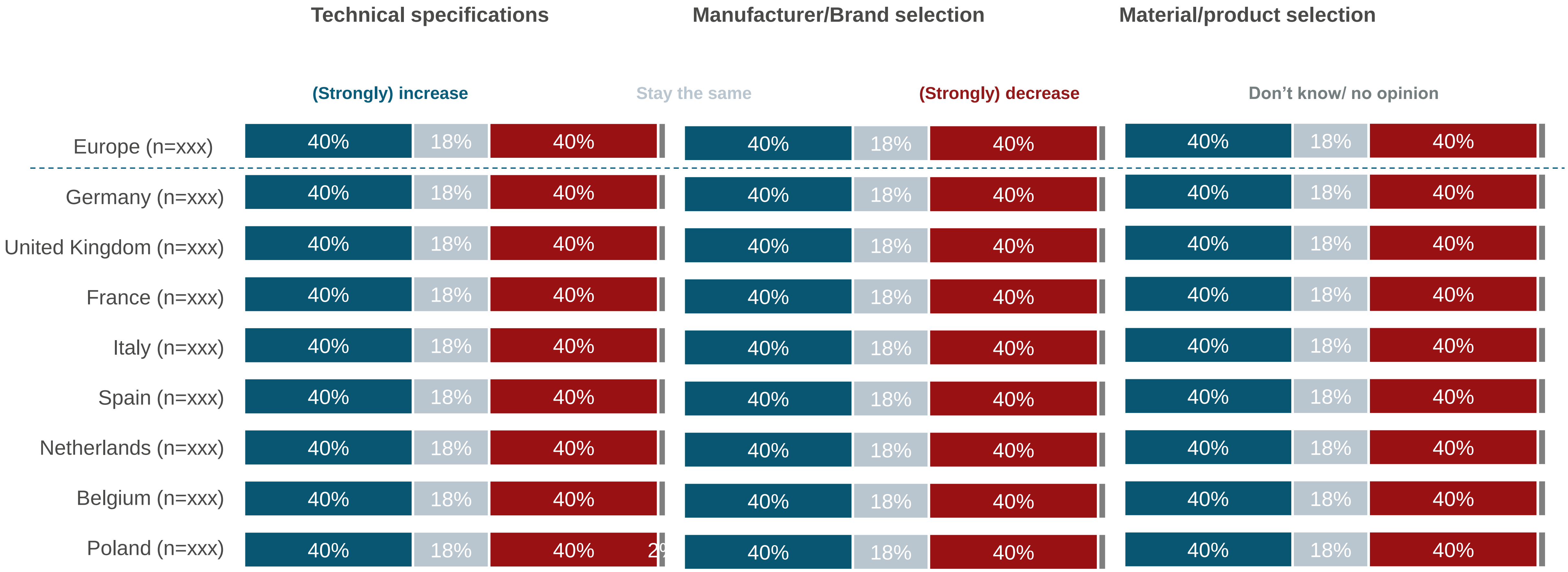
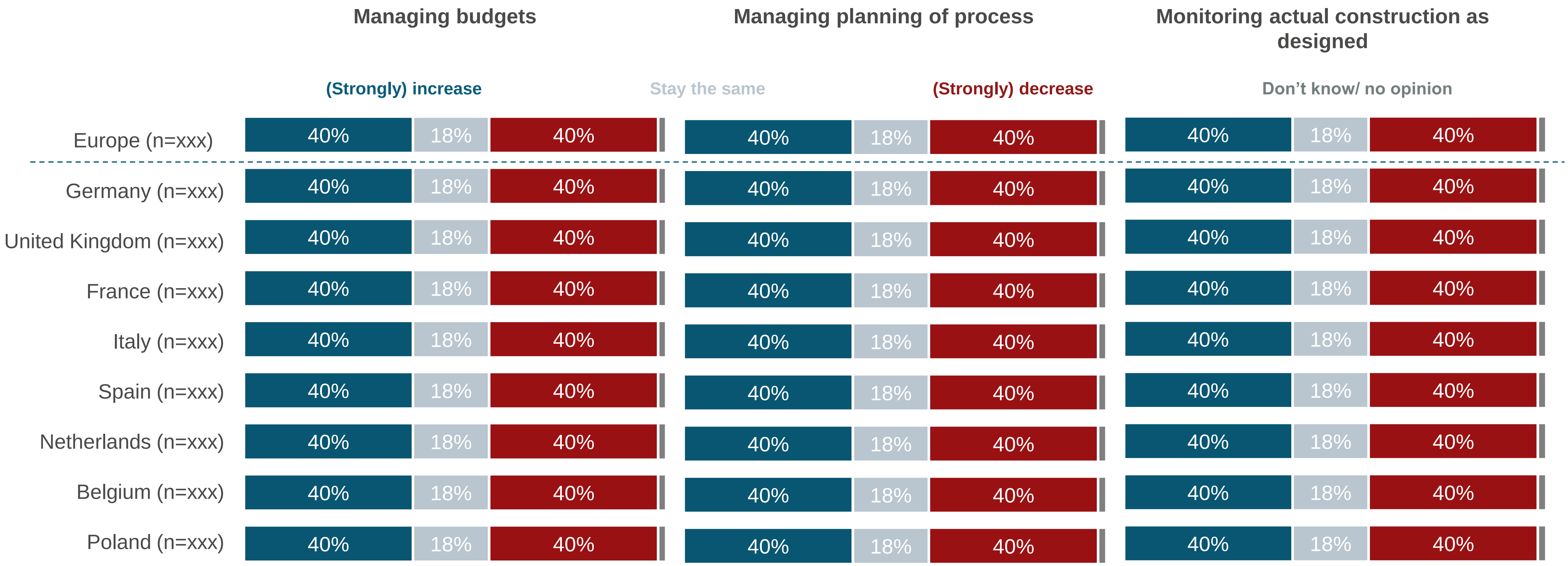


n=xxx

conclusion



n=xxx

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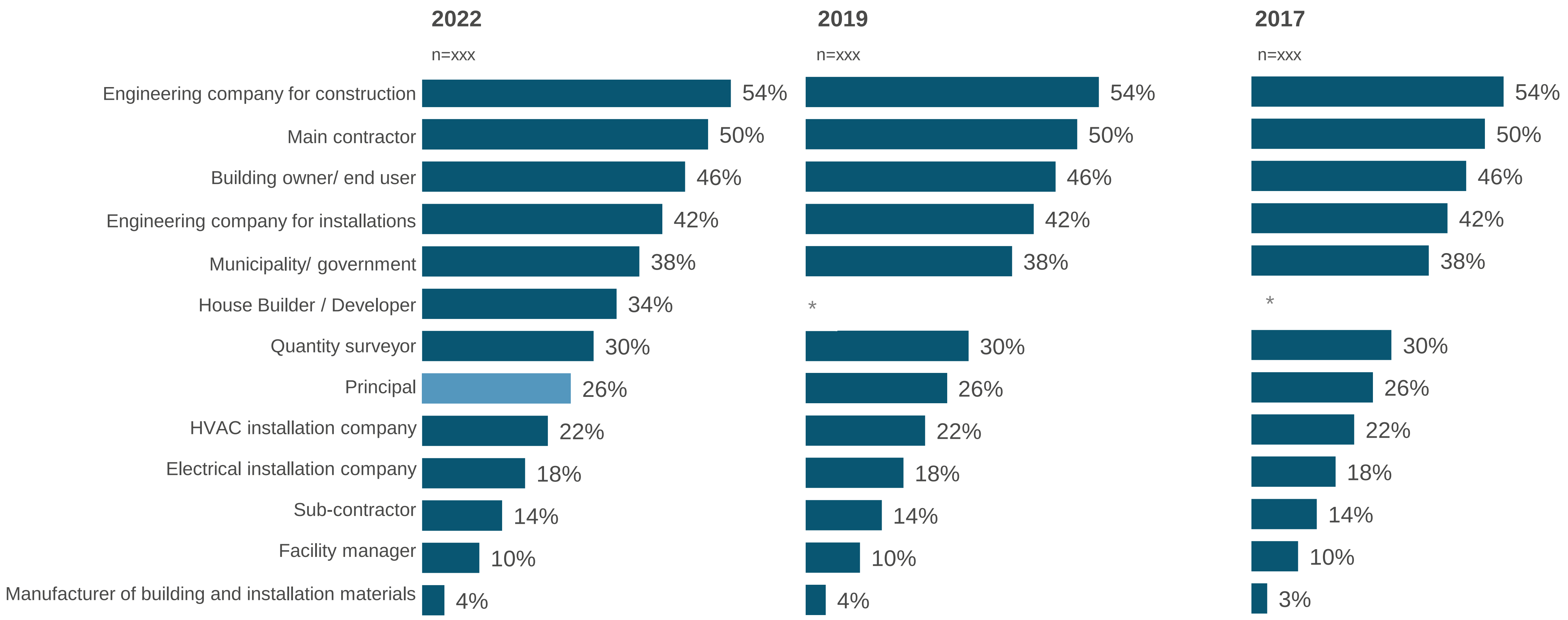
Which other parties do you consider to be important influencers of the building process?



*No data available

conclusion

conclusion

Which other parties do you consider to be important influencers of the building process?

	Total	Germany	United Kingdom	France	Italy	Spain	Netherlands	Belgium	Poland
	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx
Engineering company for construction	54%	45%	50%	45%	50%	45%	50%	45%	50%
Main contractor	50%	45%	50%	45%	50%	45%	50%	45%	50%
Building owner/ end user	46%	45%	50%	45%	50%	45%	50%	45%	50%
Engineering company for installations	42%	45%	50%	45%	50%	45%	50%	45%	50%
Municipality/ government	38%	45%	50%	45%	50%	45%	50%	45%	50%
House Builder / Developer	34%	45%	50%	45%	50%	45%	50%	45%	50%
Quantity surveyor	30%	45%	50%	45%	50%	45%	50%	45%	50%
Principal	26%	45%	50%	45%	50%	45%	50%	45%	50%
HVAC installation company	22%	45%	50%	45%	50%	45%	50%	45%	50%
Electrical installation company	18%	45%	50%	45%	50%	45%	50%	45%	50%

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conclusion

conclusion

To what extent do you agree with these statements?

	Completely agree	Agree	Neutral	Disagree	Completely disagree	Don’t know/ no opinion
Architects opt for the most convincing system solutions	20%	30%	10%	15%	20%	5%
The architect's role in the product and brand selection process is becoming less important	20%	30%	10%	15%	20%	5%
Architects opt for products included in BIM libraries	20%	30%	10%	15%	20%	5%
The role of the architect in the management of the construction process is diminishing	20%	30%	10%	15%	20%	5%

n=xxx

conclusion

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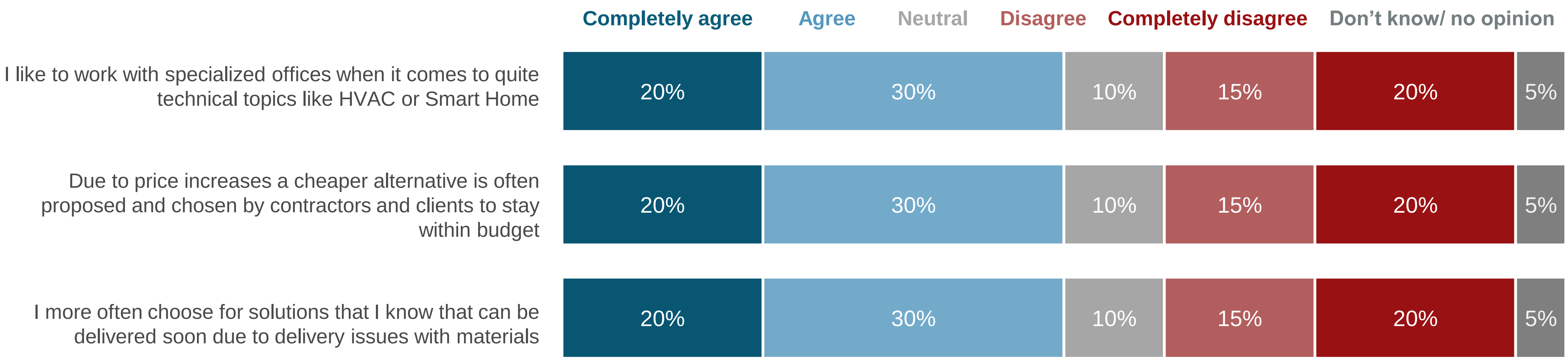
To what extent do you agree with these statements?



n=xxx

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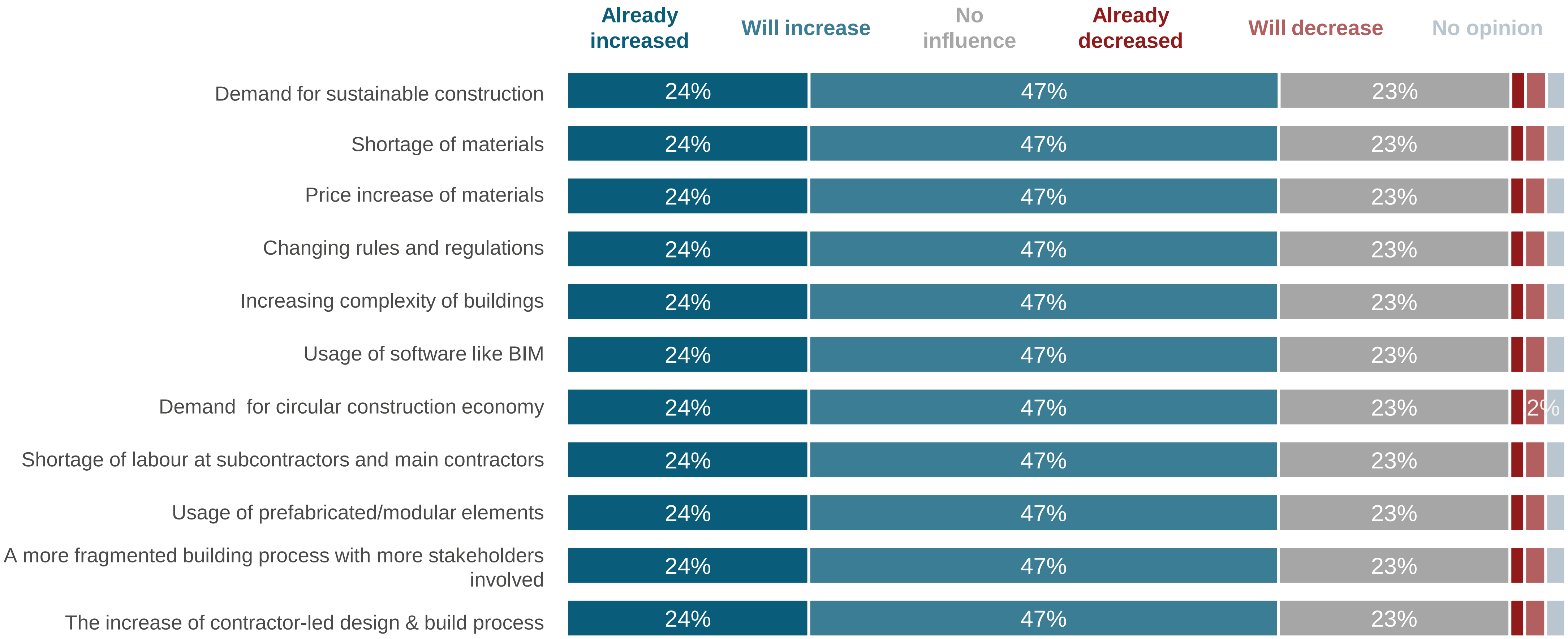
To what extent do you agree with these statements?

	Completely agree	Agree	Neutral	Disagree	Completely disagree	Don’t know/ no opinion
Renovation becomes more important than new build and in renovation the architect can bring more added value than in new build projects	20%	30%	10%	15%	20%	5%
Due to their increasing size, construction firms are gaining influence in the product and brand selection	20%	30%	10%	15%	20%	5%
The holistic approach towards the buildings will bring more decision power to the architects	20%	30%	10%	15%	20%	5%
The European building regulations will lead to more holistic approach in the design of the buildings	20%	30%	10%	15%	20%	5%

n=xxx

conclusion

Do you think that your role as an architect will increase or decrease because of the following trends?



Base: n=xxx; The options were randomised for each set of statements

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The decision power of architects: **building material/ product**

When we are talking about building material/product choice for the following building parts, what is your role then? [end-decision maker, co-decision maker, not involved]

Total 2022

n=xxx

	End-decision makers	Co-decision makers
Facade products/ materials	33%	66%
Wall building materials	33%	66%
Daylight solutions	33%	66%
Roofing products/ materials	33%	66%
Insulation materials	33%	66%
Floor and wall tiles	33%	66%
Solar panels	33%	66%
Energy management solutions	33%	66%
HVAC installation products	33%	66%
Electrical installation products	33%	66%
Smart home systems	33%	66%
Electric vehicle chargers	33%	66%

*Only asked if included in decision making process
Due to innovation in construction materials, the data is not comparable with 2019 and 2017 results

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The decision power of architects: **building material/ product**

When we are talking about building material/product choice for the following building parts, what is your role then? [end-decision maker, co-decision maker, not involved]

	Total 2022		Germany	United Kingdom	France	Italy	Spain	Netherlands	Belgium	Poland
	n=xxx		n=xxx	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx
	End-decision makers	**Co-decision makers**								
Facade products/ materials	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Wall building materials	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Daylight solutions	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Roofing products/ materials	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Insulation materials	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Floor and wall tiles	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Solar panels	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Energy management solutions	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
HVAC installation products	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Electrical installation products	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Smart home systems	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Electric vehicle chargers	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%

* End decision makers only

**Only asked if included in decision making process

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Which other stakeholders are mainly involved in the building material/product choice?

	Total	Germany	United Kingdom	France	Italy	Spain	Netherlands	Belgium	Poland
	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx
Building owner/ end user	54%	45%	50%	45%	50%	45%	50%	45%	45%
Main contractors	50%	45%	50%	45%	50%	45%	50%	45%	45%
Engineers	46%	45%	50%	45%	50%	45%	50%	45%	45%
House Builder / Developer	42%	45%	50%	45%	50%	45%	50%	45%	45%
Project developers/ investors	38%	45%	50%	45%	50%	45%	50%	45%	45%
HVAC installation companies	34%	45%	50%	45%	50%	45%	50%	45%	45%
Electrical installation companies	30%	45%	50%	45%	50%	45%	50%	45%	45%
Building material suppliers/ manufacturers	26%	45%	50%	45%	50%	45%	50%	45%	45%
Quantity surveyors	22%	45%	50%	45%	50%	45%	50%	45%	45%
Roofing sub-contractors	18%	45%	50%	45%	50%	45%	50%	45%	45%

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The decision power of architects: **brand choice**

When we are talking about brand choice for the following building parts, what is your role then? [end-decision maker, co-decision maker, not involved]

Total 2022

n=xxx

	End-decision makers	Co-decision makers
Facade products/ materials	33%	66%
Daylight solutions	33%	66%
Roofing products/ materials	33%	66%
Wall building materials	33%	66%
Insulation materials	33%	66%
Floor and wall tiles	33%	66%
Electrical installation products	33%	66%
HVAC installation products	33%	66%
Energy management solutions	33%	66%
Solar panels	33%	66%
Smart home solutions	33%	66%
Electric vehicle chargers	33%	66%

*Only asked if included in decision making process
Due to innovation in construction materials, the data is not comparable with 2019 and 2017 results

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The decision power of architects: **brand choice**

When we are talking about brand choice for the following building parts, what is your role then? [end-decision maker, co-decision maker, not involved]

	Total 2022 n=xxx		Germany n=xxx	United Kingdom n=xxx	France n=xxx	Italy n=xxx	Spain n=xxx	Netherlands n=xxx	Belgium n=xxx	Poland n=xxx
	End-decision makers	**Co-decision makers**								
Facade products/ materials	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Daylight solutions	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Roofing products/ materials	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Wall building materials	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Insulation materials	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Floor and wall tiles	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Electrical installation products	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
HVAC installation products	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Energy management solutions	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Solar panels	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Smart home solutions	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%
Electric vehicle chargers	33%	66%	45%	50%	45%	50%	45%	50%	45%	50%

* End decision makers only

**Only asked if included in decision making process

conclusion

If we talk about brand choice for building material, which other stakeholders are mainly involved?

	Total	Germany	United Kingdom	France	Italy	Spain	Netherlands	Belgium	Poland
	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx	n=xxx
Building owner/ end user	54%	45%	50%	45%	50%	45%	50%	45%	50%
Main contractors	50%	45%	50%	45%	50%	45%	50%	45%	50%
Engineers	46%	45%	50%	45%	50%	45%	50%	45%	50%
House Builder / Developer	42%	45%	50%	45%	50%	45%	50%	45%	50%
Project developers/ investors	38%	45%	50%	45%	50%	45%	50%	45%	50%
Electrical installation companies	34%	45%	50%	45%	50%	45%	50%	45%	50%
HVAC installation companies	30%	45%	50%	45%	50%	45%	50%	45%	50%
Building material suppliers/ manufacturers	26%	45%	50%	45%	50%	45%	50%	45%	50%
Roofing sub-contractors	22%	45%	50%	45%	50%	45%	50%	45%	50%
Flooring sub-contractors	18%	45%	50%	45%	50%	45%	50%	45%	50%

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Sample and methodology of the research

Most architectural firms have less than two FTE. Nevertheless, the focus of the European Architectural Barometer is on the larger firms. Therefore, the research is only conducted among architectural firms with two FTE and more. As the study is focused on architects active in construction, architects that are solely active in interior or landscaping are excluded from the research.

The table below shows the number of successful interviews in each country. The difference between the gross sample of respondents that were reached (all reached numbers) and the net sample of respondents that were reached, was caused by those architects who could not be contacted or had an incorrect phone number, and those who did not meet the selection criteria (mostly due to the fact that the architectural firms had less than two FTE). The difference between the net sample of respondents reached and the response are the number of architects who refused to participate.

Response								
Gross sample (all attempts to approach respondents)	1000	1000	1000	1000	1000	1000	1000	1000
Net sample (all approached respondents)	500	500	500	500	500	500	500	500
Completed interviews	125	125	125	125	125	125	125	125
Response percentage (interviews/ net sample)	25%	25%	25%	25%	25%	25%	25%	25%

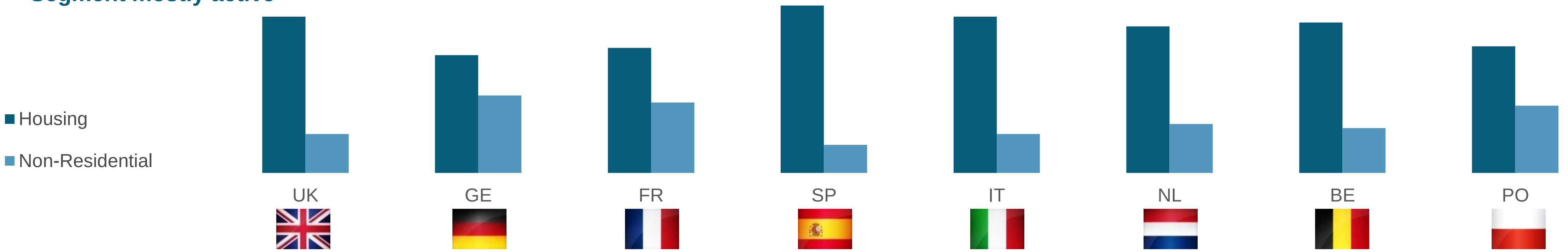
Background of the architects

The table below shows the average number of employees of the architectural firms within the current quarter of this research, divided by country. The architectural firms with one employee were excluded from this research. The second table shows the segments in which architects within this research are mostly active.

Number of FTE

Average	**5,5**	**5,5**	**5,5**	**5,5**	**5,5**	**5,5**	**5,5**	**5,5**
2 – 4 FTE								
5 – 9 FTE								
10 – 19 FTE								
20 – 39 FTE								
> 40 FTE								

Segment mostly active



Index

Forecast overview

Economic and construction figures per country

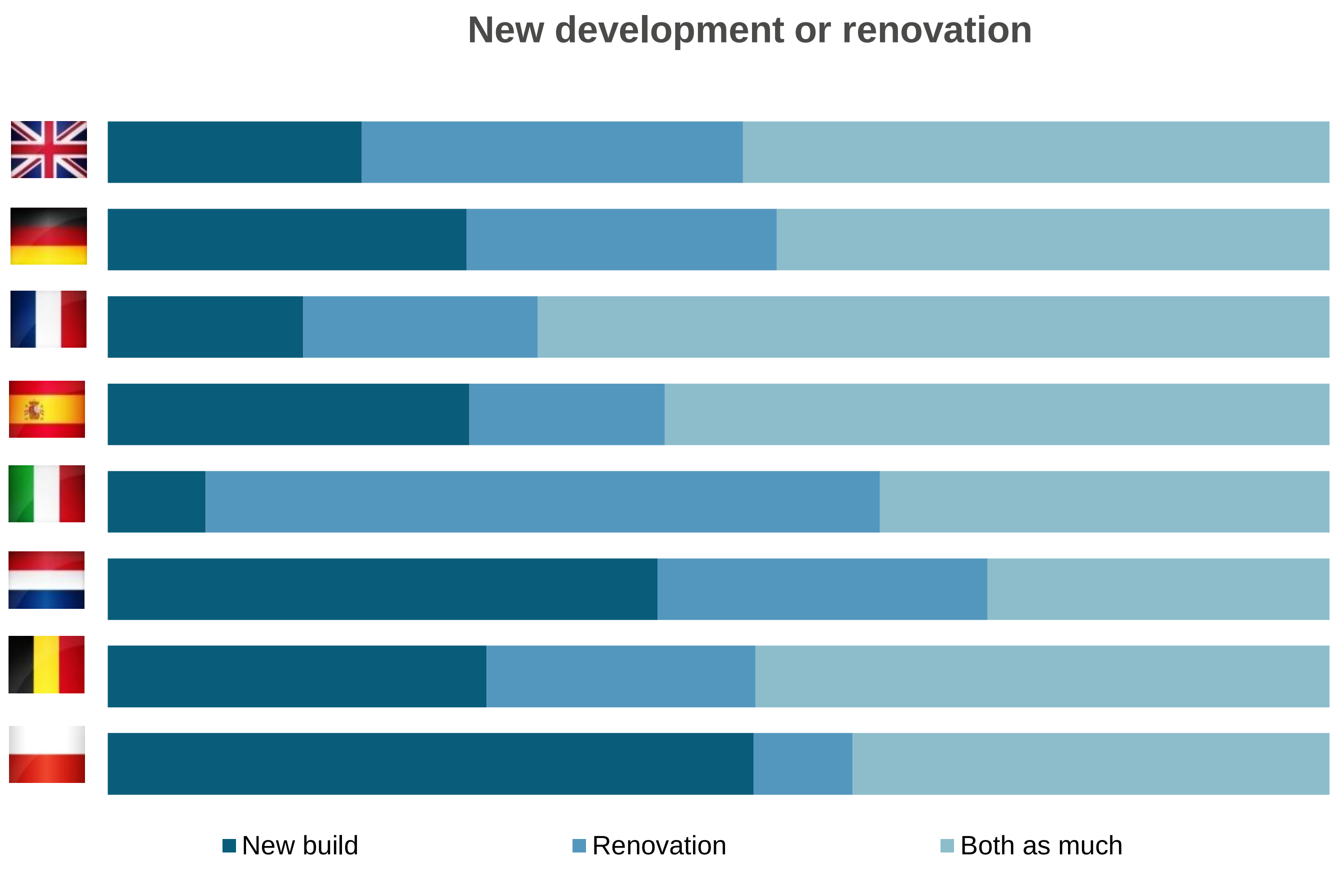
Theme part: Decision Making in the Construction Industry

Research background

Appendix

Background of the architects

The figure below shows the split in activities in new build and renovation. Italy has the smallest new build market with merely 12% claiming to be mainly active in new build. You can clearly see that most architects are active in the renovation segment. Almost half of the Polish architects do more new build, which is more than their colleagues from other European countries.



About Arch-Vision

European Architectural Barometer

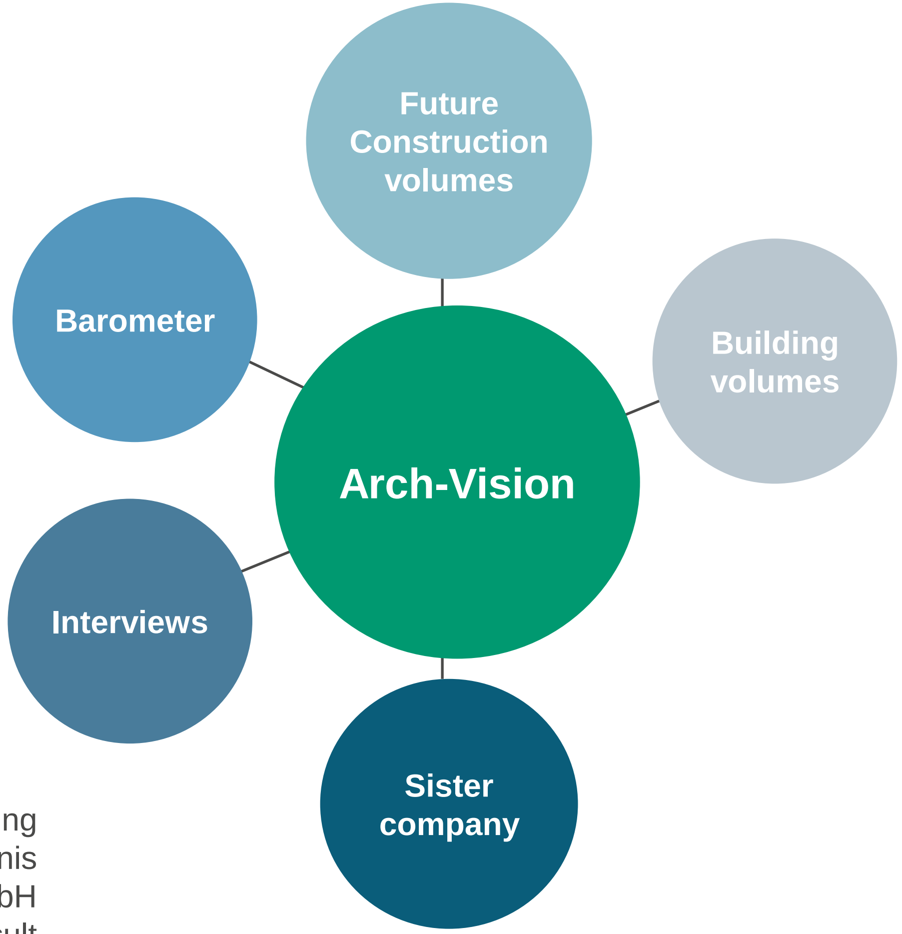
Architects have already been monitored by several institutes in quite diverging ways in the different countries. Arch-Vision launched this European Architectural Barometer for a more cohesive view. The European Architectural Barometer is extremely useful for organisations with a focus on Europe that also want to compare the activities of architects in different countries.

Interviews

All interviews are conducted by native speakers. From the third measurement onwards, two hundred interviews per country have been completed per measurement. The first two measurements were based on one hundred interviews per country. Later, for the Netherlands and Belgium, the measurements returned to one hundred interviews.

Sister company

Arch-Vision is a sister company of USP Marketing Consultancy (www.usp-mc.eu), BouwKennis (www.bouwkennis.nl), BauInfoConsult GmbH (www.bauinfoconsult.de) and BuildInfoConsult (www.buildinfoconsult.com). These are major agencies each providing full-service research support and specialised in the construction and real estate markets.



Future construction volumes

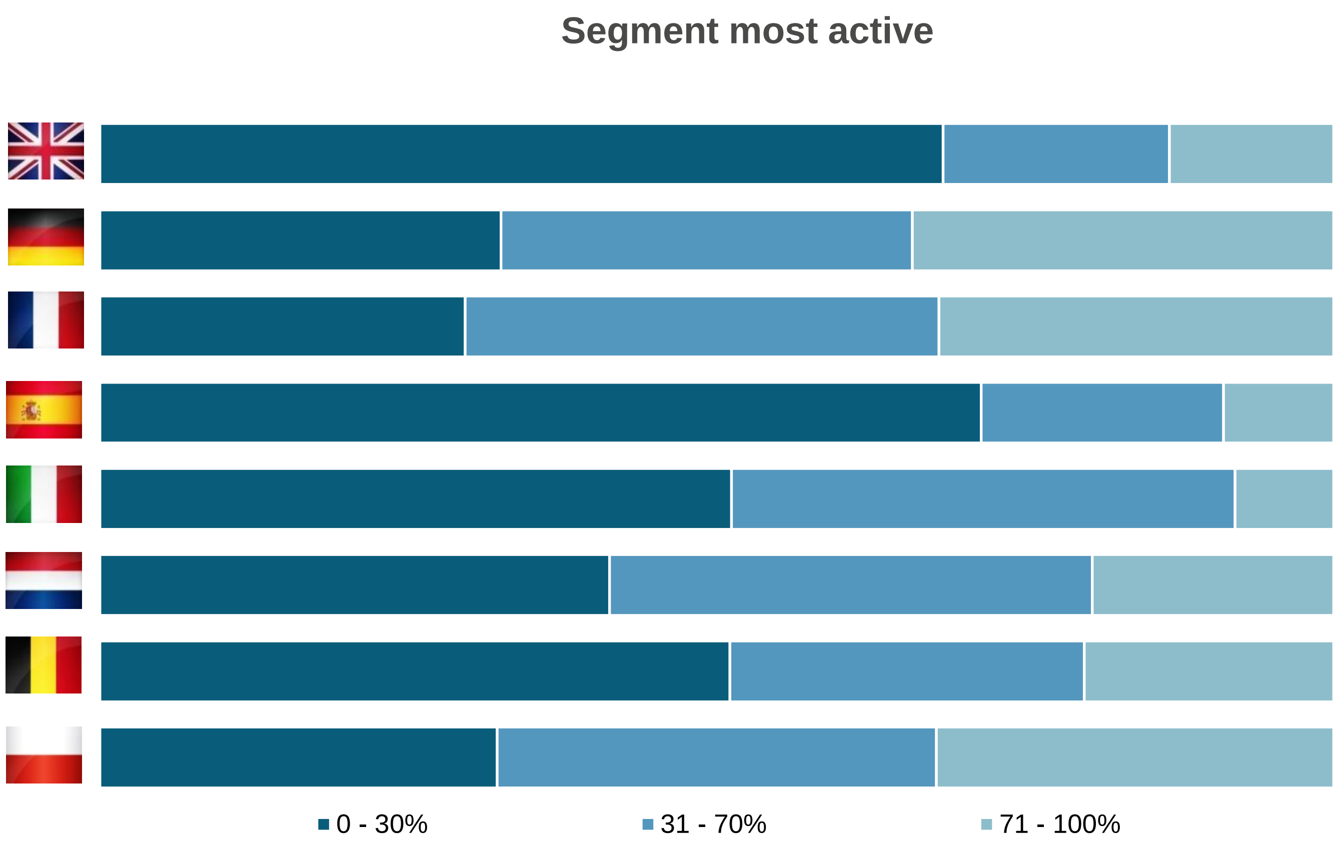
For decision makers charged with considerations of company resources, staffing and marketing strategy, a clear insight into future construction volumes is essential. However, economic indicators seldom provide an adequate picture of these volumes.

Building volumes

The construction industry operates in a delayed cyclical market, which means that buildings designed today will not be ready until at least two years from now. The economic activities of architectural firms provide a strong indication of the direction in which the construction sector will develop in terms of both building volumes and the way in which building volumes will be realised.

Results per segment

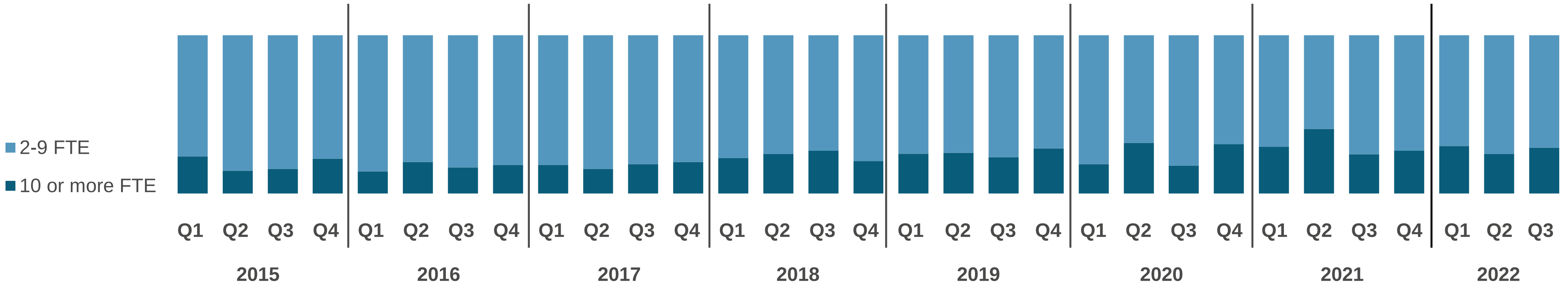
For three key questions from the current measurement of the European Architectural Barometer, the results are divided by architects that realise most of their sales in the residential segment (0% – 30% non-residential), by architects that realise sales in both segments (31% - 70% non-residential), and by architects that realise most of their sales in the non-residential segment (71% - 100% non-residential).

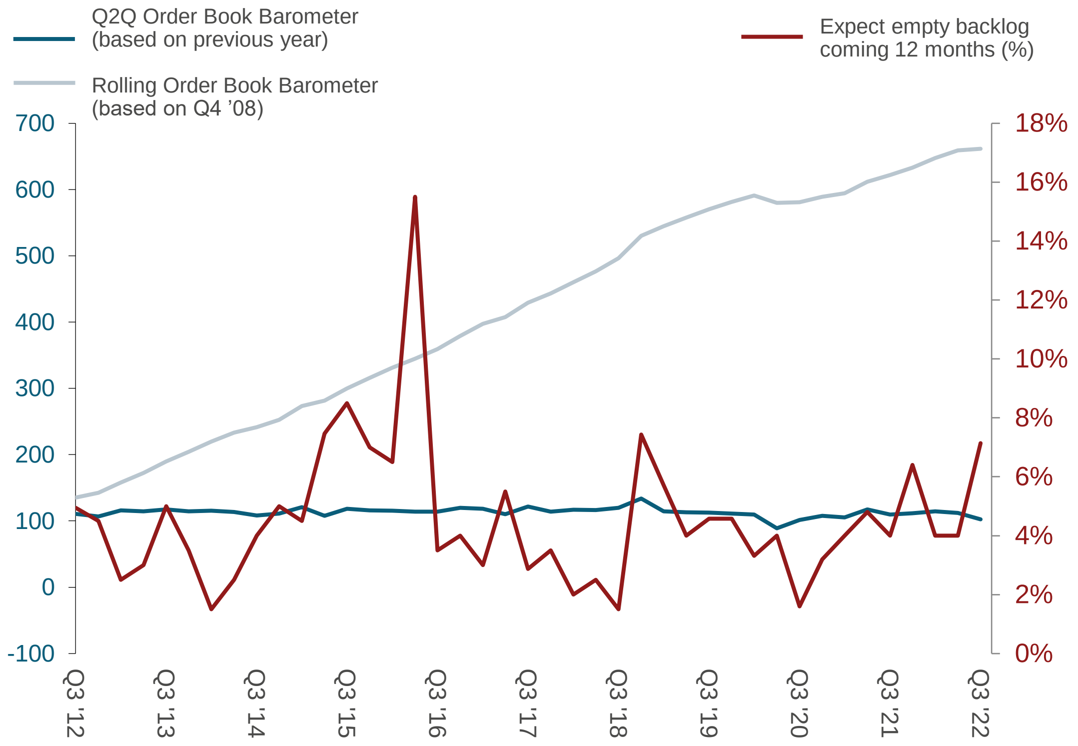


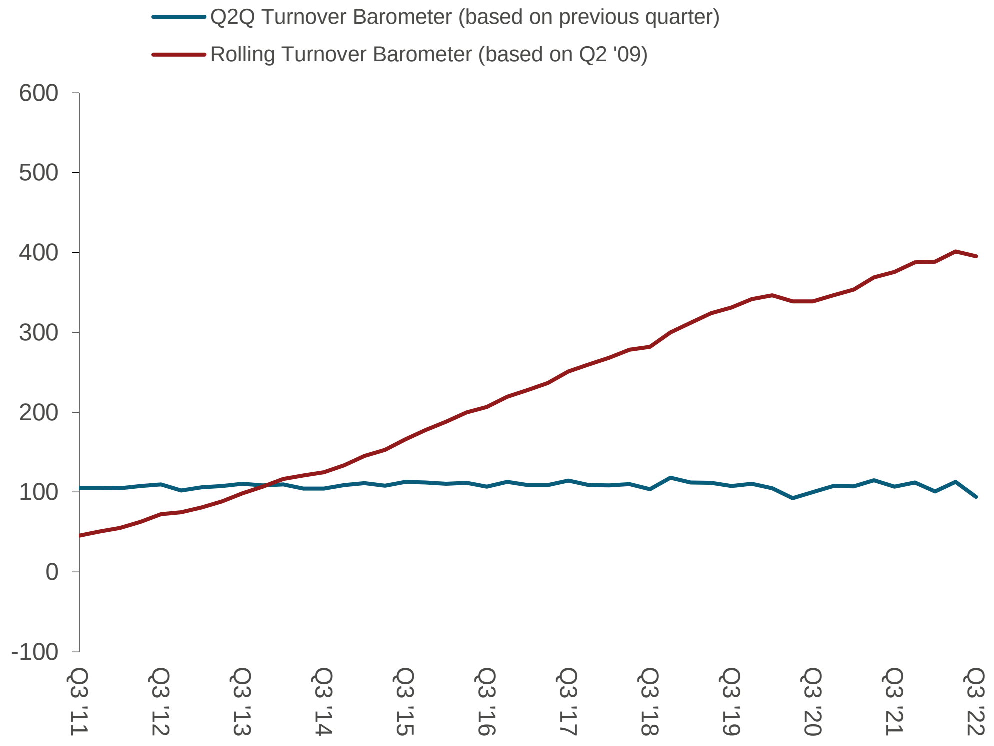
The tables on the following pages show the abovementioned split with regard to the following questions:

- **How did the turnover develop in this quarter compared to the previous quarter?**
- **How did your order book develop in this quarter compared to the same quarter last year?**
- **Do you expect that your order book might be empty these coming 12 months?**

Short-term outlook among German architects







Development turnover and order book

Development turnover (based on previous quarter)																								
% sales in non-residential	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**
Strongly increased (>5%)	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
Slightly increased (0-5%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Stayed the same (0%)	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
Slightly decreased (0-5%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Strongly decreased (>5%)	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
Barometer turnover	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**

Development order book (based on previous year)																								
% sales in non-residential	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**
Strongly increased (>5%)	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
Slightly increased (0-5%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Stayed the same (0%)	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
Slightly decreased (0-5%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Strongly decreased (>5%)	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
Barometer order book	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**	**-1**

Expectation empty order book in the next 12 months

Expectation empty order book in the next 12 months

																								
% sales in non-residential	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**
Yes	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
No	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Do not know	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

Methodology calculation of the Q2Q Saldo and Barometer

The European Architectural Barometer for the order book development and turnover development is calculated in the following way:

1. Respondents with a strong increase (>5%) are multiplied by 100
2. Respondents with a slight increase are multiplied by 50
3. Respondents that remained the same are multiplied by 0
4. Respondents with a slight decrease are multiplied by –50
5. Respondents with a strong decrease (>5%) are multiplied by –100
6. The sum of these values divided by 100, results in the Q2Q saldo.
7. Adding 100 to this saldo results in the Barometer figures, where 0 is the strongest possible decrease, 100 is stabilisation and 200 is the strongest possible increase.

The Barometer values calculated this way are presented in the report as Quarter to Quarter Turnover and Order book Barometer.

Example of calculation Q2Q Barometer value:

Development Turnover Spain	Q2 '15		Calculated Values
Increased by more than 5%	25%	x 100	2500
Slightly increased (0-5%)	28%	x 50	1400
Stayed the same (0%)	36%	x 0	0
Slightly decreased (0-5%)	3%	x -50	-150
Decreased by more than 5%	8%	x -100	-800

Q2Q Saldo = (2500 + 1400 – 150 – 800) / 100 = 30

Q2Q Barometer value = 100 + 30 = **130**

Methodology calculation of the Q2Q Saldo and Barometer

To calculate the developments in the turnover and the order book with regard to the first measurement in 2009, Arch-Vision has developed the so-called Rolling Barometer. The Rolling Barometer is calculated as the cumulative sum of the Q2Q saldos of every quarter. The Rolling Barometer can drop or rise by 100 points per quarter at maximum.

Example: The Rolling Order Book Barometer is -66 after twelve quarters. In the worst case (all architects reporting a decrease of over 5% every quarter) the Rolling Barometer would be -1200. In the best case it would be 1200. Therefore a score of -66 in Q4 2011 means a slightly worse situation than in Q4 2008.

Barometer order book

	Q1'09	Q2'09	Q3'09	Q4'09	Q1'10	Q2'10	Q3'10	Q4 '10	Q1 '11	Q2 '11	Q3 '11	Q4 '11
Q2Q Barometer values	71	75	100	85	100	110	94	94	111	102	94	99
Saldo Q2Q Values	-29	-25	0	-15	0	10	-6	-6	11	2	-6	-1
		+ (-25)	+ (0)	+ (-15)	+ etc.							
Rolling Barometer Values	-29	-54	-54	-69	-69	-59	-65	-71	-60	-59	-65	**-66**

Future building volumes: building a model for prediction

USP

Building volumes

Architects are at the front of the construction sector. They are the first to perceive positive and negative changes. The current developments of architectural firms have a strong predictive impact on the total market. Arch-Vision publishes its predictions for the building volumes based on the developments experienced by architects.

The model

Arch-Vision uses a model based on eleven market indicators and Arch-Vision's own results. The model combines information about the economy, like construction requests and confidence figures, with data about the developments within architects' experience, such as changes in the turnover and the number of active architects. Only information that proved to have a strong correlative value on the building volume is used. Subsequently, every kind of data is weighed based on the predictive value.

High predictive value

To ensure the correctness of the predictive value, the model has been – with retroactive effects – compared to the actual growth and shrinkage of the construction volume since 2003 for the Dutch* market and since Q3 2009 for the remaining countries. The model turns out to possess a very high predictive value. Nevertheless, the forecast has to be interpreted with caution, as it remains a calculation. As with all predictions, the margin of error can be larger, comparable to the weather forecast: sometimes the Arch-Vision model can be inaccurate.

Calculation predictive value

The predictive value is calculated based on the consistency of the market indicators with construction volumes, for the renovation, maintenance and the new build markets. The correlation is determined by a regression analysis, i.e. a statistical technique for analysing data in which there is a (possible) specific connection, known as regression.

** Since 2003, the developments of architects in the Netherlands have been monitored by Arch-Visions' sister organisation BouwKennis. Therefore, it is possible for the Netherlands to calculate the connection between the architects and the building volume based on 10 years of data.*

Future building volumes: Calculation

The Dutch market has been taken as a basis. The correlation between market volume regarding new build, maintenance and renovation on the one hand, and possible explanatory factors on the other hand, serves as a starting point.

The correlation with building volumes is tested for a total of eleven market indicators together with two outcomes of the European Architectural Barometer. The correlation of the following four indicators appeared to be strongest:

- Building permits – m^2 of useful floor area in non-residential buildings
- Building permits, number of dwellings
- Development of Turnover Barometer (European Architectural Barometer figures)
- Number of FTE working at architectural companies (European Architectural Barometer figures)

The predicting value of these indicators is between 54% and 91%. Because a longer history of data was not available for most countries, the development of these four indicators in the last four quarters and the four quarters before served as a guidance for this measurement. The used range of five indicators is not static and can be adjusted for future calculations. With the database becoming more complete, more reliable correlations can adjust the mix of indicators. A longer range of regression measurements shall replace the comparison of the last four quarters with the four quarters before.

The forecast is based on the market knowledge of USP Marketing Consultancy together with the market figures available, such as building permits and the developments among architects who are mainly active in renovation or new build as well as mainly active in residential or non-residential. Due to the limited number of quarters, a forecast based on a statistical model is not possible for now. The model that was used has a lower prediction value for this period. However, USP Marketing Consultancy aims at clarifying the general direction of the construction market development by publishing these data and the predictions will be updated in the coming reports.

Questionnaire – Standard

These questions are asked every measurement

1. How many employees (in FTE) does your company currently have, including yourself? [if less than 2 FTE, end of research]
2. As an architectural firm, are you mostly active in the segment housing, non-residential building, interior, or landscaping? [If interior or landscaping, end of research]
3. What is your position?
4. How many employees in FTE did your company have at the end of 2021?
5. How many employees in FTE did your company have at the end of 2020?
6. How many employees in FTE did your company have at the end of 2019?
7. If your turnover should relate to housing and non-housing, what percentage of your revenue do you get from housing-related jobs?
8. Are you mostly active in new build or renovation?
9. How did the turnover develop this quarter compared to the previous quarter? Decreased by more than 5%; slightly decreased (0-5%); stayed the same (0%); slightly increased (0-5%); strongly increased (more than 5%)
10. What are your expectations for the development of your turnover in the fourth quarter of 2022 in comparison to the turnover in the fourth quarter of 2021? Decreased by more than 5%; slightly decreased (0-5%); stayed the same (0%); slightly increased (0-5%); strongly increased (more than 5%)
11. How did your order book develop in this quarter compared to the same quarter previous year? Decreased by more than 5%; slightly decreased (0-5%); stayed the same (0%); slightly increased (0-5%); strongly increased (more than 5%)
12. How many new projects has your company scored/been commissioned in the past two months?
13. How many projects have been postponed in this quarter?
14. How many projects were not started and cancelled in this quarter?
15. Do you expect that your order book might be empty these coming 12 months?

Questionnaire – Theme questions

1)

1. What do you think will happen to your role on the following aspects in the coming two years? You can answer on a scale of 1 to 5, where 1 = Strongly decrease; 2 = Decrease; 3 = Stay the same; 4 = Increase; 5 = Strongly increase.

Managing budgets
Managing planning of process
Monitoring actual construction as designed
Specialist on laws and regulations Metal sheets
Aesthetical design
Design of the structure of the building
Technical specifications
Manufacturer/Brand selection
Material/product selection

2. Architects play an important role in the construction process. Which other parties do you consider to be important influencers of the building process?

Building owner/ end user
Electrical installation company
Engineering company for construction [calculation of structural performances etc.]
Engineering company for installations [calculation of energy performances etc.]
Facility manager
HVAC installation company
Main contractor
Manufacturer of building and installation materials
Quantity surveyor
Municipality/ government
Principal
Sub-contractor
Waterproofing and insulation company
System Integrators
House Builder / Developer

Questionnaire – Theme questions

3. I am going to read you a number of statements regarding the decision-making process of brands and products in the building industry, and I would like to ask you to indicate to what extent you agree with these statements. You can answer on a scale of 1 to 5. Where 1 =Completely disagree, 2= Disagree , 3 = Neutral, 4 = Agree and 5 = Completely agree.

- The architect's role in the product and brand selection process is becoming less important
- Due to their increasing size, construction firms are gaining influence in the product and brand selection
- The role of the architect in the management of the construction process is diminishing
- Renovation becomes more important than new build and in renovation the architect can bring more added value than in new build projects
- Architects opt for the most convincing system solutions
- I like to work with specialized offices when it comes to quite technical topics like HVAC or Smart Home
- The European building regulations will lead to more holistic approach in the design of the buildings (integrated buildings)
- The holistic approach towards the buildings (integrated buildings) will bring more decision power to the architects
- Due to price increases a cheaper alternative is often proposed and chosen by contractors and clients to stay within budget
- I more often choose for solutions that I know that can be delivered soon due to delivery issues with materials
- Architects opt for products included in BIM libraries

2)

1. For each project many choices have to be made. For some of these topics we are interested to what extent you are involved in the decision process or what your influence is. Can you indicate what your role is on the following parts of the process? You can answer as End decision maker, Co-decision maker; or Not involved.

- Aesthetical design
- Structural design
- Building material/ product specification
- Brand choice
- Technical specifications

Questionnaire – Theme questions

2. When we are talking about building material/product choice for the following building parts, what is your role then? You can answer as End decision maker, Co-decision maker; or Not involved.

- Insulation materials
- Roofing products/ materials (e.g. tiles, panels, waterproofing etc.)
- Facade products/ materials (e.g. bricks, panels, planks etc.)
- Daylight solutions
- Electrical installation products
- HVAC installation products
- Floor and wall tiles
- Smart home systems
- Energy management solutions (e.g. energy measurement, consumption optimization)
- Electric vehicle chargers
- Solar panels
- Wall building materials

3. Which other stakeholders are mainly involved in the building material/product choice?

- Building owner/ end user
- Main contractors
- Flooring sub-contractors
- Roofing sub-contractors
- Project developers/ investors
- Engineers
- Electrical installation companies
- HVAC installation companies
- Insulation sub-contractors
- Building material suppliers/ manufacturers
- System Integrators
- House Builder / Developer

Questionnaire – Theme questions

4. When we are talking about brand choice for the following building parts, what is your role then? You can answer as End decision maker, Co-decision maker; or Not involved.

- Insulation materials
- Roofing products/ materials (e.g. tiles, panels, waterproofing etc.)
- Facade products/ materials (e.g. bricks, panels, planks etc.)
- Daylight solutions
- Electrical installation products
- HVAC installation products
- Floor and wall tiles
- Smart home solutions
- Energy management solutions (e.g. energy measurement, consumption optimization)
- Electric vehicle chargers
- Solar panels
- Wall building materials

5. If we talk about brand choice for building material, which other stakeholders are mainly involved?

- Building owner/ end user
- Main contractors
- Flooring sub-contractors
- Roofing sub-contractors
- Project developers/ investors
- Engineers
- Electrical installation companies
- HVAC installation companies
- Insulation sub-contractors
- Building material suppliers/ manufacturers
- System Integrators
- House Builder / Developer

Questionnaire – Theme questions

6. Finally I would like to ask you about some of the trends that might affect or have affected your influence in the brand choice for building materials/ products. Do you think that your role as an architect will increase or decrease because of the following trends? You can answer as 1 = Will decrease our influence; 2 = Has already decreased our influence; 3 = Has no influence at all; 4 = Will increase our influence; 5 = Has already increased our influence.

- Usage of prefabricated/modular elements
- Usage of software like BIM
- Changing rules and regulations
- Demand for sustainable construction
- The increase of contractor-led design & build process
- A more fragmented building process with more stakeholders involved
- Increasing complexity of buildings
- Demand for circular construction economy
- Price increase of materials
- Shortage of materials
- Shortage of labour at subcontractors and main contractors

About USP

USP Marketing Consultancy

Head office

Subsidiaries

Rotterdam

Düsseldorf **Zagreb**

Total

70

Research Analysts

Project managers

Consultants

Market specialist
installation, construction, home improvement and real estate

Dedicated and multi-client research

Active in the market for 28 years

250+ dedicated market research projects annually

Revenue distribution

80%
turnover coming from **international projects**

85%
turnover coming from **dedicated market research**, 15% from multi client

70%
turnover coming from **B2B**, 30% B2C

Research in
32
countries in 2020

68
focus groups

1,278
in-depth interviews

62,758
B2B CATI interviews

52,850
B2C online interviews

What we do

Examples

- **Segmentation**
- **Customer journey**
- **Branding**
- **Concept/ product research**
- **Customer satisfaction**
- **Trends**
- **Distribution research**
- **Market exploration**
- **Pricing**
- **Market size**

Dedicated market research

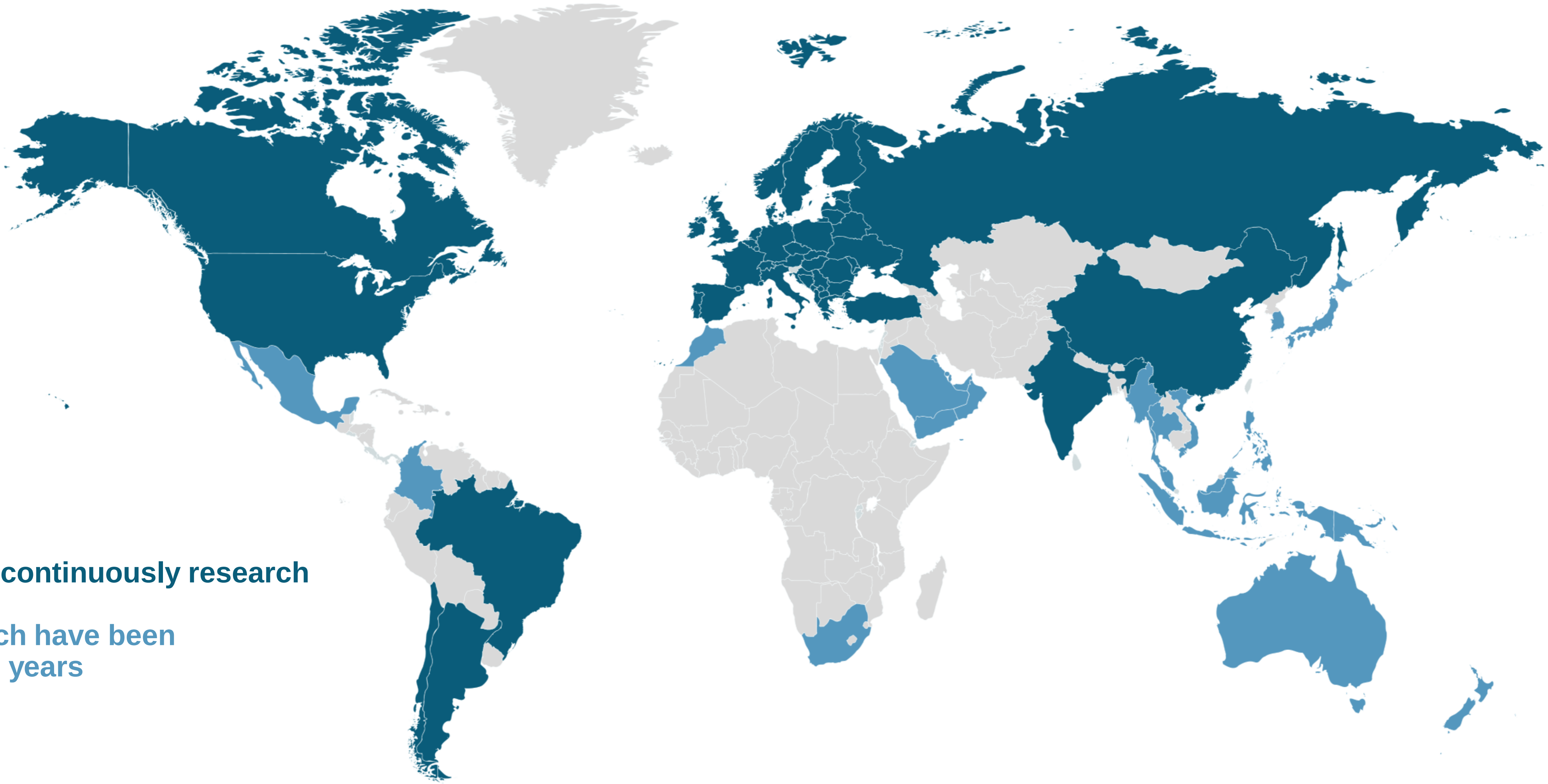
- Tailor made
- Driven by your information needs
- Advice & consultancy based on facts and over 25 years of experience in the industry
- Worldwide coverage
- B2B, B2C, qualitative and quantitive research or a combination of both
- Within our market specialism, all types of researches can be conducted
- Targeting the right audience, with the right questions at the right time.

Our multi-client research monitors

USP

	European **Architectural** Barometer	European **Contractor** Monitor	European **Mechanical Installation** Monitor	European **Electrical Installation** Monitor	European **Painter Insight** Monitor	European **Home Improvement** Monitor
Target group	Architects	Building contractors	HVAC installers	Electrical installers	Professional painters	Consumers
Methodology						
Annual sample size	3,400 interviews	2,050 interviews	2,600 interviews	3,000 interviews	2,300 interviews	26,400 interviews
Country scope	• Germany • United Kingdom • France • Netherlands • Belgium • Poland • Spain • Italy	• Germany • United Kingdom • France • Netherlands • Belgium • Poland • Spain • Italy	• Germany • United Kingdom • France • Netherlands • Belgium • Poland	• Germany • United Kingdom • France • Netherlands • Belgium • Poland • Spain	• Germany • United Kingdom • France • Netherlands • Belgium • Poland • Spain • Italy • Denmark • Sweden	• Germany • United Kingdom • France • Netherlands • Belgium • Poland • Spain • Italy • Denmark • Sweden • Austria
Way of reporting	Quarterly	Bi-annually	Quarterly	Quarterly	Annually	Quarterly
2022 Theme topics	• Q1: Sustainability and Circularity • Q2: Trends in Material Usage • Q3: Decision Making in the Construction Industry • Q4: Love Brands	• H1: Prefab • H2: Digitalisation and BIM	• Q1: BIM • Q2: Prefab or direct buying from manufacturers • Q3: Smart buildings and products • Q4: Media orientation	• Q1: Sustainability • Q2: Smart buidings • Q3: Services in the installation market • Q4: Branding	• Trend tracking • Orientation and media usage • Brand performance scans	• Purchase channels • TBD

We are active globally



Countries which we continuously research

Other countries which have been researched in past 2 years

Principals of USP

Construction				DIY		Installation	
ASSA ABLOY	AkzoNobel	Wienerberger	HILTI	OBI	adeo	ABB	BOSCH
ArcelorMittal	DAW	3M	SAINT-GOBAIN	ALLEGION	maxeda DIY Group	GRUNDFOS	hager
etex inspiring ways of living	FESTOOL	Villeroy & Boch 1748	DSM	3x3	Ideal Standard	Schneider Electric	LG Life's Good
icopal	Interface	WD-40	Dulux	BRIGGS & STRATTON	KOHLER	MITSUBISHI ELECTRIC	Panasonic
KNAUF	Owens Corning	UNILIN for smart living	PPG	fischer innovative solutions	KÄRCHER	VIESSMANN	Vaillant
ROCKWOOL	sto Building with conscience.	VELUX	stiho	WAGNER	GROHE	Signify	ShurTech Brands
Tarkett	TRESPA	tesa	DÖRKEN	Intergamma	Yale	sonepar	TTI

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