

The Association of Consulting Architects in Norway

BIM-survey 2017

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Chief Legal Advisor



Background information



The Association of Consulting Architects in Norway

- Industry and employer organization for offices with practicing building architects, landscape architects and interior architects in Norway
- Currently almost 600 architect companies with around 4400 employees have membership.
- Contributes to give Norway a qualified and competitive industry of architects that takes social responsibility and delivers services which meets the demands of todays market and projects.

About the survey



- What:** The purpose is to map the architect industry's expertise and use of BIM
- When:** The data is collected during the period 23 March to 29 April 2017
- Who:** The targeted recipients for the survey is the executives and the employees at the architect offices amongst the member companies
- Numbers:** 303 complete answers registered, with approximately 150-200 member companies participating

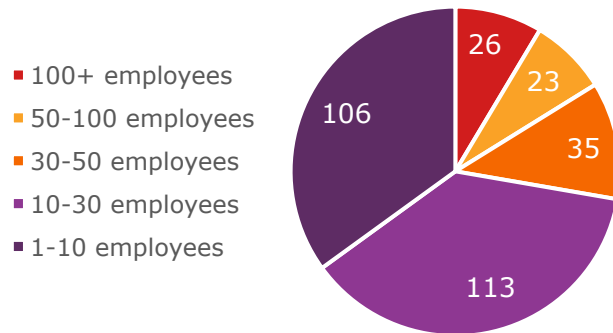
About the survey (II)



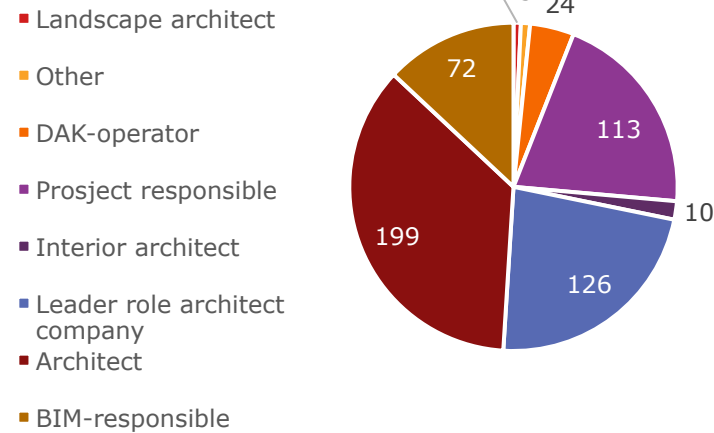
- Method:** A web-questionnaire distributed by e-mail to all member companies of The Association of Consulting Architects in Norway.
- The survey:** Developed by the BIM expert-group in The Association of Consulting Architects in Norway:
Morten Ræder, Nordic – Office of Architecture
Kai Henning Simensen, 4B Arkitekter
Turi Heieraas, Norconsult
Kitty Colbjørnsen Aarseth, TAG Arkitekter
Steen Sunesen, Link Arkitekter
- Analysis:** The analysis of the data is carried out by Kantar TNS. The respondents have been asked to respond on a scale from 1-7. The questions are analysed based on the proportion of respondents who answers in the higher end of the scale. This method has made it possible to compare values across different questions, as well as breaking the data down in background variations such as size and position in the company.

About the respondents

Company size



Role in the company



- 303 individual answers were collected from respondents representing different group of subjects/roles in addition to companies of different sizes.

Summary

General findings

- BIM is used to actively solve a variety of different tasks. Visualizing, interdisciplinary coordination and exchange of data are the most important tasks solved by BIM. However, the architects find BIM less used in production/on the construction site and in calculation of cost.
- BIM is seen as a highly efficient tool to reduce errors. BIM is seen as a competitive advantage, but is not compensated adequately. There is an evident need for education, and a demand for standardization within BIM.

Economic and competitive winnings using BIM

- A relatively large percentage of the respondents believes that BIM gives a competitive advantage. Few companies experiences that it prevents them from participating in bids and competitions. However, the profitability needs to be worked on. The size of the company means a lot when it comes to the evaluation of the competitive advantage of BIM. Large companies have the best results.

Architectural quality and sustainable architecture

- The respondents are relatively cautious regarding the capability of BIM to secure increased architectural quality and sustainable architecture. Only the largest companies reports that their BIM-competence secures increased influence in processes and projects.

Summary (II)

Competence and education

- There is a great need amongst the architect companies for relevant continuing education in BIM, even though they mostly think their company has the necessary competence. It's desirable with relatively intense coursing. 47% of the respondents are interested in courses of two days or more. The majority prefers a combination of physical and online based courses.

Use of resources and streamlining

- BIM is considered a highly efficient tool to reduce errors. It provides better control and simplifies the work. It's a relatively huge gap between the small and the large companies when it comes to trusting BIM to reducing mistakes and errors. The largest companies are the most positive. Regarding BIM as a tool, the opinion repeats as the largest companies are the most positive.

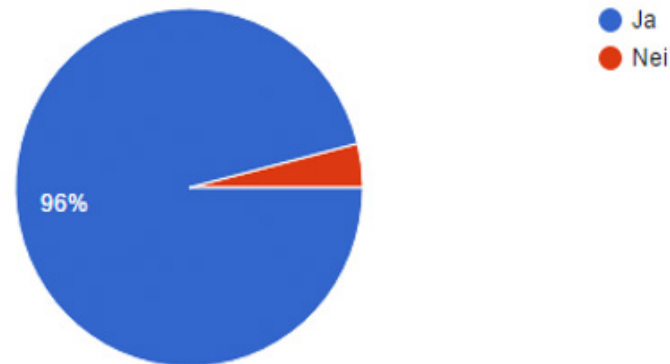
BIM-demands, harmonization and standards

- It's a great support for the idea that BIM-demands should be based on national and international standards, and that the demands should be harmonized. BIM-demands from contractors can be more precise and relevant. The large companies experience to a greater extent that clients and contractors applies relevant BIM-demands, while the smaller ones are more critical.

Use of BIM

Do you or your colleagues use BIM in your projects?

303 responses



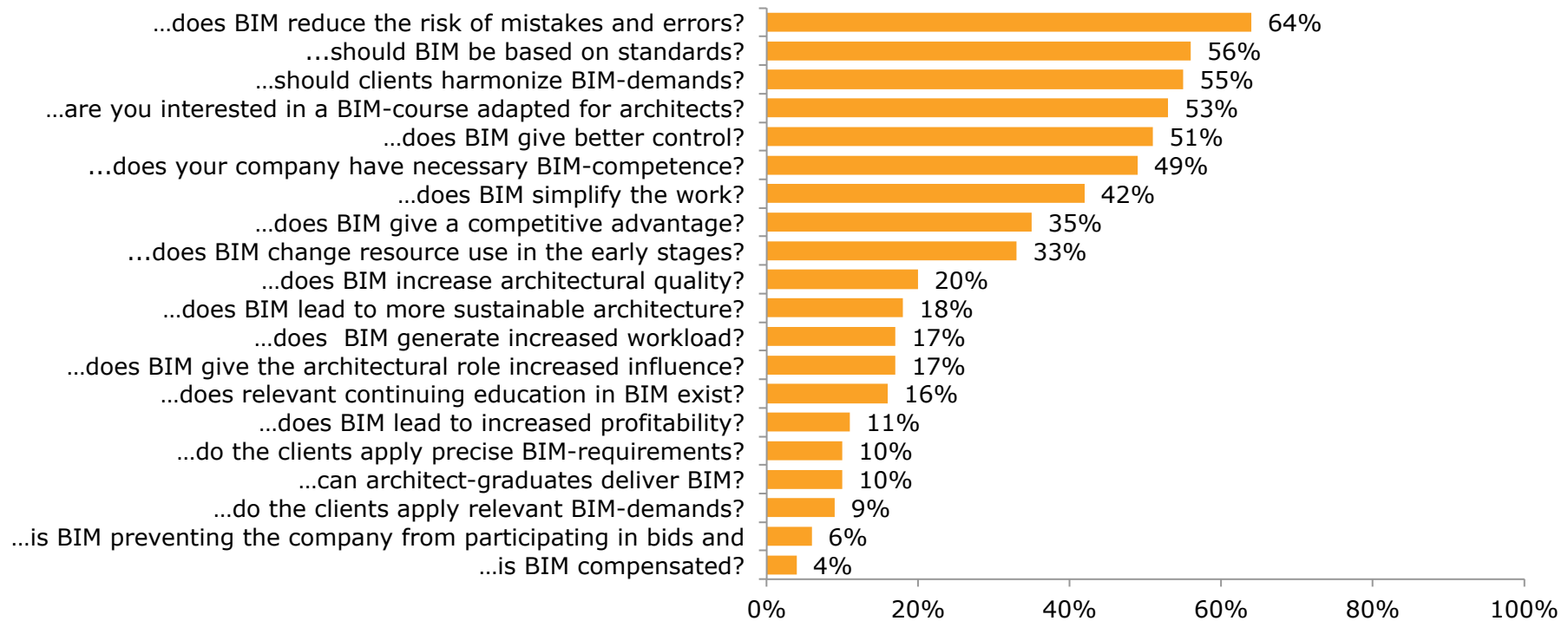
- 96% uses BIM in their projects
- 90% works in companies that have conducted a project where BIM was part of the engineering management and the engineering.
- 71% works in companies where the employees have had multidisciplinary BIM-responsibility in projects.
- ArchiCad and Revit are clearly the most used software tools. Only 3 % of the respondents solely use other systems.

The view of the
architect industry
towards BIM and the
use of BIM



BIM is seen as a very efficient management tool to reduce errors.
 BIM gives a competitive advantage, but is not compensated adequately.
 There is an evident need for education, and a demand for standardization within BIM.

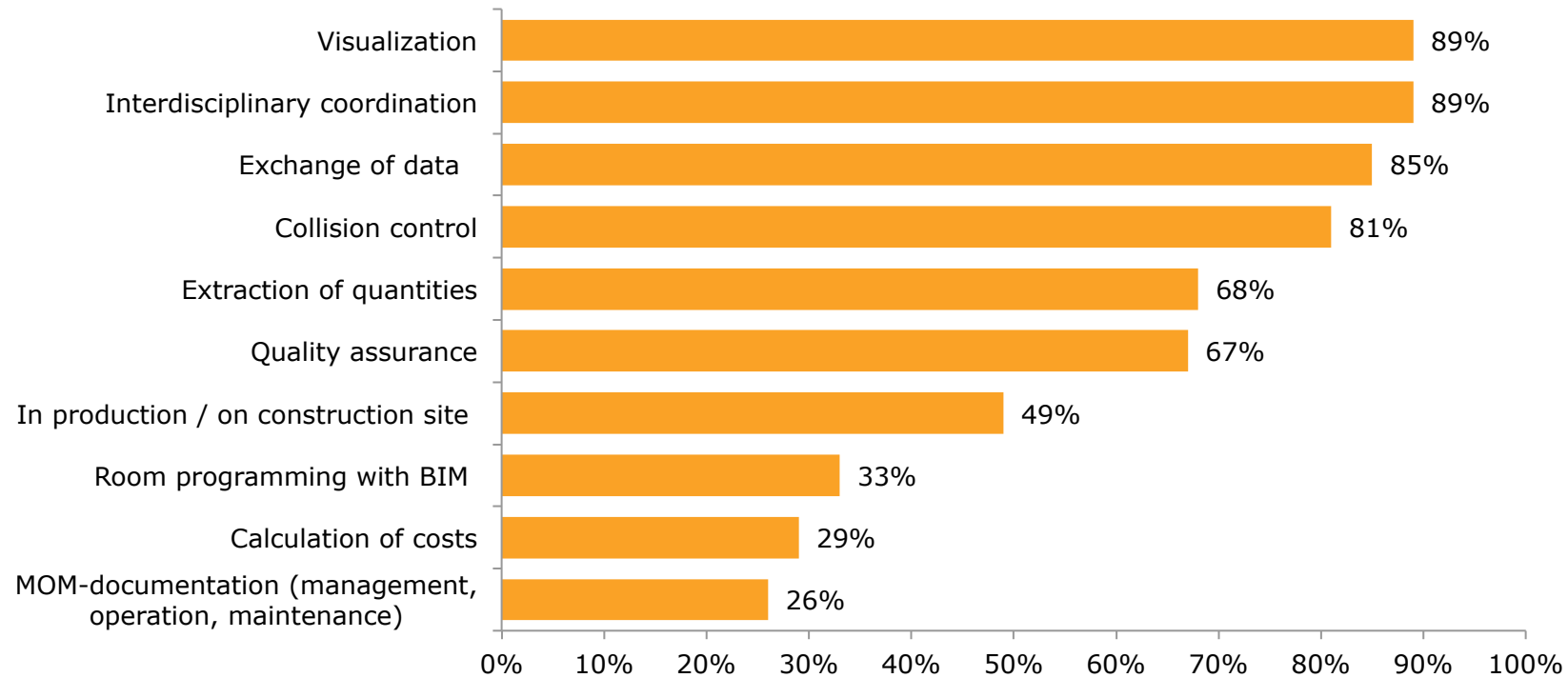
To what extent...



Share that answers "To a great extent" + "To a large extent"

BIM is used to actively solve a variety of different tasks. Visualizing, interdisciplinary coordination and exchange of data are the most important tasks solved by BIM. However, the architects find BIM less used in production/on the construction site and in calculation of cost.

Do you or your colleagues use the architect model in any of these BIM-supported processes?



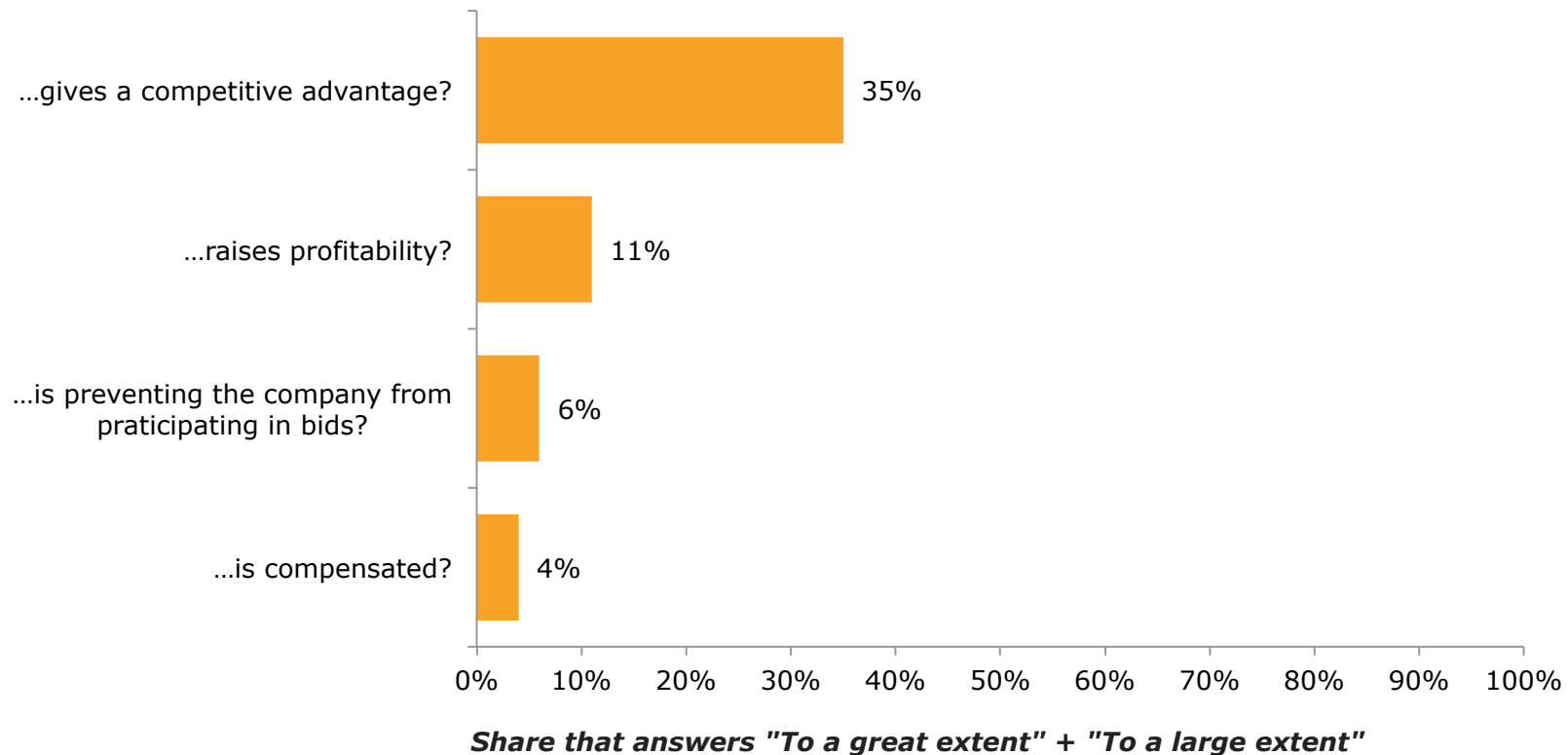
Share that answers confirmative

Economic and competitive gains by the use of BIM



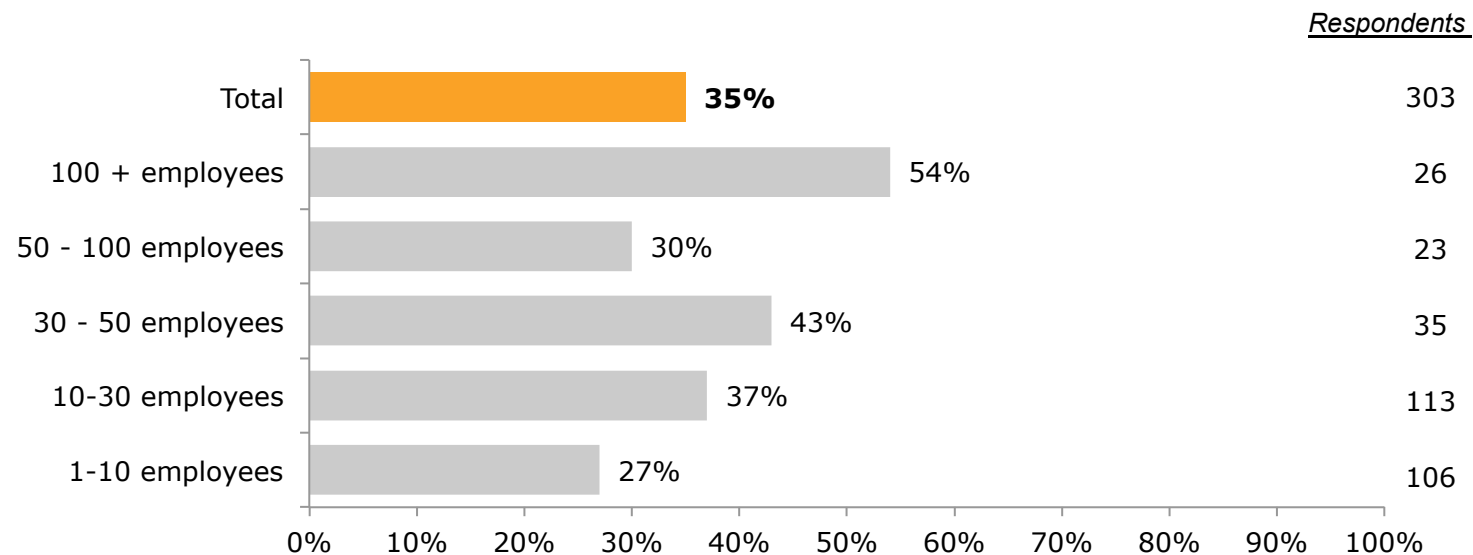
A relatively large percentage of the respondents believes that BIM gives a competitive advantage. Few companies experiences that it prevents them from participating in bids and competitions. The profitability needs to be worked on.

To what extent do you experience that BIM...



The size of the company means a lot when it comes to the evaluation of the competitive advantage of BIM. Large companies has the best results.

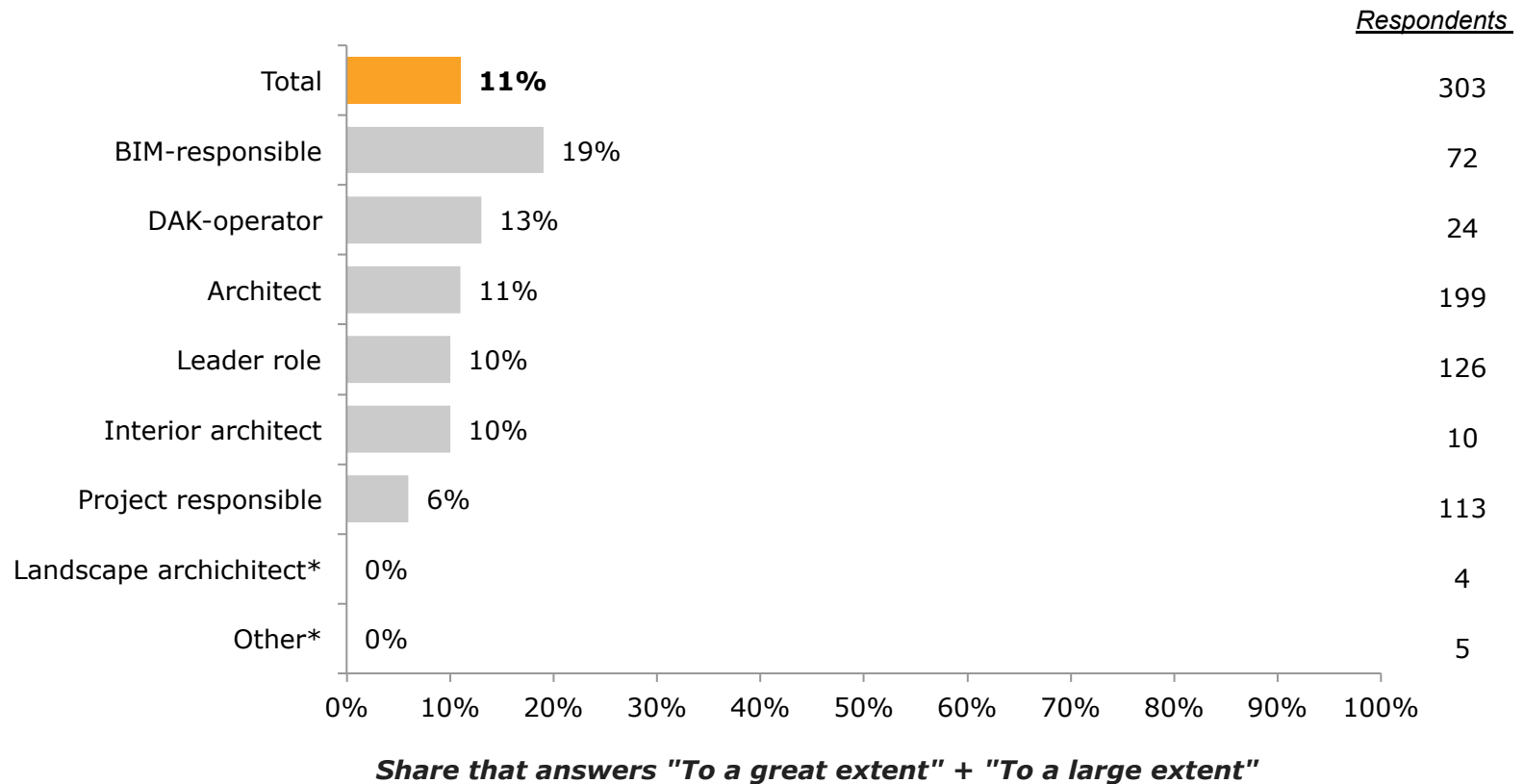
To what extent do you experience that BIM gives a competitive advantage?



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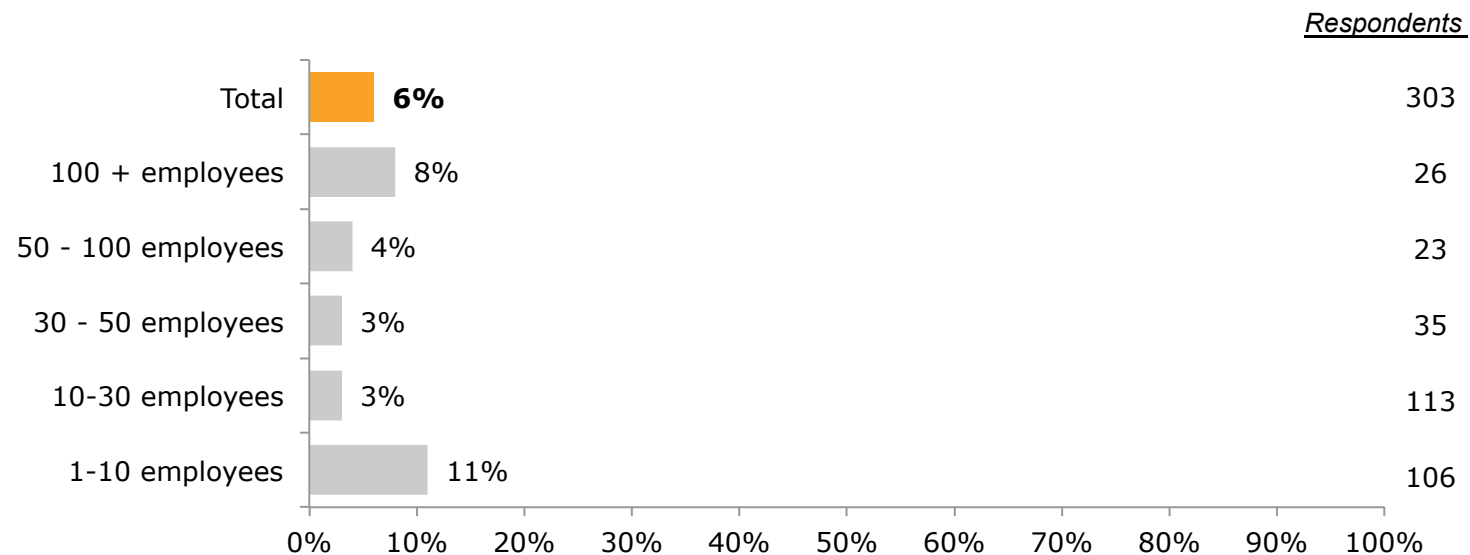
Project owners are amongst the most sceptical to whether or not BIM gives the company increased profitability.

To what extent do you experience that BIM gives increased profitability?



BIM-demands are rarely seen as an obstacle for the company in bidding or competitions. The majority of those who experience BIM as an obstacle are amongst the smaller companies.

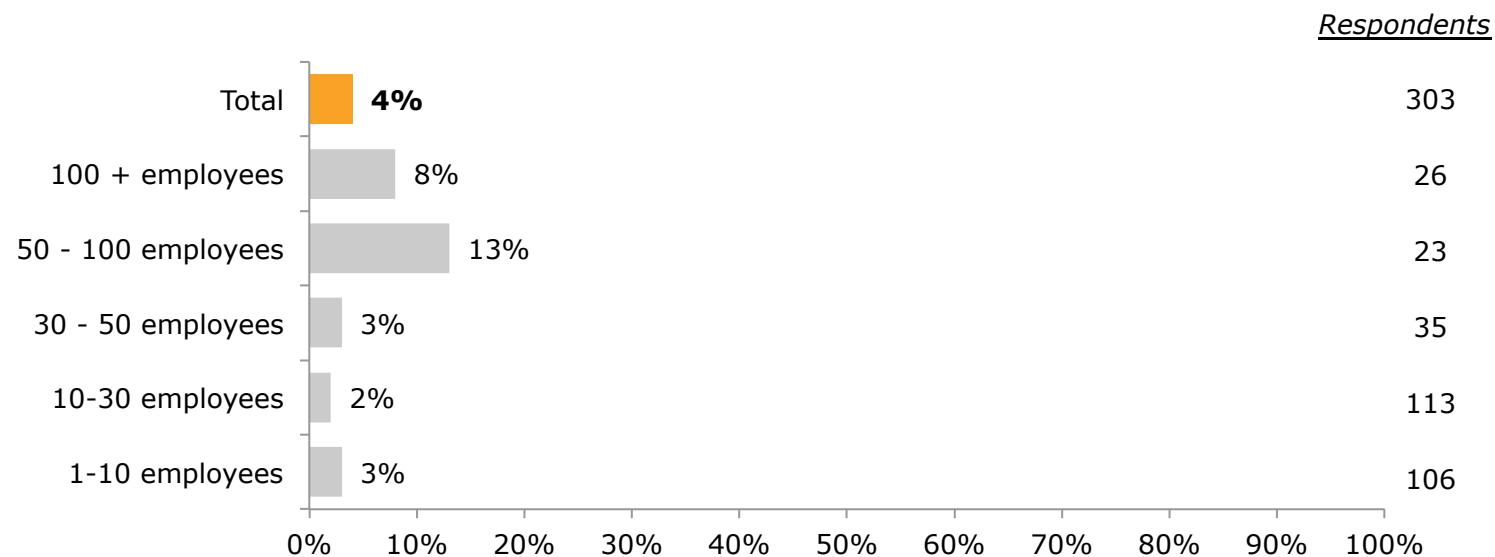
To what extent do you experience BIM as an obstacle for the company's possibilities to participate in bids or competitions?



Share that answers "To a great extent" + "To a large extent"

Few of the smallest companies report that BIM is compensated enough. Some of the bigger companies are however more satisfied with their fees.

To what extent do you experience that the use of resources related to BIM-demands in projects are compensated?



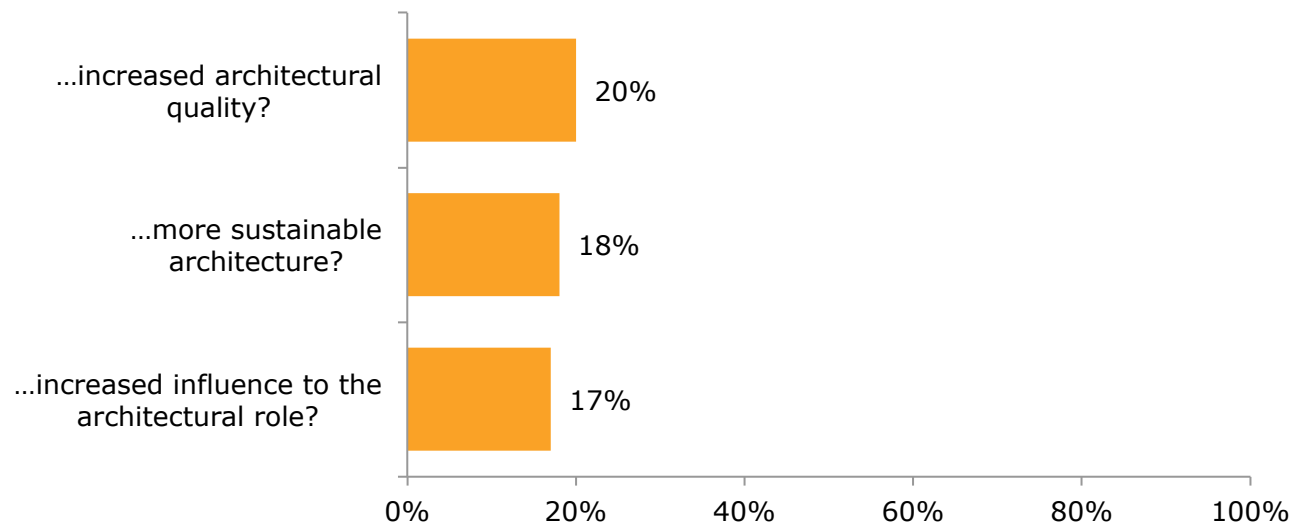
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Architectural quality and
sustainable architecture



Few architects regard BIM as a tool that increases the architectural quality. The respondents are relative cautious regarding the capability of BIM to secure increased architectural quality and sustainable architecture. Only the largest companies reports that their BIM competence secures increased influence in processes and projects.

To what extent do you experience that BIM insures...



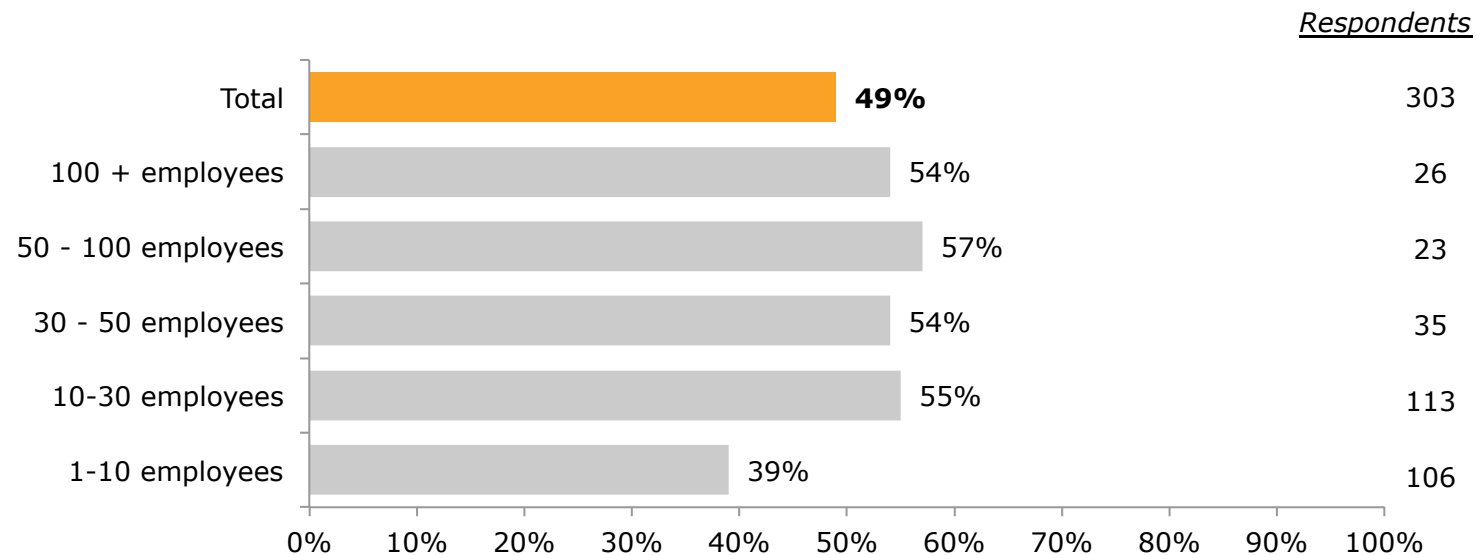
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Competence and
education



The management and the employees of the largest companies has great faith in the internal BIM-competence being sufficient.

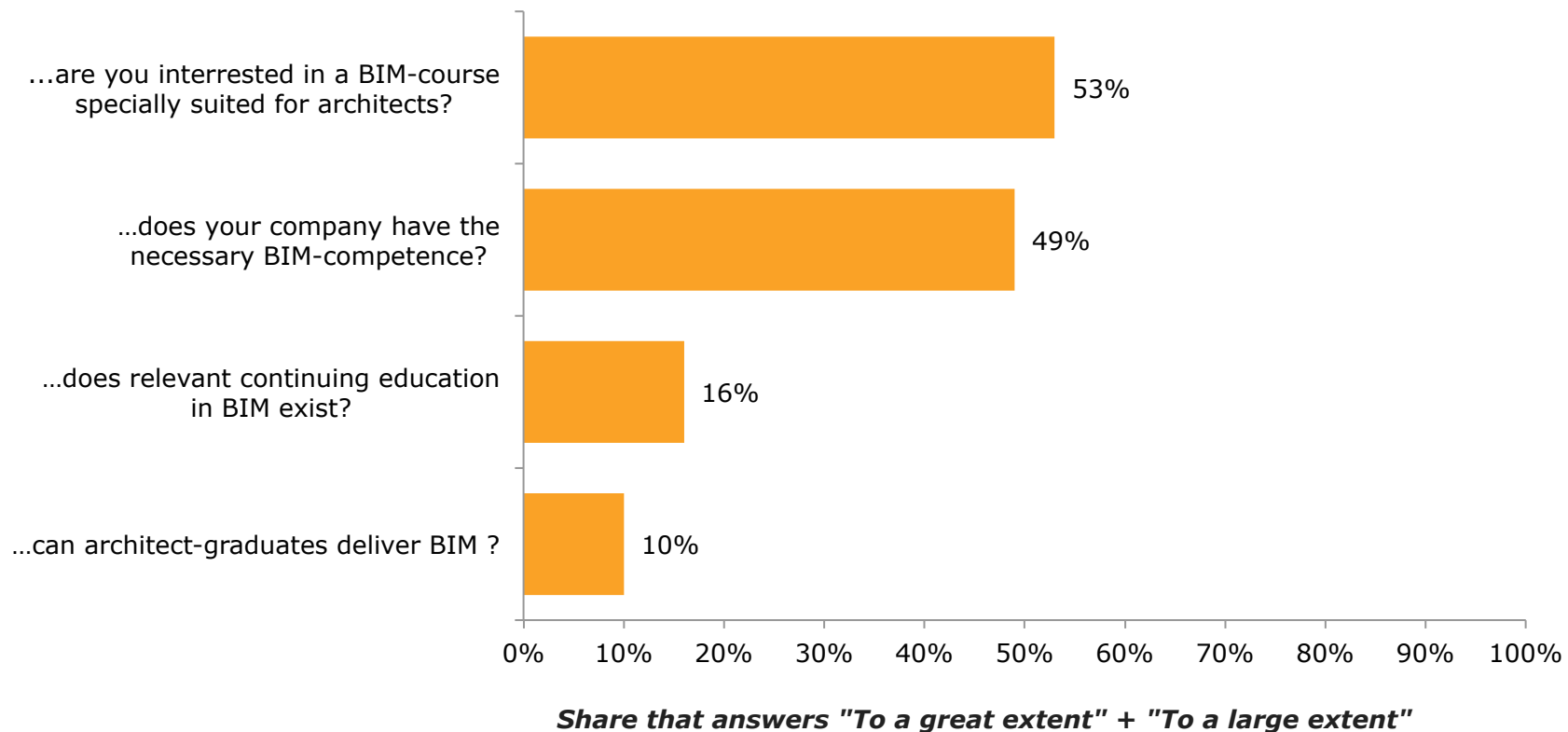
To what extent do you experience that the company you lead and/or work in has sufficient BIM-competence?



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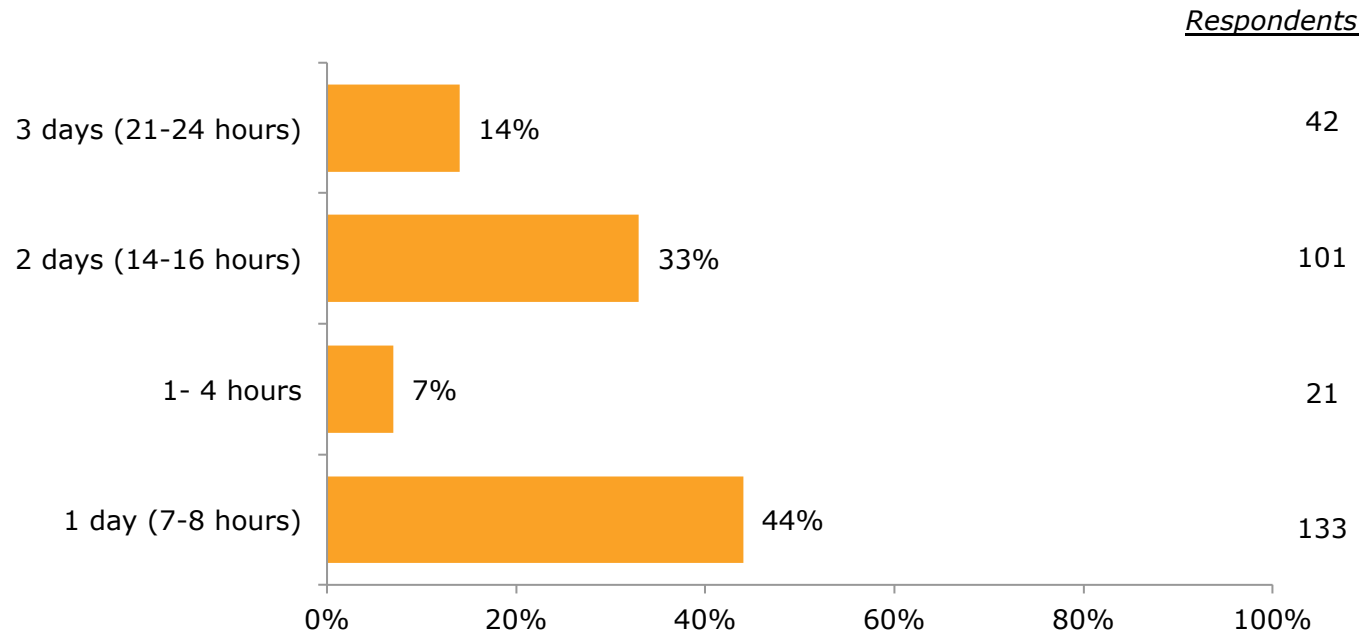
There is a great need amongst the architect companies for relevant continuing education in BIM, even though they mostly think their company has the necessary competence.

To what extent...



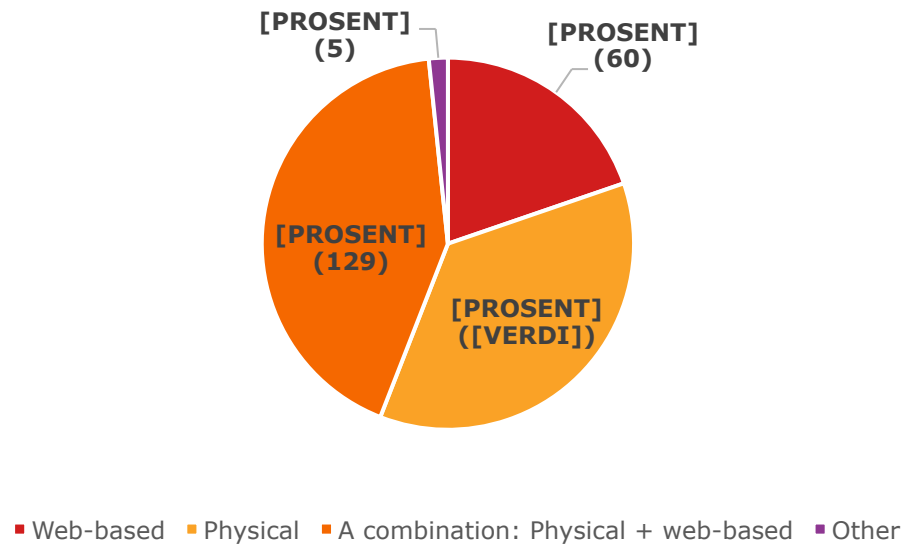
47% of the respondents are interested in courses with duration of two days or more.

What would be acceptable duration for a BIM-course for architects?



The majority prefers a combination of physical and online based courses.

Do you prefer physical or online based courses?

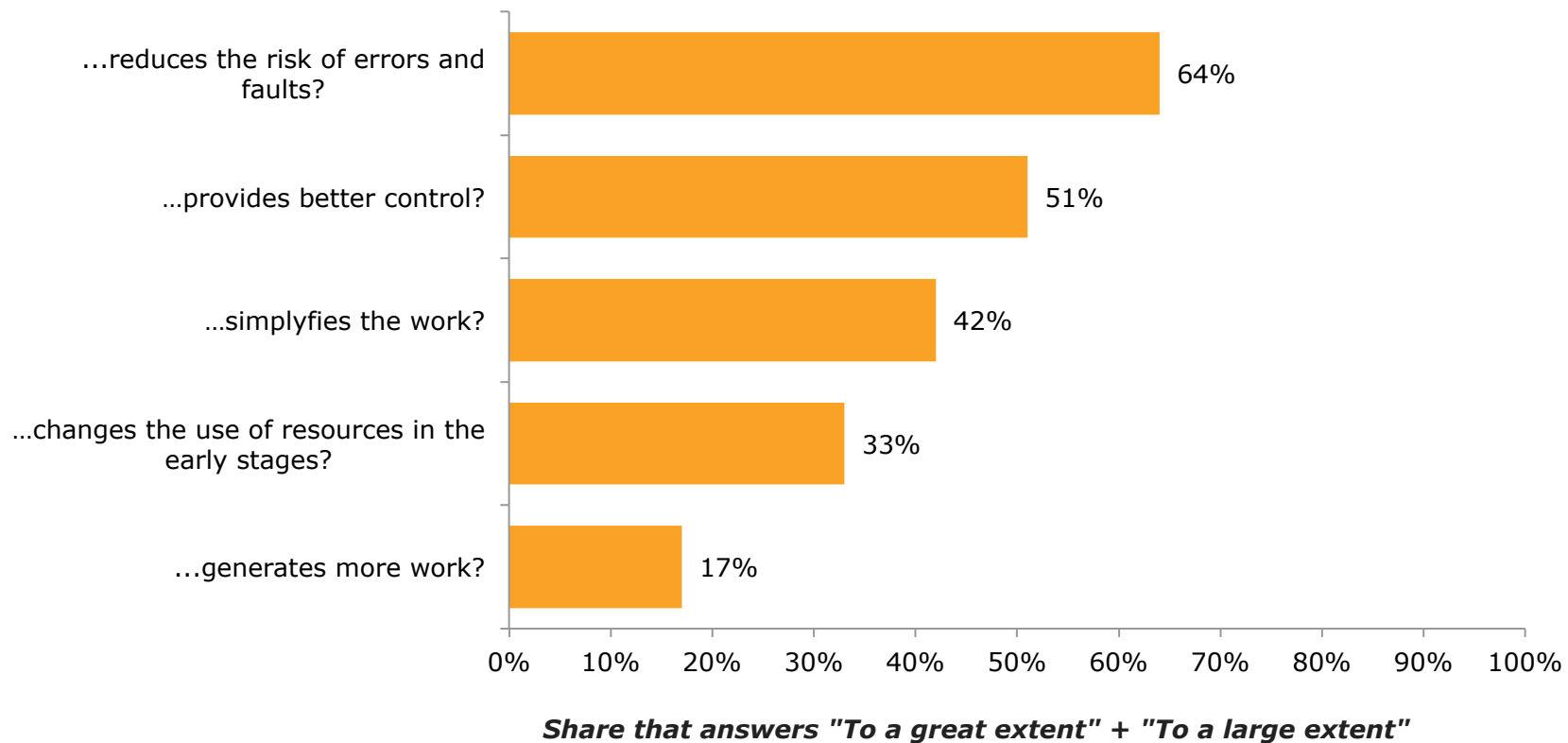


Use of resources and efficiency



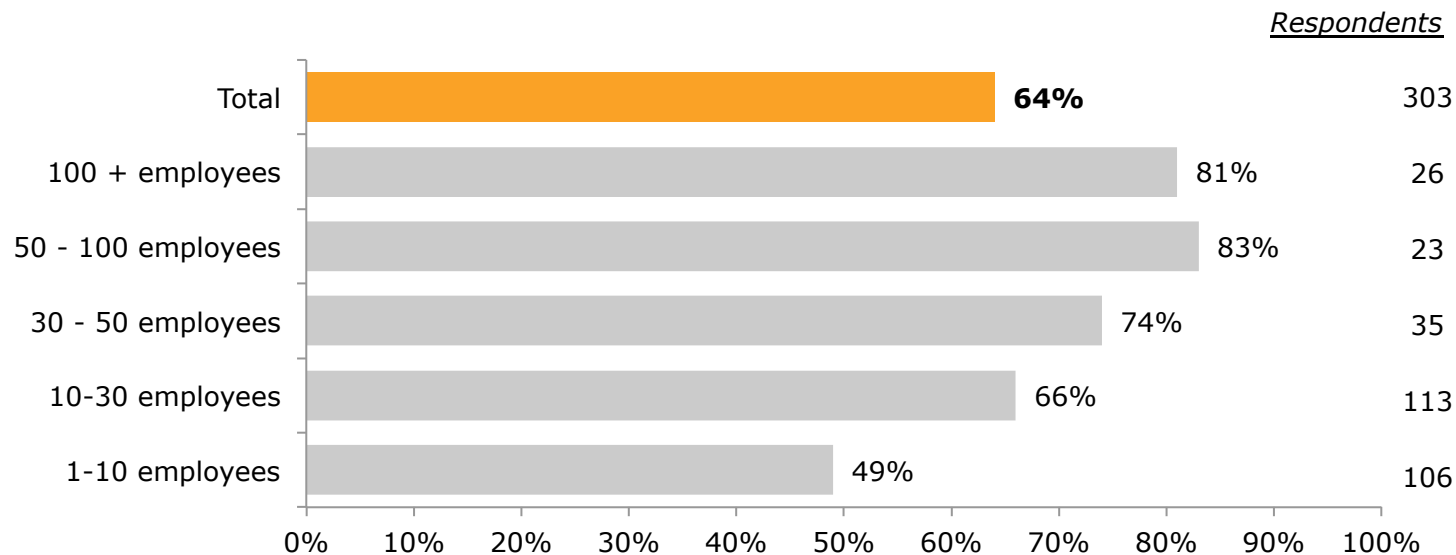
BIM is considered a highly efficient tool to reduce errors. It gives better control and simplifies the work.

To what extent do you experience that BIM...



It's a relatively huge gap between the small and the large companies when it comes to trusting BIM to reduce mistakes and errors. The largest companies are the most positive.

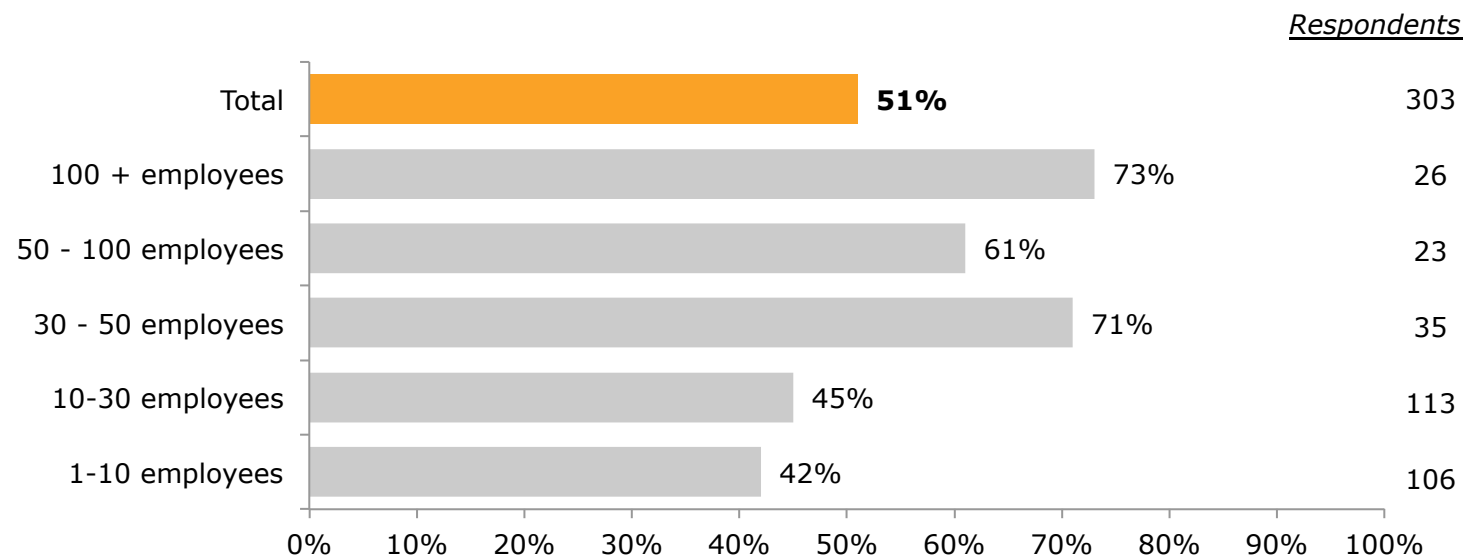
To what extent do you experience that BIM reduces the risk of mistakes and errors?



Share that answers "To a great extent" + "To a large extent"

As for BIM as a management tool, the largest companies are clearly more positive than the smaller ones.

To what extent do you experience that BIM in project provides better management/control?



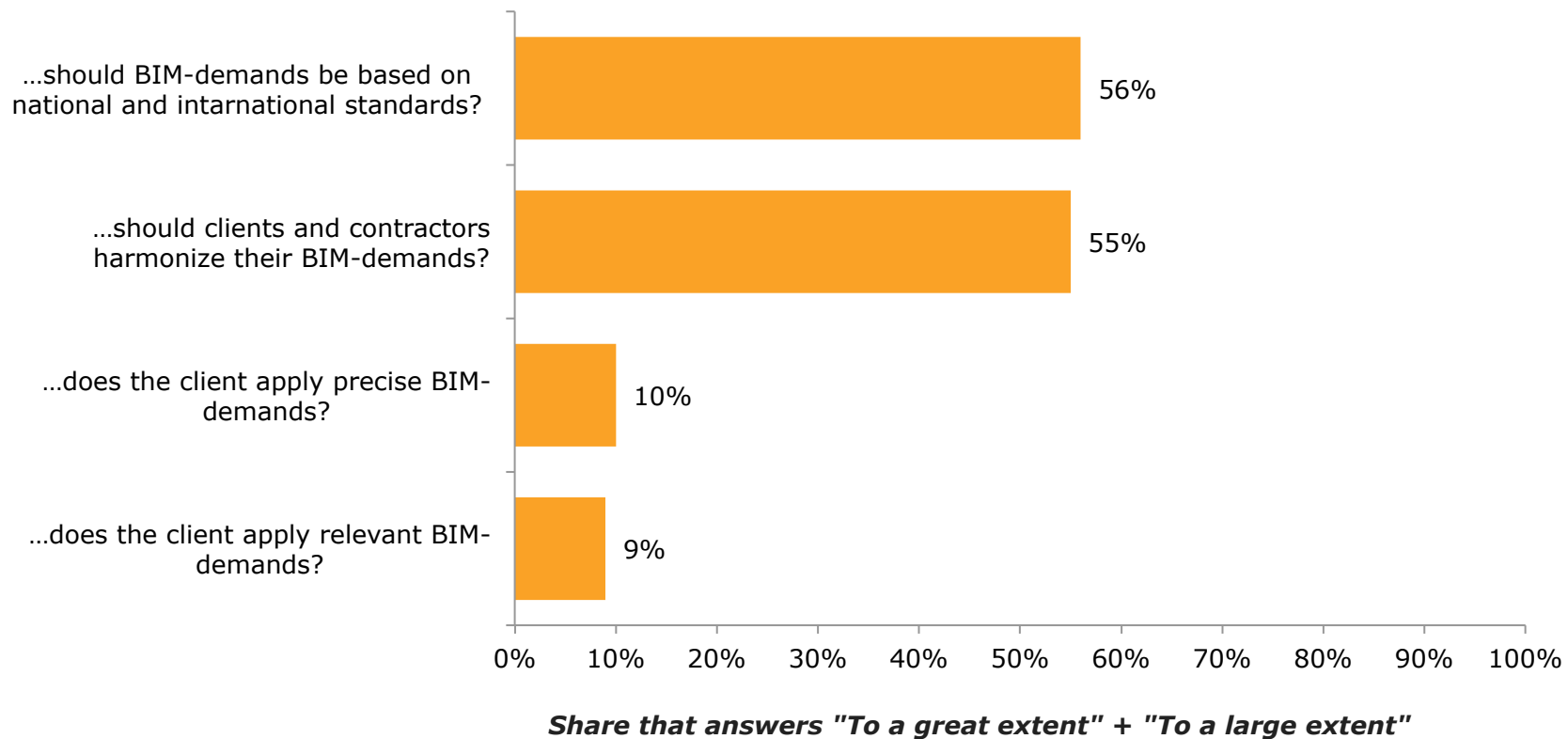
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BIM-demands,
harmonization and
standards



It's a great support for the idea that BIM-demands should be based on national and international standards, and that the demands should be harmonized. BIM-demands from contractors can be more precise and relevant.

To what extent...



BIM FOR ARCHITECTS

HOW BIM?

***- a training course by
architects for architects***



The first BIM model, 1957

BIM FOR ARCHITECTS

The course is under development by the BIM expert-group of the Association of Consulting Architects in Norway.

- Based on buildingSmart Norway`s training curriculum 04 for Consultants and Contractors
- Individual qualification program
 - knowledge based learning
- Builds on the Basic training curriculum and certification
- 2-days training course
- Certification optional

The ambition of the course is to ensure an easy transition from training to mastering own projects by being specific and providing good examples for the use of BIM.

buildingSmart Norways training curriculum:

https://buildingsmart.no/sites/buildingsmart.no/files/bsn_trainingcurriculum_user-04-05_v1_en.pdf

COURSE CONTENTS

Module	Topic
I	Framework conditions
II	Multidisciplinary coordination
III	The architect`s BIM deliverables
IV	The architect`s model and modelling
V	Construction planning and coordination model
VI	Building programming
VII	Building cost estimation
VIII	Object and product labelling
IV	Certification

COURSE CONTENTS

Module	Topic	Goal
I	Framework conditions	To show how the framework-conditions influence on the project and give advice on the most significant prerequisites
II	Multidisciplinary coordination	To show how BIM can be used to achieve good coordination between the disciplines
III	The architect`s BIM deliverables	Learn about different formats e.g. IFC and native, level of development, process descriptions, guidelines for setting objectives and responsibility for BIM-deliveries
IV	The architect`s model and modelling	Learn about general modelling rules for multidisciplinary BIM collaboration and standard BIM-objects

COURSE CONTENTS

Module	Topic	Goal
V	Construction planning and model coordination	To show important moments for architects using BIM in construction planning, as e.g. progress management. To show the usefulness of visualisation and multidisciplinary coordination
VI	Building programming	To show how the client's requirements can be entered into a database and used in automatic checks
VII	Building cost estimation	To show the benefits of using BIM for cost estimation, e.g. in decision-making and to show alternative solutions
VIII	Object and product labelling	To show key moments for architects in delivery of MOM-documentation in BIM
IV	Certification	At buildingSMART Norway. Voluntary

THANK YOU FOR YOUR ATTENTION