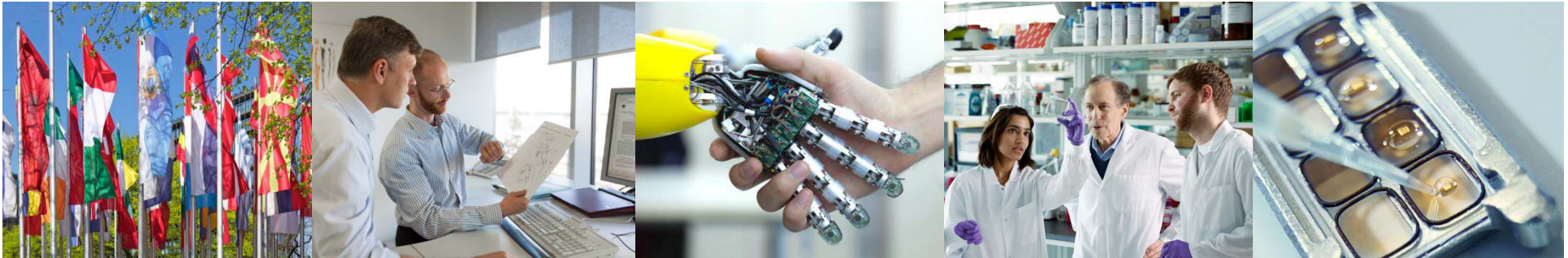




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des brevets

The role of (patent) information in the innovation process



Dir 5.4.2, Patent Information Promotion

17th May 2017

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Background and research objectives

The main objective of the research was to find out how information in general and patent information in particular ranks as a source of information in the innovation process, i.e. whether (patent) information supports innovation.

Additional objectives of the research focused on:

- Identification of the actors of the innovation process
- Understanding how they use information in general and patent information in particular (to do what).
- Identification on how to best reach innovators

As it regards the project methodology, a quantitative online survey had been conducted. In total, 265 innovation process actors participated in the study.

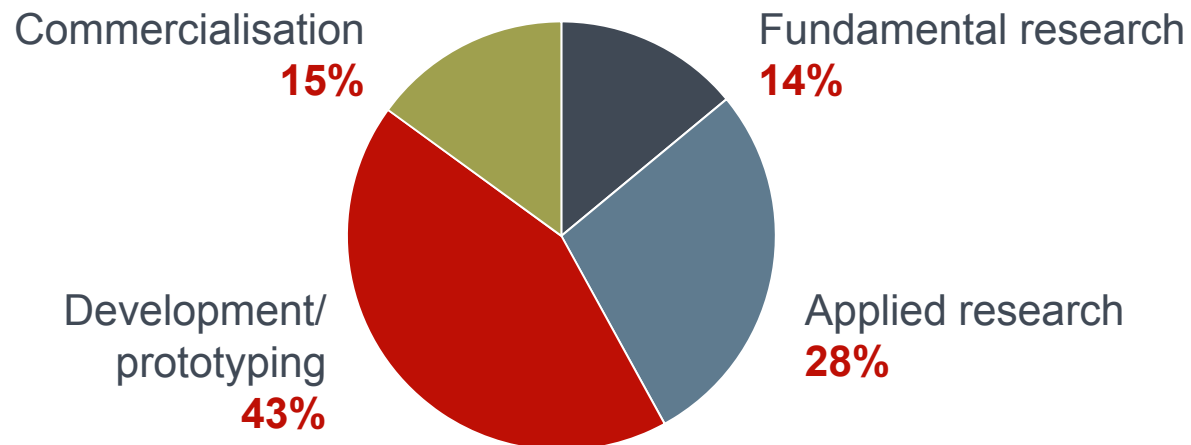
The fieldwork took place from 11th of October to 16th of November 2016.

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Participation in innovation process

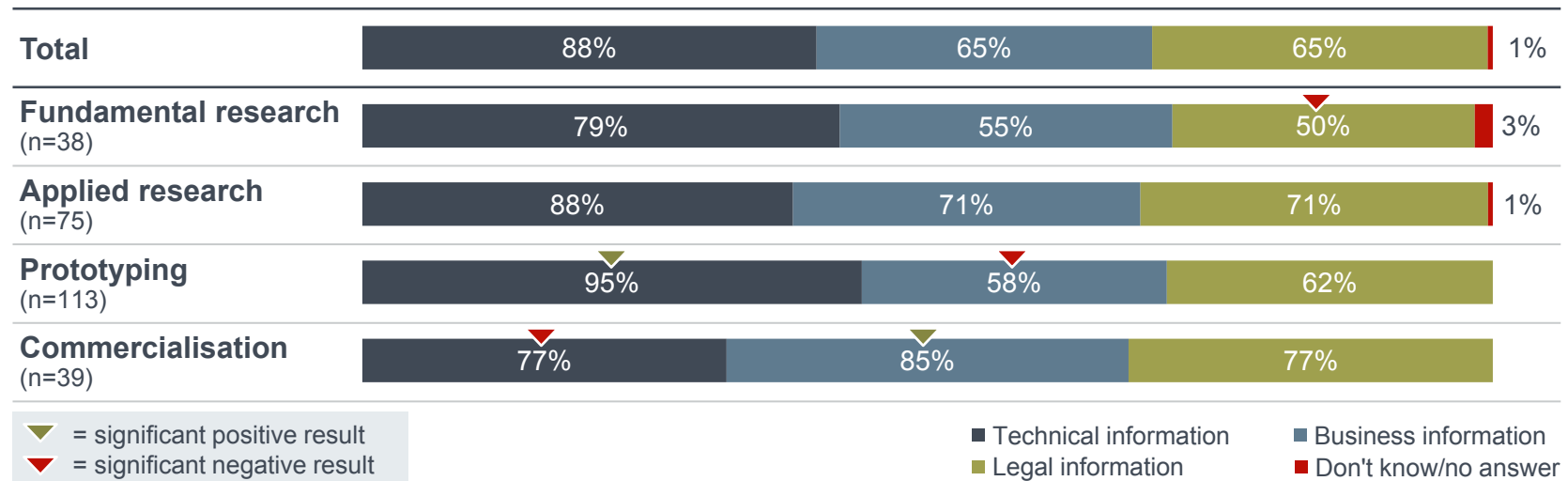
Respondents who did not indicate one of the four innovation process phases were excluded from the survey (20% of total sample).



n=265; Q1: In which phase of the innovation process are you most active in your work?; Base: Actors in innovation process.

▶ **Less than half of the actors in the innovation process are most active in the development/prototyping phase, less than 1/3 in the applied research phase. 15% focus in commercialisation and the remaining 14% in fundamental research.**

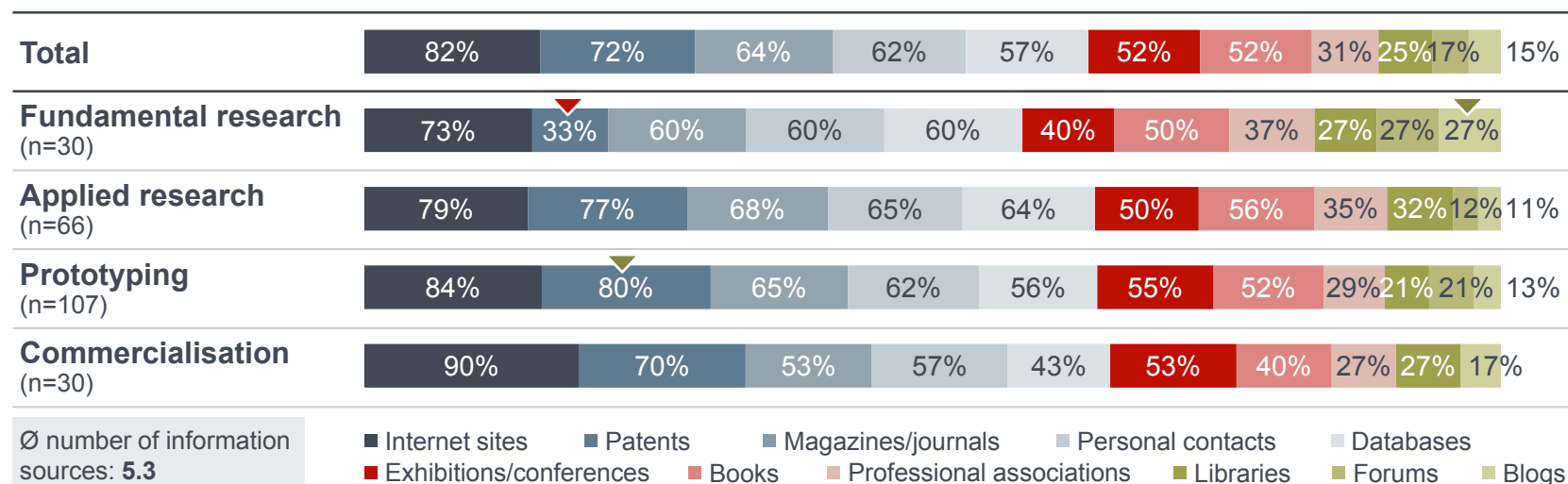
Relevance of information categories



n=265; Q3: For your work, which of the following categories of information are relevant? (multiple answers possible); Base: Actors in innovation process.

Nearly 90% deem technical information to be relevant, 2/3 determine business and legal information to be relevant. For commercialisation, business information has a higher relevance, while technical information has a lower relevance. In prototyping phase, the opposite is the case. For fundamental research, legal information has less relevance.

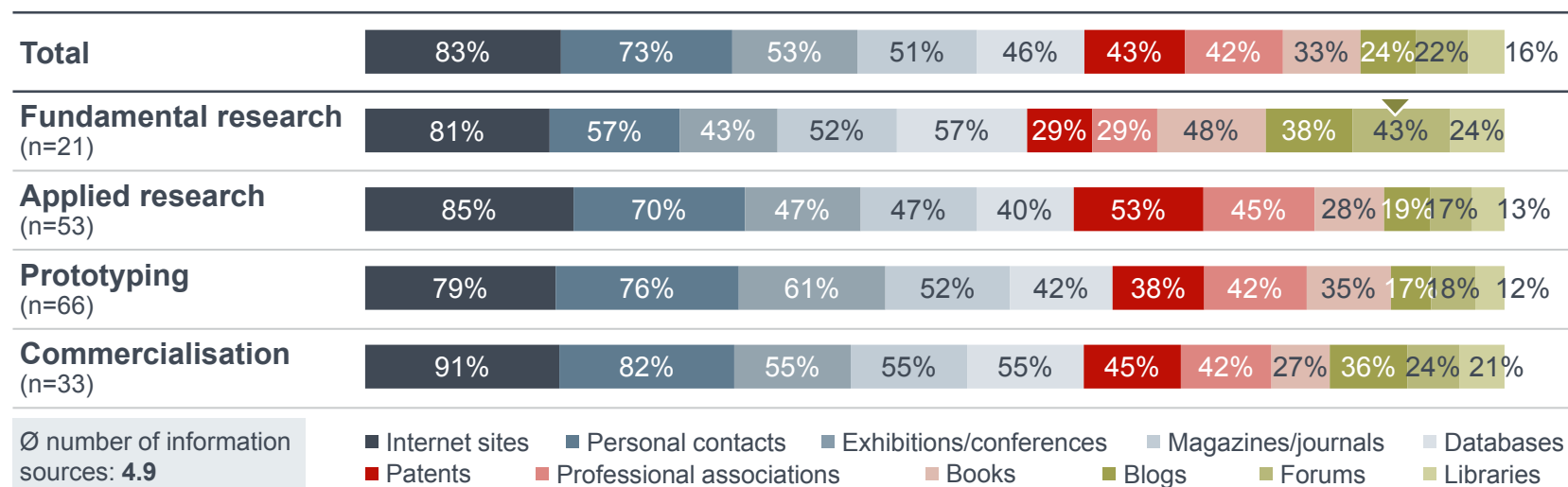
Innovation sources for technical information



n=233; Q3.1: You just mentioned that technical information is relevant for your work. What source(s) of information do you currently use for technical information? (multiple answers possible); Base: Actors in innovation process.

The most important information sources for technical information are the internet (usage by 82%), patents (72%) and magazines (64%).
For fundamental research, blogs are more frequently used while patents are less frequently used. For prototyping, patents gain importance.

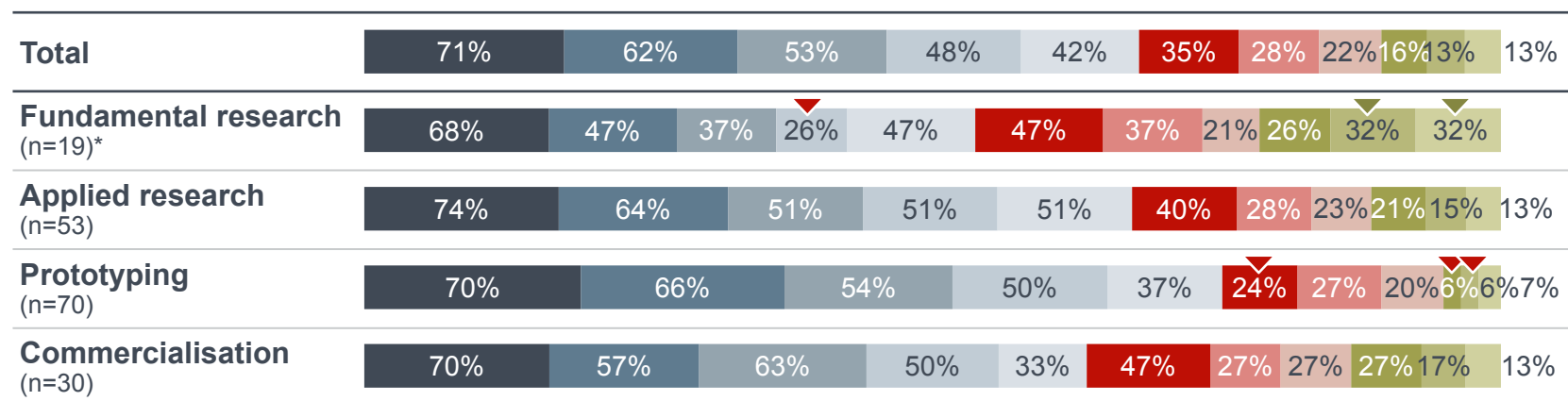
Innovation sources for business information



n=176; Q3.2: You just mentioned that business information is relevant for your work. What source(s) of information do you currently use for business information? (multiple answers possible); Base: Actors in innovation process.

▶ **The most important information sources for business information are the internet (used by 83%), personal contacts (73%) and exhibitions/conferences (53%). In the phase of fundamental research, forums are used to a higher extent.**

Innovation sources for legal information



Ø number of information sources: 4.1

- Internet sites
- Patents
- Personal contacts
- Databases
- Professional associations
- Magazines/journals
- Books
- Exhibitions/conferences
- Blogs
- Libraries
- Forums

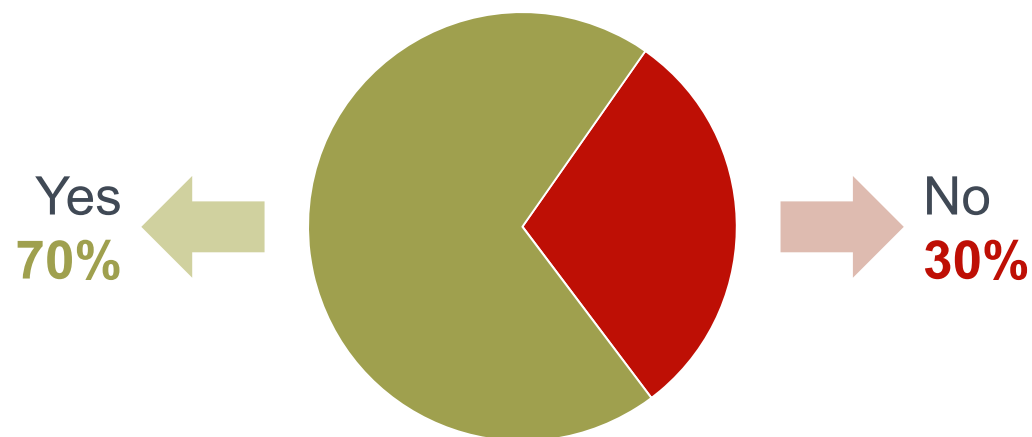
*Attention: small base

n=172; Q3.3: You just mentioned that legal information is relevant for your work. What source(s) of information do you currently use for legal information? (multiple answers possible); Base: Actors in innovation process.

▶ **The top three sources for legal information are the internet (used by 72%), patents (62%) and personal contacts (53%). For fundamental research, databases are used to a lower extent while libraries and forums are used to a higher extent. For prototyping, magazines, blogs and libraries have a lower relevance as information source.**

Users vs. non-users of patent information as information source

Are patents used as a source of information in the innovation process?



n=263; Q3.1/Q3.2/Q3.3: You just mentioned that technical/business/legal information is relevant for your work. What source(s) of information do you currently use for technical/business/legal information? (multiple answers possible); Base: Actors in innovation process.

▶ **As it regards the usage of patents as information source for technical, business or legal information, 70% use patents for at least one of the information categories, while 30% don't use patents at all.**

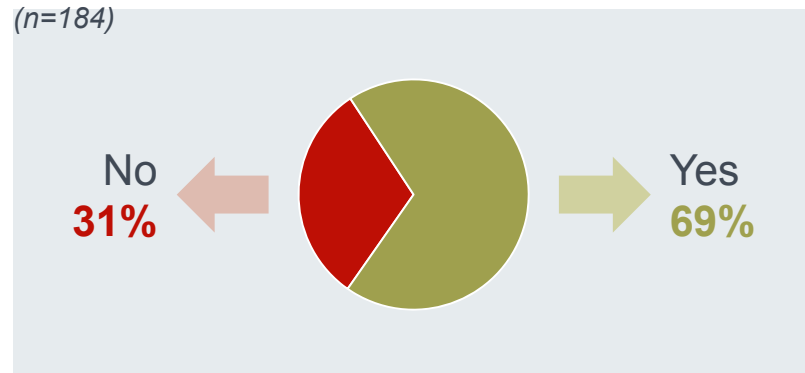
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Usage of patent information as information source

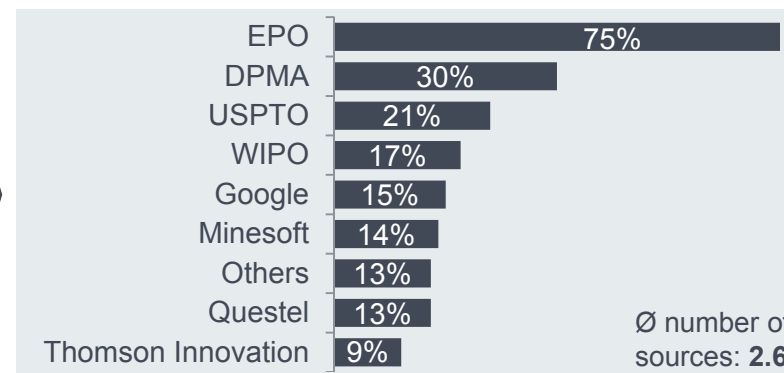
For patent information used as a source of information, did the respondent mention a specific source?

(n=184)



Which sources did the respondents mention?*

(n=127)

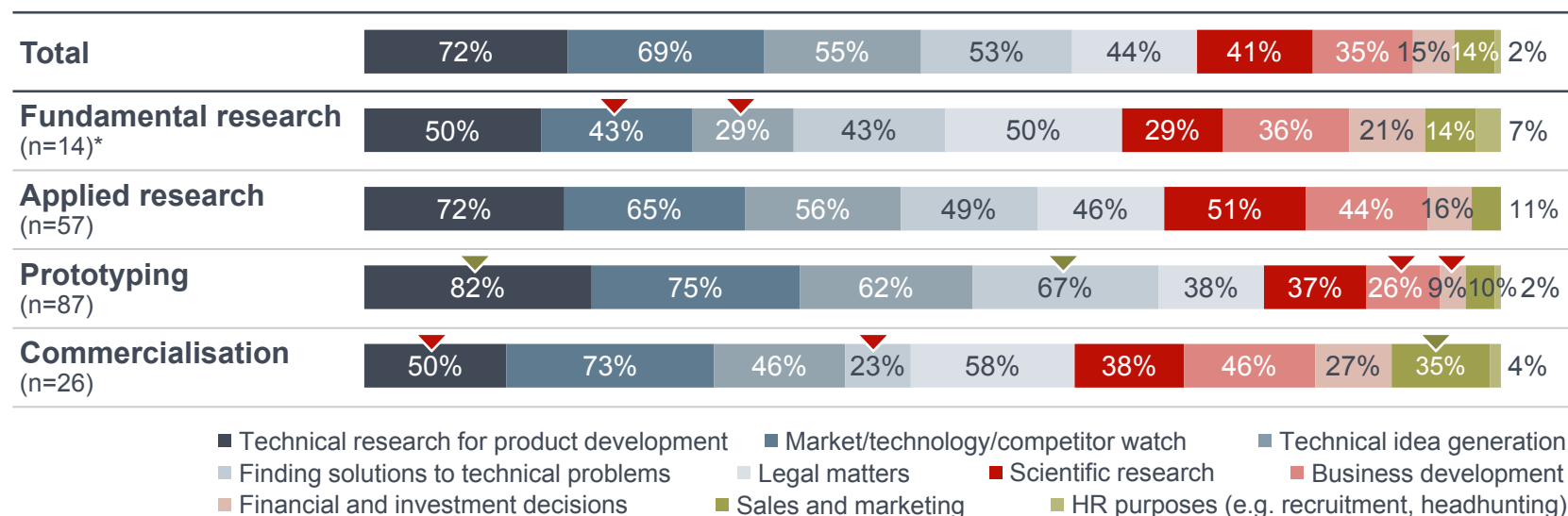


Q4: You just mentioned that you use patents as a source of information. Which specific source(s) do you use? (multiple answers possible)
Base: Users of patents as source of information / Respondents who mentioned a source.

*results > 5% displayed

More than 2/3 of users of patent information as an information source actually mentioned a concrete source. Top three sources are Espacenet (mentioned by more than half), DPMA (mentioned by 3 out of 10) and USPTO (mentioned by 1/5), followed by the EPO (no specific tool mentioned) and WIPO.

Usage of patent information as information source: work area

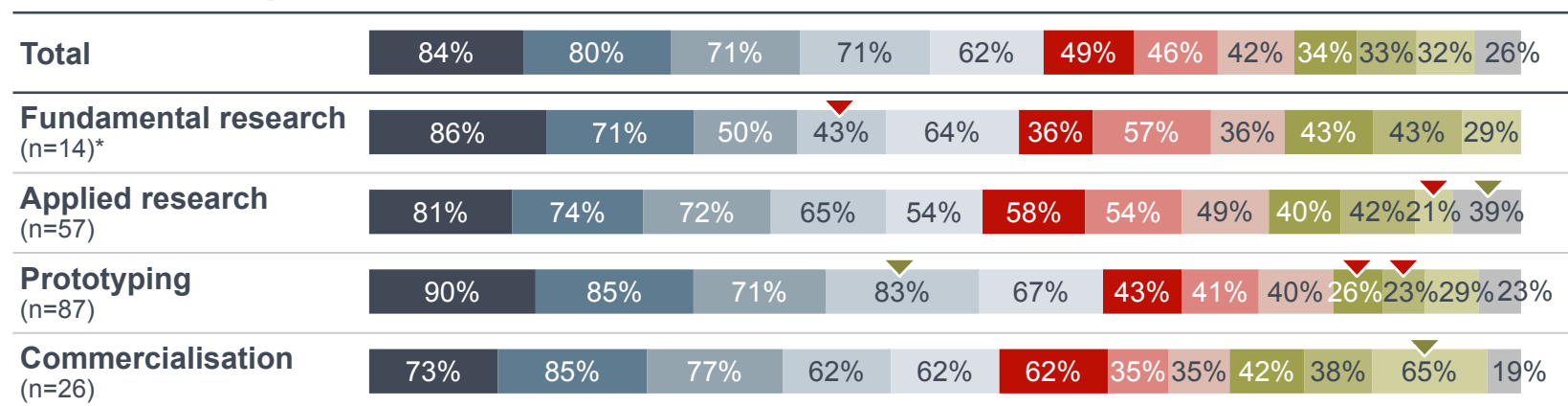


* Attention: small base

n=184; Q5: In which area of your work do you use patents as a source of information? (multiple answers possible); Base: Users of patents as source of information.

► **Patent information is particularly used for technical research for product development (as mentioned by nearly 75%), for market/technology/competitor watch (mentioned by 2/3) and for technical idea generation (mentioned by more than half).**

Usage of patent information as information source: IP activity



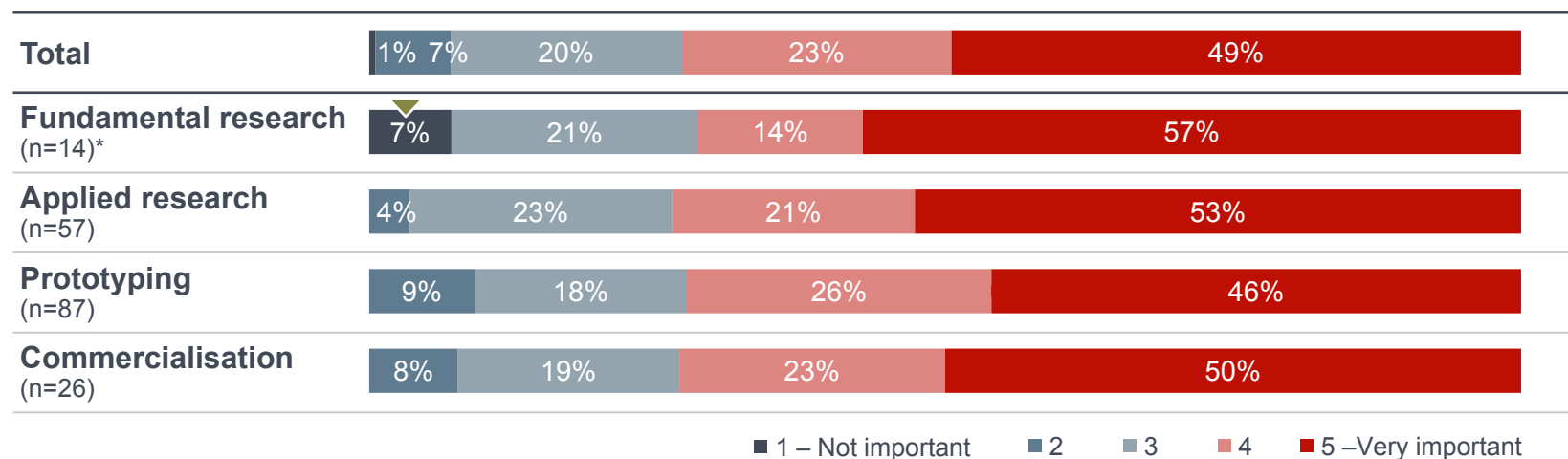
- Analyse the prior art ■ Protect intellectual property ■ Identify freedom to operate ■ Analyse/monitor own/competitors' patent portfolio
- Analyse patent infringements ■ Perform IP due diligence ■ Draft patent application documentation ■ Define a patent portfolio strategy
- Draft licensing agreements ■ Negotiate with industry players ■ Market and commercialise products ■ Do 'white space' analysis

* Attention: small base

n=184; Q6: Please tell us more. You use patents to: (multiple answers possible); Base: Users of patents as source of information.

▶ **Patent information is concretely used to analyse the prior art (by 84%), to protect IP (by 8 out of 10) and to identify FTO (by 71%), followed by the analysis/monitoring of the own/competitors' patent portfolio and the analysis of patent infringements.**

Importance of patent information as source of information



*Attention: small base

n=184; Q7: In comparison to other sources of information you said you use, how important are patents as a source of information for your innovation work?

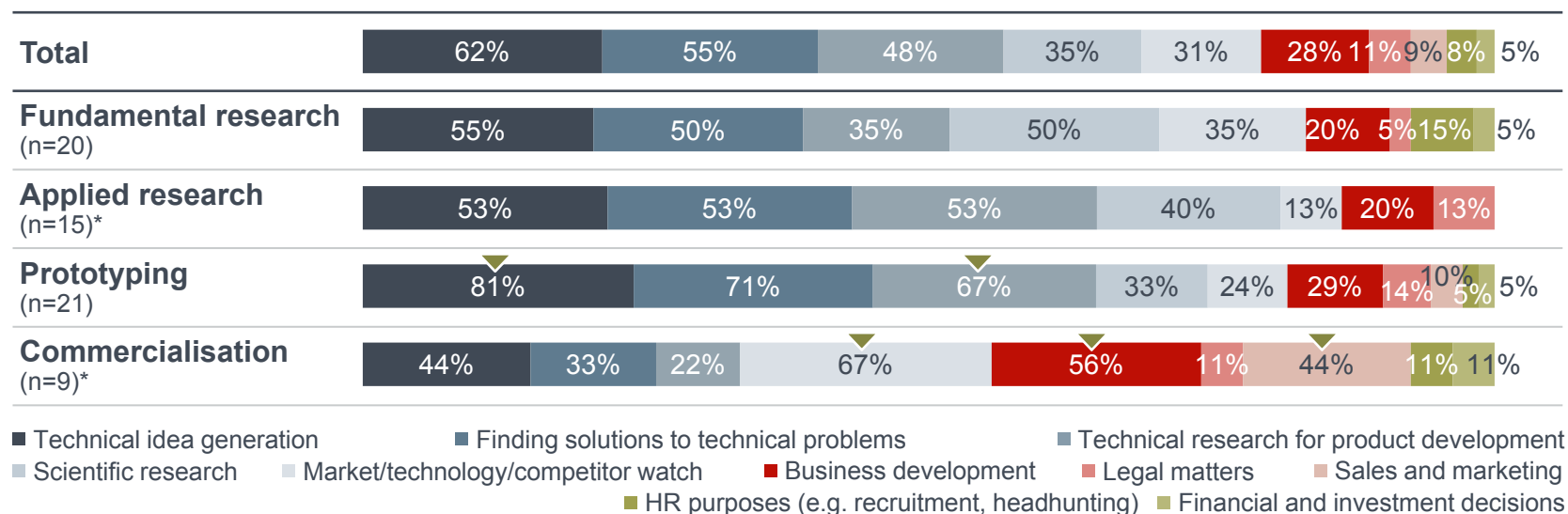
Base: Users of patents as source of information.

▶ **Within the group of users of patent information as information source, patent information is deemed to be important or even very important for the innovation work, as mentioned by 72%. The ones who determine patent information not to be important are a small group of less than 10%.**

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Technical information usage of patent information non-users

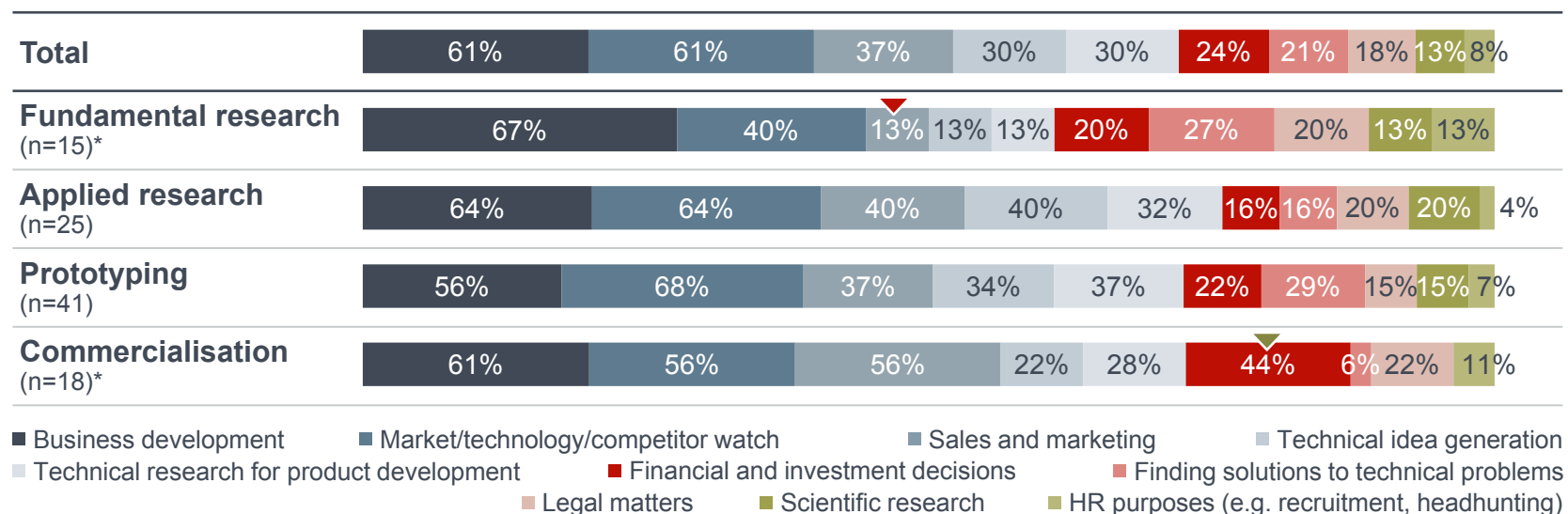


*Attention: small base

n=65; Q8.1: What do you use technical information for? (multiple answers possible); Base: Non-users of patents as source of information.

Technical information is used for technical idea generation (mentioned by 2/3), finding solutions to technical problems (mentioned by more than half) and technical research for product development (mentioned by nearly one half). In commercialisation, technical information gains importance for market watch, business development and sales/marketing.

Business information usage of patent information non-users

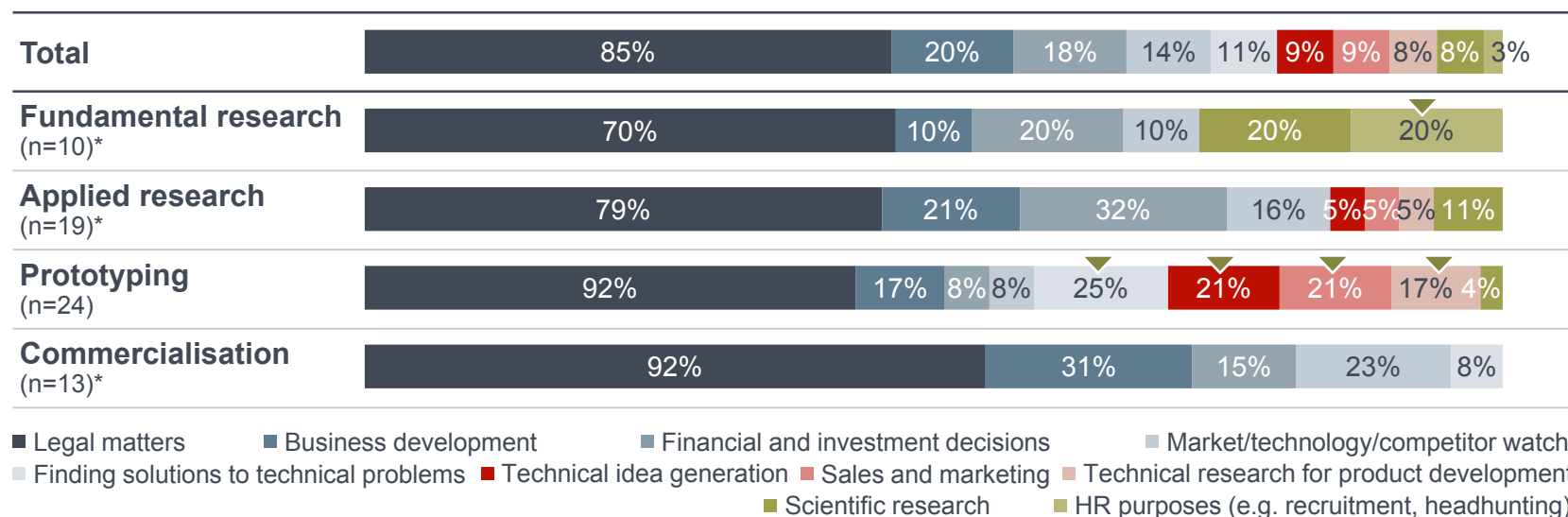


*Attention: small base

n=99; Q8.2: What do you use business information for? (multiple answers possible); Base: Non-users of patents as source of information.

Business information is primarily used for business development (by 61%), market/technology/competitor watch (by 61%) and for sales and marketing (by 1/3). In the commercialisation phase, business information gains importance for financial and investment decisions.

Legal information usage of patent information non-users



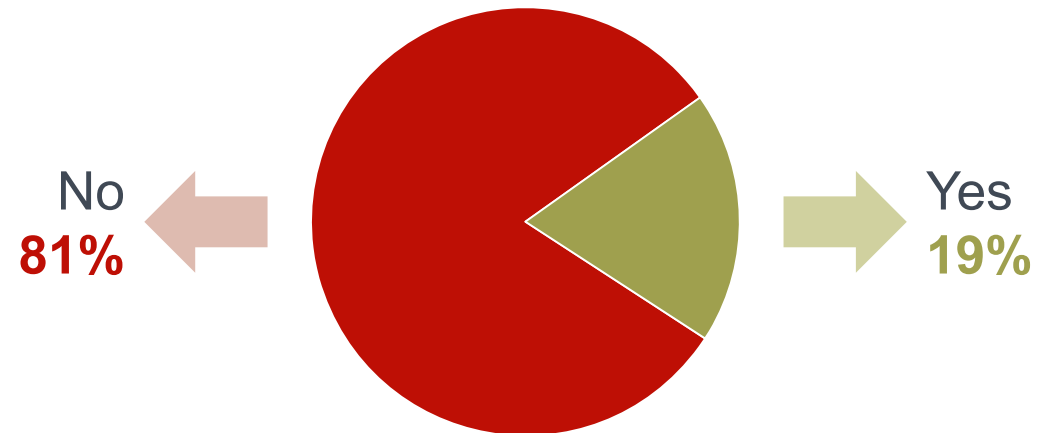
*Attention: small base

n=66; Q8.3: What do you use legal information for? (multiple answers possible); Base: Non-users of patents as source of information.

Legal information is predominantly used for legal matters (by 85%), followed by business development and financial investment decisions (1 out of 5, respectively). In the prototyping phase, legal information gains importance for finding solutions to technical problems, technical idea generation, sales and marketing and technical research for product development.

Past usage of patent information as an information source

Have you used patent information in the past?

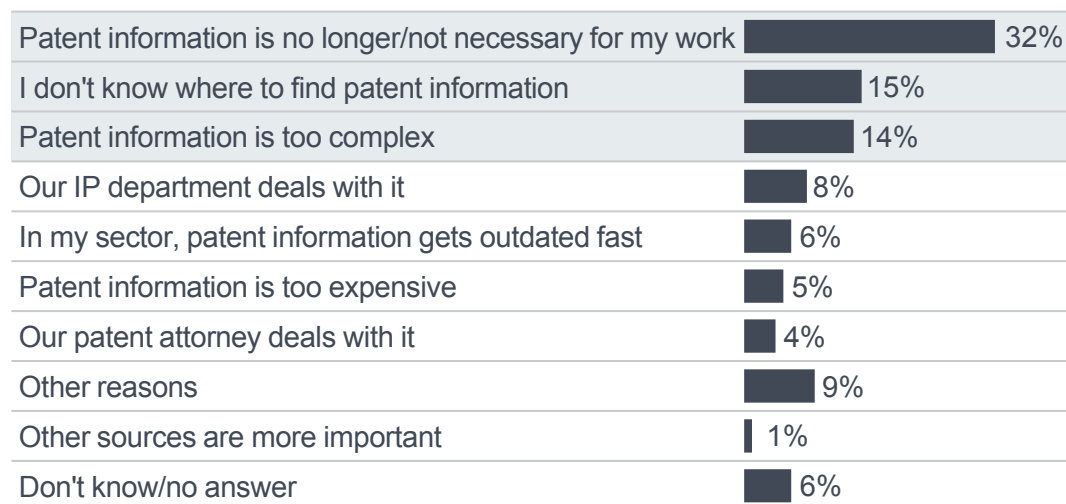


n=79; Q9: You did not indicate "patents" as a source of information you currently use. Have you used patents in the past?
Base: Non-users of patents as source of information.

► **The majority (8 out of 10) have not used patent information as an information source in the past. Only 19% already used patent information as source of information in the past.**

Barriers for patent information usage

Main reason for no longer/never using patent information as information source:



n=79; Q10/Q11: What is your main reason for not/no longer using patents as a source of information?
Base: Non-users of patents as source of information.

Other reasons mentioned:

- “In comparison to other information sources, patents are not very efficient. It takes a lot of work to filter information efficiently.”
- “My research field doesn't deal with patents.”
- “Patent info does not explain what builds value for customers.”

Other sources mentioned:

- Internet
- Legal information / laws
- Technology monitoring
- “Personal contacts, exhibits / conferences”

▶ **Top three barriers for patent information usage are the lack of necessity for the work (mentioned by 1/3), the lack of knowledge on where to find patent information (mentioned by 15%) and the complexity of patent information (mentioned by 14%).**

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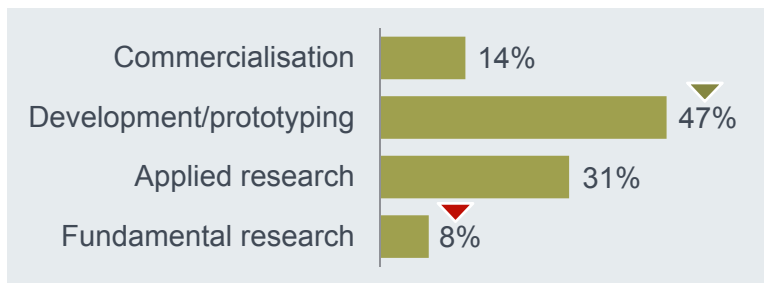
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Patent information users vs. non-users: innovation process

Patent information used as a source of information? (n=263)



Highest activity in which innovation process phase? (n=184)



Highest activity in which innovation process phase? (n=127)

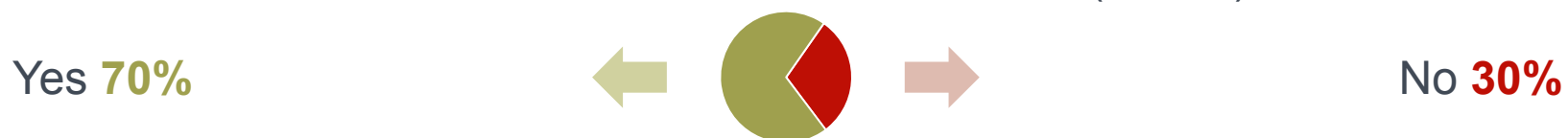


Q3.1/Q3.2/Q3.3; Q1: In which phase of the innovation process are you most active in your work? Base: Actors in the innovation process.

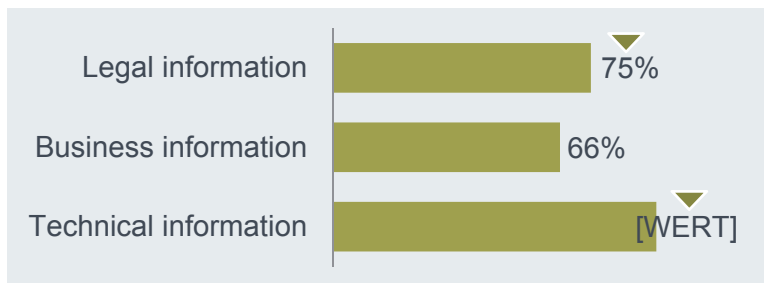
Patent information users show a higher activity in development phase and a lower activity in fundamental research, while non-users are more active in fundamental research and less active in the development phase.

Patent information users vs. non-users: information categories

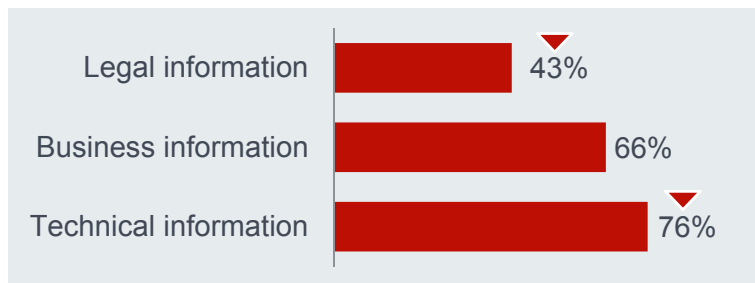
Patent information used as a source of information? (n=263)



What type of information is relevant for your work? (n=184)



What type of information is relevant for your work? (n=79)



Q3.1/Q3.2/Q3.3; Q3: For your work, which of the following categories of information are relevant? (multiple answers possible); Base: Actors in innovation process.

Technical information and legal information are more relevant for patent information users, while the same categories are less relevant for patent information non-users.

Patent information users vs. non-users: information sources

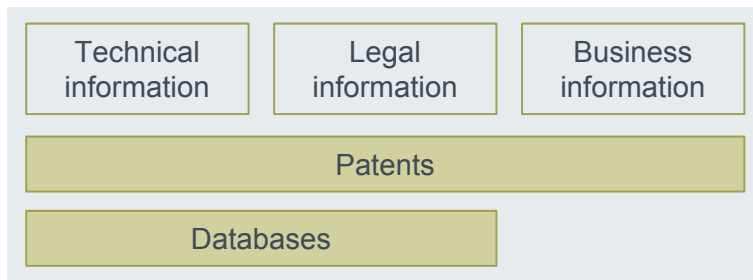
Patent information used as a source of information? (n=263)

Yes **70%**

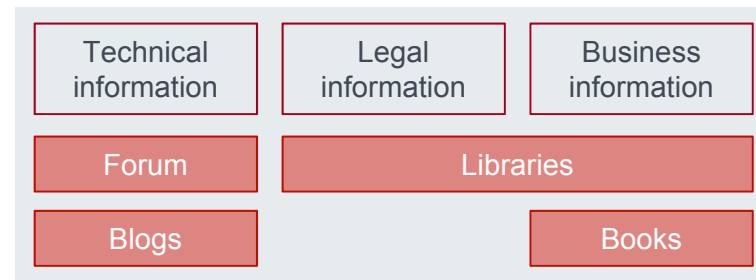


No **30%**

What information source do you use for: (tech. n=173; leg. n=121; bus. n =138)



What information source do you use for: (tech. n=60; leg. n=52; bus. n =34)



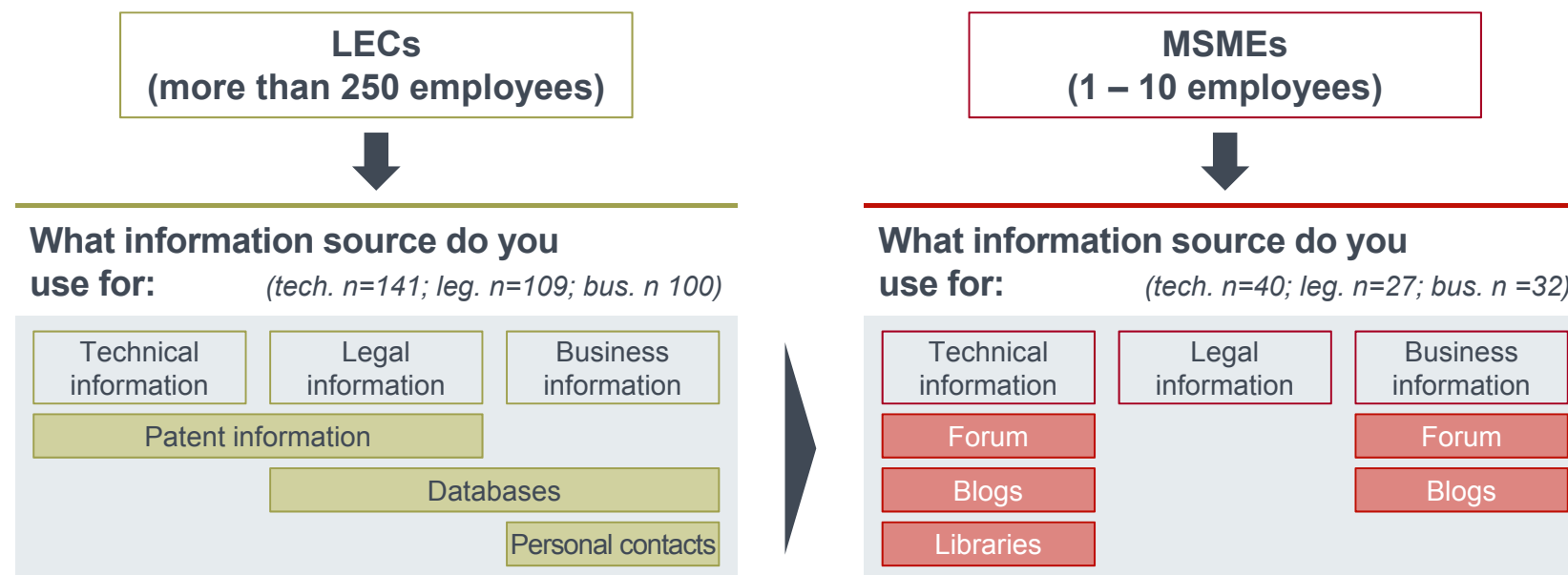
n=276; Q3.1/Q3.2/Q3.3: You just mentioned that technical/business/legal information is relevant for your work. What source(s) of information do you currently use for technical/business/legal information? (multiple answers possible); Base: Actors in the innovation process; significant positive results mentioned.

▶ **While patent information users make use of databases and patents as an information source to a higher extent, patent information non-users rather rely on libraries, forums, blogs and books.**

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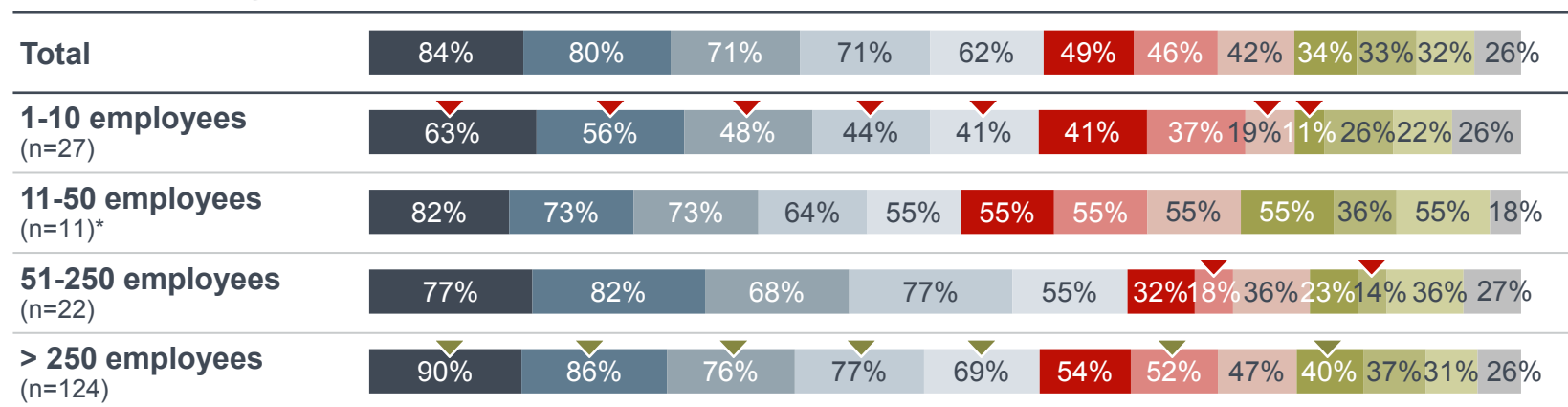
Information source usage of LECs and MSMEs



Q3.1/Q3.2/Q3.3: You just mentioned that technical/business/legal information is relevant for your work. What source(s) of information do you currently use for technical/business/legal information? (multiple answers possible); Base: Actors in the innovation process; significant positive results mentioned.

▶ **While LECs use patents, databases and personal contacts to a higher extent, MSMEs rather rely on forums, blogs and libraries as information source.**

Patent information usage and IP activity related to company size



- Analyse the prior art ■ Protect intellectual property ■ Identify freedom to operate ■ Analyse/monitor own/competitors' patent portfolio
- Analyse patent infringements ■ Perform IP due diligence ■ Draft patent application documentation ■ Define a patent portfolio strategy
- Draft licensing agreements ■ Negotiate with industry players ■ Market and commercialise products ■ Do 'white space' analysis

*Attention: small base

n=184; Q6: Please tell us more. You use patents to: (multiple answers possible); Base: Users of patents as source of information.

In comparison to smaller companies, LECs use patent information to a higher extent for the majority of IP activities, namely: analyse prior art, identify FTO, analyse patent portfolios, protect IP and analyse infringements as well as drafting of patent application documents and license agreements.

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Innovation actors: profiles with a direct IP link

Innovation management

- Generic term related to the introduction of new ideas, products or processes
- Key words: strategic innovation/innovation strategy, innovation pipeline, innovation “funnel”

Patent/IP management

- Patent management, patent research, patent engineering
- Definition of IP strategy, patent portfolio management
- Key words: FTO, state of the art, analyse patent infringements, market and commercialise products, etc.

Patent/IP consulting

- Consulting and advising on patent/IP strategy, management of IP portfolios
- Advising on IP protection

TT management

- Focus on the exploitation of technologies
- Bridging inventors/companies with commercial partners

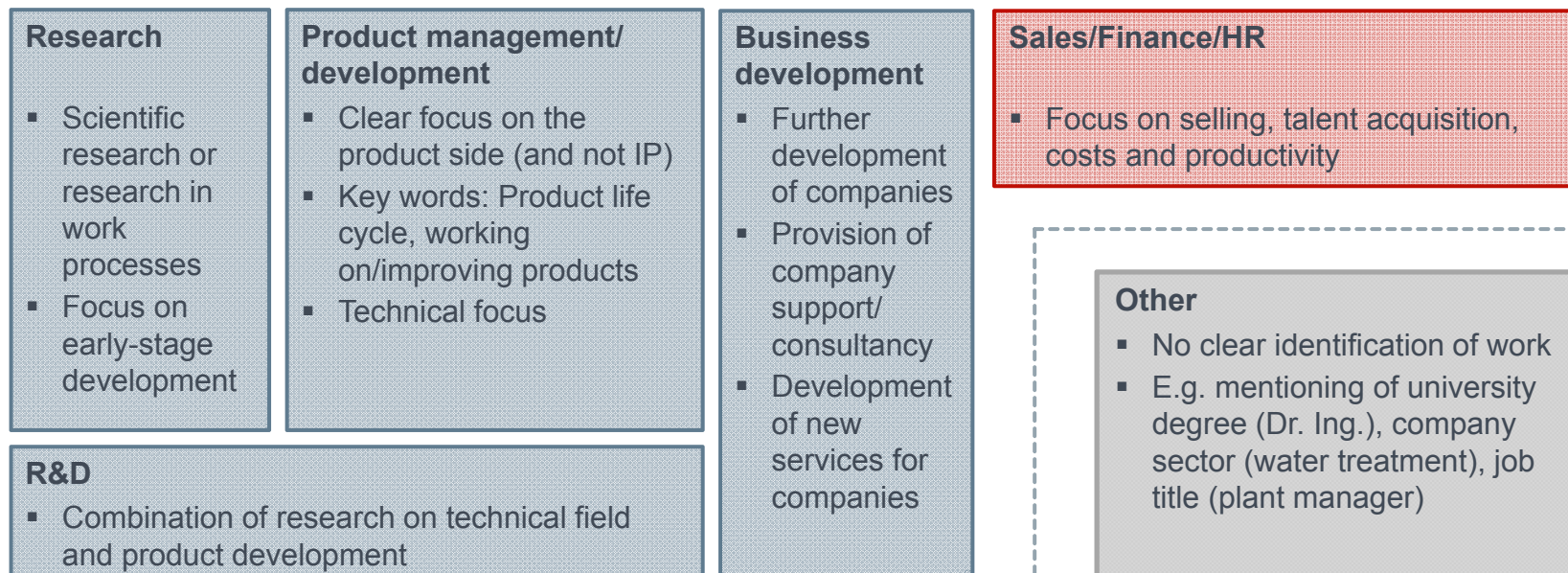
Patent attorney

- Explicit mentioning of the term “patent attorney”

n=265; Q2: Please describe in your own words in a few sentences the work that you do.; Base: Actors in innovation process.

▶ **Within the group of innovation process actors, 5 categories related to core IP activities can be identified: Innovation management, TT management, patent/IP management, patent/IP consulting and patent attorney.**

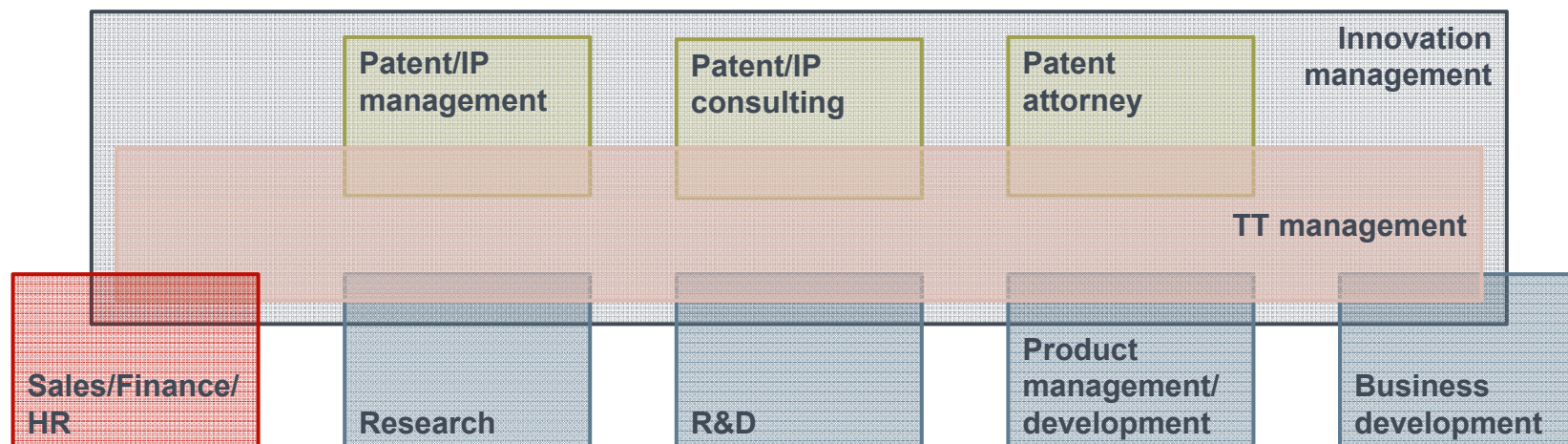
Innovation actors: profiles with an indirect IP link



n=265; Q2: Please describe in your own words in a few sentences the work that you do.; Base: Actors in innovation process.

► **Further 5 categories can be identified in which IP is not the day-to-day core business: Research, product management/development, R&D, Business development and Sales/Finance/HR.**

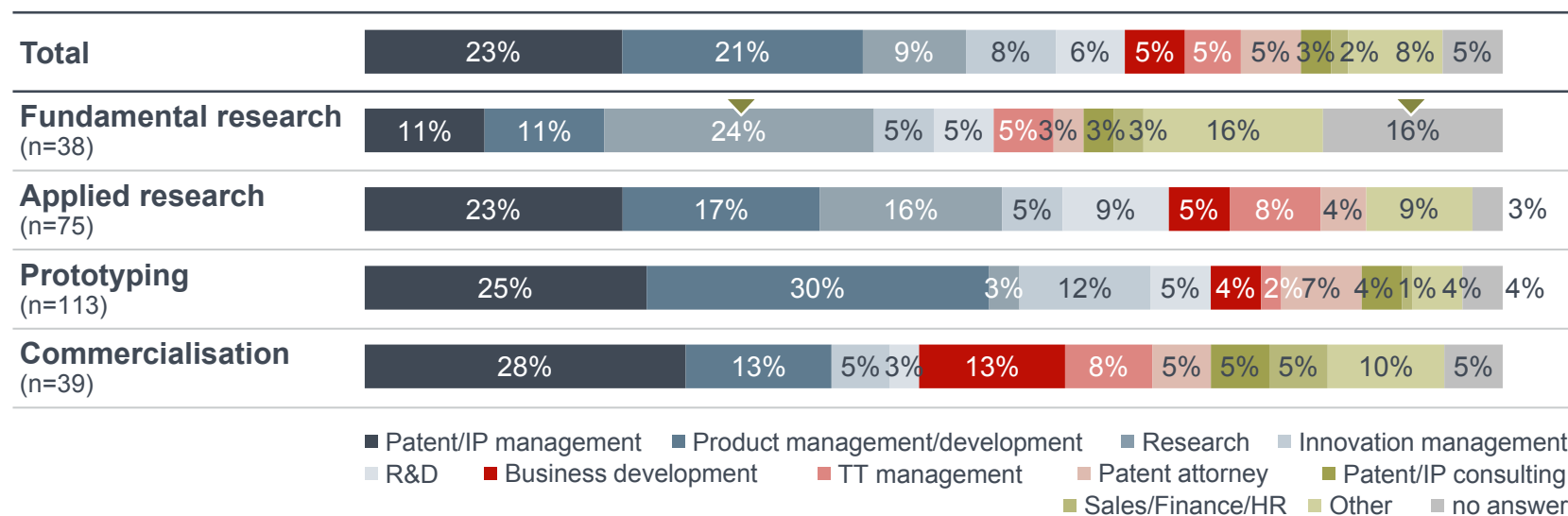
Mapping of innovation process actors



n=265; Q2: Please describe in your own words in a few sentences the work that you do.
Base: Actors in innovation process.

► **The mapping of innovation process actors shows the relation between the categories and the respective linkages: Innovation management is the base for patent/IP management/consulting and patent attorneys, and has a link to R&D, business development and sales/finance/HR. TT management basically links all the remaining categories, i.e. it brings together all actors in the innovation process.**

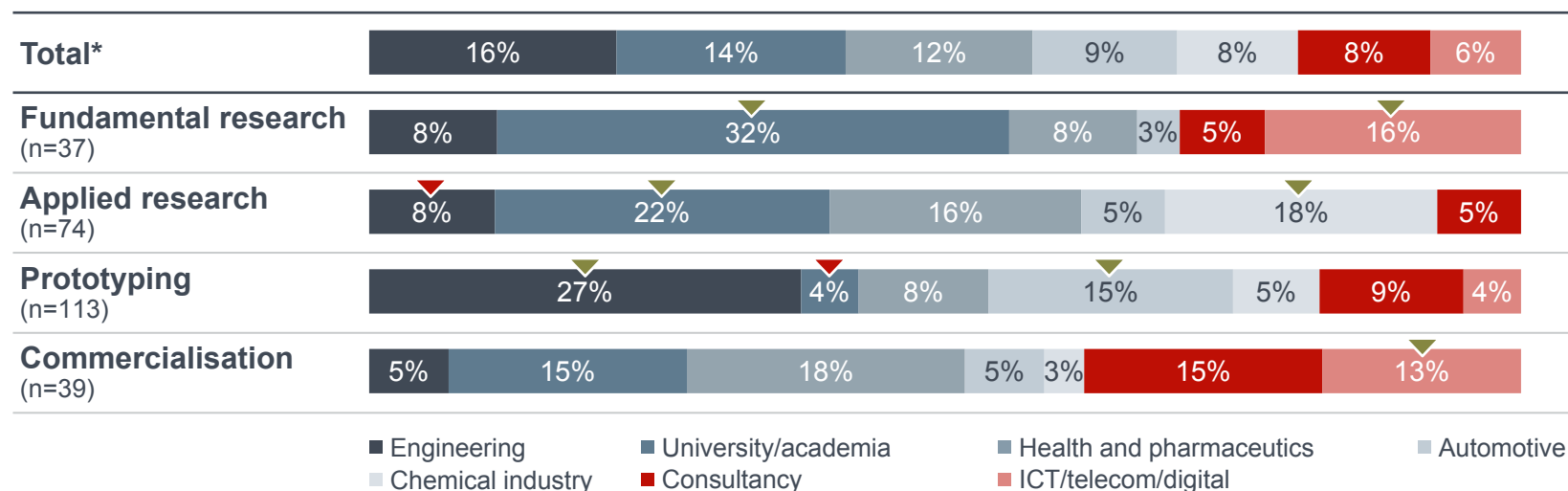
Linking occupational activity and innovation process



n=265; Q2: Please describe in your own words in a few sentences the work that you do.; Base: Actors in innovation process.

► **1/4 has a focus in patent/IP management, 1 out of 5 in product management/development and 9% in research. In the phase of fundamental research, the category research gains importance in comparison to the total sample.**

Company sector

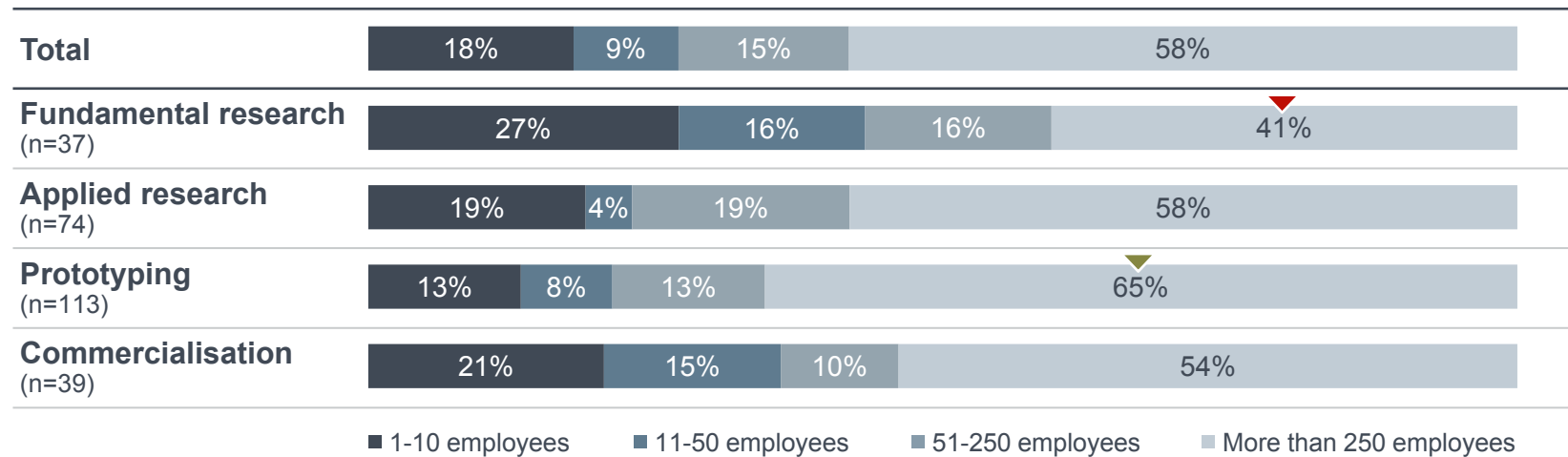


*results > 3% displayed.

n=263; Q12: In what sector does your organisation operate?; Base: Actors in innovation process.

▶ **As it regards the company sector, 16% operate in the sector of engineering, 14% in university/academia and 12% in the health and pharmaceuticals sector.**

Company size

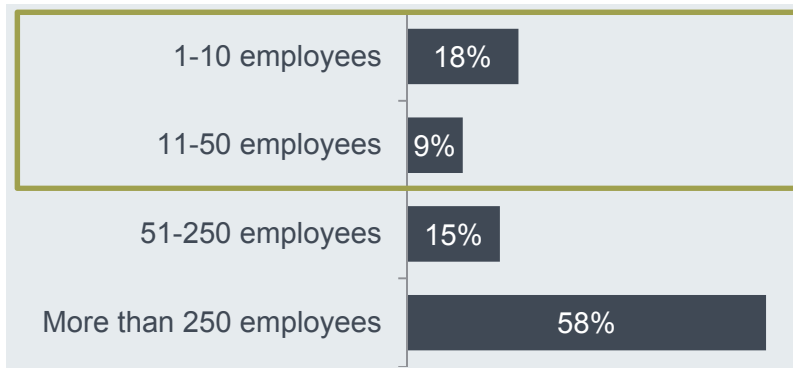


n=263; Q13: How many employees work in your organisation?; Base: Actors in innovation process.

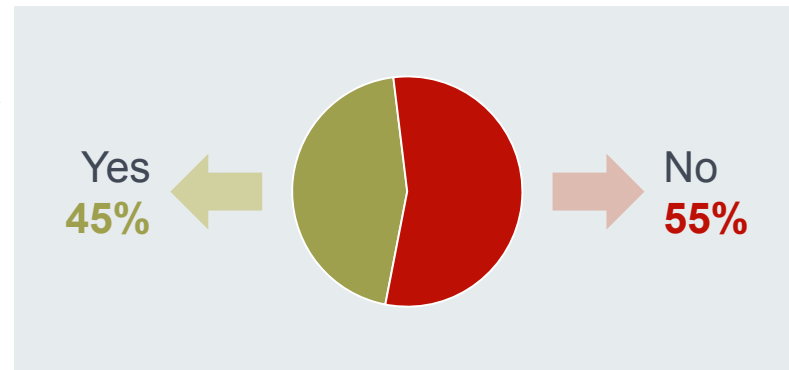
The majority of organisations (more than half) have more than 250 employees, followed by 18% of organisations with 1-10 employees, 15% with 51-250 employees and less than 10% with 11-50 employees. A smaller number of LEC are active in fundamental research, whereas a higher number of LEC can be found in the prototyping phase.

Company size: Start-up

Number of employees
(n=263)



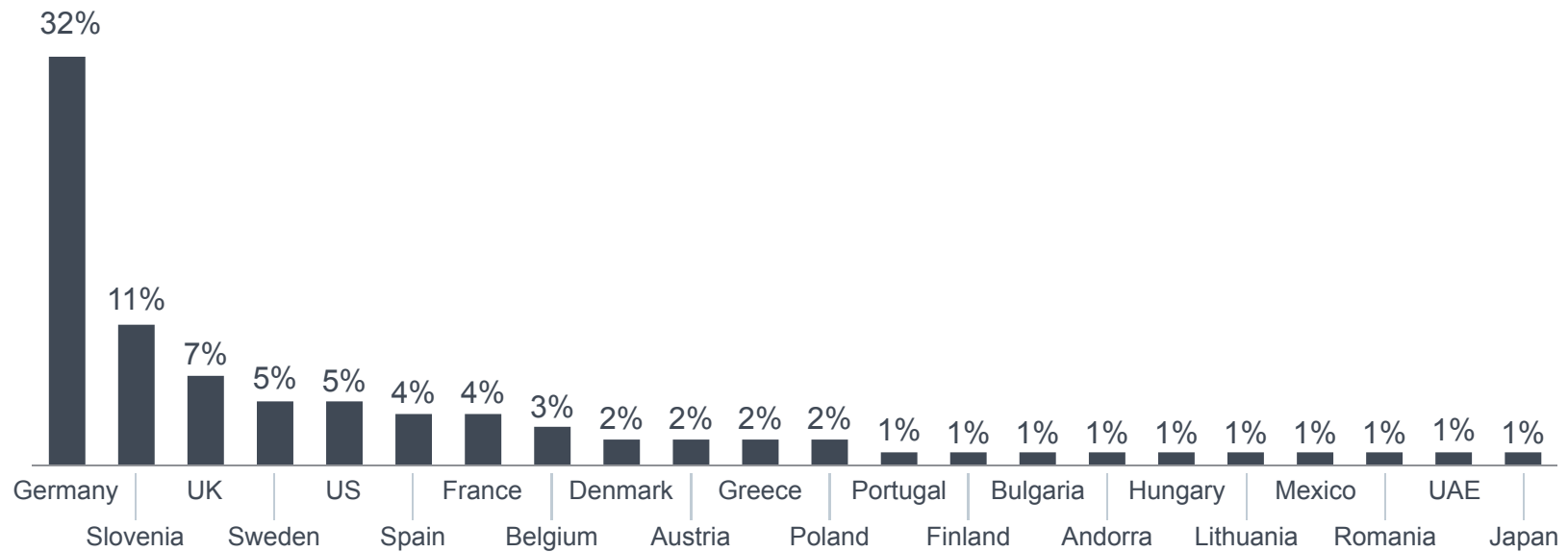
For companies up to 50 employees:
Organisation is considered to be a start-up?
(n=71)



Q13: How many employees work in your organisation? / Q13.1: Would you consider the organisation you work for to be a start-up?
Base: Actors in innovation process.

▶ **For companies up to 50 employees, 45% consider themselves to be a start-up, whereas 55% are no start-up.**

Country



n=263; Q14: In which country is your organisation primarily located?; Base: Actors in innovation process; results ≥ 1% displayed.

► **Nearly 1/3 of the organisations are located in Germany. 11% are from Slovenia, 7% from the United Kingdom and 5% from Sweden and the U.S.A., respectively.**

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Thank you for your attention.

