

Economics & Statistics

# **Research and innovation in mechanical engineering**

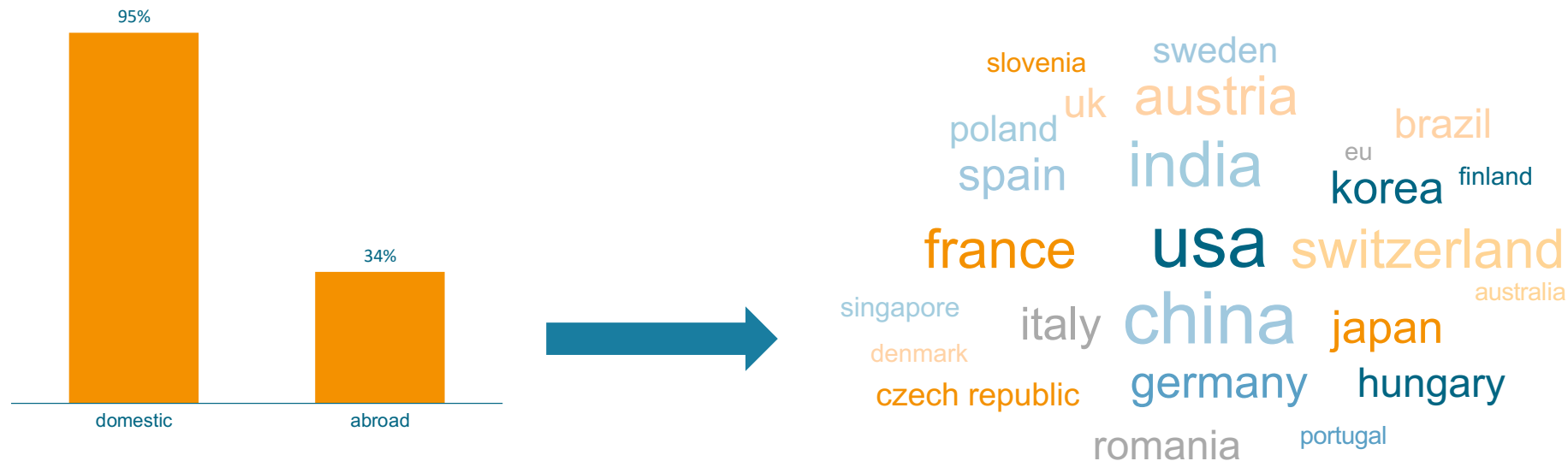
Member survey

September 2024

# Two thirds of companies exclusively conduct R&D domestically



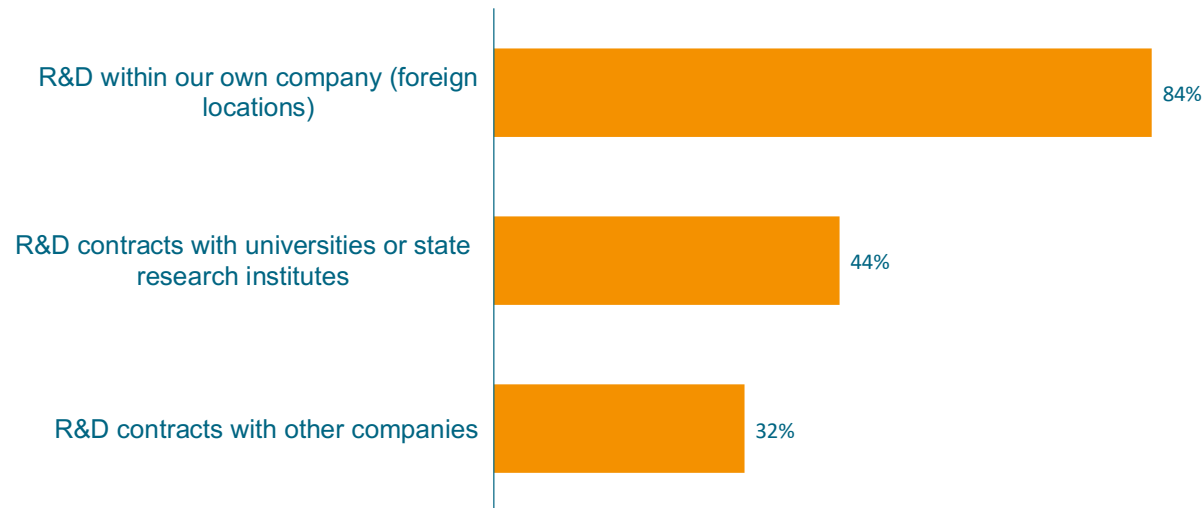
*In which countries has your company carried out R&D activities or had R&D activities carried out in the last three years?  
Multiple answers possible (n = 349)\**



\* Since also VDMA member companies outside Germany took part in the survey, Germany also appears among the countries for R&D abroad  
Source: VDMA

# In most cases, foreign R&D is carried out at a company's own locations

*You have carried out R&D abroad in the last three years. What did this involve?  
Multiple answers possible (n = 116)*



# Reasons for foreign R&D: customer proximity and lower costs vs. risk of know-how outflow

*Why do you carry out R&D activities abroad or have them carried out? (n = 110)*

- Production site or headquarters of the company
- Customer proximity, regional market requirements
- Personnel costs and availability

*„Talent access, ecosystem of local partners, price advantages in the hourly rate compared to HQ.“*

*„Market testing and cost reduction.“*

*„For localized and especially local products; in some cases no new developments, also many applications and adaptations to markets.“*

*Why do you not carry out R&D activities abroad? (n = 197)*

- No need; especially if headquarters, production, technical expertise, important customers and/or important partners are available domestically
- Risk minimization, data security, avoidance of know-how outflow
- No contacts, no local partners
- High expenditure

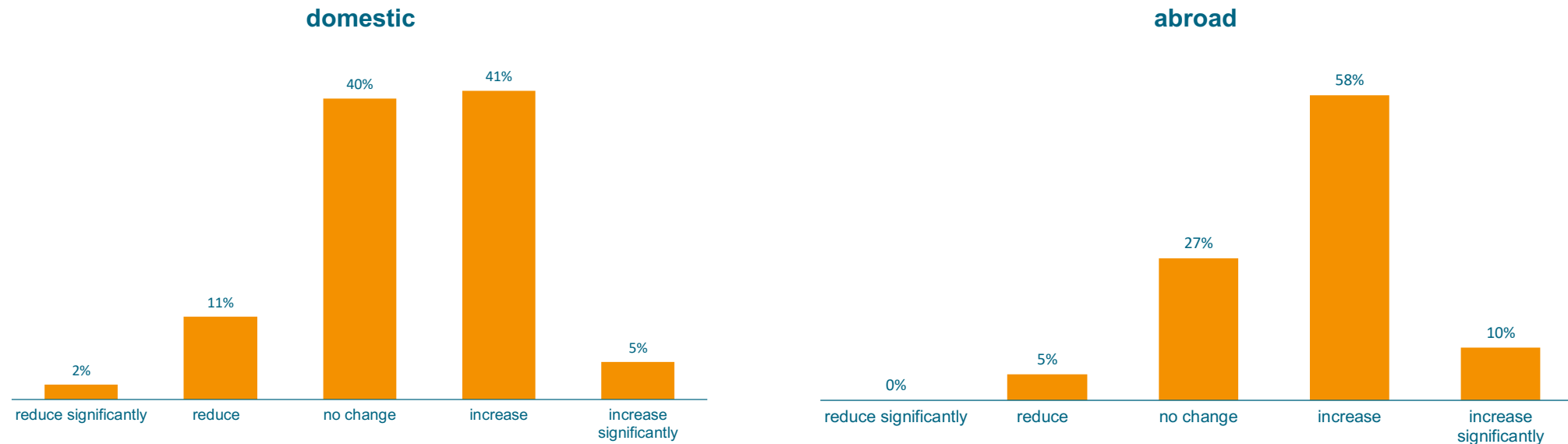
*„We are pioneers in our industry and develop everything ourselves, including calculation methods that are subject to internal confidentiality. Product piracy is our biggest problem. That's why we don't disclose anything to the outside world.“*

*„The technological expertise is based here in Germany.“*

*„R&D is our core competence and is firmly anchored in the company.“*

# Majority want to increase R&D activities domestically and abroad

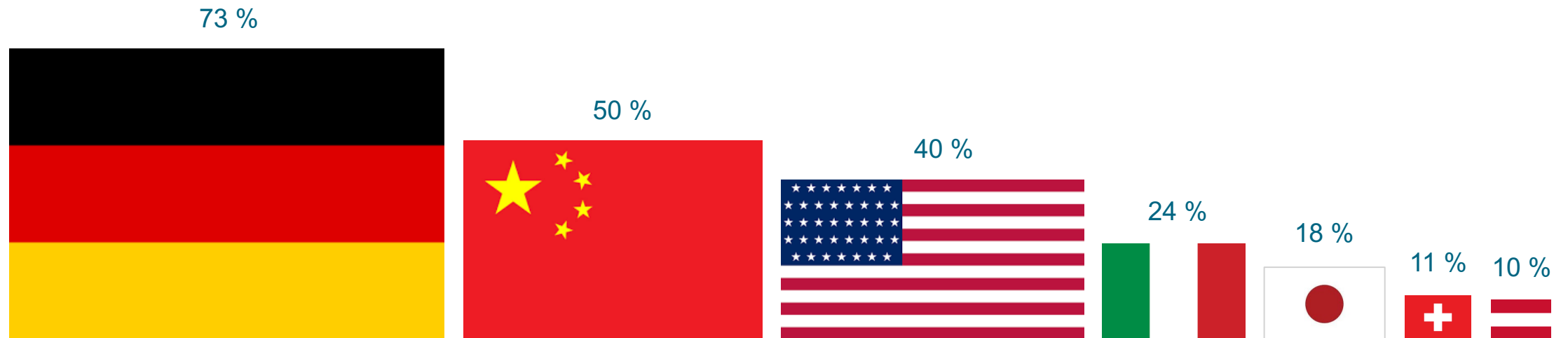
*How do you expect your R&D activities to develop in the coming years?*  
(n = 321)



Source: VDMA

# The most innovative competitors are located in Germany, China and the USA

*In terms of innovative strength, in which country or countries is your main competition located? Multiple answers possible (n = 295)*



# Germany is by far the most attractive R&D location

*Please rate the following countries in terms of their attractiveness as R&D locations (n = 322).*

Rank	Country	Average rating 1 = very attractive, 5 = very unattractive
1	Germany	2.1
2	USA	2.5
3	Austria	2.7
4	Switzerland	2.9
5	Netherlands	2.9
6	Sweden	3.0
7	Denmark	3.1
8	Italy	3.2
9	Korea	3.4
10	France	3.5
11	UK	3.5
12	Japan	3.5
13	China	3.8

Source: VDMA

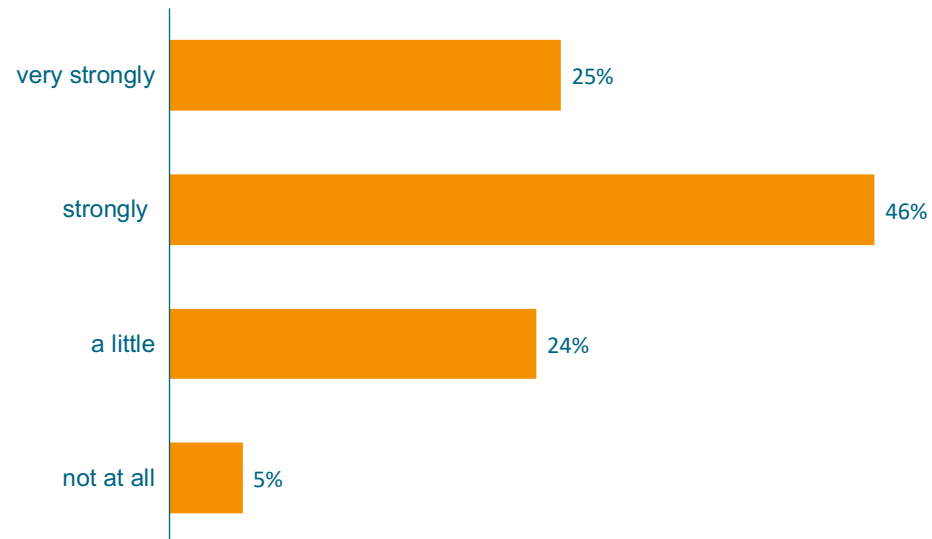
# Performance of engineering sciences and the university and science system speak for Germany as an R&D location

*How would you rate Germany as an R&D location with regard to the following factors? (n = 319)*

Criteria	Average rating 1 = very good, 5 = very bad
Performance of engineering sciences	2.0
University and science system	2.0
R&D cooperation with other companies	2.4
Innovation culture in companies	2.5
Availability of qualified workers	2.7
Transfer from science	2.7
Funding instruments	2.8
Start-up ecosystem	3.0
Open-mindedness of population towards new technologies	3.1
Personnel costs	3.5
Risk capital	3.5
Regulation and bureaucracy	4.3

# The innovative strength of companies is severely hampered by bureaucracy and regulation

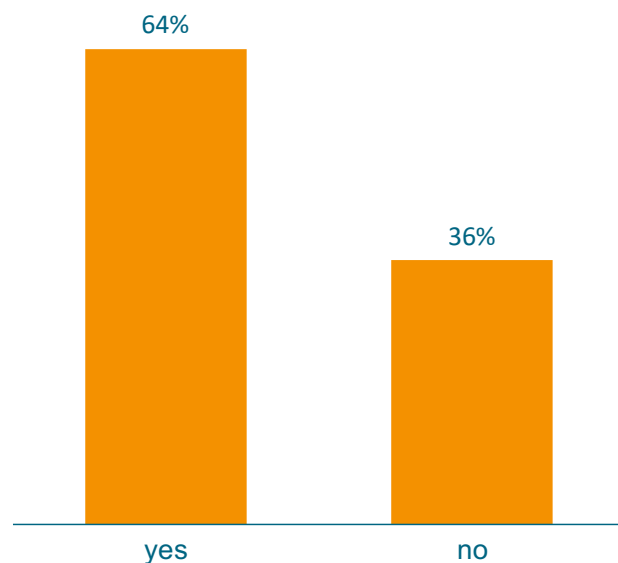
*To what extent do you feel that your company's innovative strength is impaired by the fact that innovative employees are tied up elsewhere due to bureaucracy and regulation? (n = 319)*



Source: VDMA

# Does science deal too freely with knowledge generated in Germany?

*In your opinion, does publicly funded science deal too liberately with knowledge generated in Germany (e.g. through foreign offices, cooperation with foreign universities or companies, publications, etc.)? (n = 182)*



Source: VDMA

## Your contacts



Janine Heimann

Phone: +49 69 6603 1382

E-mail: [janine.heimann@vdma.org](mailto:janine.heimann@vdma.org)



Stefan Röger

Phone: +49 30 30 69 4613

E-mail: [stefan.roeger@vdma.org](mailto:stefan.roeger@vdma.org)