

Pulp and Paper in Austria

Austria's competitiveness
and readiness for Industry 4.0



Graz, May 12th 2016

- The information provided in this document is based on the responses of the survey participants and does not necessarily reflect StepChange Consulting views
- StepChange Consulting is not in any way responsible for the survey results
- StepChange Consulting merely provides a summary of the survey results and an interpretation thereof



- Management consultancy specialized in the pulp, paper and packaging manufacturing industry
- Focus on sustainable performance improvements
- Interdisciplinary and collaborative project approach
- International team of industry experienced consultants
- Primarily top tier paper & packaging companies among client base (>€ 1bn in revenue)
- Vienna office founded in 2006
- US operations started in 2010
- Projects in more than 30 countries



DRIVING CHANGE
TO DELIVER RESULTS

- 1 Competitiveness of Austria 2016**
 - 2 Readiness of Austria for Industry 4.0**
-

Evaluation of Austria's competitiveness as an industry location for forest based industries

- How attractive is Austria as an industry location for forest based industries?
- What are relevant factors?
- In what areas is Austria scoring well?
- What areas require improvement to increase competitiveness in Austria?
- Which actions / measures have to be taken?
- What has changed compared to 2015?

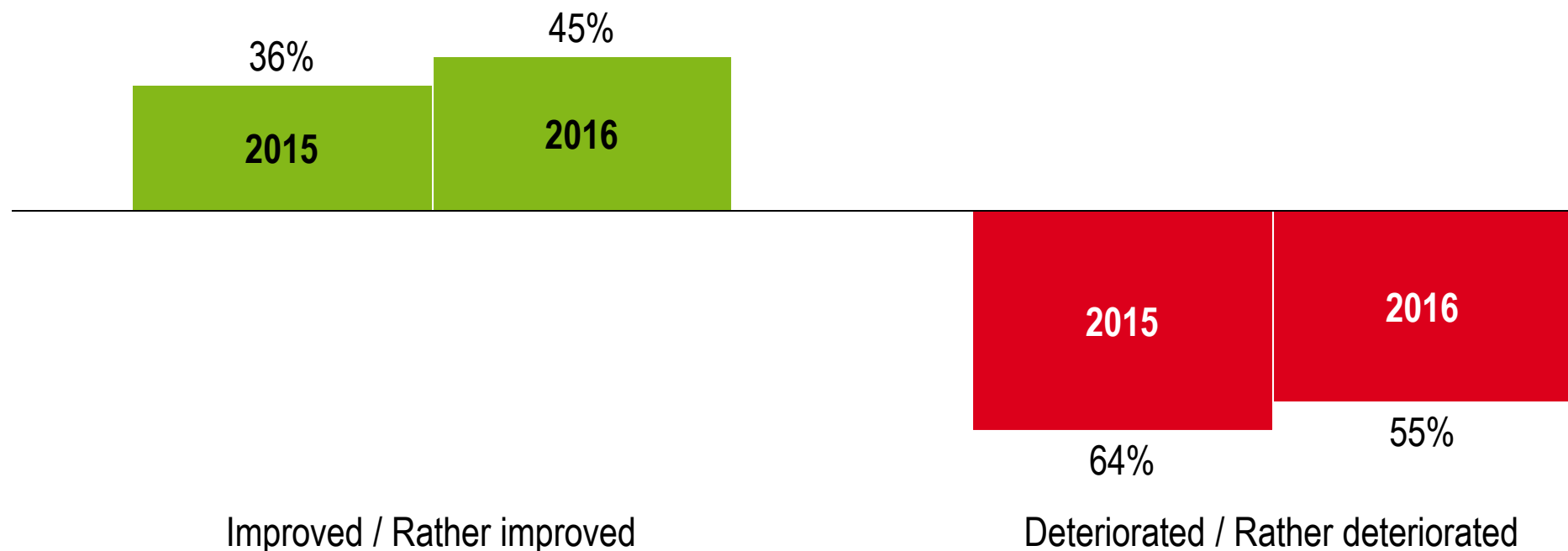
All results presented focus on answers from participants from the forest-based industry (>60% board members, leaders & experts), unless otherwise stated.



The results of the study should serve as a basis to define actions / measures for improving the competitiveness of Austria

The majority still sees a deterioration of Austria's general competitiveness within the last 12 months, tendency improving

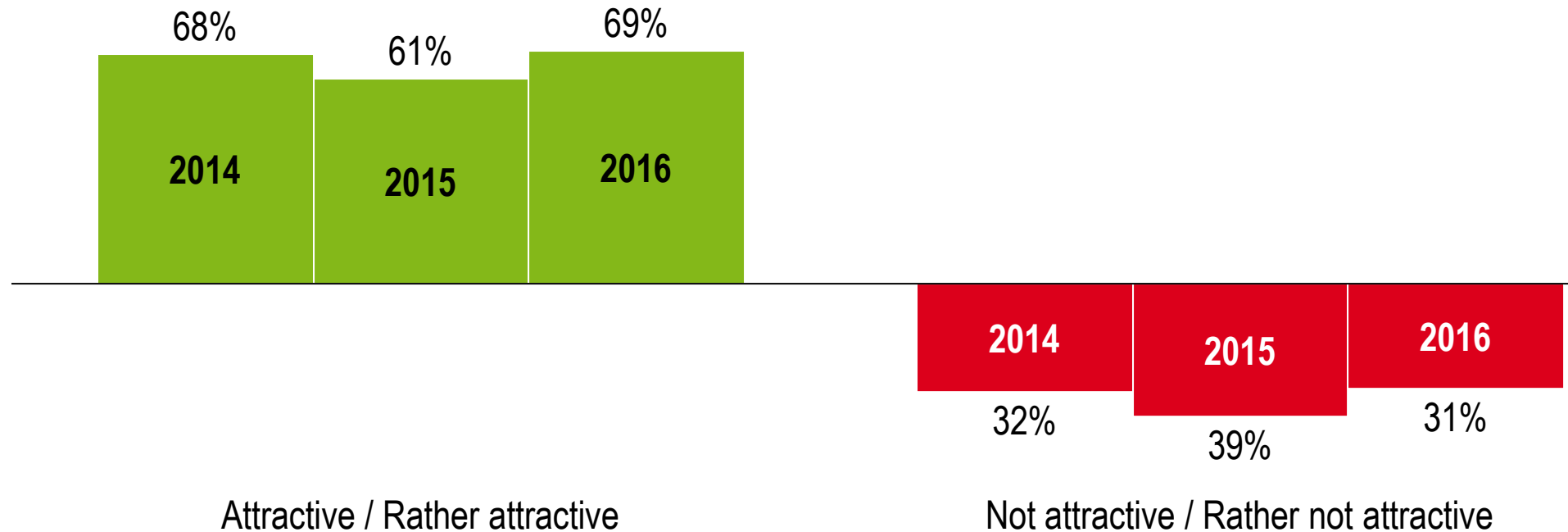
Q: Over the last 12 months Austria's general competitiveness has...



Non-industry participants have a more positive view on the development of Austria's competitiveness (67% improved / rather improved)

Austria, as a location for the forest based industries, is perceived to be attractive

Q: Attractiveness of Austria as an industry location for forest based industries?

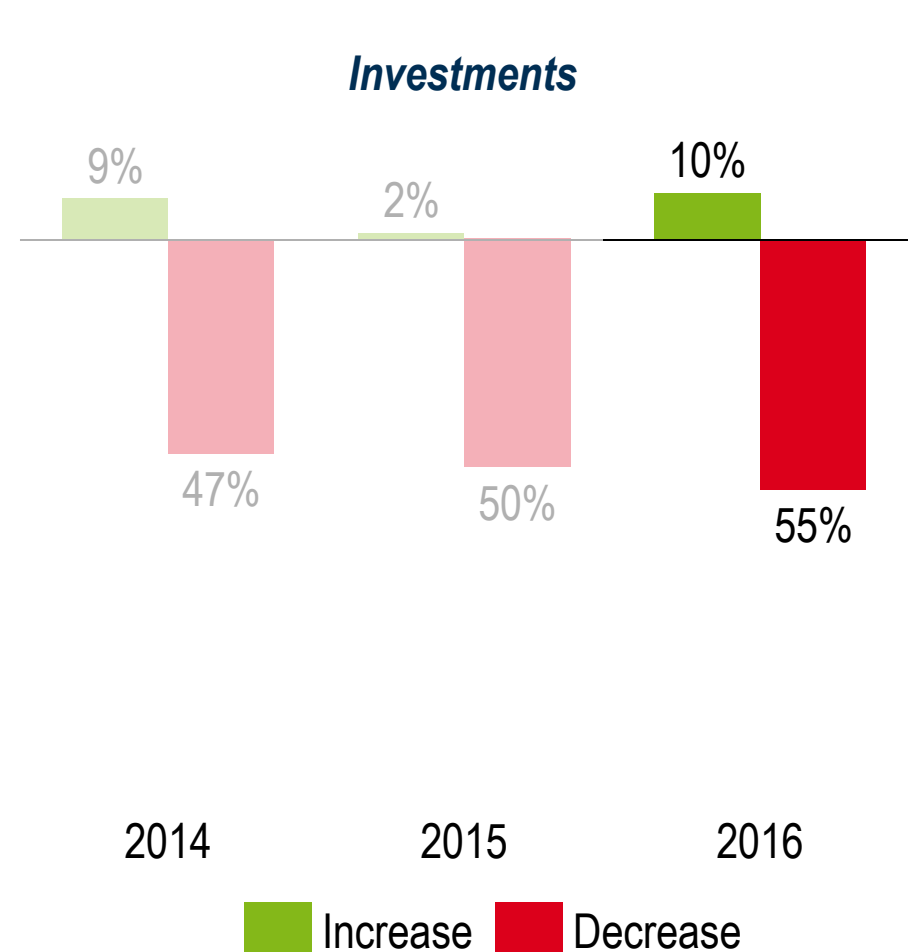
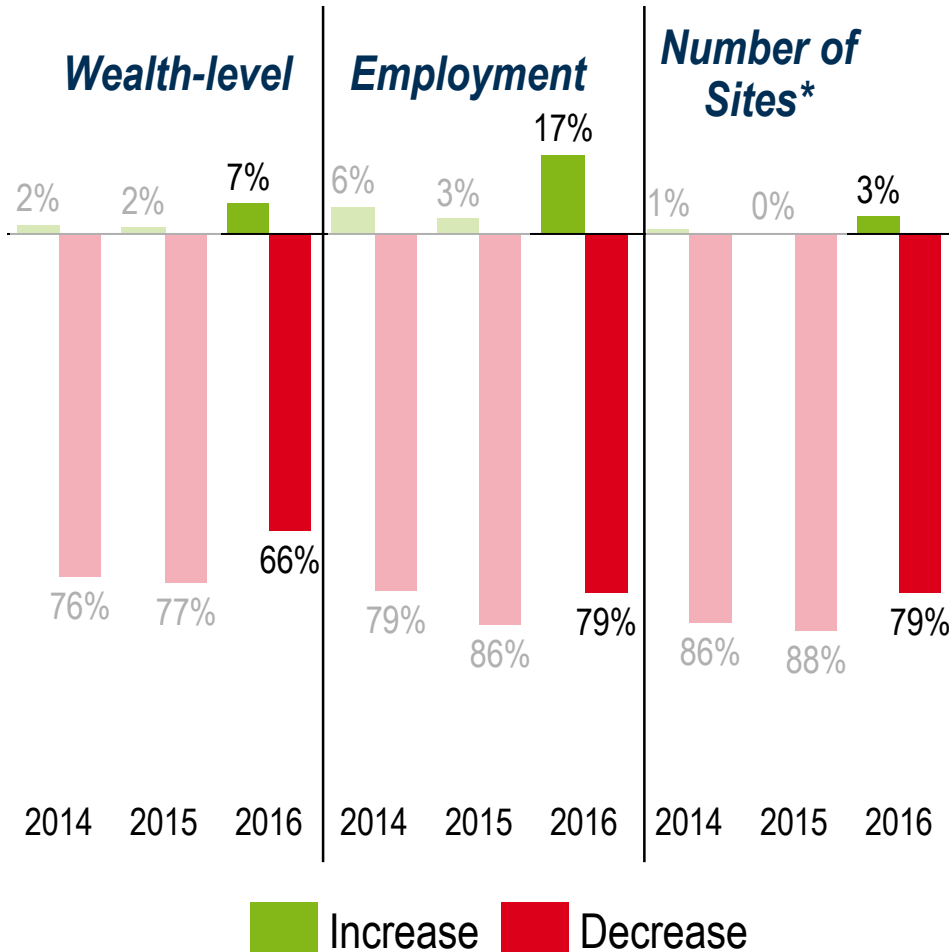


Non-industry participants voted more positively on this question than industry participants (76% attractive / rather attractive)

Negative social developments expected – sentiment improving. Continued pessimistic outlook on investments.

Q: Social development in Austria over the next 5 years, if no significant changes occur?

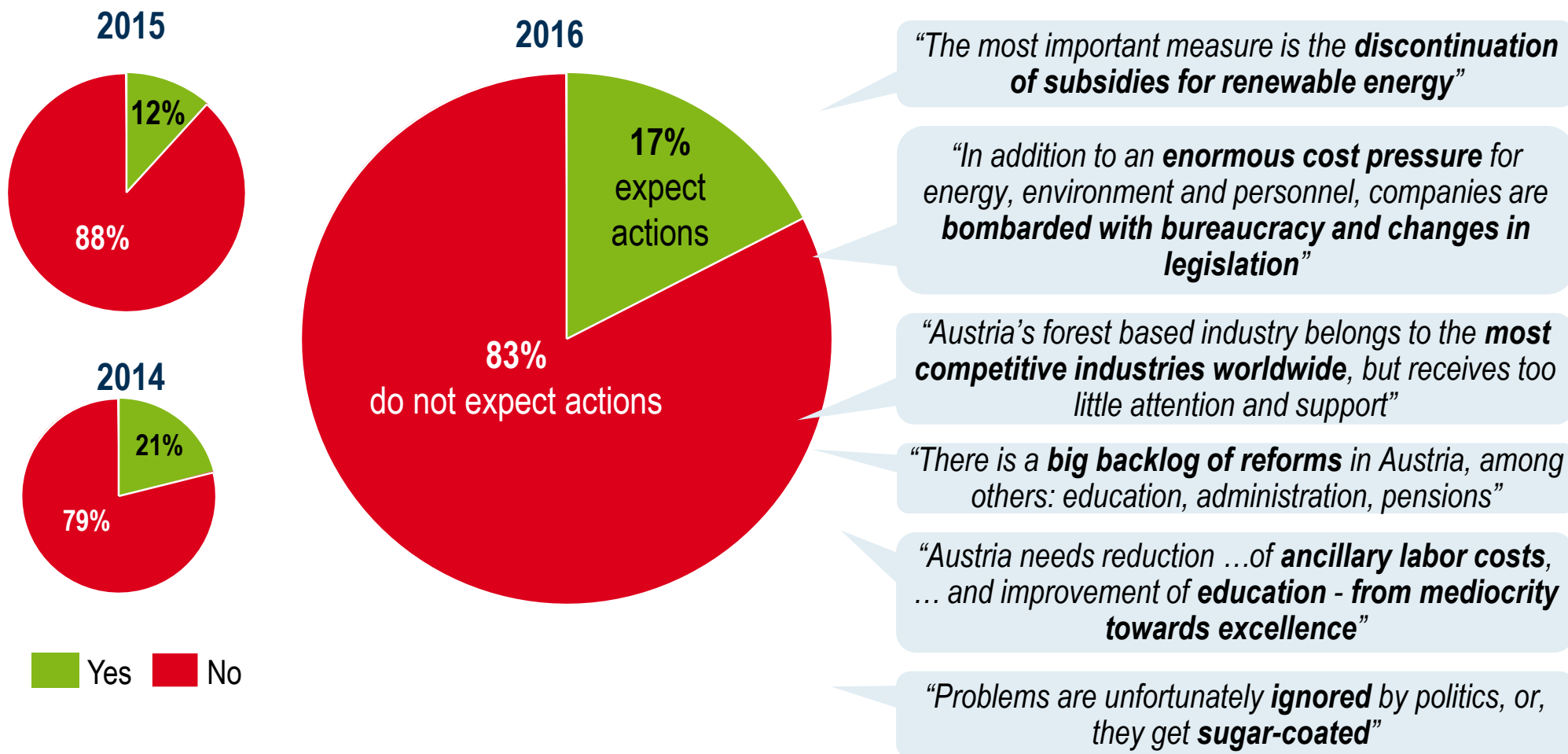
Q: How will investment levels develop over the next 5 years?



*Number of sites of the forest based industry

Still, the majority does not believe in the government to take actions. Non-industry* respondents are even more pessimistic.

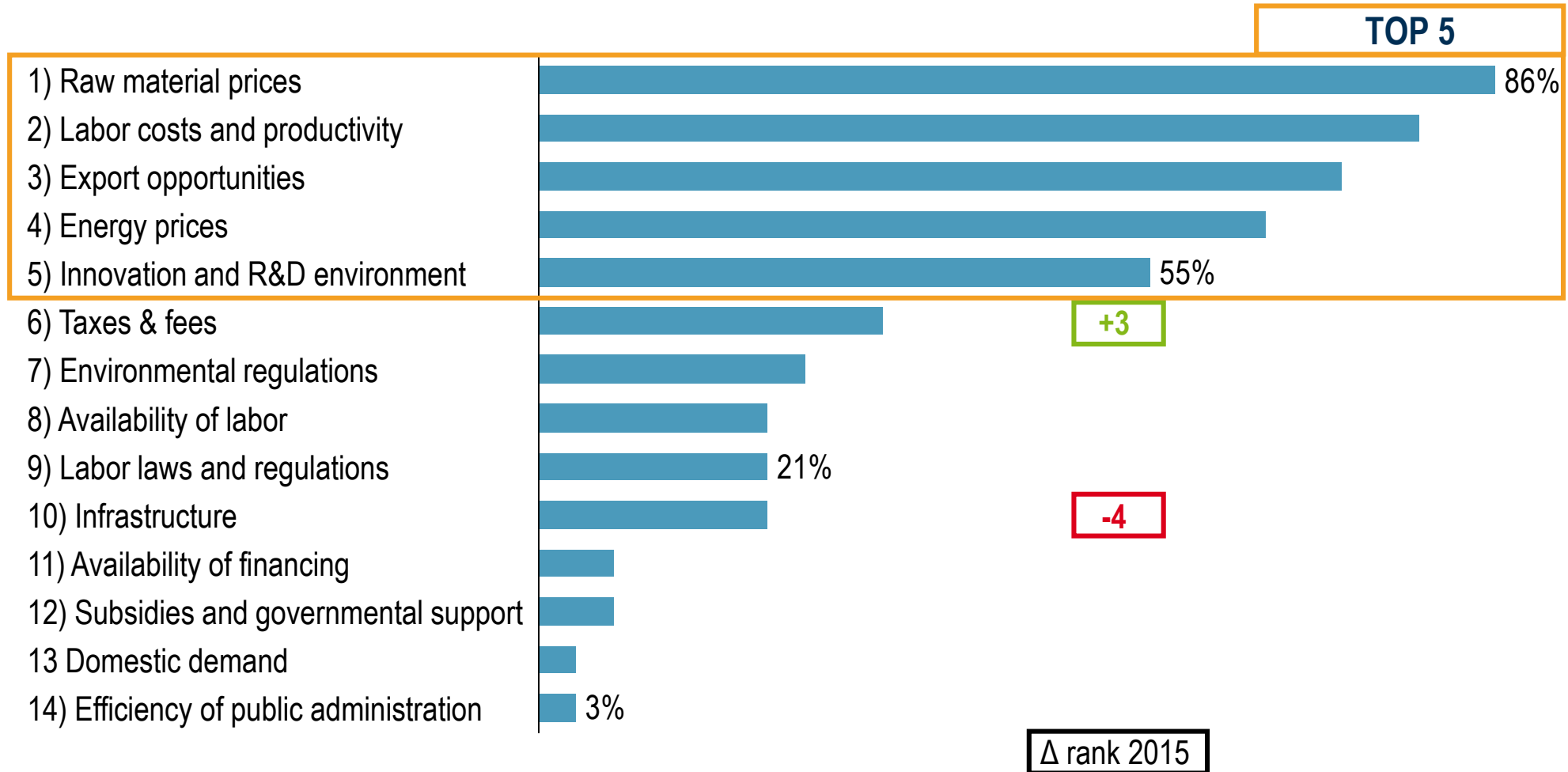
Q: Will the government take actions to significantly improve Austria's competitiveness?



*„Non-industry“ represents the respondents outside the forest based industry peer group: 89% do not expect actions, 11% expect actions

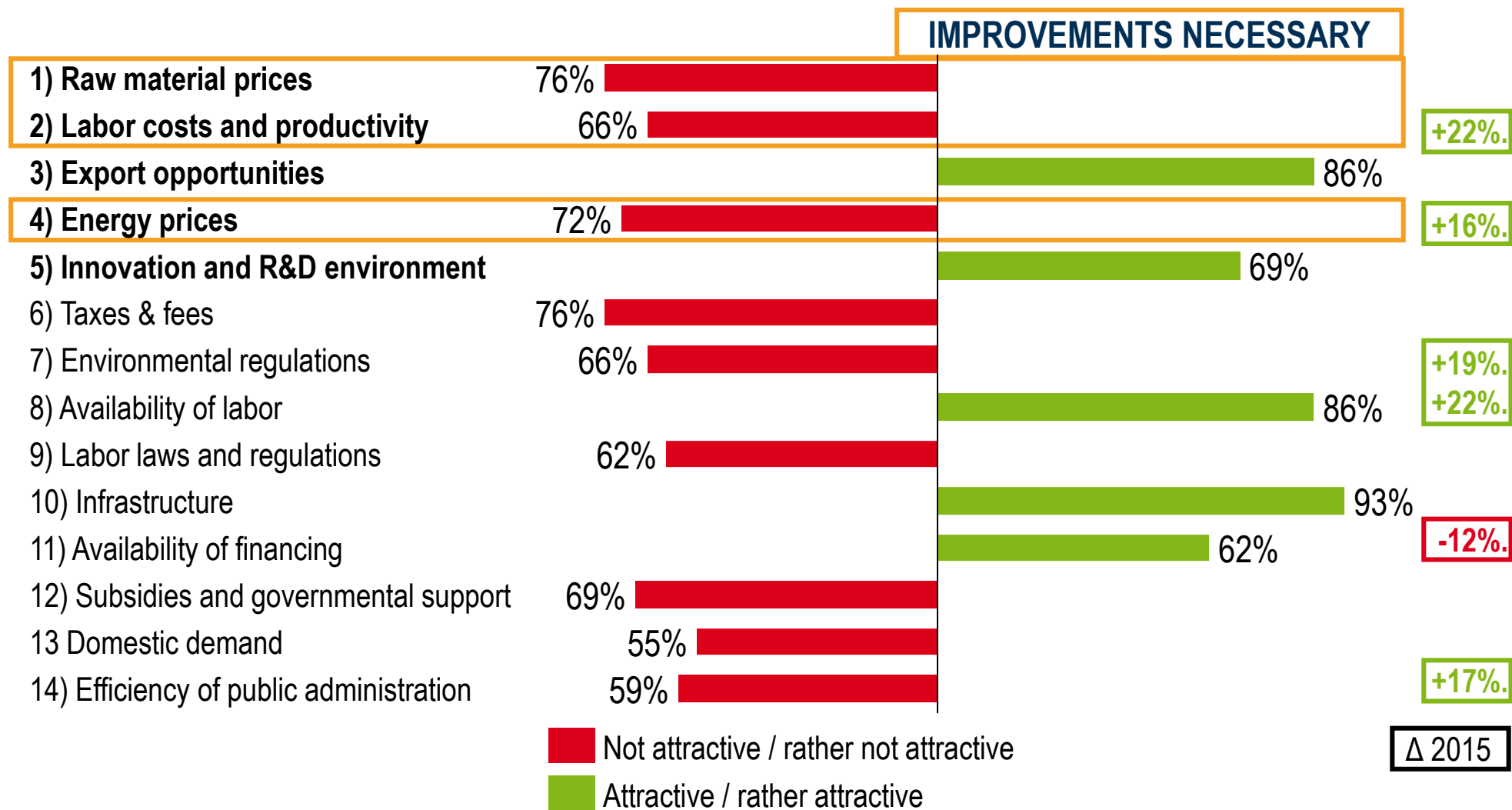
Most important factors for the industry - raw material and energy prices with increased importance. Top 5 factors remain the same

Q: Most important influencing factors for the forest based industry in Austria?



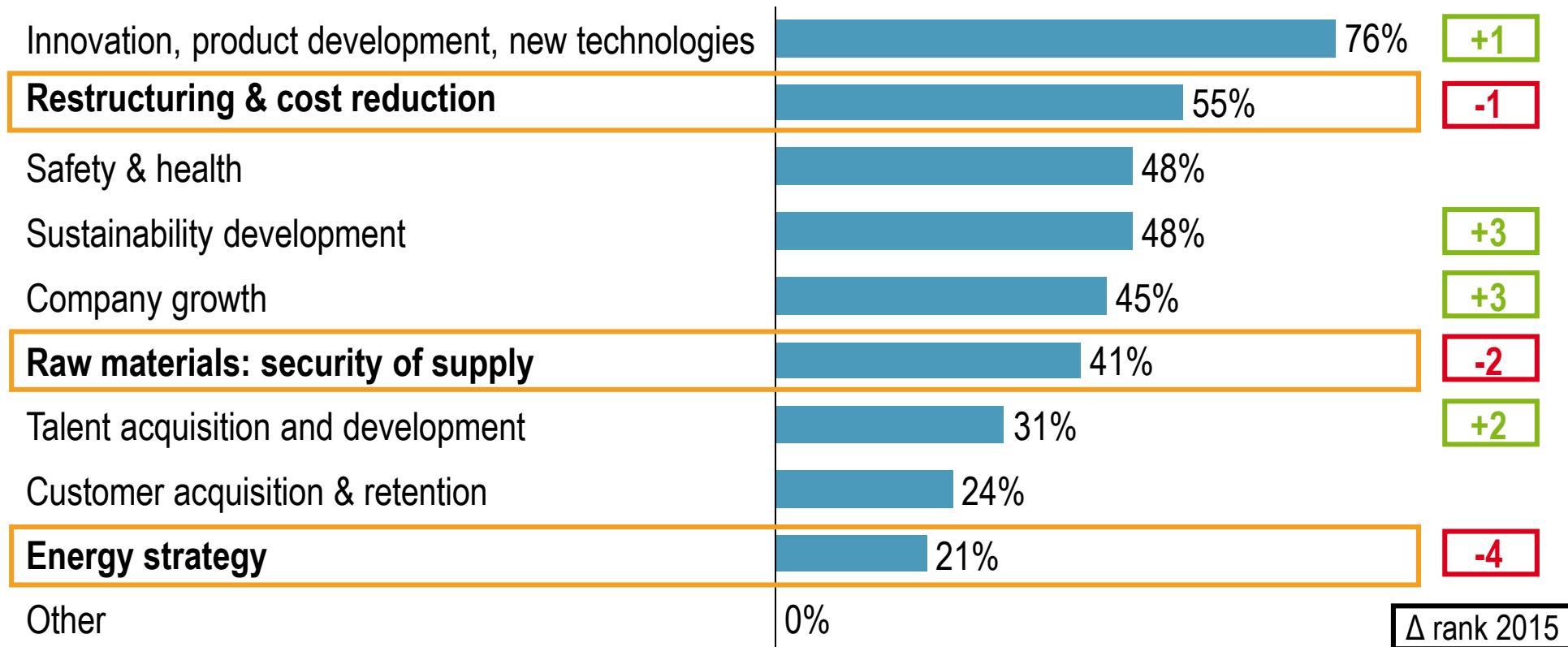
Austria's attractiveness as a business location: Three key factors need to be improved

Q: Austria's attractiveness as an industry location for forest based industries?



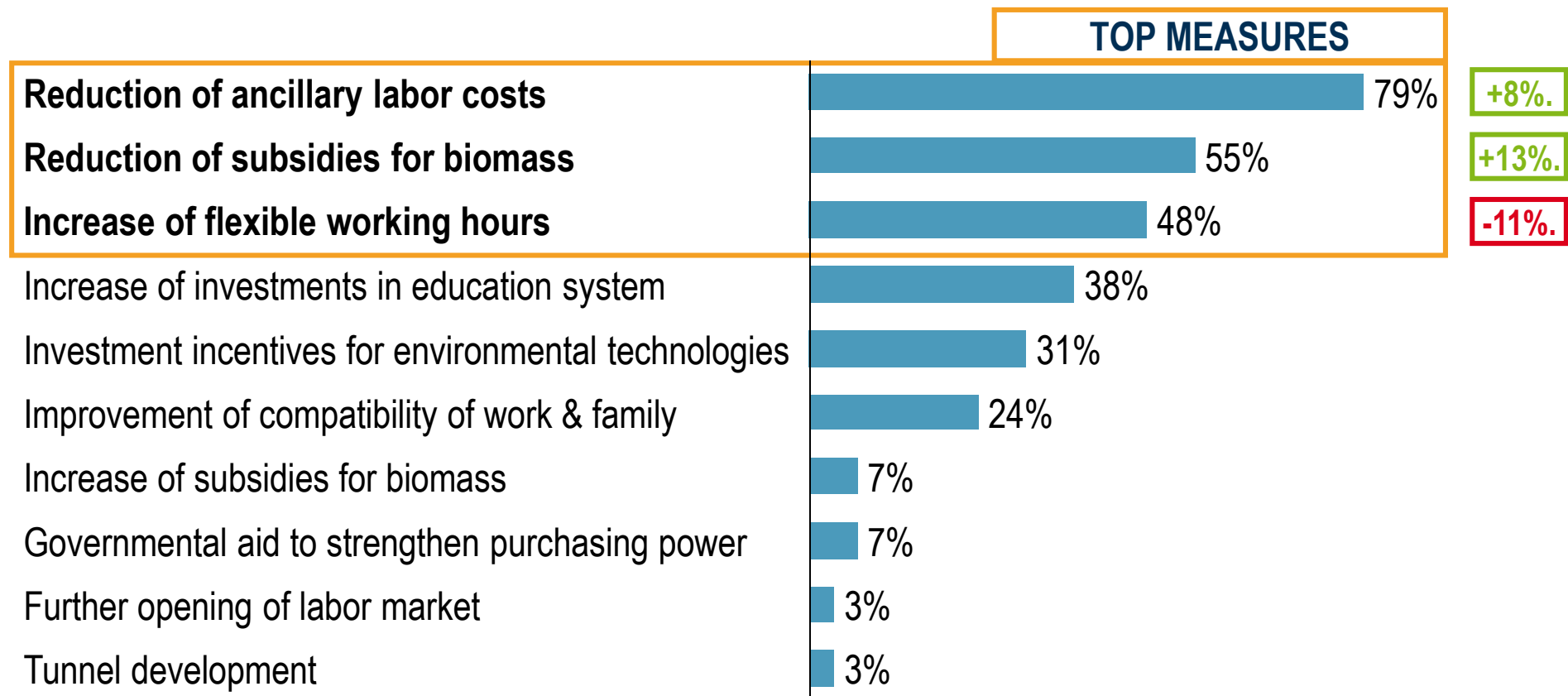
Priorities: All three factors, where Austria was perceived not to be attractive, dropped. Innovation now top priority.

Q: Current priorities within organizations?



Key measures with positive impact: Reduction of ancillary labor cost ▲ reduction of biomass subsidies ▲ work flexibility ▼

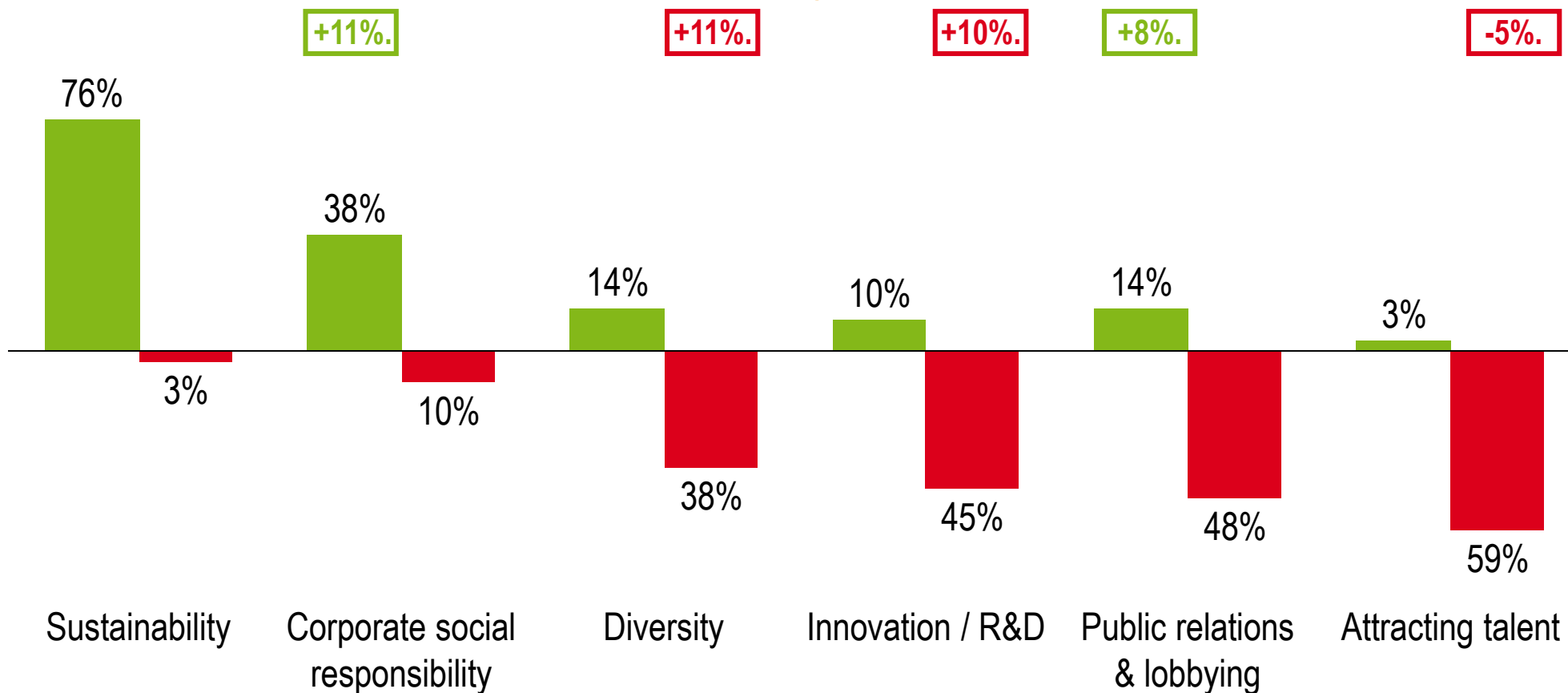
Q: Measures that will have the most positive impact on Austria's competitiveness?



Δ 2015

Sustainable but unattractive? Sustainability far ahead, talent attraction far behind. Perception of performance better than 2015.

Q: Performance of Austrian forest based industry compared to other industries in terms of...?

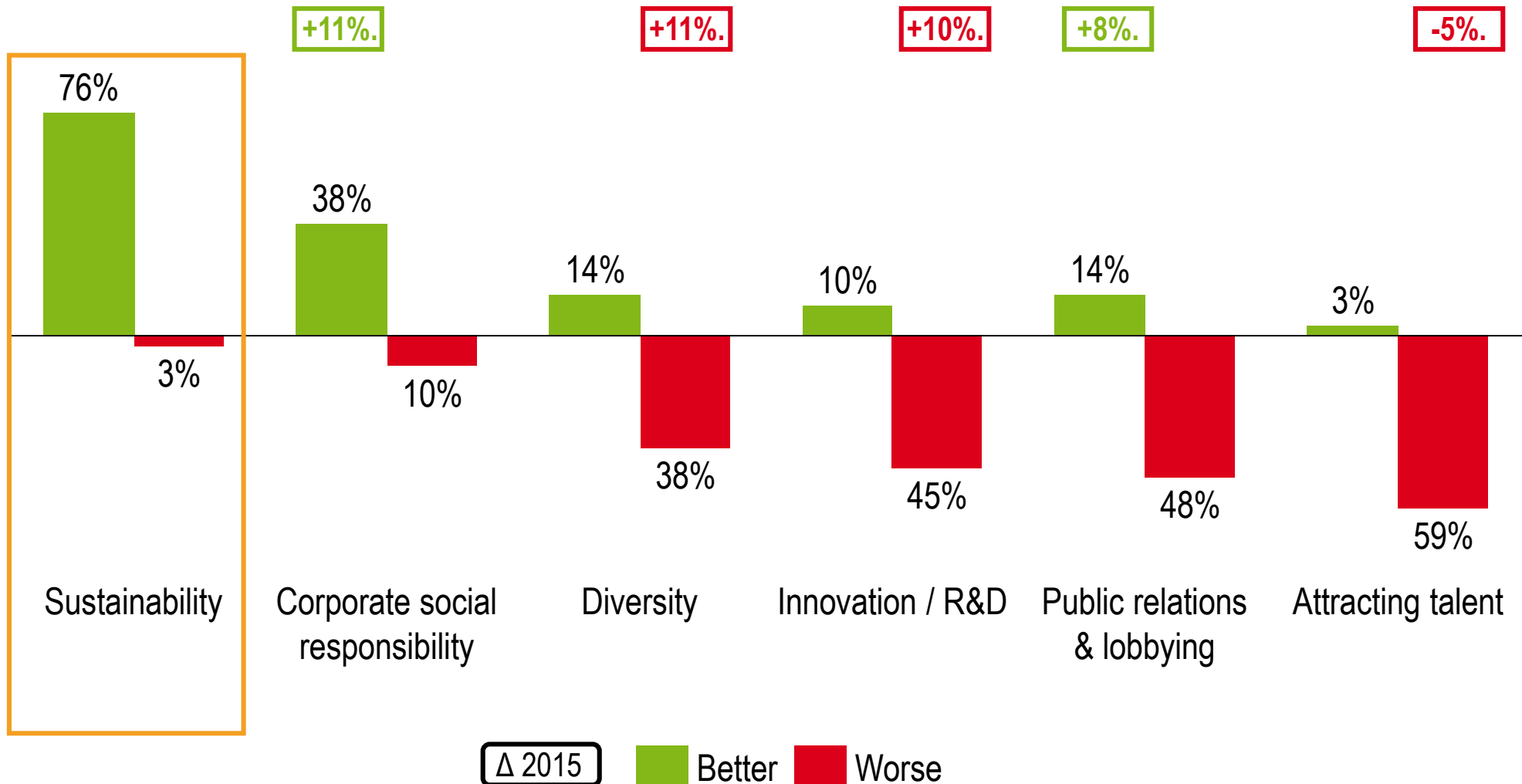


Δ 2015 Better Worse

Participants outside the forest-based industry have a less pessimistic perception of forest based industry:
Sustainability 65% better, 5% worse / corporate social responsibility 23% better, 12% worse / diversity 11% better, 16% worse / innovation 14% better, 35% worse / PR 16% better, 37% worse / talent 5% better, 49% worse

Again high performance regarding sustainability,...

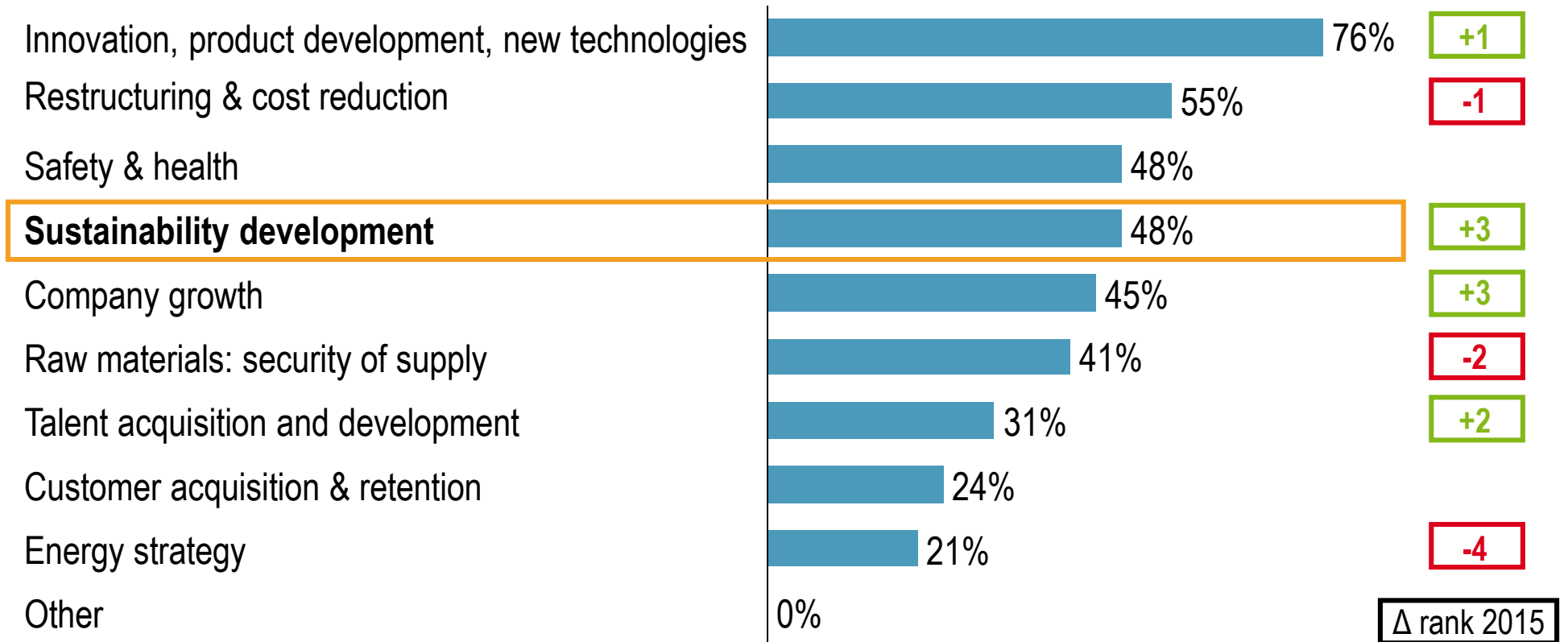
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...and increasingly becoming a priority.

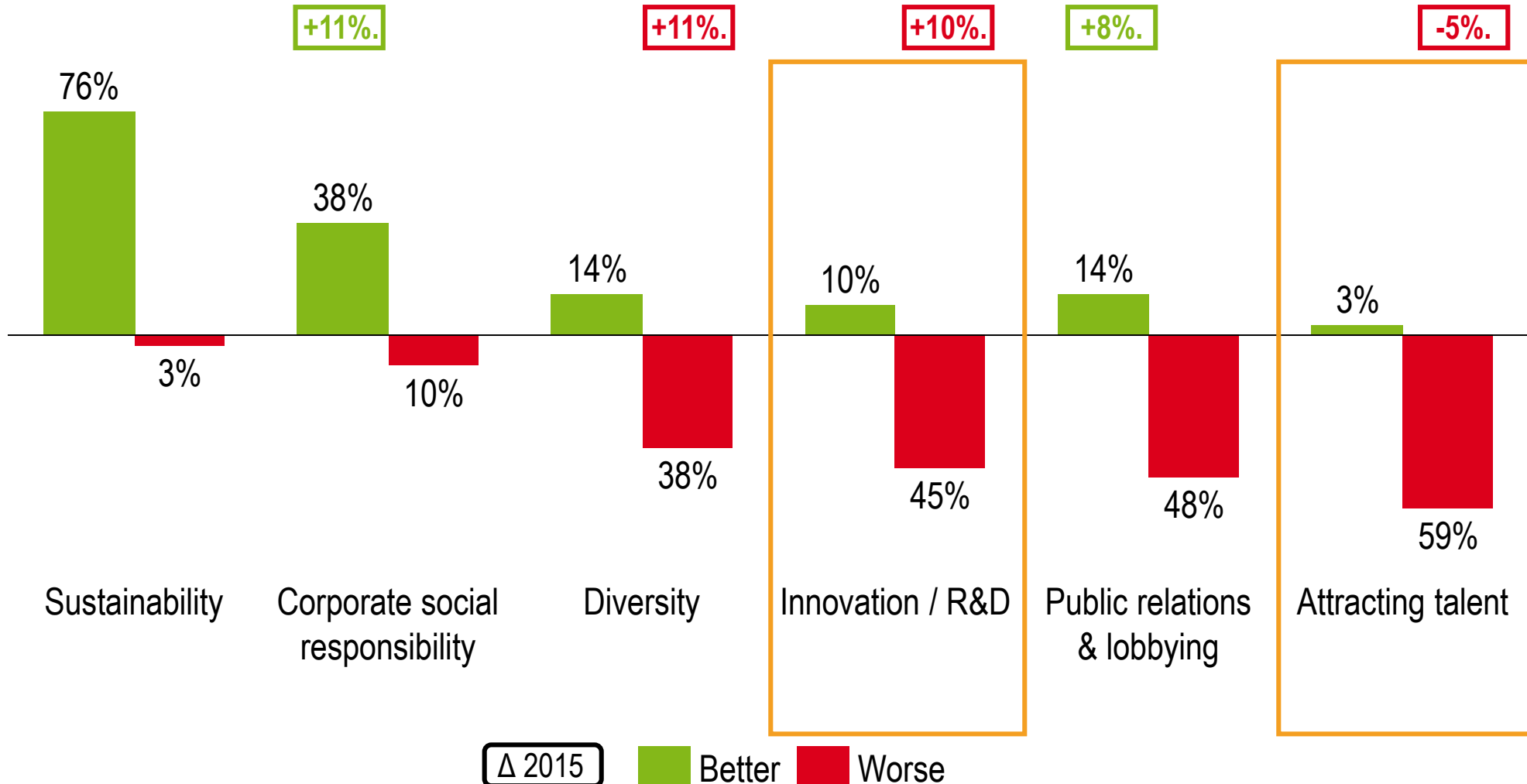
Q: Current priorities within organizations?



Sustainability development has become a higher priority for Austria's forest based industries compared to previous years.

To-do #1: Low performance regarding innovation / R&D and attracting talent...

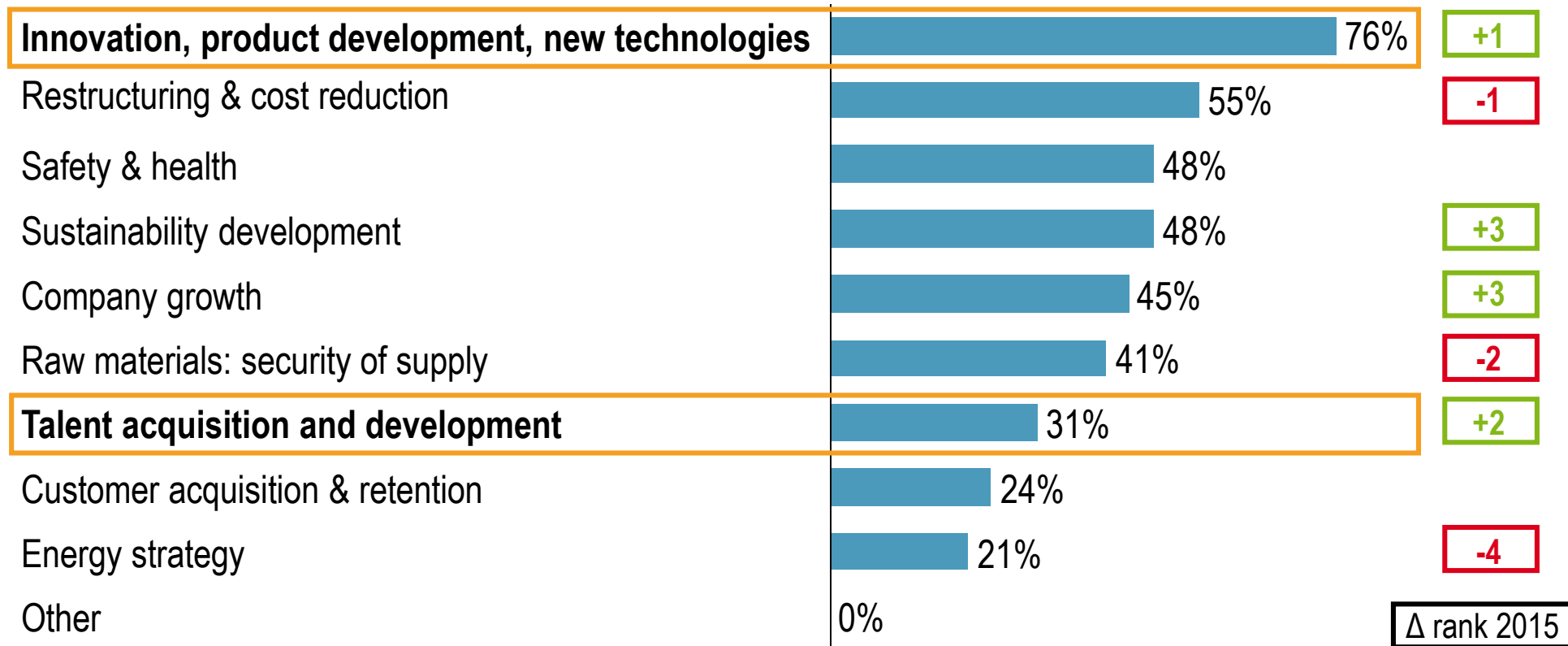
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...although innovation became the highest priority. Talent acquisition and development still low, but improving.

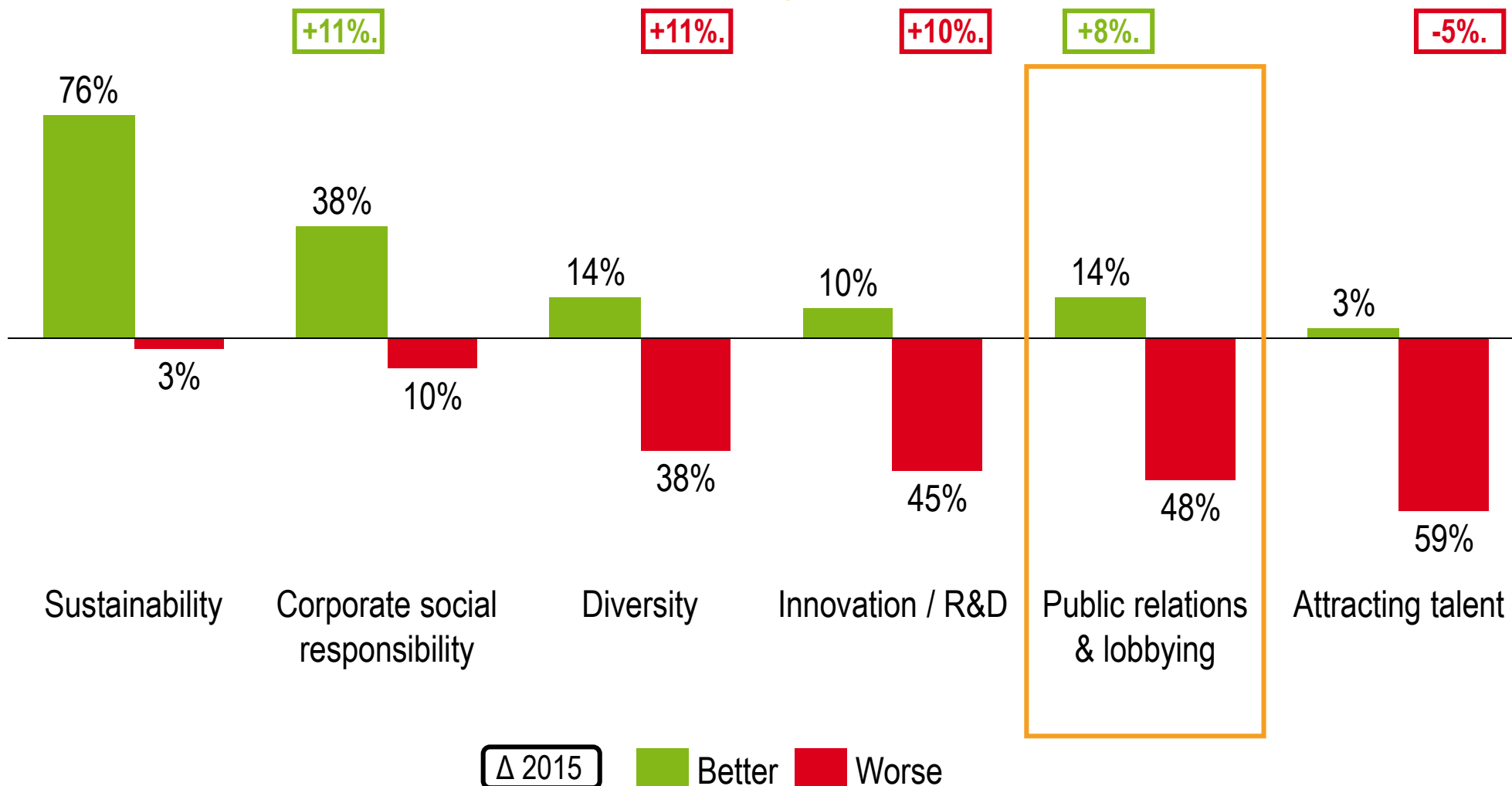
Q: Current priorities within organizations?



Δ rank 2015

To-do #2: Further focus on public relations and lobbying may still be necessary...

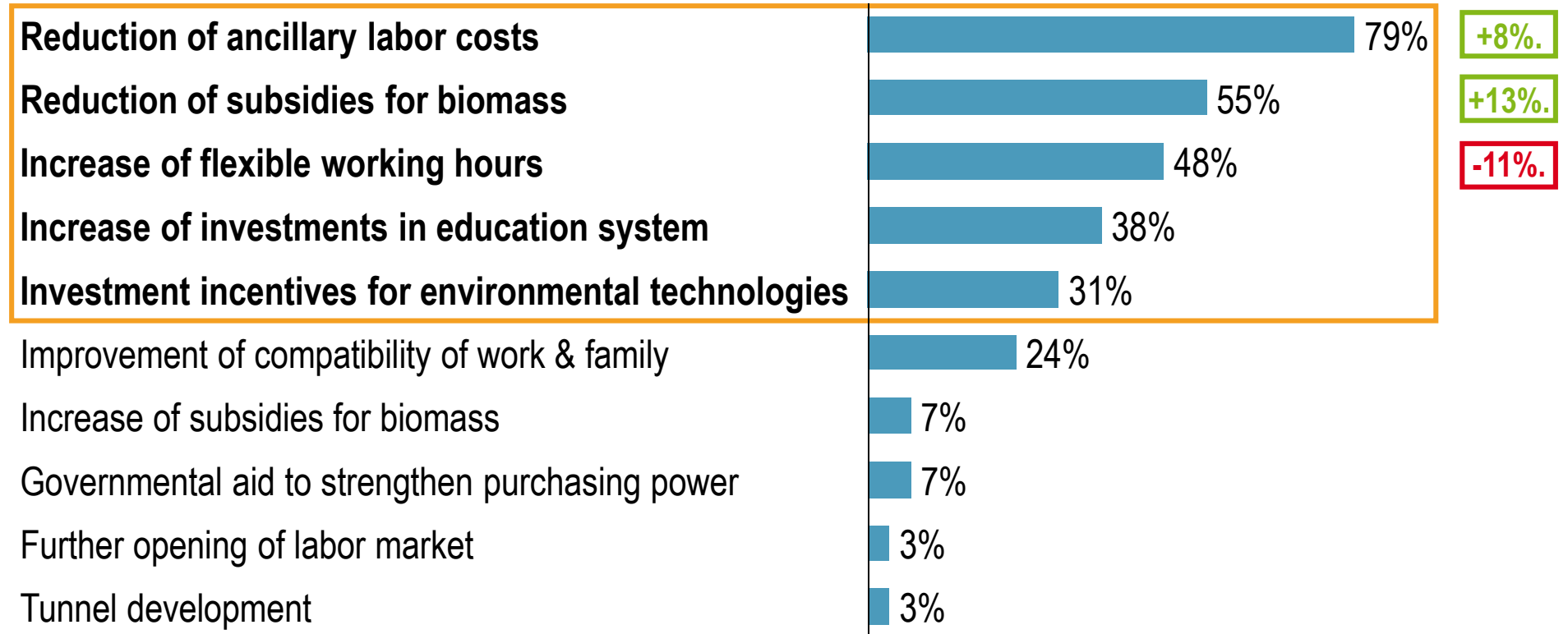
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...to address essential topics to improve the competitiveness of Austria as an industrial location

Q: Measures that will have the most positive impact on Austria's competitiveness?



Δ 2015

The view of non-industry participants is similar, but overall a bit more optimistic

F: What is the view of non-industry participants (Suppliers, NGOs, Universities, etc.)?

Reduction of **ancillary labor costs** by far top measure as well

Need for reforms is emphasized as well

Weaknesses of the industry are recognized (diversity, innovation, lobbying, talent acquisition) – but, the view is a bit less pessimistic

Less skeptical regarding attractiveness of **Austria as an industry location** for the forest based industry

More positive view on the **development of Austria's competitiveness** within the last 12 months

Even more pessimistic: Government will not take actions

SUMMARY

- Austria is still perceived to be (rather) attractive as an industry location for forest based industries
- The majority perceives that Austria's competitiveness continued to deteriorate
- Overall, results are more positive in 2016, compared to 2015
- Continued pessimistic outlook on investments
- The vast majority still does not believe that the government will take action
- Results indicate a backlog of reforms to improve Austria's competitiveness: Reduction of ancillary labor costs" unchanged at top position, followed by "Reduction of subsidies for biomass"
- „Innovation, product development, new technologies“ replaced „restructuring“ as top priority.
- To-do #1: Focus on talent acquisition & development
- To-do #2: Improve public relations & lobbying to place important topics

- 1 **Competitiveness of Austria 2016**
- 2 **Readiness of Austria for Industry 4.0**

When do we talk about Industry 4.0?



- People, machines & industrial processes are intelligently networked
- Components interact independently within and across production plants
- Feedback is captured digitally, incorporated across the value chain, automatically triggering new events



Smart equipment



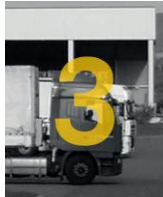
Heidelberg: „Smart services“



Networking & Connectivity



Saica: „Connected maintenance“



Value chain integration



UPM: “Mobile forestry”



Smart products



Mevia: “Smart connected packaging”



Data analytics



Sappi: “Big energy data”

Geography



- 13% of participants from Austria
- 87% of participants from rest of the world (79% Europe)

Participants by functions



- 43% Board members & C-level incl. GM
- 31% Department Manager
- 26% Other

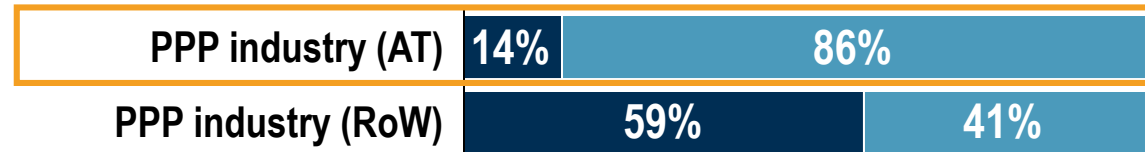
Participants by sub-industries



- 38% (AT: 55%) from the pulp, paper and packaging industry (PPP)
- 62% (AT: 46%) of participants from other industries (incl. FMCG, machinery & technical services, chemicals, IT, etc.)

High awareness about Industry 4.0 among Austrian PPP-industry. Impacts expected but not a game changer.

Q: Have you heard the term Industry 4.0?



Q: Will Industry 4.0 impact your industry?



Q: Do you expect Industry 4.0 to increase competitiveness of Europe



Q: Do you expect Industry 4.0 to be a game changer for your company?

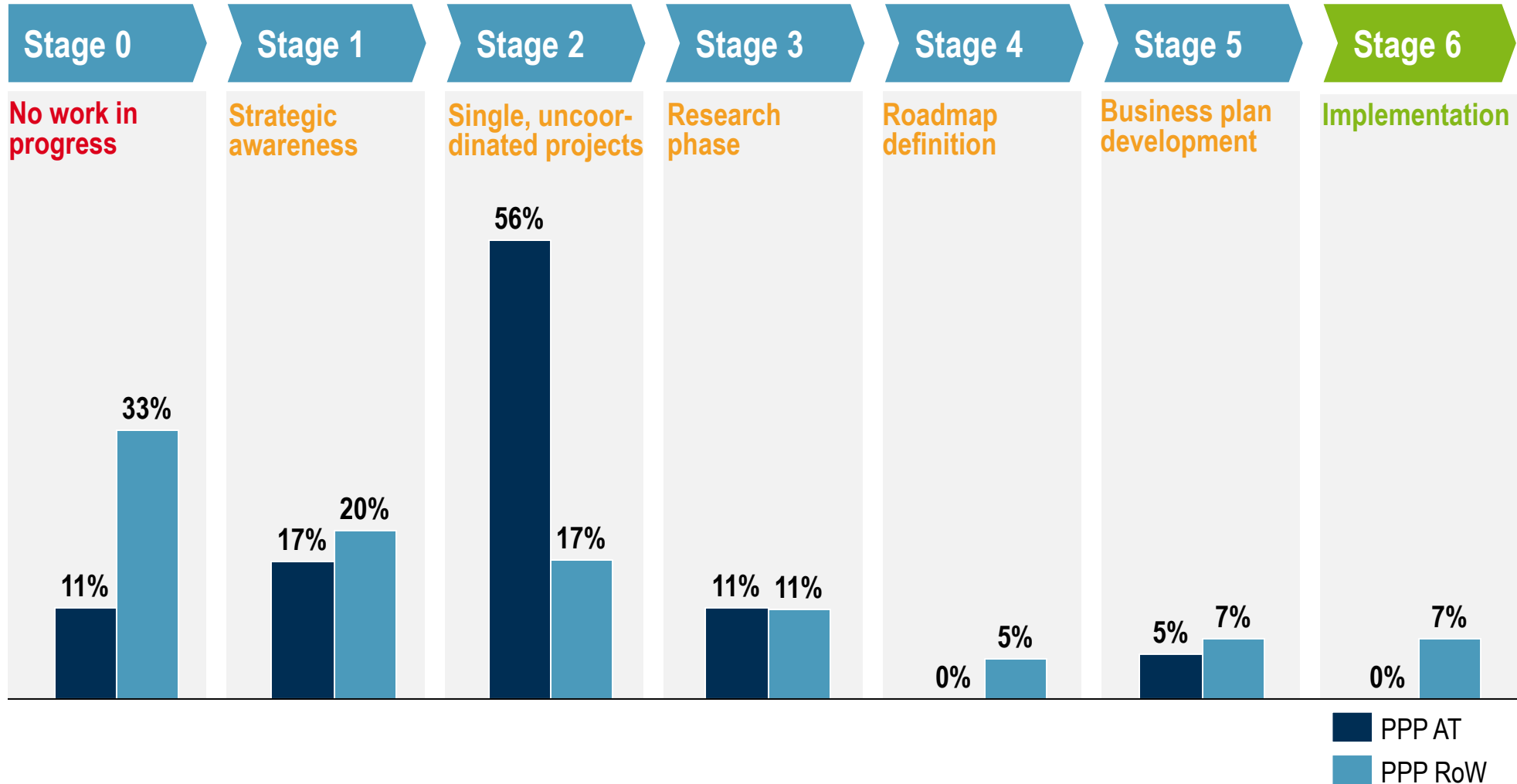


 No  Yes

Participants divided in Pulp, Paper & Packaging Industry (PPP) and other industries (other), geographically in Austrian participants (AT) and participants from the rest of the world (RoW)

Austria leading - 72% of Austrian participants have Industry 4.0 work in progress - Implementation lagging behind

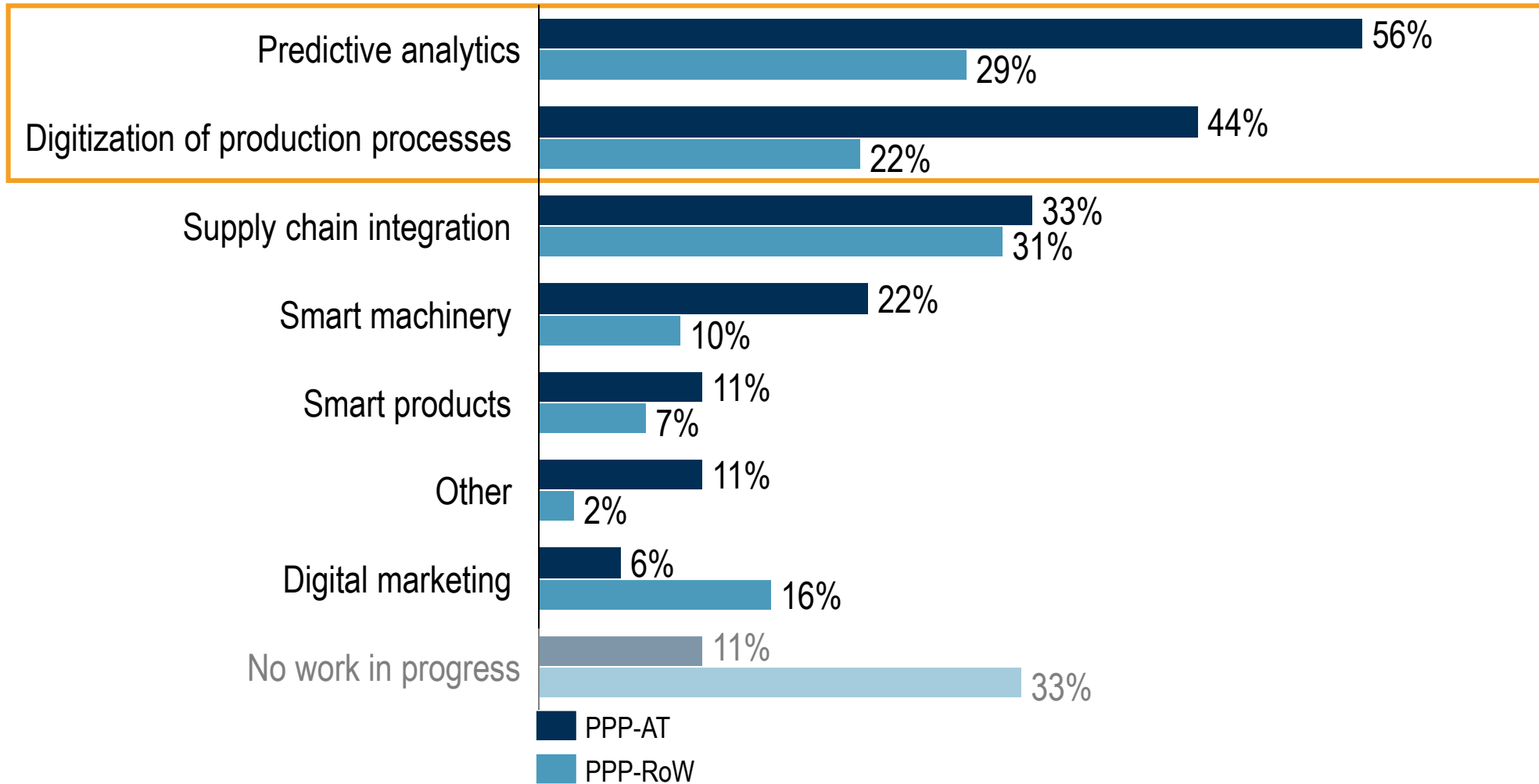
Q: How is your company currently engaged with Industry 4.0?



Participants divided in Pulp, Paper & Packaging Industry (PPP) and other industries (other), geographically in Austrian participants (AT) and participants from the rest of the world (RoW)

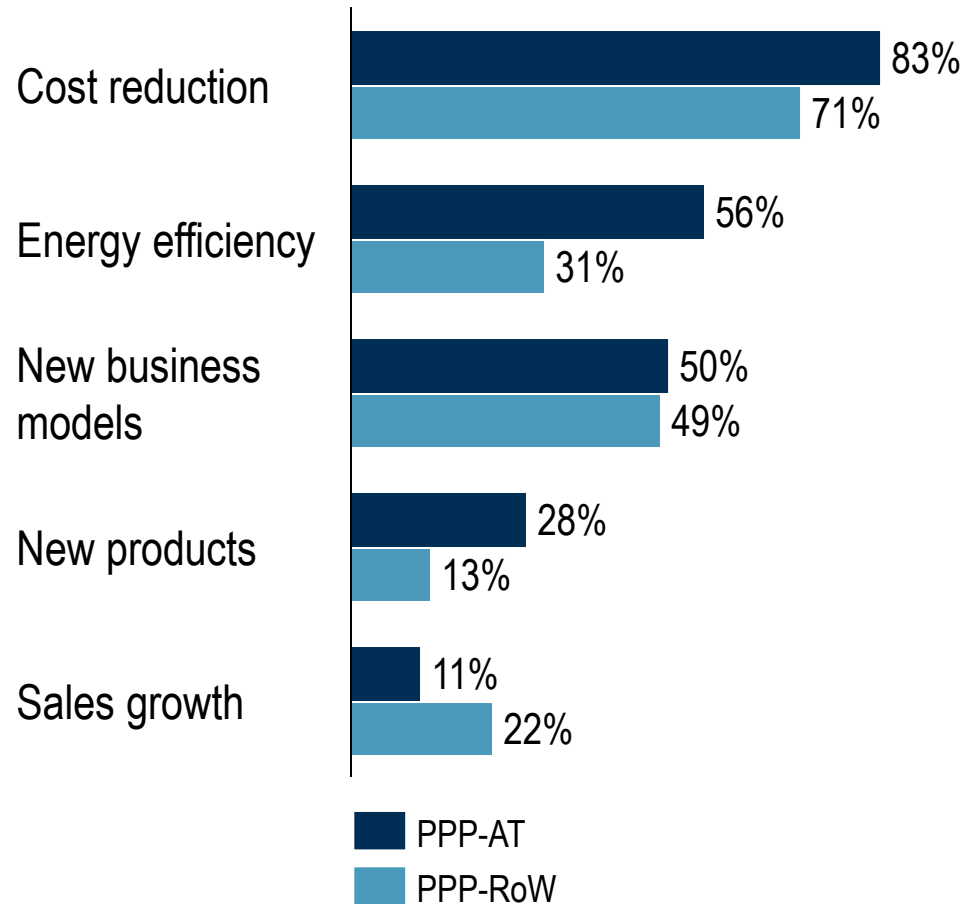
Higher engagement amongst Austrian participants. TOP Priorities: Data analytics & digitization of production processes.

Q: What projects concerning Industry 4.0 is your company currently engaged with?



Multiple answers allowed. More work in progress and higher avg. number of responses per participant (AT: 1,8 vs. RoW: 1,2) leading to increased levels of engagement amongst Austrian PPP companies.

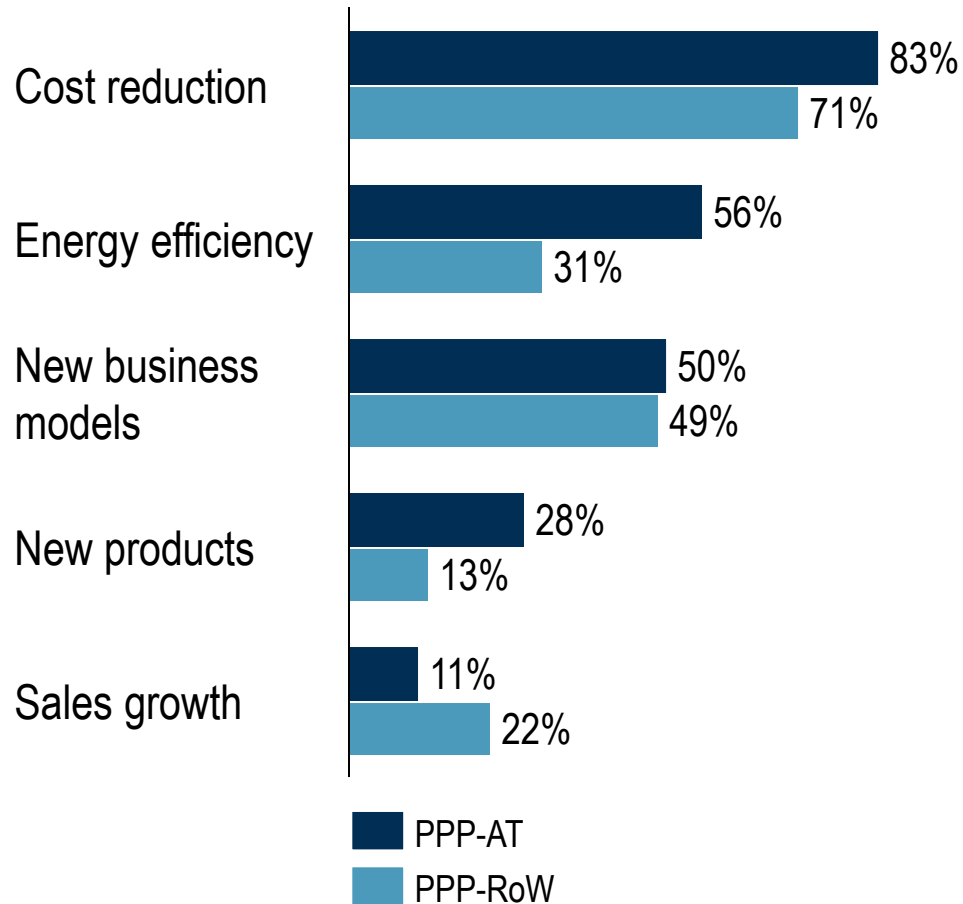
Q: Industry 4.0 Benefits



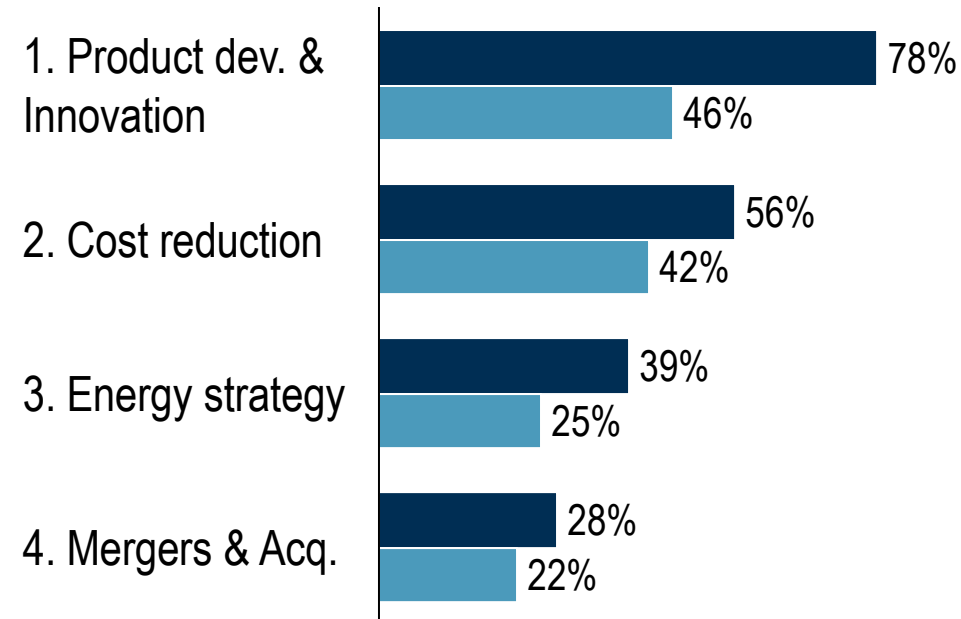
1) Source: RISI Europe outlook survey 2016

Benefits expected, but very low priority on Industry 4.0

Q: Industry 4.0 Benefits



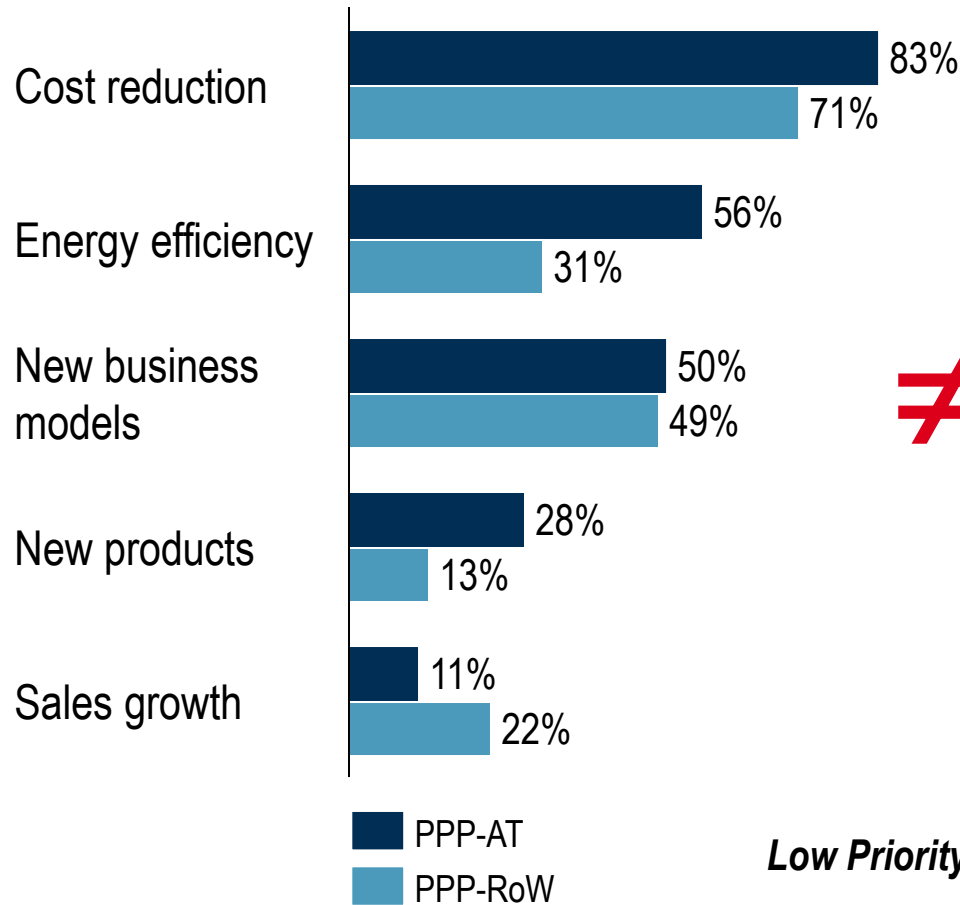
Q: PPP Industry priorities¹⁾



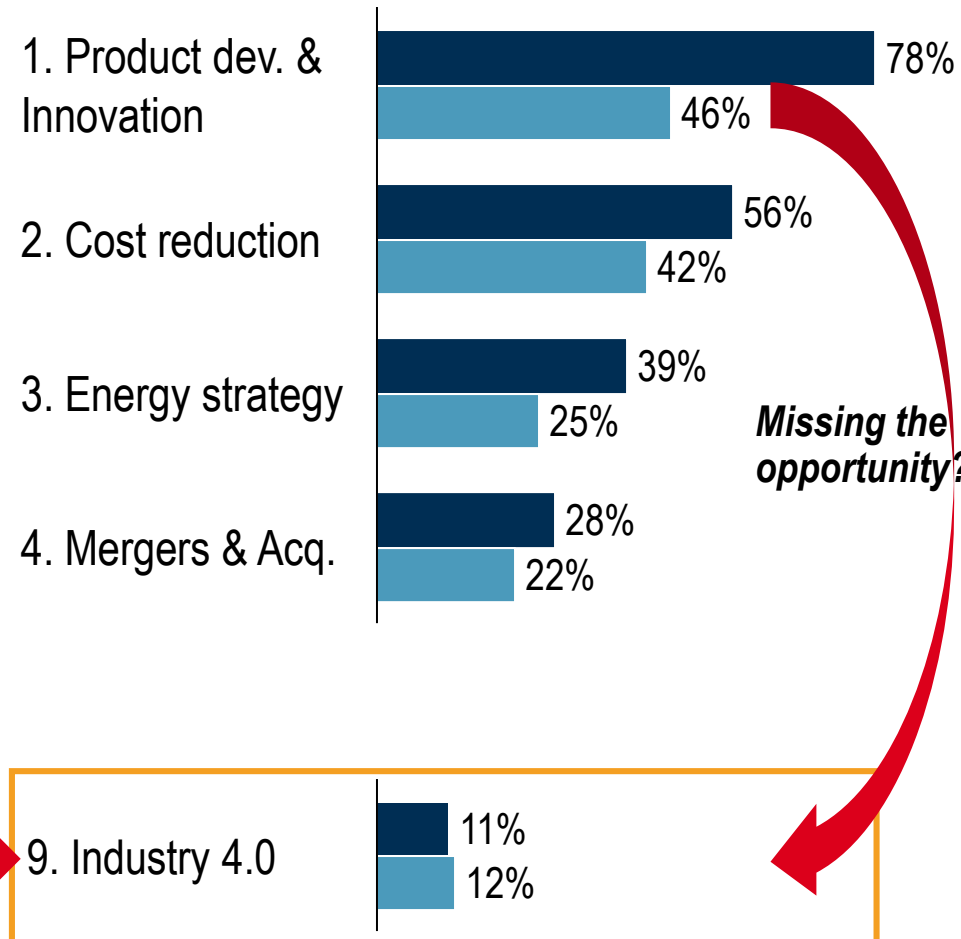
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Benefits expected, but very low priority on Industry 4.0

Q: Industry 4.0 Benefits



Q: PPP Industry priorities¹⁾

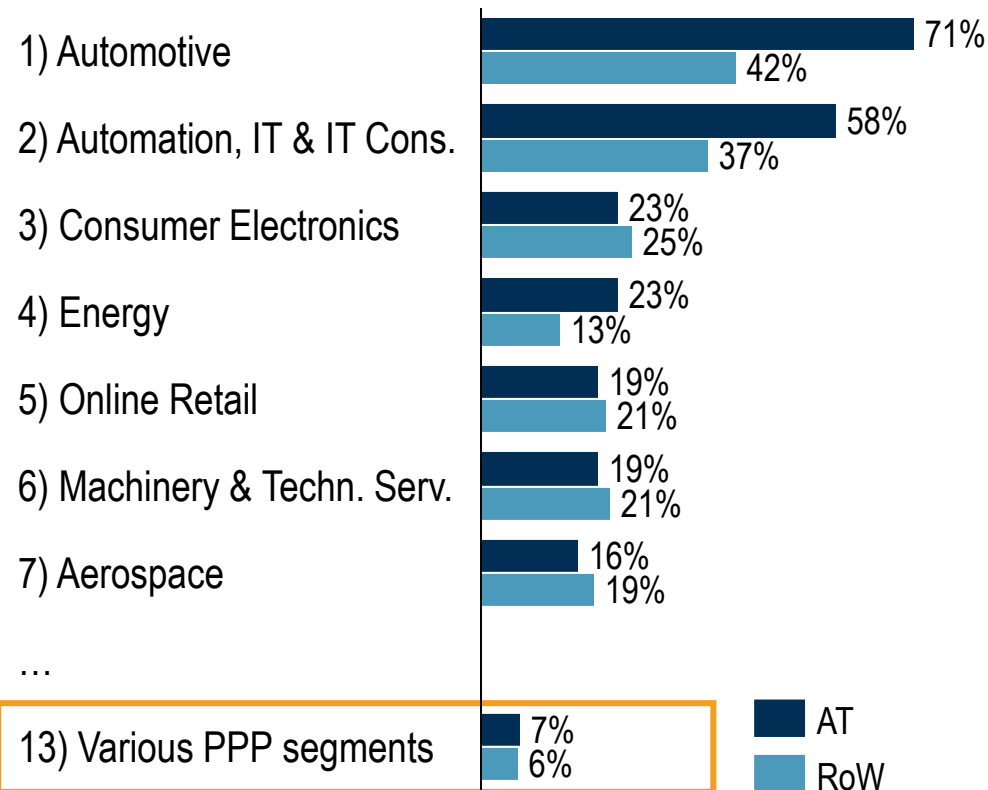


Low Priority →

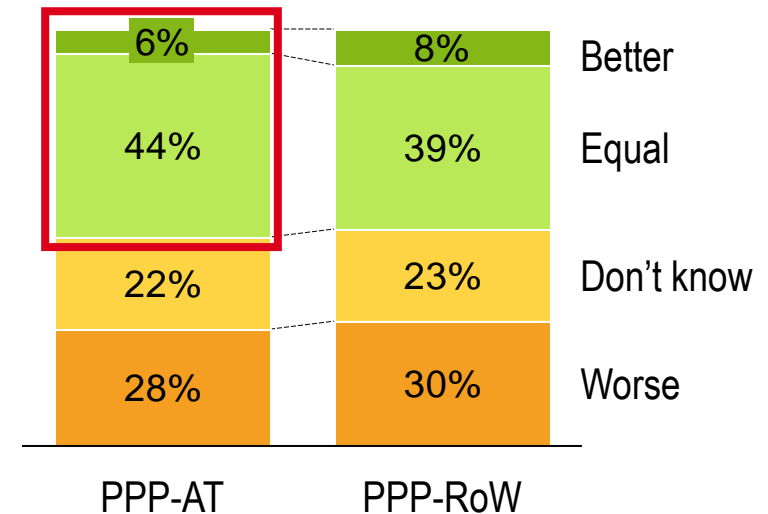
1) Source: RISI Europe outlook survey 2016

Perception mismatch. Overconfidence?

Q: TOP 3 industries most prepared for / most active in Industry 4.0 (all respondents¹)



Q: How does PPP industry perceive their performance in Industry 4.0 compared to others?

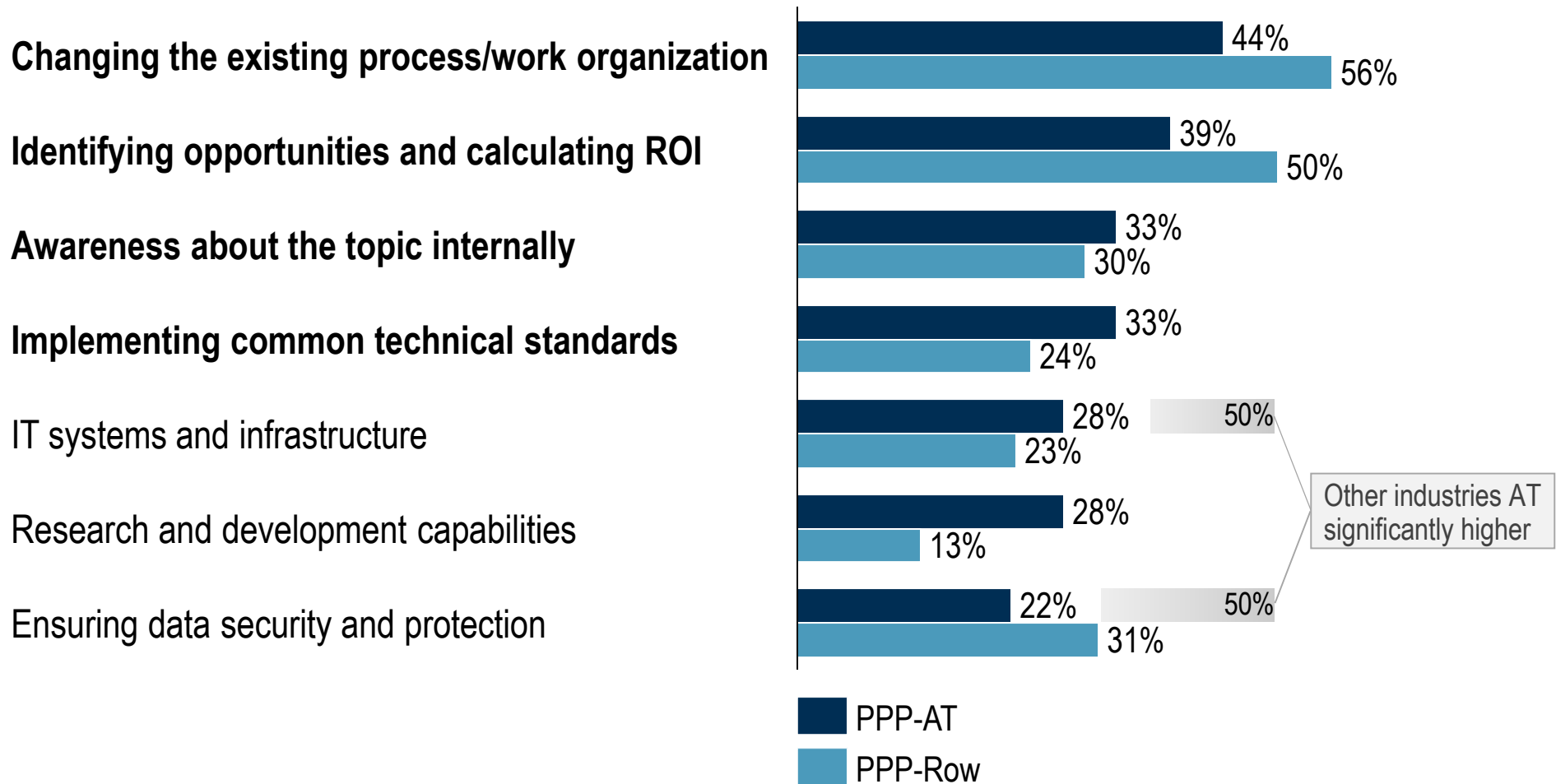


50% of Austrian respondents from the PPP industry believe that their industry is BETTER or EQUALLY prepared as other industries

1) Including responses from all industries, the ranking among the TOP 3 does not have an effect on the result.

Main barriers include changing existing processes/organizations, identifying opportunities and a lack of awareness & technical standards

Q: Key barriers to implementing Industry 4.0



1) Multiple answers allowed

SUMMARY

- Industry 4.0 is considered important but not a game changer
- Austrian companies have started Industry 4.0 work, but implementation lagging behind
- Data analytics & digitization of production processes are main priorities
- Benefits expected, but very low priority on Industry 4.0
- Industry 4.0 is about agility, lower costs and higher impact across all dimensions
- In the long-term Industry 4.0 has the potential to revolutionize the interaction across the supply chain

RECOMMENDED ACTIONS

- Raise awareness about Industry 4.0
- Develop and quantify business cases
- Entrepreneurial approach required: Foster small projects in an out of the box environment
- Collaborate across the supply chain

Thank you!

- This presentation will be made available online:
<http://www.stepchange.com/publications.html>
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DRIVING CHANGE
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