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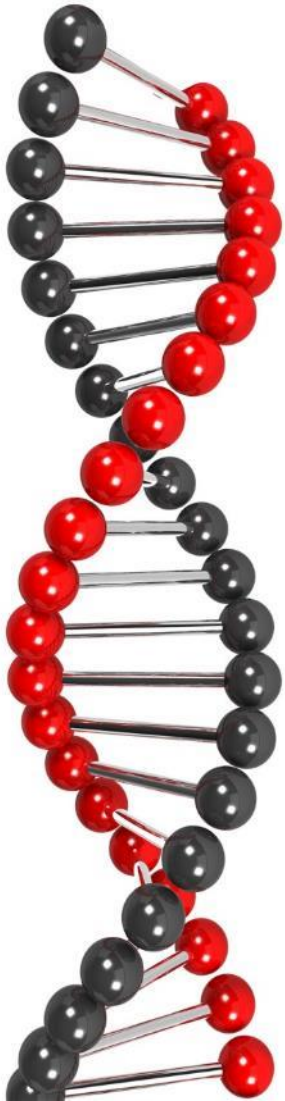
Capital & Consulting

CTO Survey results, fall 2014

The View of Finnish CTOs on the Latest R&D Trends
Dr. Laura Koponen, Spinverse Oy

Eeva Viinikka, Laura Koponen, Lauri Tolvas

Executive Summary

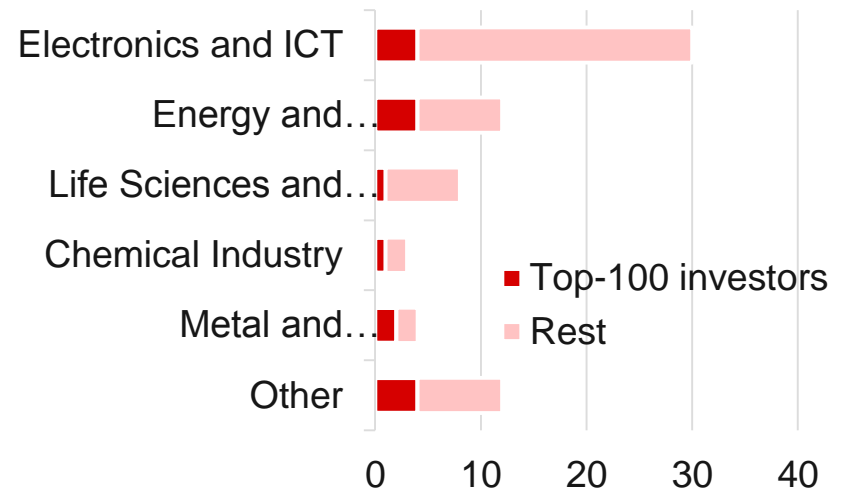


- 69 Finnish CTOs were reached by online questionnaire
 - Today's workshops focus on selected topics
 - 10 in-depth interviews for drilling still deeper
 - Final results published during next CTO-Forum
- Insight to the top investors views
 - 10 of the top 25 R&D investors in Finland in the Survey, 17 of the top 100
- The key findings of the survey are
 - CTO's plan to foster the R&D resources in 2015
 - The share of public funding in R&D expected to increase
 - What you measure is what you get – also in innovations

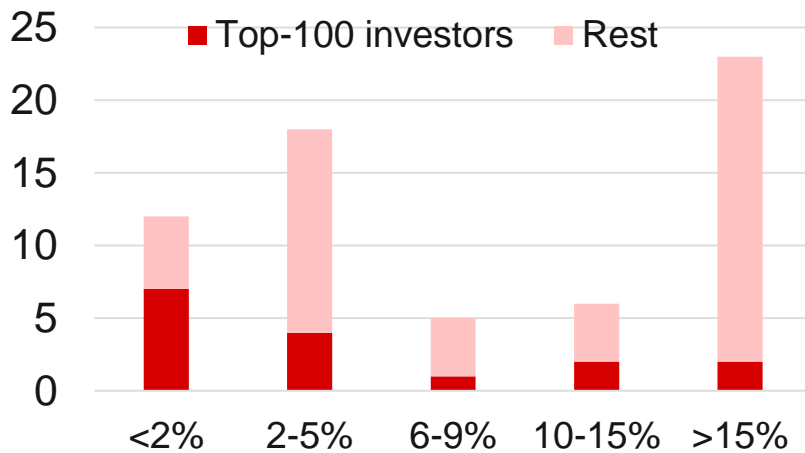
Background data

- Total of 69 respondents
- ~50% from Greater Helsinki region

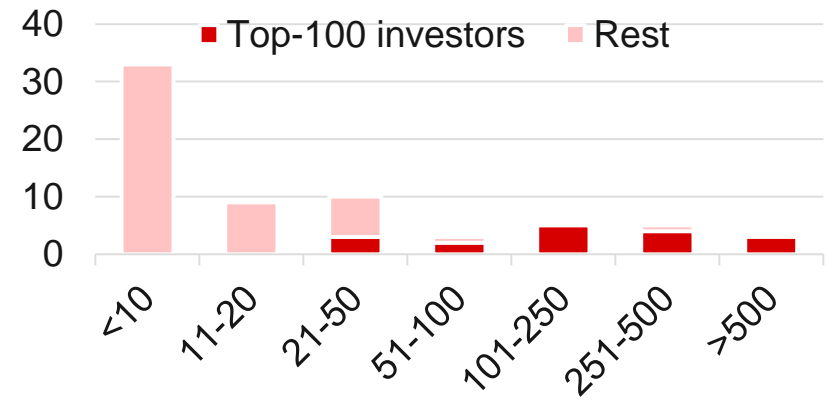
Distribution of respondents



R&D Budget (% of revenues)

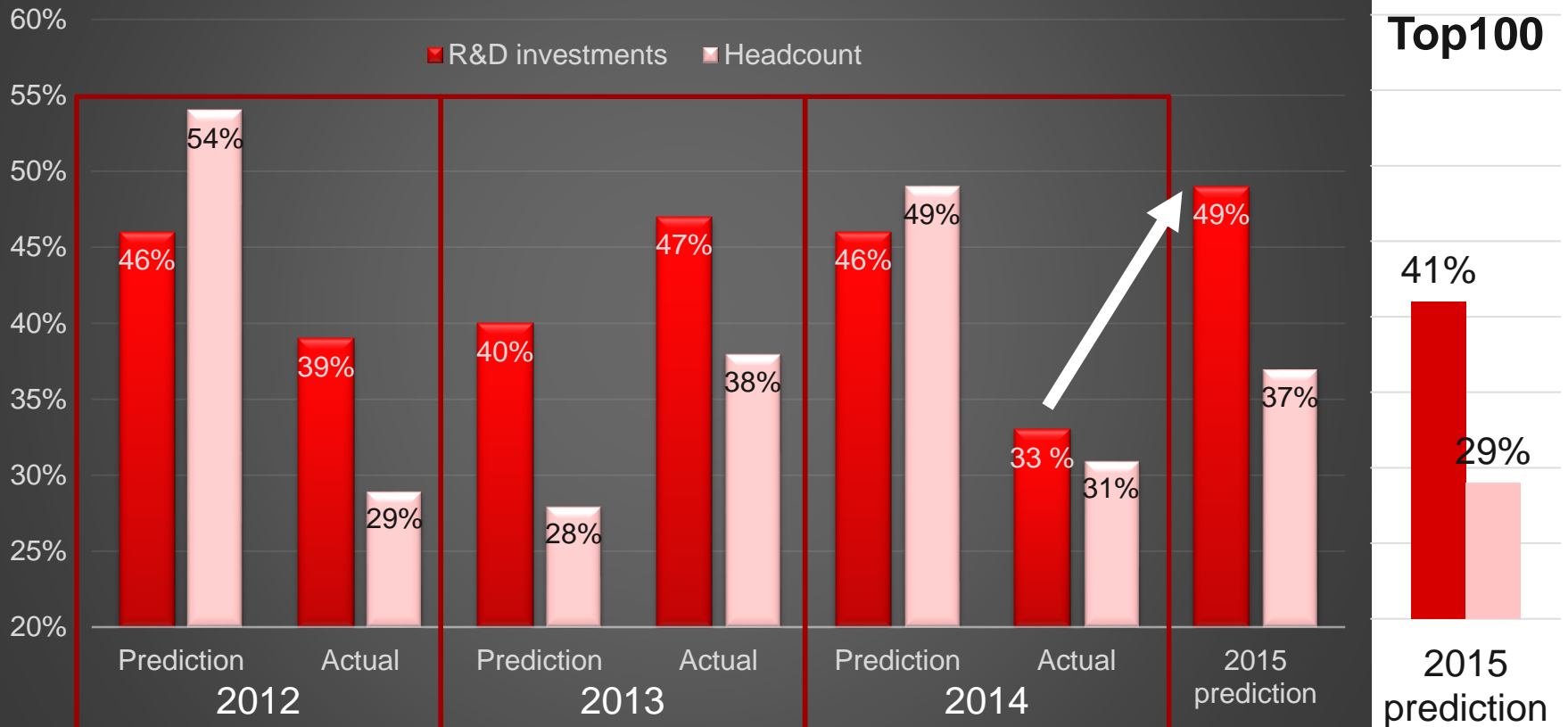


R&D headcount by number of respondents



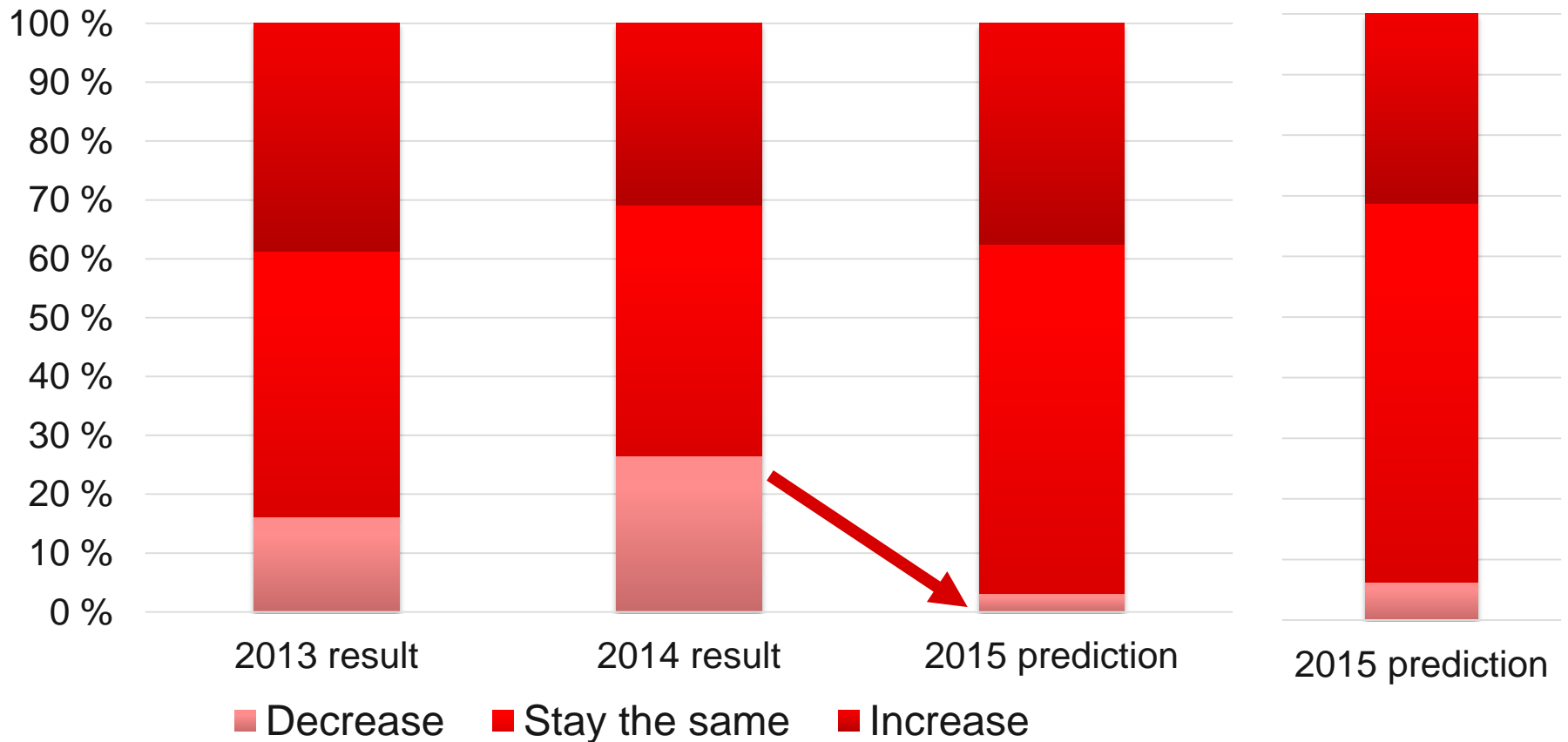
R&D budget to be increased in 2015

Share of CTOs who are planning on **increasing** their budget or headcount

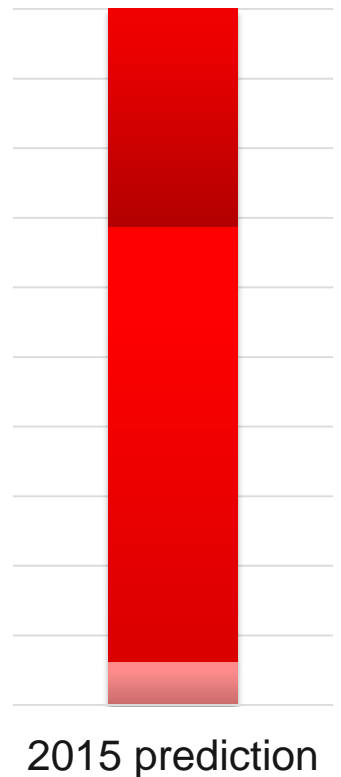


No plans to cut R&D headcount any more

Share of CTOs vs. changes in R&D headcount

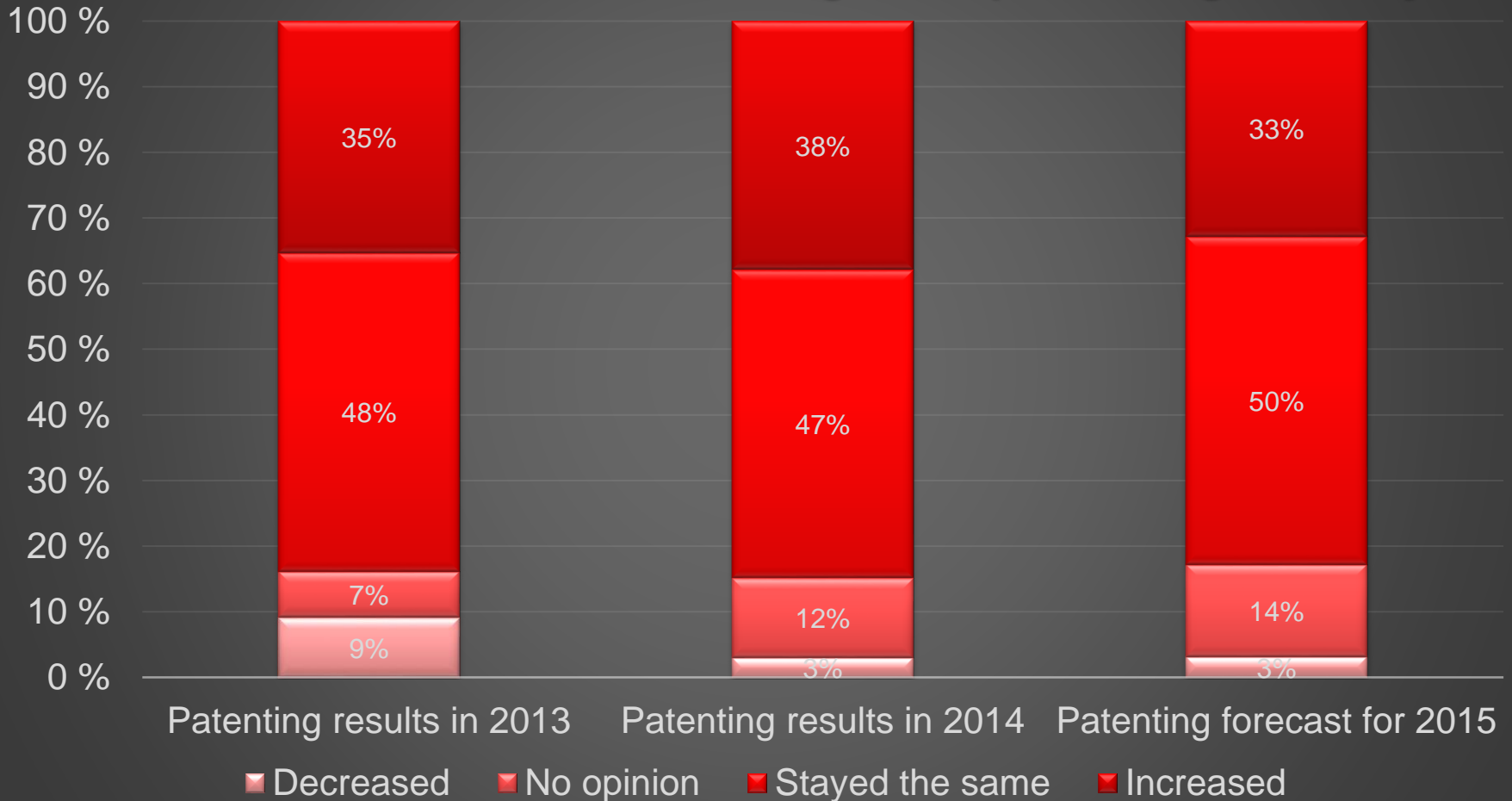


Top-100



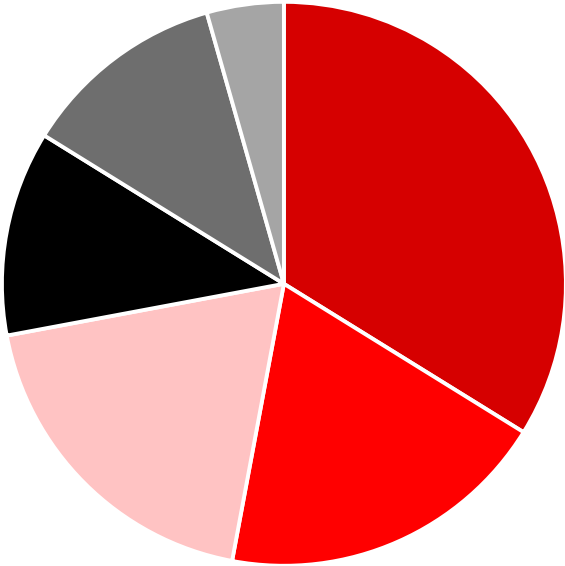
World economy seems not to impact patenting

Share of CTOs vs. changes in patenting activity



The share of public funding in R&D: expecting increase

Share of public funding in R&D budget (2014)

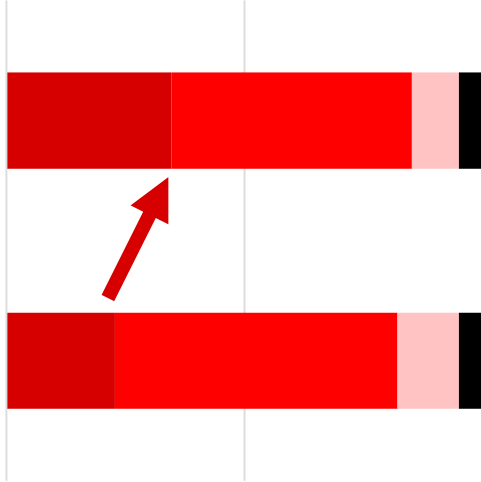


- <5%
- 5-14%
- 15-29%
- 30-49%
- 50-70%
- >70%

Number of R&D Projects supported with public funding

Expected new R&D projects in 2015

New R&D projects in 2014

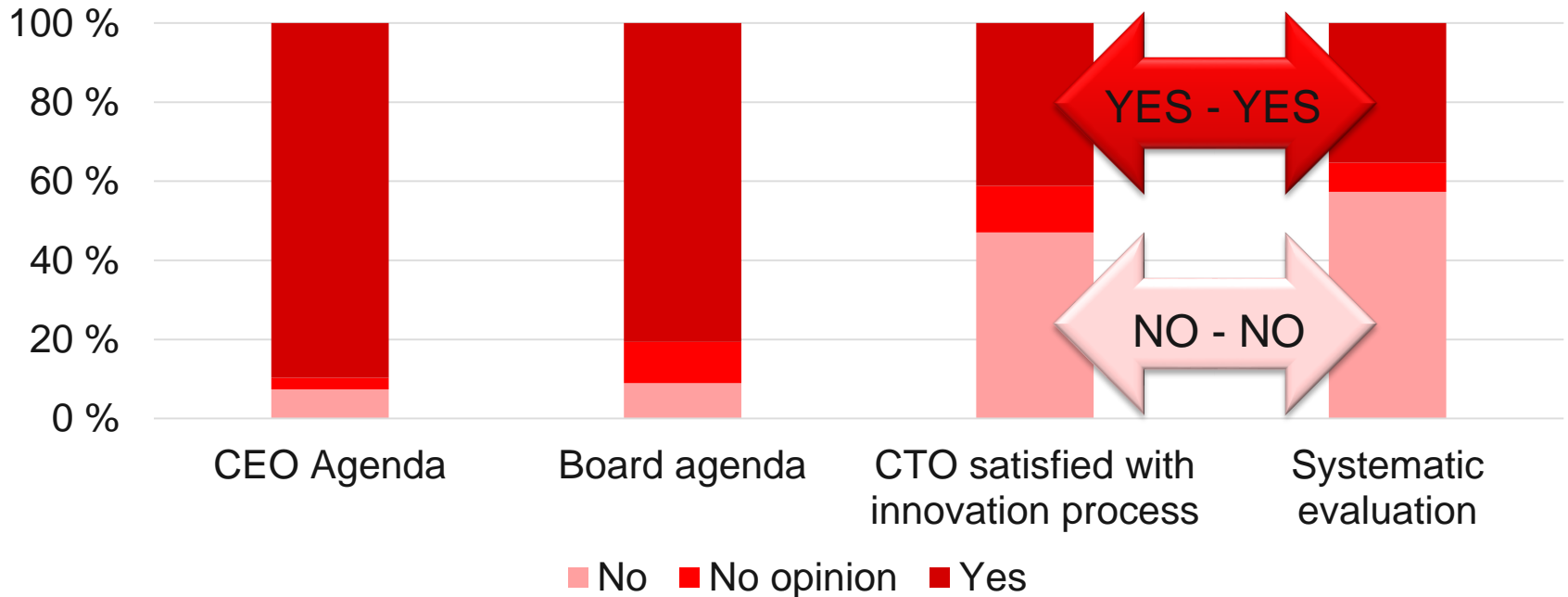


0 % 50 % 100 %

- Increased
- Stayed the same
- Decreased
- No opinion

Technology and innovation are high on the CEO's and Board's agenda, still only 35% evaluate the process systematically

CTO's view of the innovation governance topics

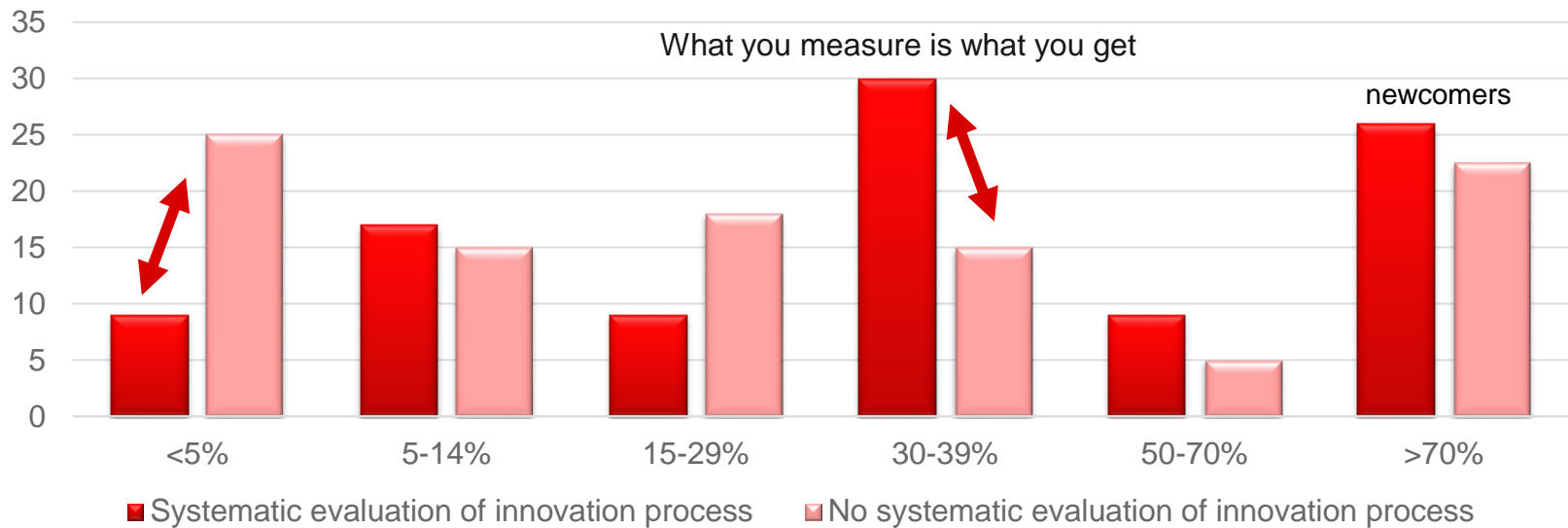


“There is a clear correlation between capability in innovation measurement and innovation success....”

(ADL Innovation Excellence Study, 2013)

Reviewing the innovation process seems to be linked with the share of revenue from new product

The share of revenue from products and applications introduced during the last five years



"Globally, top quartile innovation performers obtain on average 13% more profit from new products and services than average performers."

(ADL Innovation Excellence Study, 2013)

Companies see competitive importance in carbon neutrality and low carbon solution – however lacking economic incentives

Drivers

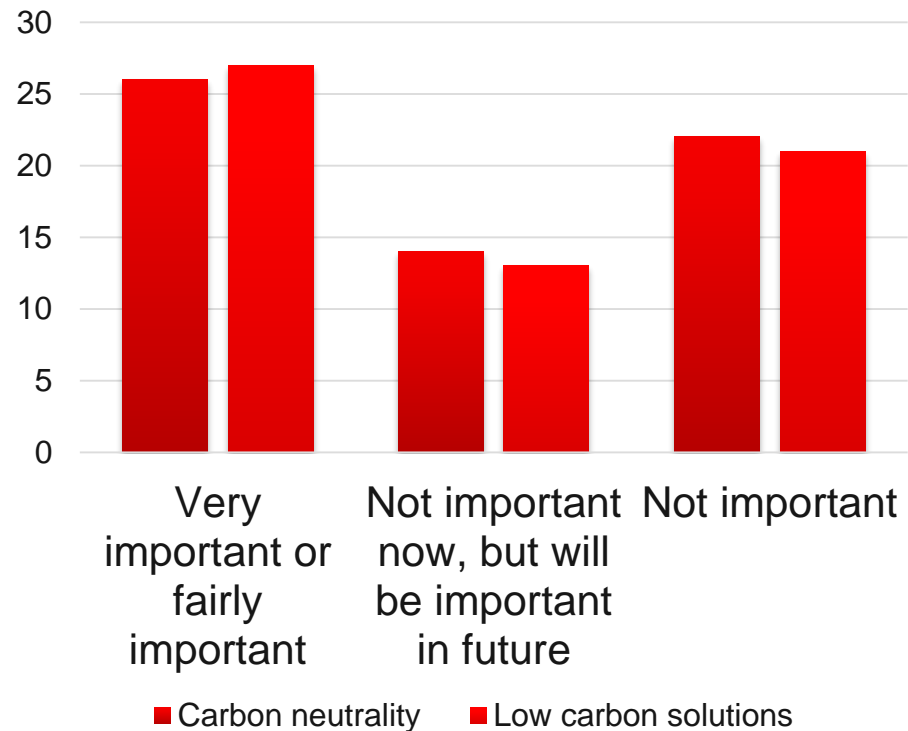
- Positive brand image
- Company strategy
- Reducing emissions

Obstacles

- No clear economic incentive
- Lack of markets
- Lack of political will

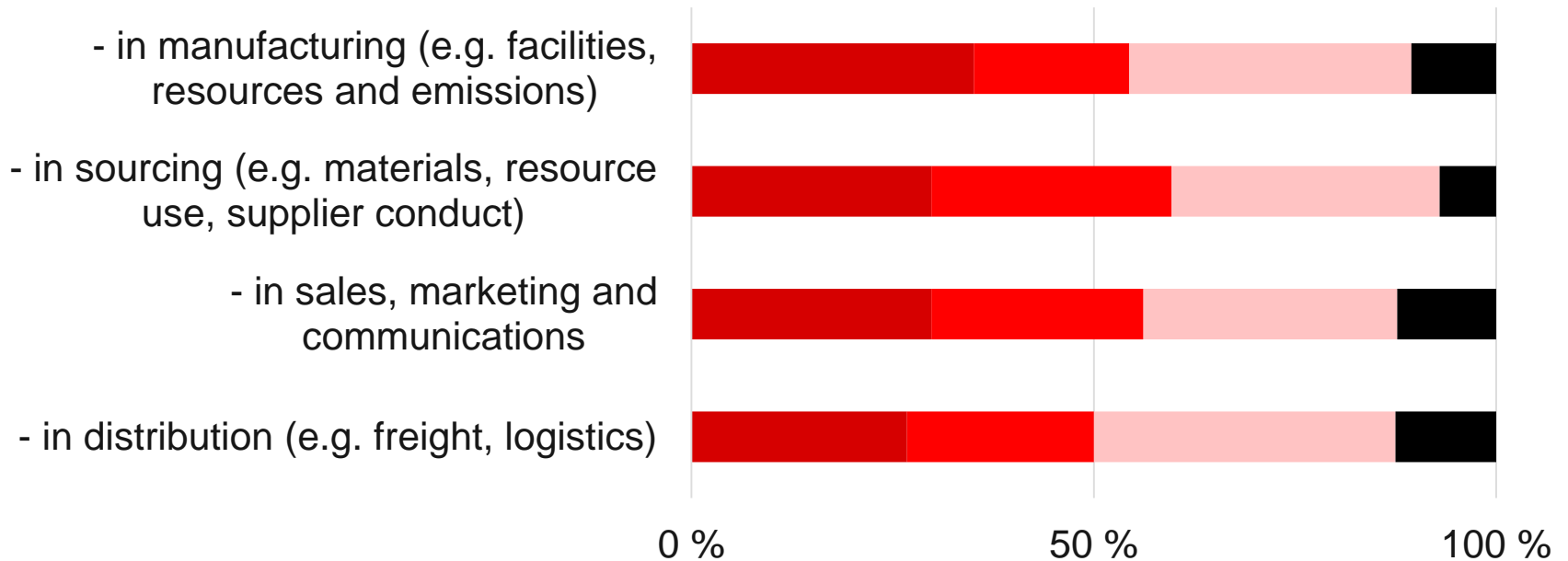
The companies who don't see CN or LC as important for their competitiveness are typically from ICT sector or instrument providers

Carbon Neutrality and Low Carbon Solutions vs. expected impact on competitiveness



Production and emissions in focus now

Low carbon or carbon neutral solutions are implemented ...



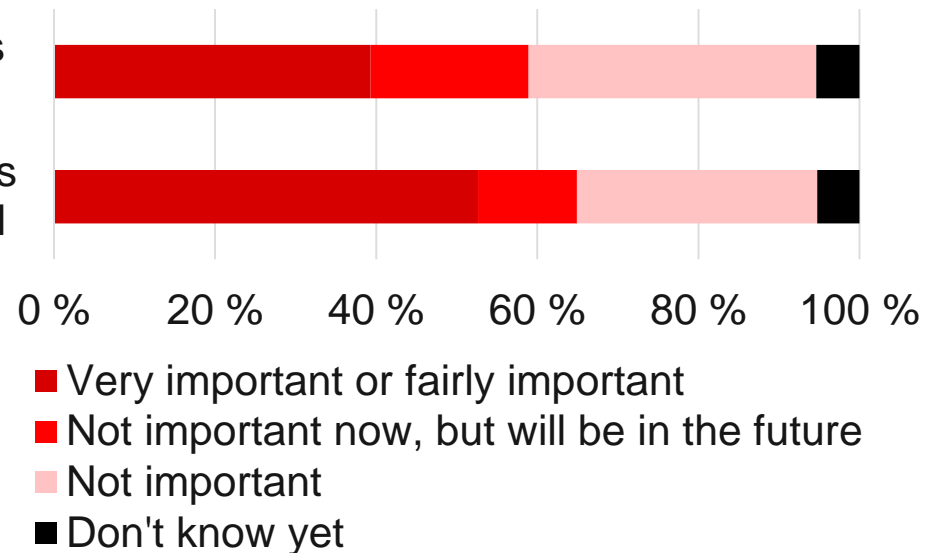
Current focus in manufacturing, future potential in sourcing and sales

- Very important or fairly important
- Not important now, but will be in the future
- Not important
- Don't know yet

Enablers look for new business

The company provides

- low carbon or carbon neutral products or services
- products or services that enable others to become low carbon or carbon neutral

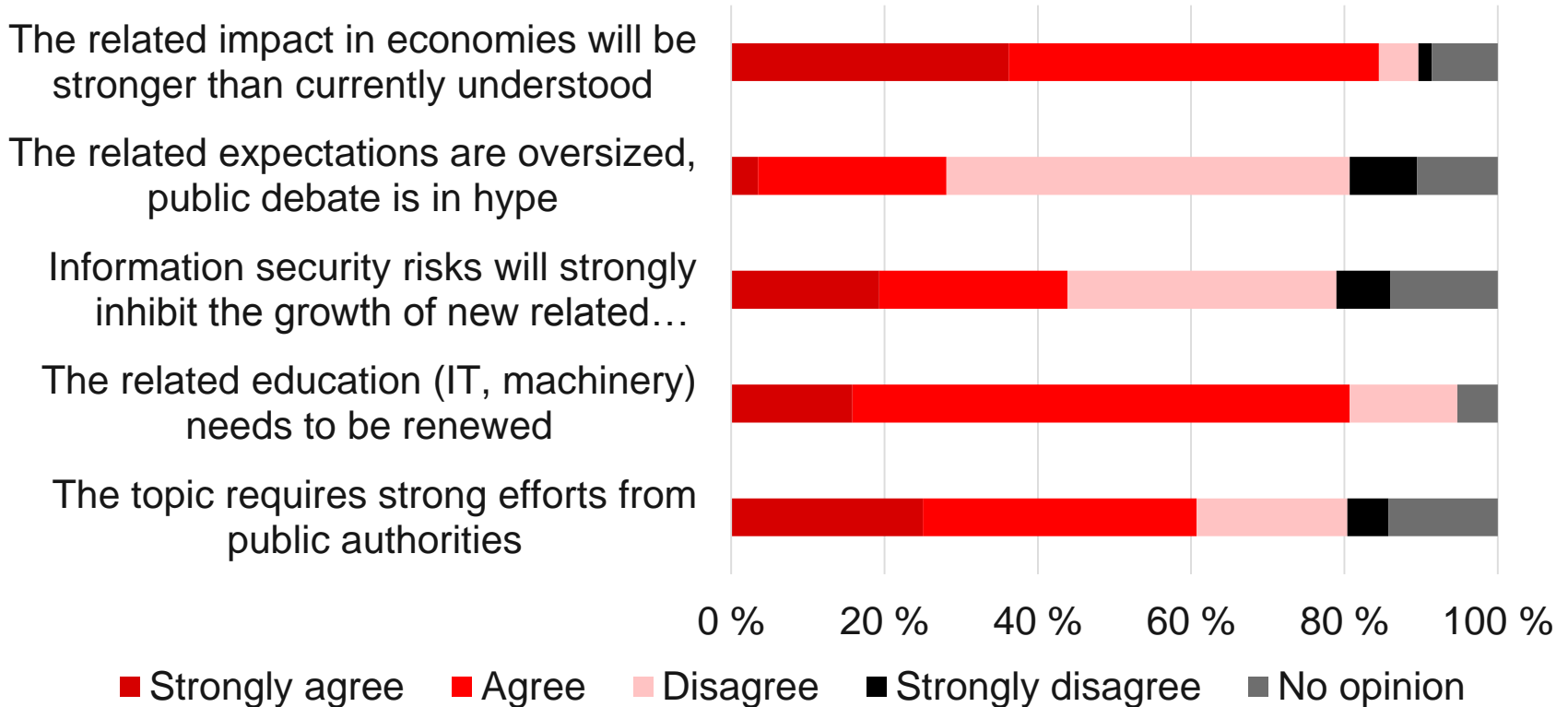


62% of respondents see it important to offer low carbon or carbon neutral products or services

– however economic factors still seen as one major obstacle

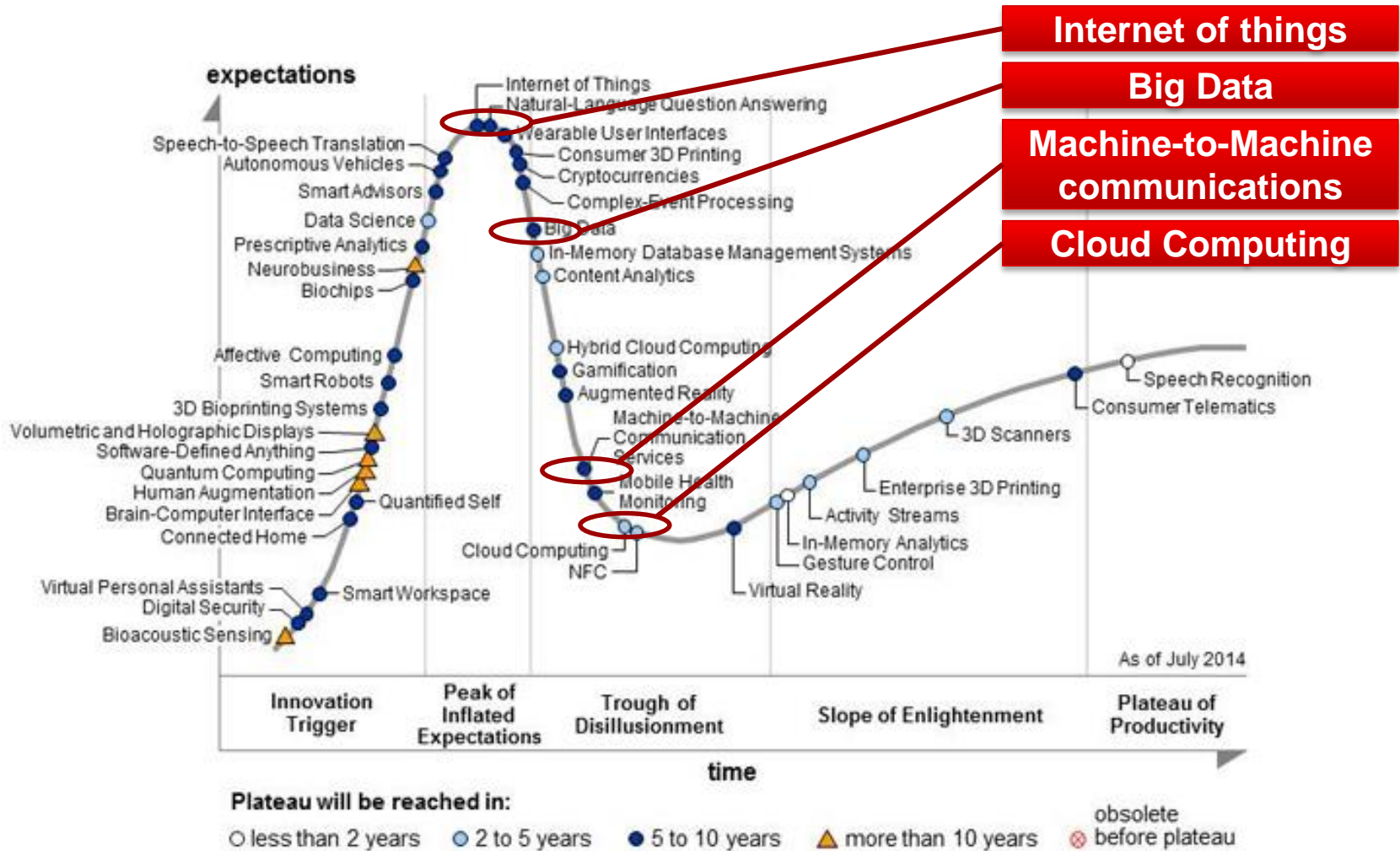
Industrial internet will have a major impact

- 35% don't fear the security risks



85% believe in surprisingly strong impact
35% of respondents don't fear the security risks
82% say education needs to change

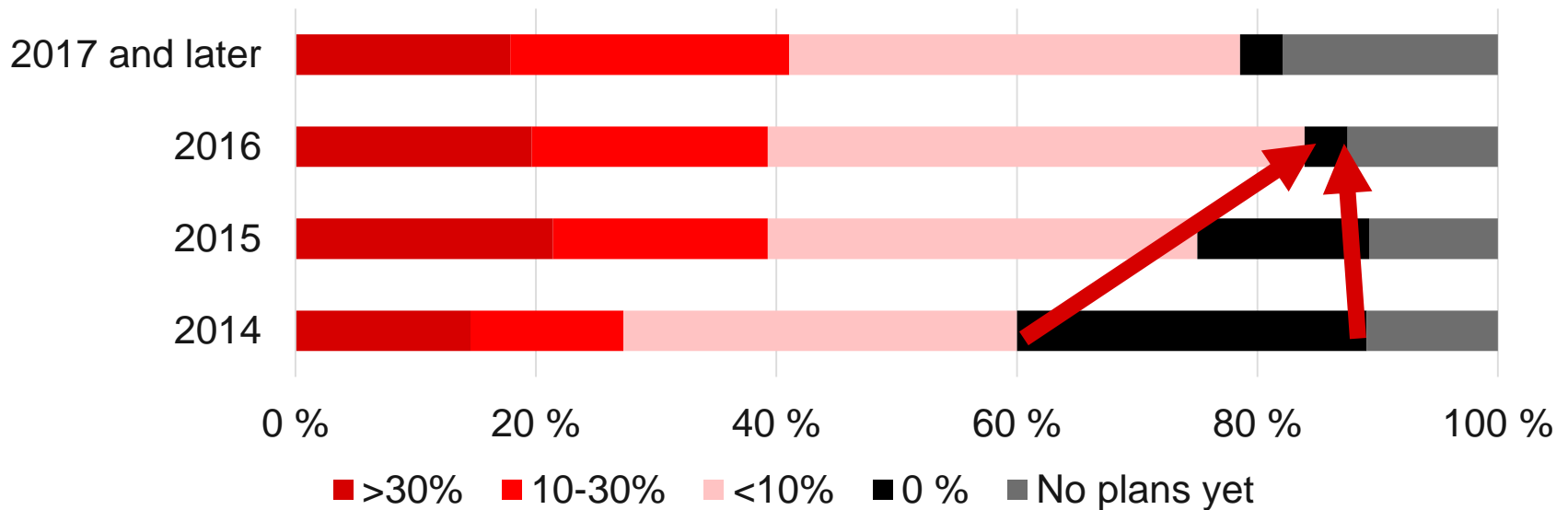
Still 2-10 years of development before Industrial internet reaches the "Plateau of Productivity"



Source: Gartner (August 2014)

Majority of the companies have a plan for developing competences for industrial internet

Share of R&D resources to be dedicated for industrial internet



The 0% of R&D resource group will vanish in a few years
Only one out of ten have no plans yet

Further discussion in the workgroups

Session and WG number	Topic	Chair	
1	WG1	Carbon neutrality markets; what and where?	Jyrki Ovaska, UPM
	WG2	Carbon neutrality: How to find the solutions for competitive advance?	Atte Haapalinna, Okmetic
	WG3	Carbon neutrality: How to identify the paths towards growth, not just reducing the emissions?	Lars-Peter Lindfors, Neste Oil
	WG4	The best practices of managing the R&D project portfolio	Ilari Kallio, Wärtsilä
2	WG5	From R&D to turnover	Jari Riihilahti, Metso
	WG6	Corporate Venturing	Ilari Kallio, Wärtsilä
	WG7	Industrial internet: What's in it for me? Opportunities for growth	Heli Antila, Fortum
	WG8	Industrial internet: Practicalities and challenges	Antti Reijonen, McAfee

Thank you!