

June 2018

# Artificial Intelligence: Have No Fear The revolution of AI at work



# Survey Design



## TARGET

**7,077 individuals**, 18 years old and over, belonging to the active (that is, working) population, with a minimum of 1,000 people interviewed in each of the surveyed countries



## COLLECTION DATES

May 18 to June 6, 2018



## METHOD

Online interviews

Representative samples of the active adult (18+) population in each surveyed country

Quota method: gender, age, occupation, region, and market size



This report has been produced in accordance with international standard ISO 20252 "Market, opinion, and social research." *This report was proofread by Amandine Lama, account director.*

# Surveyed Countries and Number of People Interviewed

Total number of people interviewed **7,077**



France

France 1,018



Germany

Germany 1,010



Spain

Spain 1,009



United Kingdom

United Kingdom 1,009



United States

United States 1,010



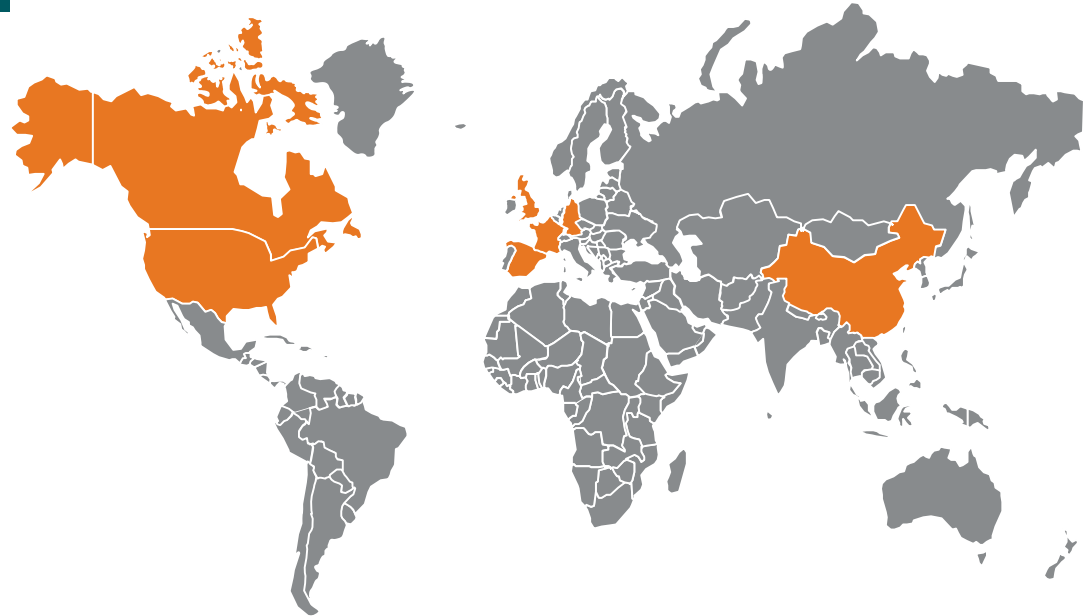
Canada

Canada 1,010



China

China 1,011





## Introduction

*This questionnaire focuses on artificial intelligence (AI)— specifically, on the techniques that enable machines or software applications to solve problems and accomplish tasks that in the past only humans could perform.*

*To deliver pertinent results, AI must rely on large data sets and extensive databases, from which programs can learn and make correlations.*

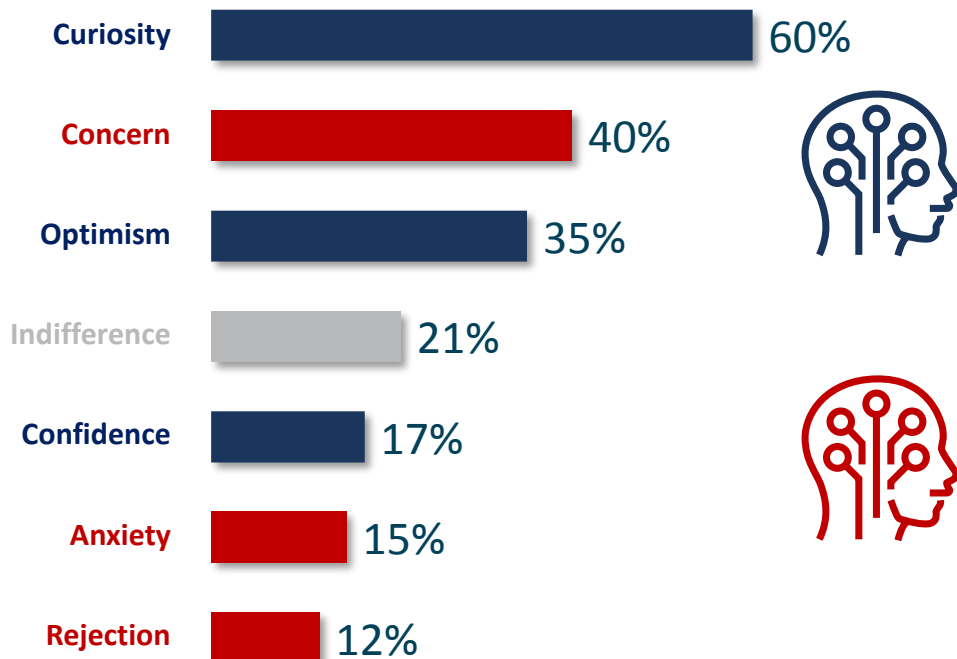
*The development of AI facilitates technologies such as self-driving cars, online virtual assistants, Siri on the iPhone, automatic translation tools, facial recognition, and behavior prediction.*



# FEELINGS ABOUT ARTIFICIAL INTELLIGENCE

# Respondents have mixed feelings about AI: Curiosity comes first, but concern is another common reaction

Answers in total (first + second)



**Respondents who cite at least one positive feeling: 78%**

...including 34% who cite only positive feelings



**Respondents who cite at least one negative feeling: 52%**








...including 15% who cite only negative feelings

*When considering the consequences that AI will have for your work in the coming years, what feelings do you have?*

*Base: All respondents. Percentage totals exceed 100 because they reflect two answers from each respondent.*

# Enthusiasm for AI is especially high in China, but relatively low in France

Answers in total (first + second)

		BREAKDOWN BY COUNTRY						
%	TOTAL	 France	 Germany	 Spain	 United Kingdom	 United States	 Canada	 China
Curiosity	60	60	61	71	55	56	56	62
Concern	40	54	48	46	39	38	38	18
Optimism	35	25	29	35	29	35	31	62
Indifference	21	14	18	12	28	26	28	19
Confidence	17	14	9	18	15	17	16	31
Anxiety	15	18	16	7	21	18	19	8
Rejection	12	14	20	12	12	10	11	2
Cites at least one positive feeling	78	71	71	85	73	78	76	94
Cites at least one negative feeling	52	65	61	53	55	51	53	24

When considering the consequences that AI will have for your work in the coming years, what feelings do you have?

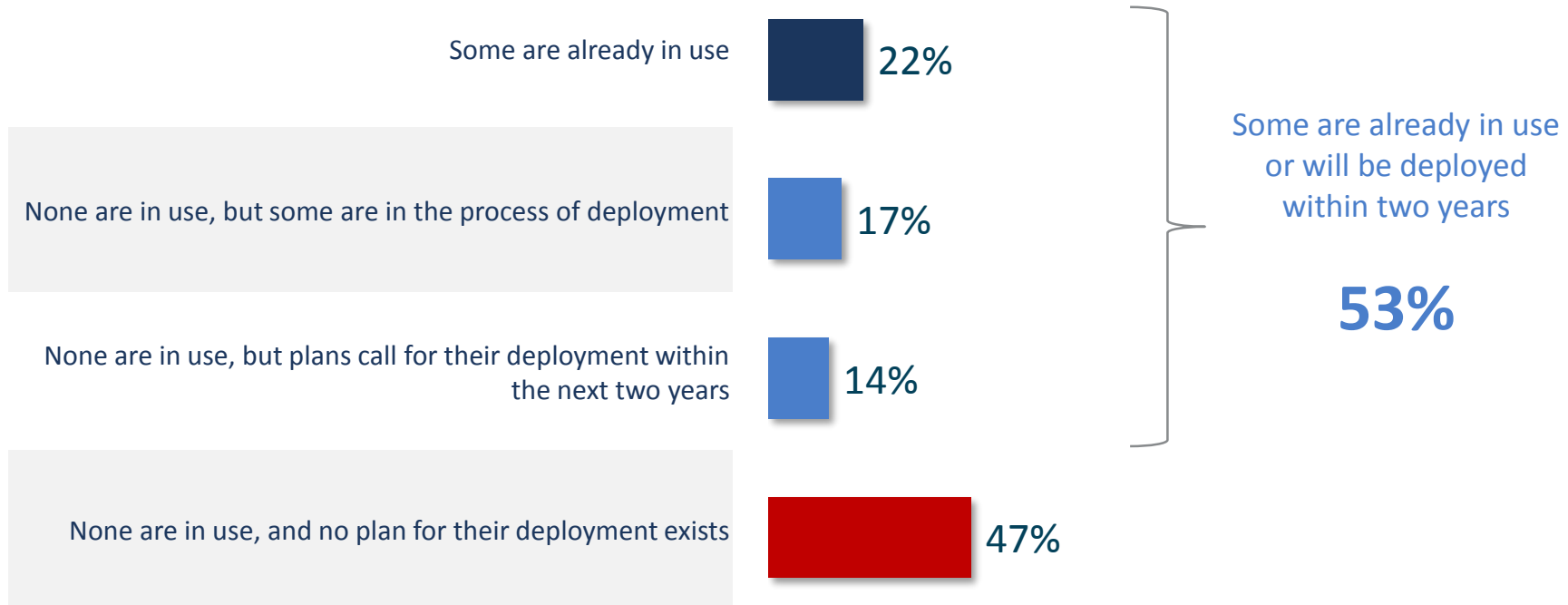
Base: All respondents. Percentage totals exceed 100 because they reflect two answers from each respondent.



# **CURRENT USE OF AI-ENABLED TOOLS: WHERE DO WE STAND ?**










# One active person in five works in a place where AI-enabled tools and applications are already in use.



*In your workplace, what is the current level of use of tools and applications enabled by AI?*

*Base: All respondents.*

# Currently, employees in China, Canada, and the US use these tools the most

USE STATUS (IN %)	BREAKDOWN BY COUNTRY							
	TOTAL	 France	 Germany	 Spain	 United Kingdom	 United States	 Canada	 China
Some are already in use	22	16	15	18	20	24	26	31
None are in use, but some are in the process of deployment	17	16	14	21	12	11	14	29
None are in use, but plans call for their deployment within the next two years	14	12	16	18	15	11	11	18
<b>None are in use, and no plan for their deployment exists</b>	<b>47</b>	<b>56</b>	<b>55</b>	<b>43</b>	<b>53</b>	<b>54</b>	<b>49</b>	<b>22</b>

*In your workplace, what is the current level of use of tools and applications enabled by AI?*

Base: All respondents.

# Most differences in demographic profile are small between respondents who have access to AI-enabled tools and respondents who don't

USE STATUS (IN %)	BREAKDOWN BY DEMOGRAPHIC PROFILE						
	TOTAL	Men	Women	Under 35	35 years old and over	Managers and professionals	Other occupations
Some are already in use	22	23	21	27	19	26	20
None are in use, but some are in the process of deployment	17	18	15	19	16	20	15
None are in use, but plans call for their deployment within the next two years	14	15	13	15	14	16	14
<b>None are in use, and no plan for their deployment exists</b>	<b>47</b>	<b>44</b>	<b>51</b>	<b>39</b>	<b>51</b>	<b>38</b>	<b>51</b>

*In your workplace, what is the current level of use of tools and applications enabled by AI?*

Base: All respondents.

# Use of AI-enabled tools is highest in manufacturing, but differences between sectors are limited

USE STATUS (IN %)	BREAKDOWN BY SECTOR						
	TOTAL	PUBLIC	PRIVATE	Manufacturing	Construction	Retail	Services
Some are already in use	22	25	20	25	20	19	18
None are in use, but some are in the process of deployment	17	19	16	17	18	18	14
None are in use, but plans call for their deployment within the next two years	14	13	15	18	12	15	14
<b>None are in use, and no plan for their deployment exists</b>	<b>47</b>	<b>43</b>	<b>49</b>	<b>40</b>	<b>50</b>	<b>48</b>	<b>54</b>

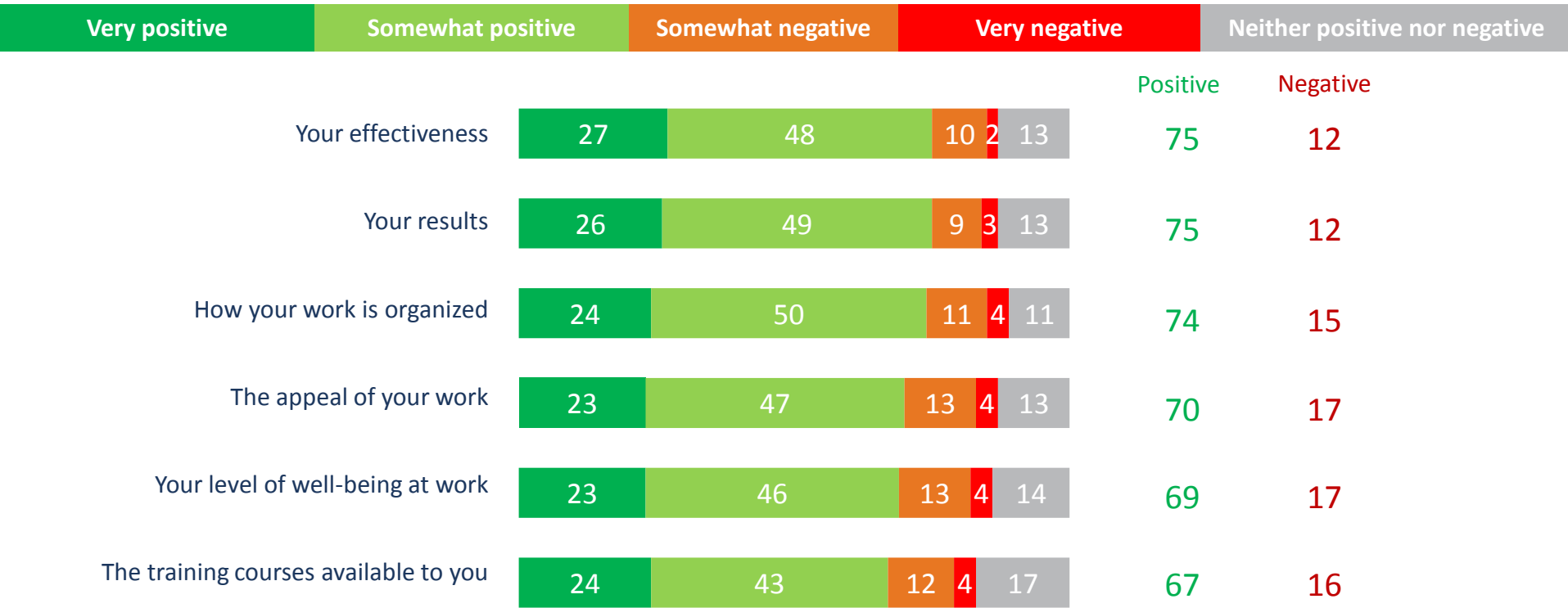
*In your workplace, what is the current level of use of tools and applications enabled by artificial intelligence?*

Base: All respondents.



# FEEDBACK FROM PEOPLE WHO ALREADY USE AI AT WORK

# A large majority of people who already have access to AI-enabled tools think that the tools have had a positive impact on their work



*On the whole, would you say that the use of these AI tools has had positive, negative, or neither positive nor negative implications for...?*

*Base: Those who said their organization already uses AI-enabled tools (22% of all respondents).*

# Most respondents across gender, age, and occupational categories see the overall implications of AI as being positive








## BREAKDOWN BY DEMOGRAPHIC PROFILE

POSITIVE (IN %)	BREAKDOWN BY DEMOGRAPHIC PROFILE						
	TOTAL	Men	Women	Under 35	35 years old and over	Managers and professionals	Other occupations
Your effectiveness	75	75	76	80	72	81	72
Your results	75	77	73	80	72	82	71
How your work is organized	74	74	74	79	70	82	70
The appeal of your work	70	71	69	75	66	78	66
Your level of well-being at work	69	70	67	73	65	77	64
The training courses available to you	67	66	68	72	64	73	64

*On the whole, would you say that the use of these AI tools has had positive, negative, or neither positive nor negative implications for...?*

*Base: Those who said their organization already uses AI-enabled tools (22% of all respondents).*

# Respondents in North America and China tend to view the implications of AI more positively than respondents in Europe—especially France—do

		BREAKDOWN BY COUNTRY							
POSITIVE (IN %)		TOTAL	 France	 Germany	 Spain	 United Kingdom	 United States	 Canada	 China
Your effectiveness	75	62	65	72	74	77	72	91	
Your results	75	62	68	70	67	76	75	92	
How your work is organized	74	61	71	69	69	76	72	89	
The appeal of your work	70	59	67	67	66	68	65	86	
Your level of well-being at work	69	57	63	64	62	68	66	87	
The training courses available to you	67	56	64	56	65	68	61	87	

*On the whole, would you say that the use of these AI tools has had positive, negative, or neither positive nor negative implications for...?*

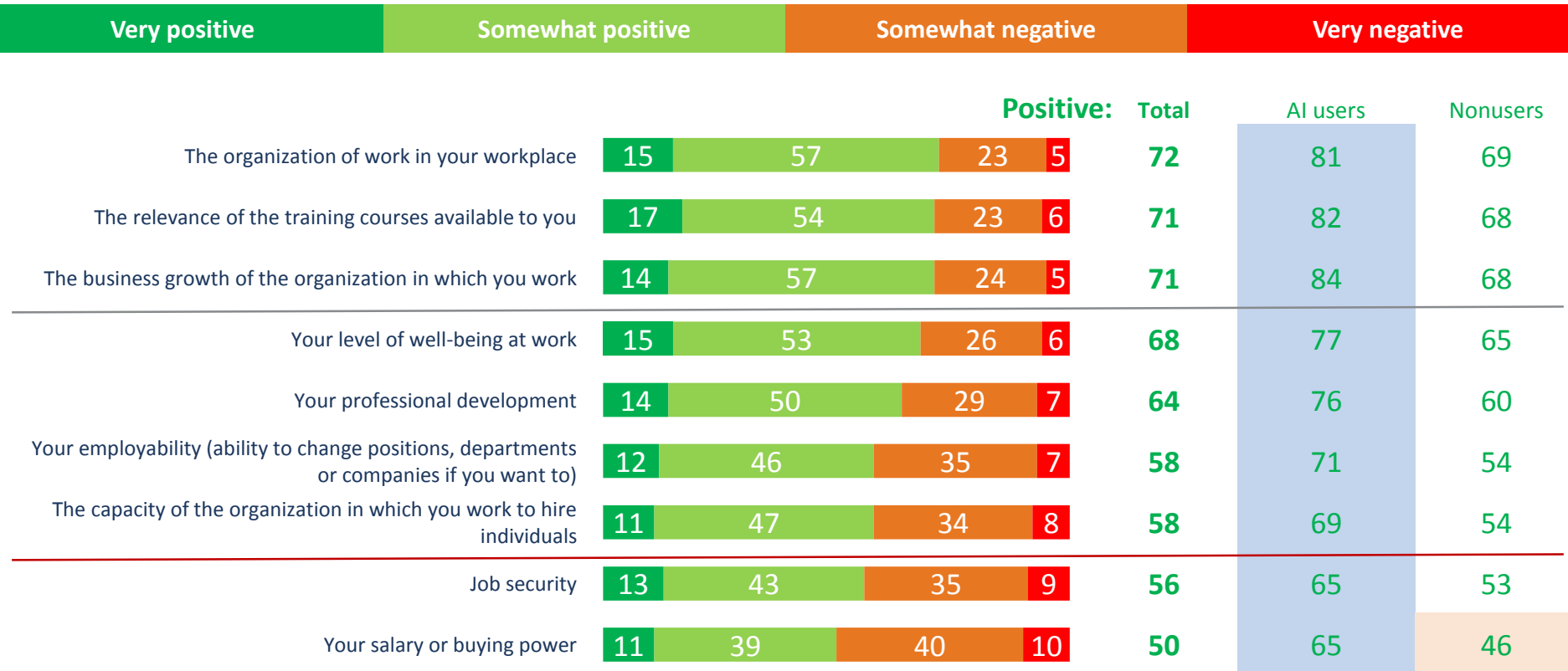
*Base: Those who said their organization already uses AI-enabled tools (22% of all respondents).*





# DEVELOPMENT OF AI-ENABLED TOOLS AT WORK: WHAT IMPACT DO EMPLOYEES EXPECT?








# Respondents generally see AI as having positive implications for organizations, but are less enthusiastic about its effect on their personal situation



*In your workplace, do you think the development of AI will have positive or negative consequences over the next five years with regard to...?*

18 Base: All respondents.

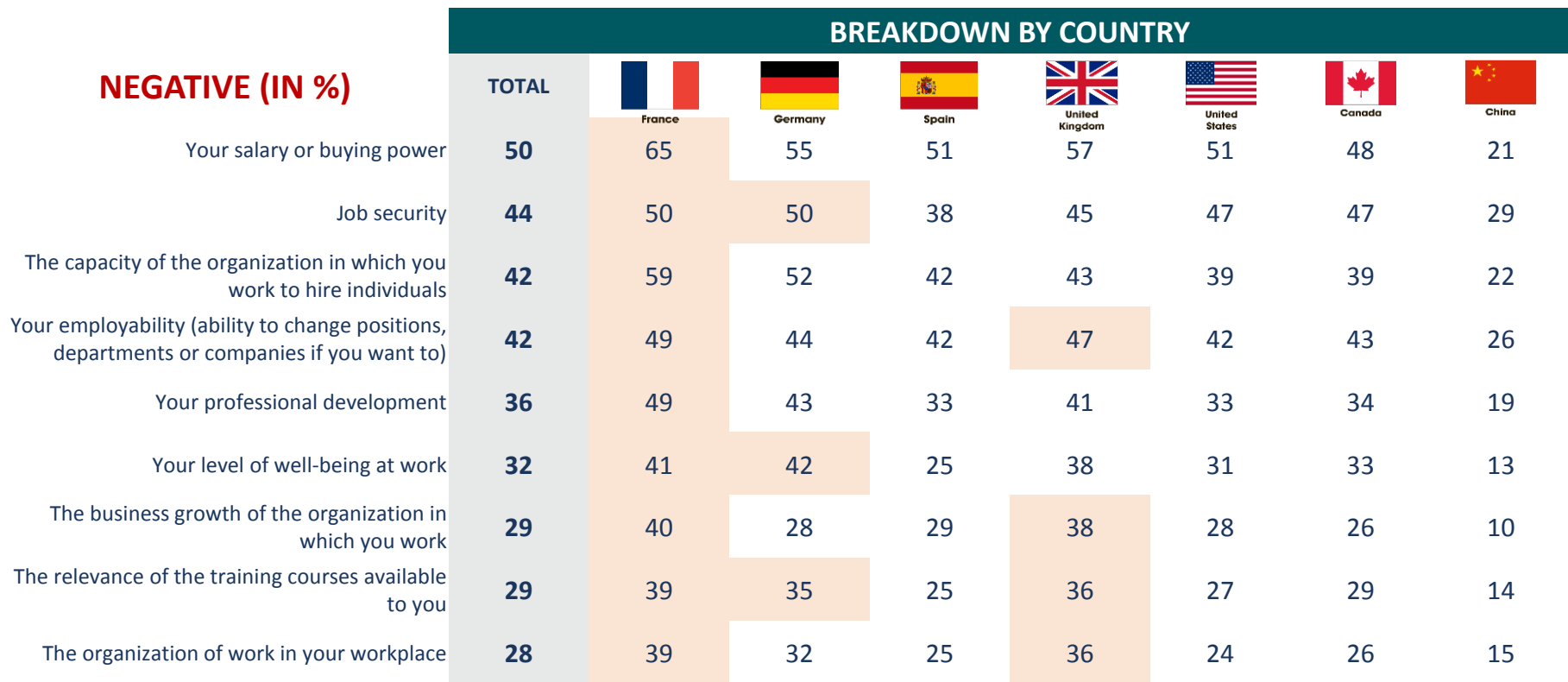
# Respondents in North America and China have high expectations of positive future effects

POSITIVE (IN %)	BREAKDOWN BY COUNTRY							
	TOTAL	 France	 Germany	 Spain	 United Kingdom	 United States	 Canada	 China
The organization of work in your workplace	72	61	68	75	64	76	73	85
The relevance of the training courses available to you	71	61	65	75	64	73	71	86
The business growth of the organization in which you work	71	60	72	71	62	72	74	90
Your level of well-being at work	68	59	58	75	62	69	66	87
Your professional development	64	50	57	67	59	67	65	81
Your employability (ability to change positions, departments or companies if you want to)	58	50	55	58	53	58	57	74
The capacity of the organization in which you work to hire individuals	58	41	48	57	57	61	60	78
Job security	56	50	50	61	55	53	52	71
Your salary or buying power	50	34	45	48	43	49	52	79

*In your workplace, do you think the development of AI will have positive or negative consequences over the next five years with regard to...?*

Base: All respondents.

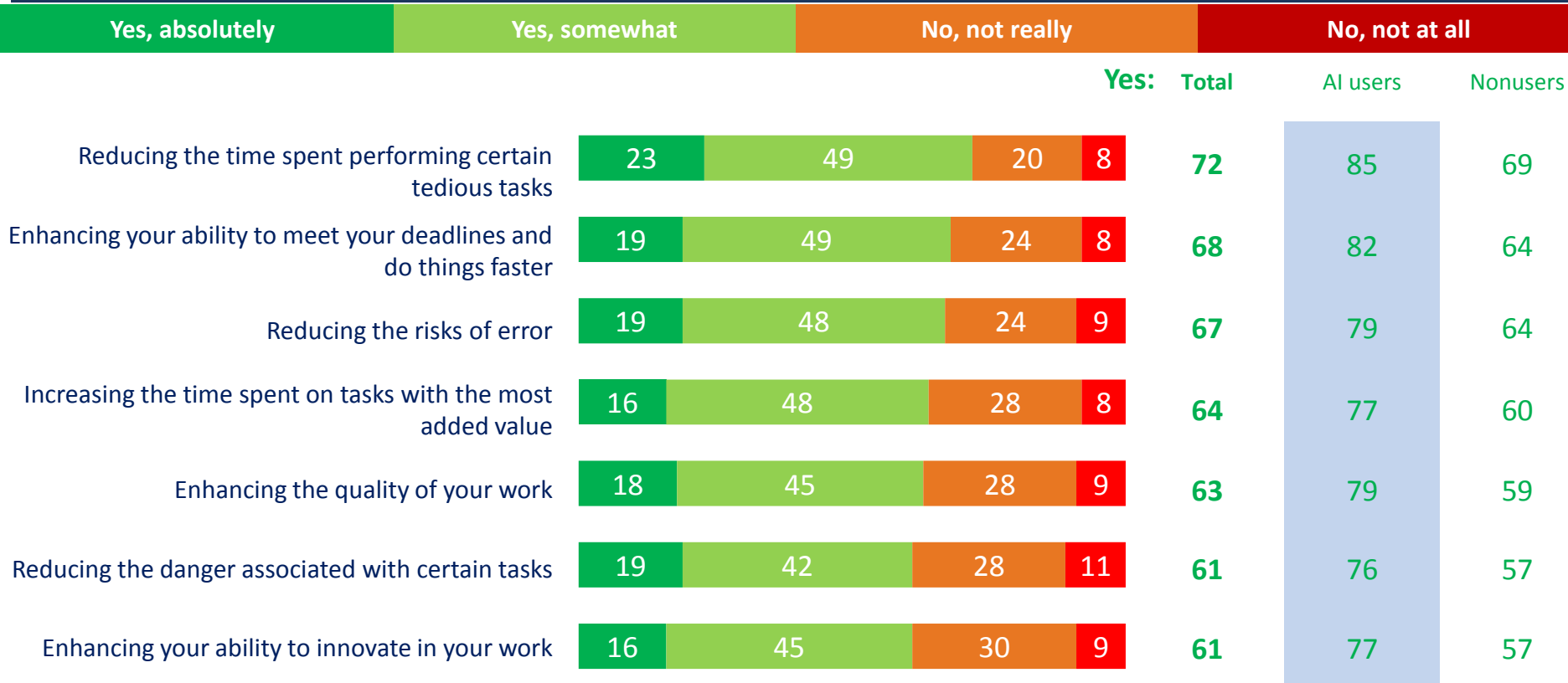
# Respondents in Europe, especially in France, are wary of negative consequences of AI



*In your workplace, do you think the development of AI will have positive or negative consequences over the next five years with regard to...?*

Base: All respondents.

# A majority of employees—especially among those who already have access to AI—expect it to help them work more efficiently










More specifically, do you think that, in your workplace, the development of AI and its applications will contribute to...?

Base: All respondents.

# Perceptions of AI's effect on work efficiency differ markedly between countries

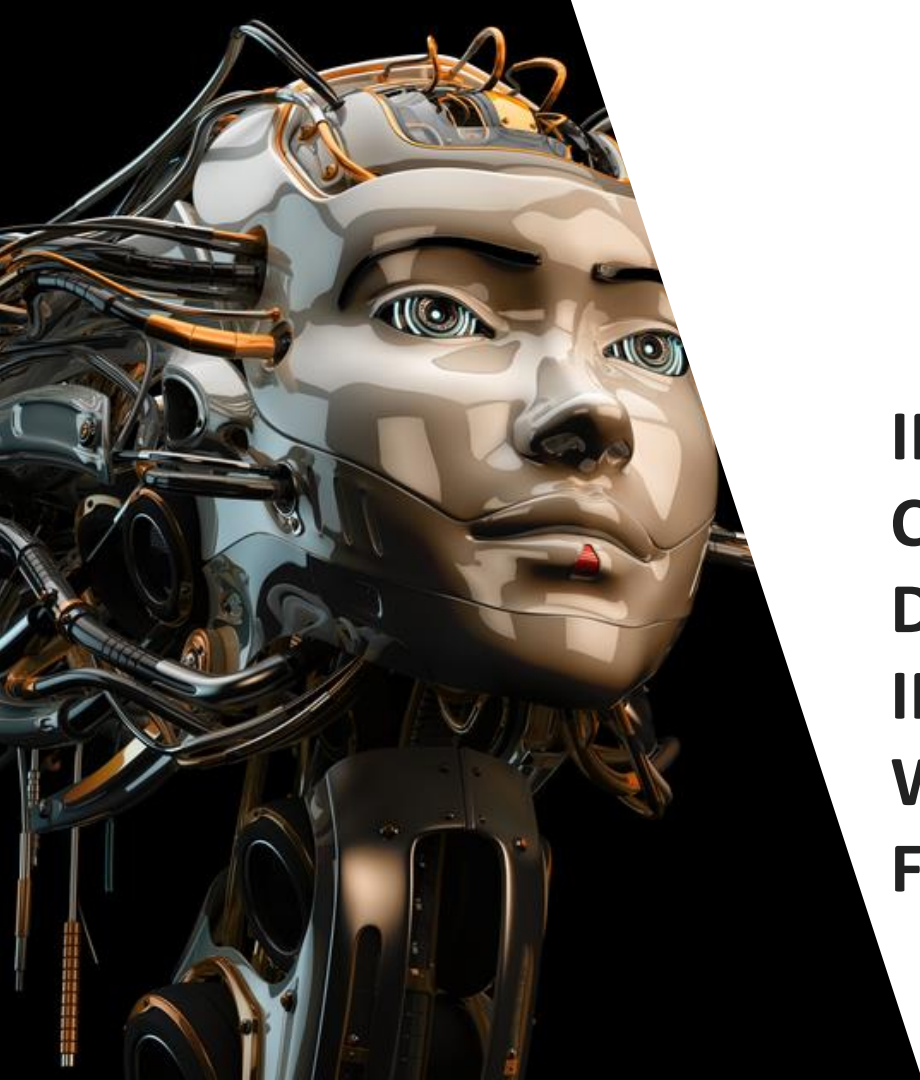
YES (IN %)

## BREAKDOWN BY COUNTRY

	TOTAL	 France	 Germany	 Spain	 United Kingdom	 United States	 Canada	 China
Reducing the time spent performing certain tedious tasks	72	67	68	73	66	71	70	92
Enhancing your ability to meet your deadlines and do things faster	68	56	65	70	63	66	63	90
Reducing the risks of error	67	59	62	73	61	64	62	90
Increasing the time spent on tasks with the most added value	64	54	64	64	61	63	61	80
Enhancing the quality of your work	63	54	59	67	53	59	58	93
Reducing the danger associated with certain tasks	61	54	56	65	54	57	55	90
Enhancing your ability to innovate in your work	61	49	57	66	56	62	58	81

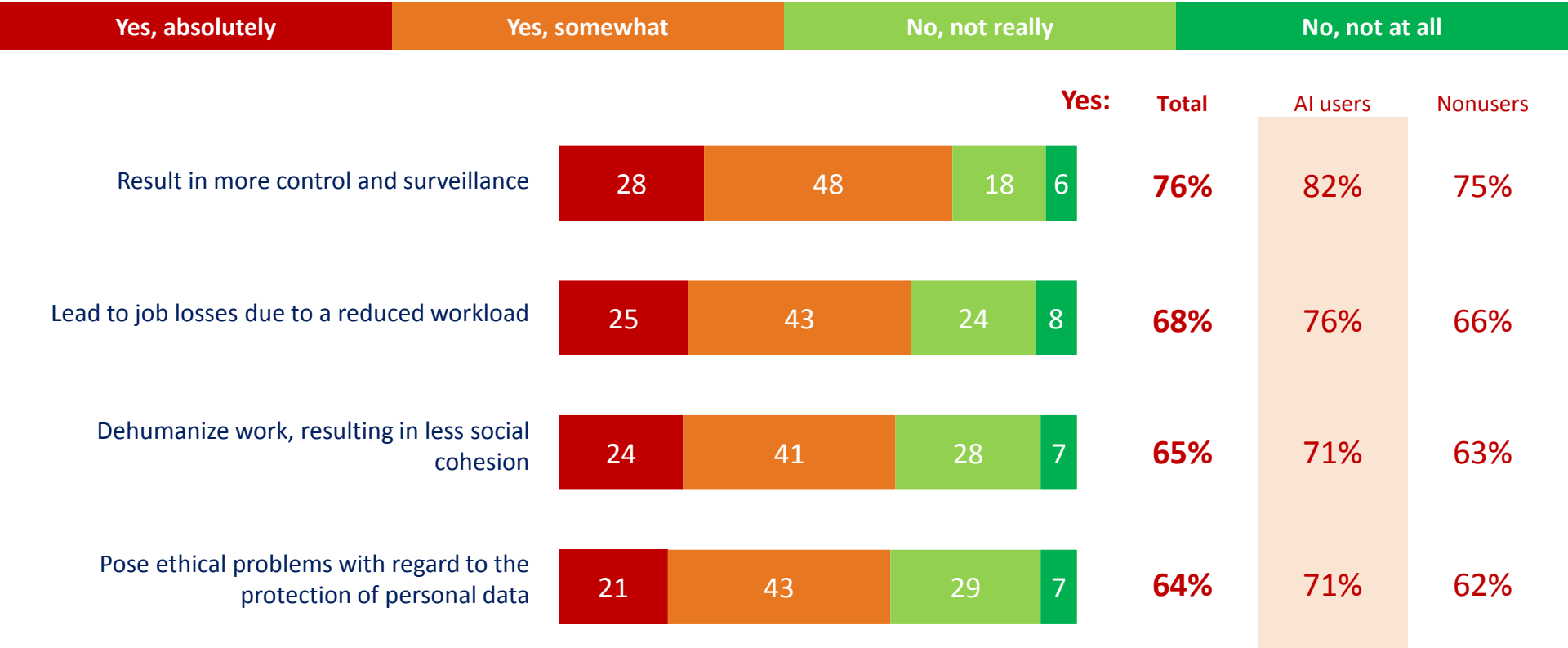
More specifically, do you think that, in your workplace, the development of AI and its applications will contribute to...?

Base: All respondents.



**INCREASED SUPERVISORY  
CONTROL, JOB LOSSES,  
DEHUMANIZATION OF WORK,  
INEQUALITIES:  
WHAT RISKS DO EMPLOYEES  
FEAR THE MOST ?**

# Users of AI-enabled tools see higher risks—as well as greater benefits—than others do










*Do you think that, in your workplace, there is a danger that the development of AI and its applications may...?*

Base: All respondents.



# Concerns about specific workplace dangers of AI are especially high in China

	BREAKDOWN BY COUNTRY							
	TOTAL	 France	 Germany	 Spain	 United Kingdom	 United States	 Canada	 China
<b>YES (IN %)</b>								
Result in more control and surveillance	<b>76</b>	73	79	81	72	74	71	84
Lead to job losses due to a reduced workload	<b>68</b>	69	66	67	66	66	65	76
Dehumanize work, resulting in less social cohesion	<b>65</b>	71	68	70	65	63	64	54
Pose ethical problems with regard to the protection of personal data	<b>64</b>	69	58	63	63	64	62	70

*Do you think that, in your workplace, there is a danger that the development of AI and its applications may...?*

Base: All respondents.

# Overall, AI users expect AI-powered tools to increase most forms of inequality

Will increase inequalities/discrimination

Will reduce inequalities/discrimination

Will not change anything in this regard

Will increase inequalities/discrimination

AI users

Nonusers

Highly educated and uneducated people

46%

23%

31%

52%

44%

Developed and developing countries

45%

23%

32%

51%

43%

People from privileged and underprivileged backgrounds

42%

22%

36%

48%

40%

Men and women

19%

27%

54%

27%

16%



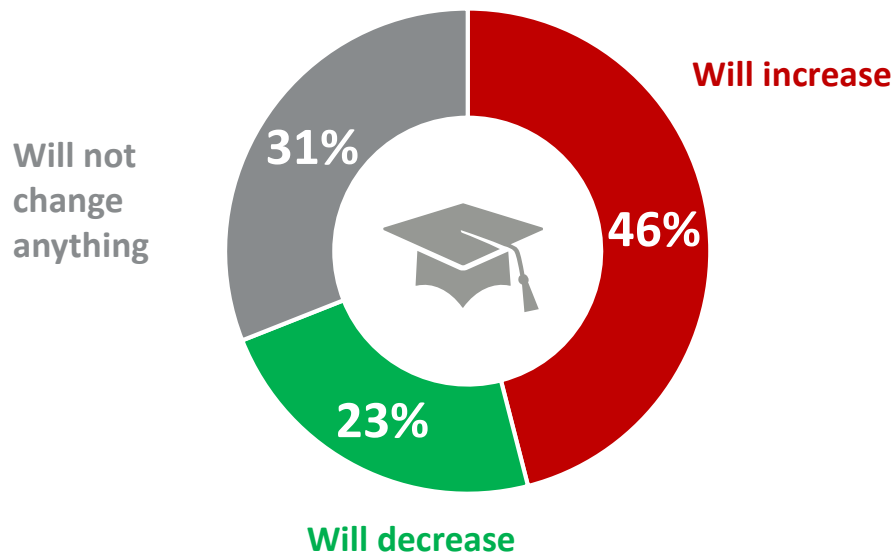
*In your opinion, will the development of AI and its applications contribute to increasing or reducing inequalities/discrimination between...?*

Base: All respondents.

# Countries' perceptions vary considerably with regard to how AI development will affect the divide between highly educated and uneducated people

## BREAKDOWN BY COUNTRY

### Highly educated and uneducated people



Will increase Will decrease Will not change

Country	Will increase	Will decrease	Will not change
France	50	17	33
Germany	42	20	38
Spain	51	24	25
United Kingdom	35	26	39
United States	41	25	34
Canada	37	25	38
China	65	22	13

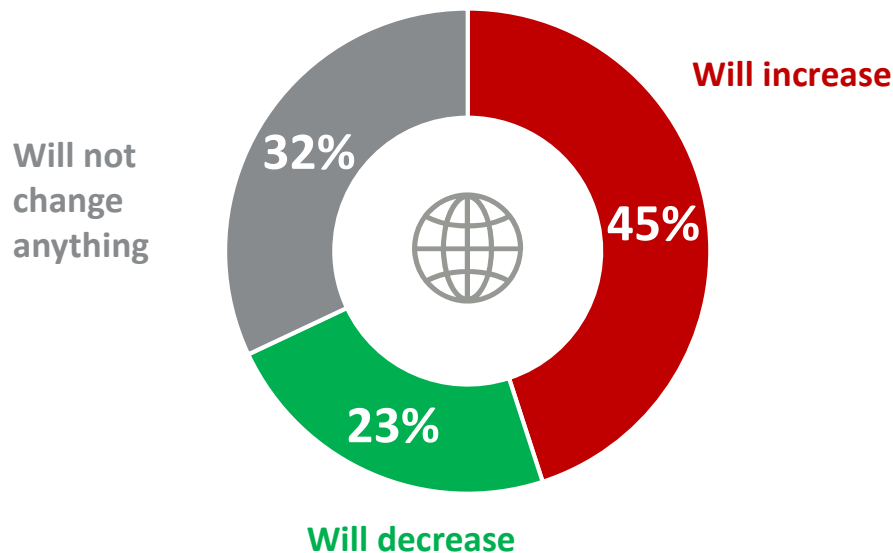
*In your opinion, will the development of AI and its applications contribute to increasing or reducing inequalities/discrimination between...?*

Base: All respondents.

# Countries' perceptions also differ with regard to the effect of AI development on existing inequalities between developed and developing countries.

## BREAKDOWN BY COUNTRY

### Developed and developing countries



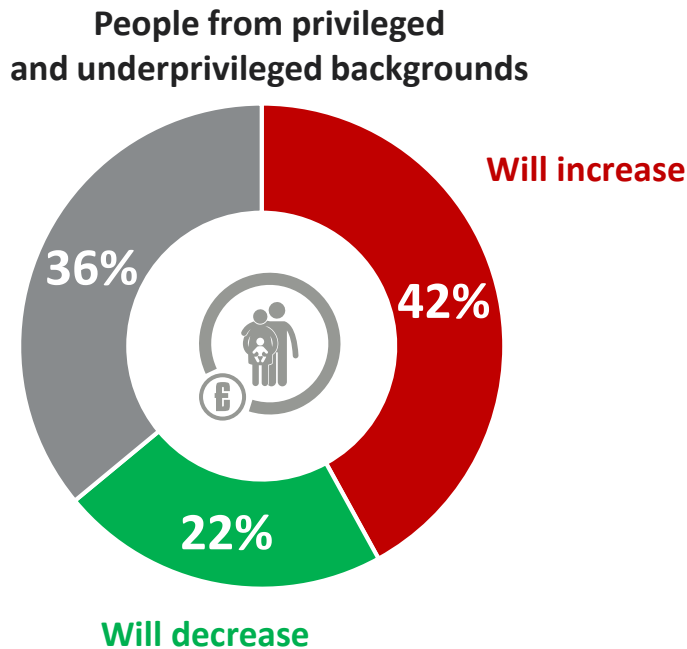
Will increase Will decrease Will not change

 France	50	21	29
 Germany	41	20	39
 Spain	53	24	23
 United Kingdom	33	26	41
 United States	36	28	36
 Canada	36	25	39
 China	65	22	13

*In your opinion, will the development of AI and its applications contribute to increasing or reducing inequalities/discrimination between...?*

Base: All respondents.

# Countries again differ in their perceptions of the probable consequences of AI development on people from privileged and underprivileged backgrounds



## BREAKDOWN BY COUNTRY

Will increase Will decrease Will not change

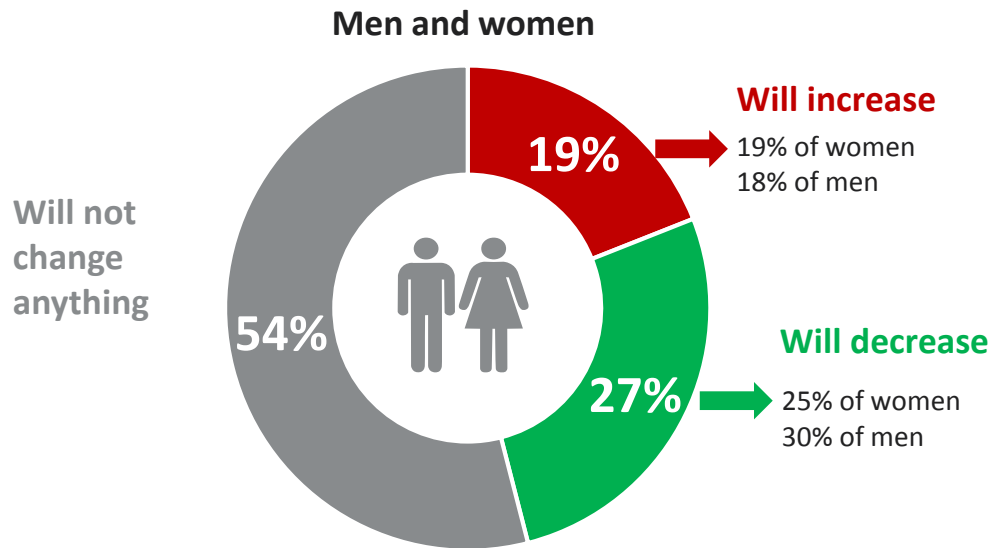
Country	Will increase	Will decrease	Will not change
France	46	17	37
Germany	35	20	45
Spain	47	25	28
United Kingdom	31	24	45
United States	38	23	39
Canada	38	22	40
China	60	23	17

*In your opinion, will the development of AI and its applications contribute to increasing or reducing inequalities/discrimination between...?*

Base: All respondents.

# And finally, countries have different perceptions of the likely consequences of AI development on inequalities between men and women

## BREAKDOWN BY COUNTRY



Will increase Will decrease Will not change

Country	Will increase	Will decrease	Will not change
France	20	20	60
Germany	17	25	58
Spain	20	32	48
United Kingdom	16	26	58
United States	19	27	54
Canada	17	31	52
China	22	31	47

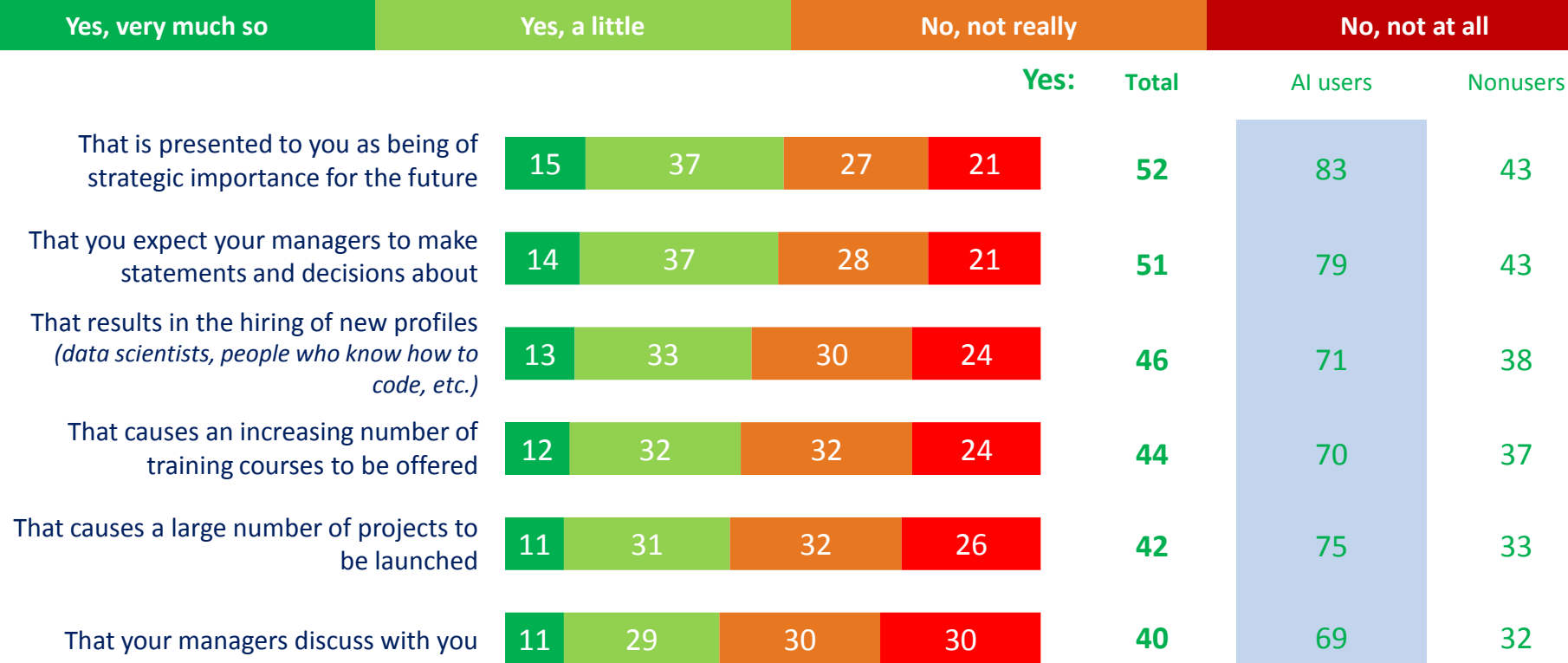
*In your opinion, will the development of AI and its applications contribute to increasing or reducing inequalities/discrimination between...?*

Base: All respondents.



# HAVE ORGANIZATIONS REALLY TAKEN FULL MEASURE OF THE STRATEGIC IMPORTANCE OF AI?

# Most organizations—except those that already use AI—still do not view AI development as a strategic issue



Regarding the development of AI and the digital transformation of your company/organization administration, would you say that in your workplace it is a subject...?








Base: All respondents.



# Employees in China and Spain are especially aware of AI's strategic importance

YES (IN %)

## BREAKDOWN BY COUNTRY

	TOTAL	 France	 Germany	 Spain	 United Kingdom	 United States	 Canada	 China
That is presented to you as being of strategic importance for the future	52	40	49	55	44	43	46	85
That you expect your managers to make statements and decisions about	51	37	46	51	48	44	46	84
That results in the hiring of new profiles ( <i>data scientists, people who know how to code, etc.</i> )	46	30	46	47	40	42	40	73
That causes an increasing number of training courses to be offered	44	27	45	43	35	41	37	78
That causes a large number of projects to be launched	42	32	38	41	37	37	37	73
That your managers discuss with you	40	28	39	42	28	31	33	79

Regarding the development of AI and the digital transformation of your company/organization administration, would you say that in your workplace it is a subject...?

Base: All respondents.



# AI: REVOLUTION OR EVOLUTION?

# Less than a third of employees expect the development of AI to revolutionize their workplace

Artificial intelligence will be totally revolutionary

It will be a major technological milestone, but not a revolution

It will not really change anything

« AI will be totally revolutionary »

AI users

Nonusers

Employees' specific tasks  
(assignments, tools used, etc.)

31%

42%

27%

42

28

Types of development opportunities  
available to employees  
(positions offered, salaries, training, etc.)

29%

42%

29%

42

26

How the work is organized  
(chain of command, jobs, working hours,  
workstations, etc.)

28%

41%

31%

40

24

Types of employees hired  
(their experience, training, and skills)

27%

42%

31%

40








24

In your opinion, how will the development of AI affect your current workplace over the next five years, with regard to...?

Base: All respondents.

# Employees in China are likelier than those elsewhere to view AI as revolutionary

**'Artificial intelligence will be totally revolutionary' (in %)**

		BREAKDOWN BY COUNTRY						
TOTAL		 France	 Germany	 Spain	 United Kingdom	 United States	 Canada	 China
Employees' specific tasks (assignments, tools used, etc.)	<b>31</b>	27	37	35	21	22	23	52
Types of development opportunities available to employees (positions offered, salaries, training, etc.)	<b>29</b>	26	33	34	19	19	23	51
How the work is organized (chain of command, jobs, working hours, workstations, etc.)	<b>28</b>	24	34	28	23	20	21	43
Types of employees hired (their experience, training, and skills)	<b>27</b>	22	32	32	19	23	18	45

*In your opinion, how is the development of AI going to affect your current workplace over the next five years, with regard to...?*

Base: All respondents.

# Employees tend to have a similar perception of the likely effects of AI on their workplace, regardless of their demographic profile

**'Artificial intelligence will be totally revolutionary'**  
(in %)

## BREAKDOWN BY DEMOGRAPHIC PROFILE

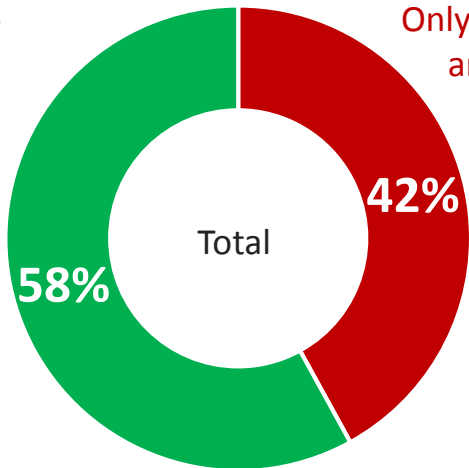
	TOTAL	Men	Women	Under 35	35 years old and over	Managers and professionals	Other occupations
Employees' specific tasks (assignments, tools used, etc.)	<b>31</b>	33	29	35	29	37	29
Types of development opportunities available to employees (positions offered, salaries, training, etc.)	<b>29</b>	31	27	34	27	35	27
How the work is organized (chain of command, jobs, working hours, workstations, etc.)	<b>28</b>	30	25	33	25	34	25
Types of employees hired (their experience, training, and skills)	<b>27</b>	29	25	31	26	32	25

*In your opinion, how is the development of AI going to affect your current workplace over the next five years, with regard to...?*

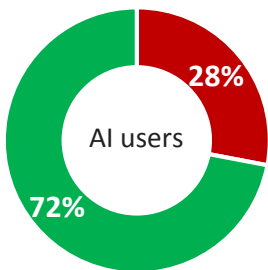
*Base: All respondents.*

# Most respondents expect AI development to have an impact on the economy as a whole, but people in the UK and France are more skeptical of this than people elsewhere

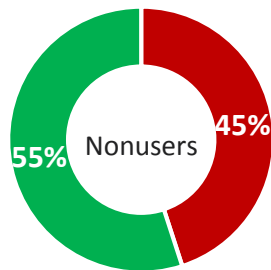
The economy as a whole



Only certain companies and certain business sectors



AI users



Nonusers

In your opinion, the development of AI will have an impact on...?

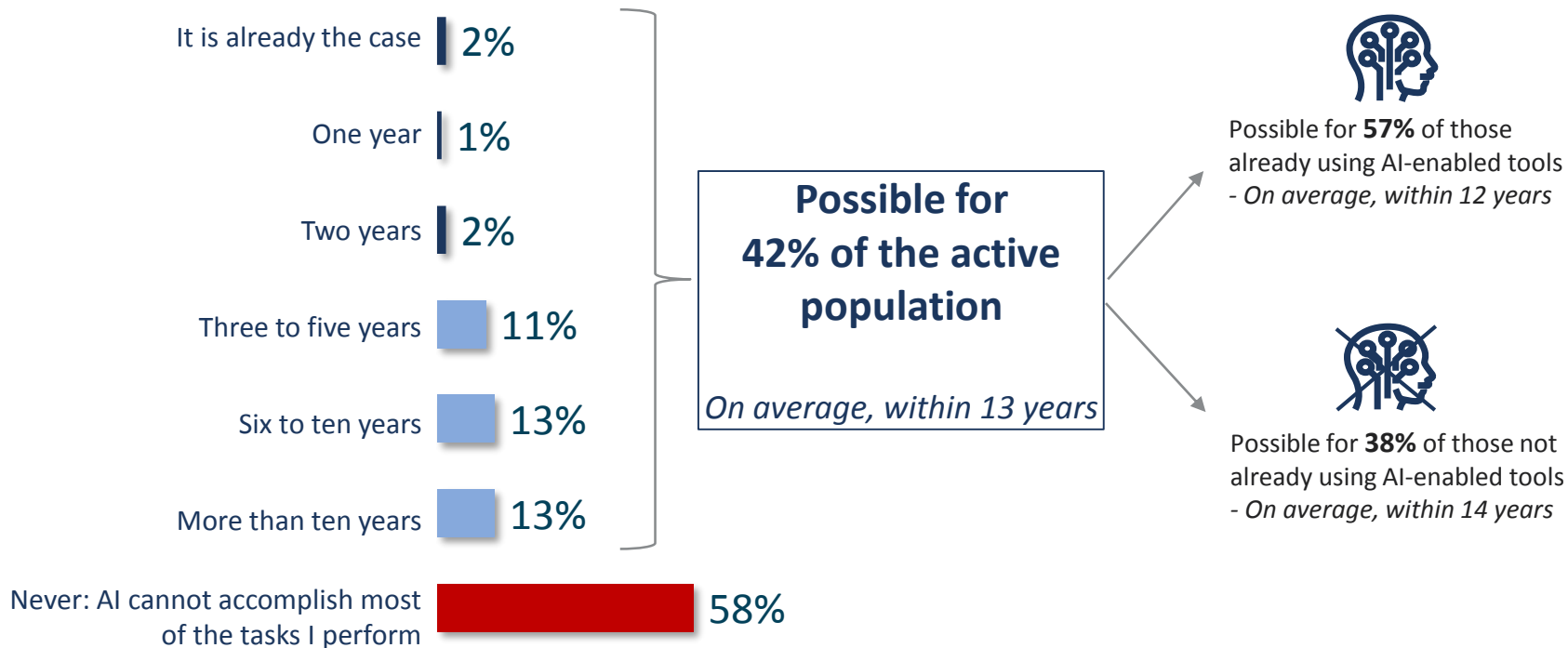
Base: All respondents.

38

## BREAKDOWN BY COUNTRY

Country	Only certain companies and certain business sectors	The economy as a whole
France	48	52
Germany	43	57
Spain	45	55
United Kingdom	49	51
United States	42	58
Canada	40	60
China	24	76








# Four in ten employees believe that, in the medium term, an AI-enabled machine could handle most of the tasks they currently perform



When do you think that developments in AI will enable a machine/computer to accomplish most or all of the tasks that you currently perform?

Base: All respondents.

# Except in China, employees have similar views of the time frame for AI advances

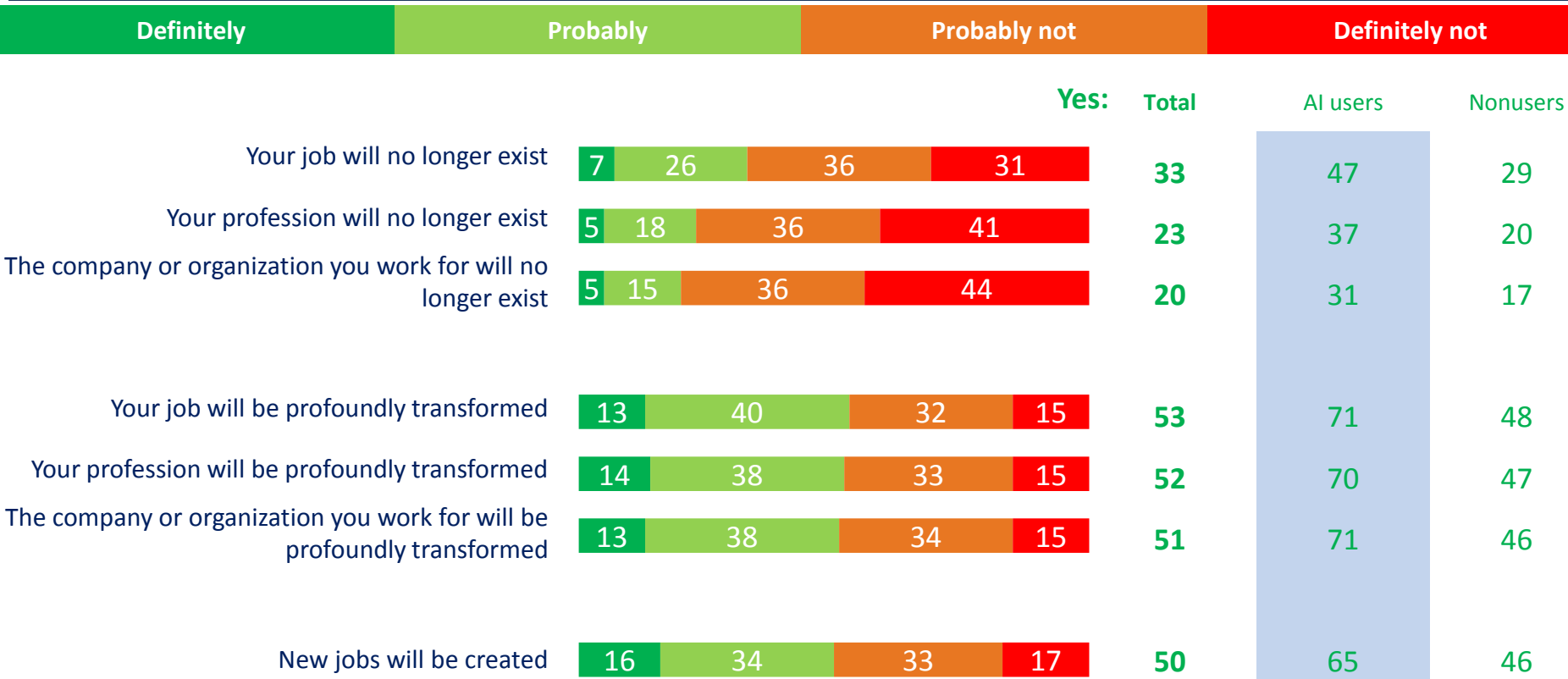
		BREAKDOWN BY COUNTRY						
TOTAL		 France	 Germany	 Spain	 United Kingdom	 United States	 Canada	 China
It is already the case	2	1	1	1	2	3	2	4
One year	1	1	-	-	1	1	1	1
Two years	2	1	1	2	3	3	2	3
Three to five years	11	8	8	10	9	13	11	21
Six to ten years	13	10	11	16	11	9	12	22
More than ten years	13	10	12	17	11	11	10	19
<b>Total: Considered possible</b>	<b>42</b>	<b>31</b>	<b>33</b>	<b>46</b>	<b>37</b>	<b>40</b>	<b>38</b>	<b>70</b>
<b>Never: AI cannot accomplish most of the tasks I perform</b>	<b>58</b>	<b>69</b>	<b>67</b>	<b>54</b>	<b>63</b>	<b>60</b>	<b>62</b>	<b>30</b>

When do you think that developments in AI will enable a machine/computer to accomplish most or all of the tasks that you currently perform?

Base: All respondents.



# Although they do not expect their professional world to disappear, most employees—particularly those who already work with AI—think that it will change a lot










Please indicate the likelihood that the following outcomes will occur as a result of AI over the next ten years?

Base: All respondents.

# Respondents in the countries surveyed widely share the feeling that big changes are coming

YES (IN %)

## BREAKDOWN BY COUNTRY

	TOTAL	 France	 Germany	 Spain	 United Kingdom	 United States	 Canada	 China
Your job will no longer exist	<b>33</b>	27	27	38	30	26	30	53
Your profession will no longer exist	<b>23</b>	22	16	24	23	20	20	39
The company or organization you work for will no longer exist	<b>20</b>	18	16	20	21	18	18	31
Your job will be profoundly transformed	<b>53</b>	51	46	56	47	48	47	78
Your profession will be profoundly transformed	<b>52</b>	50	42	56	47	46	48	76
The company or organization you work for will be profoundly transformed	<b>51</b>	47	40	55	47	45	46	77
New jobs will be created	<b>50</b>	42	37	44	40	48	47	91

Please indicate the likelihood that the following outcomes will occur as a result of AI over the next ten years?

Base: All respondents.

## About Ipsos

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Ipsos ranks third in the global research industry. With a strong presence in 88 countries, Ipsos employs more than 16,000 people and has the ability to conduct research programs in more than 100 countries. Founded in France in 1975, Ipsos is controlled and managed by research professionals. They have built a solid Group around a multi-specialist positioning – Media and advertising research; Marketing research; Client and employee relationship management; Opinion & social research; Mobile, Online, Offline data collection and delivery.

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## Game Changers

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At Ipsos we are passionately curious about people, markets, brands, and society. We deliver information and analysis that makes our complex world easier and faster to navigate and inspires our clients to make smarter decisions. We believe that our work is important. Security, simplicity, speed, and substance applies to everything we do.

Through specialization, we offer our clients a unique depth of knowledge and expertise. Learning from different experiences gives us perspective and inspires us to boldly call things into question, to be creative. By nurturing a culture of collaboration and curiosity, we attract the highest caliber of people who have the ability and desire to influence and shape the future. “Game Changers”—our tagline—summarizes our ambition.

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