

Brazil
China
France
Germany
India
UK
USA

WE ASKED THE WORLD

WHAT DO PEOPLE AROUND THE WORLD THINK
AND FEEL ABOUT TECHNOLOGY?

FOCUS: SUSTAINABILITY

**T
E
C
H**
COMPASS
2023



WHAT'S INSIDE?

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THE IDEA

We are living in challenging times. Whether it's war in Europe, ongoing climate change, rising inflation, energy shortages or worsening famines around the world – the crises we are facing are more complex than ever. This is why, when we asked people around the world how they felt about technology, we were astonished by what they had to say. This report highlights key findings from the Bosch Tech Compass 2023. Representative of the countries surveyed and now in its second year, the survey will also be presented at CES 2023, the world's largest technology trade show.

75% of respondents in Brazil, China, France, Germany, India, the UK, and the US believe that technology makes the world a better place (2022: 72%). And as many as 83% of respondents think that future technological progress will play a key role in combating climate change (2022: 76%). All over the world, people feel even more optimistic about technology and trust it more than they did last year. This holds true across all regions surveyed.

At Bosch, we strongly believe that we can only overcome current and future crises if we combine technology with sustainability. This year's Tech Compass – with its emphasis on sustainability – has revealed some issues around this topic: while four out of five respondents worldwide agree that the more a company focuses on sustainable technologies, the more economic success it will have in the future, only 42% of people feel that the majority of their country's companies is serious about sustainability.

It is important to take responsibility for people, the environment, and society – especially in times of fundamental change. This is why sustainability and technology are at the core of what we do at Bosch. Our aim is to improve people's quality of life whilst safeguarding the livelihoods of present and future generations. We believe that technology should be “invented for life”.

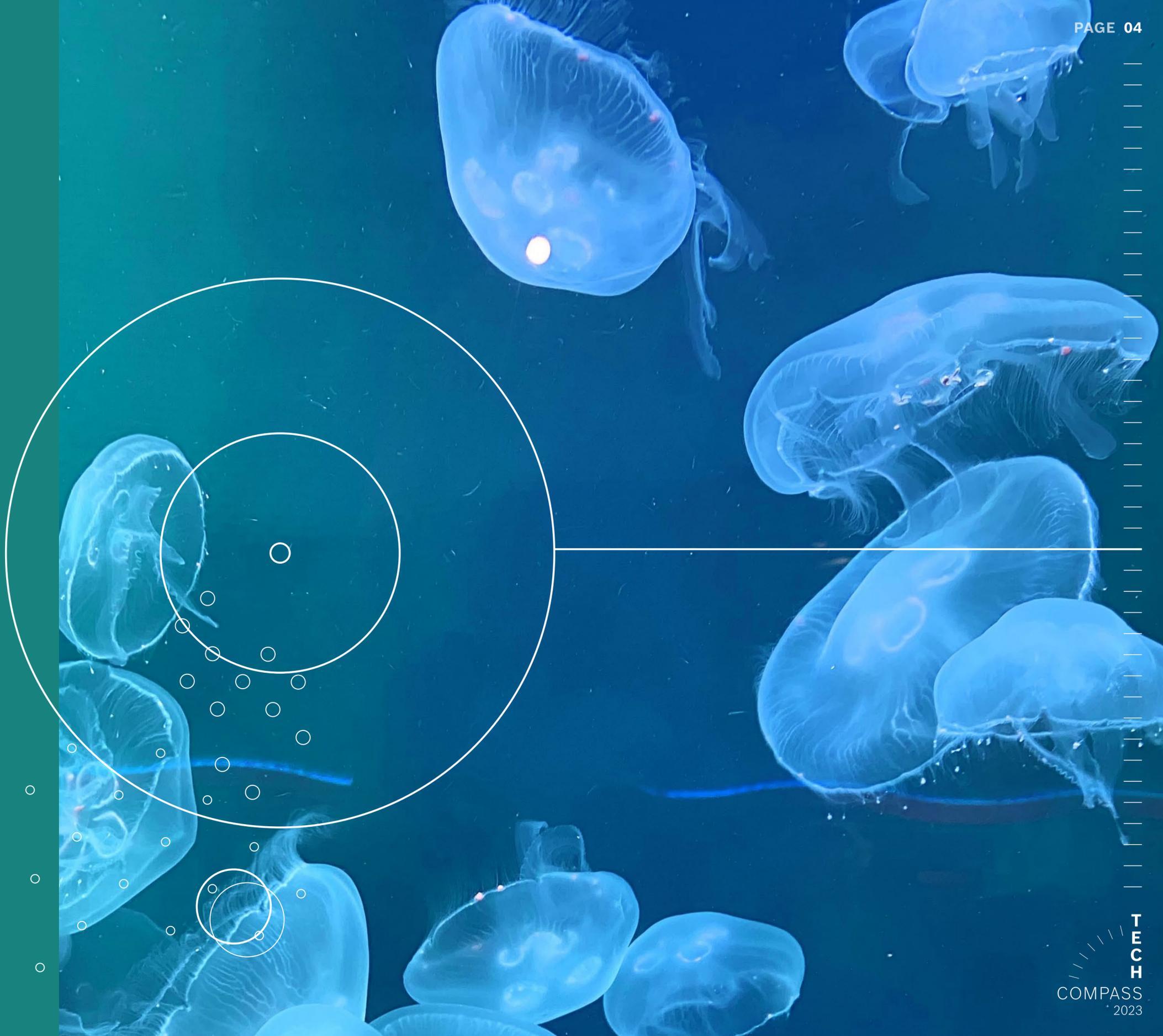
As a tech company, we have set ourselves clear and specific sustainability targets: Bosch has more than 400 sites worldwide, and we're

proud to say that we were the first global industrial enterprise of this scale to become carbon neutral. By 2030, Bosch's goal is to reduce emissions along the entire value chain by 15%. Beyond this, Bosch is driving digital transformation: by 2025, we will have invested 10 billion euros in digitalisation and connectivity. Two-thirds of this will go towards developing and expanding promising new technologies, with an emphasis on sustainability, mobility, and Industry 4.0.

I know we still have a long way to go and many challenges lie ahead. But a sustainable way of life is our clear vision. I'm excited that Bosch can be part of the solution. And I'm convinced that companies shouldn't have to choose between being profitable and doing what's best for the planet. If the right path is chosen, both aims go hand in hand. That's why more than 400,000 Bosch associates worldwide are committed to making our company a beacon not just of technology – but also, sustainability.



Dr. Stefan Hartung
Chairman of the board of management
of Robert Bosch GmbH



Foster technology in specific energy areas?

62% OF PEOPLE AROUND THE WORLD FAVOR SOLAR POWER

83%

of people around the globe believe technological progress will play the key role in

COMBATING CLIMATE CHANGE



GLOBALLY

43%

of respondents would buy a car in the metaverse

THREE OUT OF FOUR PEOPLE WORLDWIDE BELIEVE: TECHNOLOGY MAKES THE WORLD A BETTER PLACE

58% OF RESPONDENTS WORLDWIDE THINK THAT ONLY A MINORITY OF COMPANIES ARE SERIOUS ABOUT SUSTAINABILITY

ATTITUDES TOWARDS TECH

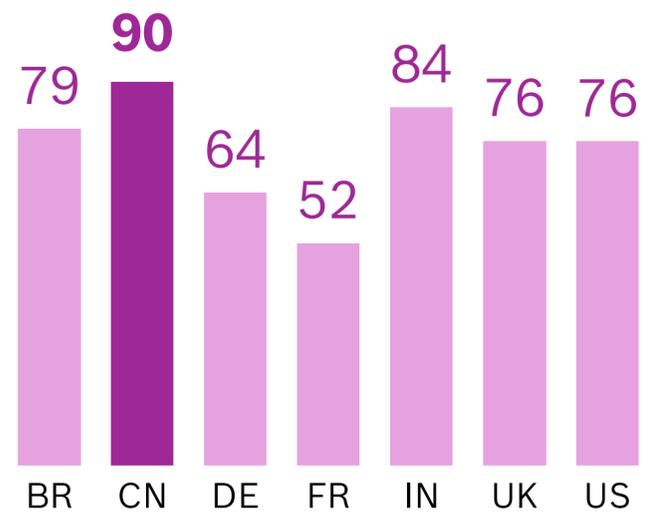


THE POSITIVES OF TECH

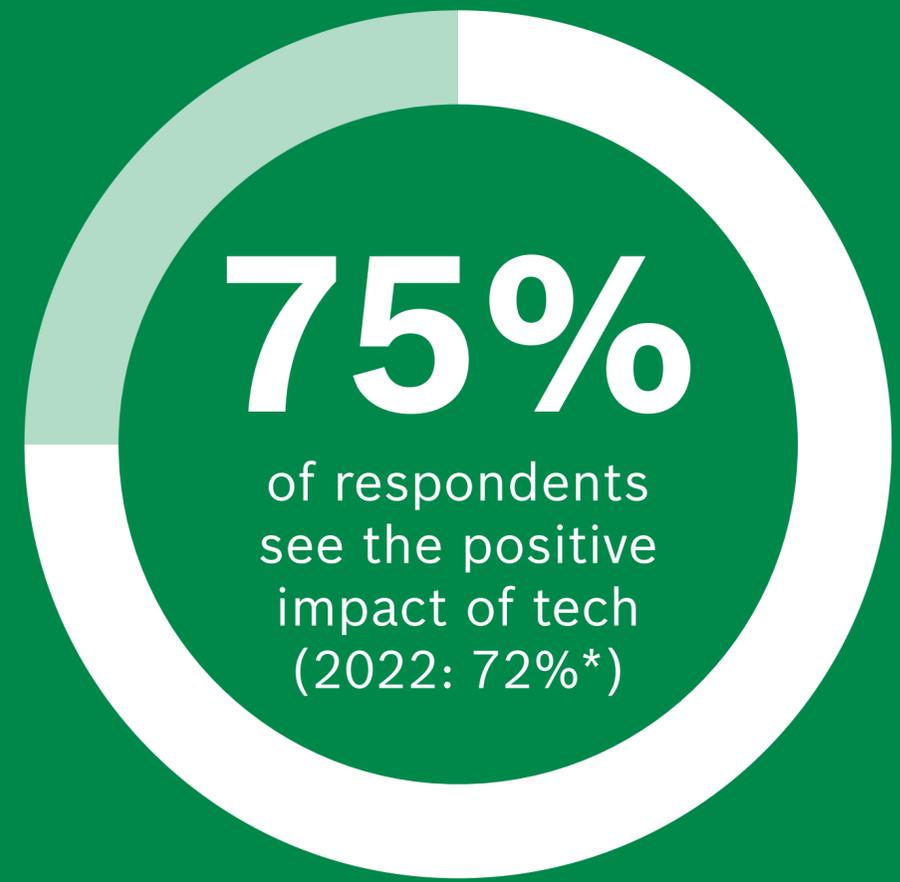
To what extent do you personally agree with the statement ‘Technological progress makes the world a better place.’?

REGIONAL

The Chinese have a very positive attitude towards advances in technology (90%). The French (52%) are divided.



Answers were scaled from 1 to 4. Top-2-Box Results. BRA N = 2035, China N = 2023, DE N = 1016, FR N = 1031, India N = 2024, UK N = 1015, USA N = 2035, Answers in %.



GLOBAL INDEX

The vast majority of respondents worldwide (75%) believe that technology makes the world a better place. This means that confidence in technology is up by 3 percentage points compared to the previous year.*

*For ease of reading and interpretation, the global index for 2023 based on 7 countries is compared with the index of 2022 based on 5 countries. Calculating a global index for 2023 based on the 5 previous countries provided equivalent results.

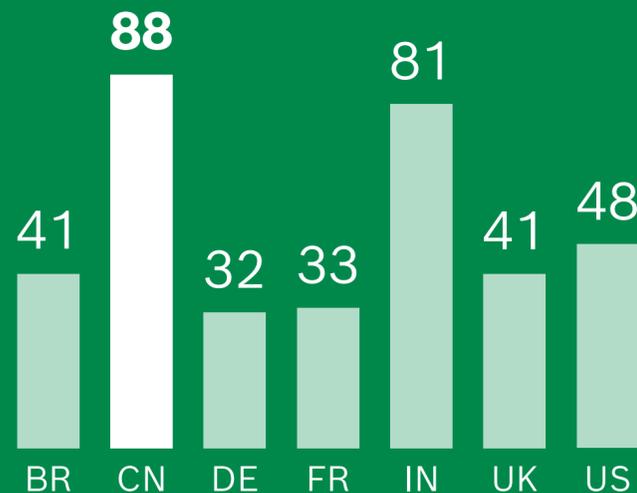
Answers were scaled from 1 to 4. Top-2-Box Results. 2023 All Countries N = 11179, 2023 Previous Countries N = 8113, 2022 N = 8076. Answers in %.

SOLVING PROBLEMS WITH TECHNOLOGY

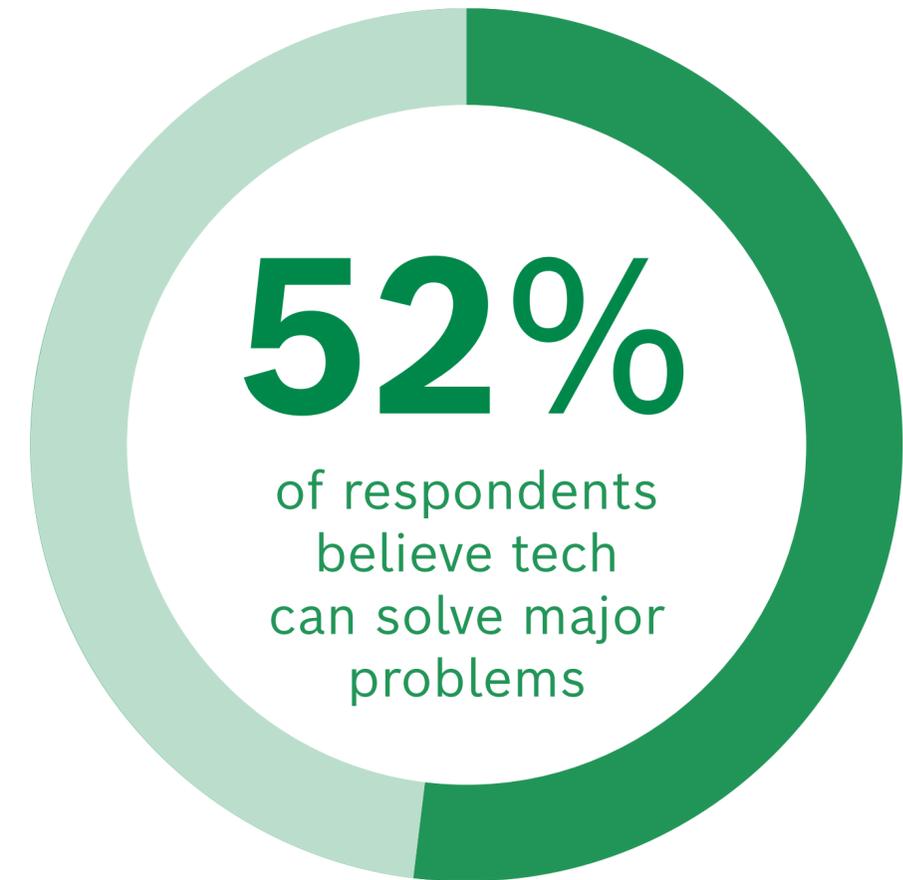
To what extent do you personally agree with the statement ‘Global technological progress is being used sufficiently to tackle the major problems of our time.’?

REGIONAL

While the vast majority of people in China (88%) and India (81%) believe technology is being used sufficiently to tackle the major problems of our time, the US is divided (48%) while the UK, Brazil (both 41%), France (33%) and Germany (32%) are skeptical.



BRA N = 2035, China N = 2023, DE N = 1016, FR N = 1031, India N = 2024, UK N = 1015, USA N = 2035, Answers in %.



GLOBAL INDEX

The world is just as divided on this question as it was last year – 52% of respondents agree, whereas 48% disagree

Answers were scaled from 1 to 4. Top-2-Box Results. 2023 All Countries N = 11179, 2023 Previous Countries N = 8113, 2022 N = 8076. Answers in %.

HOPES AND FEARS



THE BENEFITS OF TECH

What benefits do you hope technology and technological progress will bring?

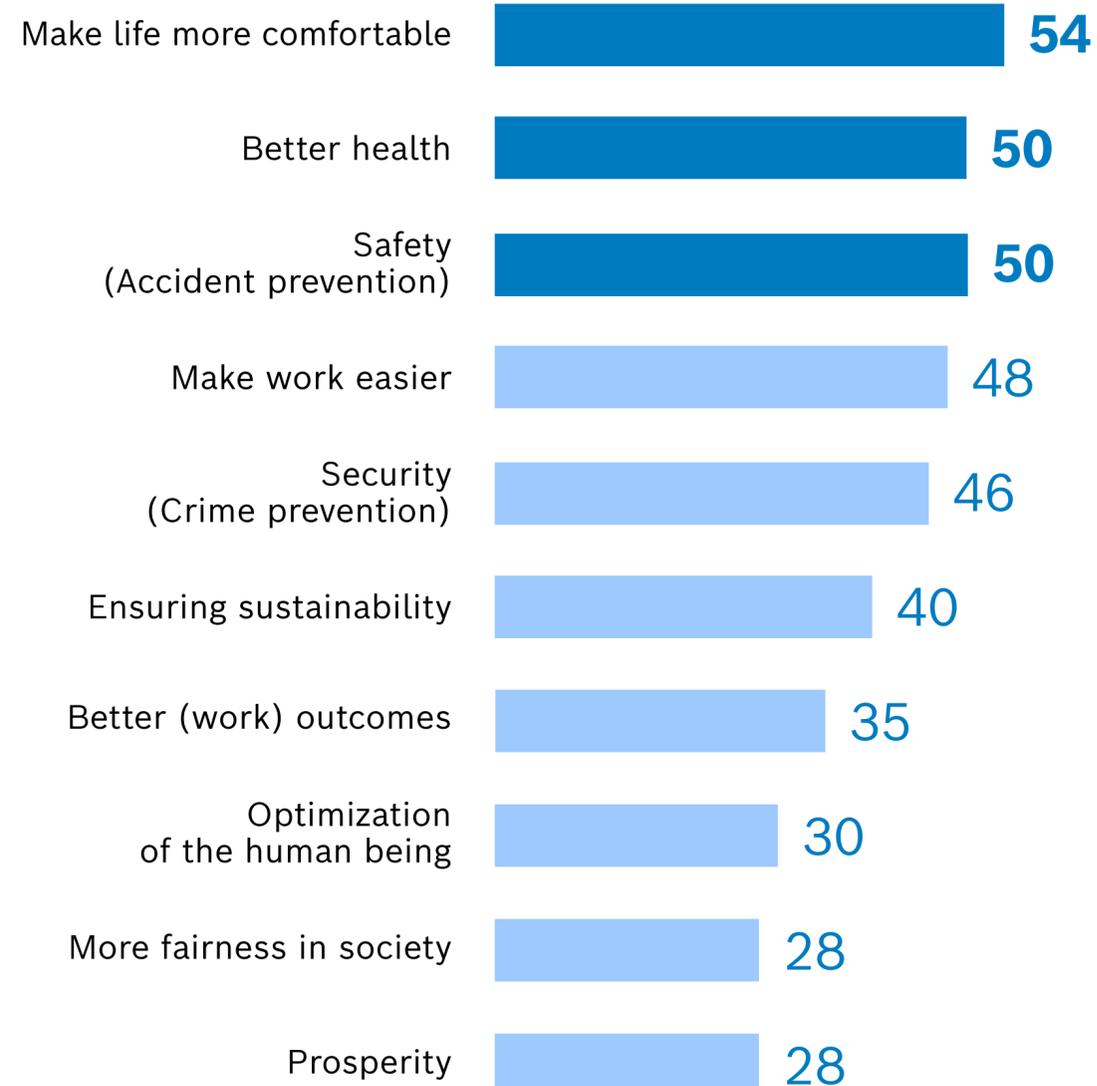
GLOBAL INDEX

A consistent picture emerges worldwide: a more comfortable life (54%), better health, and safety (both 50%) are the most pronounced hopes resulting from technology.

REGIONAL

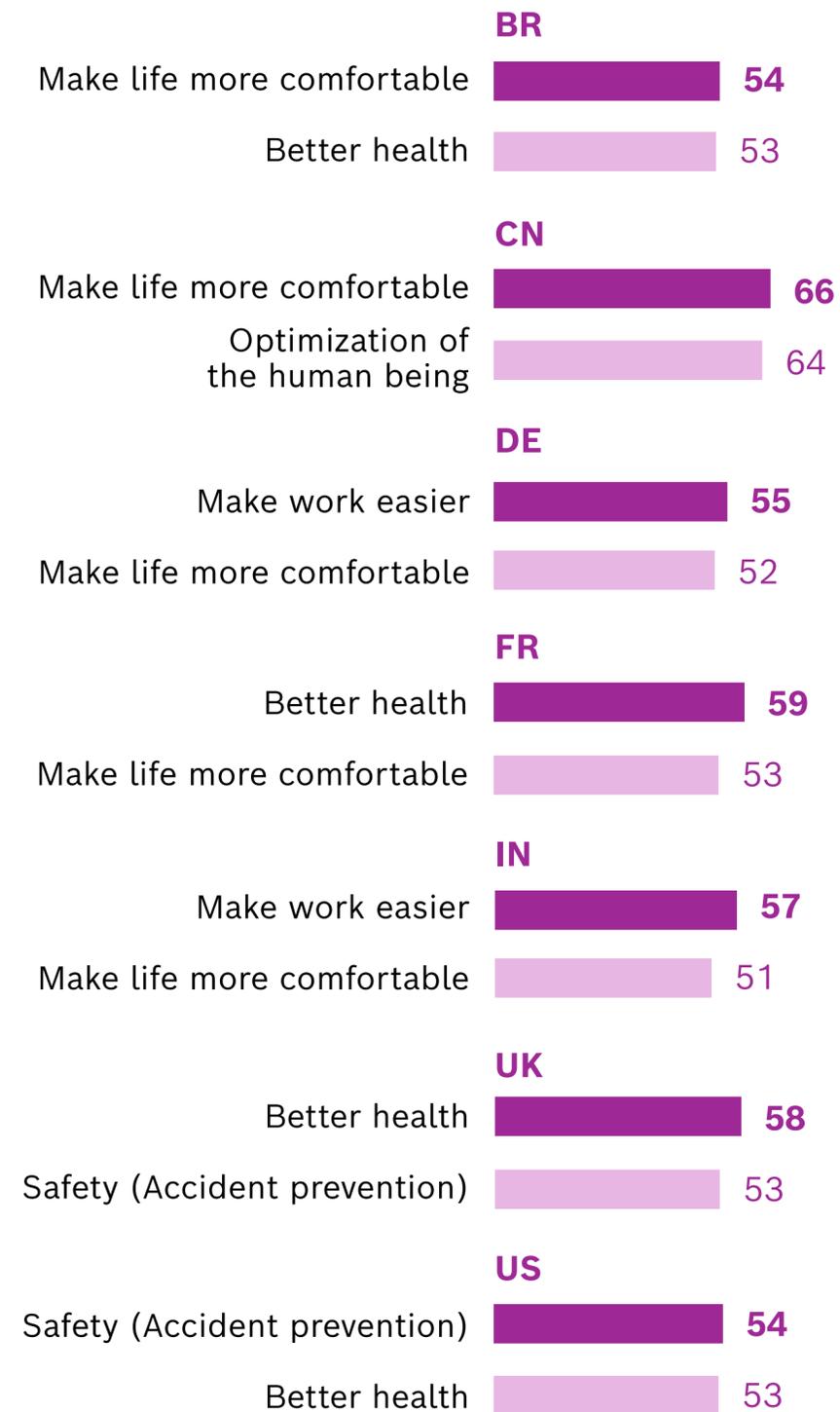
While a majority of the Chinese (64%) hope technology will help optimize human beings, considerably fewer people believe in this in Brazil etc.

GLOBAL INDEX



2023 All Countries N = 11179, 2023 Previous Countries N = 8113, 2022 N = 8076. Answers in %.

REGIONAL TOP 2



BRA N = 2035, China N = 2023, DE N = 1016, FR N = 1031, India N = 2024, UK N = 1015, USA N = 2035. Answers in %.

CONCERNS ABOUT TECH

And what concerns do you feel when you think of technological progress?

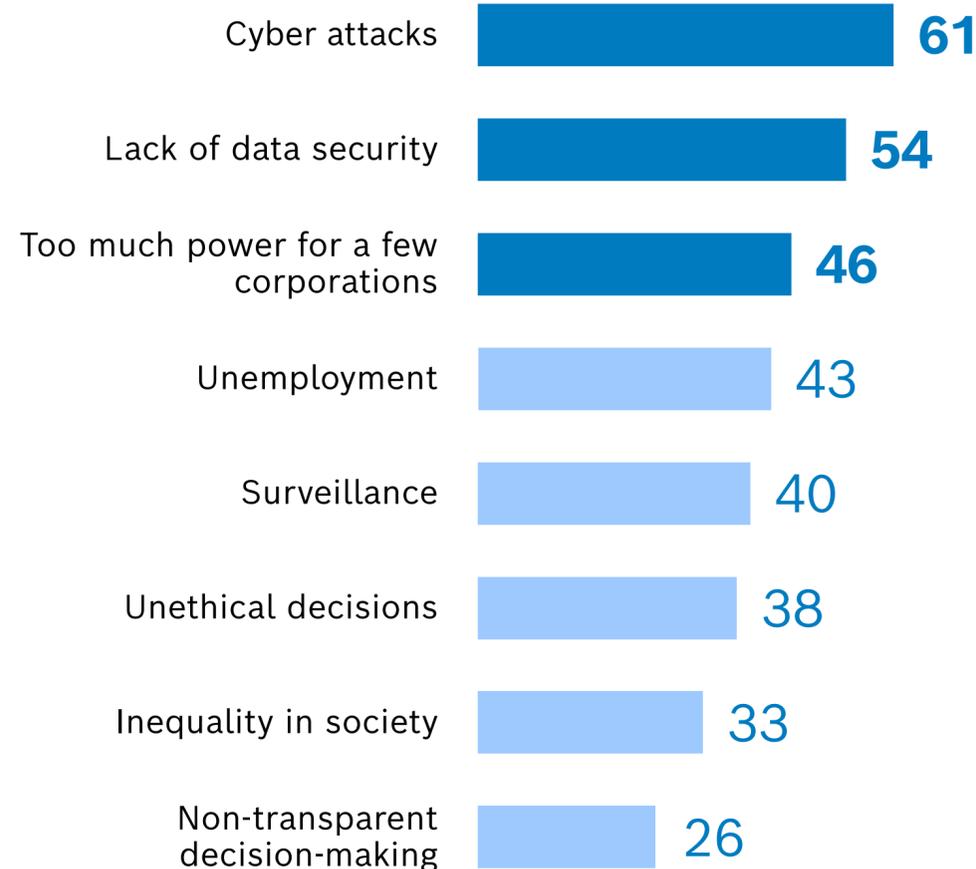
GLOBAL INDEX

When it comes to technological progress, people around the world are most afraid of cyber attacks, a lack of data security and a few corporations having too much power.

REGIONAL

People in China and India are less concerned about a few corporations having too much power than those in the US, Europe and Brazil. The numbers in these countries are significantly higher. Germans continue to be particularly worried about surveillance, whereas Brazilians fear unemployment and inequality in society more than other nations.

GLOBAL INDEX



2023 All Countries N = 11179, 2023 Previous Countries N = 8113, 2022 N = 8076. Answers in %.

REGIONAL TOP 2



BRA N = 2035, China N = 2023, DE N = 1016, FR N = 1031, India N = 2024, UK N = 1015, USA N = 2035. Answers in %.

POSITIVE IMPACT ON SOCIETY

Which of these technologies do you think will make a particularly positive contribution to society?

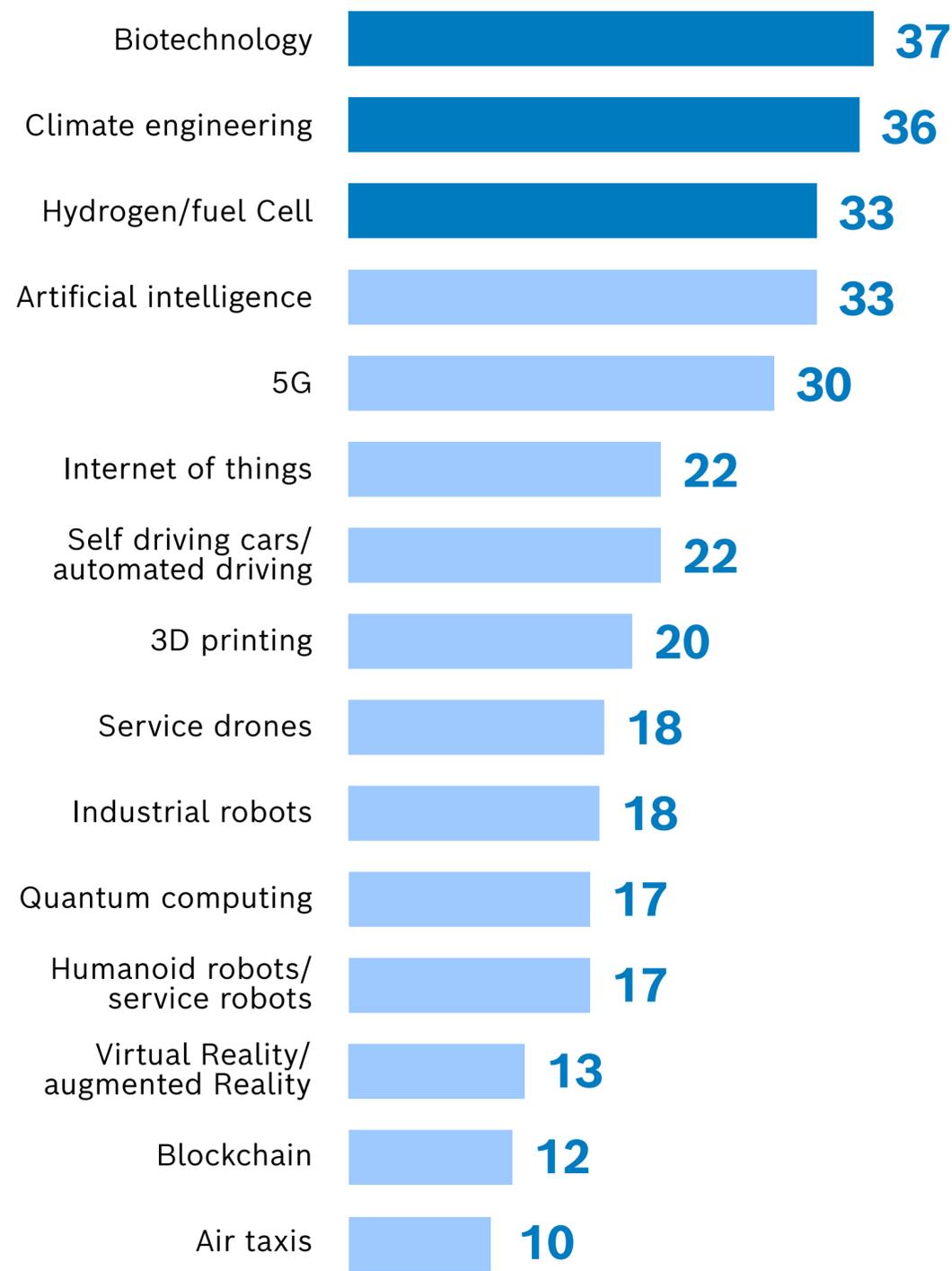
GLOBAL INDEX

In terms of making a positive contribution to society, biotechnology (37%) has taken over the top position from climate engineering (36%) compared to last year's findings. Hydrogen and AI amount to 33% each.

REGIONAL

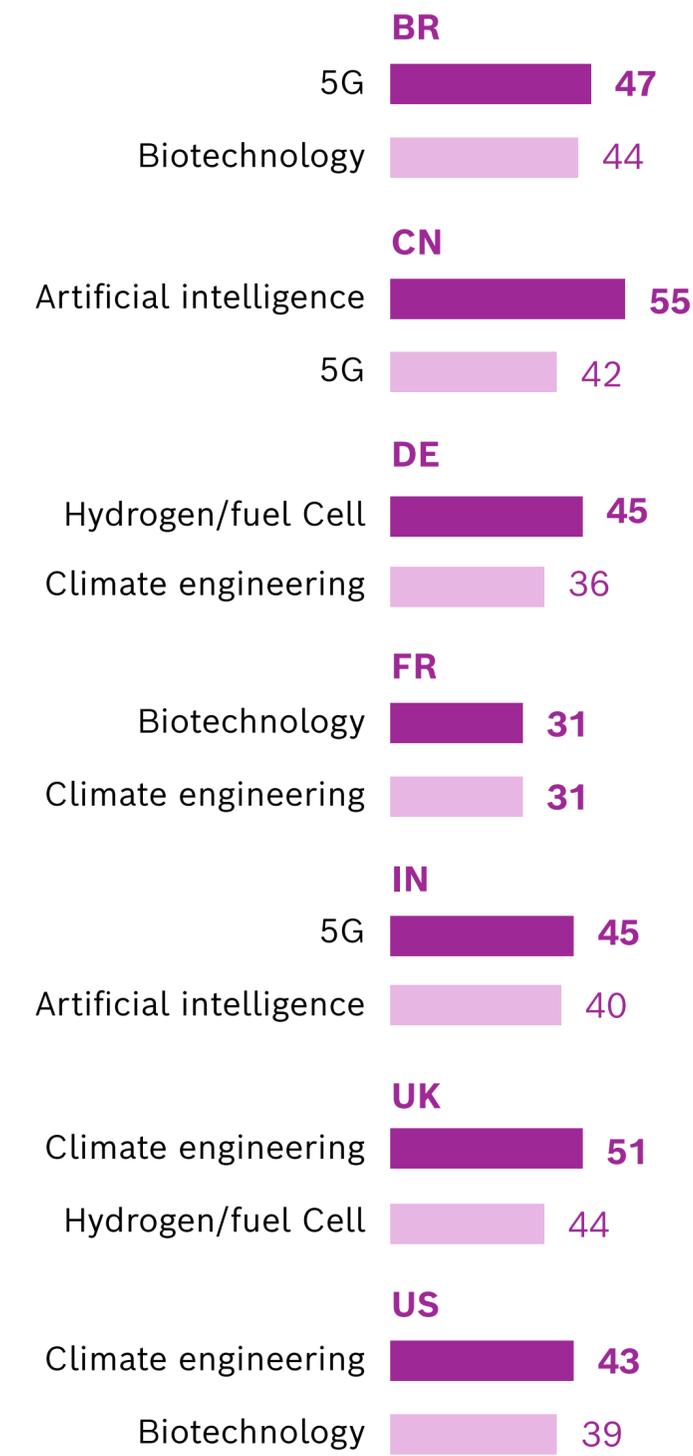
While Western countries overwhelmingly consider climate engineering, biotechnology and hydrogen to be the most promising technologies, AI and 5G continue to top the charts in China and India. Brazilians are expecting 5G and biotechnology to have the most positive impact.

GLOBAL INDEX



The reported values are based on respondents that know the respective technology. 2023 All Countries N = 11179, 2023 Previous Countries N = 8113, 2022 N = 8076. Answers in %.

REGIONAL TOP 2



The reported values are based on respondents that know the respective technology. BRA N = 2035, China N = 2023, DE N = 1016, FR N = 1031, India N = 2024, UK N = 1015, USA N = 2035. Answers in %.

NEGATIVE IMPACT ON SOCIETY

Which of these technologies do you think are the biggest threat to society?

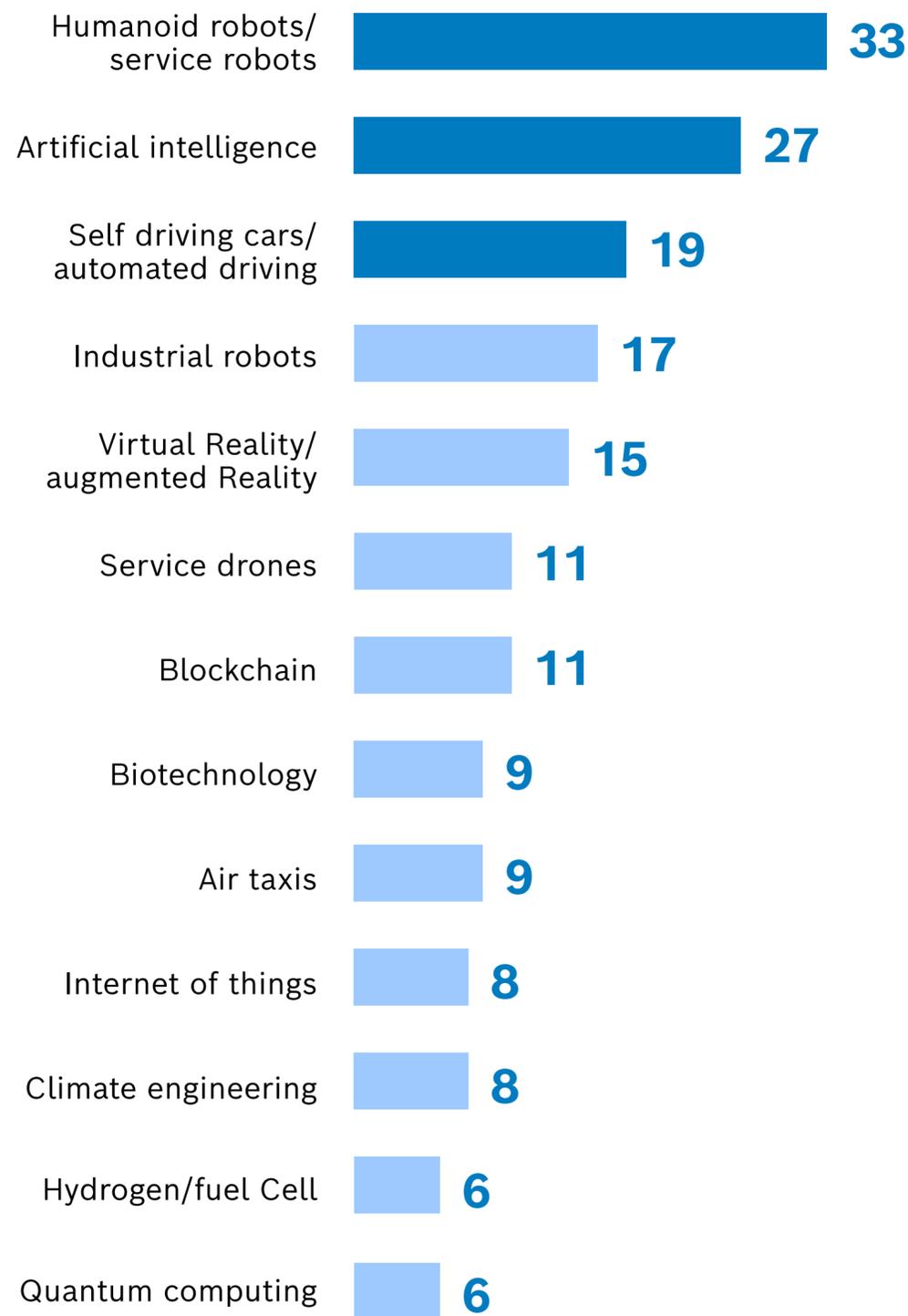
GLOBAL INDEX

All across the globe our respondents perceive humanoid robots to be the biggest threat to society – an increase of 4 percentage points compared to last year.*

REGIONAL

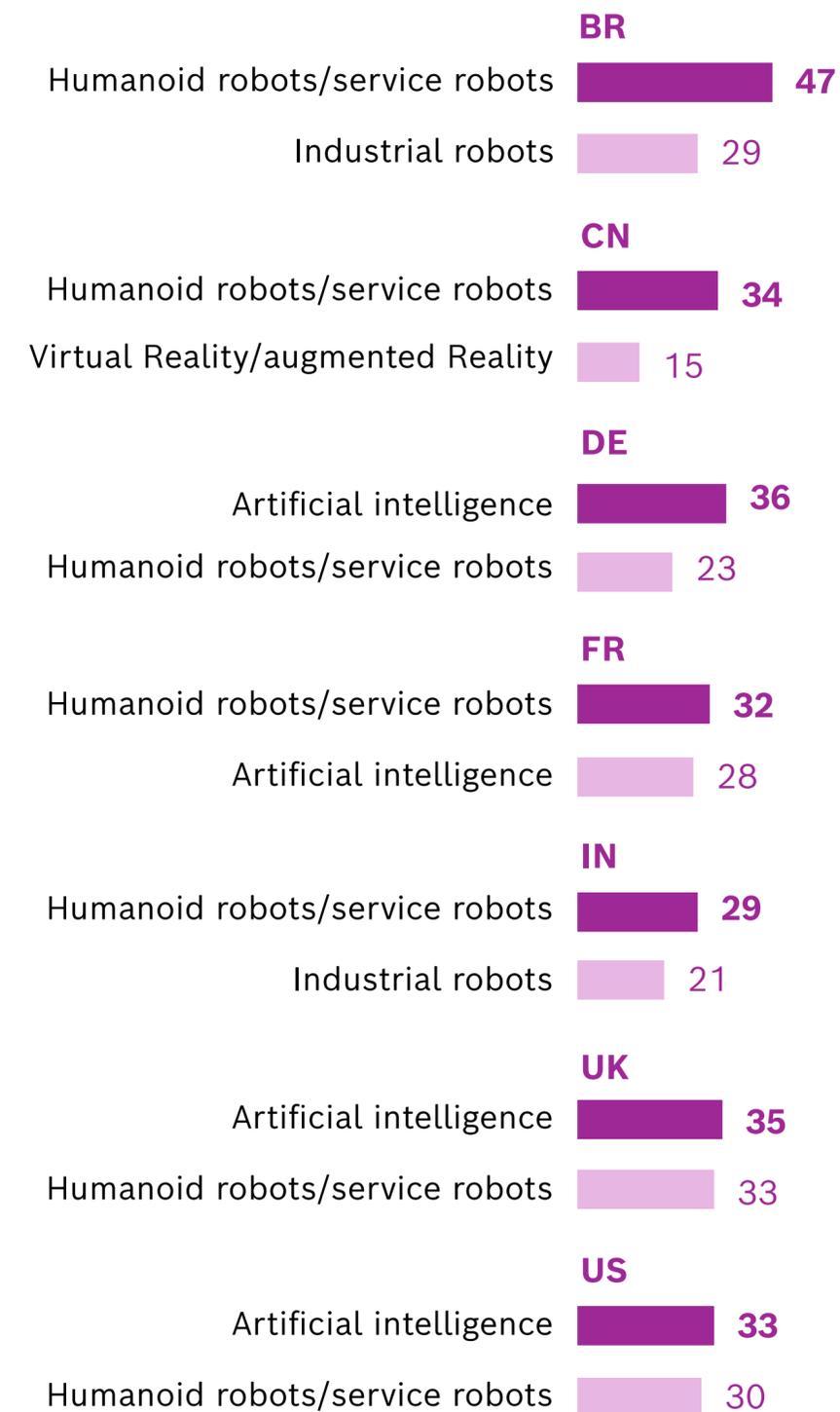
Beyond that, there are significant differences between the technologies countries view as a threat to society: while in Western countries, around a third of respondents have reservations about AI, in China and India these technologies are viewed much less critically. Brazilians are particularly skeptical about both humanoid and industrial robots.

GLOBAL INDEX



The reported values are based on respondents that know the respective technology. 2023 All Countries N = 11179, 2023 Previous Countries N = 8113, 2022 N = 8076. Answers in %.

REGIONAL TOP 2



The reported values are based on respondents that know the respective technology. BRA N = 2035, China N = 2023, DE N = 1016, FR N = 1031, India N = 2024, UK N = 1015, USA N = 2035. Answers in %.

THE FUTURE OF TECH



TECH OF THE FUTURE

Which of these technologies will be the most influential in your country in 10 years?

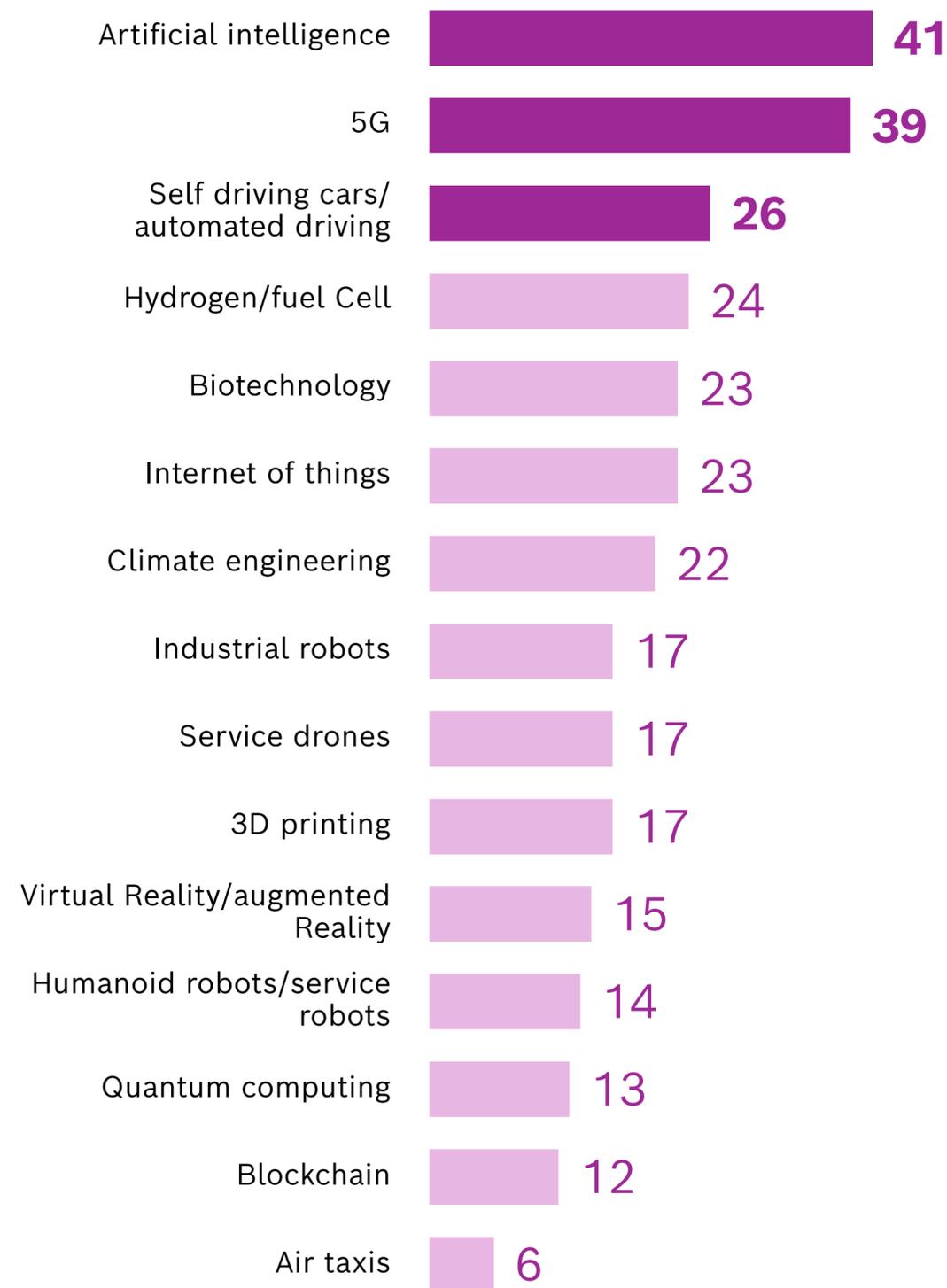
GLOBAL INDEX

Across the globe, respondents believe that AI and 5G will be the most relevant technologies in their respective countries.

REGIONAL

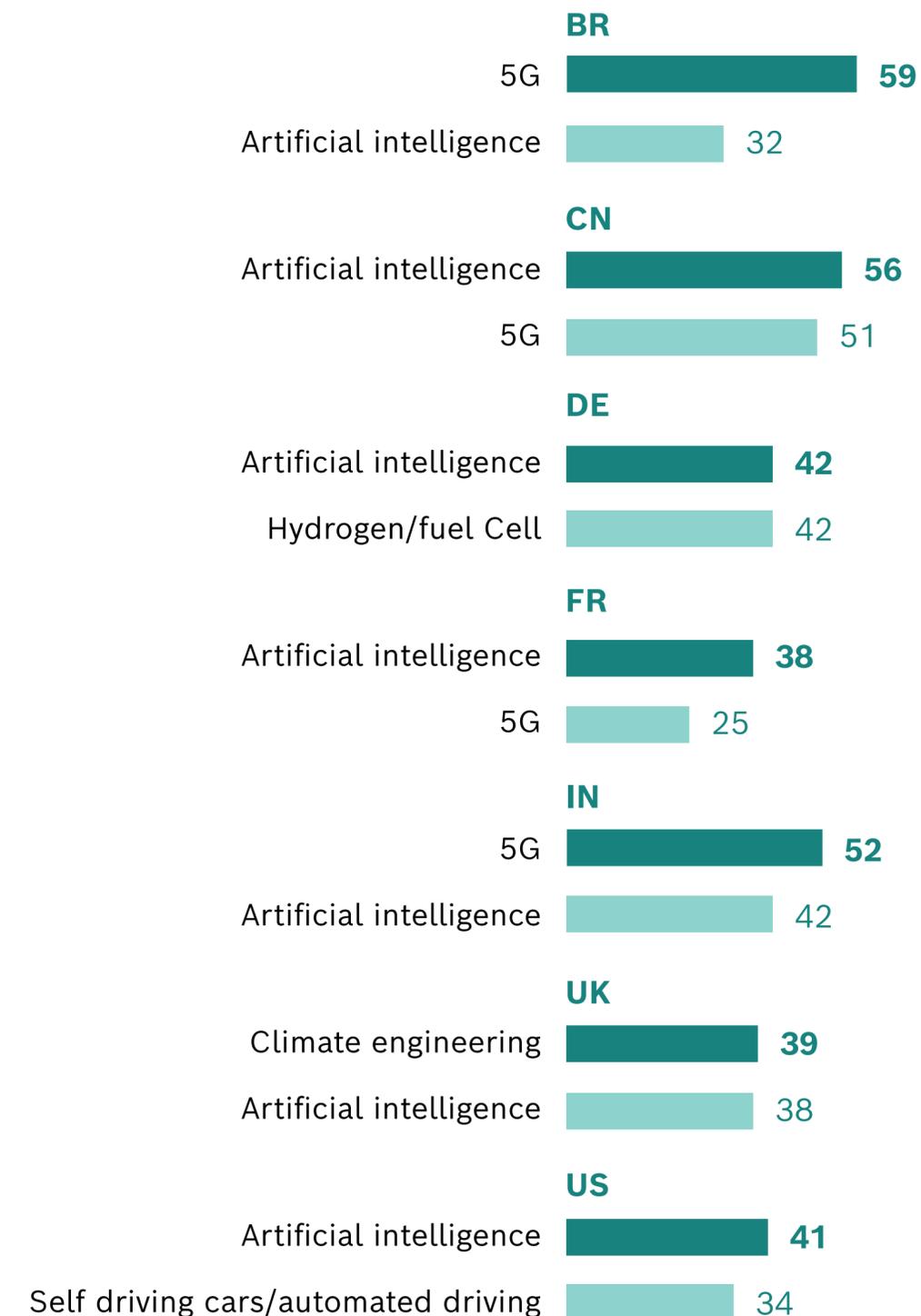
People in India and China are particularly convinced that AI and 5G will become most relevant, whereas Western countries think self-driving cars will play a bigger role. What stands out is that 42% of Germans consider hydrogen to be the defining technology of their country's future (9 percentage points more than last year*). For a staggering 59% of Brazilians, it is 5G.

GLOBAL INDEX



The reported values are based on respondents that know the respective technology. 2023 All Countries N = 11179, 2023 Previous Countries N = 8113, 2022 N = 8076. Answers in %.

REGIONAL TOP 2



The reported values are based on respondents that know the respective technology. BRA N = 2035, China N = 2023, DE N = 1016, FR N = 1031, India N = 2024, UK N = 1015, USA N = 2035. Answers in %.

DRIVING SUSTAINABILITY

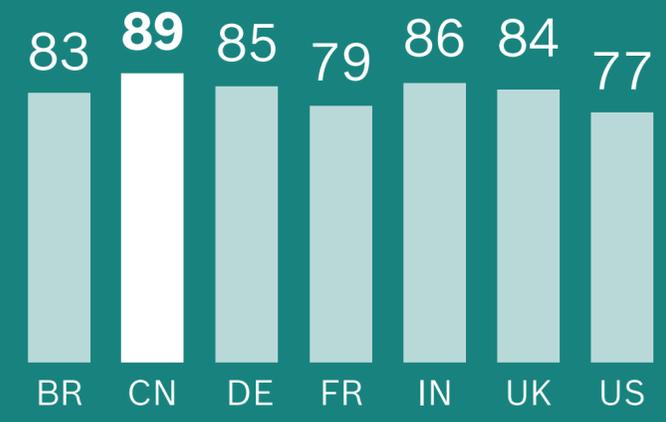


COMBATING CLIMATE CHANGE

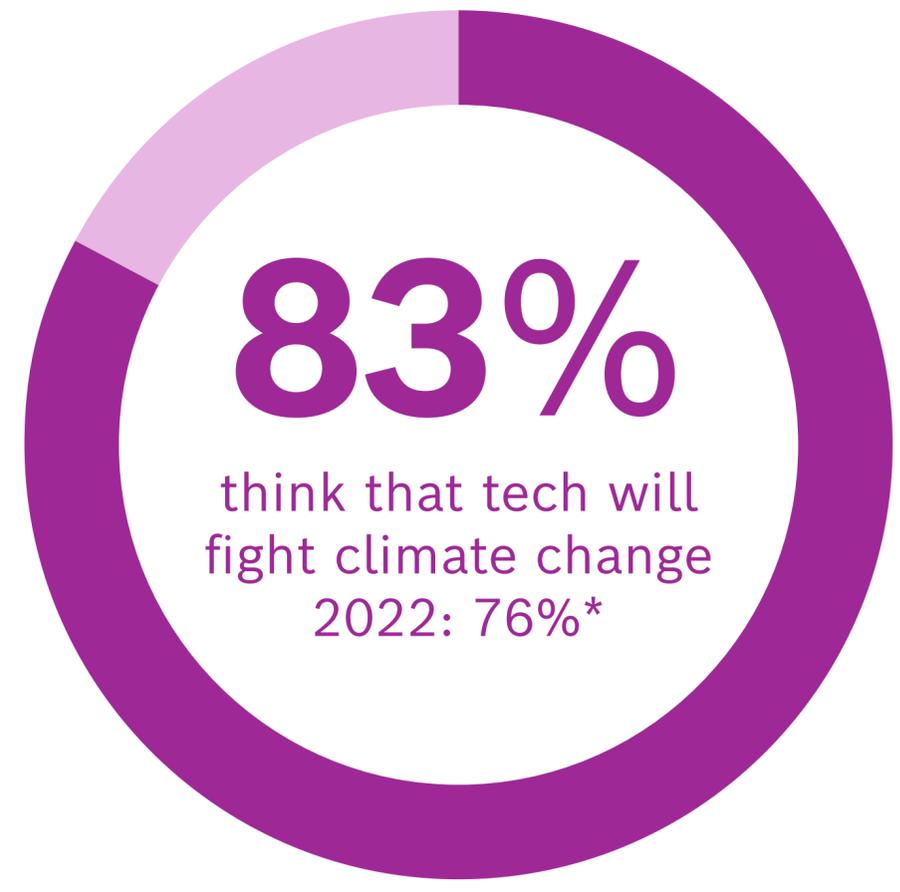
To what extent do you personally agree with the statement ‘Future technological progress will play the key role in combating climate change.’?

REGIONAL

In every country surveyed, a majority of respondents believe that technology is the key to fighting climate change. This view is most widespread in China (89%), and least common in the US (77%) – though even there, most people would agree with it.



BRA N = 2035, China N = 2023, DE N = 1016, FR N = 1031, UK N = 1015, USA N = 2035, India N = 2024. Answers in %.



GLOBAL INDEX

83% of respondents worldwide believe that future technological progress will be the key to combating climate change – 7 percentage points more than last year.

*For ease of reading and interpretation, the global index for 2023 based on 7 countries is compared with the index of 2022 based on 5 countries. Calculating a global index for 2023 based on the 5 previous countries provided equivalent results.

Answers were scaled from 1 to 4. Top-2-Box Results. 2023 All Countries N = 11179, 2023 Previous Countries N = 8113, 2022 N = 8076. Answers in %.

DRIVERS OF SUSTAINABILITY

Which of these technologies do you think has the greatest potential to drive sustainability in the future?

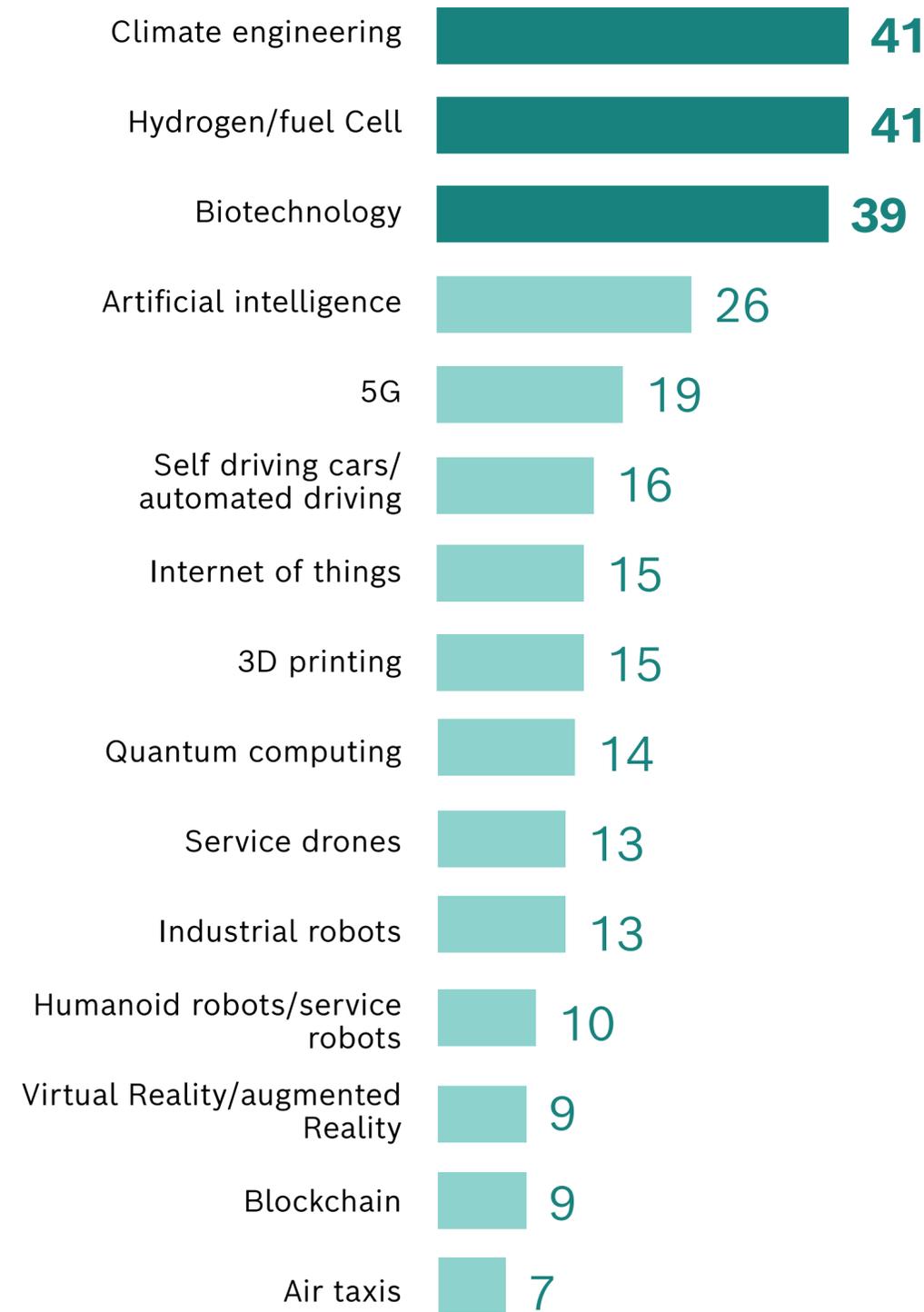
GLOBAL INDEX

On a global basis, climate engineering and hydrogen (both 41%) are the technologies that are seen as having the greatest potential to drive sustainability in the future, closely followed by biotechnology (39%).

REGIONAL

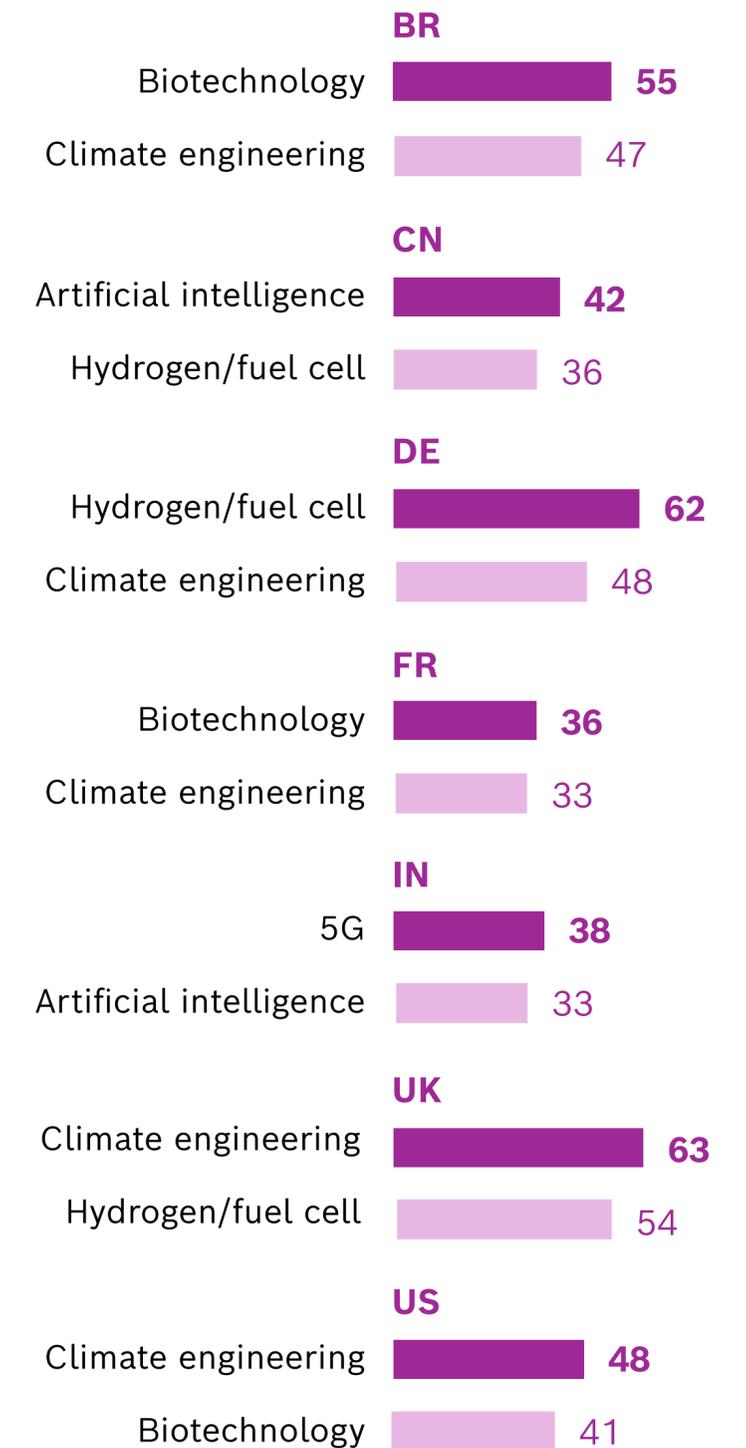
While Western countries have the highest hopes for green tech, China and India believe AI to be most promising when it comes to achieving sustainability. Once again, Germans favour hydrogen, and the technology is equally popular in the UK – even more so than last year.

GLOBAL INDEX



The reported values are based on respondents that know the respective technology. 2023 All Countries N = 11179, 2023 Previous Countries N = 8113, 2022 N = 8076. Answers in %.

REGIONAL TOP 2



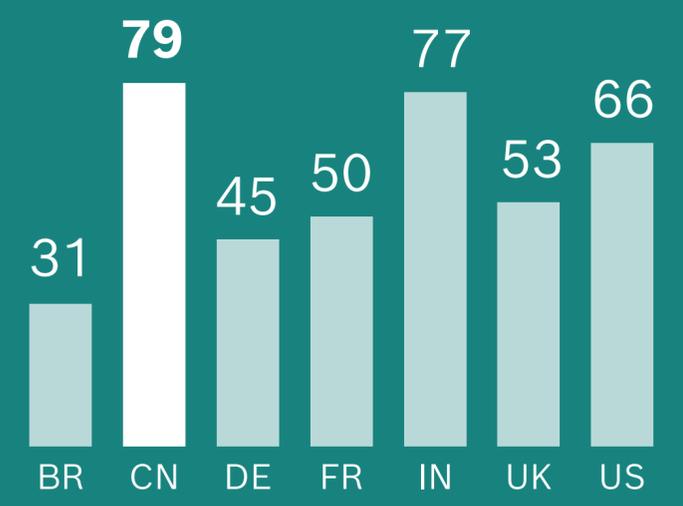
BRA N =2035, China N = 2023, DE N = 1016, FR N = 1031, India N = 2024, UK N = 1015, USA N = 2035. Answers in %.

LEADING GREEN TECH

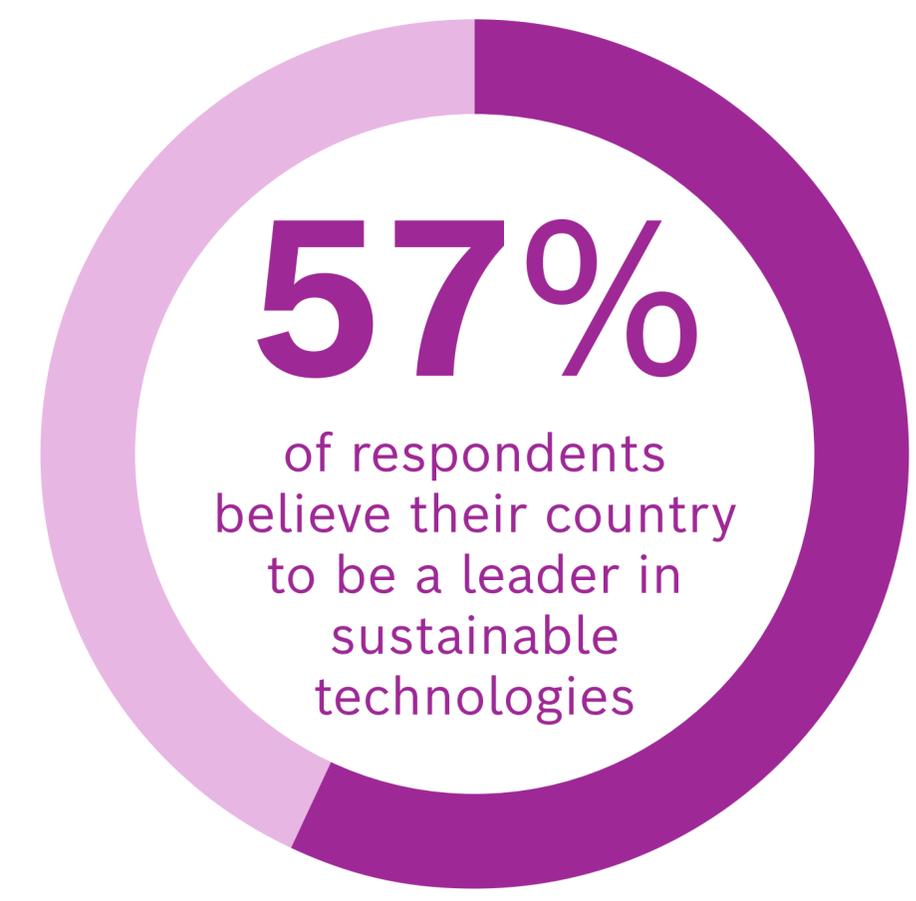
To what extent do you personally agree with the statement ‘Compared to other countries, my country is in a leading position in the field of sustainable technology.’?

REGIONAL

While the vast majority of people in China, India and the US see their countries as leaders of sustainable technologies, respondents in France and Germany are not as sure. Only 31% of Brazilians see their country in the lead.



BRA N = 2035, China N = 2023, DE N = 1016, FR N = 1031, India N = 2024, UK N = 1015, USA N = 2035, Answers in %.



GLOBAL INDEX

57% of respondents worldwide see their countries in a leading position in the field of sustainable technologies.

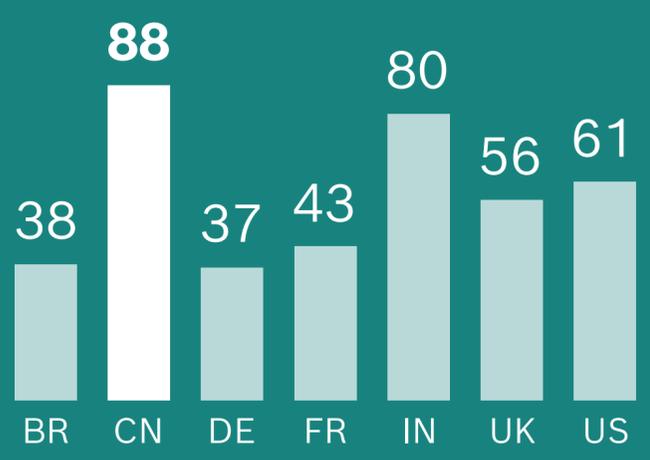
Answers were scaled from 1 to 4. Top-2-Box Results. 2023 All Countries N = 11179, 2023 Previous Countries N = 8113, 2022 N = 8076. Answers in %.

SUPPORTING GREEN TECH

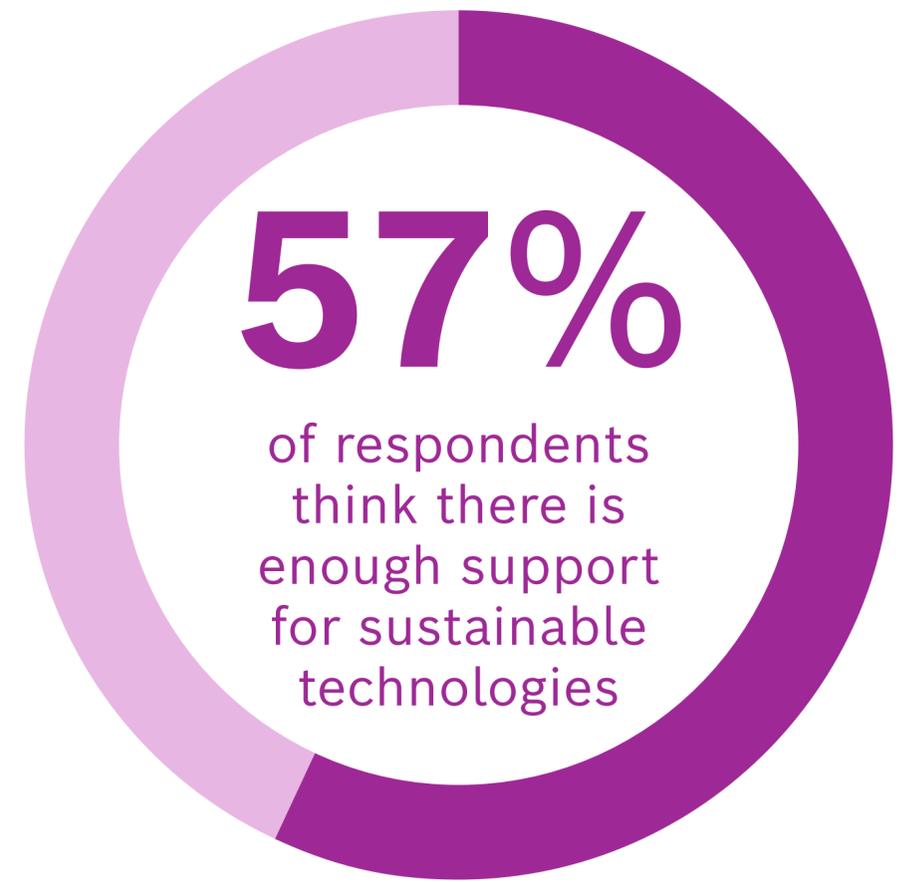
To what extent do you personally agree with the statement ‘My country sufficiently supports the development and expansion of sustainable technologies.’?

REGIONAL

People have differing views on this: while in China and India, the vast majority of people believe that there is adequate support for sustainable technologies, French, Brazilian and German citizens are less convinced that their own countries are doing enough. In the US and in the UK, opinion is split, though slightly more people think there is enough support for green tech.



BRA N = 2035, China N = 2023, DE N = 1016, FR N = 1031, India N = 2024, UK N = 1015, USA N = 2035, Answers in %.



GLOBAL INDEX

A slight majority (57%) of respondents worldwide believe that their countries are offering sufficient support for developing and expanding sustainable technologies.

Answers were scaled from 1 to 4. Top-2-Box Results. 2023 All Countries N = 11179, 2023 Previous Countries N = 8113, 2022 N = 8076. Answers in %.

**“COMPANIES SHOULDN’T HAVE
TO CHOOSE BETWEEN BEING
PROFITABLE AND DOING WHAT’S
BEST FOR THE PLANET.
IF THE RIGHT PATH IS CHOSEN,
BOTH AIMS GO HAND IN HAND.”**

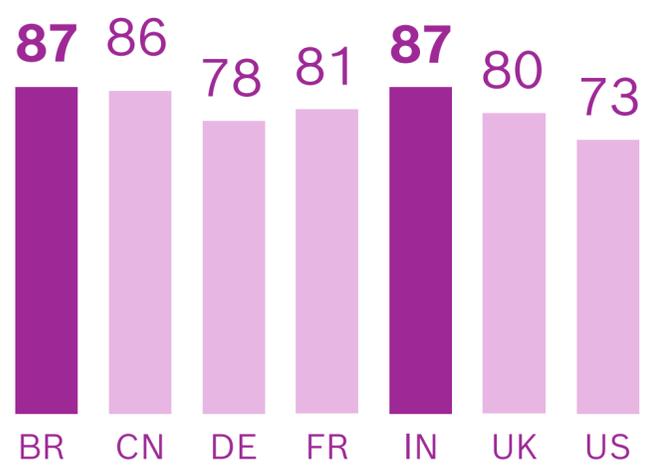
DR. STEFAN HARTUNG, CHAIRMAN OF THE BOARD OF MANAGEMENT

ECONOMIC SUCCESS

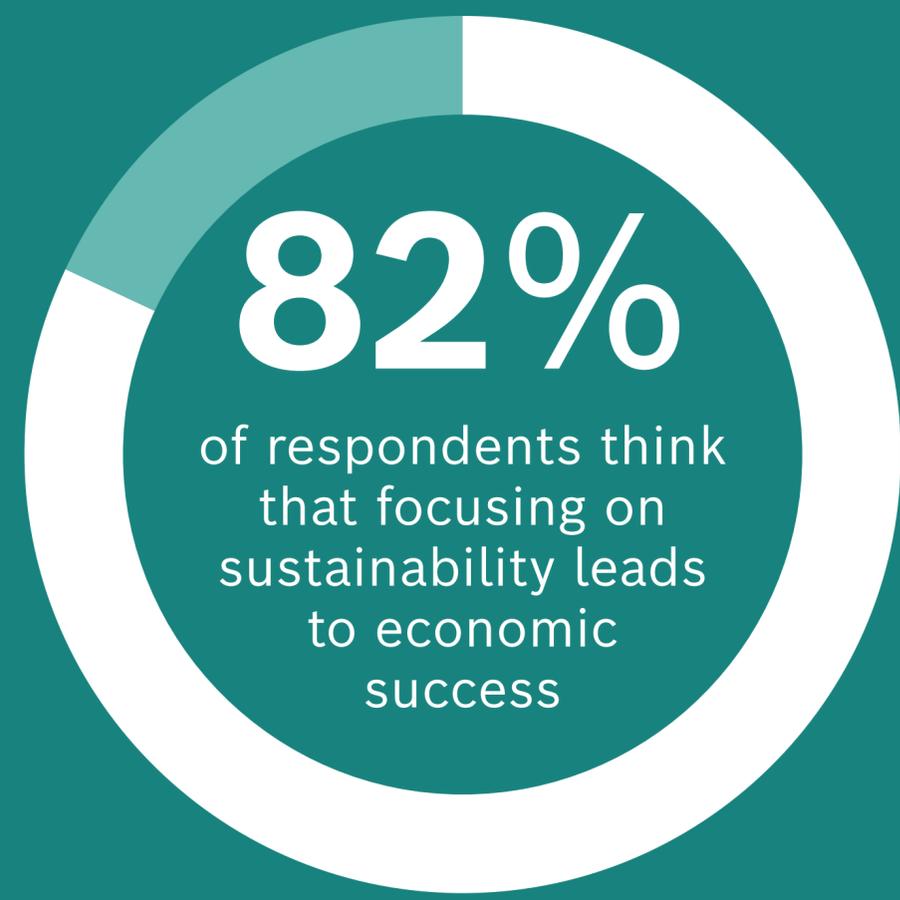
To what extent do you personally agree with the statement: ‘The more a company focuses on sustainable technologies, the more economic success it will have in the future.’?

REGIONAL

There is consensus at the regional level. At least three out of four respondents in every country believe that the more a company focuses on sustainable technologies, the more economic success it will have in the future.



BRA N = 2035, China N = 2023, DE N = 1016, FR N = 1031, India N = 2024, UK N = 1015, USA N = 2035, Answers in %.



GLOBAL INDEX

The vast majority of respondents (82%) believe that the more a company focuses on sustainable technologies, the more economic success it will have in the future.

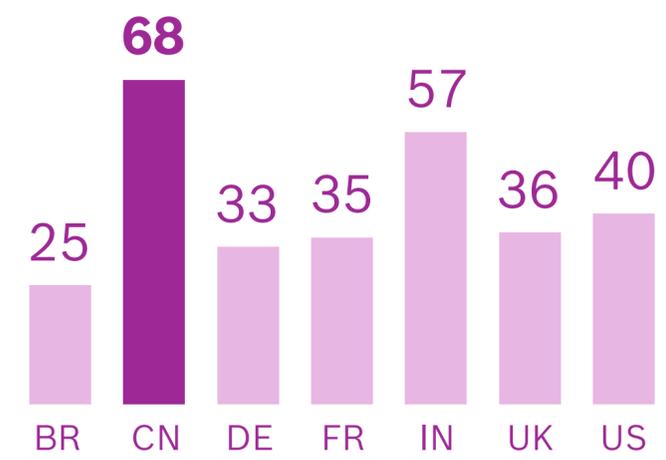
Answers were scaled from 1 to 4. Top-2-Box Results. 2023 All Countries N = 11179, 2023 Previous Countries N = 8113, 2022 N = 8076. Answers in %.

SERIOUS COMMITMENT

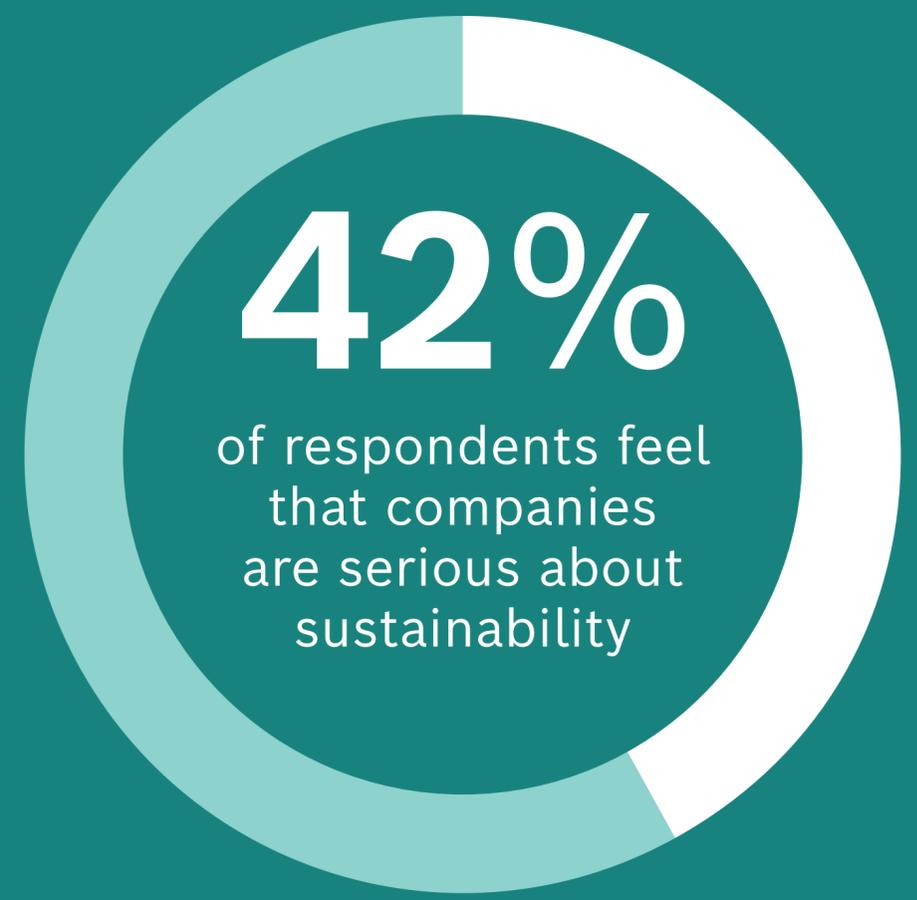
To what extent do you personally agree with the statement ‘The majority of companies in my country are serious about their commitment to sustainability.’?

REGIONAL

Particularly in China, but also in India, people feel that businesses in their countries are serious about sustainability. In the US, the UK, France, Germany and Brazil, only a minority feel the same.



BRA N = 2035, China N = 2023, DE N = 1016, FR N = 1031, India N = 2024, UK N = 1015, USA N = 2035, Answers in %.



GLOBAL INDEX

42% of respondents worldwide trust that the majority of companies in their country are serious about their commitment to sustainability.

Answers were scaled from 1 to 4. Top-2-Box Results. 2023 All Countries N = 11179, 2023 Previous Countries N = 8113, 2022 N = 8076. Answers in %.

TECH & ENERGY

In which of the following energy areas should your country foster technological progress?

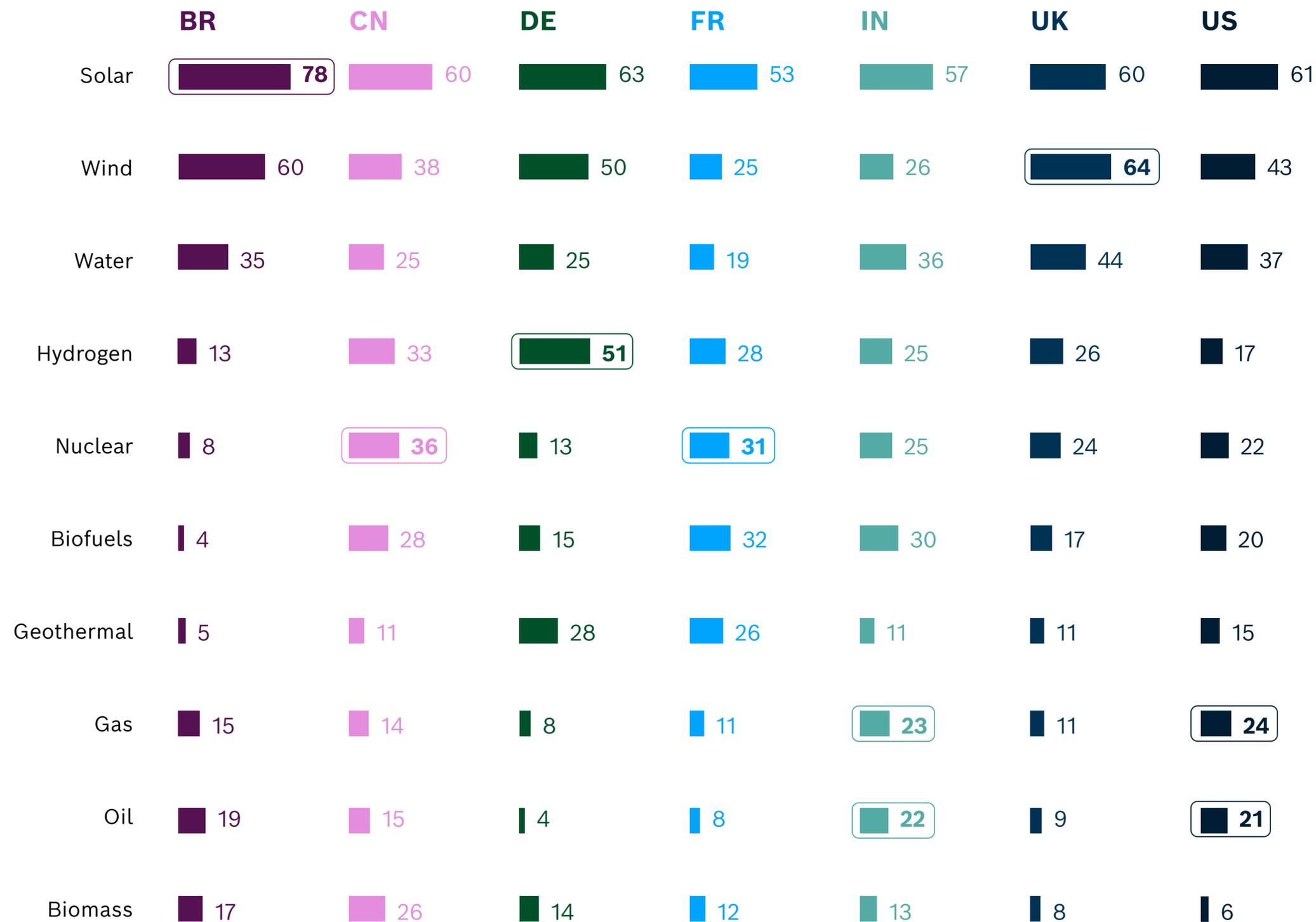
GLOBAL INDEX

Respondents around the world would like to see their countries invest in new technologies for solar (62%), wind (44%) and water (32%) power.

REGIONAL

While Germans would like to see more investment in hydrogen technology, the Chinese and the French feel comparatively positive about nuclear energy. The British would like to see more resources allocated to developing wind energy technologies. Brazilians have a strong preference for solar power. And in the US and India, a relatively large number of people see a future for oil and gas.

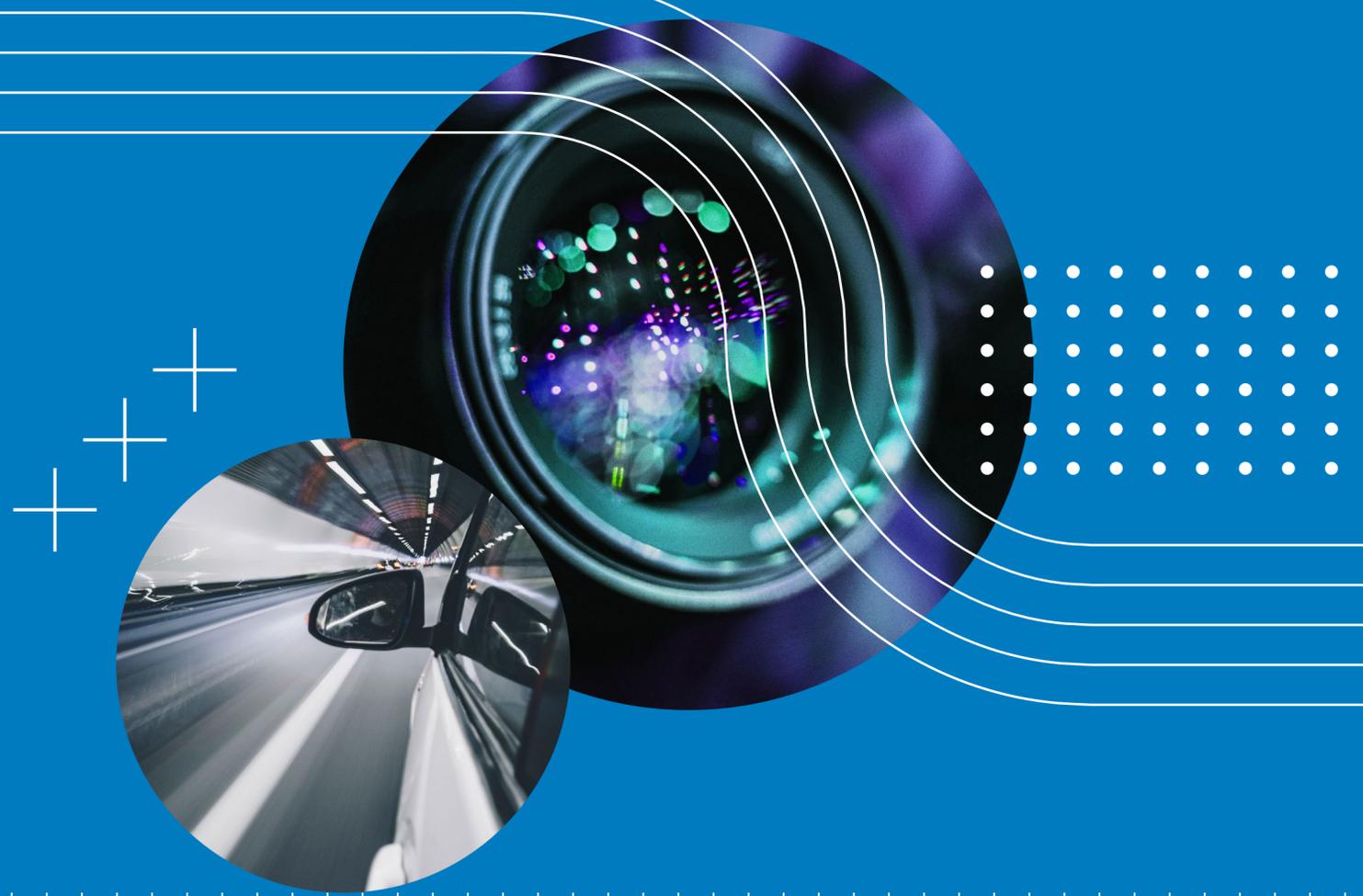
REGIONAL



2023 N = 11179. Answers in %.

BRA N = 2035, China N = 2023, DE N = 1016, FR N = 1031, UK N = 1015, USA N = 2035, India N = 2024. Answers in %.

COMPETITION IN TECHNOLOGY



PREPARED FOR PROGRESS

A global comparison, how well is your country prepared for the advancing technological progress?

GLOBAL INDEX

71% of respondents globally consider their countries to be well equipped to deal with accelerating technological change.

REGIONAL

While people in China, India and the US are especially confident in their country's abilities, a majority of those in the UK, France and Brazil are at least optimistic about their own countries. More than half of Germans however believe that Germany is ill-equipped to deal with accelerating technological change.

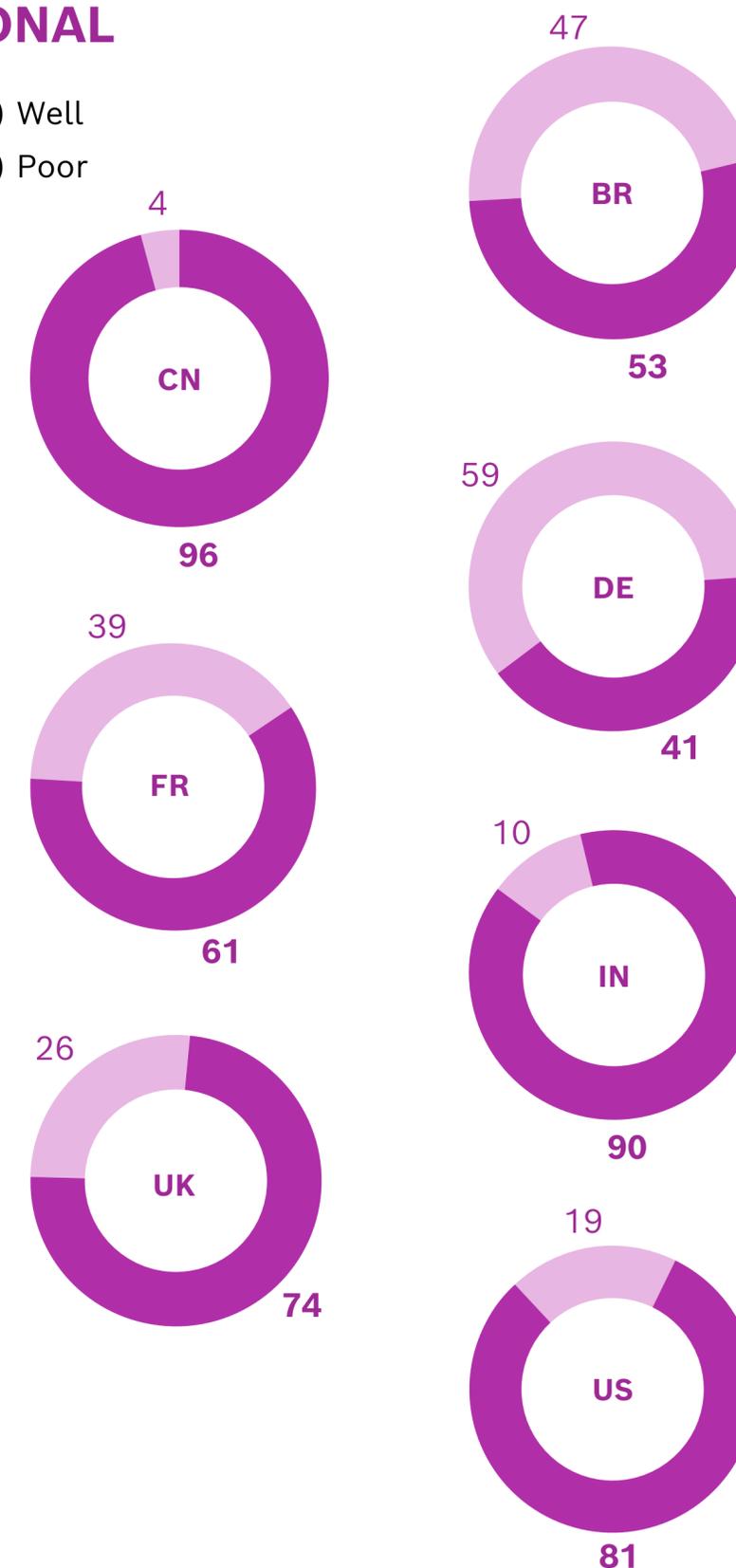
GLOBAL INDEX

■ (Very) Well
■ (Very) Poor



REGIONAL

■ (Very) Well
■ (Very) Poor



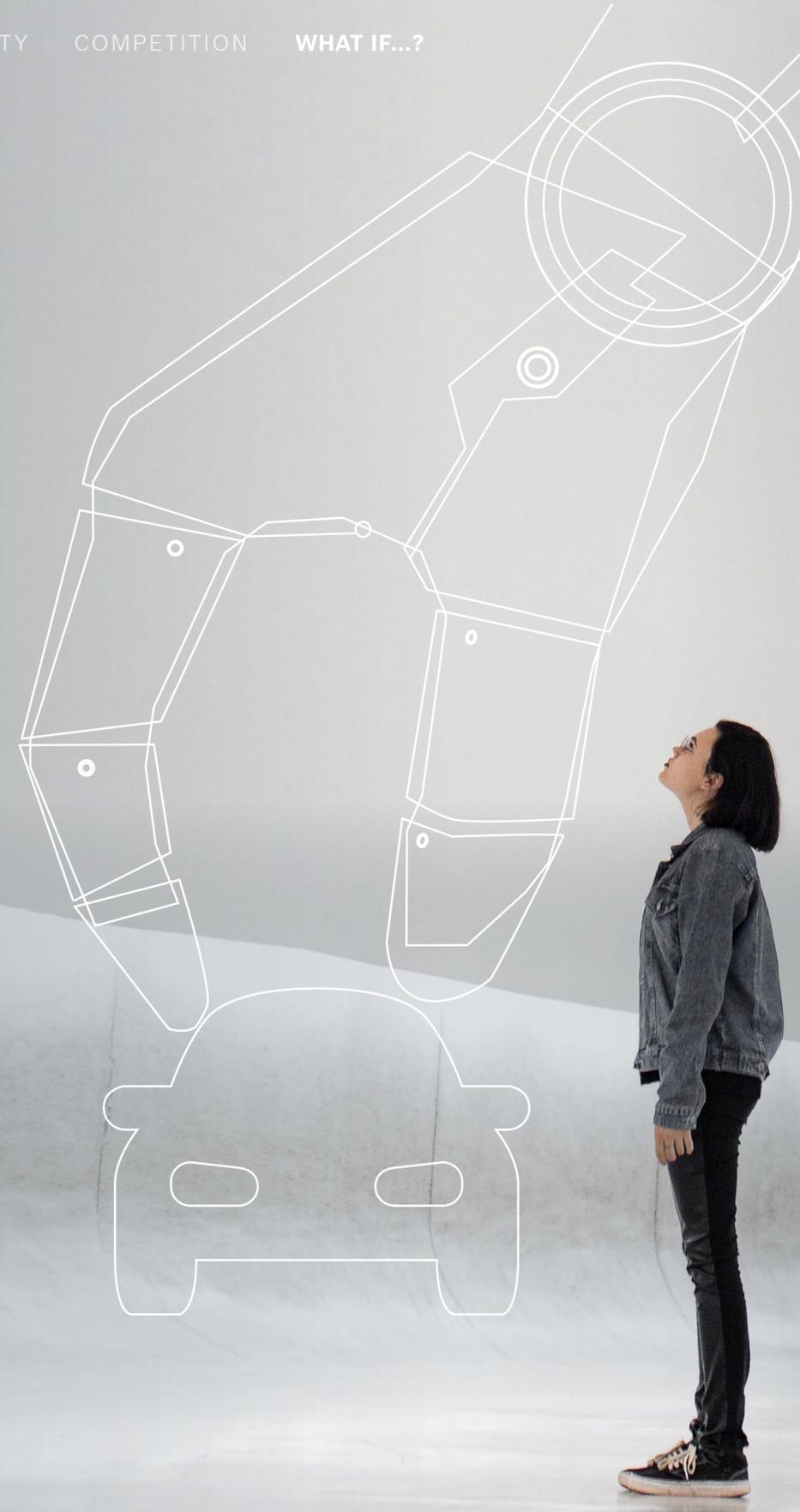
2023 All Countries N = 11179, 2023 Previous Countries N = 8113, 2022 N = 8076, BRA N = 2035, China N = 2023, DE N = 1016, FR N = 1031, India N = 2024, UK N = 1015, USA N = 2035. Answers in %.

WHAT IF...?

... ..



I could imagine buying a car in the metaverse.



BUYING A CAR IN THE METaverse?

The metaverse is a virtual world where humans, as avatars, interact with each other in a three-dimensional space that mimics reality. Suppose that you and people in your country would spend part of everyday life in this digital world: Would you buy a car in the metaverse?

Answers in %

BRA N = 2035, DE N = 1016, FR N = 1031, India N = 2024, UK N = 1015, USA N = 2035. Answers in %.

FOREIGN LANGUAGE TRANSFER

CN	IN	BR	DE	UK	US	FR
84	79	77	71	70	63	59



X

YES, I WISH I COULD

A

F

K

Y

If it were technically feasible, I would like to transfer a foreign language of my choice into my brain to speak it fluently.

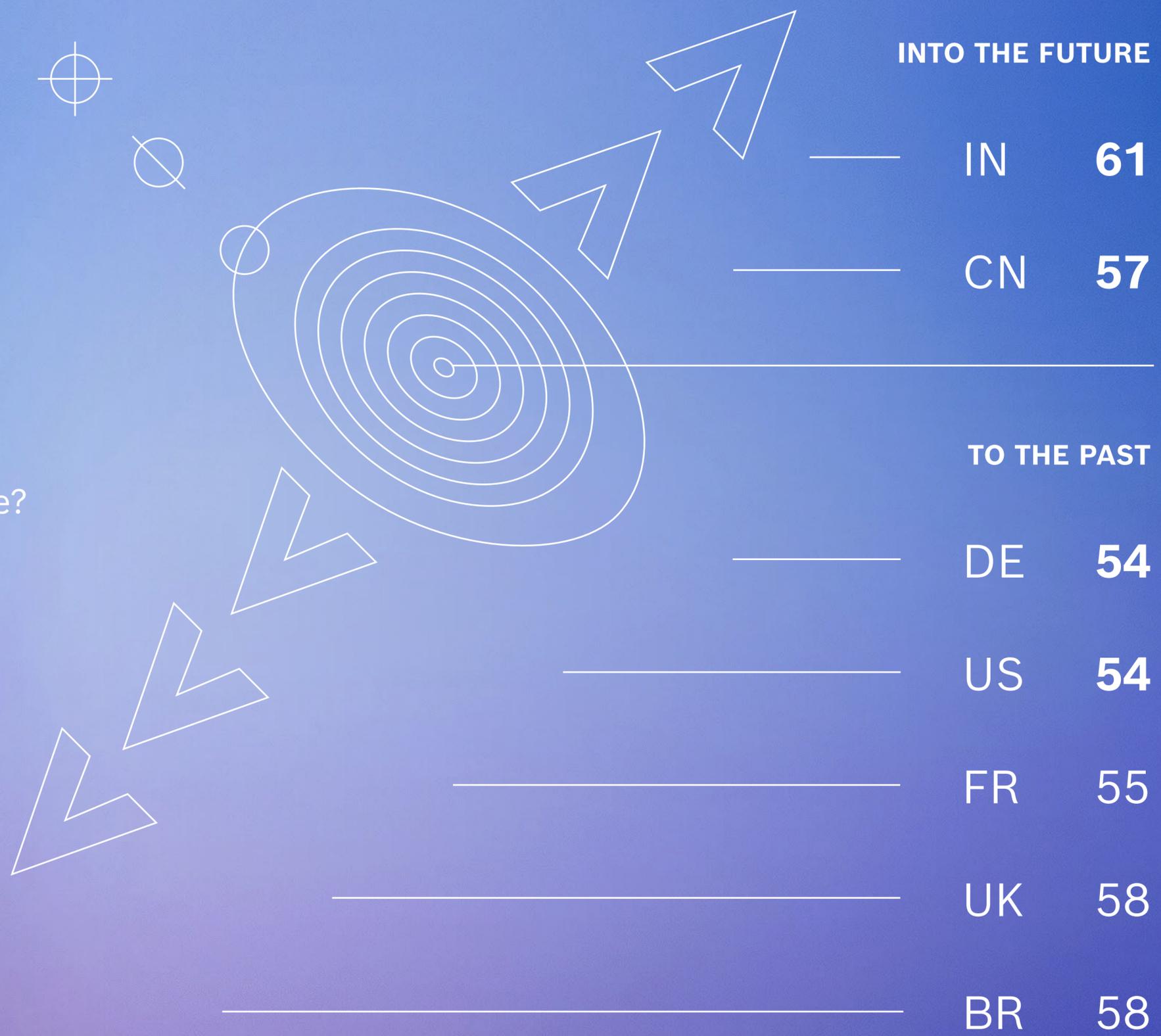
Answers in %

BRA N = 2035, DE N = 1016, FR N = 1031, India N = 2024, UK N = 1015, USA N = 2035. Answers in %.

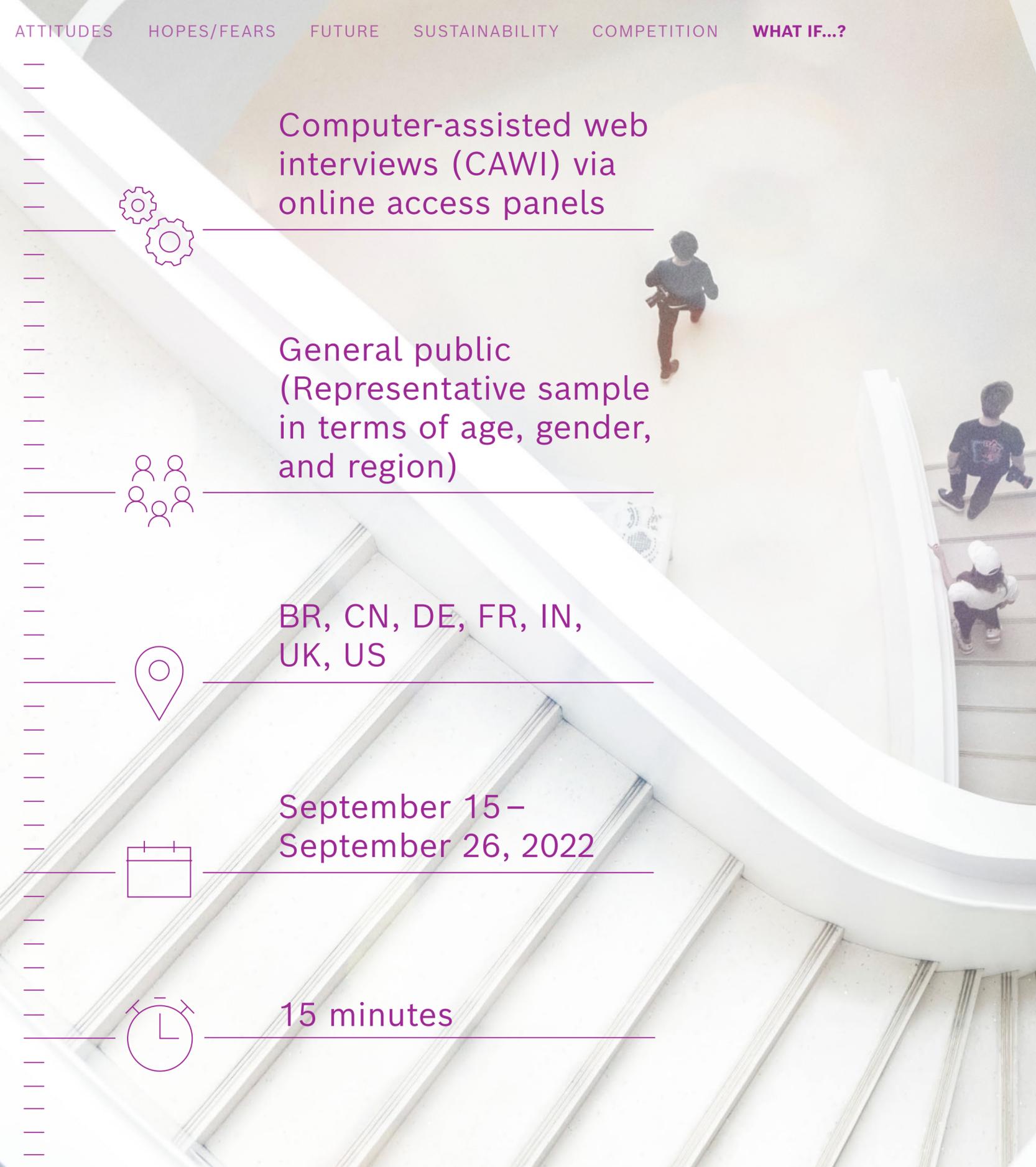
FUTURE OR PAST?

If it were technically feasible: would you rather travel back to the past or forward into the future?

Answers in %



BRA N = 2035, DE N = 1016, FR N = 1031, India N = 2024, UK N = 1015, USA N = 2035. Answers in %.



Computer-assisted web interviews (CAWI) via online access panels



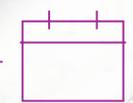
General public
(Representative sample in terms of age, gender, and region)



BR, CN, DE, FR, IN, UK, US



September 15 – September 26, 2022



15 minutes



STUDY DESIGN

METHODS

For this study people aged 18 and over were surveyed online in seven countries (Brazil, China, France, Germany, India, UK and USA) in September 2022 by Gesellschaft für Innovative Marktforschung mbH (GIM) on behalf of Robert Bosch GmbH. In France, Germany and the United Kingdom, 1,000 people each were surveyed, in Brazil, China, India, and the United States, 2,000 people each were surveyed.

The samples are representative for the respective country in terms of region, gender, and age (BR, DE, FR, UK, USA: 18–69 years/CN, IN: 18–59 years). For global results (“Global Index”), an average was taken across the seven countries, regardless of population size. Unless otherwise stated: values based on Top 2 Box. For ease of reading and interpretation, the global index for 2023 based on 7 countries is compared with the index of 2022 based on 5 countries. Calculating a global index for 2023 based on the 5 previous countries provided equivalent results.

COUNTRY	SAMPLE SIZE	SPECIFICS
BR	2,035	Age distribution: 18–69 years, regional distribution among 5 main regions
CN	2,023	Age distribution: 18–59 years, data collection in Tier 1 + New Tier 1
DE	1,016	Age distribution: 18–69 years, regional distribution among 4 main regions
FR	1,031	Age distribution: 18–69 years
IN	2,024	Age distribution: 18–59 years
UK	1,015	Age distribution: 18–69 years
US	2,035	Age distribution: 18–69 years, regional distribution among 7 main regions

AND WHAT DO YOU THINK ABOUT TECH?

PUBLISHING DETAILS

Robert Bosch GmbH
Corporate Department Communications
& Governmental Affairs
Executive Vice President: Prof. Dr. Christof Ehrhart
Postfach 10 60 50 | 70049 Stuttgart, Germany
bosch.com
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