

3M Science.
Applied to Life.™

State of Science Index 2023 Global Report



3M State
of Science
Index

Science Matters

3M State of Science Index Manifesto

Science matters to 3M because it is how we solve the world's greatest challenges to transform businesses, improve lives and make our world a better place. In tandem with our principles, 3M science enables us to lead societal change - to make the world safer, healthier, greener and brighter.

Science matters to society because exponential population growth, climate issues, and other macro forces will bring future challenges that only science can solve.

Science should matter to people because our daily lives and future quality of life depend on it. But *does it?*

Since 2018, we have tracked how the world values science through the proprietary 3M State of Science Index - a global, original research survey to explore perceptions of science, its importance to our lives – and its impact on society. Insights from the study power 3M's science advocacy efforts around the world.



Evolution of the State of Science Index

Wave 7 2023 Year 6

Fielded September 21, 2022 – December 7, 2022
Continues to explore trends around trust in science and intersectional topics including STEM equity, skilled trades, climate change, the future of healthcare and digital transformation.

Wave 6 2022

Fielded September 27, 2021– December 17, 2021
Moved beyond COVID-19 to explore the future of science and capture sentiment related to STEM equity, health equity, upskilling/trades, and environmental justice/sustainability.

Wave 5 2021

Fielded February 2, 2021–March 23, 2021
Sought to understand and forecast the long-term impact of COVID-19 on perceptions of science.

Wave 4 2020 *During COVID-19 Pulse*

Fielded July 22-August 16, 2020
Aimed to understand how perceptions of science have shifted since the onset of COVID-19.

Wave 3 2020 *Before COVID-19*

Fielded August 19-October 22, 2019
Probed deeper into timely topics around the world, such as STEM equity, sustainability, etc.

Wave 2 2019

Fielded July 13-September 10, 2018
Tracked whether and how perceptions of science have changed over one year.

Wave 1 2018

Fielded June 14-August 26, 2017
Benchmarked perceptions, sentiment and trust toward science around the world for the first time.

Who and where we surveyed in 2023



Who?

1,000 General Population respondents per country

Expanded US sample to analyze the results across key segments in a more granular way:

- ✓ Oversample of Gen Z (16-25) in the US



Where?

17 Countries:

- | | | |
|---------------------|--------------------|------------------------|
| ✓ US | ✓ Mexico | ✓ France |
| ✓ Canada | ✓ Japan | ✓ Hong Kong <i>NEW</i> |
| ✓ UK | ✓ South Korea | ✓ Italy |
| ✓ Germany | ✓ Spain <i>NEW</i> | ✓ Thailand <i>NEW</i> |
| ✓ Taiwan <i>NEW</i> | ✓ China | ✓ Australia |
| ✓ Brazil | ✓ India | |

* When comparisons across previous waves of data are made, the 8-country tracking average is used, rather than the 17-Country average. This average is made up of all countries we have consistently surveyed across all seven waves (Brazil, Canada, China, Germany, Japan, Mexico, UK, US)

Survey methodology

Survey methodology & timing	<p>20-minute survey, combination offline and online interviewing*</p> <ul style="list-style-type: none"> Fielding/interviewing completed September 21, 2022–December 7, 2022 Data processing, quality control checking, and weighting completed December 8, 2022–December 20, 2022
2023 Global	<p>17-country average</p> <ul style="list-style-type: none"> All data that is not tracking, and that we are not comparing with previous waves, is represented by the 17-country global average.
Global trends: 2018 – 2023 (7 waves)	<p>8-country tracking average</p> <ul style="list-style-type: none"> When comparisons across previous waves of data are made, the 8-country tracking average is used, rather than the 17-country average. This average is made up of all countries we have consistently surveyed across all seven waves.**
Margin of error	<p>At the 95% confidence level</p> <ul style="list-style-type: none"> 17-country average: +/- 0.8 percentage points 8-country average: +/- 1.1 percentage points Each individual country: +/- 3.10 percentage points
Data in this report	<p>Unless otherwise noted, all data in this report is from the 2023 survey.</p>
Science was defined as:	<p>Science is the process of pursuing knowledge about the world and how things in the world work through logically gathering, observing, experimenting and applying truths on a particular subject.</p>

* Slight weighting was done on demographics for each country to achieve better national representation and ensure sample is consistent year over year.

**Changes made to countries surveyed over waves: From wave 1 to wave 2, two countries were removed (France and Spain) and replaced with Saudi Arabia and South Korea. From wave 3 to 4, South Africa and India were not included, and UAE was added. From wave 4 to 5, Spain was replaced with France and Colombia, Australia and Italy were added for the first time. From wave 6 to wave 7, Singapore, UAE, Poland and Columbia were removed and replaced with Spain, Thailand, Hong Kong and Taiwan.



Setting the scene

People around the world are concerned about protecting their health, improving the planet, finding job security and creating opportunities for the next generation, but don't know who to trust or where to turn for solutions. Misinformation is rampant and the scientific landscape is highly polarized and politicized.

At the same time, the intersection between science and its potential to improve our lives has never been more clear, personally relevant or relatable. Scientific innovation is a catalyst for improving health outcomes and addressing the threat of climate change - two of the defining issues of our time. Innovation also drives infrastructure advancements, such as improving the safety of our buildings, bridges and our roads, but the pipeline of skilled tradespeople to do this work is dangerously low. Increasing awareness and pursuit of these jobs presents the opportunity to boost employment and economic stability at scale.

Underlying all of these issues are questions about diversity, inclusion and equity in the sciences. By attracting and retaining talent from underrepresented groups, the field has an opportunity to fuel future innovation, grow the pipeline for next generation innovators and uncover solutions to the world's greatest challenges.





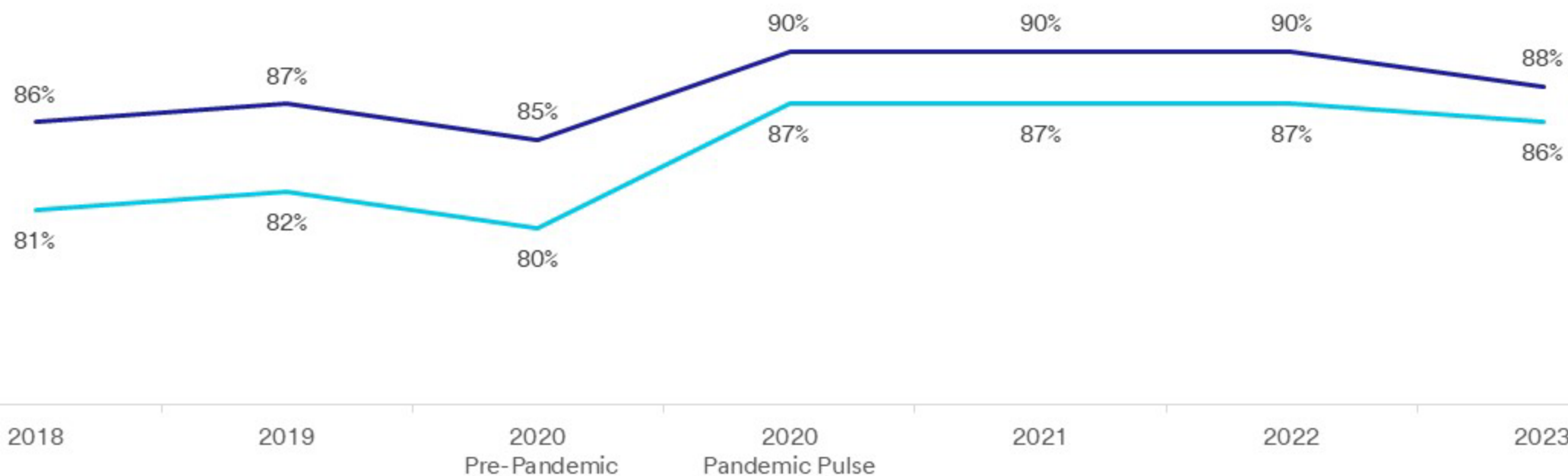
Image of Science



Trust in science remains high

Trust in science and scientists
Completely/somewhat agree

I trust Science I trust Scientists



Q2. How much do you agree or disagree with the following statements? I trust science; I trust scientists – Agree Summary -
Base=2023 8-Country Tracking Average (8,031) Fielded Sept-Dec 2022; 2022 8-Country Tracking Average (8,123) Fielded Sept-Dec 2021; 2021 8-Country Tracking Average (8,030) Fielded Feb-Mar 2021; 2020 Pandemic Pulse 8-Country Tracking Average (8,057) Fielded Jul-Aug 2020; 2020 Pre-Pandemic 8-Country Tracking Average (8,059) Fielded Aug-Oct 2019; 2019 8-Country Tracking Average (8,009) Fielded Jul-Sep 2018; 2018 8-Country Tracking Average (8,024) Fielded Jun-Aug 2017

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Science gets the credit for improving lives



87% Believe in the future we will be more dependent on scientific knowledge than ever before



85% Believe science has a critical role in improving the lives of the world's most vulnerable populations



85% Clearly see the connection between science and the role it plays in improving their life

Q4. How much do you agree or disagree with each of the following statements regarding science? Base=2023 17-Country Average (17,061) Fielded Sept-Dec 2022

Q5. How much do you agree or disagree with the following statement? I want to hear what scientists think about societal issues—Agree Summary – Base=2023 17-Country Average (17,061) Fielded Sept-Dec 2022

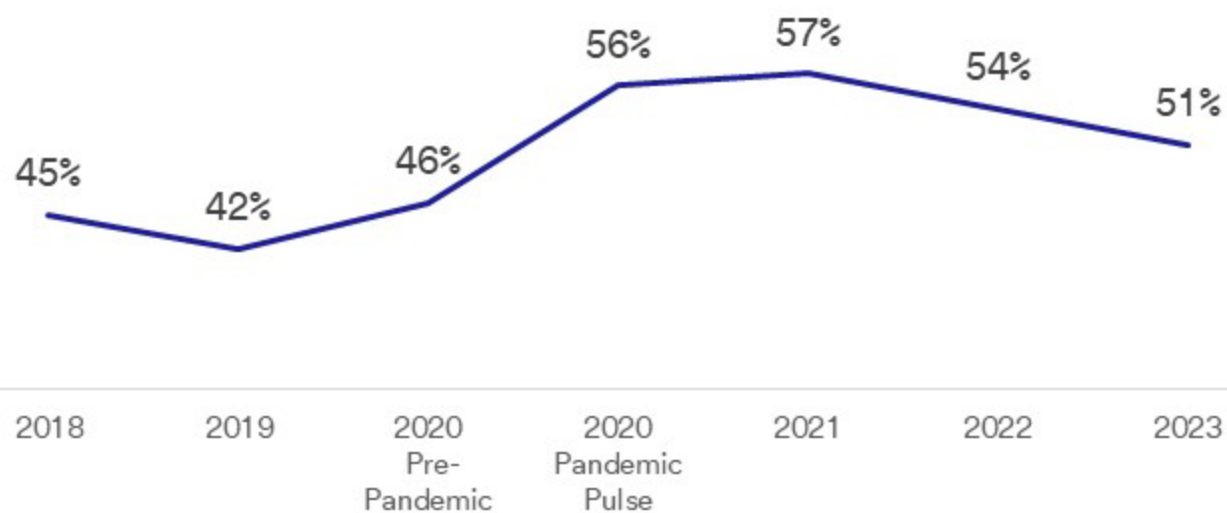
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Personal relevance of science continues its downward trend

Science is very important to me in my everyday life

% agree



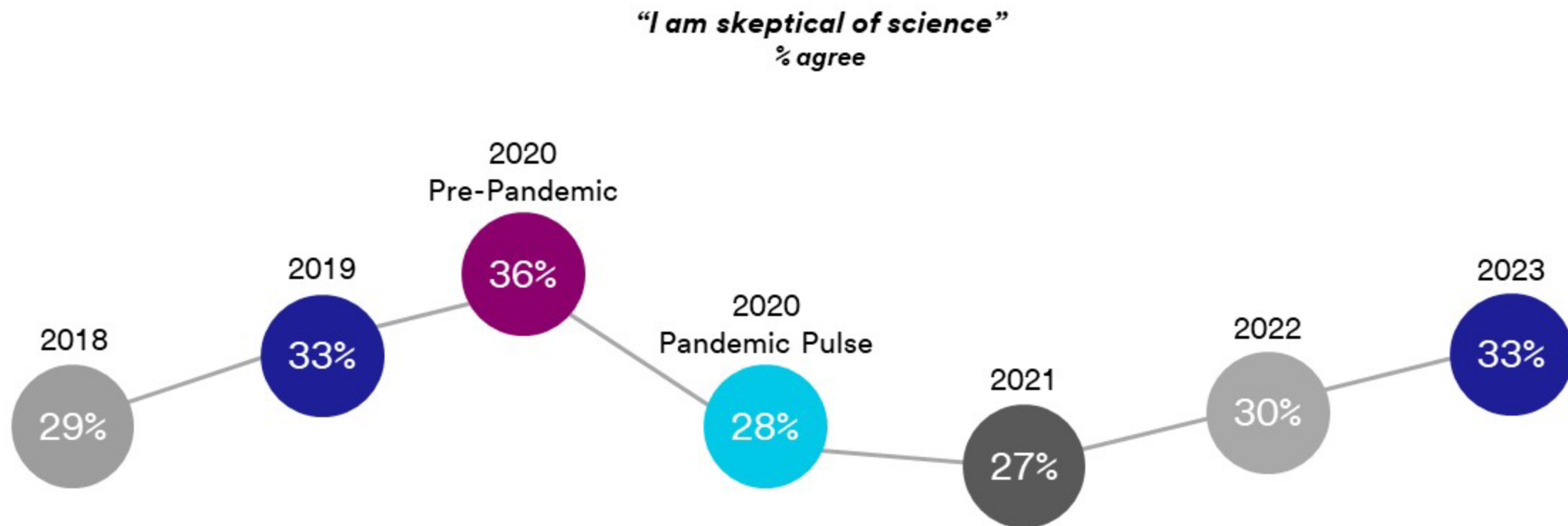
38%

of people feel that if science didn't exist, their everyday life would not be all that different vs. 33% in 2022

↑ 5 pts

Q1. Thinking about the present-day, how important do you feel science is to you in your everyday life? - Very important Summary - Base= 2023 8-Country Tracking Average (8,031) Fielded Sept-Dec 2022; 2022 8-Country Tracking Average (8,123) Fielded Sept-Dec 2021; Base=2021 8-Country Tracking Average (8,030) Fielded Feb-Mar 2021; 2020 Pandemic Pulse 8-Country Tracking Average (8,057) Fielded Jul-Aug 2020; 2020 Pre-Pandemic 8-Country Tracking Average (8,059) Fielded Aug-Oct 2019; 2019 8-Country Tracking Average (8,009) Fielded Jul-Sep 2018; 2018 8-Country Tracking Average (8,024) Fielded Jun-Aug 2017
Q2. How much do you agree or disagree with the following statements? If science didn't exist, my everyday life wouldn't be all that different- Agree Summary- Base=2023 8-Country Tracking Average (8,031) Fielded Sept-Dec 2022; 2022 8-Country Tracking Average (8,123) Fielded Sept-Dec 2021

Skepticism approaches its pre-pandemic peak



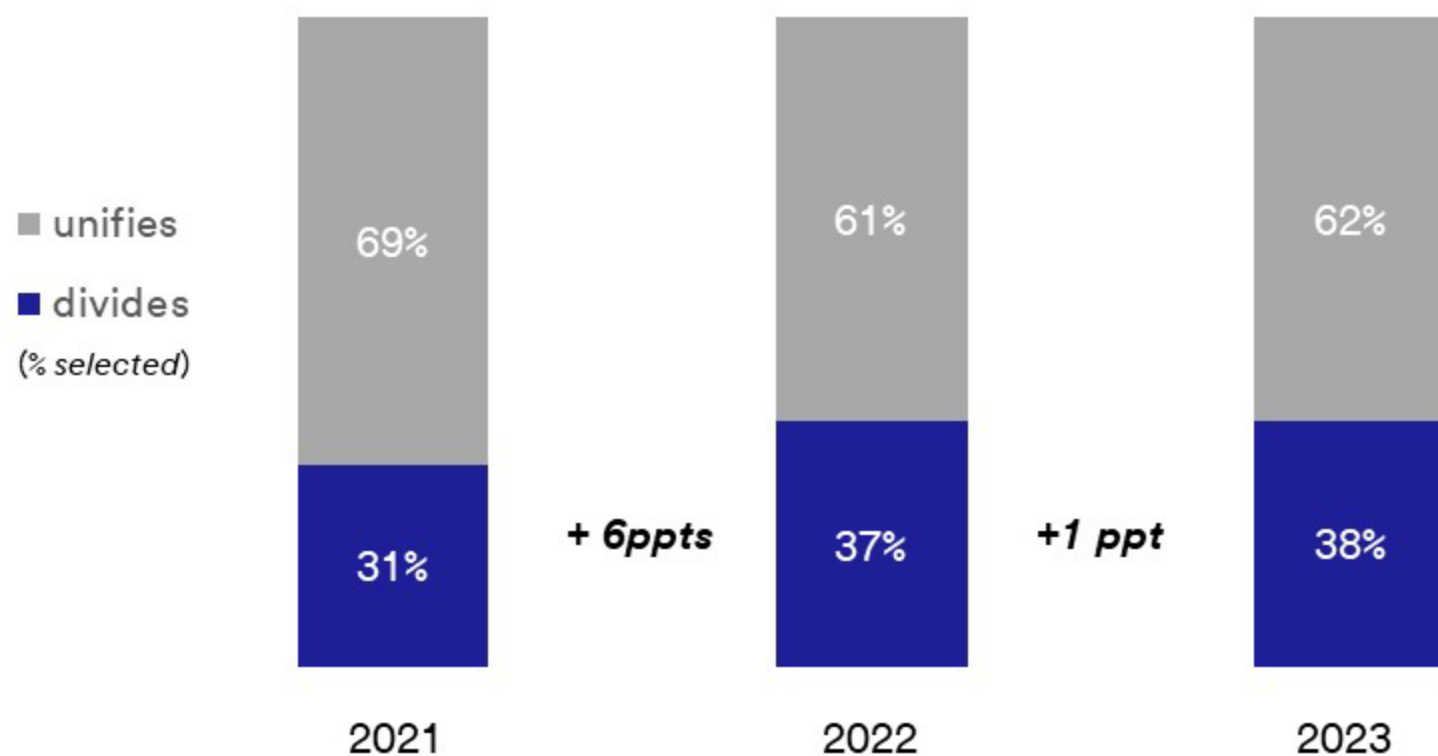
Q2. How much do you agree or disagree with each of the following statements? - I am skeptical of science. - Agree Summary -
Base= 2023 8-Country Tracking Average (8,031) Fielded Sept-Dec 2022; 2022 8-Country Tracking Average (8,123) Fielded Sept-Dec 2021; Base=2021 8-Country Tracking Average (8,030) Fielded Feb-Mar 2021; 2020 Pandemic Pulse 8-Country Tracking Average (8,057) Fielded Jul-Aug 2020; 2020 Pre-Pandemic 8-Country Tracking Average (8,059) Fielded Aug-Oct 2019; 2019 8-Country Tracking Average (8,009) Fielded Jul-Sep 2018; 2018 8-Country Tracking Average (8,024) Fielded Jun-Aug 2017

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Divisiveness increases to its highest level yet

“Science __ people who have opposing views”



Q3. Which of the following statements are you more likely to agree with? Base=2023 8-Country Tracking Average (8,031) Fielded Sept-Dec 2022; 2022 8-Country Tracking Average (8,123) Fielded Sept-Dec 2021; Base=2021 8-Country Tracking Average (8,030) Fielded Feb-Mar 2021

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Politicization drives skepticism and threatens scientific innovation

68%

Believe that science is currently politicized

Top 5 *consequences to society* when science is politicized

- 1 Increases skepticism towards science (49%)
- 2 It creates divisiveness among people (47%)
- 3 Increases widespread disinformation about science (46%)
- 4 It disrupts implementing solutions to problems people face in society (45%)
- 5 It stops scientific innovation (40%)

Q5. How much do you agree or disagree with each of the following statements regarding science? – Agree Summary - Base= 2023

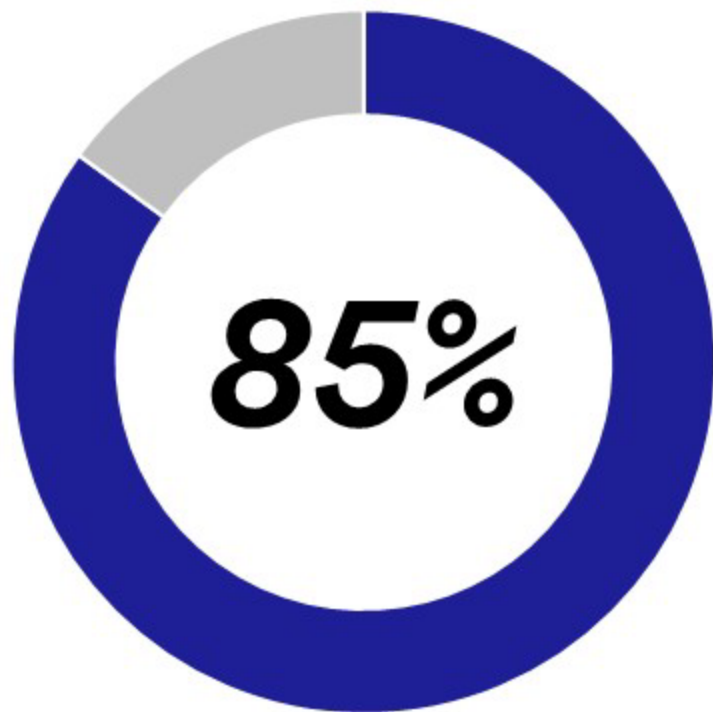
17-Country Average (17,081) Fielded Sept-Dec 2022

Q6. If science is politicized, which, if any, of the following do you believe are consequences to society? Base= 2023 17-Country

Average (17,081) Fielded Sept-Dec 2022

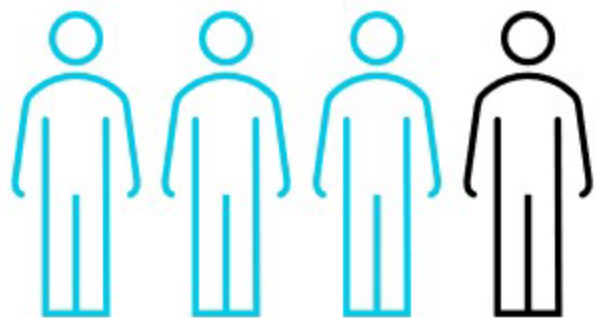
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Yet, we have hope that science can bring us together



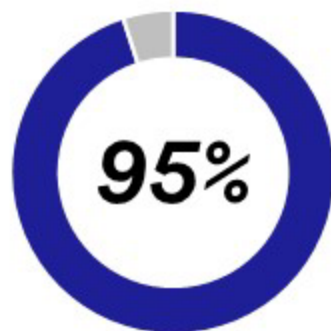
Have hope that science will unify people with opposing views in the future

Most people believe standing up for science can drive positive global change and impact



3 in 4

Say that they defend science when someone is questioning it (76%)



Positive outcomes can be achieved if people stand up and defend science

Top 3 ***positive outcomes*** that can be achieved if people stand up and defend science:

- 1 Solutions for issues caused by climate change (47%)
- 2 Improved public health outcomes (43%)
- 3 Sustainable agriculture solutions (43%)

Q4. How much do you agree or disagree with each of the following statements regarding science? – Agree Summary - Base= 2023 17-Country Average (17,061) Fielded Sept-Dec 2022

Q10. Which, if any, of the following positive outcomes can be achieved if more people stand up and defend science? Select all that apply. Base= 2023 17-Country Average (17,061) Fielded Sept-Dec 2022

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Scientists are the best advocates for the field and people care about their point of view on complex topics



64%

Believe scientists can *best influence* people to stand up and defend science



84%

Want to hear what scientists think about societal issues

Q4. How much do you agree or disagree with each of the following statements regarding science? – Agree Summary - Base= 2023 17-Country Average (17,061) Fielded Sept-Dec 2022
Q11. Of the following, who can best influence people to stand up and defend science? Base= 2023 17-Country Average (17,061) Fielded Sept-Dec 2022

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People expect corporations to stand up for science

93%

believe corporations should
take action to stand up and
defend science

Top 3 *actions* people believe corporations should take:

45% Highlight the role science plays in their industry

39% Promote the voices of scientists

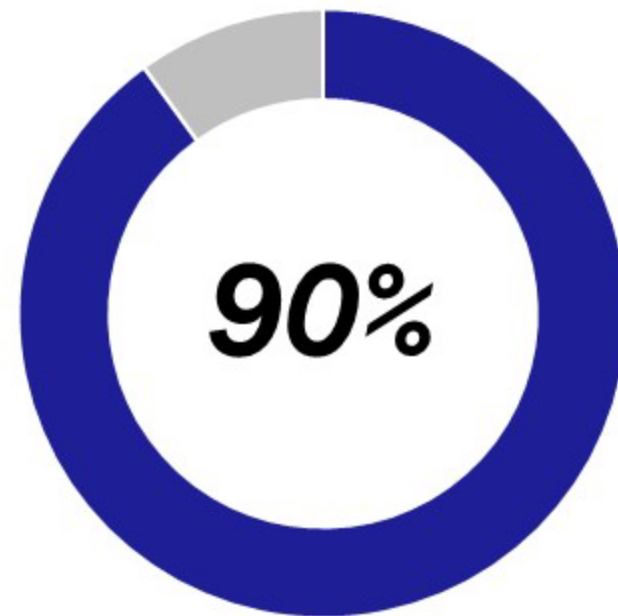
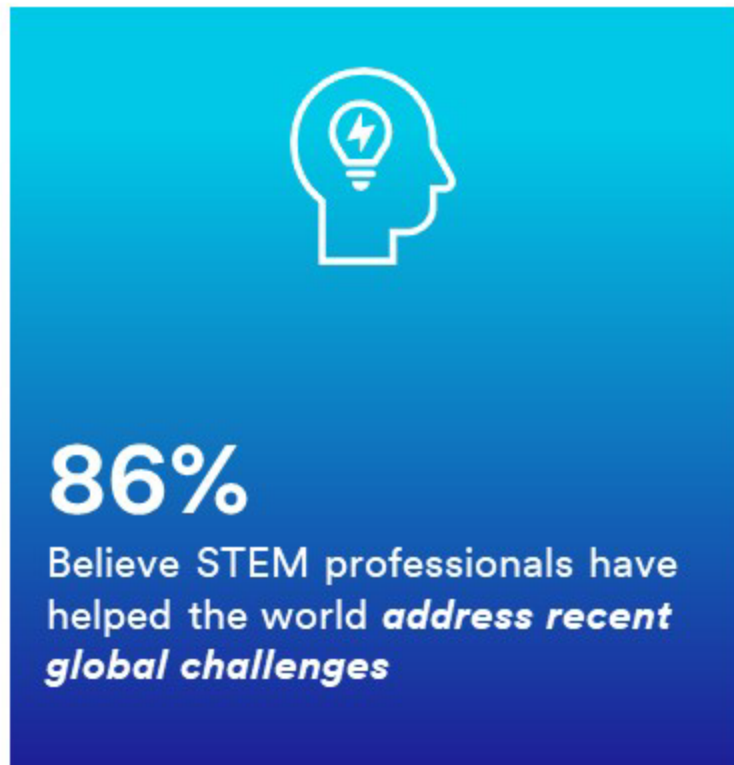
38% Create opportunities for employees to build on their scientific skills



STEM Equity



We need STEM professionals to solve problems today and in the future



Agree STEM professionals help us solve the *problems of tomorrow*



Diversity is key to fueling the STEM talent pipeline

Sources of untapped potential in the STEM workforce
% agree

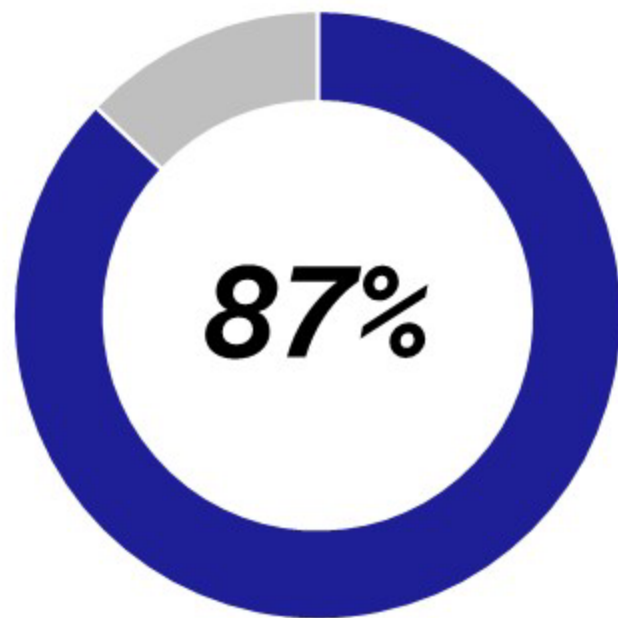
86%

Women

80%

Underrepresented groups*

Educational costs exclude too many and impede progress



Agree if we do not improve STEM education, we will not be able to solve future societal issues



3 in 4

Believe the education required to pursue a STEM career is too expensive (76%)

Those from underrepresented groups are more likely to agree STEM education is too expensive:

- Those in rural areas: 80%
- Low-income households: 80%
- Women: 77%

Increased encouragement and access could unlock barriers to education



84%

More needs to be done to encourage and keep students from underrepresented groups engaged in STEM education



77%

Underrepresented groups often do not receive equal access to STEM education

Q25. How much do you agree or disagree with each of the following statements related to STEM education? - Agree Summary -

Base= 2023 17-Country Average (17,061) Fielded Sept-Dec 2022

*=Underrepresented groups (i.e., ethnic/racial minorities, LGBTQ+, those with disabilities, women, low-income, or who live in rural areas)

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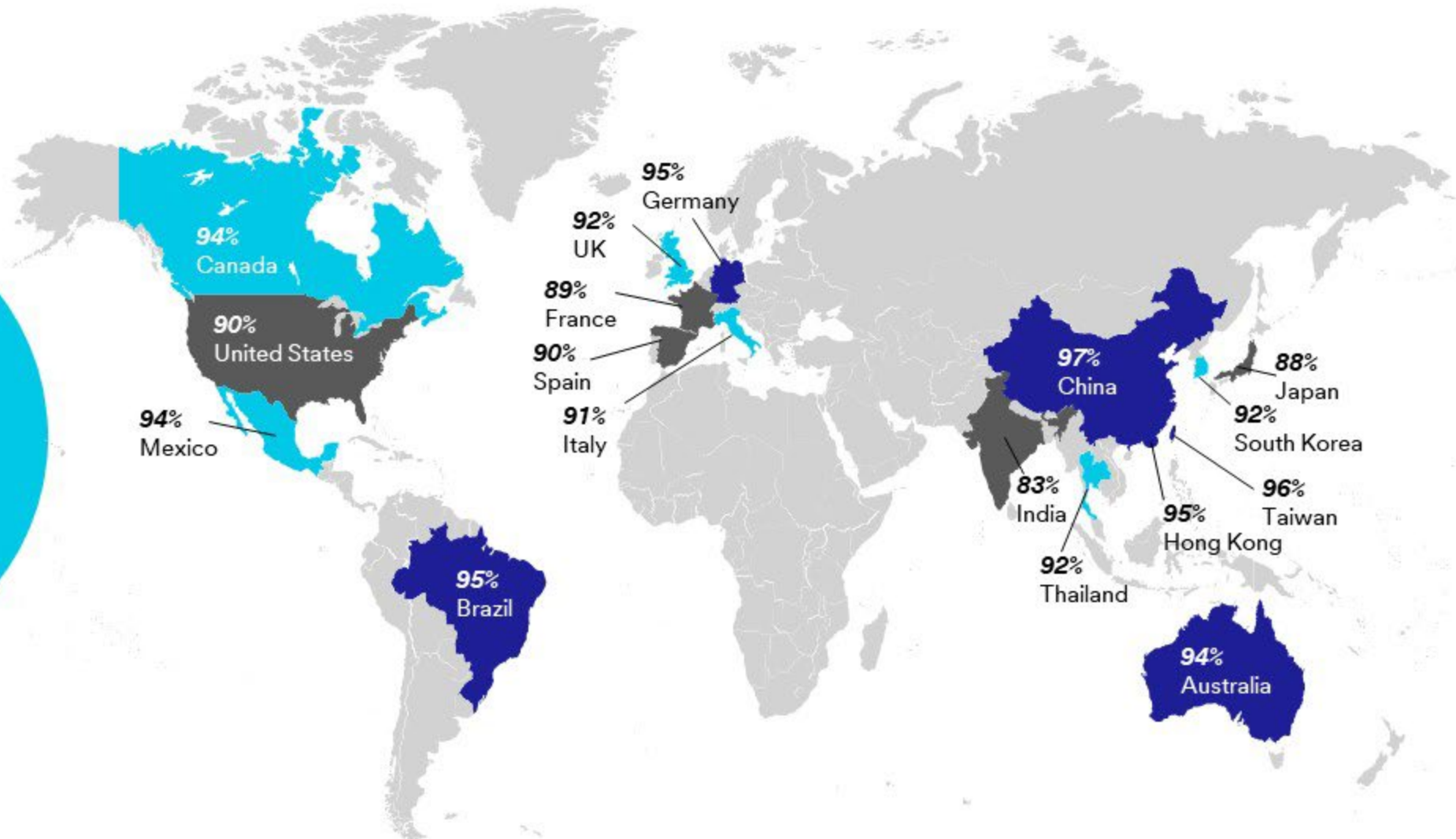
Skilled Trades



There is a global skilled worker shortage

- More likely than the 17-country avg
- On par with the 17-country avg
- Less likely than the 17-country avg

92%
See a consequence if their country cannot find a solution to the shortage of skilled trade workers



Q15. How much do you agree or disagree with each of the following statements regarding future pandemics? - Agree Summary - Base= 2023 17-Country Average (17,061) Fielded Sept - Dec 2022
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The skilled labor shortage poses major consequences

Top consequences if country cannot find a solution to the shortage of skilled trade workers

% selected

#1

50%

Believe **negative economic impact** is the top consequence if their country cannot find a solution to the shortage of skilled trade workers

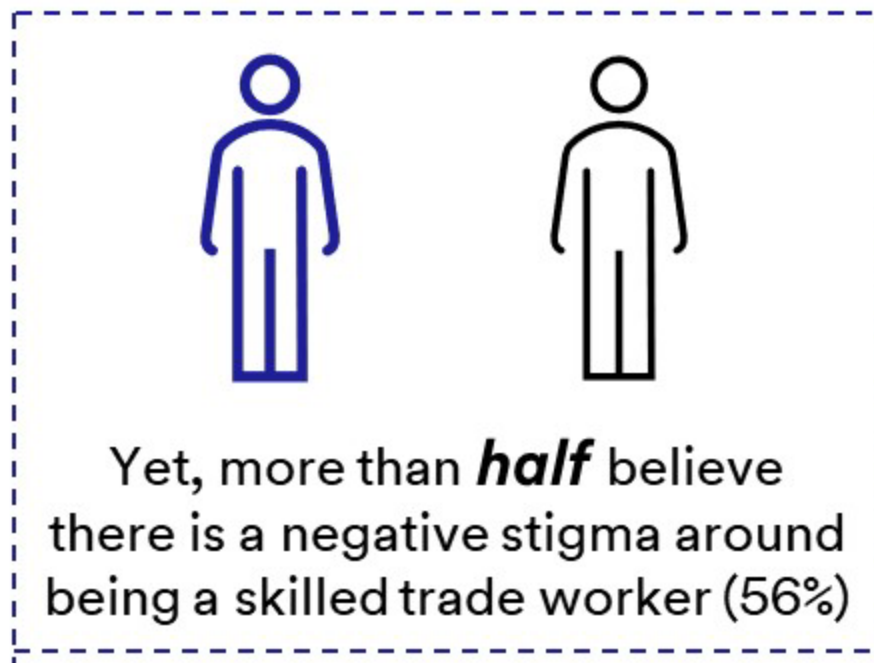
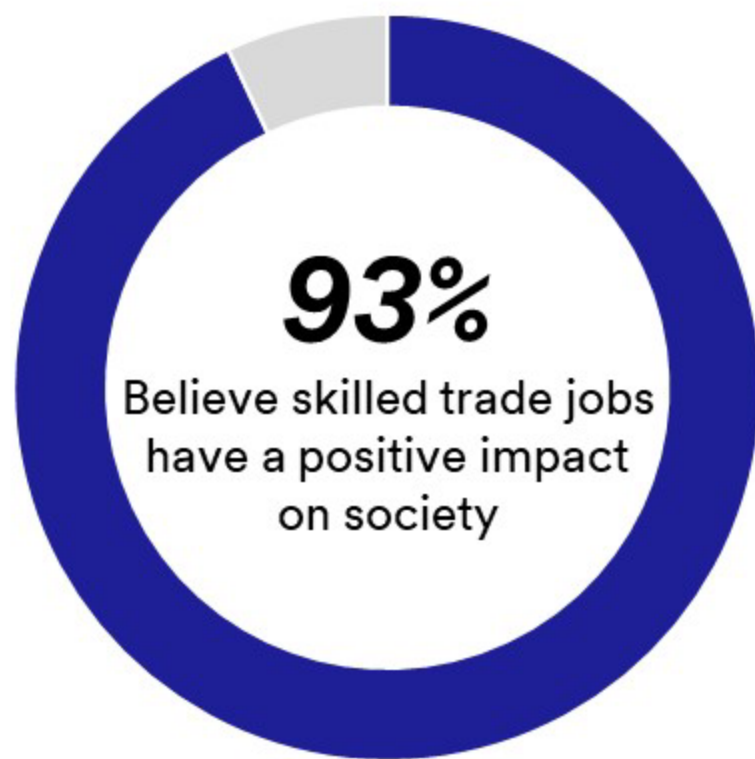
#2 Neglected public infrastructure maintenance (47%)

#3 Decreases in overall quality of life (44%)

#4 Increased home construction and maintenance cost (45%)

#5 Safety risks (43%)

Perceptions must improve to replenish the skilled pipeline



Parents, schools and educators can be part of the solution



89
%

Parents who say “parents **should encourage their children** to pursue skilled trade career options”

88% of all those globally (includes non-parents)

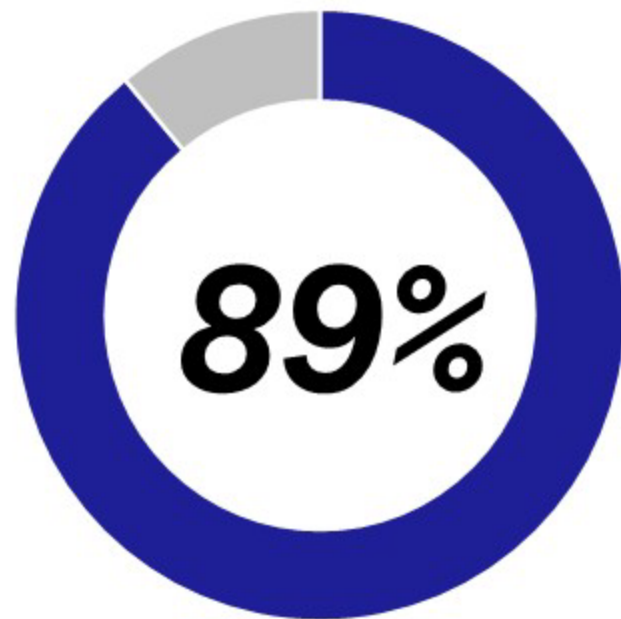
yet



62
%

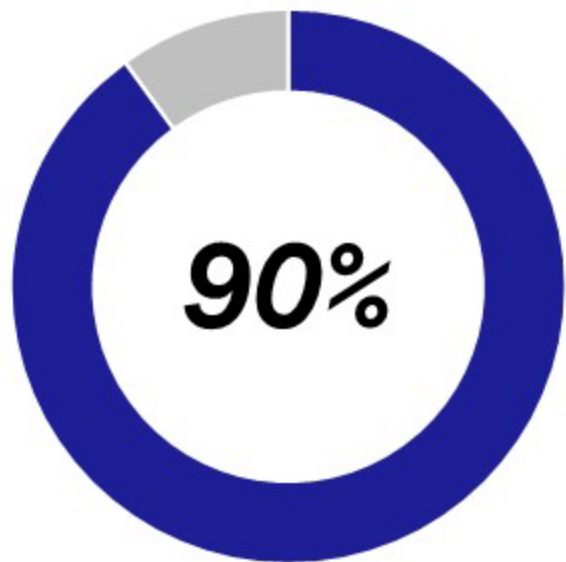
Parents who say “parents **actually discourage their children** from pursuing a skilled trade”

58% of all those globally (includes non-parents)



All secondary/high schools should offer skilled trade classes

Improving the image of skilled trades will attract more workers



Believe if the *image of skilled trade careers improved*, more people would choose to go into one

Top factors that would help improve perceptions around a career in a skilled trade:

54% increase awareness of the many career options in skilled trade industries

51% provide financial incentives for young adults to pursue skilled trade education

50% educate parents and school counselors about the potential for rewarding and profitable career opportunities within skilled trades

Those with the greatest potential to positively influence the image of skilled trades:

54% skilled trade workers

44% teachers/professors

42% companies

38% media

37% documentaries showing real skilled workers

Q18. How much do you agree or disagree with each of the following statements about skilled trades? - Agree Summary - Base= 2023 17-Country Average (17,061) Fielded Sept-Dec 2022
Q21. Which, if any, of the following, would help improve perceptions around a career in a skilled trade? Base= 2023 17-Country Average (17,061) Fielded Sept-Dec 2022
Q23. Which, if any, of the following has the greatest potential to positively influence the image of skilled trades? Base= 2023 17-Country Average (17,061) Fielded Sept-Dec 2022

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Awareness of what constitutes a skilled trade is low

Which, if any, of the following professions is a skilled trade?
% selected



Skilled trades offer growth and career opportunities



89%

Agree a skilled trade job offers a jumping off point to many other career options



86%

Think there is a lot of opportunity for jobs in skilled trades



86%

Say a career in a skilled trade is a path to small business ownership

Q18. How much do you agree or disagree with each of the following statements about skilled trades? - Agree Summary - Base= 2023 17-Country Average (17,061) Fielded Sept-Dec 2022

Q19. How much do you agree or disagree with each of the following additional statements about skilled trades? - Agree Summary - Base= 2023 17-Country Average (17,061) Fielded Sept-Dec 2022

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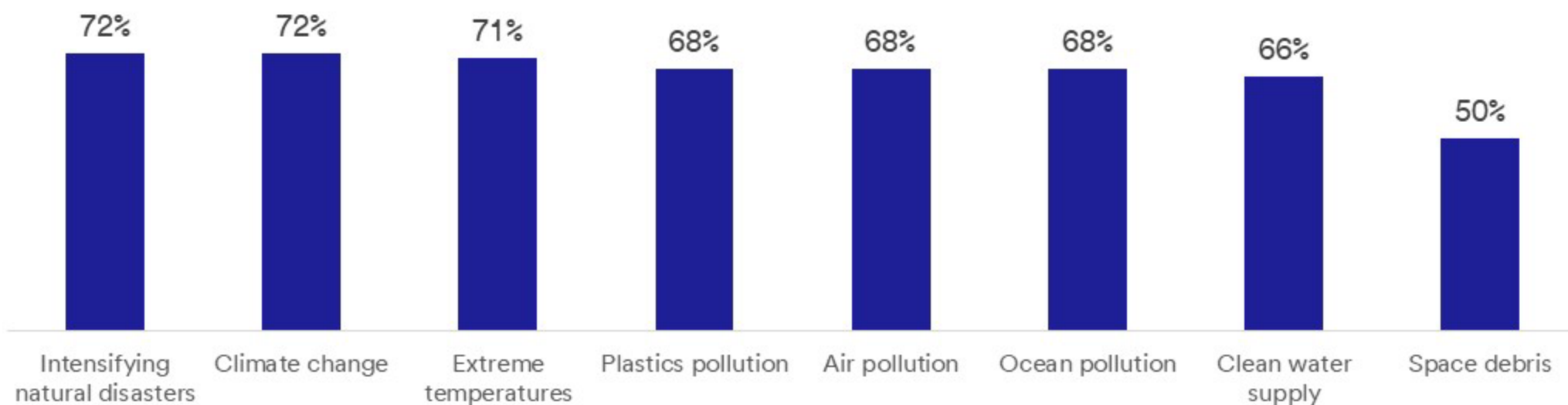


Sustainability



Concern over environmental issues is on the rise

Top environmental issues people are more concerned compared to one year ago
% selected



Q34. Compared to one year ago, how concerned are you about each of the following environmental issues? - More concerned
Summary. Base= 2023 17-Country Average (17,061) Fielded Sept - Dec 2022

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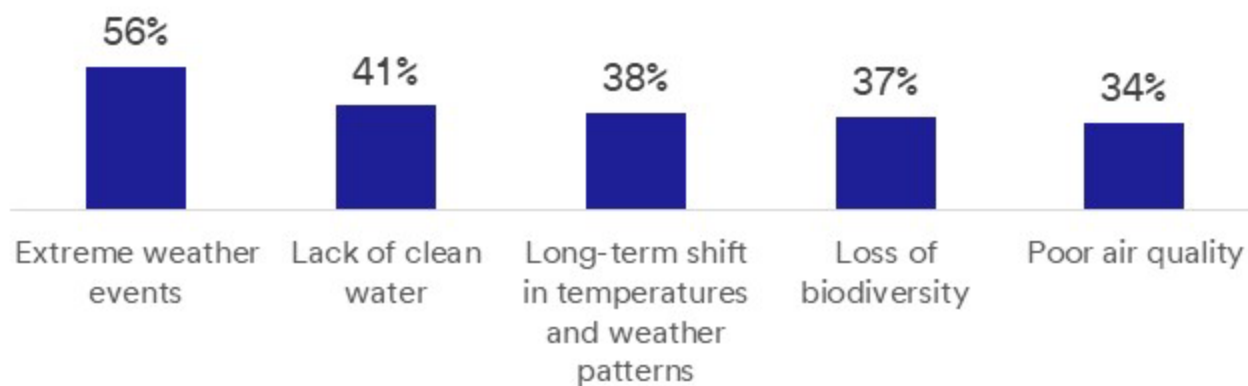


People around the world agree that climate change brings severe consequences

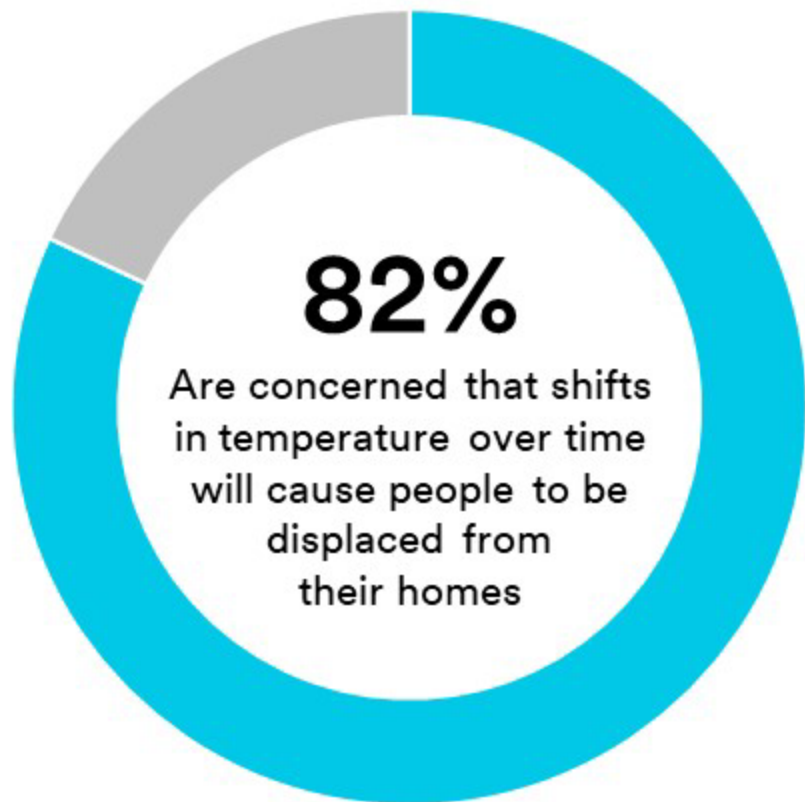
93%

Are concerned about the consequences of climate change

Top consequences of climate change
% selected



Most of the world fears displacement by extreme weather



Top 5 weather conditions that could cause displacement % selected somewhat/very concerned

86% Droughts

86% Fires

85% Floods

84% Heat waves

79% Earthquakes

Q30. How much do you agree or disagree with the following statement? - Agree Summary - Base= 2023 17-Country Average (17,061) Fielded Sept - Dec 2022

Q32. Looking to the future, how concerned are you that you and/or a loved one may be displaced from where you live due to the each of the following extreme weather conditions related to climate change? - Somewhat/very concerned Summary- Base= 2023 17-Country Average (17,061) Fielded Sept - Dec 2022

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Science and climate education are crucial to addressing sustainability challenges

#1 Priority for science to address

Increasing efforts to minimize and mitigate climate change



Think **science can help** minimize the effects of climate change



Say schools should **provide education around climate change** for students as a core part of their science curriculum



Believe people should **follow the science** to help make the world more sustainable

Q9. What do you believe are the biggest priorities for science to address in your country right now? Select top three priorities from the list below. Base= 2023 17-Country Average (17,081) Fielded Sept - Dec 2022

Q29. How much do you agree or disagree with each of the following statements? - Agree Summary - Base= 2023 17-Country Average (17,081) Fielded Sept - Dec 2022

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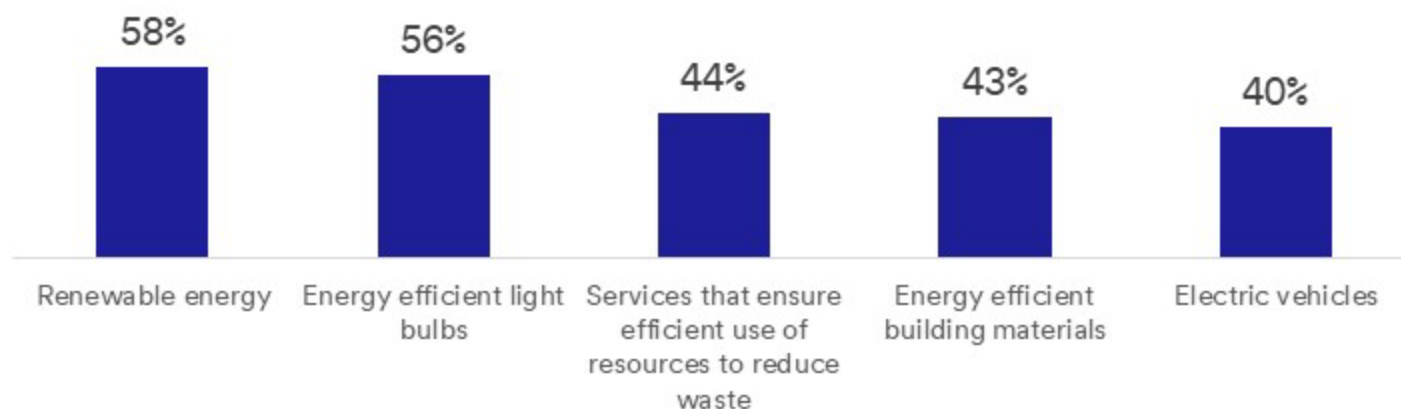
The world is willing to embrace technologies that ensure a more sustainable future

92%

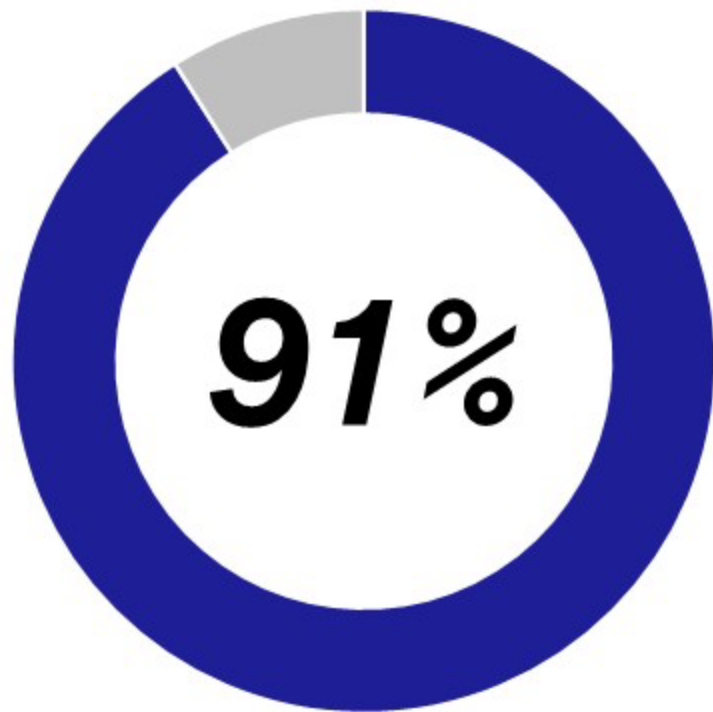
Say they would purchase a tech innovation to contribute to a more sustainable future

Top 5 tech innovations would purchase to contribute to more sustainable future

% selected

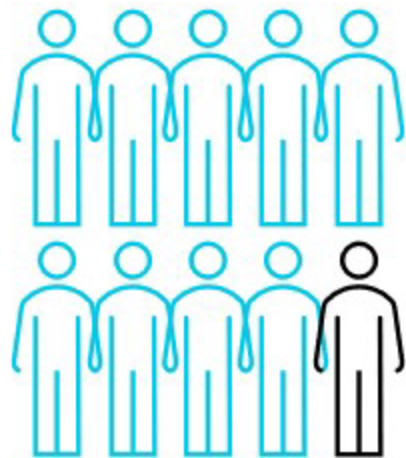


Companies should act sustainably and make it easier for consumers to do so



Believe companies should do more to make it easier on consumers to be more sustainable

Companies should invest in tech to address climate change, especially waste reduction and air filtration



9 in 10

Believe companies need to accelerate development and adoption of technologies and innovation that address climate change (90%)

Top 5 *technologies* that hold the most promise to address climate change impact in future:

- 1 Innovative uses of resources to reduce waste (49%)
- 2 Air pollution filtration technology (47%)
- 3 Planet-friendly alternatives to traditional construction supplies (44%)
- 4 Affordable solar panels (44%)
- 5 Affordable electric vehicles and transportation (42%)

Q29. How much do you agree or disagree with each of the following statements? - Agree Summary - Base= 2023 17-Country Average (17,061) Fielded Sept - Dec 2022

Q34. Which of the following technologies hold the most promise to address the impact of climate change in the near future? Select top three. Base= 2023 17-Country Average (17,061) Fielded Sept - Dec 2022

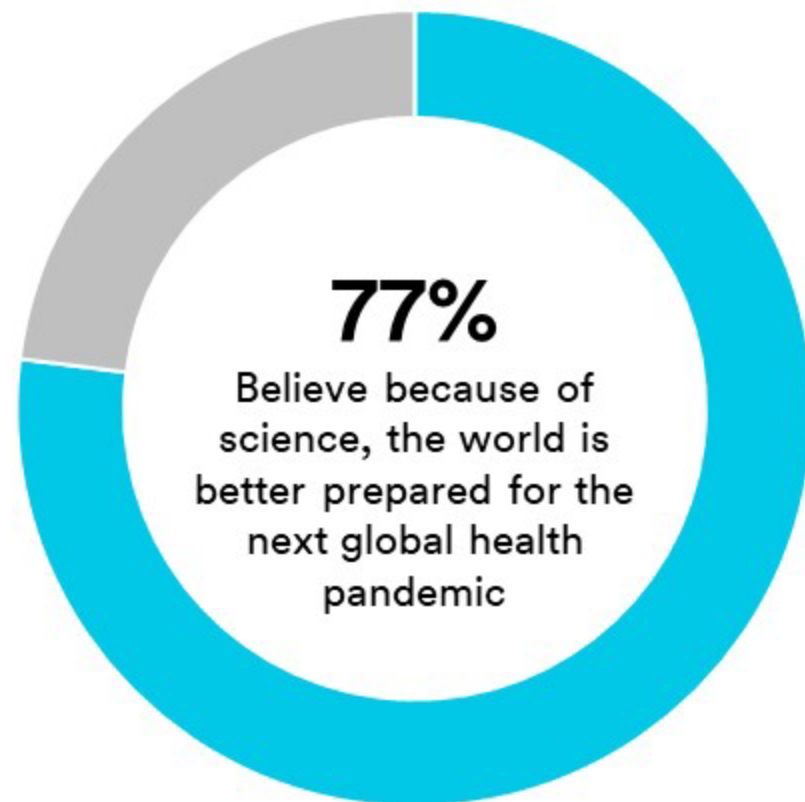
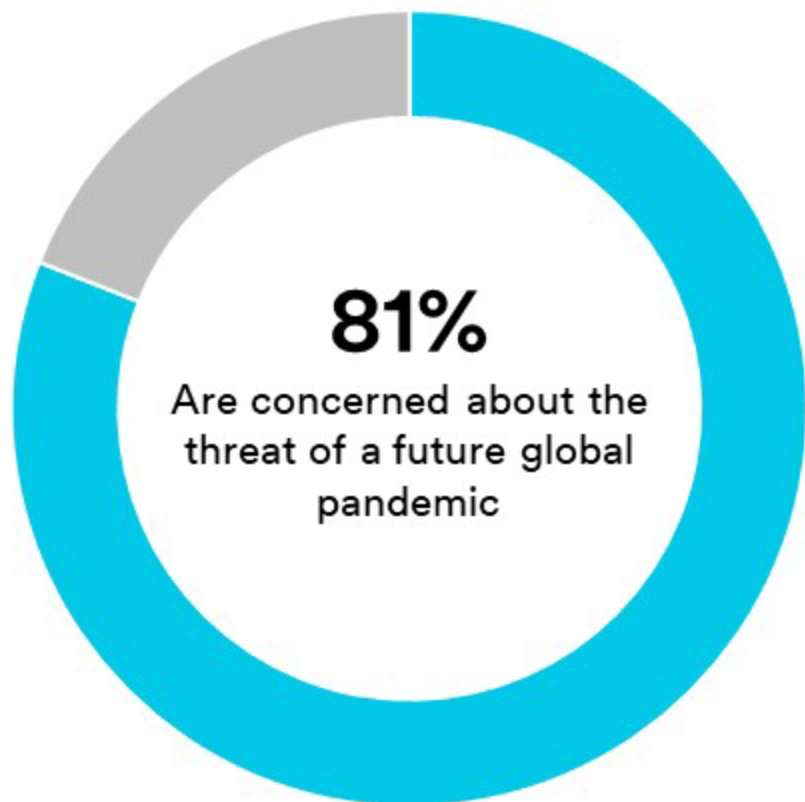
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Health



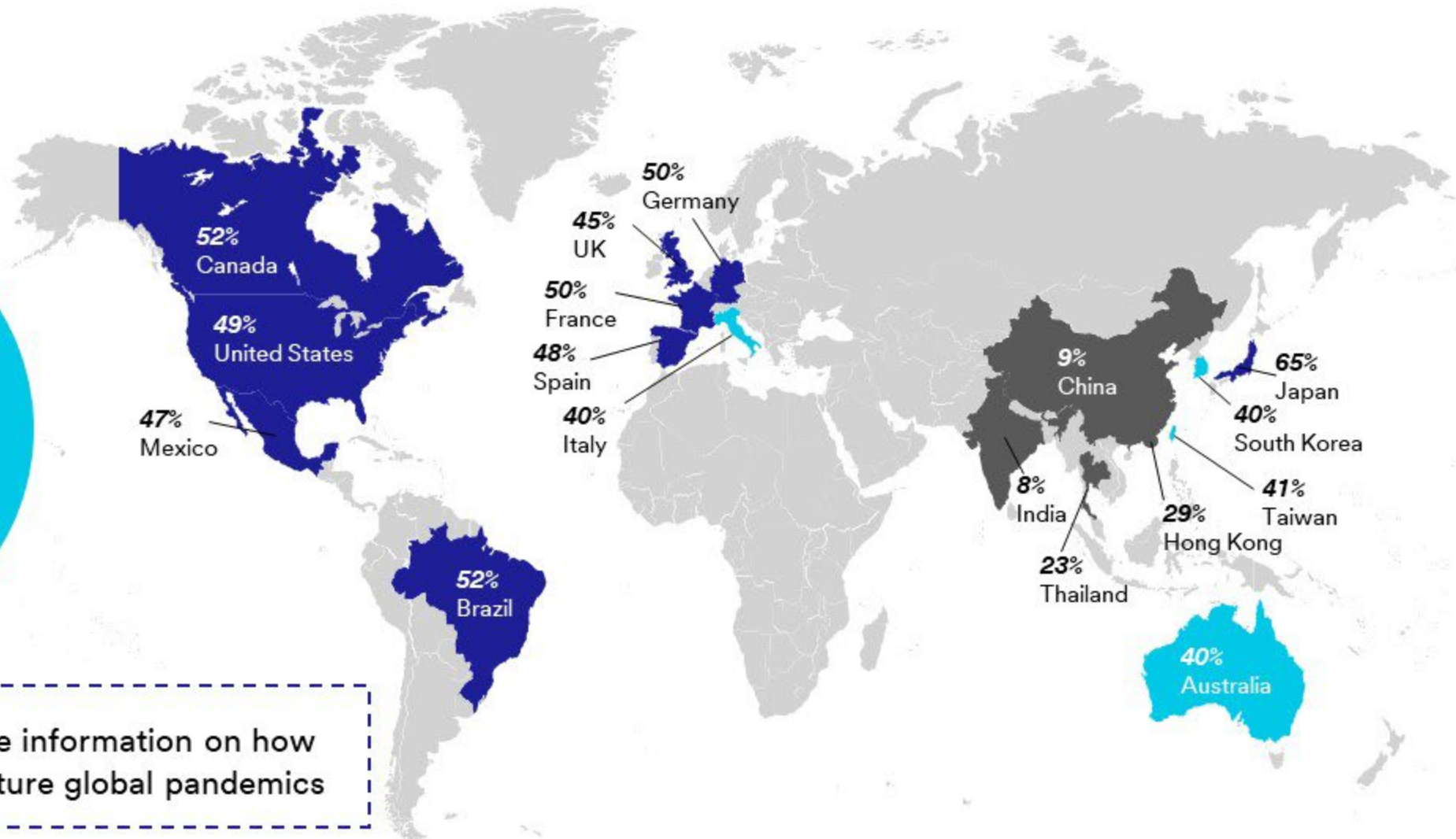
Science has better prepared us for future pandemics



Many people are not confident that their country is prepared for the next pandemic

- More likely than the 17-country avg
- On par with the 17-country avg
- Less likely than the 17-country avg

40%
Globally, are not confident that their country is prepared for the next global pandemic

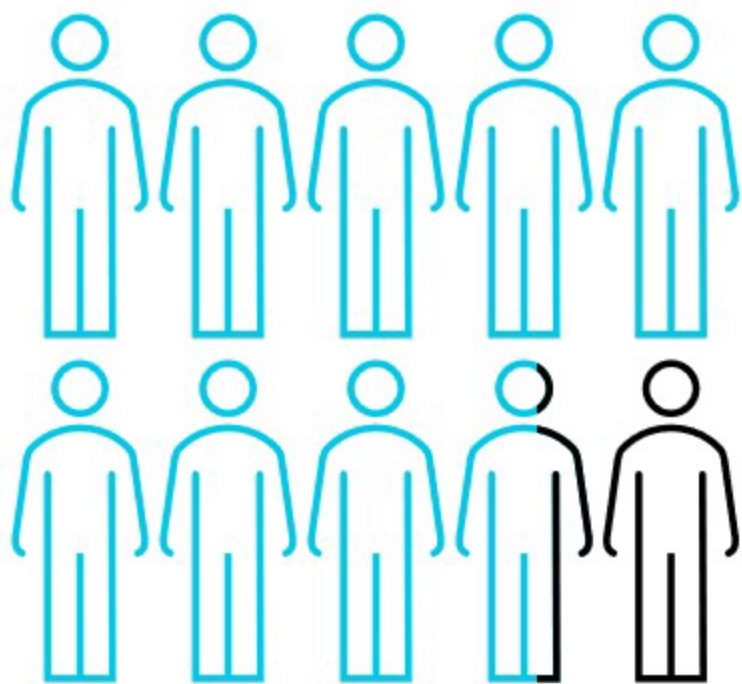


i 85% Would like more information on how to be prepared for future global pandemics

Q15. How much do you agree or disagree with each of the following statements regarding future pandemics? - Disagree Summary - Base= 2023 17-Country Average (17,081) Fielded Sept - Dec 2022 © 3M 2023 All Rights Reserved.



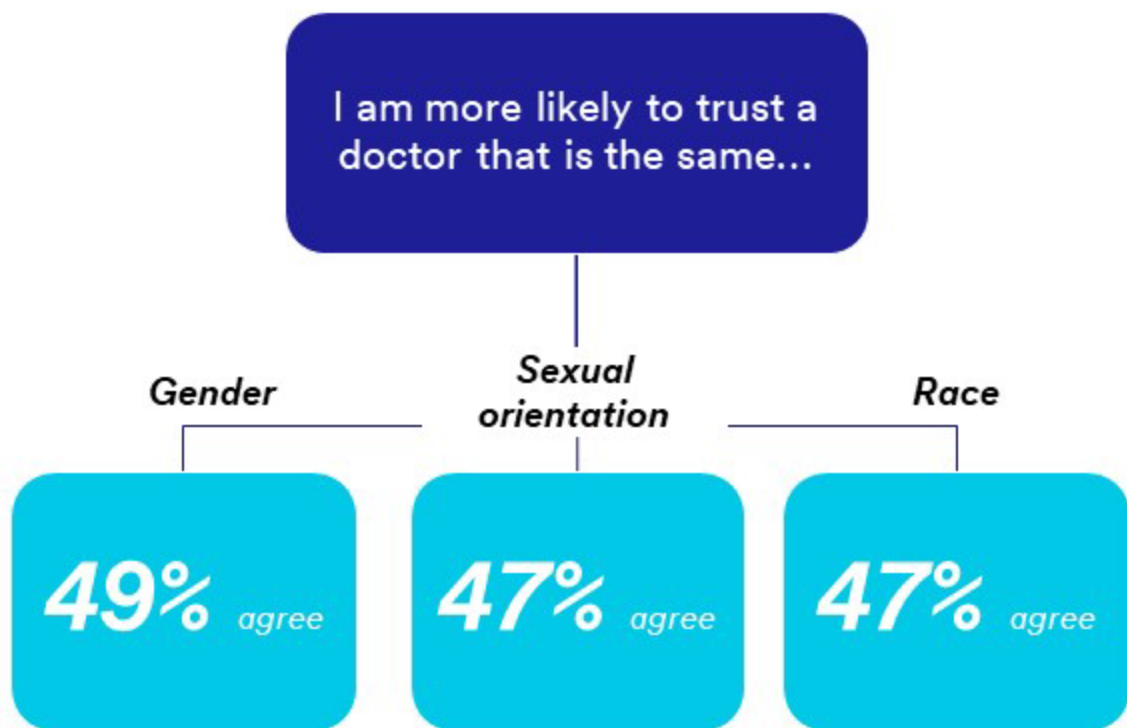
DE&I efforts are crucial to the future of healthcare



88%

Believe it is *important to increase diversity, equity and inclusion* in the healthcare field

Shared traits boost positive health outcomes and trust in providers



Likelihood to do the following if your doctor shares similar characteristics with you
% selected more likely

- #1** Feel more comfortable during visits (55%)
- #2** Better understand and manage their health (53%)
Raise issues and concerns about their health (53%)
Take their doctor's advice (53%)
- #3** Trust their doctor (52%)

Q13. How much do you agree or disagree with each of the following statements about healthcare? - Agree Summary - Base= 2023 17-Country Average (17,061) Fielded Sept - Dec 2022

Q14. Are you more or less likely to do each of the following if your doctor/healthcare provider shares similar characteristics with you (i.e., age/generation, gender, race/ethnicity, sexual orientation, etc.)? - More likely Summary - Base= 2023 17-Country Average (17,061) Fielded Sept - Dec 2022

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**Future
innovation**

People recognize AI benefits, but understanding of mixed reality is low



85% Believe companies need to embrace digital transformation to remain relevant to consumers and employees in the future



80% Agree artificial intelligence (AI) can help build a more sustainable future



75% Think artificial intelligence (AI) is an exciting technology that impacts their everyday life

35%

Believe mixed reality has the potential to solve future global challenges

44%

Say they don't understand mixed reality enough to know

Q46. How much do you agree or disagree with each of the following statements? - Agree Summary - Base= 2023 17-Country

Average (17,081) Fielded Sept - Dec 2022

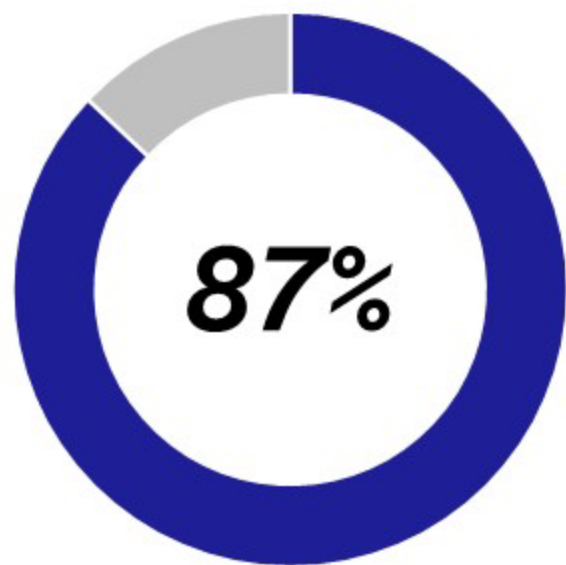
Q47. Do you believe mixed reality has the potential to solve future global challenges? Base= 2023 17-Country Average (17,081)

Fielded Sept - Dec 2022

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Transportation innovation has potential to drive job opportunity and a more sustainable future



Say *transportation innovation provides attractive job opportunities* for skilled trade workers

Top 5 transportation innovations with a positive impact in creating a more sustainable world % selected a great deal of/some positive impact

- 57% Sustainable supply chain practices
- 56% Bio-fuel public transportation; Increased use of clean energy by ride-share services (tie)
- 55% Hydrogen-powered cars
- 50% Electric vehicles
- 49% Electric public transportation

Q40. How much of a positive impact, if at all, would each of the following transportation innovations have on creating a more sustainable world? - A great deal of/some positive impact - Base= 2023 17-Country Average (17,061) Fielded Sept - Dec 2022
Q43. How much do you agree or disagree with each of the following statements? - Agree Summary -Base= 2023 17-Country Average (17,061) Fielded Sept - Dec 2022

Most believe transportation innovations are safe

Safety of transportation innovations *% selected somewhat/very safe*



94% Electric public transportation

91% Road systems that communicate with your car

90% Hydrogen-powered cars

88% Artificial intelligence to improve driving habits

88% Shared car/ride-sharing services

84% Shared bike and scooter services

84% Heads-up displays

Society embraces electric vehicles and shared mobility



84%

Believe electric vehicles help minimize pollution



75%

Say by 2032, all countries should require new vehicles that are manufactured to be electric or hybrid



1 in 2

Would give up their car if shared mobility options were more accessible (47%)

Q43. How much do you agree or disagree with each of the following statements? - Agreement Summary - Base= 2023 17-Country Average (17,061) Fielded Sept - Dec 2022

Q45. Would you give up your car if shared mobility options were more accessible? Shared mobility is the shared use of a vehicle, bicycle, or other modes of transportation, such as car sharing services like Zipcar, ride-sharing services like Uber and Lyft, bike sharing services like Lyft Bike, or scooter sharing services like Lime and Bird, etc. Base= 2023 17-Country Average- Car Owner (10,941) Fielded Sept - Dec 2022

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Many expect commercial and private transportation to be more sustainable



89% Think shipping companies and companies that ship a high amount of goods should use more sustainable transportation methods



87% Say private jet usage should be subject to additional environmental taxes and tariffs



85% Would be more likely to support a company if I knew they used sustainable modes of transportation



83% Believe ride-share and taxi companies should incentivize drivers to have electric vehicles