
3M Science.
Applied to Life.™
State of
Science
Index
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Sept. 24th 2018, Brazil

By 2050, the world population is expected to surpass 9 billion people.

And that's not all...

Reimagining natural resources

Supply and demand of natural resources, including fossil fuels, minerals, renewables, water, and food will experience a powerful transformation.

Shifting demographics

A gradual but powerful shift in the composition, location, and sheer size of the Earth's population is at the core of nearly all observable global trends.

Digital transformation

Digitization is fundamentally changing how businesses and individuals interact, make decisions, and conduct daily operations.

Evolving economic landscape

The center of world economic influence is transitioning from dominance of developed countries towards an increasingly multipolar environment.

Bottom line

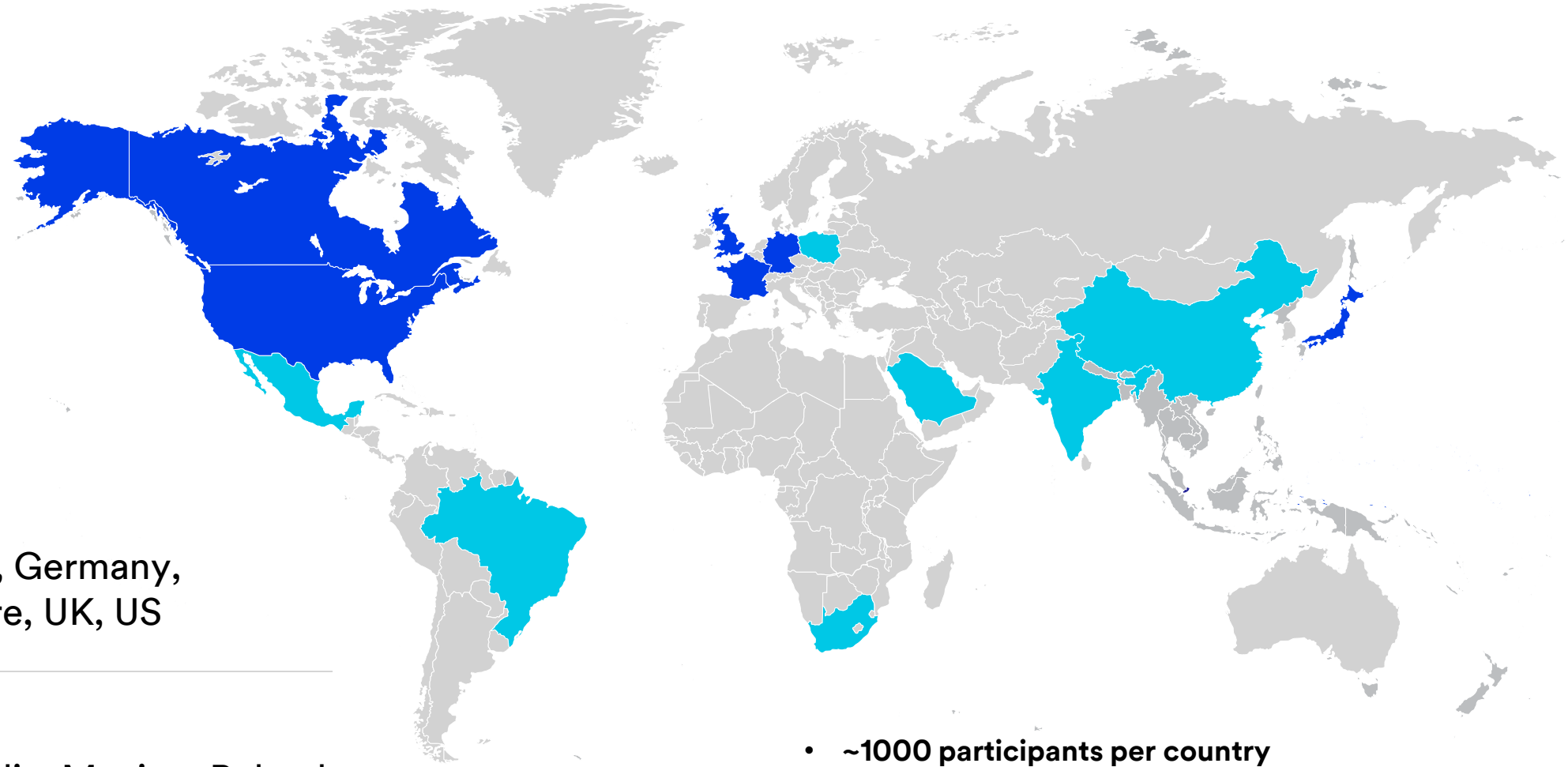
Science will be more important than ever to address the challenges we face as our world continues to grow.

The importance of science?

At 3M we recognize the importance of science and use it every day to improve the lives of people around the world.

But what do others around the world think about science? Do they see, feel and appreciate the impact of science the same way we do?

Where we surveyed



Developed

Canada, France, Germany, Japan, Singapore, UK, US

Emerging

Brazil, China, India, Mexico, Poland, Saudi Arabia, South Africa

- **~1000 participants per country**
- **At the 95% confidence level**
  - 14-country total: +/- 0.83 percentage points
  - Each individual country: +/- 3.10 percentage points

*Based on the MSCI Market Classification 2017: https://www.msci.com/market-classification

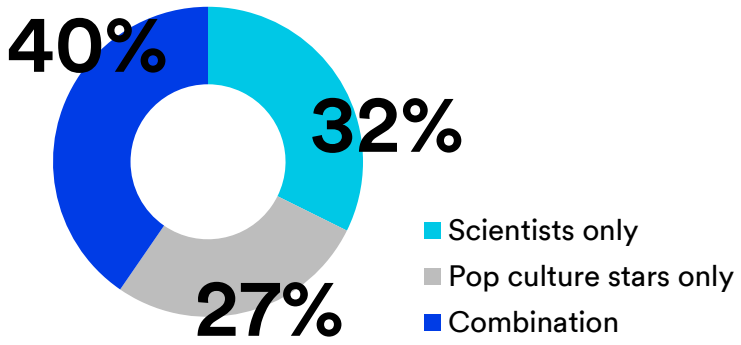
State of Science Index Results

Theme 1 key findings: Image of science

On the surface, people around the world are fascinated by science.

- 7x more likely to be fascinated (rather than bored) when they hear the word science (87% vs. 13%)
- When asked if they would rather have dinner and a conversation with sets of celebrity scientists or pop culture stars, 32% of people chose scientists exclusively and 40% chose a combination of the two
- 84% wish they knew more about science in general

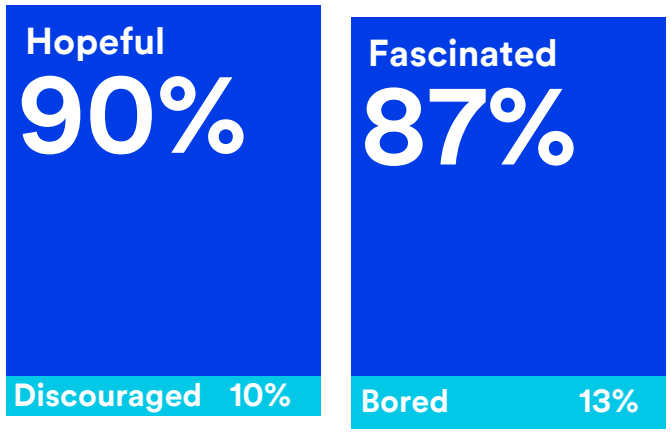
Rather get dinner with*:



They see the benefits science brings to society.

- 91% believe science drives innovation
- 87% say the world is a better place today because of science
- 9x more likely to hear the word science and feel hopeful rather than discouraged (90% vs. 10%)

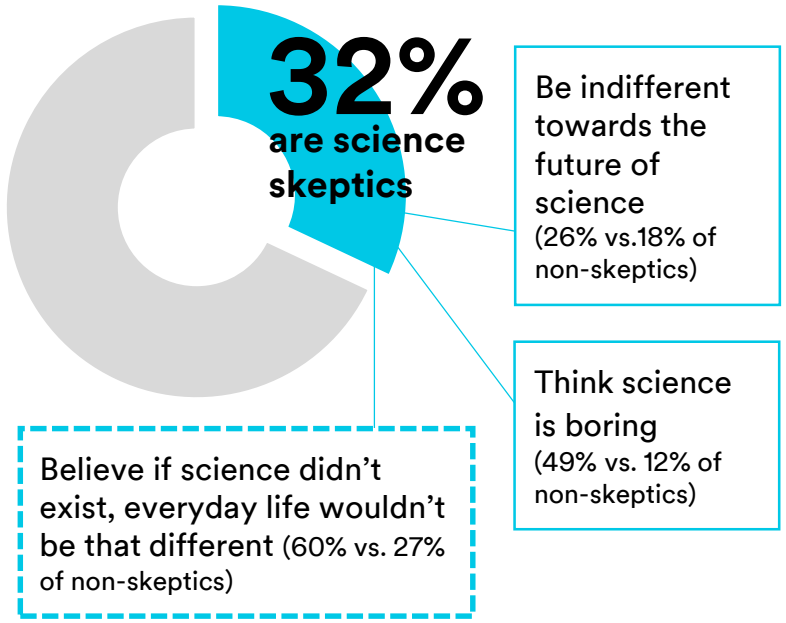
When you hear the word "science," you feel...



Yet, there is a solid and passionate group skeptical of science.

- One in three (32%) are skeptical of science, and this group tends to drive negative and indifferent perceptions of science
- Skepticism may be fueled by a lack of knowledge, as 24% of skeptics know nothing about versus a global average of 18%

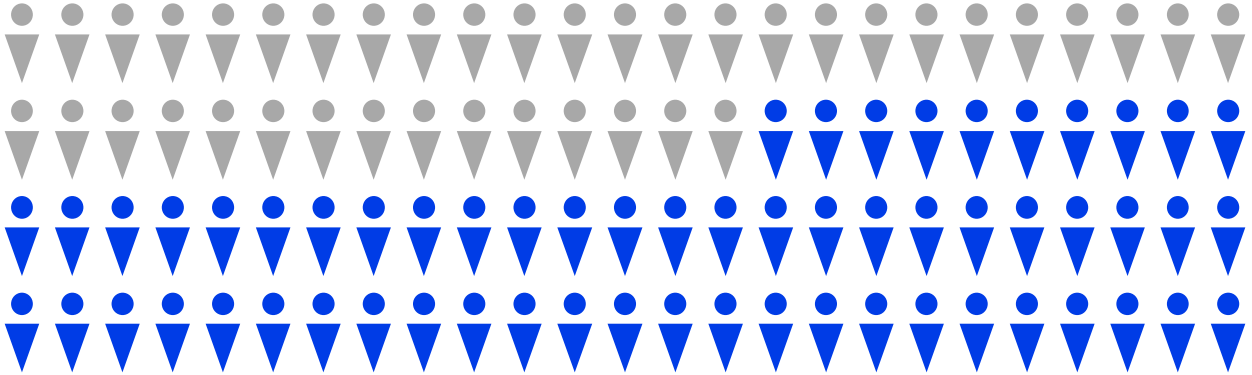
Skeptics are more likely to...



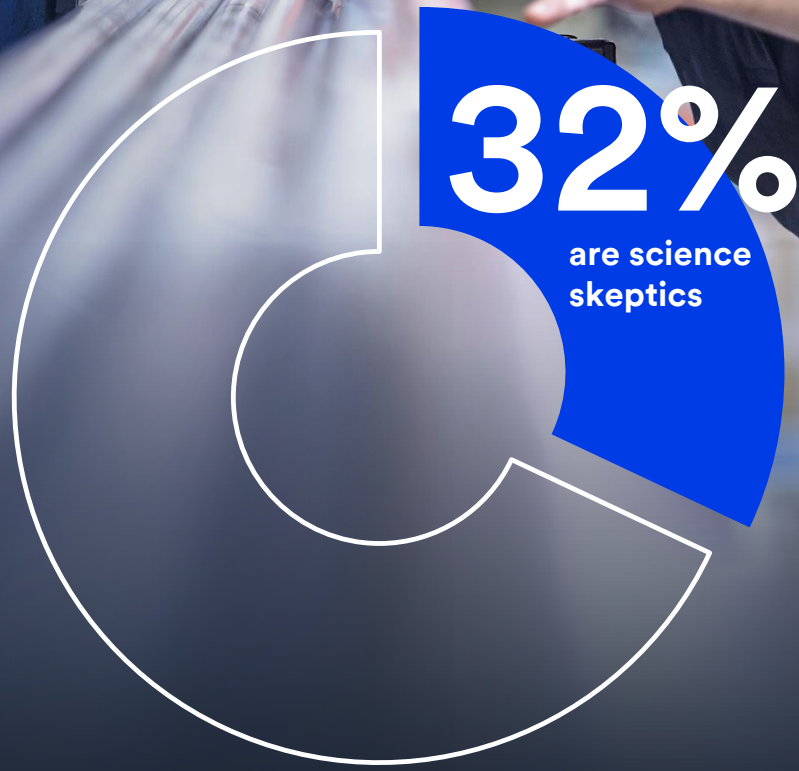
*Percentages may not add up to exactly 100% due to rounding

The image of science is complicated

Nearly 40% of people say that if science didn't exist, their everyday lives wouldn't be that different...



And about one-third are science skeptics...



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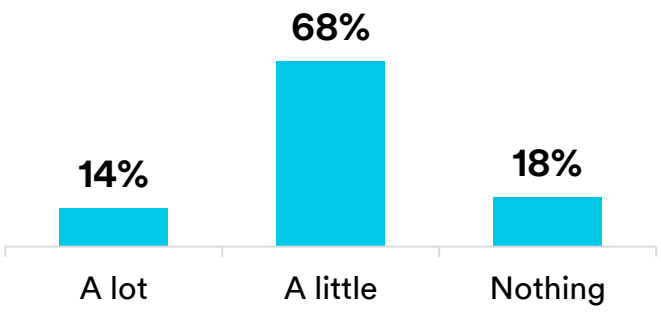
Theme 2 key findings: Understanding the impact of science

Some people know nothing about science and are not interested in engaging in science.

- Very few (14%) around the world know “a lot” about science
- Those who know nothing are less likely than the global average to want to learn more about science (68% vs. 84% globally)
- One-quarter (27%) do not see the point of needing to understand science as adults

How much do you know about science overall?

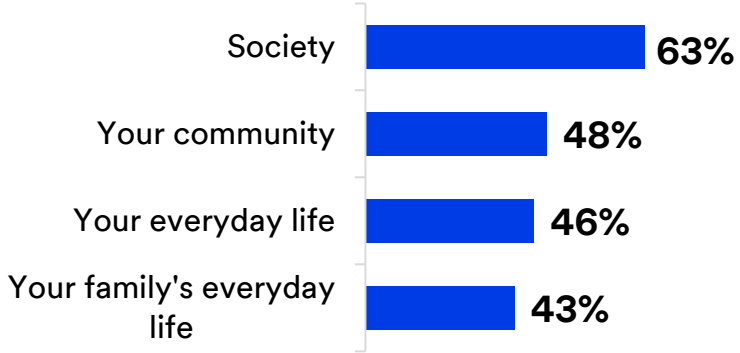


People are blind to the impact of science in their everyday lives.

- Significantly more believe science is very important to society in general (63%) than it is to their everyday life (46%).
- Majority (66%) only think about the impact of science on their everyday lives a little or never.
- Nearly two out of five (38%) believe that if science didn’t exist, their everyday lives wouldn’t be that different.

Science is very important to...

(top box: very important only)



Science is less fulfilling as an adult; best left up to the next generation.

- Over half (56%) felt more excited about science as a kid than they do now.
- 54% do not regret pursuing a non-science related career choice
- Few believe traditional science related to fields like engineering (17%), life science (13%), and physical science (8%) would lead to a satisfying career for themselves, compared to business (24%), IT (22%), and education (19%)
- One-third (36%) believe only geniuses can have a career in science

Yet, thinking about the next generation...

82% would encourage kids to pursue a career in science

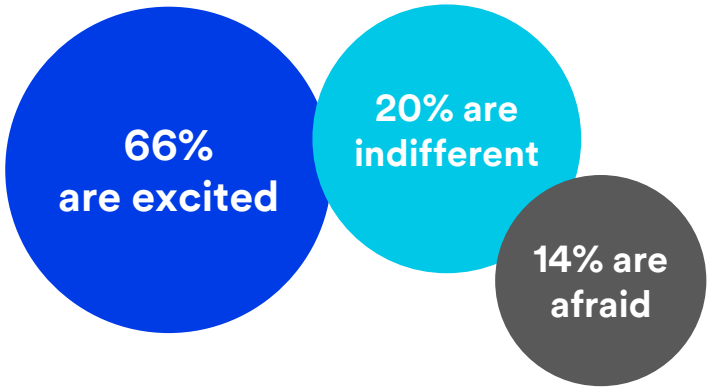
92% of parents want their kids to know more about science

Theme 3 key findings: Expectations of science

There are high expectations for what science can achieve in the future.

- 66% feel excited when thinking about the future impact of science on society, over indifferent (20%) or afraid (14%)
- 62% believe the best days of science are still to come
- Half or more think science will cure cancer (67%) and lead to robots in every workplace (64%) and home (55%) and flying cars (51%) in their lifetime

When thinking about the future impact of science, I feel...



But many do not realize the extent of science's reach.

- Three out four believe science can help solve global challenges around disease treatment (75%), access to affordable renewable energy (75%), energy supply (74%), Internet access (73%) and clean water (73%)
- However, significantly fewer see science as impacting hunger (45%), overcrowded cities (40%), or unemployment (33%)

Do you believe science can find solutions for the following global challenges?

Top 5
1. Disease treatment
2. Renewable energy access
3. Energy supply
4. Internet access
5. Clean water

Bottom 5
1. Hunger
2. Aging pop
3. Overcrowded cities
4. Poverty
5. Unemployment

And people are cognizant of the barriers to scientific advancements.

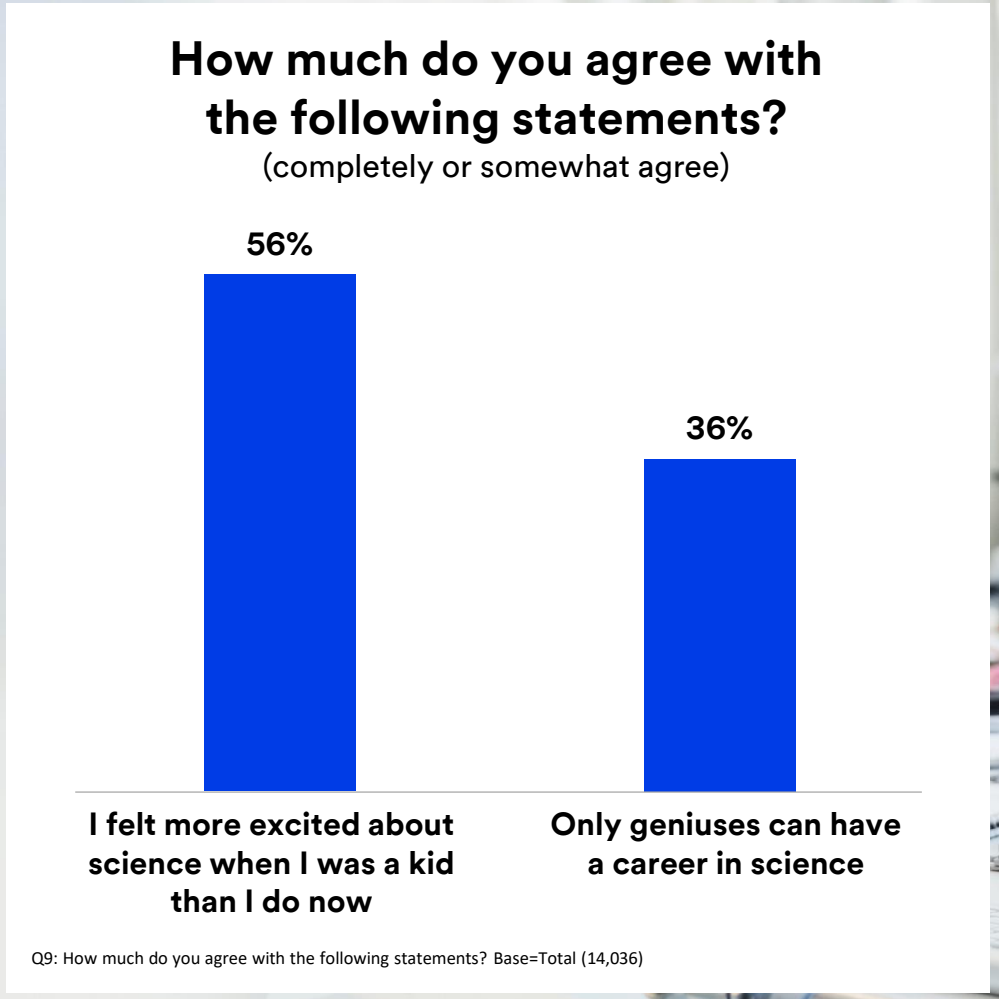
- 69% believe other countries are placing higher value on science than their own
- For one-third (34%), the biggest barrier to scientific advancements is inadequate funding
- 42% believe their own country is falling behind when it comes to scientific advancements compared to other countries

69% believe other countries place a higher value on science than their own.

42% believe their country is falling behind when it comes to scientific advancements compared to other countries.

=10% of total surveyed n=14,036

Excitement for science is stronger in kids than adults; notable portion say only geniuses can have a science career

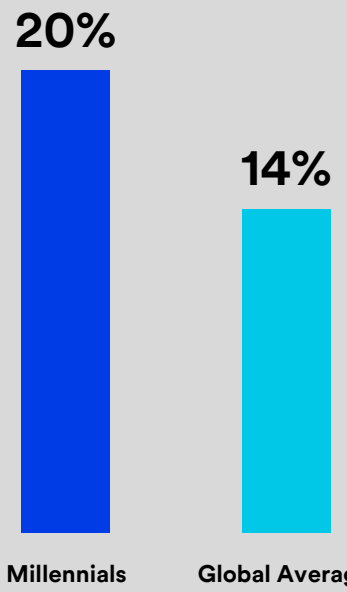


Q9: How much do you agree with the following statements? Base=Total (14,036)

Millennials are more likely to see the impact of science

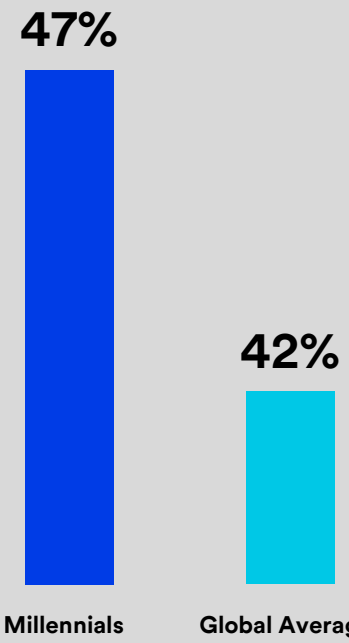
Say they know more about science

(20% vs. global avg. 14%)



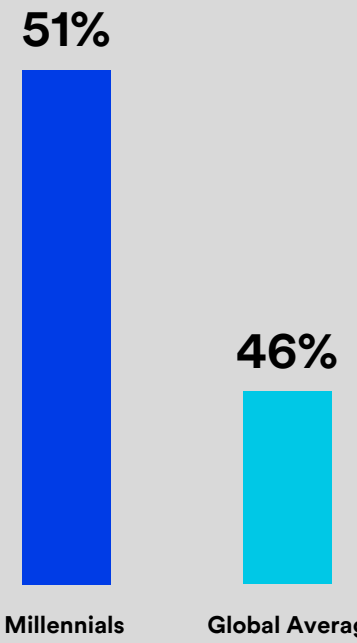
Understand that without science there is no technology

(47% vs. global avg. 42%)



Think science is very important to their everyday lives

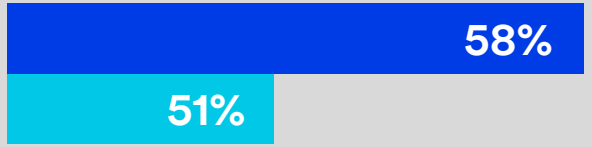
(51% vs. global avg. 46%)



Are more likely to believe that science can achieve the following in their lifetime:

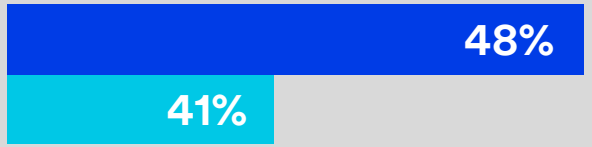
Flying cars

(58% vs. global avg 51%)



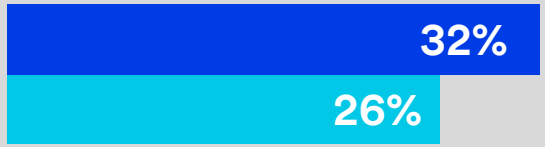
Undersea living

(48% vs. global avg 41%)



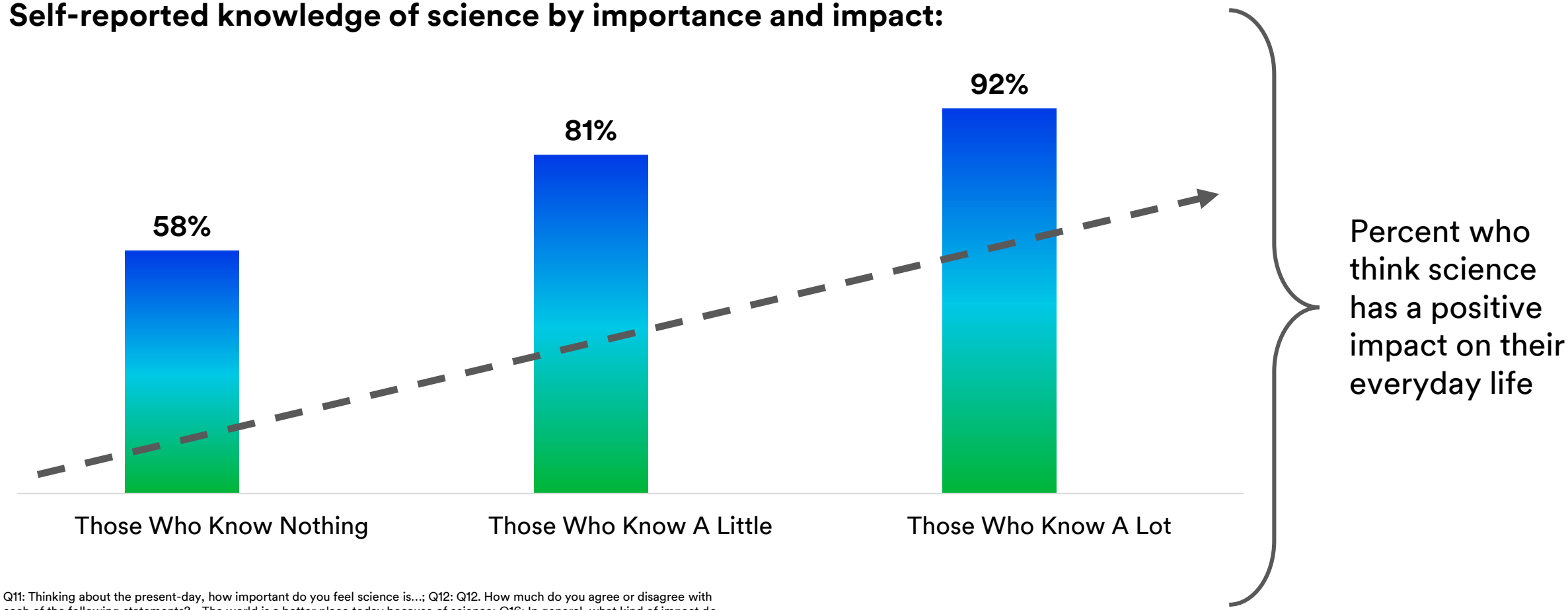
Teleportation

(32% vs. global avg 26%)



Building knowledge is key to improving people's grasp on how important science is

Self-reported knowledge of science by importance and impact:



Q11: Thinking about the present-day, how important do you feel science is...; Q12: Q12. How much do you agree or disagree with each of the following statements? - The world is a better place today because of science; Q16: In general, what kind of impact do you believe science has on each of the following today? ; Q19: In the future, what kind of impact do you believe science will have on each of the following? Base=Total (14,036)

Many believe their own country is falling behind others when it comes to scientific advancement

seven out of ten

people (69%) believe other countries place a higher value on science than their own.

four out of ten

people (42%) believe their country is falling behind when it comes to scientific advancements compared to other countries.

Q12: How much do you agree or disagree with each of the following statements?; Q21. Do you think your country is leading or falling behind when it comes to scientific advancements compared to other countries? Select one. Base=Total [14,036]

Top countries that see themselves as falling behind:

Mexico

80%

Brazil

74%

South Africa

61%

Key Brazil differentiators

Brazilians have lower knowledge of science but a higher desire to learn.

- Know less about science (22% know “nothing” vs. 18% globally).
- More likely to wish they knew more about science in general (52% completely agree vs. 34% globally).
- More likely to regret not pursuing a career in science (52% vs. 46% globally).

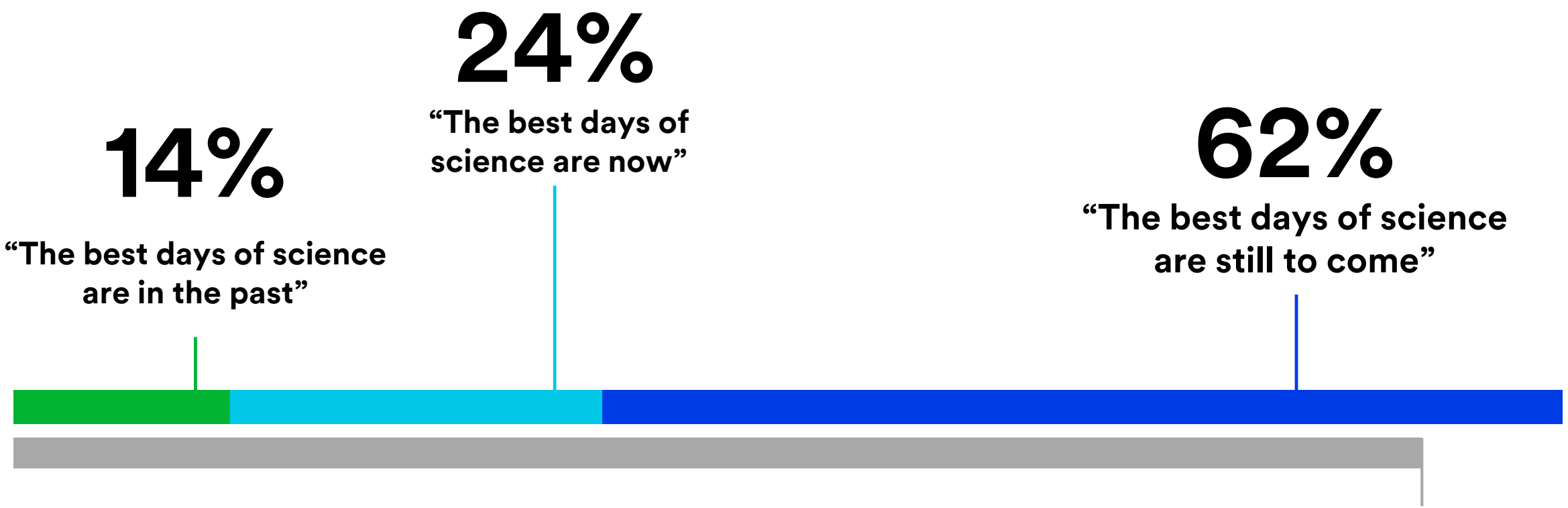
Brazilians appreciate science more than most other countries.

- With India, Brazil leads in believing science is very important to everyday life (72% vs. 46% globally).
- Brazil is also more likely than most other countries to believe science has a completely positive impact today on:
  - Society (37% vs. 24 globally)
  - Every day life (34% vs. 22% globally)
  - Planet (42% vs. 27% globally)
  - Local community (32% vs. 19% globally)

Brazilians have higher expectations for science than most, but low expectations their country will lead or deliver them.

- More likely to think science will cure for cancer in their lifetime (76% vs. 67% globally).
- More likely to think that other countries place a higher value on science (84% vs. 69% globally).
- More likely to believe they are falling behind (74% vs. 42% globally).

Majority believe that the best days of science are ahead



Q20. The following question asks about the “best days of science,” meaning the time period where science achieved, is achieving, or will achieve the greatest discoveries and advancements. With this in mind, which of the following statements do you agree with the most? Select one.; Q12. How much do you agree or disagree with each of the following statements? - Science drives innovation; Q5. Which of the following statements best describes your view on science and technology? Base=Total [14,036]

State of Science: global themes

Image of science	Around the world, people are **fascinated with science**, but a clear and powerful **skepticism exists**.
Impact of science	People **appreciate science** from a distance, **but it is taken for granted** in everyday life
Expectations of science	People have **high hopes for what science can achieve**, but there are **barriers to overcome**.

By making the data accessible to everyone, 3M wants to provoke a conversation about science—how it is viewed *and* the role it plays in society and everyday life.

3M.com/scienceindex

What's next?
Science needs advocates...

- Provoke a global conversation about science
- Inspire people to be more conscious of the science around them

And

- Connect the dots between science and the impact it has on people's everyday life

Science Advocacy: Themes

A	Awareness & Appreciation for science and the role it plays – in our daily lives
B	Breaking down Barriers – not just for geniuses or a gender, also, one can have satisfying science careers
C	Context, Communication & Championing –what scientists do, and how science solves problems

“Innovation is our biggest competitive advantage and the heart of 3M”

3M ‘15% culture’ supports individual initiative

- It offers permission to work on new ideas that an individual thinks could be a successful product/solution. Does not require management approval
- It grants the individual permission but also the support need to drive the project. Teaches employees new skills

Funding Initiatives

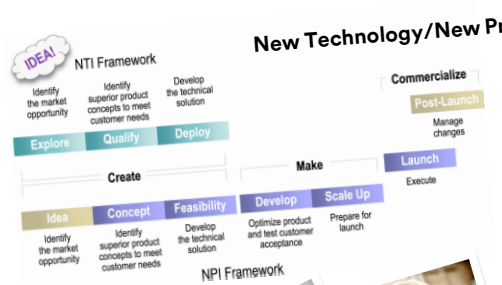
- Example: Genesis Grants - established in 1984
  - Encourages global collaboration in research and development effort
- Up to $100K for 12 months of research to advance a tech concept into a formal new technology or
- Grant recipients m

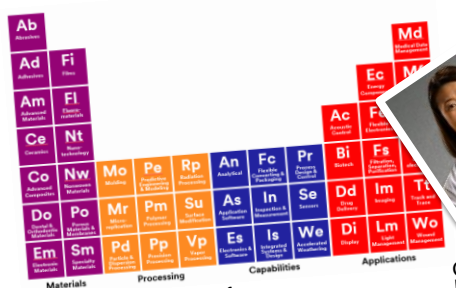
roduct

3M Tech Forum drives internal collaboration

- 12,000+ members
- It is self-directed and self-organized
- 1,200+ events globally
- 30+ active special-interest chapters
- 11 committees
- Provides an environment to interact with other scientists and functions
- Fosters creativity and cooperation that leads to innovation and growth
- Recognizes innovation doesn’t come from one place

Turning Ideas to Inventions and Product Innovation





Customer Inspired Innovation & Insights to Innovation

Products Delivered to the Marketplace

12

Culture..

The key elements to be considered for inculcating and maintaining a successful culture of innovation are:

E - *Expectation*
R - *Resources*
R - *Risk-taking*
O - *Opportunity*
R - *Reward*
S - *Socialization*

A lack of system level approach to any of the above would be a mistake!
#InnovationERRORS

https://www.linkedin.com/pulse/raising-innovation-6-most-common-errors-jayshree-seth

Science.
Applied to Life.™

Our Vision

3M Technology Advancing Every Company
3M Products Enhancing Every Home
3M Innovation Improving Every Life

Thank you!