A study

toluna harris interactive for esa

→ THE EUROPEAN SPACE AGENCY

International survey about space exploration

How do Europeans and citizens of USA, Japan and India perceive issues related to space exploration ?

January 2025

Jean-Daniel Lévy, Associate director Harris Interactive
Antoine Gautier, Research Manager at the Opinion & Politics Department
Natacha Stralla, Research Executive at the Opinion & Politics Department

Summary

Study methodology P.3

Perception of space exploration activities P.6

European and other countries' perceived autonomy in space exploration P.19

Funding of space exploration activities P.34

8 countries

Study methodology

European countries

- Study carried out online between **27th December 2024 – 6th January 2025**
- Sample of **8,922** people comprising 8 representative samples of the national population aged 18 or over in each of the following countries:

France: 1 100 people

Germany: 1 100 people

Spain: 1 157 people

Italy: 1 104 people

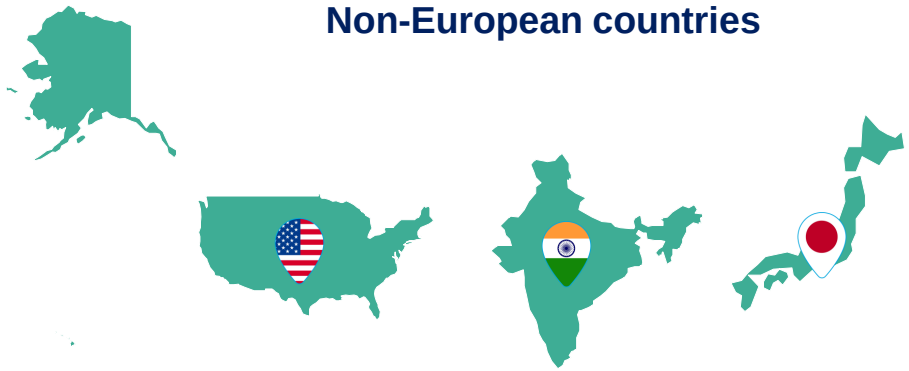
United Kingdom: 1 146 people

USA: 1 100 people

Japan: 1 105 people

India: 1 110 people

Non-European countries

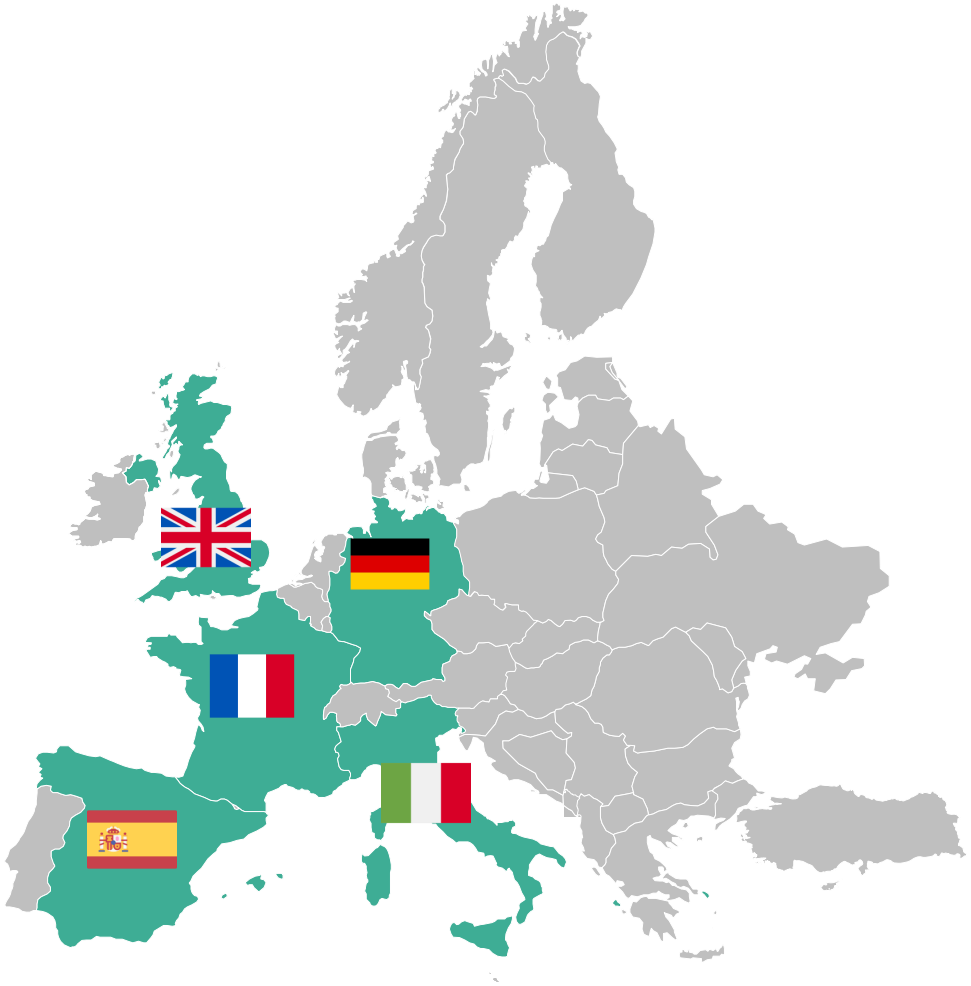


Representativeness is ensured by the quota method and an adjustment applied to the following variables: gender, age, employment and region of residence of respondents in each country. Each European country was given a weighting to reflect the impact of its domestic market within the overall European sample.

For the purposes of this document, the "ST Europe" refers to inhabitants of the 5 European countries covered by this study. The results obtained in the different countries are represented by flags.

toluna harris interactive

Study methodology – Evolutions



- Similar studies were carried out online in 2018, 2019 and 2022

WAVE 1 : Study carried out online on **20 and 21 December 2018**.
Sample of **5,227** Europeans, comprising 5 representative samples of the national population aged 18 or over in each of the following countries:

- Sample of **1,051** people representative of the population aged 18 and over in **Germany**
- Sample of **1,059** people representative of the population aged 18 and over in **France**
- Sample of **1,068** people representative of the population aged 18 and over in **the United Kingdom**
- Sample of **1,037** people representative of the population aged 18 and over in **Italy**
- Sample of **1,012** people representative of the population aged 18 and over in **Spain**

WAVE 2 : Study carried out online between **25 September – 3 October 2019**.
Sample of **5,395** Europeans, comprising 5 representative samples of the national population aged 18 or over in each of the following countries:

- Sample of **1,062** people representative of the population aged 18 and over in **Germany**
- Sample of **1,054** people representative of the population aged 18 and over in **France**
- Sample of **1,064** people representative of the population aged 18 and over in **the United Kingdom**
- Sample of **1,138** people representative of the population aged 18 and over in **Italy**
- Sample of **1,077** people representative of the population aged 18 and over in **Spain**

WAVE 3 : Study carried out online between **25 September – 6 October 2022**.
Sample of **21,366** Europeans comprising 22 representative samples of the national population aged 18 or over in the 22 countries member of the ESA, including :

- Sample of **1,006** people representative of the population aged 18 and over in **Germany**
- Sample of **1,030** people representative of the population aged 18 and over in **France**
- Sample of **1,267** people representative of the population aged 18 and over in **the United Kingdom**
- Sample of **1,059** people representative of the population aged 18 and over in **Italy**
- Sample of **1,025** people representative of the population aged 18 and over in **Spain**

Evolutions **refer to these studies**

Margin of error

The confidence interval (sometimes called “margin of error”) determines the trust which can be placed on a particular value, taking into account the value observed and the sample size. If the calculation of the confidence interval concerns randomised surveys, it is generally acknowledged that the figure would be close to that obtained from surveys carried out with a quota method.

Size of the sample	5% ou 95%	10% ou 90%	20% ou 80%	30% ou 70%	40% ou 60%	50%
100 interviews	4,4	6,0	8,0	9,2	9,8	10
200 interviews	3,1	4,3	5,7	6,5	6,9	7,1
300 interviews	2,5	3,5	4,6	5,3	5,7	5,8
400 interviews	2,2	3,0	4,0	4,6	4,9	5,0
500 interviews	2,0	2,7	3,6	4,1	4,4	4,5
600 interviews	1,8	2,4	3,3	3,8	4,0	4,1
800 interviews	1,5	2,1	2,8	3,2	3,4	3,5
1 000 interviews	1,4	1,8	2,5	2,9	3,0	3,1
2 000 interviews	1,0	1,3	1,8	2,1	2,2	2,3
3 000 interviews	0,8	1,1	1,5	1,7	1,8	1,8
4 000 interviews	0,7	0,9	1,3	1,5	1,6	1,6
6 000 interviews	0,6	0,8	1,1	1,3	1,4	1,4

Reading note: **In a sample of 1,000 people**, if the percentage obtained is 10%, the margin of error is equal to 1.8. There is therefore a 95% chance that the actual percentage is between 8.2% and 11.8% (plus or minus 1.8 points).

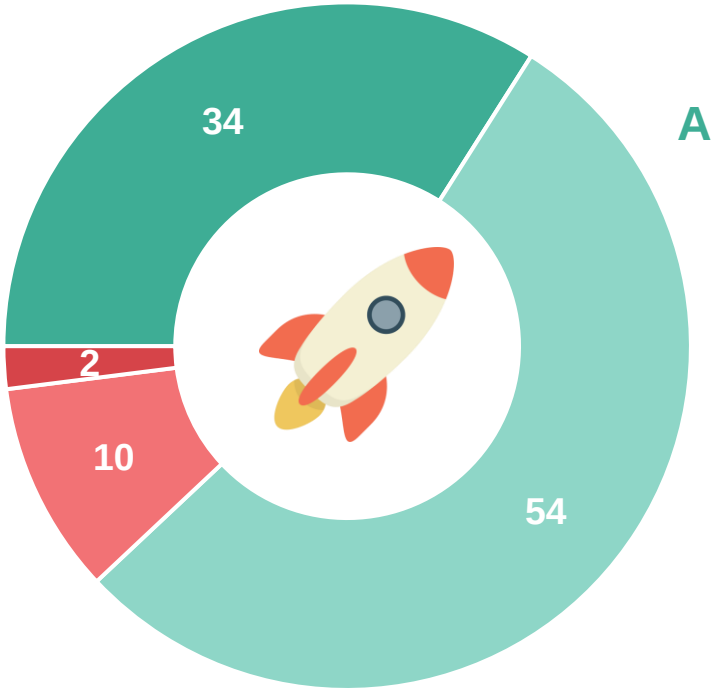
Perception of space exploration activities

Europeans have a very good opinion of space exploration activities: almost 9 out of 10 say they have a positive view of it, including 1/3 who say they have a very positive view

Europe

Q1. Generally speaking, do you have a positive or negative view of space exploration activities ?.

- To Europeans, in % -



A positive view : 88%

A negative view : 12%

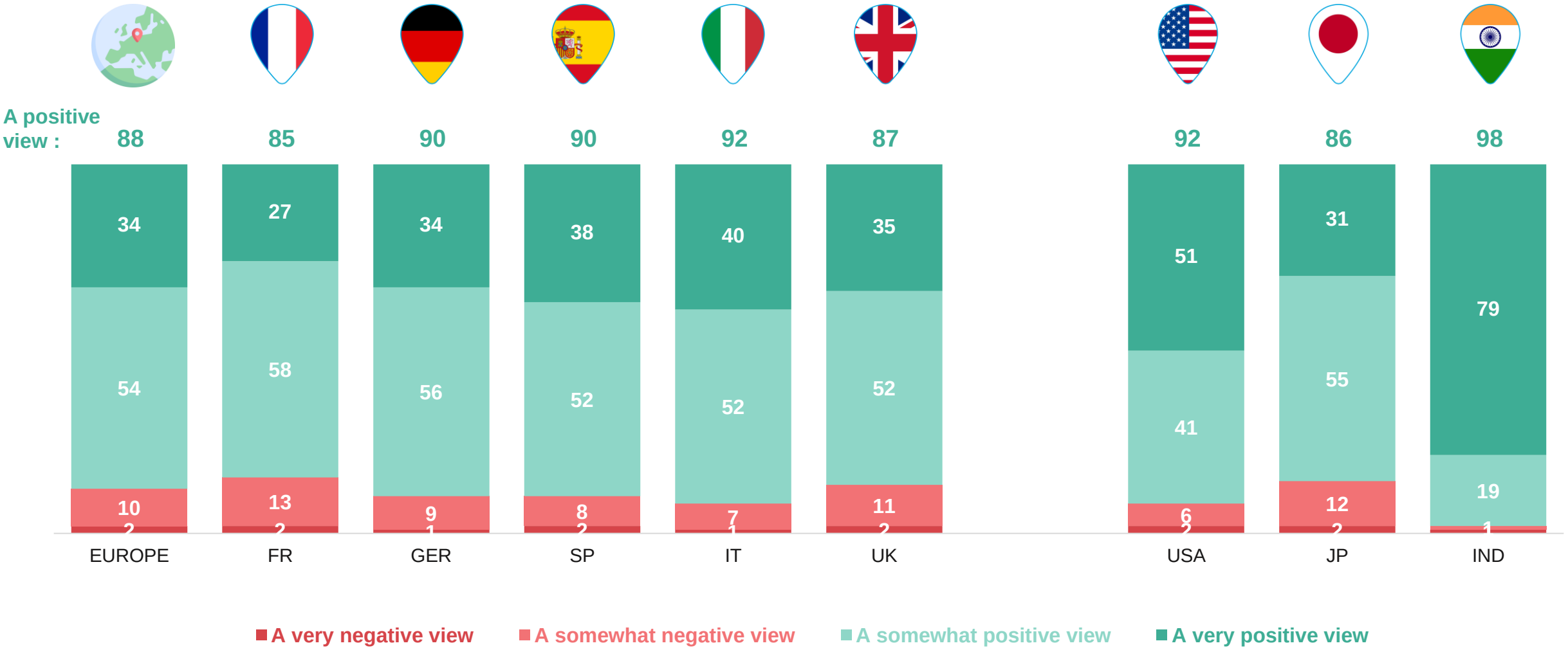
- A very positive view
- A somewhat positive view
- A somewhat negative view
- A very negative view

This positive view is shared by all European countries and is even stronger in the United States and India

DETAIL
Europe & other countries

Q1. Generally speaking, do you have a positive or negative view of space exploration activities ?.

- To all, in % -



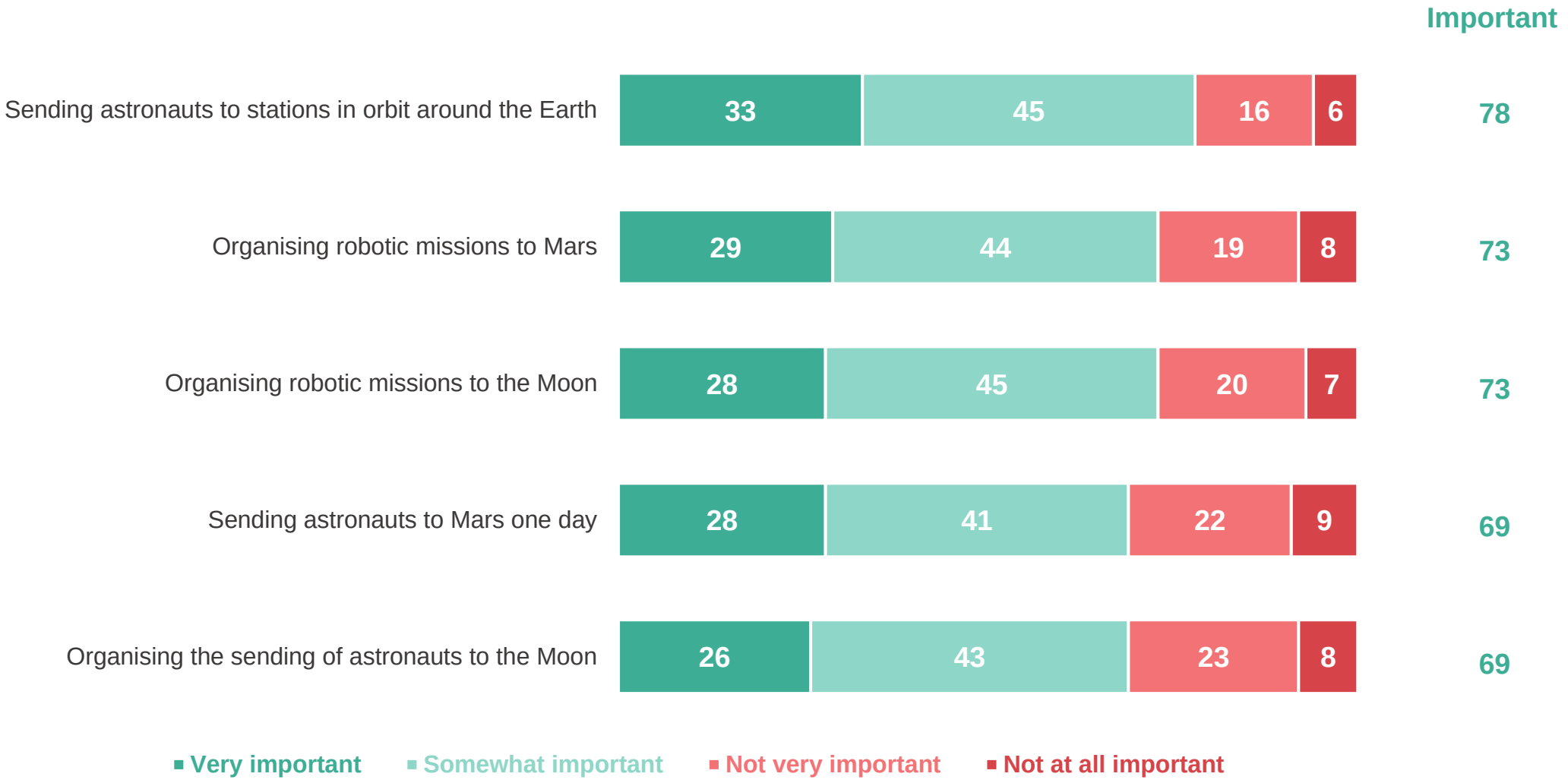
toluna harris interactive

The majority of Europeans believe that it is important for Europe to be involved in various space exploration projects to assert its place in the world

Europe

Q2. Would you say the following are important or not important for Europe / your country to assert its place in the world?

- To Europeans, in % -



Spaniards and Italians are more likely to say that it is important for Europe to participate in various space exploration projects. Such an opinion is much stronger among Americans, Japanese and Indians.

DETAIL
Europe & other countries

Q2. Would you say the following are important or not important for Europe / your country to assert its place in the world?

- To all, in % « **Important** » -

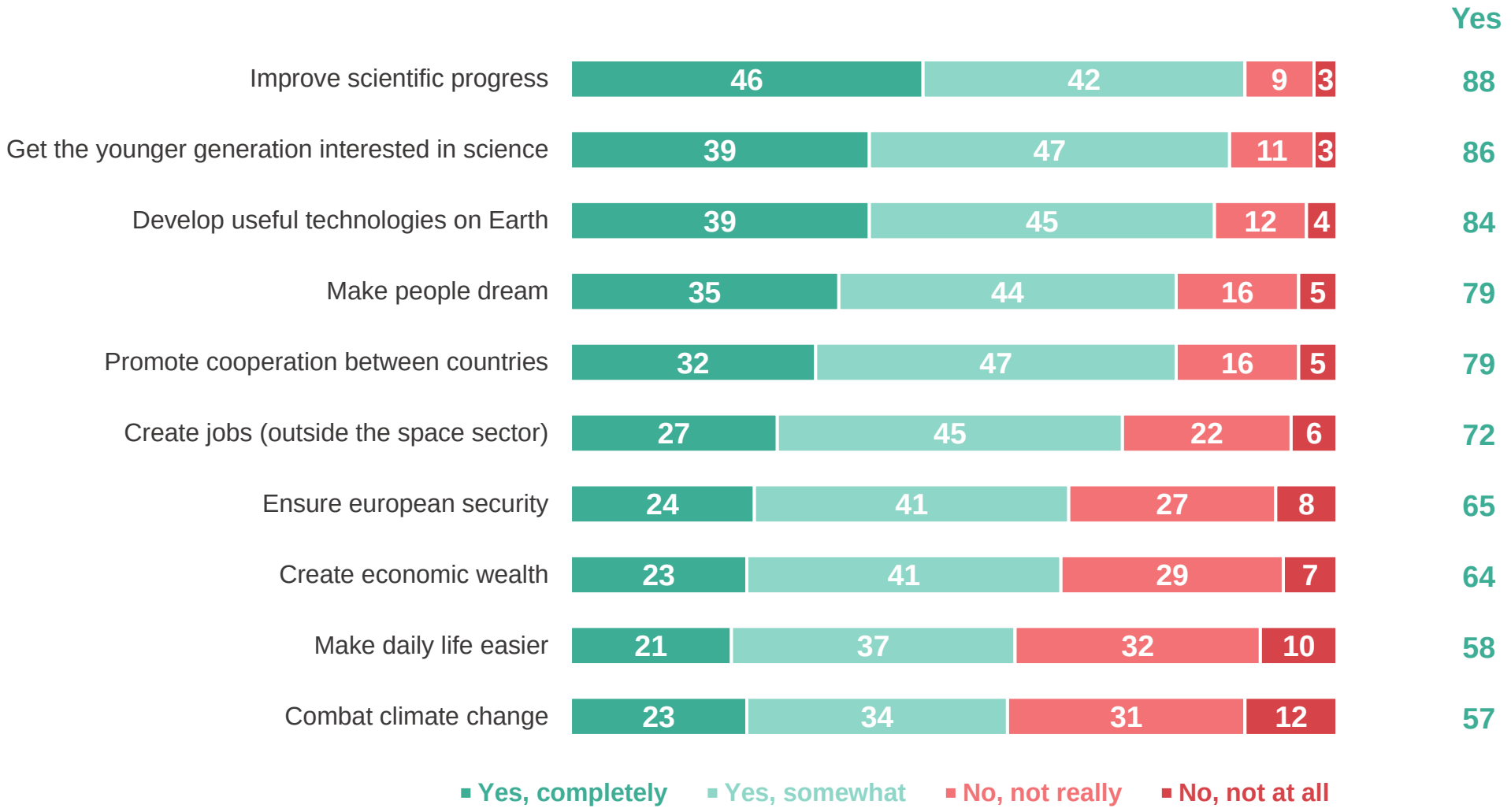
	EUROPE	FR	GER	SP	IT	UK	USA	JP	IND
Sending astronauts to stations in orbit around the Earth	78	73	80	80	80	76	86	82	92
Organising robotic missions to Mars	73	68	72	76	77	74	81	72	91
Organising robotic missions to the Moon	73	68	75	76	78	71	82	76	93
Sending astronauts to Mars one day	69	62	67	75	75	67	77	67	90
Organising the sending of astronauts to the Moon	69	65	69	73	74	68	79	73	93

Europeans see a number of benefits in the development of space exploration, in particular the ability to improve scientific progress, get the younger generations interested in science and develop useful technologies for life on Earth

Europe

Q3. In your opinion, does the development of space exploration activities today make it possible to... ?

- To Europeans, in % -



Americans, Indians and, to a lesser extent, the Japanese are more likely than Europeans to attribute these various benefits to space exploration activities

DETAIL
Europe & other countries

Q3. In your opinion, does the development of space exploration activities today make it possible to... ?

- To all, in % « **Yes** » -

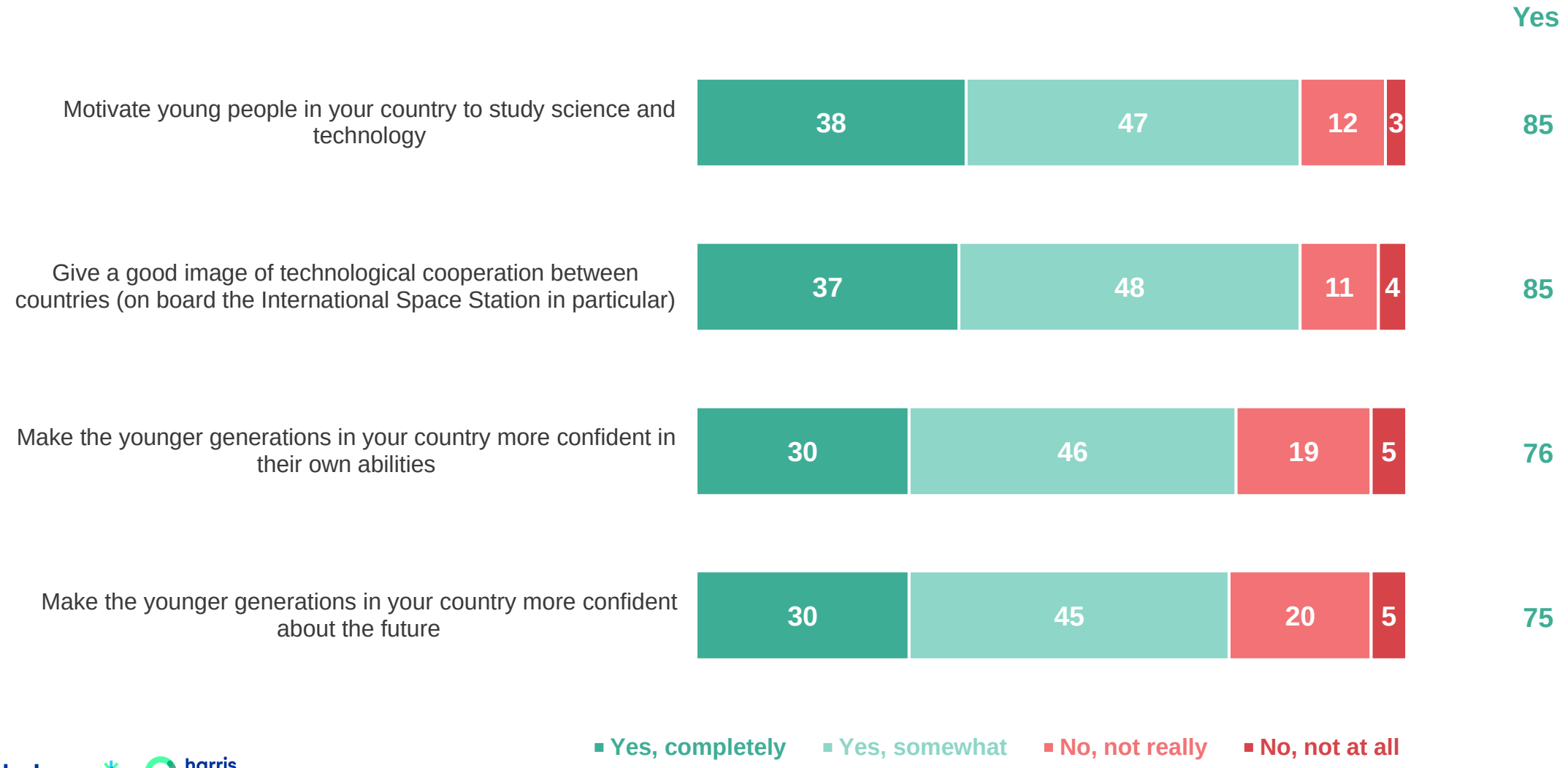
	EUROPE	FR	GER	SP	IT	UK	USA	JP	IND
Improve scientific progress	**88**	85	89	90	90	89	90	87	96
Get the younger generation interested in science	**86**	83	87	86	86	87	90	85	96
Develop useful technologies on Earth	**84**	80	88	86	87	83	87	85	97
Make people dream	**79**	79	78	80	79	81	86	88	93
Promote cooperation between countries	**79**	75	81	83	80	77	78	77	93
Create jobs (outside the space sector)	**72**	70	71	77	69	73	79	65	89
To ensure the security of European countries/your country	**65**	66	64	71	63	59	76	67	91
Create economic wealth	**64**	62	62	68	64	62	67	62	92
Make daily life easier	**58**	56	61	63	57	50	59	68	88
Combat climate change	**57**	52	57	66	59	54	62	72	89

The vast majority of Europeans believe that sending astronauts from their country into space helps to motivate the younger generations to study science and technology and creates a positive view of technological cooperation between countries

Europe

Q4. In your opinion, does sending astronauts from your country into space help to...?

- To Europeans, in % -



toluna harris interactive

Americans, Indians and Japanese are particularly convinced that sending their own astronauts into space will have positive impacts on their country's young people

DETAIL
Europe & other countries

Q4. In your opinion, does sending astronauts from your country into space help to...?

- To all, in % « **Yes** » -

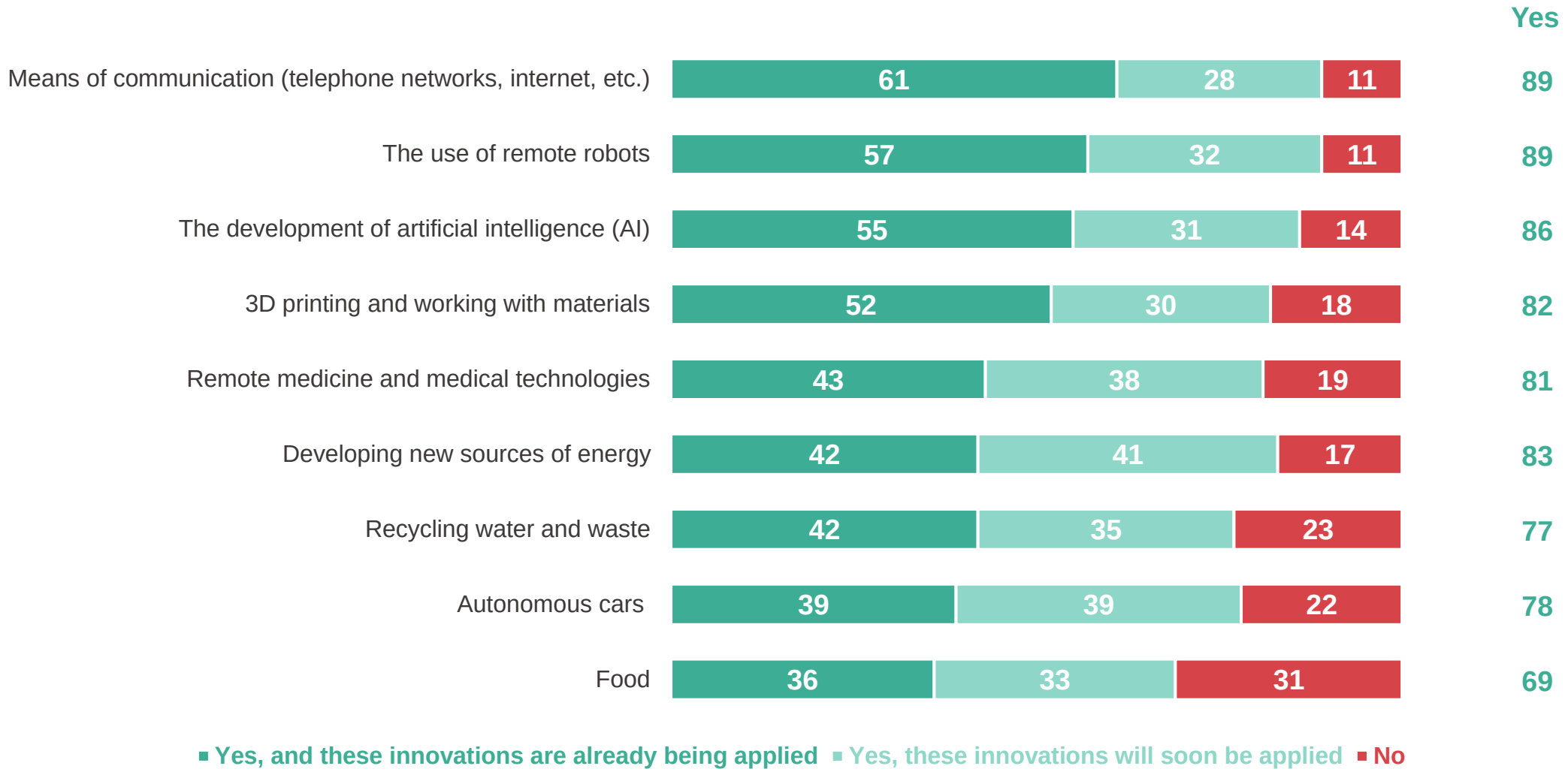
	EUROPE	FR	GER	SP	IT	UK	USA	JP	IND
Motivate young people in your country to study science and technology	**85**	81	85	86	87	86	90	85	97
Give a good image of technological cooperation between countries (on board the International Space Station in particular)	**85**	83	87	87	86	86	88	86	97
Make the younger generations in your country more confident in their own abilities	**76**	73	75	82	81	72	81	80	95
Make the younger generations in your country more confident about the future	**75**	71	74	81	79	71	82	83	96

The majority of Europeans believe that innovations linked to the development of space exploration have potential applications in a large number of areas, and that they are already in place in sectors such as means of communication, the use of remote robots and the development of AI

Europe

Q5. More specifically, do you think the innovations linked to the development of space exploration are applicable to each of the following areas ?

- To Europeans, in % -



There is greater knowledge of the current application of certain innovations linked to the development of space exploration in the United States and India, but also in Spain

DETAIL
Europe & other countries

Q5. More specifically, do you think the innovations linked to the development of space exploration are applicable to each of the following areas ?

- To all, in % « **Yes, and these innovations are already being applied** » -

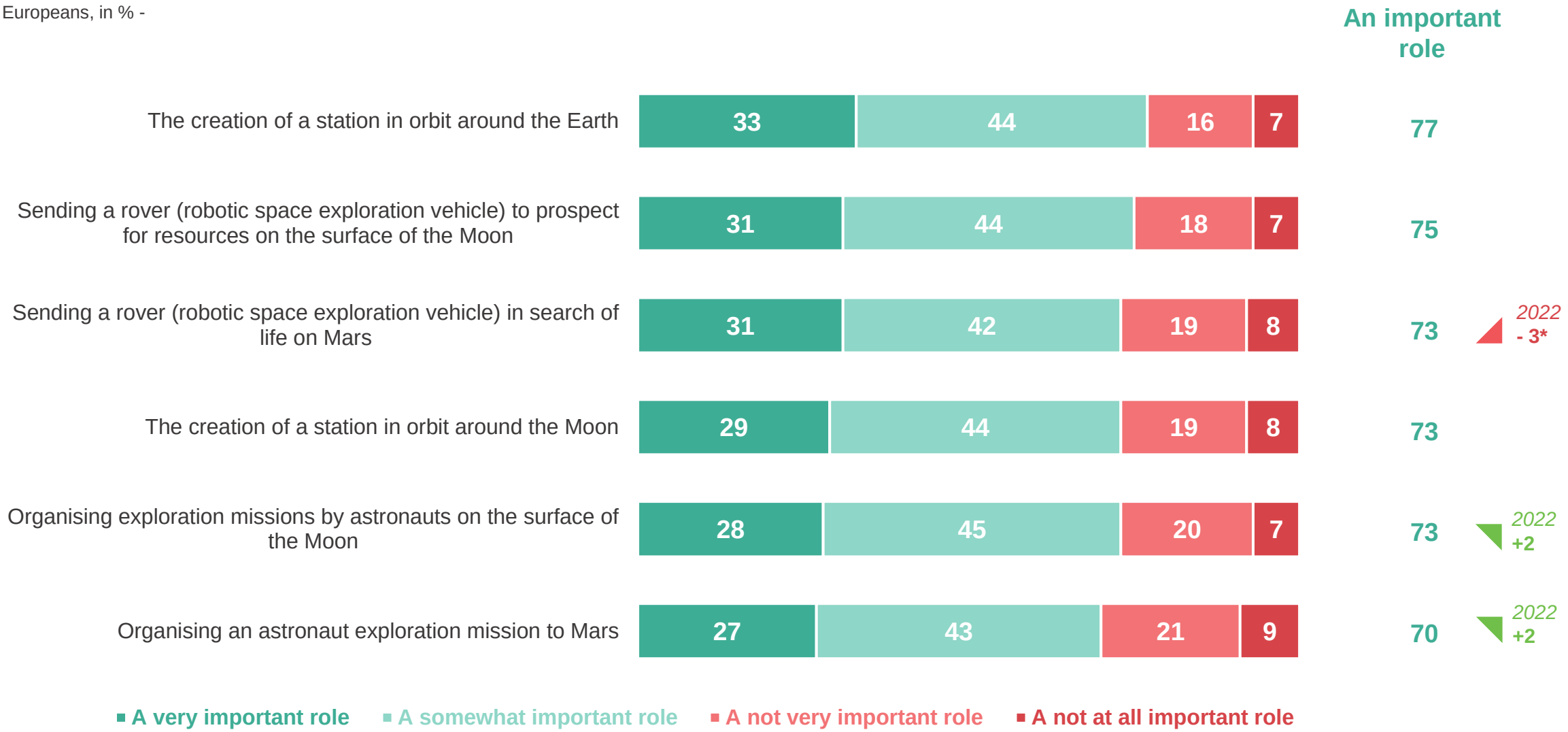
	EUROPE	FR	GER	SP	IT	UK	USA	JP	IND
Means of communication (telephone networks, internet, etc.)	61	62	59	64	58	59	65	57	79
The use of remote robots	57	57	60	60	53	57	67	52	64
The development of artificial intelligence (AI)	55	54	55	61	53	53	60	50	72
3D printing and working with materials	52	52	51	57	50	47	57	42	62
Remote medicine and medical technologies	43	46	40	47	43	36	46	39	61
Developing new sources of energy	42	40	40	50	44	39	49	33	67
Recycling water and waste	42	39	44	48	38	43	53	36	64
Autonomous cars	39	36	43	46	35	37	47	38	56
Food	36	35	37	42	31	36	47	40	65

The majority of Europeans believe that Europe should play an important role in certain space exploration projects in the future, in particular the creation of a station in orbit around the Earth or the sending of exploration rovers to the Moon and Mars

Europe

Q6. In your opinion, should Europe / your country play an important role or not in each of the following space projects?

- To Europeans, in % -



toluna harris interactive

** In 2022 the item was : Organising a robotic exploration mission to Mars, to bring samples back to Earth*

The vast majority of Americans, Indians and Japanese believe that their country should play an important role in various space exploration projects. Among Europeans, Spaniards and Italians are more convinced of the role Europe should play in this area

DETAIL
Europe & other countries

Q6. In your opinion, should Europe / your country play an important role or not in each of the following space projects?

- To all, in % « **An important role** » -

	EUROPE	FR	GER	SP	IT	UK	USA	JP	IND
The creation of a station in orbit around the Earth	**77**	75	72	82	82	77	86	82	93
Sending a rover (robotic space exploration vehicle) to prospect for resources on the surface of the Moon	**75**	71	70	80	80	75	85	80	94
Sending a rover (robotic space exploration vehicle) in search of life on Mars	**73**	70	65	78	78	71	83	77	92
The creation of a station in orbit around the Moon	**73**	71	66	78	80	74	81	79	92
Organising exploration missions by astronauts on the surface of the Moon	**73**	69	68	79	78	73	82	79	95
Organising an astronaut exploration mission to Mars	**70**	68	64	77	74	69	81	73	91

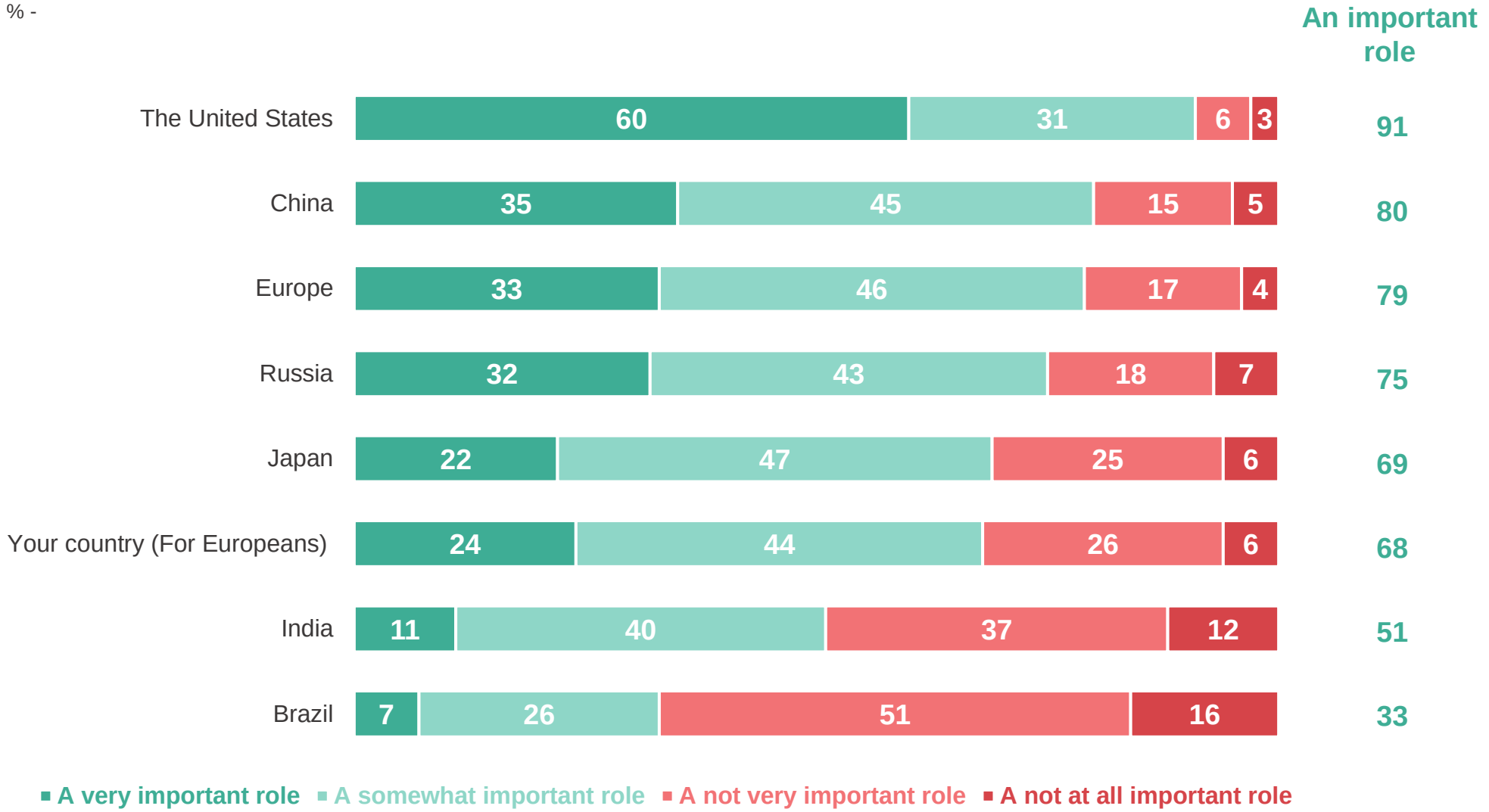
European and other countries’ perceived autonomy in space exploration

The United States is seen as the main player in the field of space exploration, ahead of China and Europe

Europe

Q7. Today, do each of the following players play, in your opinion, an important role or not in the field of space exploration?

- To Europeans, in % -



toluna harris interactive

It is interesting to note that most non-Europeans see Europe as an important or even very important player in the field of space exploration

DETAIL
Europe & other countries

Q7. Today, do each of the following players play, in your opinion, an important role or not in the field of space exploration?

- To all, in % « **An important role** » -

	EUROPE	FR	GER	SP	IT	UK	USA	JP	IND
The United States	**91**	88	91	93	94	91	94	89	93
China	**80**	77	80	87	83	74	73	57	84
Europe	**79**	77	77	82	78	79	74	75	88
Russia	**75**	73	73	81	79	70	73	60	92
Japan	**69**	64	67	74	72	66	73	76	91
Your country {*For Europeans*]	**68**	73	63	56	67	76	-	-	-
India	**51**	44	54	53	50	57	54	58	95
Brazil	**33**	31	33	36	29	39	44	33	76

For Europeans, the perceived importance of China in the field of space exploration has been steadily increasing since 2018, while Europe's perceived role has been declining. We also note that India is also gradually establishing itself as a major player.

DETAIL Europe

Q7. Today, do each of the following players play, in your opinion, an important role or not in the field of space exploration?

- To Europeans, in % « **An important role** » -

		Europe			France			Germany			Spain			Italy			UK		
		2024	2022	2018	2024	2022	2018	2024	2022	2018	2024	2022	2018	2024	2022	2018	2024	2022	2018
United States of America	2018 -2	91	92	93	88	92	92	91	91	91	93	91	95	94	94	97	91	93	90
China	2018 +1	80	76	79	77	77	78	80	66	73	87	82	84	83	83	84	74	77	81
Europe	2018 -6	79	82	85	77	82	85	77	84	88	82	78	83	78	84	87	79	82	81
Russia	2018 -15	75	73	90	73	77	90	73	64	89	81	74	93	79	84	94	70	70	86
[Your country]		68	71	75	73	77	82	67	72	83	74	48	52	72	75	75	66	76	74
Japan		69	63	69	64	53	58	63	62	68	56	68	73	67	68	75	76	67	69
India	2018 +2	51	43	49	44	37	42	54	40	47	53	42	45	50	42	52	57	56	60
Brazil	2018 +2	33	31	-	31	27	-	33	30	-	36	29	-	29	28	-	39	42	-

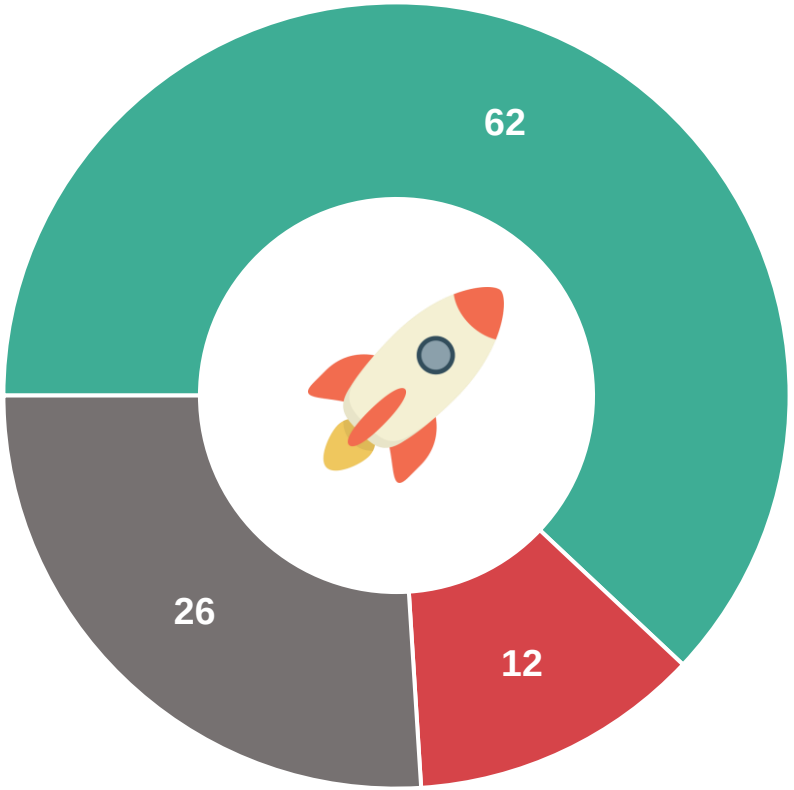
In the last waves the question was : "In your opinion, how important are each of the following players in the field of space activities today?

The majority of Europeans say they would like Europe to play a greater role in the field of space exploration

Europe

Q8. And in the future, would you like Europe / your country to play a more, less or neither more nor less important role in space exploration?

- To Europeans, in % -



More important

Neither more nor less important

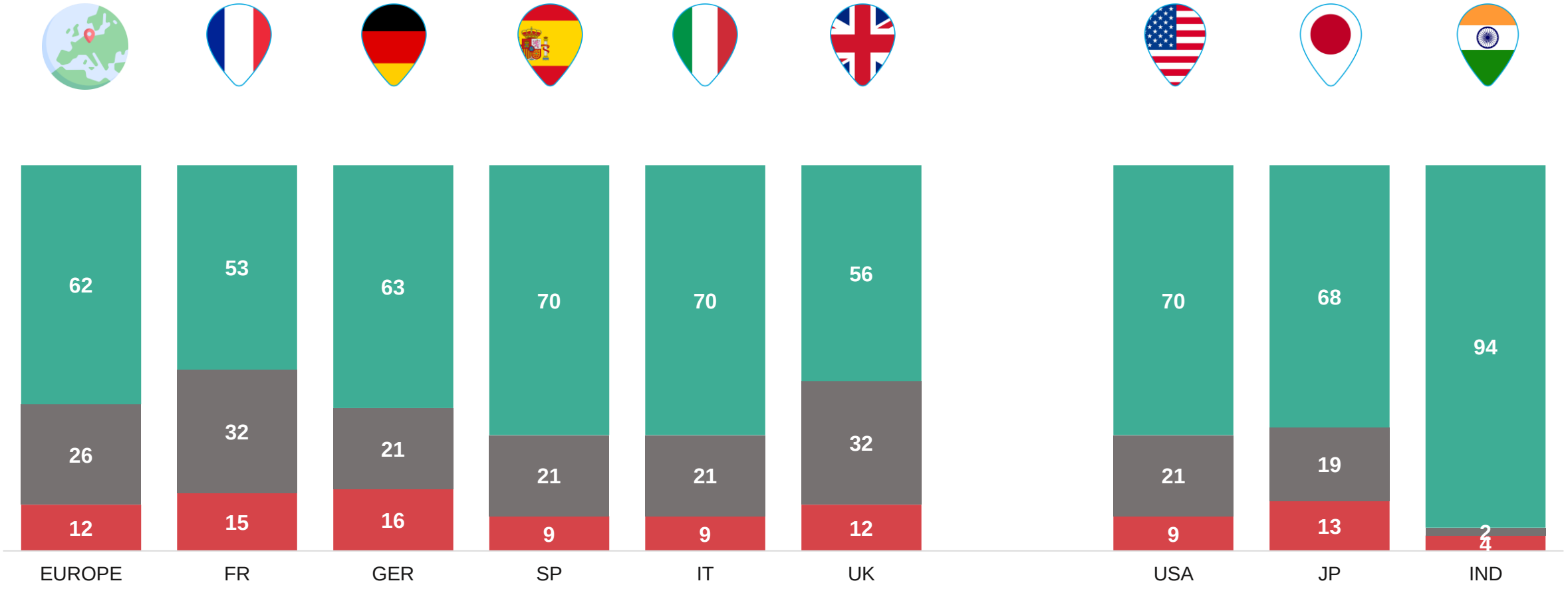
Less important

Respondents from each of the countries surveyed see a more important role for their own country in the field of space exploration in the future

DETAIL
Europe & other countries

Q8. And in the future, would you like Europe / your country to play a more, less or neither more nor less important role in space exploration?

- To all, in % -



Less important | Neither more nor less important | More important

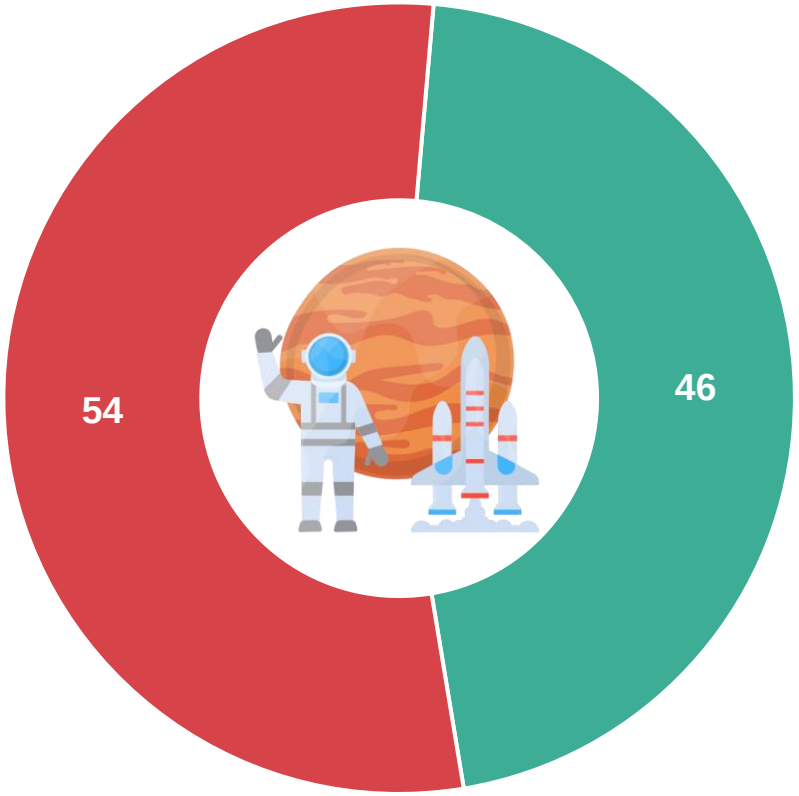
Europeans are divided over the consequences of Europe withdrawing from missions to the Moon and Mars. A slight majority believe that this would have negative consequences because Europe would fall behind in terms of scientific knowledge and would lose its influence

Europe

Q9. If Europe / your country decided not to take part in international missions to the Moon and Mars, would you say that this would have positive or negative consequences?

- To Europeans, in % -

Negative consequences because Europe would fall behind in terms of scientific knowledge and lose its power to influence governance and the responsible use of space



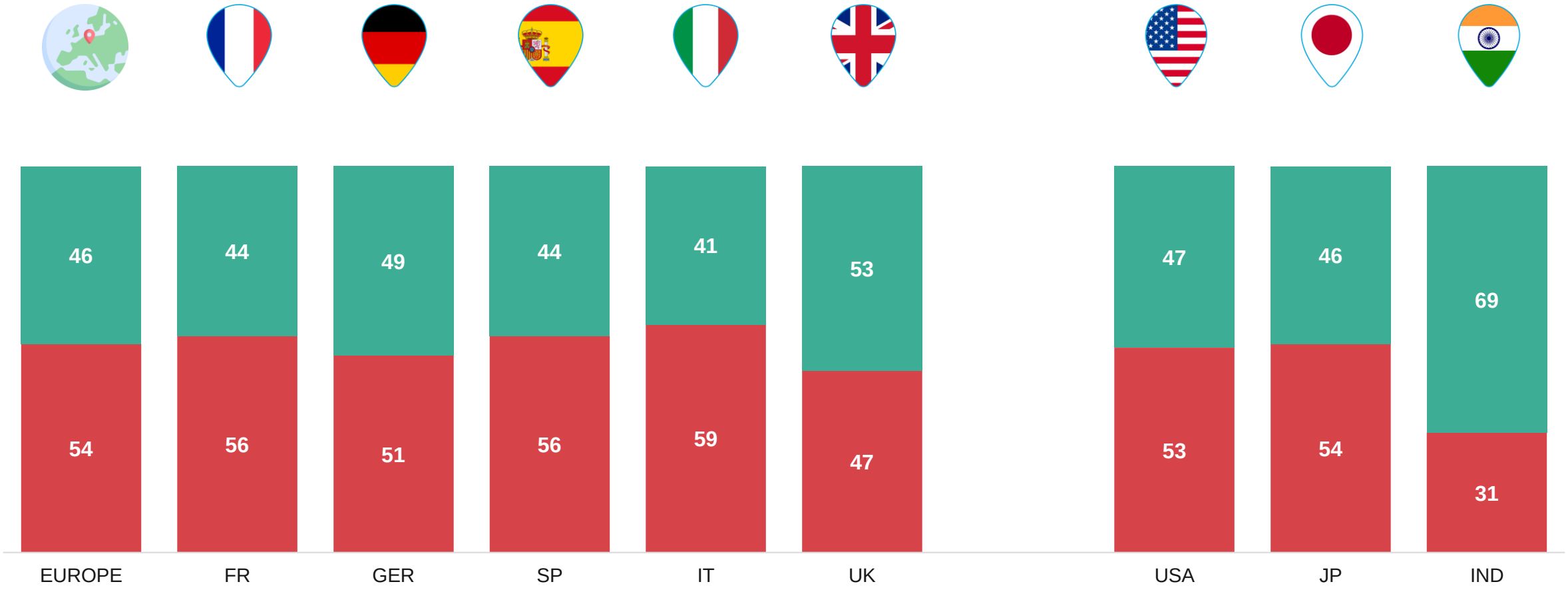
Positive consequences because Europe could concentrate its efforts on developing other activities

Europeans, as well as Americans and Japanese, are all divided on this issue

DETAIL
Europe & other countries

Q9. If Europe / your country decided not to take part in international missions to the Moon and Mars, would you say that this would have positive or negative consequences?

- To all, in % -



■ Negatives consequences for Europe / your country ■ Positives consequences for Europe / your country

toluna harris interactive

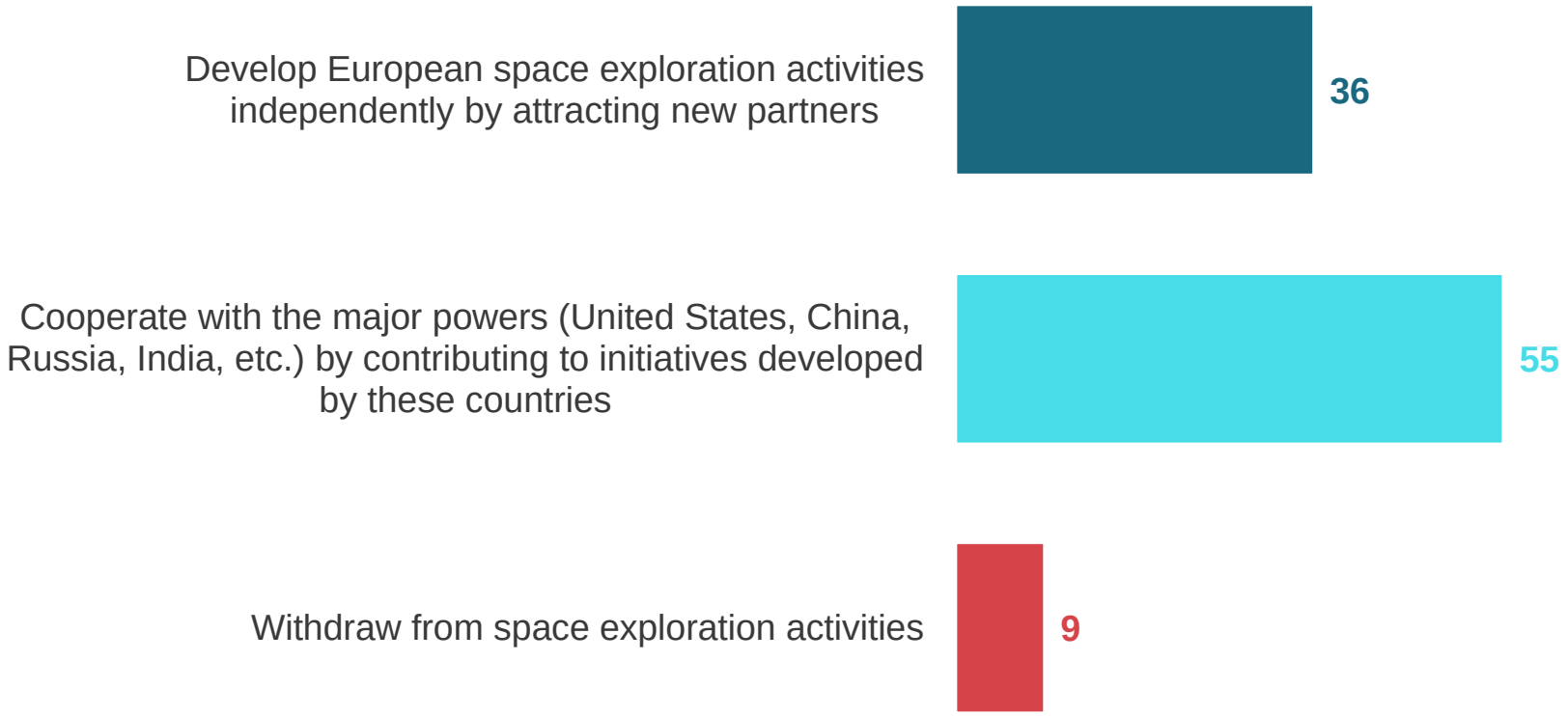
The majority of Europeans believe that Europe should cooperate with the major powers in space exploration, although a significant proportion consider that Europe should develop its activities independently instead

Europe

Q10. When it comes to space exploration, would you say that European countries should above all seek to...?

- To Europeans, in % -

Question asked to Europeans only



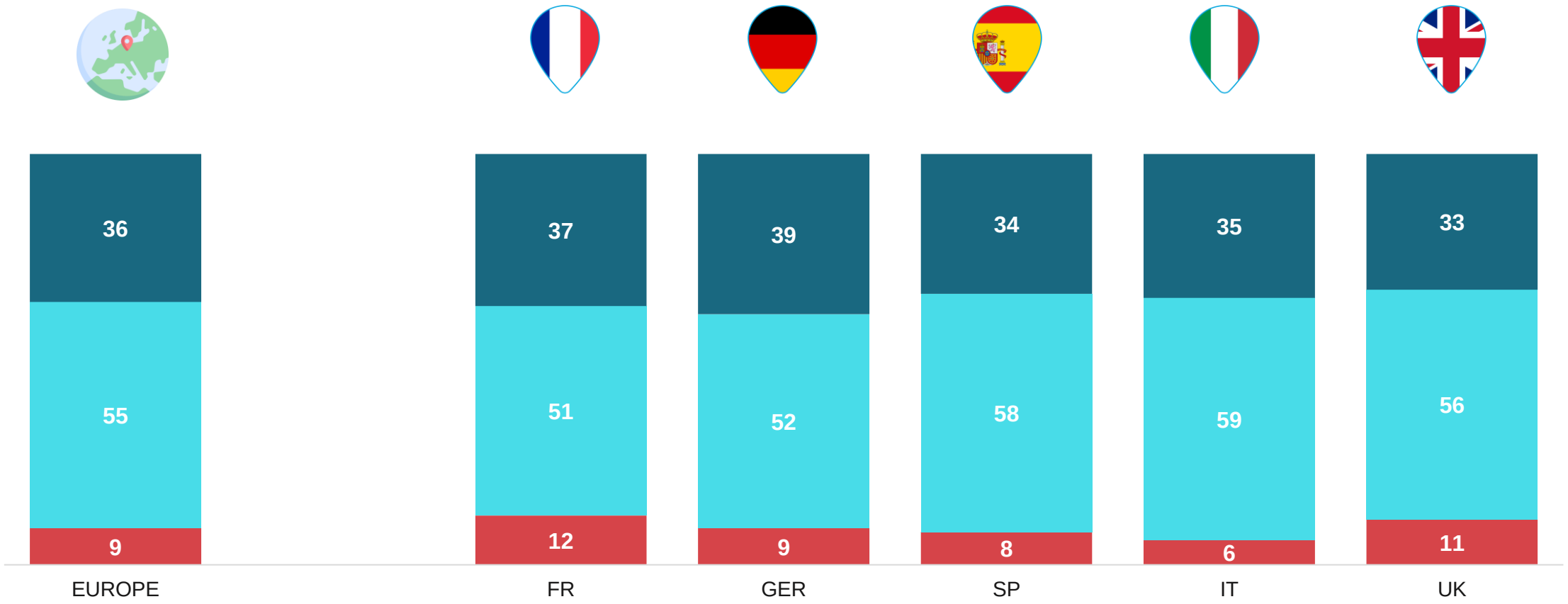
Europeans in each of these countries tend to favour cooperation between Europe and the major powers in space exploration

DETAIL
Europe

Q10. When it comes to space exploration, would you say that European countries should above all seek to...?

Question asked to Europeans only

- To Europeans, in % -



- Withdraw from space exploration activities
- Cooperate with the major powers
- Develop European space exploration activities independently

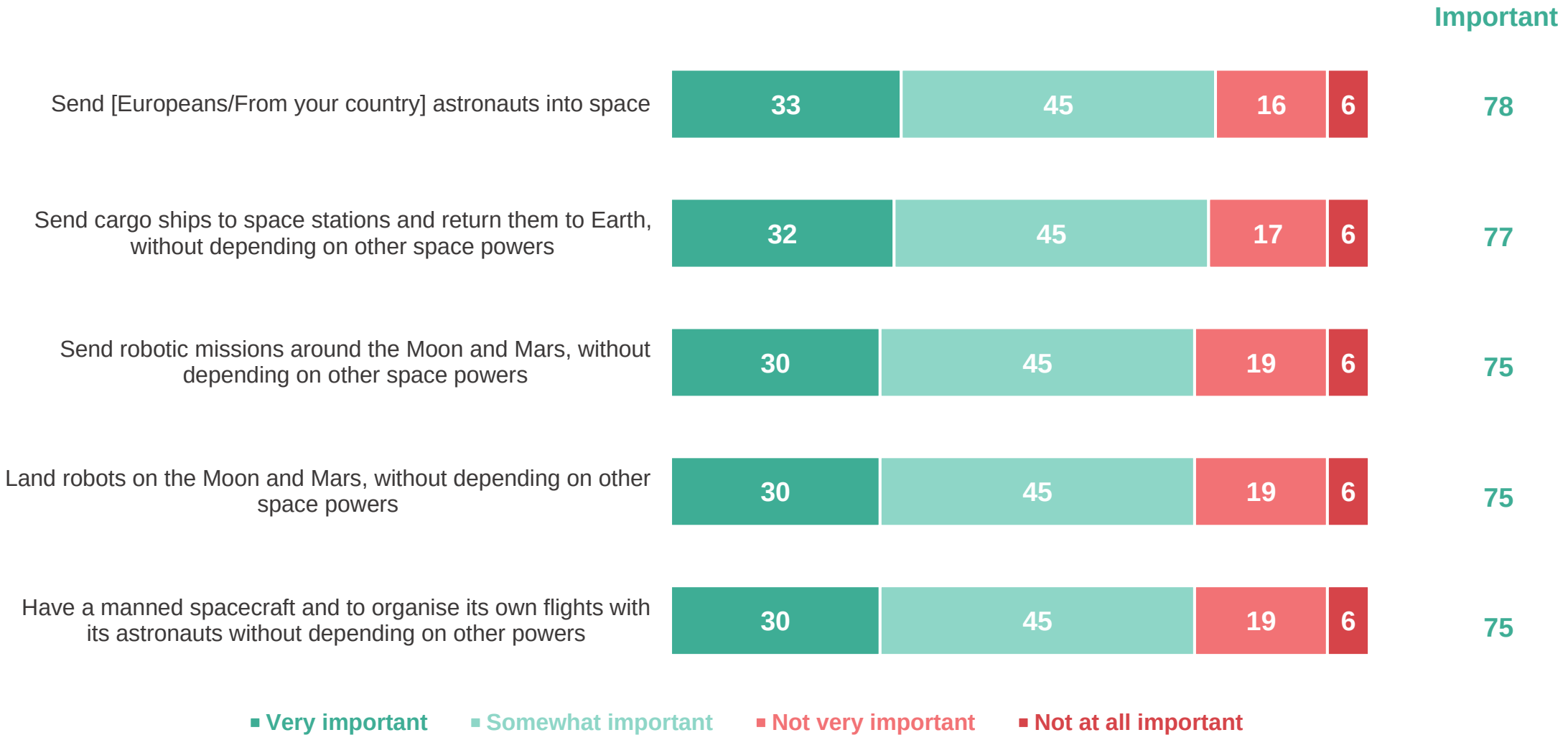
toluna harris interactive

Specifically, Europeans attach great importance to Europe's capacity to send European astronauts into space, but also to the ability to send cargo ships and return them to Earth without depending on other space powers

Europe

Q11. More specifically, do you think the independence of European / your country space exploration activities compared to the activities of other major space powers is important or not important in terms of … ? The capacity of European countries / your country to…

- To Europeans, in % -



While Europeans generally favour the independence of European space exploration activities, Americans and Indians see this as an even more important issue for their own country

DETAIL
Europe & other countries

Q11. More specifically, do you think the independence of European / your country space exploration activities compared to the activities of other major space powers is important or not important in terms of … ? The capacity of European countries / your country to…

- To all, in % « **Important** » -

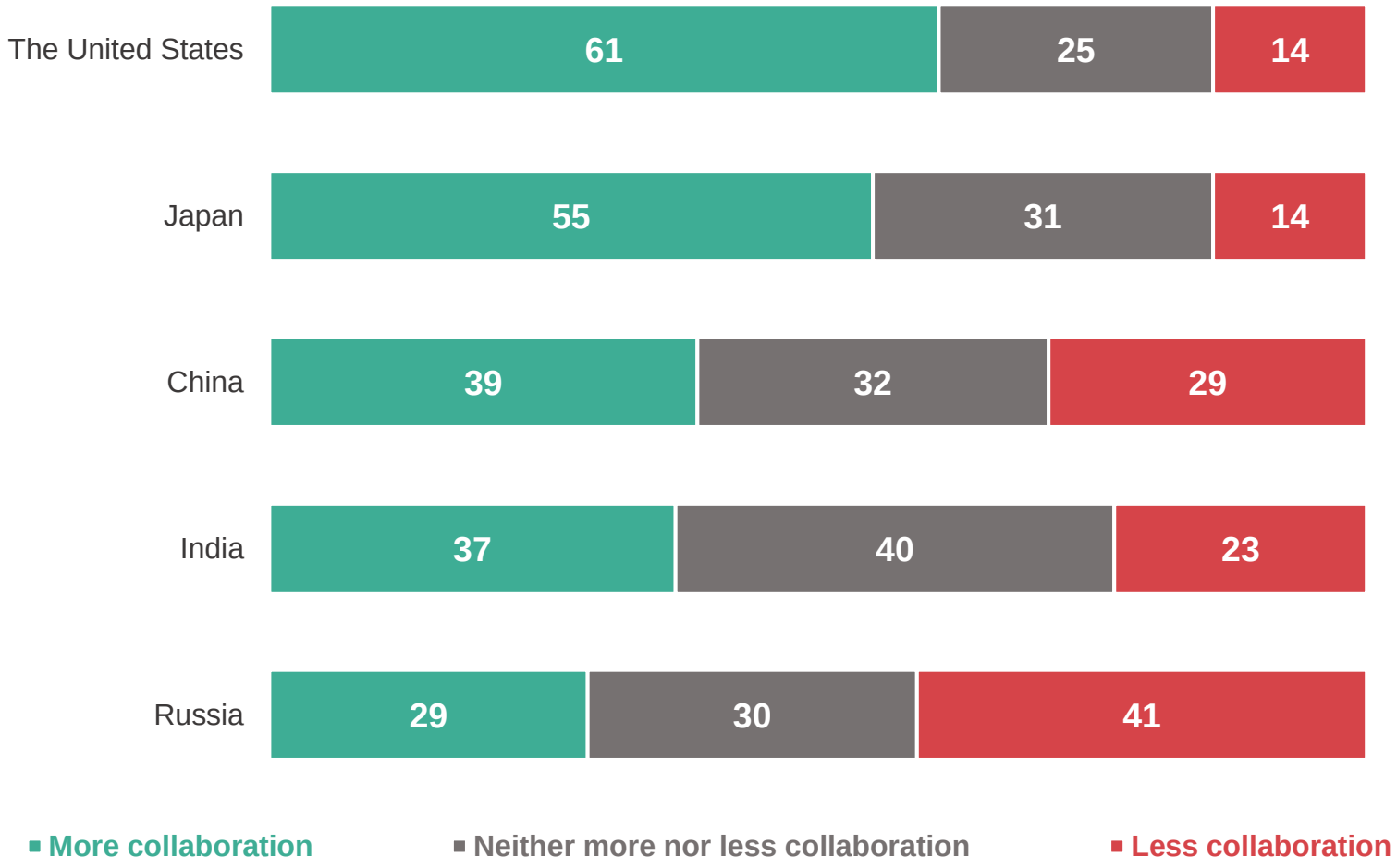
	EUROPE	FR	GER	SP	IT	UK	USA	JP	IND
Send [Europeans/From your country] astronauts into space	**78**	74	77	80	81	77	88	81	96
Send cargo ships to space stations and return them to Earth, without depending on other space powers	**77**	73	77	80	80	74	85	78	94
Send robotic missions around the Moon and Mars, without depending on other space powers	**75**	72	74	80	79	73	86	77	95
Land robots on the Moon and Mars, without depending on other space powers	**75**	71	74	79	78	74	87	77	94
Have a manned spacecraft and to organise its own flights with its astronauts without depending on other powers	**75**	72	71	81	78	73	88	75	95

On the whole, Europeans would like to deepen their cooperation with the United States and Japan. On the other hand, a majority would like to see less cooperation with Russia

Europe

Q12. In the future, would you like to see those involved in European / your country space exploration activities collaborate more, less or neither more nor less with...?

- To Europeans, in % -



The majority of non-European respondents are in favour of greater collaboration with Europe on space exploration

DETAIL
Europe & other countries

Q12. In the future, would you like to see those involved in European / your country space exploration activities collaborate more, less or neither more nor less with...?

- To all, in % « **More collaboration** » -

	EUROPE	FR	GER	SP	IT	UK	USA	JP	IND
Europe	-	-	-	-	-	-	63	63	63
The United States	61	53	61	63	66	62	-	71	77
Japan	55	45	57	61	66	51	60	-	67
China	39	30	36	50	47	33	36	20	44
India	37	28	41	39	43	37	41	48	-
Russia	29	21	28	34	40	25	33	18	70

On the whole, Europeans would like to see greater cooperation between Europe and these various countries than was the case 2 years ago

DETAIL
Europe

Q12. In the future, would you like to see those involved in European / your country space exploration activities collaborate more, less or neither more nor less with...? *

- To Europeans, in % « **More collaboration** » -

		Europe		France		Germany		Spain		Italy		UK	
		2024	*2022*	*2024*	*2022*	*2024*	*2022*	*2024*	*2022*	*2024*	*2022*	*2024*	*2022*
The United States	+8	**61**	53	53	*48*	61	*53*	63	*57*	66	*57*	62	*49*
Japan	+9	**55**	46	45	*38*	57	*44*	61	*54*	66	*56*	51	*41*
China	+9	**39**	30	30	*20*	36	*26*	50	*42*	47	*43*	33	*26*
India	+5	**37**	32	28	*24*	41	*30*	39	*41*	43	*40*	37	*30*
Russia	+4	**29**	25	21	*16*	28	*21*	34	*32*	40	*36*	25	*19*

In the last wave in 2022 the question was : "In future, would you like more, less or the same amount of collaboration between European players in space activities and...?

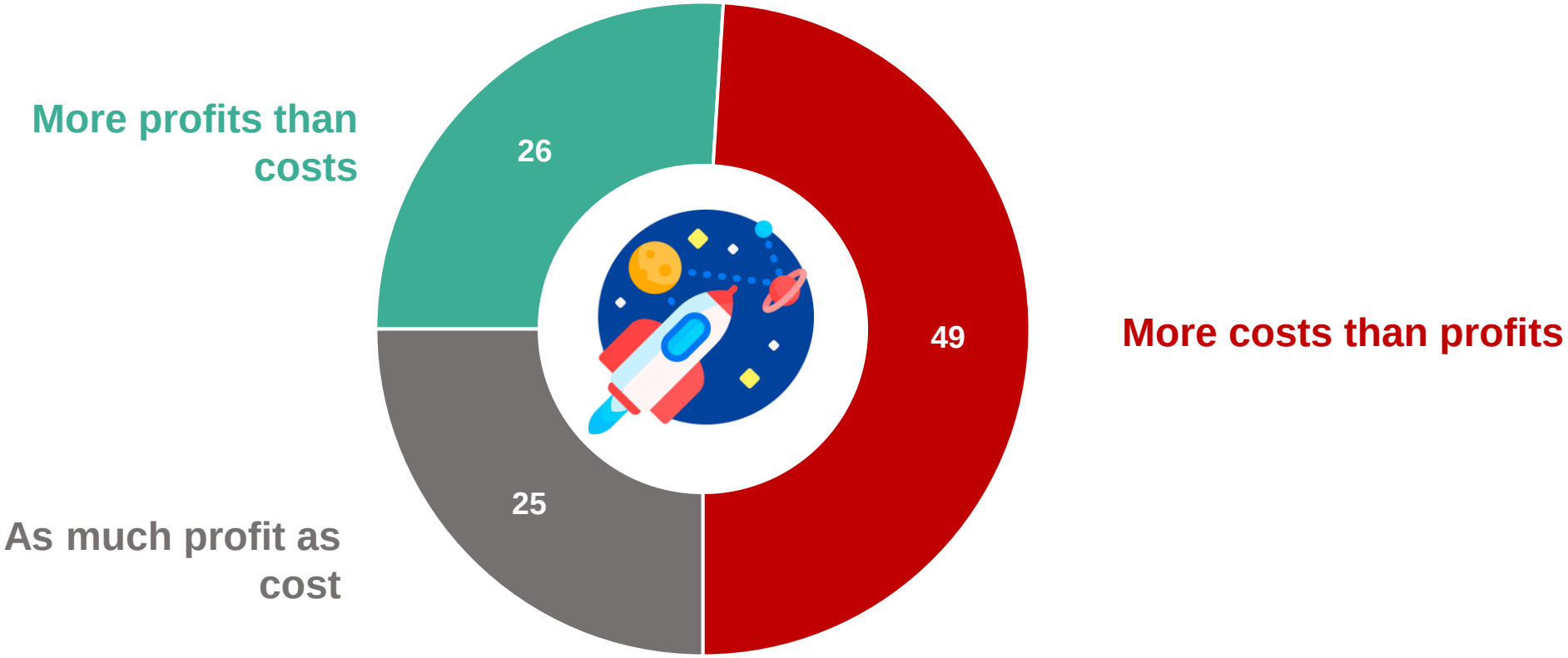
Funding of space exploration activities

In terms of the cost/profit ratio, the majority of Europeans believe that space exploration generates more costs than profits for their country

Europe

Q13. In your opinion, does the fact that European / your country space exploration activities generate more costs or profits for your country? Space exploration activities generate...

- To Europeans, in % -

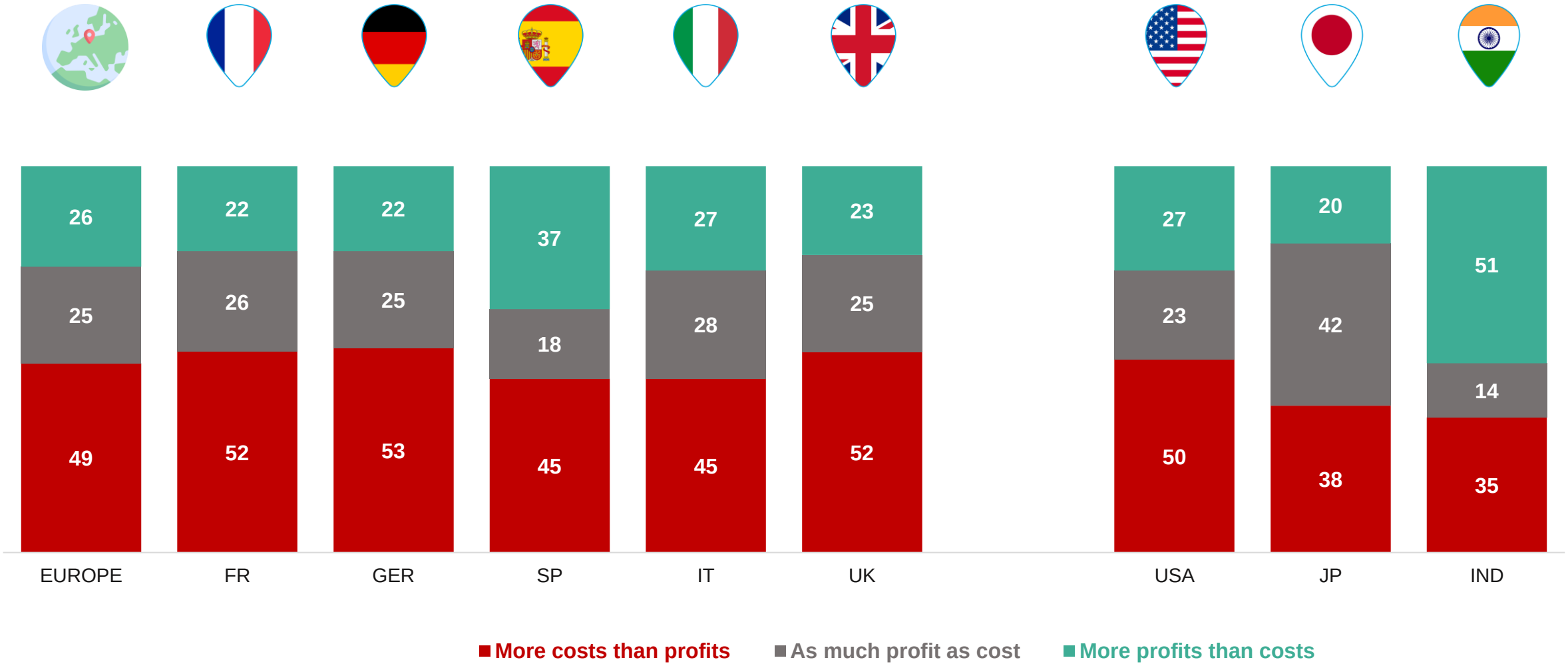


Among European countries, Spaniards are more convinced that space exploration will generate more profits for their country

DETAIL
Europe & other countries

Q13. In your opinion, does the fact that European / your country space exploration activities generate more costs or profits for your country? Space exploration activities generate...

- To all, in % -



On average, Europeans estimate that they pay €724 per year to fund European space exploration activities

Europe

Q14. On average, how much do you think a citizen of your country contributes each year (through tax) to fund space exploration activities?

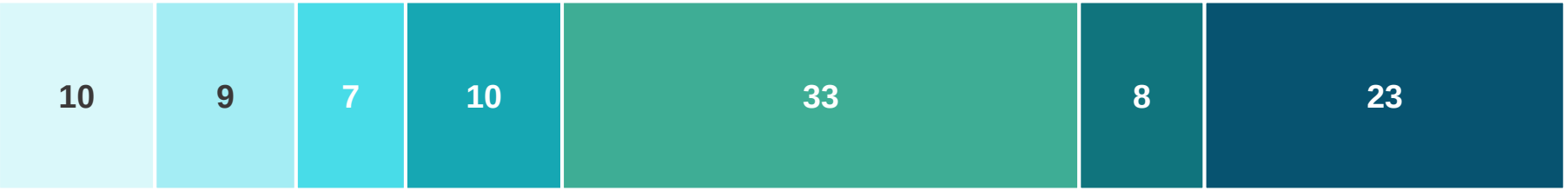
- To Europeans, on average -

European average:

724€

per year per citizen

Less than 100€ : **36%**



Less than 10€ | 10 to 19€ | 20 to 49€ | 50 to 99€ | 100 to 499€ | 500 to 999€ | 1,000€ and more

= In the UK, the respondents were asked to quote a sum in pounds (£). Data was then converted into euros (€).

The British and Germans indicate a higher average sum per year than other countries. An average sum that has risen sharply since the initial measurement was carried out in 2018.

DETAIL
Europe

Q14. On average, how much do you think a citizen of your country contributes each year (through tax) to fund space exploration activities?

- To Europeans, on average -

European average :

724€

per year per citizen

(245€ per year per citizen in 2018)*

= In the UK, the respondents were asked to quote a sum in pounds (£). Data was then converted into euros (€).

= significantly above average

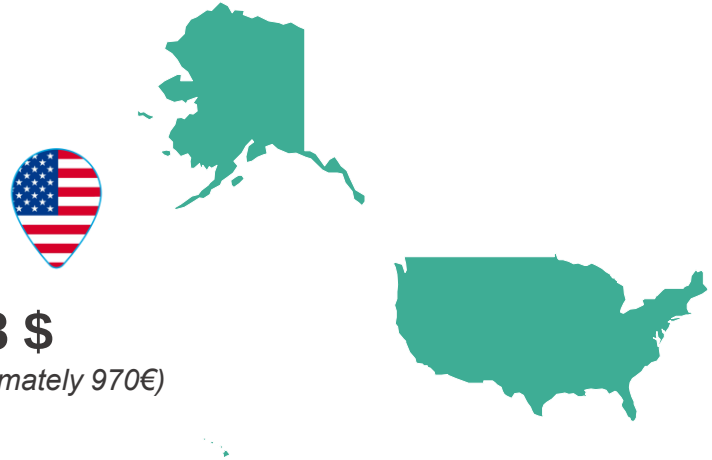
In the wave 2018 the question was : "In your opinion, on average how much does each citizen from your country contribute a year (via tax) to finance space activities?

The estimated average annual contribution in the 3 other non-European countries is also particularly high

Q14. On average, how much do you think a citizen of your country contributes each year (through tax) to fund space exploration activities?

- To all inhabitants of these countries, on average -

Average
per year per citizen



1008 $
(approximately 970€)

129 728 Yen
(approximately 800€)

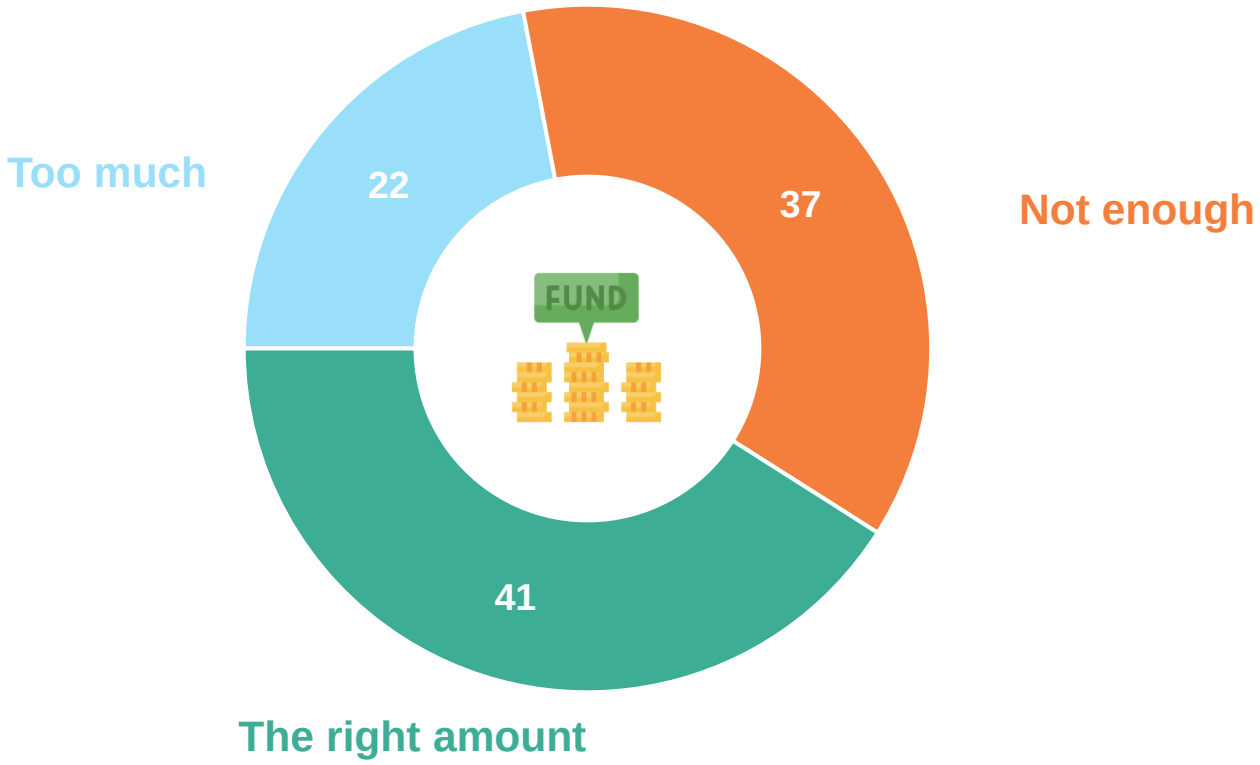
93 530 Indian rupies
(approximately 1045€)

4 out of 10 Europeans consider that European space exploration activities receive sufficient public funding, 1/3 think that they do not receive enough and less than 1/4 believe that they receive too much

Europe

Q15. Do you believe that in relation to other major space powers, European / your country space exploration activities currently have too much, not enough or the right amount of public funding?

- To europeans, in % -

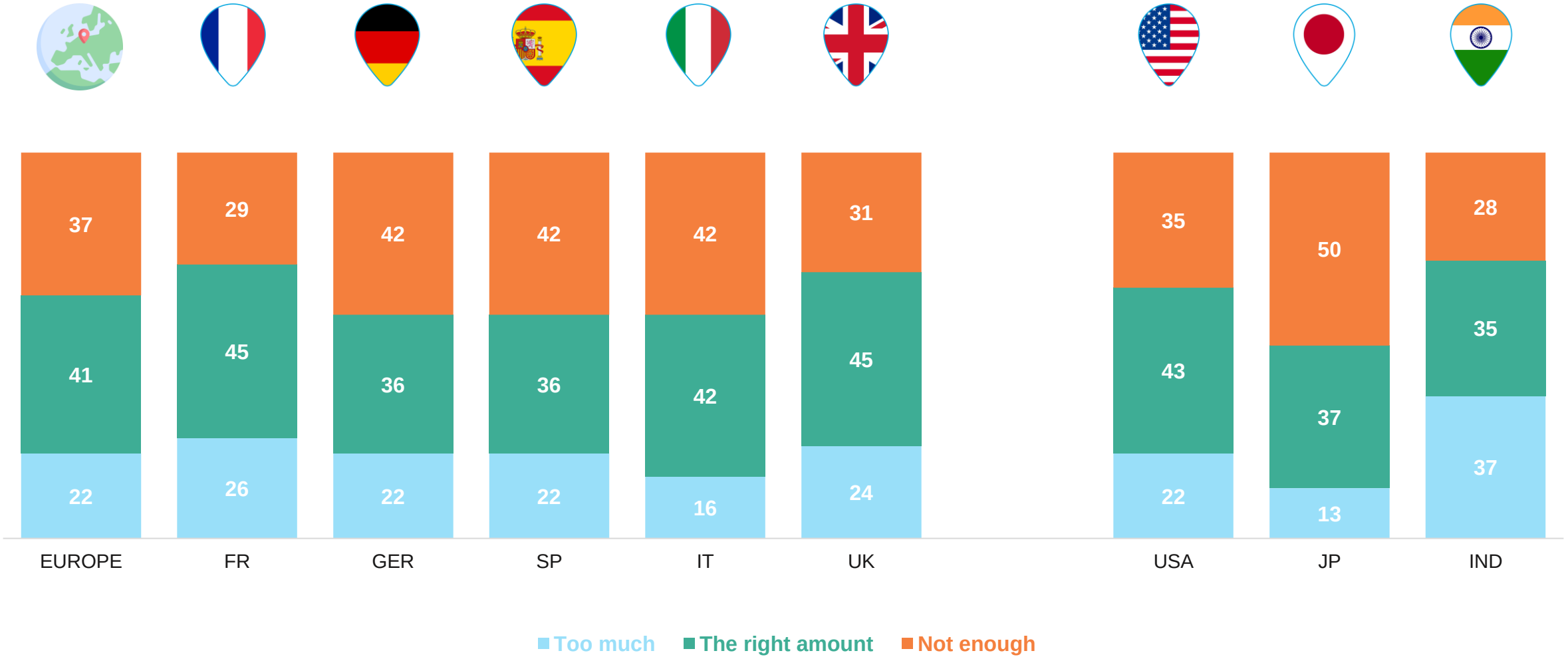


Germans, Spaniards and Italians are slightly more likely to consider that European space exploration activities do not receive sufficient public funding

DETAIL
Europe & other countries

Q15. Do you believe that in relation to other major space powers, European / your country space exploration activities currently have too much, not enough or the right amount of public funding?

- To all, in % -

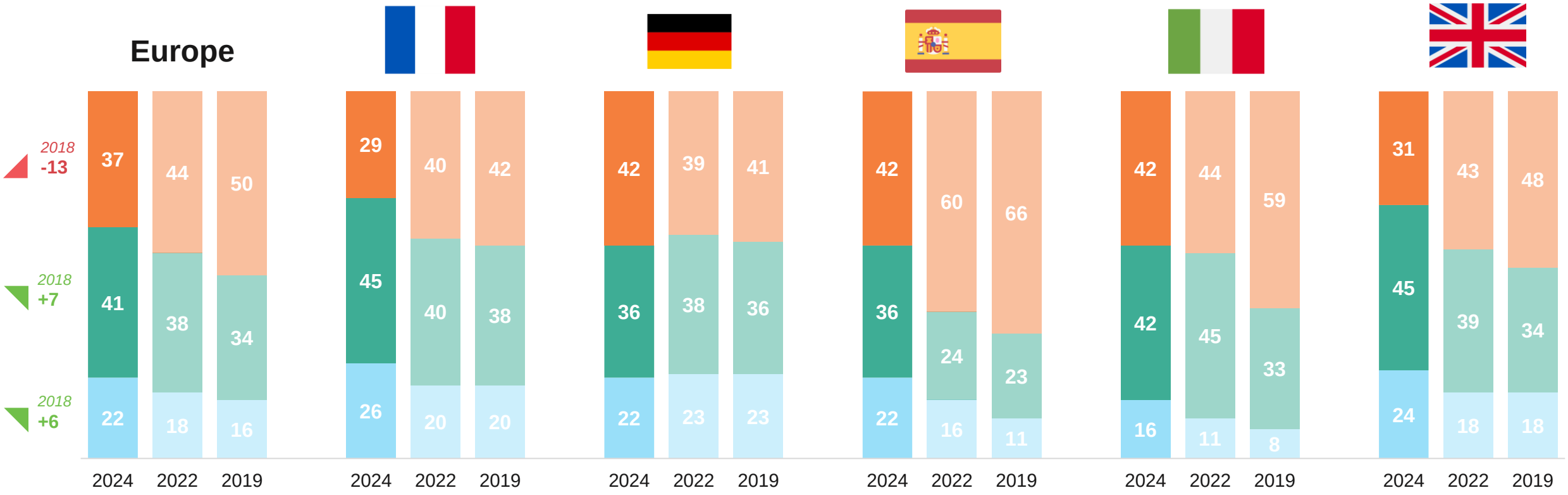


Since the first measurement was carried out in 2019, the trend has been towards an increase in the proportion of Europeans who consider that European public funding for space is sufficient or even too high

DETAIL
Europe

Q15. Do you believe that in relation to other major space powers, European space exploration activities currently have too much, not enough or the right amount of public funding?

- To Europeans, in % -



In the last wave in 2022 the question was : Do you believe that in comparison to other major space powers (United States of America, Russia, China, India, Brazil, etc.), European space activities currently have too much, not enough or the right amount of public funding ?

Contacts

Please note any distribution of these results
must be accompanied by the following details:
the name of the institute, the name of the study's sponsor,
the survey method, the dates it was carried out and the sample size.

Keep up to date with Harris Interactive:

www.harris-interactive.com Facebook Twitter LinkedIn

Contacts Harris Interactive :

- Jean-Daniel Lévy – Associate director Harris Interactive - +33 6 63 38 77 61 - jdlevy@harrisinteractive.fr

toluna harris interactive