CONFIDENTIAL

Perception and Attitudes towards Science

Wave 2

PO1697

Report dated: June 2019

Client: Esplora
Villa Bighi, Triq Marina
Kalkara KKR 1320
Malta

A MISCO INTERNATIONAL REPORT

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1. INTRODUCTION

1.1 MISCO International was commissioned by Esplora to carry out research among the general public with the objective to:

- Gauge the general public level of awareness regarding science
- Provide an insight into science communication at local and national levels
- Understand the perception and attitudes of the general public with regards to science and science-related activities and/or initiatives (science awareness)
- Gauge the impact of science initiatives across different levels and parts of the community
- To gauge the evolution of bheaviours, perceptions and attitudes since 2014, when the first wave was conducted.

1.2 Esplora Interactive Science Centre at Bighi was set up by the Malta Council for Science and Technology and has been partly funded by EU funds. Its objective is to seek to cultivate a culture of scientific curiosity and imagination by igniting a passion for questioning and investigation.

1.3 This research was carried out by means of a Computer Aided Telephone Interviewing (CATI) method, with a total of 400 respondents, aged 16 years and over, across Malta and Gozo. This report outlines a number of salient points emerging from the survey.

1.4 The report contains five sections covering different aspects. These are demographics, interest in science, sources of science and technology related information, awareness of and participation at science-related events and science and the institutions.

1.5 The tables with the statistical data are being presented separately.

2. METHODOLOGY

2.1 This research was carried out by means of a Computer Aided Telephone Interviewing (CATI) method, with a total of 400 respondents, aged 16 years and over, across Malta and Gozo.

2.2 A 70% quota on age, gender, education and region was applied. Data was then weighted according to the latest demogrpahic data available, thus making the data representative of the general population in Malta and Gozo.

2.3 Respondents were randomly selected from the Maltese population. Telephone numbers were randomly selected using a random digit dialling system.

2.4 Prior to the launch of fieldwork, a pilot study was carried out with 30 respondents. The same methodology was used both for the pilot study and the full launch of the research project. The pilot study helped to verify the translation, validity and reliability of the questionnaire. No changes were made to the questionnaire following the pilot study and due to this, the answers obtained during the pilot study were used as part of the final sample (i.e. the 400 respondents). Moreover it is to be noted that the questionnaire used for this study is the same as that used in the 2014 survey. As such data is comparable.

2.5 The questionnaire adopted for this research project was designed by MISCO International based on a detailed client brief and approved by clients. The questionnaires were available in both Maltese and English and the approximate length was of 15 minutes. A copy is reproduced in Annex I.

2.6 Interviewers involved in the project were selected from MISCO's pool of interviewers, who are all experienced and have been trained to carry out market research interviews. All interviewers were briefed on the purpose and method of the research before initiating fieldwork.

2.7 The pilot study was carried out between the 16th and 20th April 2019, while the main interviews were carried out between 15th May and 30th May 2019. Fieldwork hours for household surveys take place between 16:00 and 20:30 on Monday to Friday, and between 09:00 to 13:00 on Saturdays.

2.8 Once fieldwork was completed the questionnaires were checked, coded and passed on for data analysis.

3. CONFIDENTIALITY

3.1 MISCO International assures clients that the results of this research are confidential to them. Should clients wish to publish any of the results, the text for publication must be approved by MISCO International Limited.

3.2 Questionnaires will be electronically stored in a secure place for a period of two years from date of invoice. We are 100% committed in protecting confidentiality and therefore research-related material will be deleted in a secure manner, after this period.

3.3 MISCO International is a member of ESOMAR and undertakes its work in accordance with the code of practice of this organisation.

4. OVERVIEW

4.1 Respondents have expressed a higher level of interest in science than in 2014. Age and level of education are likely to contribute level of interest. Lack of interest is likely to be caused either by a perception that science is difficult to understand and learn or by a lack of exposure to the subject, especially during one's schooling years. This higher level of interest is then reflected in other results obtained in this survey.

4.2 The areas which seem to generate most interest in science are health issues and the novelty element generated by scientific discoveries. There has been a slight improvement since the 2014 survey in the level of information persons feel they have about science.

4.3 There was also an improvement in perceptions about science even if some more convincing still needs to be done in this area.

4.4 More persons search or have searched for infirmation about science and technology, highlighting the increased level of interest in in the subject. Internet is evidently gaining in importance as a source of information related to science and technology and moreso facebook.

4.5 The results indicate an increased desire to know more about the subject, but it is still a subject that persons may find it difficult to understand

4.5 Participation in activities related to science and technology has increased. The results indicate two important factors. First, there is scope for further expansion of the Esplora visitor base. Second, there is scope for the organisation of more activites appealing to the general public.

4.7 There is an increased level of trust for persons perceived as experts in the field of science and technology.

4.8 Most respondents feel that have little to no influence on legislation sbout scientific issues that affect them. However they also believe that that they should have such influence, thereby creating a mismatch between expectations and pereceptions.

4.9 Most respondents also believe that government funding for science research should increase.

4.6 The key action points that emerge from this research survey are:

- Certain segments of the population still need to be convinced of the importance of science in everyday life;
- Exposure to science is a must to maintain interest;
- Such exposure needs to start at an early age;
- Science and technology need to be explained in easier language to increase interest and knowledge;
- There is scope for further expansion of the Esplora visitor base;
- There is scope for more actviites related to science that appeal to the general public;
- Persons perceived as experts in the field of science and technology should be given more exposure when there is a public debate on science and technology subject;
- More space may need to be given to seeking the public's opinion on legislation on scientific issues;
- More visibility may need to be given to public funding for research in science and technology.

5. INTERPRETATION OF RESULTS AND DISCUSSION

5.1 DEMOGRAPHIC STRUCTURE

5.1.1 The demographic structure of the sample is reproduced below.

By age

Age Structure	%
16 – 18 years	4.5%
19 – 24 years	10.0%
25 – 34 years	17.3%
35 – 44 years	15.4%
45 – 54 years	16.4%
55 – 64 years	17.1%
65 years +	19.4%

By gender

Gender Structure	%
Female	50.6%
Male	49.4%

By level of education

Level of Education	%
Primary / never attended school	5.6%
Secondary	34.2%
Special secondary (technical)	4.9%
Post-secondary (6th Form)	19.0%
Diploma	11.0%
Higher National Diploma	1.8%
College (ex-teachers)	1.1%

Bachelor	10.4%
Post graduate	12.1%

By socio-economic class

Socio- Economic Class	%
A / B	22.8%
C1	24.0%
C2 /D / E	49.6%
No answer	3.6%

By current work situation

Current Work Situation	%
Work full time	40.9%
Retired	19.2%
Home making duties	14.7%
Student	11.5%
Part-time / casual	6.5%
Self-employed	4.9%
Unemployed	1.3%
No answer	0.9%

By geographic region

Geographic Region	%
Northern	15.1%
Northern Harbour	29.3%
Southern Harbour	19.2%
South Eastern	15.1%
Western	13.9%
Gozo	7.5%

By access to internet

Access to Internet	% (Yes)
At Home	92.2%
On Mobile Phone	81.1%

By level of education in science

Level of Education in Science	%
Never studies science related subjects	10.6%
Primary (compulsory subjects)	5.4%
Secondary (compulsory subjects)	49.3%
Post-secondary (6th Form)	13.3%
Diploma	5.9%
Higher National Diploma	1.5%
Bachelor	5.2%
Post graduate	7.2%
No answer	1.6%

By work experience in the science and technology sector

Work experience in the science and technology sector	%
Currently working in the science sector	12.6%
Not currently working in the science sector but used to in the past	5.9%
Never worked in the science sector	81.0%
Do not know	0.5%

5.1.2 Compared to the wave conducted in 2014, there is a noticeable increase in the 2019 wave in the number of respondents who have attained a degree level or post graduate level of education. Moreover, there is also a noticeable increase in the number of respondents who attained a level of education in science higher than the secondary level.

5.1.3 There was a slight increase in the number of respondents who are currently working in the science and technology sector.

5.1.4 Another important change in the demographic structure of the population is the significant increase in the number of respondents having access to internet on a mobile phone. This increased from 42.4% in 2014 to 81.1% in 2019. Access to internet at home increased from 76.9% to 92.2%.

5.2 INTEREST IN SCIENCE

5.2.1 The first section of the questionnaire dealt with respondents' interest in science. Questions focused on:

- Personal interest in science,
- Factors that led to interest in science or lack thereof,
- Areas of science which are found to be most intriguing,
- Factors that would help develop people's interest in the area of science,
- Extent of being informed about science.

5.2.2 64.1% stated that they are either very interested or rather interested in science. 33.6% stated that they are interested at all or rather not interested in science, while 2.4% did not express an opinion. The mean score denoting the level of interest in science is 2.810 on a scale of 1 to 4, where one means not interested at all and 4 means very interested. This level of interest is 14% higher than the level of interest registered in 2014.

5.2.3 The level of interest is likley to be a function of age as persons aged 55 years and over have expressed a lower level of interest in science. It is also likley to be a function of the level of education of the repsondent as respondents who have completed education only up to secondary school level, have also expressed a lower level of interest in education.

5.2.4 Those that have expressed a lack of interest in science were asked to give a reason for this lack of interest. Of these 44.3% gave no particular reason or stated that they do not know. 19.1% stated that they are simply not interested and 13.6% stated that they do not understand the subject because it is a diffcult subject for them.

5.2.5 When these same respondents were asked to state what factors could have led to this lack of interest in the subject, 43.4% stated that that they never had an interest or liking for science. 29% stated that they do not understand the subject, 27.6% stated that it is not their line of work, while 25.5% stated that they never learned or studies science subjects at school.

5.2.6 It is interesting to note that while in 2014, 18.8% out of all respondents stated that they never had an interest or liking for science, in 2019 this percentage had gone down to 14.5%.

5.2.7 Those that did express an interest in science, were asked why they have this interest. 34.8% of respondents stated that science was a subject they studied at school or university. 25.8% stated that they have an interest in science out of curiosity while 16.8% stated that it is part of their job. The overall indicate that one gets from these results is that interest in science is more than likely to be stronger when one is exposed to the subject during one's schooling years.

5.2.8 When asked to state what factors could have led to this interest in science, 15% of these same respondents said that it was their desire to increase their knowledge, 11.9% said that their studies could have led to this interest, while 10.1% said that science affects their lives.

5.2.9 Respondents that have expressed an interest in science were asked to mention the areas of science that interests them most. The health aspect was the area that received most mentions as 47.3% mentioned health issues and 39.3% mentioned medical and pharmaceutical issues. The novelty aspect is the next area that received most mentions as 40.3% mentioned new inventions and technology and 27.6% mentioned new scientific discoveries. The following table lists the main areas mentioned by respondents. These results do not differ much from the results obtained in 2014.

5.2.10 All respondents, irrespective of their level of interest in science, were asked to give their opinion on what could help people, especially young people to become interested in science. 28.9% stated that they do not know. The three elements that received most mentions were more emphasis on science subjects at school (17.7%), workshops / hands on activities / experiments (13.7%), and children should be exposed to science from a young age (8%).

Comparing these results with those in 2014, one notes that the top two elements remained the same, albeit with a slight variation in the level of mentions.

5.2.11 Respondents were also asked how well informed they feel they are about science. 53.3% stated that they are very well informed or fairly well informed about science and 46.2% said that they are not all informed or not very well informed about science. The mean score obtained is 2.482 out of 4. These results show a slight imporvement over the results obtained in 2014, where the mean score was 2.412. this represents an increase of 2.9%.

5.2.12 Persons under the age of 55 are more likely to feel better informed as are males, persons in the ABC1 socioeconomic class, persons who are currently studying or in employment, and persons whose level of education is above post secondary.

5.2.13 When asked whether they are exposed to too much, too little or about the right amount of information about science, 46.2% of all respondents claimed that they see and hear too little information. 7.3% claim to hear too much information while 46.1% maintained that they receive about the right amount of information on the subject. There appears to be a strong correlation between how people feel they are informed about science and the level of exposure they claim to have to information about science. The less information people are exposed to, the less they feel they are informed.

5.2.14 Exposure is higher among certain demographic segments, namely males, persons in the ABC1 socioeconomic class, persons who are currently studying or in employment, and persons with a higher level of education.

5.2.15 Another interesting aspect is the exposure to information about science is also likely to increase the level of interest. Among those who have who have expressed no interest at all in science, 95% said that they hear or see too little information about the subject.

5.2.16 Respondents were then read out a number of statements about science and technology and were asked to state the extent to which they agree or disagree with them. A mean score was obtained out of 4 to denote the level of agreement. The table below compares the results of this survey to the results obtained from the 2014 survey.

	Mean Score out of 4 – 2019	Mean Score out of 4 – 2014
I have a positive expereince of science education	2.771	2.347
I was interested in science when I was a teenager	2.678	2.285
Science is amazing	3.489	3.477
Science prepares the younger generation to act as well informed citizens	3.390	3.441
Science and technology help businesses to respond to changes in their environment	3.435	
Young people's interest in science is essential for our future prosperity	3.534	3.645

5.2.17 These results indicate an improved perception about science even if there is still more convincing to be done. With regard to the practical aspects of science, namely that young people's interest in science is essential for our prosperity, there has been a slight deterioration in perception. Interest in science is likely to be a very important contributor to positive perceptions about the subject.

5.2.18 In another part of the questionniare, respondents were asked to what extent they agree or disagree with the statement that science and technology improve society. 94.6% strongly agree or rather agree with this statement, at similar levels as the 2014 survey.

5.2.19 A new question introduced in the 2019 was whether respondents know what STEM stood for. 90% of respondents replied in the negative and only 10% replied in the affirmative. Of these 10%, 70.4% actually gave the correct answer that it stands for science, technology, engineering and maths.

5.3 SOURCES OF SCIENCE AND TECHNOLOGY RELATED INFORMATION

5.3.1 The survey also sought to obtain information from respondents on their sources of information related to science and technology. Questions focussed on:

- Unpromopted sources of information,
- The role of internet,
- Active searching for information related to science and technology,
- Perceptions about knowledge of science and technology.

5.3.2 Respondents come across information on science and technology, when not actively looking for it, mainly on internet. Internet was mentioned by 51.5% of all respondents. Televison programmes and television documentaries were mentioned by 40.5% and 22.9% of respodents repsectively. Other sorces of information were mentioned but were all mentioned by less than 10% of respondents. Compared to the surbey conducted in 2014, internet has gained in importance as it experienced an increase of just over sixteen percenatge points in the number of menntions. Conversely the importance of televison as a source has gone down.

5.3.3 Internet is a more important unprompted source of information among persons aged under 55 years, persons in the ABCI socioeconomic class and among perosn with a higher level of education.

5.3.4 Respondents that come across information on internet when not acrtively looking for it, were asked where they come across this information. By far the two most important internet sources are search engines (53.1%) and facebook (51.4%). Facebook increased its importance significantly as an unprompted source of information, increasing from 22.9% to 51.4% in mentions.

5.3.5 Facebook receivced a higher percentage of mantions by persons aged under 55 years and women.

5.3.6 24.8% of all resapondents currently search for information on science and technology matters. 36.7% have searched for such information, while 38.3% have never searched for such information. This result corresponds well with the result obtained on the level of interest in science, where 64.1 expressed to have a great deal or a fair amount of interest in science.

5.3.7 Persons aged under 44 years and makes are more likely to search actviely for information.

5.3.8 This result is a marked improvement over the result obtained in 2014. Five years ago, 58.5% claimed to have never searched actively for information, compared to 38.3%; and only 17.5% claimed to search currently for information, compared to 24.8%. the improvement has been noticeable across all ages, except for persons age 16 to 18 years, and mainly among males.

5.3.9 Among those respondents that currently actively search for information related to science and technology, 31.7% do so daily and 37.7% do so weekly or more often. This indicates an element of high frequency in this activity.

5..3.10 These same respondents were asked to give reasons why they currently search for information about science and technology. 41.4% mentioned curiosity and personal interest. Another 14.7% of respondents stated that they do so to keep updated. As such over 50% of respondents who actively search for information on science and technology do so to improve their knowledge.

5.3.11 27.2% of claimed to actively search for such information because of their studies and 21.5% stated that they do because of their work.

5.3.12 The single most important source of information is interenet. 85.1% mentioned this medium. The importance of internet is evident among all demographic segments.

5.3.13 Among respondents have either currently search for information about science and technology or have done so in the past, 58.5% have always managed to find the information the information they were looking for and anither 34.8% stated that they sometimes do so. Only 4.8% stated that they rarely find the infirmation they require.

5.3.14 Among this same group of respondents, 22.7% stated that they always find it easy to understand the information they find, while 63.7% stated that they sometimes find it difficult to understand. This denotes a slight improvement over 2014. However there is an indication of a need for persons to be helped to understand information which they source.

5.3.15 Those respondents who claimed that they never search for information on science and technology were asked why they do not do so. 61.5% said that they are not interested in the subject, 10.9% said that they find the subject difficult, while 7.1% said that they do not have time for this activity.

5.3.16 All respondents were then read out a number of statements about information related to science and technology and were asked to state the extent to which they agree or disagree with them. The table below provides the percentage of respindents who either strongly agree

or rather agree with each statement. The results are also compared with those obtained in 2014.

	% Strongly agree or rather agree 2019	% Strongly agree or rather agree 2014
I feel I geet enough information about science through the media	45.2%	50.7%
I would be more interested in science and technology if they were discussed in everyday language	81.0%	79.3%
The information I hear about science in the media is generally true	58.5%	66.9%
I would like to have more information about science and technology	82.1%	77.6%
I find it hard to understand science	55.5%	64.8%
Science and technology are too specialised for most people to understand	75.8%	79.4%

5.3.17 These results appear to provide mixed signals. However they seem to indicate that there is a thirst for knowledge about science and technology, even if the subject is still considered to be is too difficult for people to understand.

5.4 AWARENESS OF AND PARTICIPATION AT SCIENCE RELATED EVENTS

5.4.1 This section in the questionniare dealt with science-related activities that respondents have participated in or that they might show interest in.

5.4.2 A question was added to the research study carried out in 2019. Respondents were asked if they visited have Esplora. One out of three respndents replied in the affirmative. Persons aged 25 to 44 years, and therfore more likley to be parents of young children, have claimed to have visited Esplora to a greater extent than other wage groups. This would seem to indicate that there is scope for further expanding the visitor base of Esplora.

5.4.3 Respondents were read out a list of activities and were asked to identify the frequency of carrying out each of these activities. The objective of this question is to identify behavious which could indicate an interest in science and technology. The tabkle below provides the percentage of respondents who claim to have undertaken each activity at least once monthly.

Activity	% at least once monthly 2019	% at least once monthly 2014
Visit Museums	8.3%	2.3%
Watch documentaries	62.4%	79.0%
Read about science	45.1%	31.2%
Access the internet on a computer to look for information about science	52.8%	20.6%
Access the internet on a mobile device to look for information about science	42.0%	14.3
Attend a public meeting, debate or lecture on a science-related subject	9.3%	2.6%
Attend a science related public activity, ex. science week event or activity at a festival	3.6%	0.6%

5.4.4 These results indicate the increased importance of internet. They also support the view that interest in science has increased and as a result so has participation in activities related to science. The drop in the percentage of persons watching documentaries is a reflection of the reduced importance of television as a source of information.

5.4.5 Respondents were read a list of events related to science and were asked to name which they have heard of and taken part in or visited. The table below provides the answers obtained, highlighting the popularity of Science in the City, followed by NSTF Science Week.

Event	Awareness	Visited / Taken part
Science in the City	67.3%	42.0%
NSTF Science Week	21.2%	7.8%
Engineering Research Conference	16.5%	3.4%
Malta Cafe' Scientifique	13.4%	1.0%
None	27.5%	54.5%

5.4.6 The primary reason why persons visit or take pasrt in such events is the fact they find them interesting. This factor was mentioned by 62.1% of respondents who have visited or taken part in these events. The next most mentioned factor is to accompany one's children.

5.4.7 All reposndents were asked to state what other science and technology related activities can be organised. The answers were unprompted. The topics that received at least 2% of mentions are reproduced in the table below.

Event	%
Seminars / information talks / public lectures	5.9%
Environmental topics	5.0%
Health related	4.0%
More events similar to Science in the City	3.7%
Activities suitable for children	3.1%
Activities related to astronomy	2.7%
More awareness - educate the general public about the importance of science	2.2%

5.5 SCIENCE AND THE INSTITUTIONS

5.5.1 This section of the questionnaire provides information on the opinions of respondents about institutions, inclduing government, on aspects related to science and technology.

5.5.2 When asked who they think are the best qualified people and/or organisations to explain the impact of scientific and technological advancements to the public, 68.7% mentioned scientists and 31.0% mentioned science commentators. Other answers that received a signficant number of mentions were environment groups (30.3%), hospitals (28.6), the state (25.4%), and the media (24.8%). These results are in line with those obatined in 2014, with the exception that the media has experienced a significant drop in the number of mentions.

5.5.3 Respondents were then asked the state the extent to which they trust the science and technology information provided by a number of institutions. The table below provides the information obtained in both 2019 and 2014 in terms of the mean score on a scale of 1 to 4, where 4 means that respondents have a great deal of trust.

Institution	Mean Score 2019	Mean Score 2014
The State Government	2.773	2.884

Political parties	2.044	2.135
Environmental groups	2.992	2.929
Hospitals	3.242	3.122
Religious groups	2.062	2.098
Commercial and broadcasting media, including newspapers, TV, radio	2.509	2.604
Science commentators	3.225	3.198
Well known scientists	3.724	3.684
Scientists working for universities or research institutes	3.697	3.664
Scientists working for government	3.336	3.201
Scientists working with private companies	3.342	3.301

5.5.4 These results highlight an increased level of trust for persons that may be considered as experts and a reduced level of trust for those that may not be considered as experts.

5.5.5 This element of expertise is reflected in the answer to the question as to what makes a respondent trust more or less. The main reason is competence in the subject, mentioned by 24.7% of respondents, followed by lack of bias (16.5%), lack of personal interest (14.6%), and reliability (10.3%).

5.5.6 Respondnets believe they have little to no influence on legislation about scientific issues that are important to them. 60.9% claimed that they have no influence or not very much influence in this regard. Even so this is still less than the level expressed in 2014, which was 66.6%. It is interesting to note that persons with a lower level of education feel they have more influence on such legislation when compared to persons with a higher level of education.

5.5.7 On the other hand 71.4% believe that they should have a great amount or a fair amount of influence on legislation about scientific issues that is important to them. Persons that feel they are informed about science have expressed a stronger belief on this matter.

5.5.8 79.3% of respondents believe that government should increase funding for science research as research is important for the economy. Another 13.6% claim that funding for science research should remain as is. These results are in line with the results obtained in 2014.

5.5.9 At the end of the questionnaire, respondents were presented with a list of statements about science and awareness of the public about advancements in this area, and were asked to rate on a scale of 1 to 4, the extent to which they agree with each of these statements. The table below provides the percentage of respondents who claim to strongly agree or rather agree with each of these statements.

	% Strongly agree or rather agree 2019	% Strongly agree or rather agree 2014
Science causes more problems than it solves	20.4%	24.5%
It is important that the community should be consulted about advances in science and technology	88.5%	86.0%
I am distrustful about science and science issues	35.7%	27.6%
Government investment in science research will result in more productive industries	83.8%	85.6%
The public is sufficiently involved in decisions about science and technology.	28.7%	28.0%
Scientists put too little effort into informing the public about their work	57.1%	59.3%
Scientists should discuss their research and its implications before they carry it out	79.1%	87.4%

5.5.10 Respondents were asked to identify an individual whom they consider to be a science researcher. The answers were unprompted. Whereas in 2014, 74.3% of all respodnents could not name a person, in the 2019 survey this has gone down to 66.5%. The four names that received most mentions in 2019 are the same as those in 2014. The table below provides information on the percentage of emntions given to each of these four persons.

	2019	2014
Temi Zammit	22.3%	10.3%
Marco Cremona	10.8%	4.2%
Nicholas Sammut	6.3%	3.4%
Richard Muscat	3.9%	1.2%

ANNEX I – The Questionnaire

Perception and Attitudes towards Science

Good morning/afternoon. I am _____, from MISCO International and we are currently carrying out a survey about science. We are looking for individuals aged 16 years and older. Is there anyone in that household who I can speak to please?

SCREENER

101. How old are you?

WRITE IN: _____

1	Younger than 16 years	**TERMINATE**
2	16 -18 years	**GO TO Q201**
3	19 – 24 years	
4	25-34 years	
5	35-44 years	
6	45-54 years	
7	55-64 years	
8	65+ years	

102. Have you ever visited Esplora Interactive Science centre in Kalkara?

1. Yes
2. No

INTEREST IN SCIENCE

For the purpose of this survey, when we mention science, we are referring to information relating to chemistry, physics, astronomy, biology, computer science, maths, medicine, geology, and engineering acquired either at school, work, leisure or by any other means.

Technology means the practical application of science which includes examples like electricity generation in power stations, antibiotics, sewage treatment, IVF and so on.

201. On a scale of 1 to 4, where 1 means no interest at all and 4 means very interested, how interested are you, in science? **READ OUT**

1	Not interested at all	**GO TO Q202**
2	Rather not interested	
3	Rather interested	**GO TO Q203**
4	Very interested	
5	Neither interested nor disinterested	**GO TO Q207**
6	Don't know	

ASK Q202 IF Q201=1-2

203. What have been the main factors that have affected your lack of interest in science?

1	Never had any interest or liking for science
2	I don't understand the subject
3	Never learned / studied any science subjects at school
4	Not my line of work
5	The subject is difficult
6	Science is in English/ I don't understand English
7	I don't believe in scientists/ people working in the sector
99	Don't know
Others (please specify)	

ASK Q203-Q205 IF Q201=3-4

204. Why are you interested in science? **MR**

1	It is part of my job
2	Subjects studied at school/University/a specific educational course
99	Don't know
Others (please specify)	

205. What have been the main factors that have affected your interest in science? **MR**

99	Don't know
Others (please specify)	

206. Which areas of science interests you the most? **READ OUT; MR**

1	Health issues
2	Environmental issues
3	Medical/Pharmaceutical issues
4	Space technology
5	New inventions and technology (ex. Gadgets/robots
6	New scientific discoveries
99	Don't know
Others (please specify)	

ASK ALL

207. What do you think are the top three things that would help people, especially youth, to become more interested in science?

99	Don't know
Others (please specify)	

208. How well informed do you feel you are about science?
For the purpose of this survey, when we mention science, we are referring to information relating to chemistry, physics, astronomy, biology, computer science, maths, medicine, geology, and engineering acquired either at school, work, leisure or by any other means.

1	Very well informed
2	Fairly well informed
3	Not very well informed
4	Not at all informed
5	Don't know

209. Which of these statements do you most agree with? When we mention science, we are again referring to information relating to chemistry, physics, astronomy, biology, computer science, maths, medicine, geology, and engineering acquired either at school, work, leisure, any science-related events or by any other means. **READ OUT**

1	I see and hear too much information about science
2	I see and hear about the right amount of information about science
3	I see and hear too little information about science
4	Don't know

210. I am now going to read out some statements about science and technology, and using a scale of 1 to 4, where 1 means you strongly disagree and 4 means you strongly agree, I would like to know how much you agree with each of them.

	Strongly disagree	Rather disagree	Rather agree	Strongly agree	Don't know
I have a positive experience of science education	1	2	3	4	9
I was interested in science when I was a teenager	1	2	3	4	9
Science is amazing	1	2	3	4	9
Science prepares the younger generations to act as well-informed citizens	1	2	3	4	9
Young people's interest in science is essential for our future prosperity	1	2	3	4	9

SEARCHING FOR SCIENCE AND TECHNOLOGY-RELATED INFORMATION

301. Where do you usually come across information or news about science and technology when you are not actively looking for it? **DO NOT PROMPT; MR**

1	Radio
2	Magazines
3	Newspapers
4	School/university
5	Other people (colleagues, family, friends)
6	General Books
7	Text books
8	TV programs

9	TV Documentaries
10	DVDs
11	General Magazines
12	Science magazines
13	Academic Journals
14	Internet
15	News on TV
16	At my place of work
17	Adverts
Others (please specify)	

ASK Q301a IF Q301=14

Q301a. Where exactly do you come across information on the internet?

1	Search engines (ex. Google)
2	Facebook
3	Twitter
4	News Websites
5	General websites
6	Science websites
7	Academic websites
8	Blogs written by scientists or science commentators
9	Wikipedia
Others (please specify)	

302. Do you **currently or have you ever**, actively search for information about science and/or technology?

1	Yes, I currently search for information	**GO TO Q303**
2	Yes, I have searched for information in the past, but not currently	**GO TO Q307**
3	No, I never searched for information	**GO TO Q310**
99	Don't know	**GO TO Q311**

303. How often do you actively search for information about science and/or technology? **READ OUT**

1	Daily
2	Weekly or more often
3	Fortnightly
4	Monthly
5	Every 2-3 months
6	Every 6 months
7	Less often
99	Don't know
Others (please specify)	

304. For what reasons do you actively search for information about science and/or technology? **If it is school or work related, please specify how this information is used. MR**

99	Don't know
Others (please specify)	

305. When you search for information about science and technology, where do you normally look first? **DO NOT PROMPT; SR**

1	Radio
2	Magazines
3	Newspapers
4	School/university
5	Other people (colleagues, family, friends)
6	General Books
7	Text books
8	TV programs
9	TV Documentaries
10	DVDs
11	General Magazines
12	Science magazines
13	Academic Journals
14	Internet
15	News on TV
16	At my place of work
17	Adverts
Others (please specify)	

ASK Q305a IF Q305=14

Q305a. Which internet sources do you use?

1	Search engines (ex. Google)
2	Facebook
3	Twitter
4	News Websites
5	General websites
6	Science websites
7	Academic websites
8	Blogs written by scientists or science commentators
9	Wikipedia
Others (please specify)	

307. When you look for or have looked for information about science and technology in the past, did/do you generally find what you were looking for? **SR**

1	Always	**GO TO Q308**
2	Sometimes	
3	Rarely	
4	Never	**GO TO Q309**
5	It depends on the subject	
99	Don't know	**GO TO Q311**

308. Is the information that you find...? **READ OUT – SR**

1	Always easy to understand
2	Sometimes difficult to understand
3	Often difficult to understand
4	Never easy to understand
5	It depends on the subject (DO NOT READ OUT)
99	Don't know

ASK Q309 IF Q307=4-5

309. What subjects do you find it difficult to find information about?

WRITE IN:

_____

ASK Q310 IF Q302=3

310. Why don't you actively search for information about science and/or technology?

1	Not interested in the subject
2	Subject is too difficult
99	Don't know
Others (please specify)	

ASK ALL

311. Can you mention a Maltese science researcher? **MR**

1	Dr. Ing. Nicholas Sammut
2	Marco Cremona
3	Sir Temi Zammit
4	Prof. Richard Muscat
99	Con't know
Others (please specify)	

3.12. I am now going to read out some statements about science and technology, and using a scale of 1 to 4, where 1 means you strongly disagree and 4 means you strongly agree, I would like to know how much you agree with each of them.

	Strongly disagree	Rather disagree	Rather agree	Strongly agree	Don't know
I feel I get enough information about science through the media	1	2	3	4	9
I would be more interested in science and technology if they were discussed in everyday language	1	2	3	4	9
The information I hear about science in the media is generally true	1	2	3	4	9

I would like to have more information about science and technology	1	2	3	4	9
I find it hard to understand science	1	2	3	4	9
Science and technology are too specialised for most people to understand	1	2	3	4	9

AWARENESS AND PARTICIPATION AT SCIENCE-RELATED EVENTS

401. How often do you...

	Daily	Several times a week	Every two weeks	Every three weeks	Monthly	Every 2-3 months	Every 4-6 months	Less often than every 6 months	Mostly / Only when abroad	Never
Visit Museums	1	2	3	4	5	6	7	8	98	99
Watch documentaries	1	2	3	4	5	6	7	8	98	99
Read about science	1	2	3	4	5	6	7	8	98	99
Access the internet on a computer to look for information about science	1	2	3	4	5	6	7	8	98	99
Access the internet on a mobile device to look for information about science	1	2	3	4	5	6	7	8	98	99
Attend a public meeting, debate or lecture on a science-related subject	1	2	3	4	5	6	7	8	98	99
Attend a science related public activity, ex. science week event or activity at a festival	1	2	3	4	5	6	7	8	98	99

402. Which of these science and technology-related public activities or events have you heard of?
READ OUT

403. Which of these activities or events have you visited or taken part in?

	Q402 Heard of	Q403 Visited
Science in the City	1	2
Malta Café Scientifique	1	2
NSTF Science Week	1	2
Engineering Research Conference	1	2

ASK Q404 IF Q403=AT LEAST ONE EVENT/ACTIVITY WAS CHOSEN

404. What was the main reason why you participated in this event or activity?

1	I like these kind of events/ These events are interesting
99	Don't know

Others (please specify)

ASK Q405 IF Q403=AT LEAST ONE EVENT/ACTIVITY WAS CHOSEN

405. What other science and technology-related activities or events do you think could be organized?

99	Don't know
Others (please specify)	

406. On a scale of 1 to 4, where 1 means you strongly disagree and 4 means you strongly agree, how much do you agree that science and technology improve society?

	Strongly disagree	Rather disagree	Rather agree	Strongly agree	Don't know
Science and technology improve society	1	2	3	4	9

SCIENCE AND THE GOVERNMENT

501. Who do you think are the best qualified people and/or organisations to explain the impact of scientific and technological advancements to the public? **READ OUT - MR**

1	The State Government
2	Political parties
3	Environmental groups
4	Scientists
5	Hospitals
6	Religious groups
7	Commercial and broadcasting media, including newspapers, TV, radio
8	Science commentators
99	Don't know
Others (please specify)	

502. On a scale of 1 to 4, where 1 means no trust at all and 4 means a great deal of trust, how much trust do you have in the science and technology information provided by the following groups? **READ OUT**

	No trust at all			A great deal of trust	Don't know
The State Government	1	2	3	4	9
Political parties	1	2	3	4	9
Environmental groups	1	2	3	4	9
Scientists working for private companies	1	2	3	4	9
Hospitals	1	2	3	4	9

Religious groups	1	2	3	4	9
Commercial and broadcasting media, including newspapers, TV, radio	1	2	3	4	9
Science commentators	1	2	3	4	9
Well known scientists	1	2	3	4	9
Scientists working for universities or research institutes	1	2	3	4	9
Scientists working for government	1	2	3	4	9

ASK Q503 IF Q502=3-4

503. What makes you trust some and not others?

99	Don't know
Others (please specify)	

504. On a scale of 1 to 4, where 1 means none at all and 4 means a great deal, how much influence do you think you have on laws about scientific issues that are important to you? Examples of laws about scientific issues include Health laws such as IVF bill, Cigarette bans from public places, Legal age for drinking / smoking etc ...

505. And on the same scale, how much influence, if any, do you think you personally **should** have on laws about scientific issues that are important to you?

	Q504	Q505
A great deal	1	1
A fair amount	2	2
Not very much	3	3
None at all	4	4
Don't know	9	9

506. Do you think that Government funding for science research should ...

1	Be reduced because the money can be better spent elsewhere
2	Remain as it is
3	Increase as research is important for the economy
4	No opinion/ Don't know/ Not aware of current funding

507. I am now going to read out some statements about science and technology, and using a scale of 1 to 4, where 1 means you strongly disagree and 4 means you strongly agree, I would like to know how much you agree with each of them.

	Strongly disagree	Rather disagree	Rather agree	Strongly agree	Don't know
Science causes more problems than it solves	1	2	3	4	9
It is important that the community should be consulted about advances in science and technology	1	2	3	4	9
I am distrustful about science and science issues	1	2	3	4	9
Government investment in science research will result in more productive industries	1	2	3	4	9
The public is sufficiently involved in decisions about science and technology.	1	2	3	4	9

Scientists put too little effort into informing the public about their work	1	2	3	4	9
Scientists should discuss their research and its implications before they carry it out	1	2	3	4	9

DEMOGRAPHICS

801. Do you own or have easy access to the following:

		Yes	No
A	Internet at home	1	2
C	Internet on your mobile phone	1	2

802. Gender (**DO NOT ASK**)

1	Male
2	Female

803. Which of the following best describes your work situation? **READ OUT**

1	Work full time
2	Work part time/casual
3	Self-employed
4	Retired
5	Unemployed
6	Home duties
7	Student (full-time)
8	Volunteer (full-time)
Other (please specify)	

804. Do you know what STEM stands for?

1. No
2. Yes.

If YES, ASK: What do you think it stands for? _____

IF RESPONDENTS ANSWERS SCIENCE, TECHNOLOGY, ENGINEERING & MATHS, CODE 3. IF NOT CODE 4

3. Correct answer
4. Incorrect answer

805. Do you currently work, or have worked sometime in the past, in the science industry? Jobs related to the science industry include those involved in areas of chemistry, physics, astronomy, biology, computer science, maths, medicine, geology, and engineering; production of goods and/or services related to science and technology; doctors/nurses, pharmacists, those working in software, technicians, igaming, IT, retail of IT products, production of computer/electronic components. **READ OUT**

1	Yes, I currently work in the science industry
2	No, I don't currently work in the science industry but I used to in the past
3	No, I have never worked in the science industry
4	Don't know

806. What is the occupation of the breadwinner in that household (the person who financially support the family)? **IF PENSIONER ASK FOR PREVIOUS JOB**

WRITE IN :

_____

1	Professional / Managerial (high ranking police/army officers, engineer, accountant, lawyer, doctor)
2	Business Owner (more than 10 employees)
3	Business Owner (less than 10 employees)
4	Clerks/Executives/Administration Staff/Sales Representatives/Supervisors/Office Workers/ Stock Controllers/Housekeepers
5	Armed Forces/Police
6	Skilled Workers (plumbers, electricians, tile layers, carpenter, photographers, Heavy vehicle drivers, Bus drivers)
7	Unskilled Workers (sales assistants, waiters, care workers, cleaners, factory workers, delivery persons, labourers)
8	Student/Apprentice (living alone)
9	Living on Social Benefits /Unemployed

807. What is your highest level of education **in general**?

1	Doctorate (incl PhD)
2	Masters (incl LL.D; MD)
3	Post-graduate
4	Bachelor
5	College (Ex-teachers)
6	Higher National Diploma
7	Diploma
8	Post-secondary (6th form)
9	Special secondary (technicum)
10	Secondary
11	Primary
12	Never attended school
99	Don't know
98	Refused

808. What is your highest level of education **in science**? When we speak of science we are referring to these subjects among others, chemistry, physics, astronomy, biology, computer science, maths, medicine, geology, and engineering. **Teachers graduated in a science subject – ex M.E/B.Ed Physics – code 4)**

1	Doctorate (incl PhD) (specifically chosen subjects)
2	Masters (incl LL.D; MD) (specifically chosen subjects)
3	Post-graduate (specifically chosen subjects)
4	Bachelor (specifically chosen subjects)
5	College (Ex-teachers)
6	Higher National Diploma (specifically chosen subjects)

7	Diploma (specifically chosen subjects)
8	Post-secondary (6th form) (specifically chosen subjects)
10	Secondary (compulsory subjects)
11	Primary (compulsory subjects)
12	Never studied science-related subjects
99	Don't know
98	Refused

809. Locality: