



Flanders
State of the Art

THE FLEMISH SCIENCE AGENDA

INSPIRATION
DOCUMENT
CONNECTING
CITIZENS AND
SCIENCE



VRAAGVOORDEWETENSCHAPBE

10,559 QUESTIONS

82 TOPICS

5 CATEGORIES

At the core of the Flemish Science Agenda are the 10,559 'questions for science' submitted by Flemish citizens. Scientific panels accommodated these questions in 82 overarching topics which reflect the issues that concern the people of Flanders today. We further developed each topic into a data sheet which identified the related challenges and delineated an integrated approach. The 82 topics were then bundled into 5 categories: Well-being and health, Liveable society, Liveable Earth, Foundations and boundaries, and the Significance and role of science.



The **Well-being and health** category relates to the individual. This category includes topics such as healthcare, medicine, prevention and personality.



The **Liveable society** category covers the interactions between people and the functioning of our society. The topics here address a broad spectrum of subjects, from migration to mobility, philosophies of life, culture and sport.



The **Liveable Earth** category looks at the tension between humans and their environment. Topics such as environmental pollution, food production, raw materials and ecosystems are included in this category.



The **Foundations and boundaries** category zooms in on the technological possibilities and limits of humankind. This category covers the laws of nature and the functioning of the body but also the infinitely big, such as the cosmos.



The **Significance and role of science** category addresses topics such as the scientific process and its role in society, science communication and ethics.

LOOK INSIDE
FOR THE
82 TOPICS



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CITIZENS AND SCIENCE

Is there life beyond the planet Earth?

How can we protect our privacy?

Will we ever live to be 150 years old?

The scientific panels considered each of the questions submitted and then classified them by topic, with at least one topic assigned to each question. They looked at the topics and the underlying questions from a multidisciplinary standpoint. And that led to quite a few interesting “cross-pollinations”.

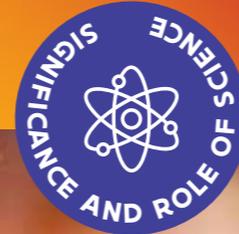
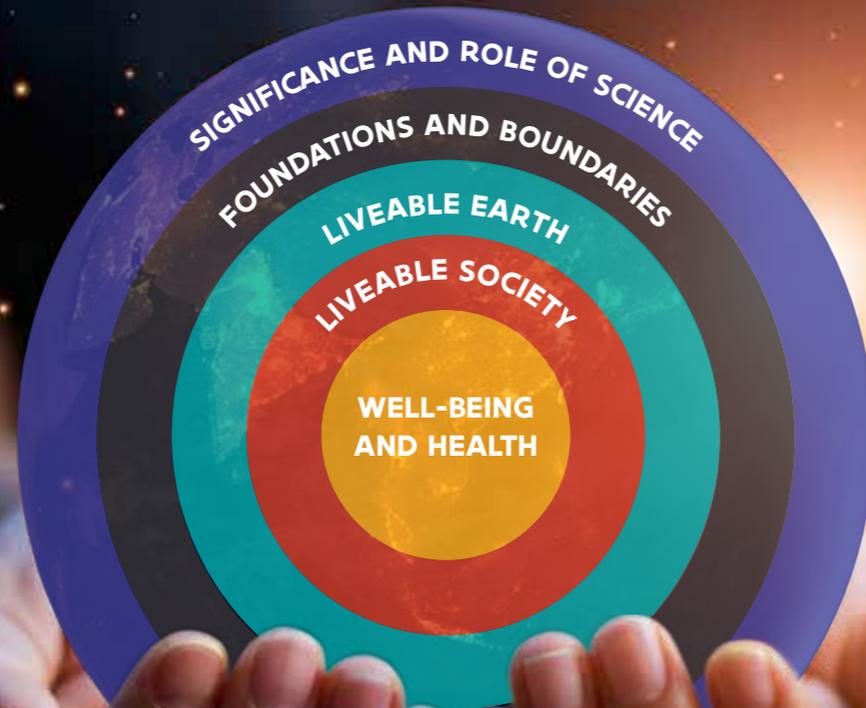
Each topic comprises an entire series of diverse questions – questions posed by young and old, inspired by the needs and desires of people and originating from dreams and beliefs, both theoretical and practical.



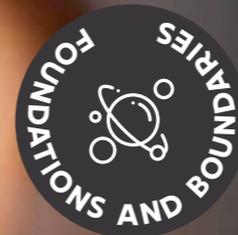
- Growth and overpopulation
- Ageing
- Current economic model
- Money
- Consumption
- Governance, policy and politics
- Public spaces
- Living
- (Workable) work
- Sport
- Mobility
- Art and culture
- Religion and philosophies of life
- War and conflict
- Crime
- Law
- Inclusive society
- Poverty
- Parenting
- Family constellations
- Migration
- Privacy
- Education
- Behavioural change
- Communication
- Language variation
- Robotisation
- Digitalisation and AI
- Energy
- Learning from history
- Heritage



- Environmental factors
- Food
- Cancer
- Addiction
- The immune system
- Allergies
- Mental health
- Healthcare
- Prevention and treatment
- Technology and diagnosis
- Fertility
- Life expectancy
- Infectious diseases and antibiotic resistance
- Beneficial microorganisms
- Brain disorders
- Emotions
- Medicines
- Alternative treatments
- Genetics
- Personality



- Religion vs. Science
- Ethics
- Science and society
- Science in practice
- Science communication
- Progress optimism



- Extraterrestrial life
- Colonisation of space
- Creation and evolution
- Intervention in life and evolution
- Fundamental laws of nature
- Laws of physics
- Big History
- Discovering the biosphere
- Materials
- Functioning of the body
- Function of the brain
- Consciousness
- Mathematics



- Natural resources
- Biodiversity
- Ecosystems
- Climate change
- Environmental pollution
- Waste
- Air pollution
- Food production
- Unwanted organisms
- Water
- Natural disasters
- Animal stewardship

ON THE WEBSITE, YOU WILL FIND AN OVERVIEW OF ALL THE QUESTIONS, EACH WITH A LINK TO THE TOPIC, THE CHALLENGE AND THE APPROACH

THE FLEMISH SCIENCE AGENDA

INSPIRATION DOCUMENT CONNECTING CITIZENS AND SCIENCE

VRAAGVOORDEWETENSCHAP.BE



“THE SCIENCE
AGENDA INVITES
SCIENTISTS, CITIZENS,
GOVERNMENTAL
INSTITUTIONS AND
COMPANIES TO
WORK TOGETHER
ON SCIENCE.”

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THE WHYS AND HOWS OF THE FLEMISH SCIENCE AGENDA

What exactly is the Flemish Science Agenda, and why is this document so important?

THE ASSIGNMENT FROM THE GOVERNMENT

In December 2017, the then Flemish Minister for Work, Economy, Innovation and Sport, Philippe Muyters, called upon the Research Foundation – Flanders [Fonds Wetenschappelijk Onderzoek – Vlaanderen] (FWO) to create a Flemish Science Agenda. To do this, the FWO entered into collaboration with the Royal Flemish Academy of Belgium for Science and the Arts [Koninklijke Vlaamse Academie van België voor Wetenschappen en Kunsten] (KVAB), the Young Academy [Jonge Academie] and the Department of Economy, Science and Innovation [Departement Economie, Wetenschap en Innovatie] (EWI) of the Flemish Government.

The Minister allocated subsidies to the FWO for this project under the important condition that the Flemish people themselves had to be actively involved in the creation of this document.

“BY INVOLVING CITIZENS AND ACTIVELY ASKING THEM QUESTIONS, WE LEARN WHICH ISSUES ARE IMPORTANT TO THEM.”

WHAT IS THE FLEMISH SCIENCE AGENDA?

The Flemish Science Agenda is an inspiration document linking diverse scientific disciplines around fundamental questions and societal issues. The goal? To strengthen the bonds between society and scientific research and to urge Flemish science on to innovation, creativity and collaboration.

The Flemish Science Agenda is built on a foundation of more than 10,000 questions – questions that occupy the minds of Flemish people of all ages and backgrounds. How do we stay mentally healthy? How can we avoid war and violence? Will we one day live on another planet?

During the ‘Questions for science’ [‘Vraag voor de wetenschap’] campaign, which took place in the spring of 2018, everyone was invited to send in questions. A team of a few hundred experts distilled the

submissions down to 82 topics. These topics relate to fundamental research questions and important societal issues which often require an interdisciplinary, overarching research approach. The topics provide a global view of the interests and concerns of the Flemish people and form the heart of the Science Agenda.

The goal of the Flemish Science Agenda is not to be comprehensive. All of the topics in this agenda are important, but this does not mean that all of the questions and interests vital to Flanders are represented here. It is a snapshot. The Science Agenda represents a picture of the interests of our society in 2018.

WHY A FLEMISH SCIENCE AGENDA?

The Flemish people are interested in science but are often somewhat removed from it. The Flemish Science Agenda aims to change that. By involving citizens and actively asking them questions, we learn which issues are important to them. This treasure trove of information acts as a source of inspiration for research in Flanders: It offers new perspectives, it enriches science and it can augment the impact of research while redefining its boundaries. At the same time, citizens gain insight into the way in which science approaches the questions collected, and the Science Agenda illustrates the importance of involving the citizens in scientific research. In other words, the Agenda brings science closer to society.

Yet, there is often still distance between the scientists themselves. The Flemish Science Agenda also aims to address this. Our society is confronting enormous challenges. Far-reaching societal transitions in the areas of natural resources, mobility, food supplies, healthcare and so on are becoming imperative. Each and every one of these is a complex matter for which science must devise interdisciplinary and integrated solutions. Therefore, the Science Agenda aims to provide a framework in which diverse scientific disciplines can work together on the significant issues of our day.

Moreover, the Flemish Science Agenda strives to encourage all actors in the knowledge chain – scientists, knowledge institutions, companies, the government and civil society – to set up innovative collaborations, not only in Flanders and in Belgium but also internationally, because scientific challenges, of course, do not stop at the border. It is important that those actors who want the results of research and who must apply them are involved in the research right from the start. After all, connections between all the actors and the research itself ensure that the science has a greater impact on society.



HOW DID WE CREATE THE FLEMISH SCIENCE AGENDA?

One of the most important objectives of the Flemish Science Agenda is bringing society and science closer together. Throughout the entire Science Agenda project, the citizens of Flanders were questioned, listened to and involved in a myriad of ways.



CITIZEN PARTICIPATION AS THE STARTING POINT

When the Flemish Government asked the FWO to draw up a Flemish Science Agenda, one of the important conditions it set for the project was that the Flemish people should be actively involved in its creation. Therefore, establishing connections between the public and Flemish researchers became the point of departure for the Science Agenda. Citizens weren't just allowed to become the subjects of this process – they were literally invited to the table so as to foster dialogue and enable as much of their input as possible to be included. Every voice was heard, and all input was registered. In order for the project to be successful, it also had to be presented to as wide a

swathe of the Flemish population as possible.

To this end, we included the fundamental principles of citizen participation in the design and implementation of the project. This way, the entire process was **transparent** – all information was centrally available on the website, as was all of the input from the citizens as well as an explanation of how we would further process this input. We also adhered to a high standard of **openness** when collecting the questions. We did, however, exclude several questions which were offensive or had no relation to the campaign. **Diversity** among the respondents was another important element. By reaching people via as many different methods and channels as possible

and by paying specific attention to difficult-to-reach groups, we tried to involve as diverse a group of Flemish people as possible. In fact, the online process was combined with numerous events and conversations with citizens at all kinds of locations.

The Five Nights of Science played a unique role in this. During these events, citizens literally sat around the table together with researchers, organisations etc. This way they could explore each other's ideas face-to-face.

Citizen participation is flourishing at the moment. In an effort to enrich the content of processes and to enlarge support for them, increasingly more initiatives are dedicated to involving citizen participation. To scientifically evaluate the approach used during and at the end of the Flemish Science Agenda process, we surrounded ourselves with political scientists from KU Leuven and the Radboud University Nijmegen. Their results gave us insight into the importance of citizen participation and informed us about the potential of participation in the future. Furthermore, they indicated which points needed attention during possible subsequent steps in the Science Agenda process.

BUILDING A NETWORK

For this ambitious assignment, the FWO was able to count on support from several fronts. It entered into collaboration with the KVAB, the Young Academy and the Department of EWI of the Flemish Government.

A sounding board and a steering committee were also set up, both of which played a key role in the process.

SOUNDING BOARD

For the Flemish Science Agenda, the FWO initiated collaborations with a wide range of scientific organisations, such as the Flemish universities and colleges, research centres and knowledge institutions, and companies. A sounding board was put together with representation from the entire Flemish knowledge chain. All of the steps in the creation of the agenda were assessed by the advisory group. The members of this group were also responsible for the widespread dissemination of the campaign. Via their own activities and events, they made sure that the campaign was able to reach a large number of people. So, the Flemish Science Agenda was made possible thanks, in part, to the efforts and far-reaching scientific support of this group.

In addition to this, we contacted a broader group of organisations aimed at specific target groups such as students. They also helped disseminate the call for questions.

STEERING COMMITTEE

The steering committee directed the Flemish Science Agenda and assumed responsibility for the efficiency of its direction. It consisted of representatives of the Department of EWI and delegates from Minister Muyters's cabinet, the KVAB, the Young Academy, the FWO and the

science communication expertise cells (as representatives of the Flemish universities and colleges). The steering committee provided the organisation with an agile mechanism which could be used to facilitate rapid decision-making about the processes and budgets of the Science Agenda.

SIX WEEKS OF SCIENCE

Science concerns us all, and all questions are equally important – that was the starting point of the Six Weeks of Science. The challenge was to situate the questions from the citizens in as broad a context as possible. In order to create this large-scale societal involvement, a massive awareness campaign was launched – ‘Questions for science’. During this campaign, we initiated active dialogue with citizens in an effort to get to know which issues and themes the community wants to put to science. The central question was ‘Which question would you like science in Flanders to answer?’ To give as diverse an audience as possible the chance to pose questions, the campaign was not only widely disseminated but also specifically targeted Flemish people of all ages, from all strata of the population, from different backgrounds and from all cultures.

On Tuesday, 17 April 2018, the FWO rolled out the campaign with a press conference attended by the then Flemish Minister of Work, Economy, Innovation and Sport, Philippe Muyters. The launch took place at BruBotics, a multidisciplinary research

consortium under the auspices of the VUB (Vrije Universiteit Brussel). The campaign launch achieved its goal of extensive media coverage.

Central to the campaign was the website at www.vraagvoordewetenschap.be. It was here that all the questions from citizens and organisations were compiled. Citizens could register directly on the platform and then submit questions or vote on previously asked questions. In addition, all of the questions that were submitted at events and on postcards ended up on this website, as did questions that were asked on Twitter with the hashtag #vraagvoordewetenschap.

The website featured an overview of the entire process as well as information about the project and materials for organisations and individuals that wanted to collect their own questions. There, you could also find inspiration by reading the questions already submitted and by watching videos featuring Flemish celebrities asking their own questions for science. All told, 28 Flemish celebrities and politicians made video recordings of their questions for science.

Various online and offline channels - such as social media, newsletters, posters, newspaper articles and blogs - directed citizens, associations, companies, schools and organisations to the website and encouraged them to ask a question. Social media (Facebook and Twitter) built campaign momentum. Not only did the short

films with questions from Flemish celebrities and politicians end up there, but we also regularly posted questions and answers designed to inspire the public.

The FWO and its partners campaigned at all kinds of events and activities. In addition, representatives were present in governmental buildings, at clubs and associations and at lots of schools. The many organisations involved also organised numerous initiatives for the purpose of collecting questions. They utilised the campaign materials available, including banner stands, flyers, postcards, sample mailings ... We also asked some 100 umbrella organisations to help disseminate the campaign and to enthuse and inspire their members. Consider, for example, the umbrellas of companies, schools, poverty organisations ... And we passed along methods for initiating discussions and, from these discussions, formulating new questions.

A technique that was used at several events and which produced a great many questions is ‘brainwriting’. This

participatory brainstorming technique is based on the interests of the participant, and it aids the formulation of questions which arise from these interests. By allowing other participants to add questions, the questions themselves become more varied and often more substantive.

In newspapers, columnists explained which questions, in their opinions, science should provide answers to and why. The campaign made it into the media (national and regional TV and radio) on several occasions, and thanks to the partnership with the newspaper *Het Nieuwsblad*, questions were regularly answered by scientists throughout the campaign. The *Jommekeskrant*, an attachment in this newspaper, targeted at young readers, continued to handle questions throughout the summer of 2018.

At the beginning of the campaign, Minister Muyters had expressed the ambition to collect 5,000 questions. The final total was more than double that number: a total of 10,559 questions were submitted. In short, the Six Weeks of Science was a great success.

“BY REACHING PEOPLE VIA AS MANY DIFFERENT CHANNELS AS POSSIBLE, WE TRIED TO INVOLVE AS DIVERSE A GROUP OF FLEMISH PEOPLE AS POSSIBLE.”

HIDDEN PEARLS OF SCIENCE

During the campaign, a number of associations and class groups had the chance to visit 'hidden pearls of science' – fascinating science facilities that are not always accessible to the public. They discovered which research was being conducted and went in search of new questions for science. These hidden pearls included:

- **BruBotics**, a Human Robotics research centre that is working on improving people's quality of life and working conditions;
- **the Fashion and Textiles Innovation Lab**, an innovation laboratory working on developing sustainable textiles and clothing;
- **the Maurits Sabbe Library**, one of the largest and richest theological libraries in the world;
- **the Simon Stevin**, a ship dedicated to coastal oceanographic research;
- **Ecotron**, a high-technology research centre that serves as a time machine for climate research; and
- **the Corsellis-SINAPS brain collection**, an extensive collection of brain tissue from more than 8,000 brains, the majority of which comes from patients with an extremely diverse range of neurological disorders.

CLUSTERING THE QUESTIONS INTO 82 TOPICS AND EDITING THE DATA SHEETS FOR EACH TOPIC

As soon as the campaign was launched, the moderating team got together to read the 10,000+ questions and to assign each question to one or more of the five domains (medical sciences, science and technology, social sciences, humanities and biological sciences) and corresponding subdomains. That process was supported by Content Coding & Moderation (CCM) software, an intelligent tool that suggests certain codes to the moderator on the basis of machine learning. This method makes it possible for the moderators to process large quantities of questions quickly. In total, almost 40,000 codes were assigned. The codes were used to allocate the questions to the various expert panels. After the completion of the campaign, the expert panels could immediately get to work bundling the questions and distilling them down to topic questions.

NEXT UP – EXPERT PANELS

To split up the workload, an expert panel was put together for each of the abovementioned main domains. Each panel had some 20 experts, each with his or her own specific expertise. This ensured that the panels had broad, multidisciplinary representation. Each panel was led by 2 chairpersons, members of the KVAB and the Young Academy, respectively. A total of some 100 experts from universities, colleges, scientific institutions and companies were involved.

The members of each panel worked together closely to analyse the questions assigned to their domain and to bundle them based on their content. Using this method, the 10,559 questions submitted were clustered into 82 topics without losing sight of the individual questions in the process. Throughout the entire course of the project, the different panels would regularly consult one another to share experiences and to create multidisciplinary, overarching topic questions. The driving force of the 10 panel chairpersons and their intensive consultations are what ultimately led to the formulation of the final topic questions. Each topic was discussed in detail, and the links

between the topics were uncovered and developed.

For each topic, one specific panel took the lead in the substantive exploration of one topic and recorded its results in the form of a written data sheet. The other panels were invited to enrich the text from the perspectives of their own disciplines. The interfaces with the other topics were also described. The final result is a series of data sheets in which the 82 topics are approached from a broad, multidisciplinary point of view. **Each data sheet characterises the topic, identifies the related challenges and delineates an integrated (scientific) approach.**

NON-EXHAUSTIVE SNAPSHOT

The method used to bundle the questions is not an exact science. There are many ways to bundle these questions. Although the 82 topics provide an excellent representation of the questions posed, the Flemish Science Agenda is not exhaustive. It does not cover all of science. The topic questions provide a global picture of the concerns of the Flemish people. Therefore, the Science Agenda is a synthesis of this entire exercise.

Furthermore, this agenda is the result of the input collected from one moment in time. The building blocks of the Agenda are the questions that were asked in the spring of 2018, which we clustered in a pre-determined manner. And finally, the random sample of 10,559 questions must also be put into perspective. How representative a random sample is depends on its objective. Having the Flemish Science Agenda come into being via citizen participation provided the space required to enthuse people, to have them stop and think and to enter into dialogue with them. The goal, of course, was to bring science to life and to strengthen the connection between science and society. And with a yield of more than 10,000 questions, this exceeded all expectations.

THE FIVE NIGHTS OF SCIENCE

Even after all the questions had been collected, it remained a priority to involve citizens and to let them be heard. Therefore, we invited all interested parties to enter into dialogue about the submitted questions with researchers, citizens, (societal) organisations and companies during the Five Nights of Science. The goal? To gain greater insight into the concerns of the public. What makes these research questions so relevant and so important? Why is the citizen asking this question? What exactly is of interest? How can research take this into account? How can scientists collaborate to investigate this topic?

By exchanging ideas related to these questions, science and society can be more closely aligned. Scientists gain inspiration for research when they hear about people's concerns. And citizens, organisations and companies see the relevance of scientific research and the possibilities it presents.

FIVE THEMES

The Nights were organised in Leuven, Ghent, Antwerp, Hasselt and Kortrijk between 15 and 25 October 2018. From 50 to 70 participants were in attendance each night – citizens, scientists and representatives of organisations and companies that wanted to do their share.

Each evening had a different theme that was chosen in light of the submitted questions:

Will we all, in the near future, easily be able to live for 120 years?

From the Big Bang to the humans of the future: Where do we come from and where are we heading?

From plastic soup to climate change: How do we keep the Earth inhabitable?

From self-driving cars to smart cities: How will we live, work and travel in the future?

Migration: In what ways is it setting our society in motion?

Two scientists each explained their views of the theme and its importance for society. Then, the participants got together in groups to work on a concrete topic.

The significance of the questions gathered during the 'Questions for science' campaign was not the only thing discussed during the Nights. The way in which these questions should be investigated was also addressed. It is eminently clear that research into our complex world must become more and more interdisciplinary and that collaboration between science and society is much needed.

WHAT DID THE NIGHTS TEACH US?

Even though the themes of the Nights differed greatly, several insights emerged repeatedly:

- Science must provide insight into the causes and consequences of societal phenomena. We are searching for clarifications of the unknown.
- Research must strive to improve the well-being of humans. For example, what are the negative consequences of the ways we live, work and travel? And how can we remedy these?
- Ethics is an important part of research. Asking questions like 'What exactly is progress?' or 'Do we want healthcare that makes us all live longer?' is essential.

- Research must contribute to an inclusive society. For example, how can we make scientific progress in the areas of medicine, living, mobility ... available and accessible to everyone?
- Greater insight is needed into behavioural changes and into ways in which we can encourage positive behaviour in people.

We also learned something about the participatory approach:

- The mix of scientists (30%) and non-scientists (70%) made for fruitful exchanges, which all parties in attendance appreciated and found interesting. 90% of the participants reported that everyone was able to share his or her opinions and that the participants listened carefully to one another.

- The participants also stated that the evenings were informative, and generally speaking, they reacted positively to the initiative. Most of them see a role for themselves in the cooperation between science, the government and other actors.
- Science has a strong appeal to the younger generations. As a rule, participatory events usually attract an older audience, but a striking number of younger participants attended the Nights. In fact, 69% of participants were younger than 45 years of age. The majority (80%) were highly educated.

- Scientists and citizens were sometimes forced to search for a common language – one which they could use to understand each other. This is not always easy, although it is necessary when people from very different walks of life want to think together about complex topics. The participants indicated that this exploration of each other's worlds provided them with richer and deeper insights into the importance of scientific research.

PRESENTATION OF THE FLEMISH SCIENCE AGENDA

The Science Agenda was presented to then Minister Muyters during the Knowledge Makers [Kennismakers] scientific congress on 14 December 2018 in Antwerp. The accompanying digital installation was also introduced there for the first time. In various sessions, experts explained the topics and questions from the Flemish Science Agenda in greater depth.



DECEMBER 2017 ASSIGNMENT FROM THE MINISTER

Minister Muyters asks the FWO to create a Flemish Science Agenda. The FWO initiates a collaboration with the KVAB, the Young Academy and the Department of EWI.

JANUARY-MARCH 2018 BUILDING A NETWORK

The FWO surrounds itself with partners by setting up a sounding board and a steering committee. These entities provide support to the initiators throughout the entire process by helping publicise the project broadly and by helping in decision-making processes.

APRIL-JUNE 2018 THE SIX WEEKS OF SCIENCE

From 17 April to 6 June, all Flemish people have the chance to submit their questions for science. A large-scale, multimedia campaign, including a whole range of initiatives, is set up around the central query 'Which question would you like science in Flanders to answer?' A total of 10,559 questions are submitted by curious and concerned Flemish people, but also by organisations, associations, knowledge institutions, schools and companies. It is all of these questions that make up the building blocks of the topic questions found in the Flemish Science Agenda.

JUNE- NOVEMBER 2018 CLUSTERING AND DELVING DEEPER

Five expert panels with representatives from Flemish universities, colleges, research institutions, governmental institutions and companies examine the submitted questions. The experts distil them down to 82 overarching topics. Together, the panels develop these topics into a data sheet in which they characterise the topic, identify the related challenges and delineate an integrated (scientific) approach for each.

OCTOBER 2018 THE FIVE NIGHTS OF SCIENCE

During the Five Nights of Science, researchers, citizens and organisations have the chance to work together on the questions for science. At five separate locations throughout Flanders, they discuss one of the central categories – health, evolution, environment, mobility and migration. The participants delve deeper into the questions, uncover mutual relationships between questions and identify possible collaborations for tackling the challenges.

14 DECEMBER 2018 PRESENTATION OF THE FLEMISH SCIENCE AGENDA

During the Knowledge Makers [Kennismakers] scientific congress on 14 December 2018, the Flemish Science Agenda and the accompanying digital installation are presented. Minister Muyters is invited to come and formally receive the Agenda. In a series of sessions, guest speakers address various questions from the campaign.

NOTEWORTHY FIGURES FROM THE CAMPAIGN



10,559
QUESTIONS SUBMITTED



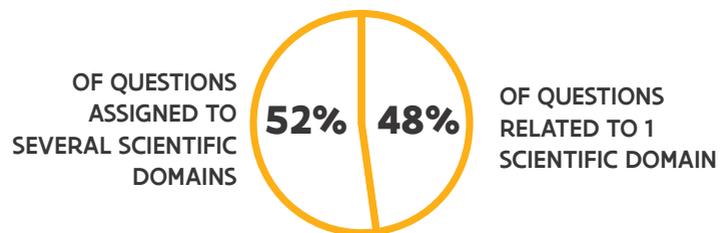
8,632
UNIQUE QUESTIONERS



YOUNGEST
3 YEARS
OLD



OLDEST
98 YEARS
OLD



67,459
UNIQUE VISITORS TO THE WEBSITE

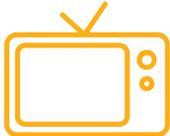

110,953
QUESTION VIEWS

92,451
VISITS TO THE WEBSITE


8,055
'LIKES' ON THE WEBSITE


1,347
TWEETS

'QUESTIONS FOR SCIENCE' IN THE MEDIA

6x

VTM Nieuws, Het Journaal, Karrewiet and others

37x

Het Nieuwsblad, De Standaard, Knack and others

7x

Radio 1, MNM, Nostalgie and others



BRIDGING SCIENCE AND SOCIETY

Science in Flanders is alive and kicking. The Flemish people are fascinated by science and want to be involved in scientific research. That may be the most important conclusion drawn from the Flemish Science Agenda and the reason that it succeeded in encouraging the Flemish people to make their voices heard and to submit to science the topics that concern them. We received more than 10,000 reactions – an overwhelming success resulting in a splendid bundle of interesting and extremely relevant research questions.

INVOLVING CITIZENS

The Flemish Science Agenda provided citizens with a unique way to become acquainted with scientific research in Flanders. The fact that the Flemish are interested and have confidence in science had already been shown by the Wetenschapsbarometer (Science Barometer, in English), a poll organised in the spring of 2018 by the Department of EWI of the Flemish Government. In fact, one in three respondents indicated that they would like to be involved in a scientific research project. The Science Agenda zooms in on the importance of citizen participation and invites scientists, citizens, governmental institutions and companies to work together on science and on shaping the solutions to the challenges of tomorrow.

Various successful initiatives related to citizen participation, co-creation and dialogue can be inspiring. Consider, for example, the “citizen cabinets” which have been organised by the Department of Culture, Youth and Media [Departement Cultuur, Jeugd en Media] and have resulted in new policy proposals. Or the forum on the future of secondary education and the forum on the reimbursement of healthcare costs. Time and again, dialogue between experts and citizens results in valuable information, even when it comes to complex problems. The Nights of Science have shown that an open discussion about scientific challenges can significantly enrich the content and approach to these challenges.

Moreover, citizens are becoming increasingly vocal, they dare to take a critical approach and they demand greater involvement. This trend has been occurring for some years now. As a result of this, public support for science is becoming increasingly important and this is encouraging scientists to explore the possibilities of initiating dialogue with citizens. Scientists and policy-makers are convinced that involving citizens in societal themes and scientific questions can substantially enrich these enquiries.

COMPLEX QUESTIONS REQUIRE MULTIDISCIPLINARY SCIENCE

Even within science, connection and collaboration must become the guiding principles, and the Flemish Science Agenda is also contributing to this goal. The Agenda invites the scientific world to approach research questions from a broad and open perspective, across the boundaries between the various disciplines. Connections within scientific disciplines – the exact sciences, the medical sciences, humanities and social sciences – are already prevalent today. But collaborations over different scientific domains are much less obvious. The Science Agenda aims to give these collaborations a boost.

Multidisciplinary panels are working on diverse research questions submitted by the Flemish people; they have distilled them down into topics and

categories, identified the challenges, proposed a collective approach and mapped out the interfaces between the categories. This project can inspire current and future generations of scientists to look over the wall of their own research domains and to build bridges to other disciplines.

SCIENCE COMMUNICATION GAINING IMPORTANCE

The image of the scientist in his or her ivory tower is a thing of the past. Blogs are supported with scientific facts, almost every week scientists are guests on talk shows, and opinion pieces written by researchers appear almost daily in the newspapers. Scientific knowledge is being disseminated to a broad audience. One of the core tasks of researchers, in fact, is to stimulate public debate. The majority of research is financed by society. Therefore, it goes without saying that the results

of this research should be widely distributed. Science communication continues to become more and more important, and scientists are already making great efforts in this area. Many project applications contain a section on adding value to knowledge and its dissemination. More and more often, scientists are taking steps to bring their research to a wider audience; they do this via lectures, accessible articles, debate evenings, scientific cafés etc.

Yet, the Flemish Science Agenda has shown that a great deal of scientific information still fails to reach the public. Science has already answered several of the questions asked during this campaign, but the citizens had not yet heard about these solutions. This once again highlights the importance of (science) communication, information and high-quality education. Certainly, in these times when everything is available on





the Internet, the importance of reliable science communication is difficult to overrate. In the Science Agenda, scientists are finding many ideas and starting points for giving shape to the dissemination of their scientific knowledge. The involvement of difficult-to-reach groups is an important focal point of this work. The government and civil society both have a role in this endeavour – to work together with the scientific community to reach all Flemish people via appropriate channels.

READY FOR THE FUTURE

The Flemish Science Agenda consists of more than just a final report. There is also an extensive digital component available with a handy search tool. All of the questions per topic, including their challenges and approach, can be found at www.vraagvoordewetenschap.be. The website also has all of the questions submitted which ultimately formed the basis for each topic question. The Agenda can also be an impetus to

look within the scientific landscape in Flanders to see if research here should be developed further. It can also serve as a reference for identifying deficiencies and gaps.

The intention, therefore, is that the Flemish Science Agenda lives on in coming years, both within the worlds of research and government as well as in society. Permanent efforts are being made in diverse disciplines to utilize the questions (and topics) from the agenda as a point of departure for lecturers, colloquia, debates, podcasts, hackatons, articles and events. The Flemish Science Agenda is also actively provided as a source of inspiration for research proposals, thesis topics,... Ultimately, continuing to involve and inform the public remains the central focus, among other things, by answering the questions at www.vraagvoordewetenschap.be using the knowledge present in Flanders and internationally but also by answering those which arise concerning the process that makes up the foundation of all science – the search for knowledge.

“THE IMAGE OF THE SCIENTIST IN HIS OR HER IVORY TOWER IS A THING OF THE PAST.”

Science continues to grow and evolve, but the points of departure and main outlines of this agenda will not change in the immediate future. This document can give a sound footing to scientists, governmental institutions, societal organisations, companies and citizens in their search for collaborations, in their efforts to inspire one another, and in establishing robust citizen participation.

WHO CAN USE THE AGENDA?

Scientists who are searching for new connections within their own discipline or with other research domains, industry, with policy-makers, organisations, citizens ... This way they are better equipped to anticipate the questions posed by citizens and by society. With the new insights that the agenda offers, scientists can enrich their own research and augment its impact.

Citizens who are interested in the questions for science that concern others and who want to know how science in Flanders is working on these questions.

Companies, organisations and governmental institutions that are curious about the issues that concern the Flemish people and that would like to work together with Flemish scientists to find solutions to the challenges of tomorrow.

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