



Research for all!

**A proposal for a Swedish platform
for science communication**

Research for all!

A proposal for a Swedish platform
for science communication

ISBN 978-91-88943-67-5

Produced by: Cissi Billgren Askwall, Gustav Bohlin,
Helen Garrison, Lena Söderström and Oskar Tornborg

Swedish Research Council
Vetenskapsrådet
Box 1035
SE-101 38 Stockholm, Sweden

Contents

Contents	3
Foreword.....	5
Summary.....	6
1 Starting points and trends	8
1.1 Science communication	8
1.2 The general public's views on research	12
1.3 Production and consumption of news	13
1.4 Researchers' views on communication.....	15
1.5 Support and training in science communication.....	17
1.6 Tendencies and trends.....	18
2 How research is communicated in Sweden	21
2.1 Who communicate research?	21
2.2 Communicate to whom, and why?	22
2.3 Evaluation of communication about research.....	27
2.4 Contemporary environment monitoring of science communication.....	28
2.5 Some initiatives that communicate research.....	28
2.6 Knowledge banks and resources.....	35
3 Media's views on research	37
3.1 About the subsidiary study	37
3.2 The media industry in Sweden.....	38
3.3 Use of Expertsvar/Expert Answer and forskning.se	41
3.4 News monitoring	42
3.5 Challenges and needs.....	42
4 Need for research-based knowledge.....	45
4.1 General public.....	45
4.2 Media	48
4.3 Schools.....	50
4.4 Education and research sector.....	50
5 Looking abroad.....	52
5.1 National initiatives in other countries	52
5.2 International initiatives	61
5.3 Initiatives outside Europe	66
6 The view on collaboration.....	68
6.1 Purpose and aims	68
6.2 Target groups for a joint Swedish initiative.....	68
6.3 Content.....	70
6.4 Services.....	73
6.5 Organisation.....	75
6.6 Funding.....	77
6.7 Attitude towards collaboration of interested parties	78

7	Analysis and conclusions.....	80
7.1	Purpose and aims	80
7.2	Target groups	80
7.3	Content.....	82
7.4	Services.....	83
7.5	Organisation.....	84
7.6	Funding	85
8	References.....	86
8.1	Obtaining knowledge	86
8.2	List of interviewees.....	86
8.3	Other discussion partners.....	91
8.4	Written sources	93
8.5	Authors and directly involved persons	94

Foreword

A global pandemic and a war in Europe have entailed enormous challenges during the last few years. It has also led to a great focus on the importance and value of science, and on research-based knowledge being easy to find and read.

The Swedish Research Council has a national mandate with responsibility for coordinating communication about research and research results. The most recent Government bill on research states that science communication needs to be strengthened, for example through joint national platforms for editorial collaboration between researchers and knowledge communicators. This was also the conclusion of the report *Forskning.Framsyn*, which is based on a mapping carried out by VA (Public & Science) and the research journal/website *Forskning & Framsteg* carried out in 2019 for the Swedish Research Council.

Due to the COVID-19 pandemic, it was not possible to take the proposals in this report any further. During spring 2022, the Swedish Research Council, with the help of VA (Public & Science), has brought the mapping up to date and done a preliminary study of how a national collaboration on science communication can be realised.

The preliminary study shows that there is a considerable need for and great interest in establishing such as collaboration in Sweden. It is the Swedish Research Council's ambition and hope to gather together many Swedish actors who produce, fund and communicate about research.

I would like to thank Cissi Askwall and her colleagues at VA (Public & Science) for their work on this thorough preliminary study. It has provided us with a good foundation for the next stage of the work on together making science more accessible for the wider general public.

Stockholm, 22 September 2022

Mikael Jonsson

Director of Communications, Swedish Research Council

Summary

This report is the result of a pilot study to investigate how science can become more accessible for the general public. The Swedish Research Council, with the help of VA (Public & Science), conducted the pilot study during the first six months of 2022. This was, in turn, based on an earlier mapping that was done by the Forskning & Framsteg Foundation and VA (Public & Science) for the Swedish Research Council, and resulted in the report *Forskning.framsyn* in spring 2020.

In order to gather opinions and explore possible target groups, contents and services for a national collaboration in science communication, several methods were used. Around 90 Swedish actors were interviewed, five workshops were arranged, platforms in other countries were investigated, study trips were made and a user survey was carried out.

A number of reasons to make knowledge about research more accessible to the general public emerged in the pilot study: It is part of the global development towards open science, it contributes to promoting trust in facts and counteracting resistance to knowledge, it strengthens people's scientific capital and supports media that report on science.

For Swedish actors, a national collaboration on science communication can entail synergies, more effective use of resources, greater impact, and also better opportunities to collaborate, assist decision-makers and contribute to the public discourse. Most of them are also positive towards increased collaboration. The minority that is doubtful consider that there is already a lot of information about research, and that it is easy to find.

The target audiences that the actors think are the most important to reach via a future national collaboration are the general public and journalists. Many also highlight the need to reach pupils and teachers in schools.

To find knowledge, people often search on the internet, either by subject or direct, for an answer to a specific question. The material they find must be easy to understand and preferably in several formats, such as text, sound and video. Niche newsletters, thematic reviews, material about source criticism and how research is done are much requested, as is questioning experts.

Journalists want simple and quick access to both researchers for interviews and also reviews of current research. They also wish to develop their competences to become better at reporting on science.

Teachers and pupils need accessible, reliable and easily understandable knowledge, preferably linked to current societal issues, and new findings in school subjects. Schools also request knowledge reviews, material on how research is done and on source criticism, and also a service where researchers answer questions. A further wish is to take part in citizen science and to gain an overview of research relating to education.

A future Swedish platform should focus on making research news from different actors accessible on the internet in a structured and searchable way, supplemented with editorial news about current matters. The platform should be available in Swedish and English, and be based on the website *forskning.se*, expanded with material from additional actors. Researchers can also write popular science articles for publication, both on the platform and also on the English-language website *The Conversation*.

To make it easier for the media and other actors that communicate about science, the service *Expert answers for journalists* should be further developed. Courses for journalists, researchers and science communicators to develop their skills in communicating science can also be offered by a platform, as well as niche-focused newsletters.

Who the senders are, and what editorial principles govern the work and the selection of news items on a future platform need to be clearly shown. Editorial integrity and opportunities for influencing from different participating organisations can be safeguarded through an editorial declaration of intention. The material on the platform should be free to partake of and to re-publish.

The Swedish Research Council has a national mandate to be responsible for coordinating communication about research and research results and is therefore a natural principal for a future platform. Many actors nevertheless recommend an independent organisation, such as an association. The operation should be run in collaboration with a broad circle of Swedish organisations.

A steering group with representatives from the organisations included in the collaboration should be set up, as should an advisory body for the users, and also one for input from actors who wish to contribute content.

A future platform should be coordinated by an editorial team. As a gathering place for news and other material about research, the platform will form part of the striving towards an open science system in Sweden. Funding for the platform should therefore come from public actors, for example the Swedish Research Council, which we propose should fund the initial phase and lead the development of a national platform. Many other actors have also expressed wishes to contribute funding and content.

1 Starting points and trends

To provide a background and describe trends in science communication and science journalism, the authors have gone through a number of studies and project results. These are referenced in brief. The development that is ongoing in the world around us and that may be of importance for a future platform are also described in this chapter.

1.1 Science communication

Researchers always communicate their research within their scientific field. Most researchers also communicate with other sectors of society. Swedish higher education legislation states that “The mandates of higher education institutions include collaborating with the surrounding society for mutual exchange, and for working towards ensuring the knowledge and competence that exists within the higher education institution is of benefit to society”¹. By teaching, writing scientific and popular science articles, publishing studies, taking part in media, lecturing and collaborating, researchers constantly communicate and interact about research.

Definition

The report focuses on the communication of research that aims to spread knowledge and interact with other parts of society. Communication within the scientific field, often known as “scientific communication” is not covered, however.

Science communication can occur at differing levels of interaction:

Information is characterised by one-way communication, aimed at a receiver, such as press releases or popular science articles and lectures, with no or little opportunity for interaction.

Dialogue is characterised by all parties functioning as both sender and receiver. There is room for all to have their say, and to show an active interest in the others’ viewpoints.

Co-creation is characterised by communication in dialogue, but does not just mean that all parties have their say, but that they also influence or are given influence during the research process. It can be about anything, from identifying ethical obstacles or new research fields, to contributing to data collection or taking part and making research results more useable.

¹ Chapter 1, Section 2.2. [Högskolelag \(1992:1434\) Svensk författningssamling 1992:1992:1434 t.o.m. SFS 2021:1282 - Riksdagen](#)

Figure 1. Illustration of three types of science communication.

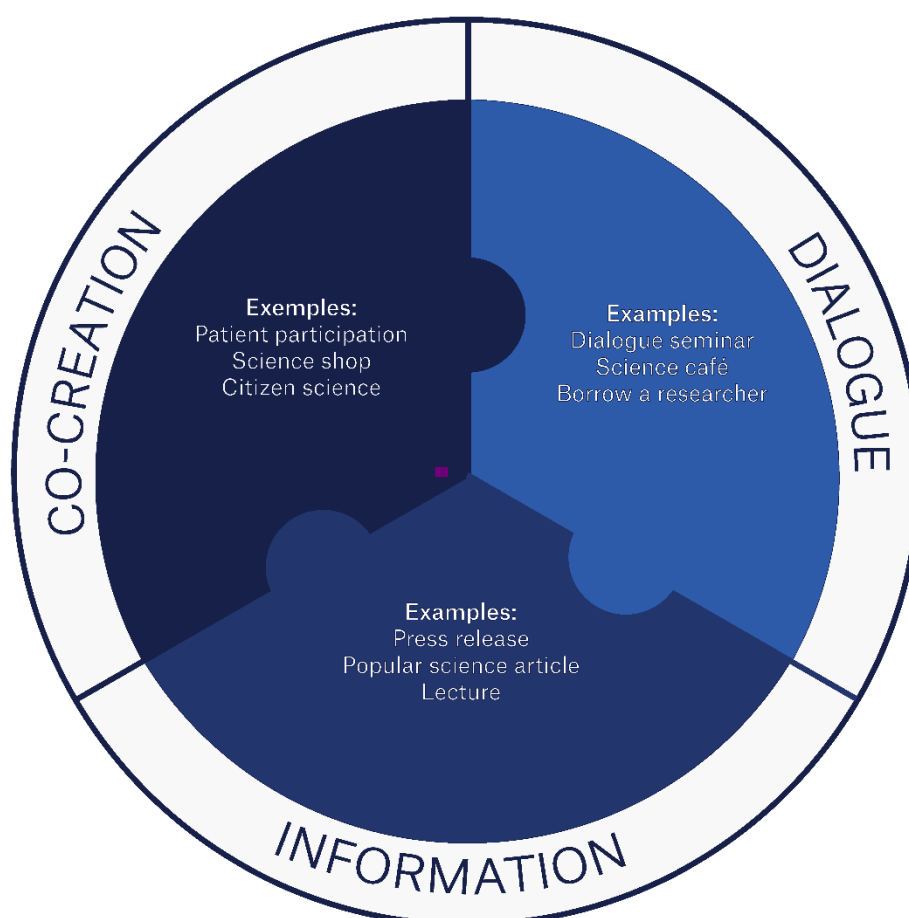


Figure 1 shows how information, dialogue, and co-creation are three forms of science communication that are used in parallel and are characterised by the differing degrees of active participation by the target groups.

Development of the area

Sweden has a long tradition of popular science lectures, researchers participating in civic education contexts, and reporting of science in the media. Science communication has primarily been one-way, where researchers have passed on knowledge to non-scientist receivers. The starting point has all too often been what is known in research into science communication as ‘the deficit model’.

This deficit model is based on the incorrect assumption that undesirable attitudes towards research, or lack of interest, is solely due to lack of knowledge.

According to the model, everybody would think and act in the same fact-based way, if only they had the correct knowledge. In real life, however, engagement and attitudes are influenced by many other factors than just learning the facts. People in the near vicinity and one’s own values often have a stronger influence than knowledge passed on.

Today’s science communication is still largely one-way, but dialogues and conversations about science are increasingly being arranged, where all parties

can have their say. It has also become ever more common for research and innovation to be carried out in collaboration with all those who are impacted in some way, which is often known as “responsible research and innovation”, and that is reinforced by the development towards open science, see the section “Links to policy” below.

Science communication has also increased strongly in recent years. Organisations that produce or fund research are spending ever larger resources on communication. Research is communicated via a large number of physical and digital channels. These days, everybody can take part, both as senders and as receivers. The fact that ever more people are taking part in the dialogue about research means that the discourse is democratised, but with the many channels, actors and new technologies, it has become more difficult to assess the reliability of the information.

Research into science communication

Research into science communication is a new and growing field, with an international infrastructure in the form of scientific journals, networks and regular conferences. In Sweden, there is to date no established structure; instead, the research carried out is done by interested individuals who are active in other scientific fields. According to a review of the last ten years’ of issues of the three leading scientific journals, *COM – Journal of Science Communication*, *Public Understanding of Science* and *Science Communication*, there were 23 articles written by a total of 28 unique authors who are active in Sweden. The review was done in 2020 and resulted in the report *Research and science communication in Sweden*. Its conclusion is that research into science communication is done at the intersection of several research fields.

Links to policy

The important role in society played by research has received limelight illumination with the COVID-19 pandemic and the war in Ukraine. Open science, communication and interaction around research play important parts in the management of the many consequences of both the pandemic and the Russian invasion. In the end, it is all about protecting democracy.

Sweden is investing major resources in producing science-based knowledge. But for this knowledge to become useable, accessible and reach out to those who need it, investments in communication are also necessary.

Open science

Both Sweden and the EU are working towards implementing an open science system. Open science is an umbrella concept that aims towards more open, transparent and inclusive processes in research and innovation.

In 2021, UNESCO adopted a recommendation on open science.² The recommendation defines open science as an inclusive construct that combines a multitude of movements and practices aimed at making multi-lingual scientific knowledge openly reachable and accessible for use by all. This creates preconditions for increased research collaboration and information-sharing, to the benefit of both science and society, and also for opportunities to take part in

² [UNESCO’s recommendation for open science](#) (16 December 2021)

the development, evaluation and communication of science-based knowledge to different societal actors. Open science covers all scientific disciplines and aspects of scientific practices. It is based on five fundamental pillars: open science-based knowledge, open research infrastructure, science communication, open involvement of societal actors, and open dialogue with other knowledge systems.

In June 2022, the National Library of Sweden (KB) received a government mandate to draw up national guidelines for open science³. The National Library of Sweden shall identify joint goals and priorities, map role allocation and areas of responsibility, and also define needs for support and guidance. The mandate shall be carried out in collaboration with the Swedish Research Council, higher education institutions (HEIs) and other public agencies and organisations involved.

Science communication

The most recent Government Bill, *Forskning, frihet, framtid – kunskap och innovation för Sverige*, emphasises both open science and the importance of collaboration. Strengthening science communication is specifically mentioned, for example through joint national platforms for editorial collaboration between researchers and knowledge communicators.

“Research communication, where researchers in various ways participate in the public discourse, is an important part of making science-based knowledge more accessible in the surrounding society, and thereby contributing to increasing the speed of the transition to a more sustainable society. Therefore, there is potential for increasing trust in research, and strengthening the opportunities for the general public and decision-makers to make informed and knowledge-based decisions.”⁴

In June 2022, the member organisation Science Europe, which gathers together leading public research-conducting and research-funding organisations in Europe, launched a vision for science communication:

“Science Europe envisions a research system that has science communication embedded into it, one that informs and engages citizens in research, and provides timely evidence relevant to societal challenges.”⁵

The purpose is to increase and strengthen the collective capacity to communicate about science with other parts of society.

³ The mandate has the form of an [addendum to the appropriations document for 2022, advised via a Government decision dated 07 June 2022](#). According to the addendum, the National Library of Sweden shall draw up national guidelines for open science. The mandate includes identifying joint goals and priorities, mapping role allocation and areas of responsibility, and also defining needs for support and guidance, all from an overall perspective for open science. The mandate shall be reported to the Government Offices (Ministry for Education) no later than 15 September 2023.

⁴ Government Bill [Forskning, frihet, framtid – kunskap och innovation för Sverige](#), p. 138

⁵ [Science Communication for Greater Research Impact. Science Europe.](#)

The Swedish Research Council, as a member of Science Europe, has a national mandate with responsibility for coordinating communication about research and research results in Sweden.

1.2 The general public's views on research

VA-barometern

In Sweden, trust in researchers has for a long time been great and stable. *VA-barometern 2021/22*⁶ indicates trust is at record levels: 86 per cent of the Swedish general public have very or fairly high levels of trust in researchers at HEIs.

Every second person in Sweden (52 per cent) states that they are fairly interested in research. Interest is greatest in medical research, where 62 per cent are fairly or very interested. The corresponding percentage for natural sciences is 58 per cent, followed by engineering sciences (49 per cent), social sciences (38 per cent), and humanities and educational sciences (both at 31 per cent).

Considerably more men (64 per cent) than women (33 per cent) are fairly or very interested in research in engineering sciences, while more women than men are interested in research in all other areas. See also Section 1.3.

Europeans' views on research

Surveys are regularly carried out, initiated by the European Commission, of the European population's views on different matters. In 2021, a *Special Eurobarometer*⁷ was carried out relating to attitudes to science and technology. It showed that EU citizens are very interested in science and technology in particular, in particular relating to medical discoveries and environmental problems.

The majority also consider that the impact of science and technology on our lives is positive, in particular technology such as solar and wind power, and also vaccine development. Support for open access to the results from publicly financed research is very large. So is the support for involving non-scientists in research and innovation, so that what is developed fulfils society's needs, values and expectations.

More than two thirds consider that researchers should take part in political discussions, to ensure decisions are influenced by research-based knowledge. The results also indicate big differences, where knowledge about research continues to be low in some groups and countries in Europe.

⁶ [VA barometer 2021/22](#) (VA report 2021:5)

⁷ [Special Eurobarometer 516: European citizens' knowledge and attitudes towards science and technology](#) (2021)

1.3 Production and consumption of news

The general public's consumption of media

The Media barometer from Nordicom investigates how the Swedish population in the age band 9 to 85 years uses media on an average day. The time used to partake of media was nearly seven hours per day in total in 2021, but this includes several media being used simultaneously.

According to the *Media barometer 2021*, the most common way was to partake of a moving image – this is what 93 per cent did. 83 per cent used social media, 76 per cent listened to the radio, and 68 per cent read a newspaper on an average day. The same figures also include digital use.

58 per cent watched streamed TV, while the reach of timetabled TV was 57 per cent. 42 per cent watched Youtube, and 23 per cent other moving images online.

68 per cent of the population read a newspaper on an average day in 2021, primarily digitally. 55 per cent read a morning paper, 40 per cent an evening paper, and 36 per cent a magazine.

The daily reach of Facebook was 64 per cent of the population as a whole. This makes Facebook the most widely spread social networking service, followed by Instagram (57 per cent) and Snapchat (28 per cent).

Among the youngest (9–14 years), Snapchat dominates (77 per cent), along with Tiktok (64 per cent) and Instagram (61 per cent). Among persons aged 15–26 years, Snapchat (84 per cent), Instagram (83 per cent) and Facebook (65 per cent) are the most used. Older persons aged 65–85 years almost only use Facebook (50 per cent) and Instagram (30 per cent).

Among the population as a whole, 53 per cent got their news from SVT, 43 per cent from Sveriges Radio and 38 per cent from TV4. 26 per cent read news via Facebook. Among persons aged 9–14 years, Instagram and Tiktok were the most used social media channels for news, however. For persons aged 15–24 years, Instagram was the most used news source.

As much as 96 per cent of the population has access to a smartphone. 69 per cent also has access to a tablet, and 66 per cent to a media player (such as Apple TV or Chromecast).

Swedes and the internet

Svenskarna och internet is an annual survey carried out by the Swedish Internet Foundation. It shows that nine out of ten used the internet every day in 2021.

A majority of adults have some form of streaming media service, and more than half have played digital leisure games during the last year, according to the survey.

Some social media are on the whole only used by younger persons, such as Tiktok. Seven out of ten school children follow an influencer or Youtuber on the internet. Young persons consume news primarily via social media.

Those who were born in the 1990s use the internet most, for example to listen to podcasts, watch streamed video services or use social media. One in five old age pensioners do not use the internet at all.

The general public's consumption of research news

Six out of ten Swedes (63 per cent) read research news every week, according to the *VA barometer 2021/22*. This is a clear increase from 2019, when the corresponding proportion was 53 per cent. The change is most visible among persons without higher education.

The most common channels for obtaining news about research are via TV and daily newspapers, which are used by 77 and 59 per cent respectively. Social media (52 per cent) and radio (51 per cent) are also important channels. The channels for research news have not changed markedly since 2019. The exception is podcasts, which have increased from 28 to 36 per cent.

Figure 2. Channels where the general public partake of research news

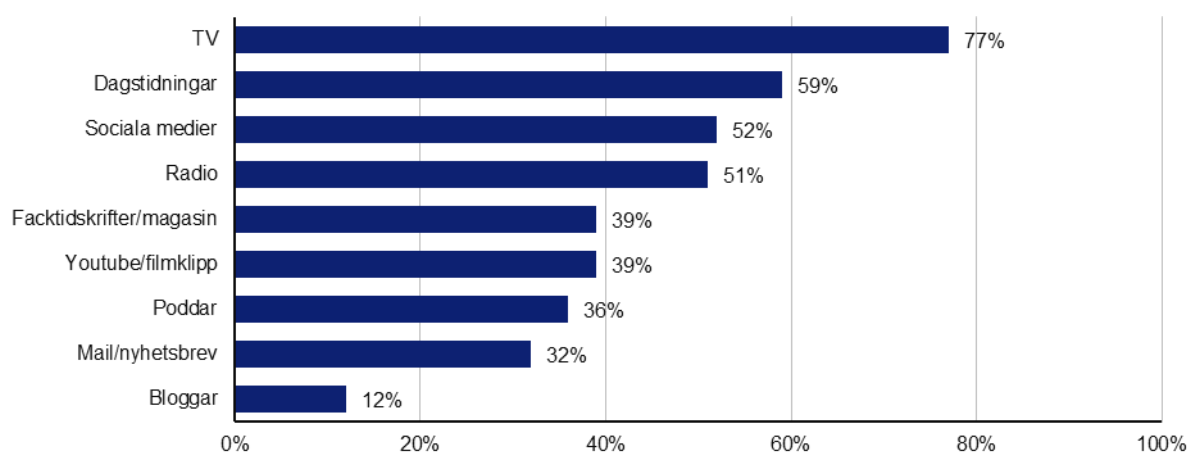


Figure 2 shows that TV, followed by newspapers, social media and radio, is the channel that most Swedes use to partake of news about research. Source: VA barometer 2021/22, VA report 2021:5

Media's monitoring of research

The picture of research and science that Swedish media give is mainly neutral or positive. A study of media reporting of research in Swedish daily press, carried out by VA (Public & Science) and Södertörn University, showed that a typical article about research is a traditional news article, and concerned social sciences or medicine. The results were based on systematic quantitative content analysis of 1 763 articles in six city and nine countryside papers during the period 1995–2015.

According to *Forskning i svensk press 1995–2015*⁸, news about research and science is rarely published on specific science pages. Instead, they are found among local and domestic news items. On the pages dedicated to science that do exist, articles about medicine and natural sciences dominate. News about

⁸ [Forskning i svensk press 1995–2015: en innehållsanalys. VA report 2019:7](#)

humanities is common on culture pages, while social sciences research is the type of research most often quoted on editorial and opinion pages.

Morning papers published in major cities carry more and longer research news articles than evening and countryside papers. Evening papers have more articles about medical research, while major city morning papers have a larger proportion of social sciences news.

Another study, *Bakom rubrikerna*⁹, where twelve journalists were interviewed about their work of monitoring research, the journalists described how their reporting is influenced both by their own interests, and also by the subjects that interested the general public, and/or were easier to “sell” to their editors. Health is such a subject, and health itself was the most common theme in the articles analysed in the study *Forskning i svensk press 1995–2015*. The journalists regarded social sciences and humanities as more difficult areas to report on, and they were regarded by some as less interesting.

Science journalism has tradition primarily been informative and instructive, while scrutiny has been given less room¹⁰. This is confirmed by the content analysis, and is also reflected in the interview study. Several journalists expressed a wish for more resources for scrutinising science journalism, and for competence development.

1.4 Researchers’ views on communication

I want to, but haven’t got time!

The importance of interaction and communication with the surrounding society is highlighted both in existing higher education legislation and in the most recent Government research bill.¹¹ But almost two thirds (64 per cent) of researchers at Swedish HEIs believe that their communications with the world around them is obstructed by them having too many other tasks to do with greater priority. Another common obstacle is that there is a lack of resources set aside for communication (according to 37 per cent). This is shown in a survey carried out by VA (Public & Science) in 2019, *Jag vill men hinner inte*¹², in collaboration with the four Swedish national research councils and Riksbankens Jubileumsfond. 3 699 researchers at 31 Swedish HEIs responded to the survey.

The incentives for researchers to collaborate are insufficient, according to the study. Communication initiatives and collaboration are in general not regarded as particularly merit-enhancing when appointing persons to positions, or assessing applications for research funding. Nine out of ten researchers answering the survey do, however, want to communicate and collaborate. More

⁹ [Bakom rubrikerna – Intervjuer med 12 journalister om att bevaka forskning. VA report 2019:3](#)

¹⁰ See for example Bauer, Martin & Bucchi, Massimiano (2007) Journalism, science and society: science communication between news and public relations.

¹¹ [Högskolelag \(1992:1434\) Svensk författningssamling 1992:1992:1434 t.o.m. SFS 2021:1282 - Riksdagen](#), and the Government Bill [Forskning, frihet, framtid – kunskap och innovation för Sverige 2020/21:80](#)

¹² [Researchers’ views on communication and open science in Sweden – a summary, VA report 2019:8](#)

than half (51 per cent) want to spend more time than they currently do on communicating their research to the world around them.

The most important stated reason for communicating their research is to ensure the results can be of benefit to society. The second most important reason is to let research contribute to the public debate, followed by to increase awareness of research in society. According to the researchers, decision-makers and politicians are the most important group to communicate with, followed by the general public as a whole and professional groups that are directly impacted by the research carried out. The group that researchers actually do communicate with the most are, however, specific professional groups impacted by the research.

The activity that researchers most commonly use to communicate research is to take part in open lectures or panels, aimed at the general public, which was something that just under one third did last year. The second most common is to write popular science material for the general public. Most (69 per cent) use social media in one way or another within the framework of their professional roles. The most commonly used social medium is Researchgate, followed by LinkedIn, Facebook and Twitter.

Figure 3. Researchers answer the question of how well equipped they are to communicate their research

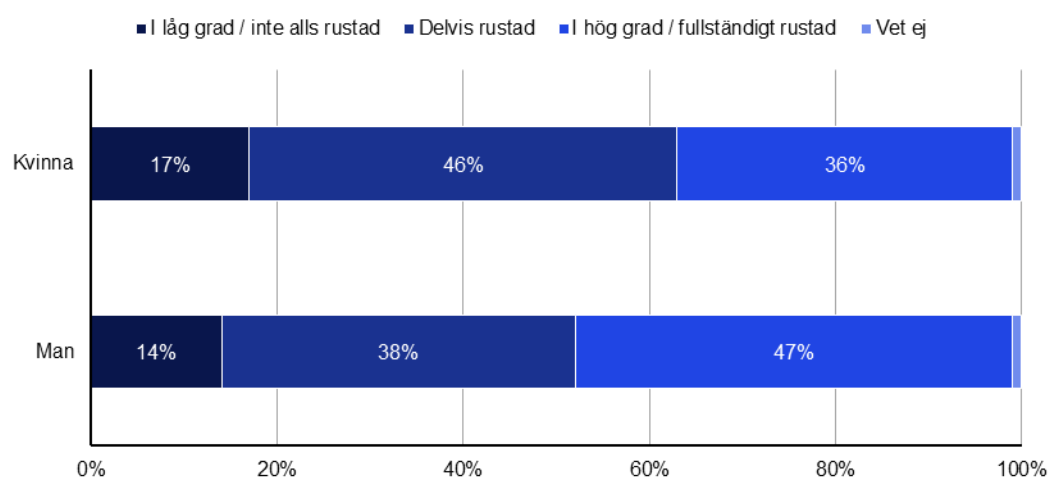


Figure 3 shows how female and male researchers answered the question in a survey. Dark blue indicates “to a low degree/not at all equipped”; medium blue indicates “partly equipped”; and light blue indicates “to a high degree/completely equipped”. Source: Researchers’ views on communication and open science, VA report 2019:8 (full version in Swedish only)

Four out of ten researchers feel completely or well equipped to communicate their research to the surrounding society. Just over one quarter (27 per cent) have done a course or have training in communicating their research to the world around them, but more than half (54 per cent) have neither done nor been offered the opportunity to do such a course. The study also shows that many lack knowledge about and support for how to go about this in practice. 28 per cent also request more invitations and opportunities to communicate and interact.

1.5 Support and training in science communication

In our pilot study, representatives of HEIs, public agencies and research institutes have been interviewed. Most state that they offer researchers some form of communication support. The most common support forms are:

- individual coaching ahead of presentations and media participation
- text editing and proofreading
- production of press releases and films
- lectures, courses and short training programmes
- modules and checklists for various communication situations
- help as needed, for example with presentation images, communication plans and summaries for applications
- communication courses for doctoral students.

The most common communication course offered to researchers is media training, that is, information on how journalists work and practical exercises to improve skills for participating in media. Some public agencies and HEIs also offer courses to researchers in writing, both scientific and popular science, in Swedish and English. Some HEIs highlight the Forskar Grand Prix competition as an effective way of developing the presentation techniques of researchers.

Third-cycle higher education

No Swedish HEIs has mandatory courses for doctoral students in communicating with other sectors of society. On the other hand, HEIs such as the University of Gävle, Karlstad University, Karolinska Institutet, Malmö University, Mid Sweden University, Swedish University of Agricultural Sciences, Uppsala University and Örebro University offer elective doctoral student courses that bring up various communication aspects, but there is no coordinated range of courses at national level.

The Swedish Research Council, together with Örebro University and a team of experts has produced a framework for courses in science communication at third cycle higher education level. The framework was the basis for a pilot course for doctoral students in communicating research, covering 7.5 higher education credits, and offered at Örebro University. The course was implemented and evaluated during the 2021/2022 academic year, and a new course is planned for 2023.

Some preliminary results are that the course has reduced the perceived distance between different parts of the HEI, and has led to increased collaboration between researchers and communicators. A report summarising the results and making recommendations will be published in autumn 2022.

Fojo

The Fojo media institute is located at the Linnaeus University in Kalmar, and offers further education for journalists. The purpose is to strengthen journalism and media, so that the media can contribute to a more democratic and sustainable world.

Most of Fojo's courses are short and free of charge for participants. According to an agreement with the Swedish Union of Journalists, employers shall give employees time off and pay their salaries while they study at Fojo. Some of the

courses are about monitoring science, source criticism and information influencing.

Fojo also offers some tools for journalists, such as *Faktajouren*, a project that reports on research and development of methods, tools and models for scrutinising facts and managing errors on the internet.

Other course providers

Other courses relating to science communication are offered by other providers of education. During 2022, VA (Public & Science) is testing three different course concepts for senior researchers, which are all free of charge to participants. The PR agency Westander is offering groups of researchers tailored one-day courses in communicating research. The member organisation Sveriges Kommunikatörer is offering a specific course called *Kommunikationsuppdraget i högskolan* (“The Communication Mandate in Higher Education”) to communicators.

1.6 Tendencies and trends

Open up research

There are many reasons and incentives for making research more accessible. Both Sweden and the EU are working towards implementing an open science system, so that research results and research data can be freely accessible. See also Section 1.1.

Open science is an issue that concerns the whole of society, and means that researchers themselves, and others who need or are interested in research can get access to it.

Public research funding bodies set requirements for research results produced with their support shall be published with open access. This does not, however, mean that the results will in practice be accessible to all. In order for the results to really be possible to partake of and absorb, they must be easy to find and easy to understand. For this reason, it would be reasonable to set a requirement to also publish a brief popular science text or a news article about new research results. Such texts could then be published on a national platform.

The global sustainability goals stated in Item 16.10 states that public access to information should be safeguarded and fundamental freedoms protected. Many of the 17 global sustainability goals also require ongoing scientific input.

An infrastructure is therefore needed that makes it easier for different users and for the general public to partake of science communication, popular science and scientific journalism.

Trust in facts and source criticism

In the last few years, it is become ever more common to see misleading information and pure disinformation, that is, the unintentional and intentional, respectively, dissemination of inaccuracies. The spread of rumours and influencing campaigns aimed at destabilising democratic functions are now part of everyday life. The enormous flow of information, sometimes called “the

infodemic”, that arose during the pandemic, has received further power through the war in Ukraine. Swedish people’s exposure to disinformation risks increasing even further ahead of the 2022 general election. The fact that there is mistrust in researchers and science is also heard ever more often in the public discourse, even if the trust in researchers and research is great in Sweden, see Section 1.2.

Digital developments increase the opportunities to spread false news and other inaccuracies, but at the same time give researchers and others better opportunities to share their own knowledge and partake of research-based knowledge. By making science more accessible and ensuring more researchers take part in the public discourse, citizens and decision-makers can make informed decisions, which in the long term strengthens democracy.

Ahead of the general election in 2018, VA (Public & Science) coordinated the campaign *#hurvetdudet?*¹³, to strengthen the Swedish population’s knowledge of what science is, and why research-based knowledge is needed for positive societal development. A number of other initiatives to strengthen people’s abilities to differentiate between reliable and doubtful information have been made over the last few years. Swedish schools play a particularly important role in teaching about media and information knowledge and source criticism.

Scientific capital

Scientific ability, scientific attitude, research literacy and scientific capital – there are many similar concepts for describing that people need to know what science is, and how research is done.

Many research actors want to stimulate people’s interest in research, increase their knowledge about science and how research is done, and strengthen their abilities to use systematics and a scientific approach. Over the years, a number of projects with such aims have been carried out, primarily aimed at children and young persons, but they have often consisted of isolated measures during a limited period, rather than long-term initiatives.

Several European countries have national websites that gather together material about science for young persons. Developing the ‘science literacy’ or ‘science capital’ of young people are common aims and concepts used. They concern the ability to understand, evaluate and use scientific knowledge, or promoting the understanding of science and developing ways of looking at the world through ‘scientific’ glasses.

There are some Swedish alternatives where several parties work together to disseminate research. These are described in greater detail in Section 2.5.

A changing media landscape

Digital technology and the internet have brought with them new opportunities and challenges for communicating, influencing and transmitting news. The traditional media are challenged by the fact that nearly all can partake of and themselves contribute to communication and discussion about all possible subject areas, including research.

¹³ [March for science: Hur vet du det? \(science campaign website hosted by VA\)](#)

A whole range of new media formats have been developed: Social media channels, podcasts, blogs, infomercials, explainers, video clips, Youtube channels, Clubhouse, and so on. The development of artificial intelligence means that some media reporting, such as sports results, can be automated.

In Sweden, many daily newspapers have had financial problems and a number of mergers have occurred, resulting in consolidation into larger media groups. Public service has strengthened its position in digital formats, but has also been criticised for unfair competition. At the same time, visitor statistics and interviews with representatives of media (see Chapter 3) show that reportage and quality journalism is requested, and that media consumers are willing to pay for it.

There is government support for the press and the media in Sweden to support news dissemination. The press support is aimed at printed and digital newspapers with paying subscribers, and offers opportunities for help with both the operation and distribution. The media support can be applied for by all general news media, whose main purpose is to transmit news. Here, it is possible to seek support to promote local journalism, for innovation and digital development, and to strengthen the editorial team.

The media support inquiry has been tasked to adapt the support system to today's media landscape. The inquiry's report was presented in June 2022, and entails that the new media support, which will start to apply as from 2024, will safeguard local and regional journalism, be technology-neutral, focus on news coverage, and be based on the size of the editorial team instead of circulation figures.

2 How research is communicated in Sweden

An important part of this preliminary study is to find out how Swedish actors work with communicating research. Primarily through interviews, but also through visits to organisations' websites and material collected during the earlier mapping for *Forskning.framsyn* (2020), we have gained an understanding of what, how and in what way Swedish actors communicate about research. This chapter describes how actors that produce, fund and use research communicate about research. A list of the interviewees is available in Chapter 8.

2.1 Who communicate research?

We have mapped and contacted around one hundred major actors, who are all interested in communicating research. They can be divided up into seven categories: HEIs, research funding bodies, public agencies and research institutes, academies and learned societies, sector organisations and trade unions, non-profit organisations, and media companies.

Higher education institutions

There are around fifty publicly and privately funded and operated higher education institutions (HEIs) in Sweden. These HEIs offer higher education, carry out research, and interact with other parts of society. In total, representatives of 27 HEIs were interviewed, usually the communications director.

Research funding bodies

Swedish research is primarily funded by the business sector. According to the Swedish Research Council's *Research Barometer 2021* report, the business sector is responsible for 72 per cent of R&D expenditure, while the higher education sector is responsible for 24 per cent.

There are four governmental research councils: The Swedish Research Council, Vinnova, Formas and Forte. There are also a number of other research funding bodies, often private, non-profit foundations. The largest are the Wallenberg Foundations, Riksbankens Jubileumsfond, and the foundations that manage capital from the previous salaried employees' funds. In the funding bodies group, representatives of 14 organisations have been interviewed. Research-intensive companies were not interviewed, as they are not envisaged to contribute any content or funding to a future platform.

Public agencies and research institutes

There are a number of public agencies that themselves develop research-based knowledge and/or fund research within a certain field. Some examples are the Swedish Energy Agency, the Swedish Environmental Protection Agency, the Swedish National Space Agency and the Swedish Meteorological and Hydrological Institute. There are also a number of research institutes, which are either public agencies or are wholly or partly owned and operated by national

government. In total, representatives of eleven organisations have been interviewed.

Academies

There are ten royal academies in Sweden, and a larger number of learned society and associations. The purpose of the organisations is to promote different sciences and the sciences' contribution to society through projects, prizes, books, publications, seminars and meetings, often open both to members and other interested parties. Representatives of four of the academies were interviewed.

Sector organisations and trade unions

Sweden has a number of sector organisations that often also function as employers' federations. Some have been identified as particularly interesting, as they gather together companies in research-intensive sectors. We have also spoken to a couple of trade unions, who gather together academics and researchers. In total, representatives of seven organisations have been interviewed.

Non-profit organisations

Sweden's ten study associations arrange activities and study circles all over the country, to ensure adults can access education and learning in a free and voluntary way, without any entry requirement or examination. In addition to study association, there are a number of interest organisations and other non-profit organisations with lots of programme activities relating to or linked to research. Some of the organisations collect money to fund research, some carry out research on their own, and many more use research-based knowledge in their work. In total, eight representatives of civil society have been interviewed.

Media companies

The largest mass media in Sweden are national newspapers produced in major cities (morning and evening papers), countryside newspapers, local free papers, TV channels (public service and private), and radio stations (public service and private, transmitting both nationally and regionally). Twenty journalists, who either monitor science as employees or as freelancers, or who are part of the editorial team, have been interviewed.

2.2 Communicate to whom, and why?

The following section summarises how the different groups of actors communicate. Mass media are reported on separately in Chapter 3.

Target groups for communication

Not just the media companies, but all actors communicate directly through activities and channels to reach different target groups, and also indirectly by seeking the attention of media. The target groups that most aim at are the general public, journalists, and decision-makers.

Higher education institutions

The most mentioned target groups by the majority of HEIs are:

- the general public
- journalists
- funding bodies.

At least one quarter also have the following target audiences:

- existing and prospective students
- decision-makers
- schools/children/young persons
- other HEIs and persons active in the sector
- collaboration partners/stakeholders in business and the public sector.

Funding bodies

The most common target groups for communication from funding bodies are those who are applying for, or are deemed should be applying for funding, from the funding body. Other common target groups are:

- decision-makers
- the general public
- young persons/schools.

Academies

The most common target groups are:

- decision-makers
- young persons/schools/teachers
- researchers
- the general public
- journalists.

Sector organisations and trade unions

The most common target groups are:

- decision-makers
- members
- the general public.

Non-profit organisations

The most common target groups are:

- decision-makers
- personnel and members of the organisation
- journalists
- the general public.

Public agencies and research institutes

The most common target groups are:

- the general public
- decision-makers
- the business sector and other sectors

- schools/teachers
- journalists.

Reasons for communication

The reasons for communication about research vary quite a lot, depending on the type of actor.

Higher education institutions

All HEIs see communication about research as an important part of their mandate. There are a number of reasons for this. The most frequently stated reasons for HEIs to communicate are that they want to:

- ensure the research is of benefit to society
- strengthen their brand and increase knowledge about the HEI
- enable collaboration with other sectors of society
- spread knowledge and make people wiser.

Some HEIs state more reasons for communicating, and also want to:

- represent science and show the scientific basis for various issues
- stimulate interest in research and education
- stimulate multidisciplinary
- increase the proportion of external funding
- strengthen innovation
- attract researchers to the HEI
- explain what the scientific method is, and how research is done
- strengthen the research at the HEI.

Funding bodies

Most funding bodies think that communicating research is important, but some consider it less important for themselves and instead really a task for the researchers who are awarded funding. However, few funding bodies set expressed requirements to communicate for those who received research grants.

So far, only the research council Formas is issuing recurring calls for projects in research communication, but a number of private funding bodies may also fund this type of project. The Swedish Research Council and the research councils Forte and Riksbankens Jubileumsfond are in 2022 opening up opportunities for researcher who have already received grants from the funding body to apply for further funding for communication initiatives.

The most common reasons for communicating about research for the funding bodies are to:

- show the benefit and value of research
- give others the opportunity to partake of the research the funding body is supporting
- make it possible for the research to be of benefit.

Other reasons for communicating mentioned by some funding bodies are to:

- contribute to inspiration and creativity

- work towards a better future
- fulfil a part of their mandate
- inform about calls and decisions
- awaken interest in research
- drive innovation
- mobilise for transition
- increase awareness of the funding body
- increase willingness to support research.

Academies

The purpose of academies is to strengthen different scientific fields and their use in society.

Reasons given for communicating are that the academies want to:

- increase interest in research
- make research visible and accessible
- increase understanding of what research is
- strengthen the trust in scientific methods.

Sector organisations and trade unions

Some sector organisations and trade unions state that communicating about research is part of their job, while others primarily do so in relation to their core issues.

Reasons given for communicating are that the organisations want to:

- influence in order to create change
- achieve academic pride
- show research advances in the sector
- increase understanding of what research is
- make students pay attention to the sector/professions
- create understanding for how innovations come about.

Non-profit organisations

Organisations in civil society have many different purposes, and therefore also a number of different reasons for communicating their research.

Reasons given for communicating are that the organisations want to:

- communicate with donors to collect money
- spread knowledge about the issues they are working on
- use research for the benefit of members
- offers places for meeting researchers and other experts
- act as a link between HEIs and the general public
- achieve changes and development.

Public agencies and research institutes

Public agencies and research institutes state similar reasons for communicating about research. The most commonly stated reasons are to:

- support target groups in their work

- increase the level of knowledge internally and externally
- contribute to a better society
- show the benefits of research
- make researchers available
- provide background documentation for decision-makers
- counteract resistance to facts
- fulfil part of their mandate.

Channels

Research is communicated via a number of different channels in Sweden. To find out what material could potentially be included in a national platform, we asked different actors about what channels they use when communicating about research.

For all actors, their own website is the central node for science communication. By far the greatest majority also arrange different types of seminars and events, use social media, and seek attention in and by the media. When asked a direct question of whether their material could be re-published on a national platform, nearly all answered “yes”.

Higher education institutions

Higher education institutions (HEIs) have comprehensive websites. The most common website visitor is an existing or prospective student seeking information about programmes and courses. Well-visited parts of the websites also offer information about vacant positions, press releases, news items and profile pages for research fields and individual researchers.

The most commonly used social media are Instagram, Facebook and LinkedIn, according to a survey aimed at communicators and carried out by the University of Gävle in 2022.

The most commonly used communication channels apart from websites, social media, and events are (in declining order):

- press releases
- films
- media contacts
- newsletters
- podcasts
- European Researchers’ Night

Research funding bodies

For research funding bodies, the website is central. The material that receives the most visits on their websites are, however, information about calls.

The most commonly used communication channels apart from websites, social media, and events are (in declining order):

- podcasts
- Youtube
- press releases
- newsletters

A couple of research funding bodies have their own magazines.

Academies

The most commonly used science communication channels apart from websites, social media, and events are:

- media contacts
- press releases

Sector organisations and trade unions

The most commonly used science communication channels apart from websites, social media, and events are:

- media contacts
- newsletters
- press releases
- internet news items

Non-profit organisations

The most commonly used science communication channels apart from websites, social media, and events are:

- press releases

Public agencies and research institutes

The most commonly used science communication channels apart from websites, social media, and events are:

- media contacts
- internet news items
- newsletters

2.3 Evaluation of communication about research

Organisations usually evaluate their science communication by collecting and analysing statistics about media impact, interactions in social media, and website visits. Major individual activities are also often evaluated, for example via surveys to visitors.

Considering the ambitious goals and the many reasons for communicating research stated by different actors (see Section 2.2), it may seem strange that more effort is not put into evaluating to what extent the goals are achieved. Many state that they have difficulty finding good methods and sufficient resources for evaluating their communication, but that they would like to evaluate more than they do today.

Both HEIs and other public agencies carry out reputation and awareness surveys. Several organisations have KPIs (Key Performance Indicators), which are regularly evaluated. Some such indicators are media impact and interaction with digital visitors. Several also investigate how well the website is working, using

surveys to visitors, and also evaluate their newsletters and magazines through reader surveys for subscribers.

Member organisations often do member surveys, asking how satisfied they are with things such as communication. For fundraising organisations, gift amounts can be compared with engagement in social media and click on articles. Only one organisation states that it has an effect goal. It evaluates, among other things, whether their communication can be assumed to have influenced certain political decisions.

2.4 Contemporary environment monitoring of science communication.

Most organisations have methods for monitoring developments and trends in science communication. The most common methods are monitoring the contemporary environment and benchmarking against similar organisations. Many also read newsletters, use media monitoring services, network and take part in conferences and courses.

The organisations, events and publications that most mention that they monitor are:

- Forum för forskningskommunikation (conference and Facebook group)
- VA (Public & Science) (non-profit organisation)
- Curie (internet magazine)
- forskning.se (website)
- EUPRIO, European Association of Communication Professionals in Higher Education
- Expert Answer days, organised by Expert Answer.

2.5 Some initiatives that communicate research

There are some large channels that communicate research, where several Swedish actors work together. They are described in greater detail here, together with some smaller, digital initiatives.

forskning.se

Forskning.se is a website where the general public can read about research results from Swedish HEIs, find scientifically based knowledge in different subject areas and read reports about new research.

History

The website was started in 2002 by the governmental research funding bodies the Swedish Research Council, FAS (now Forte), Formas and Vinnova, for the purpose of increasing knowledge, interest and trust in Swedish research, “for the benefit of individuals and society”.

The backers of forskning.se have varied over the years. Early on, for example, there was collaboration between forskning.se and the Swedish National Agency for Education on news about research in educational sciences, pedagogics and didactics.

Organisation and funding

Currently, forskning.se is funded by the Swedish Research Council, Forte, Vinnova and the Swedish Environmental Protection Agency. An annual meeting sets the strategic focus of the website. The editorial team consists of five editors, and is located at the Swedish Research Council's offices. The editorial work is not influenced by HEIs or the funding bodies.

Purpose

Forskning.se is tasked to:

- contribute to ensuring the results of research are communicated to the general public
- make it easy to find scientifically based knowledge
- explain what research is

Contents

The contents of forskning.se consists of current research results based on press releases from HEIs and research institutes, and also of the editorial team's own articles.

The press releases are published under the heading "Research news", and are categorised according to subject area (natural and engineering sciences, society and culture, etc.). The texts are edited and images added by the editorial team before publication, and marked with name of the HEI/research institute that published the press release.

The editorial team's own articles are either based on new research, or on topical events in society, or on issues that the general public is showing a lot of interest in. The articles are written either by the editors or by freelancing science journalists.

The most read articles are the editors' own articles. Several older articles feature towards the top of the statistics month after month, as they deal with subjects of great general interest, that many people google.

Channels

Content from forskning.se can often be found towards the top of the search results on Google. In 2021, the website had just over 4.2 million page views. Almost 70 per cent of the visits came via Google. This means that the research published on the website has a good chance of reaching out – including to users who are not actively seeking scientifically based knowledge.

Forskning.se sends out three newsletters per week. The contents consists of a selection of the most recently published articles. There are just over 15 000 subscribers, and the opening rate is between 35 and 45 per cent. The click rate varies between 30 and 40 per cent.

Facebook is used primarily to reach out with research results, not to drive traffic to the website. The number of followers (May 2022) was just over 8 000. An Instagram account was started in September 2021. As with Facebook, the purpose is to reach out with research results in a further channel. The number of followers in May 2022 was just over 700.

Figure 4. Number of page views for the forskning.se website during 2017–2021

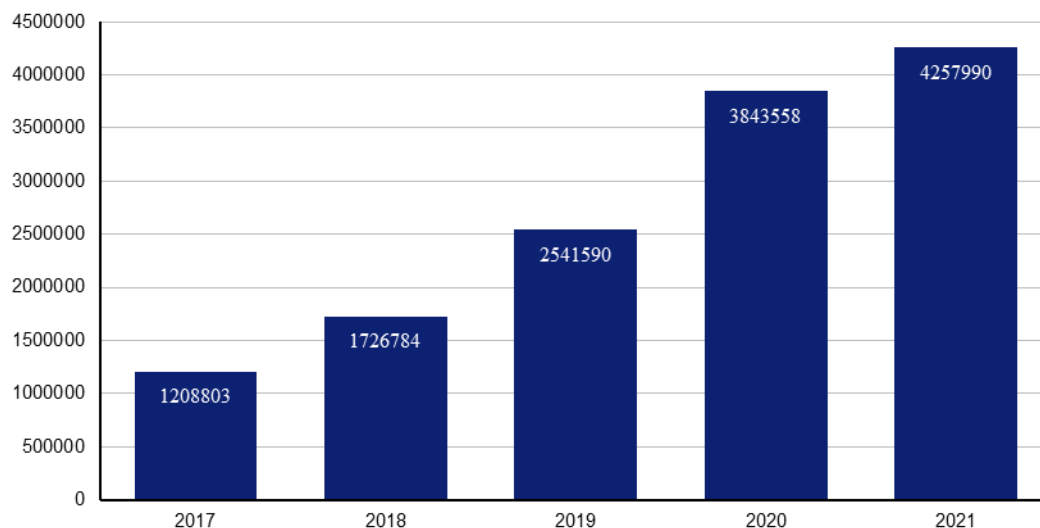


Figure 4. Statistics for the number of page views on the forskning.se website over the last five years shows that they have increased year by year. In 2021, the number of page views was more than 4.2 million. Source: Google Analytics

Users

The primary target group for forskning.se is the general public, but journalists and school pupils are also frequent users.

The most recent survey of visitors to the website dates from 2018. Questions were asked via an internet survey that could be reached via the website or the newsletter, and it was active for two weeks. 1 065 persons, primarily subscribers to the newsletter, answered the survey. The answers show that around two thirds visit the website because they want to find out the latest news in research. One third are primarily seeking specific facts. The readers are highly educated (80 per cent have at least a university degree), 60 per cent are women, and half are less than 50 years old.

Of the visitors who answered the survey, 91 per cent agree wholly or in part that the contents are interesting. 93 per cent agree wholly or in part that the contents are easy to understand. Free text answers to the question of what the respondents found particularly worth reading stated medicine and education particularly often.

Google Analytics provides a supplementary picture: the majority of the visitors (68 per cent) reach forskning.se via Google. 17 per cent is direct traffic, primarily from links in the newsletter, and the rest are visitors from social media channels, Facebook in particular.

There are, therefore, two main groups of readers:

- faithful followers (newsletters), just under one third, who are interested in the latest news in research

- “needs visitors” (via Google searches), almost two thirds, who are interested in a specific subject.

Just over half (58 per cent) visited the website via a mobile, 38 per cent via a desktop, and 4 per cent via a tablet.

Ongoing projects

The editorial team is investigating the possibility of offering niched newsletters for those who just want to read about research in a specific subject area, such as climate, health and medicine, education and schools, etc.

One section called “Understand research” is being developed. It will contain easily accessible guides for increasing the users’ knowledge about and understanding of research, and provide tools for interpreting research results.

The editorial team has asked for their Instagram followers’ questions under the heading “Ask the researcher”. The answers have been published on Instagram, with links to articles on the website. The editors would like to offer the same function, that is a question-and-answer section, on forskning.se. The question-and-answer section would be a service to users, and the answers can be spread via the website’s channels, and in this way reach many.

Forskning & Framsteg

The journal *Forskning & Framsteg* has been reporting on research and research results and on the role of research in society since 1966. As from 1979, it has been published by a foundation set up for this specific purpose. The journal is run on a non-profit basis.

Organisation and funding

The editorial team consists of subject editors with knowledge of the areas they are monitoring, plus one editor in chief and an internet editor. The articles are written either by the editors, by scientists or by freelancing science journalists. Since 2021, a project has been in progress with two scientist editors who are working specifically with encouraging researchers themselves to write for the journal.

The board of the foundation consists of members who are knowledgeable about research, journal operation and capital management. The board is appointed by a council with representatives from organisations that support the journal financially.

Around three quarters of the income comes from either subscription fees or to a lesser degree from fees from events, advertising and sales of single copies.

Around one quarter of the income consists of grants from 26 organisations (in 2021), of which ten are members of the board of the foundation and are known as ‘stakeholders’.

Purpose

The purpose of the foundation is to publish the journal *Forskning & Framsteg* in order to spread information about research and research results, and also the role of research in society.

Contents

The stories the journal writes about are in the first instance meant to interest society as a whole and individuals. Part of the content is based on societal issues, and answers them by letting researchers from several disciplines have their say. The editorial material shall be understandable also for non-experts, and shall increase the readers' interest in research and knowledge. The journal is published ten times per year, and the website is updated every weekday.

Channels

In addition to the printed journal and the website fof.se, it is possible to listen to selected articles and interviews with researchers via the journal's podcasts. The journal can also be read via a proprietary app and on Readly. Forskning & Framsteg has channels on Youtube and Tiktok. The journal is active on Facebook, Instagram and Twitter. The journal also produces company events and knowledge travel.

Readers

The target group is the interested general public. In 2021, the journal edition including digital reading on PDF was 24 000 per issue. Each month, around 130 000 persons read the journal. The website fof.se had around 200 000 visitors per month on average in 2021. 57 per cent of the readers were women, and 43 per cent were men. An important professional group among readers are teachers at primary and secondary schools, upper secondary pupils and university students.

Expertsvar/Expert Answer

Expertsvar/Expert Answer is a two-part service for journalists: one part where they can ask questions and get help to find the right researcher, and one part for subscriptions to press releases. The service has been available since 2000, and was initiated by press communicators at the HEIs in Sweden. Since 2001, the Swedish Research Council has been running the service.

Organisation and funding

Journalists can register and get a login that enables them to ask questions. Questions received are sent out in a collective email two times per day to a network of science communicators and press secretaries. An editor at the Swedish Research Council coordinates the service on a part-time basis.

The network consists of around 360 communicators at all universities, most university colleges, a number of research institutes and other research funding bodies. They receive the emails, check whether they have any experts who can answer the questions, and then pass on contact details.

The network meets two times per year, and also has a joint Facebook group. The organisations that are part of Expertsvar/Expert Answer each contribute 11 000 SEK or 16 000 SEK per year, depending on their size.

Contents

The answer function is central to Expertsvar/Expert Answer. It also publishes press releases (1 445 in 2021) on Expertsvar.se from the organisations that are part of the network. Journalists can subscribe to news items/press releases in

different subject areas. The press releases are also passed on to forskning.se, and some of them are published on Expertsvar/Expert Answer's Twitter account. Expertsvar/Expert Answer also links to the HEIs' list of experts in different subject areas, for example experts on COVID-19.

Users

Around 5 000 journalists are registered users of Expertsvar/Expert Answer. Civil servants working for the Riksdag's investigation service (RUT) can also use the service. In 2021, 637 questions were asked, generating 1 410 answers. Approximately every fifth answer is clearly reflected in editorial material¹⁴, according to investigations carried out by the University of Gothenburg.

Expertsvar/Expert Answer collaborates with two similar international services: IDW, *Informationsdienst Wissenschaft*, where 233 press releases from Expertsvar/Expert Answer were published in 2021, and *AlphaGalileo*, where the HEIs themselves can upload their press releases.

Development opportunities

The editor sees opportunities to develop Expertsvar/Expert Answer into a joint press service based on the needs of the associated organisations. This could, for example, offer a database with researchers to interview, a press room, briefings on topical subjects, meetings between researchers and journalists, and better statistics for publications.

Curie

Curie is an internet journal monitoring research issues published by the Swedish Research Council. It raises issues such as research policy, the conditions of research, and everyday life of researchers. *Curie* began publishing in 2012, and then replaced a number of other journals and websites operated by the Swedish Research Council.

Curie is aimed at researchers, persons with doctoral degrees outside academia, and others working on research issues. The journal consists of 50 per cent editorial articles, and 50 per cent of articles written by columnists and input into debates.

Almost 14 000 persons currently subscribe to *Curie*'s newsletters. Most of the visitors to *Curie* come via Google (just over half), or the journal's newsletter (almost one quarter). Around one tenth find it via social media, and the same proportion seek out the website direct.

The editorial team consists of one chief editor (full-time) and two editors (full-time and part-time respectively). Freelance journalists also take part in the work on the journal. An editorial council is linked to *Curie*, with representatives from HEIs, research funding bodies and other actors in the research world.

Vad vi vet

The internet journal *Vad vi vet* ("What we know") summarises and passes on facts and the state of knowledge on topical issues. The purpose is to use

¹⁴ Other types of contacts can also lead to journalistic articles, but without it being clearly shown that a certain researcher has contributed to the content.

explanatory journalism to give increased understanding of the world and counteract polarisation in society. A lot of the material is freely accessible, but a subscription is required to partake of certain sections. The internet journal is operated by Vad Vi Vet Media AB, and Per Grankvist is the majority owner.

Anekdot

Anekdot (“Anecdote”) calls itself a digital educational magazine. The magazine started in 2019, and is an editorial development of *Bildningspodden* (“The Education Podcast”), which has existed since 2015. *Anekdot* wants to spread humanities academic knowledge to a broad section of the public, and is a collaboration between the Faculty of Humanities at Stockholm University and the Royal Swedish Academy of Letters, History and Antiquities.

The magazine consists of *Bildningspodden*, the conversational magazine *Studio Anekdot*, essays, the classics podcast *Verket* (“The Work”) and filmed micro-lectures called *Anekdot förklarar* (“*Anekdot* explains”). All the material is freely accessible.

Nine persons are linked to the editorial team. *Anekdot* has an editorial council consisting of 16 researchers at Stockholm University, and a publication council with four experts from the cultural sector and four from academia.

Extrakt

The research council Formas publishes the internet magazine *Extrakt*. The magazine is aimed at all who need or want to stay up-to-date with research relating to sustainability. The aim is to use popular science journalism to show how research in the area of sustainability can solve various societal challenges. The editorial team, consisting of four persons, is independent in its reporting.

Vetenskap & Hälsa

Vetenskap & Hälsa (“Science & Health”) is a website informing about research in medicine, health and healthcare science in Skåne in a simple and factual way. A magazine with the same name is published two times per year, and can be ordered in a printed version or downloaded as a PDF. The texts and magazine are free to read, and there is also a podcast.

The magazine was first published in 2004. The purpose is to strengthen the development of health and medical care and of clinically focused medical and health sciences research in the region. The website aims to serve as a source of information and contacts with researchers for all interested parties. The material is written by journalists working on behalf of *Vetenskap & Hälsa*. The edition is around 10 000 copies.

Vetenskap & Hälsa is a co-funded collaboration between the Faculty of Medicine at Lund University, Malmö University and the healthcare managements within Region Skåne.

Wikipedia

Wikipedia is an encyclopaedia on the internet that is being developed with the help of its users and of anyone who wants to contribute worldwide. The

encyclopaedia is available in more than 300 languages. The Swedish language Wikipedia contains more than 2.5 million articles, and each month around 160 million page views are opened.

As the service is so large and well-used, Wikipedia articles are often shown high up on the hit list when searching on the internet. To reach out widely with new research results and descriptions of research, it may be wise to put information about them onto Wikipedia.

2.6 Knowledge banks and resources

This section describes some Swedish databases and other summaries of information that may be useful for future collaboration on communicating research.

Kommuniceraforskning.se

VA (Public & Science) has gathered together descriptions of a number of methods, concepts and formats for communicating research to the general public on the website kommuniceraforskning.se. The different sections have been developed by actors all over Sweden within the framework for the science festival European Researchers' Night. Some of the material can also be found in European Science Engagement Platform, which was developed by EUSEA (the European Science Engagement Association).

MIK Kunskapsbank

The Swedish Media Council coordinates MIK Sweden on behalf of the Government. The purpose of this national network is to strengthen knowledge of media and information among all in Sweden.

The MIK network's knowledge bank (statensmedierad.se/mik-sveriges-kunskapsbank) has information about subjects such as mass media, social media and source criticism. The material comes from four actors in the network: Digiteket/National Library of Sweden, the Swedish Internet Foundation, and the Swedish Educational Broadcasting Company (UR).

Research databases

There are several Swedish services in the form of open databases that gather together information about research at Sweden's public research institutions.

SwePub

SwePub is a service that makes it possible to search among articles, conference contributions, theses and so on, published at Swedish HEIs and public agencies. It includes references to research publications in the publication databases of around forty Swedish HEIs and other public agencies. The service (swepub.kb.se) is operated by the National Library of Sweden and is free of charge.

Swecris

Swecris is a national database for research projects. Information is taken from 12 governmental and private research funding bodies. Swecris (vr.se/swecris) is administered by the Swedish Research Council on behalf of the Government.

DiVA

DiVA (Digitala Vetenskapliga Arkivet) is a platform, a search service and an open archive for research publications and student dissertations. The content (diva-portal.org) is produced and published at 50 Swedish HEIs and research institutes. It is operated by Uppsala University.

3 Media's views on research

Part of the work on this report has consisted of identifying the challenges and needs of journalists in conjunction with news reporting about research and interviews with researchers. This chapter reports on what has emerged from interviews with individual journalists and the heads of editorial teams for news.

3.1 About the subsidiary study

Over the last few decades, the media industry has been challenged and changed by digitisation, social media and new media habits. This has entailed great pressure on media groups, which have had to become more efficient and to employ new types of competences. In recent years, the advertising market has been taken over by the technology giants, and newspapers have become more dependent than before on subscriptions.

But the pandemic years of 2020 and 2021 caused a rise in the use of media, see Section 1.3. Many news media are now employing more journalists, and are increasing the number of reporters monitoring science. Most of those who report on science are still general reporters, however, with varying backgrounds. Their working days are spent reporting on widely differing subjects, based on classic news evaluation. These are the journalists we are primarily focusing on.

How the study was done

During spring 2022, 19 qualitative interviews were held with science journalists, editors, editorial team leaders, chief editors, general reporters and freelance journalists. One further journalist responded via email. The interviewees work with evening papers, morning papers, regional daily papers, local free papers, weekly magazines, television, radio and news agencies. Two freelancing journalists were also interviewed, as well as representatives of the Swedish Media Publishers' Association and the Institute for Media Studies.

The interviews were carried out via Zoom or telephone, and lasted 30–45 minutes. The short format was deemed to be a precondition for enabling the interviewees to participate.

Limitations

The primary focus was on editorial teams and journalists involved in broad-based news reporting that also included science. Specialist journals, such as *Dagens Medicin* and *Allt om Psykologi*, were not part of the study. Representatives of private radio and television channels were not interviewed, with the exception of TV4, which is an important news mediator for broad population groups. Nor have blogs, influential social media accounts, podcasts or influencers been part of the study, even though these are important channels for information and entertainment for many, in particular young persons.

In other words, the subsidiary study has not had the ambition to carry out a complete review of science journalism in Sweden.

3.2 The media industry in Sweden

Increased investment in journalism

After a decade of efficiency measures and cut-backs, the media groups have started investing again and are recruiting more journalists. According to the industry association the Swedish Media Publishers' Association, it is considered difficult to recruit competent personnel; both experienced journalists and persons with technology competence.

The science editorial teams have also been expanded with more science journalists. Even before the pandemic, an increasing interest in science was noticeable, and during the pandemic the interest has increased further. This also emerges from the surveys carried out by VA (Public & Science). In 2021, 63 per cent of Swedes read science news items every week, compared to 53 per cent in 2019, according to the latest VA barometer (see also Section 1.2).

The study *Kommunikation om corona* ("Communication about COVID-19"), which was carried out in 2020–2021, also showed that the primary source of information (about the coronavirus) for the Swedish general public were traditional news media, such as television, newspapers and radio.

How science is monitored

Most journalists are general journalists without specialist competence, but some of the larger media groups have special science editorial teams.

Science editorial teams

Within public service broadcasting, there are two major science editorial teams: Swedish Radio's editorial team in Uppsala has around twenty employees, and Swedish Television's editorial team in Stockholm has ten employees.

The news agency TT's editorial team includes three science journalists – two focusing on medicine and one focusing on climate issues.

Science journalists are also employed at the newspapers *Dagens Nyheter*, *Svenska Dagbladet*, *Sydsvenskan* and *Expressen*, and by the commercial television channel TV4. In spring 2021, *Dagens Nyheter* strengthened its science team, and formed an entirely new editorial team with specialist knowledge in areas such as medicine and climate. In the same year, *Svenska Dagbladet* also expanded its science editorial team with one science reporter and one science editor. TV4 set up a science editorial team in 2019, consisting of three persons with differing specialist competences.

Media without science editorial teams

For editorial teams without any in-house monitoring of research, the news agency TT is an important source. Many news mediators partake of their press releases and republish their articles.

The regional daily newspapers rarely have the option of specific science editorial staff. Of those interviewed, *Sydsvenskan* has a climate and environment reporter and a research and science reporter, who monitor research as part of their jobs.

Nya Wermlands-Tidningen has a journalist with time allocated in their work to write about climate issues.

Aftonbladet reports on research in news articles, in particular about medicine and the Nobel Prize. The newspaper also picks up news stories passed on by TT or other media. When they write themselves, the initiative often comes from the research community. Many of the reporters have a special interest and their own contacts with researchers. The editorial team also works on creating direct contacts between experts and readers through chats approximately once per week. Many researchers appreciate answering readers' questions direct.

Several collaborations are going on between media editorial teams and researchers. Some examples: *Smålandsposten*, *Ystads Allehanda* and *Borås Tidning* collaborate on essays where researchers get a relatively large amount of space. *Sydsvenskan* collaborates with Malmö University and invite readers to a quiz every week. *Bonnier News Local*, with local and regional papers across the whole of Sweden, publish a column each week written by a researcher in 24 of their papers.

Local reporters do their news evaluation based on what is interesting to the inhabitants in the local community they are monitoring. What determines whether a news item is topical for publication is whether it has a local connection and is relevant for the reader. Here there is no monitoring of research. Writing about research becomes topical primarily if it is about a researcher from the local area. Yet the local reporters interviewed are still positive towards reporting about research that can contribute perspectives and more in-depth information on topical subjects. This might, for example, be about forestry, farming, the environment, traffic issues, school issues, or other subjects that can be linked to the local issues being monitored.

Lifestyle magazines have clear content categories, such as health, exercise, psychology and relationships. They are primarily looking for interviewees who can personify subjects brought up, but often also include experts who provide in-depth information on a particular issue, and guide readers onwards.

Reduced advertising

In recent years, the advertising market has been taken over by the international technology giants and social media companies. According to the Swedish Media Publishers' Association, a sector organisation, newspapers' income from advertising fell by 51 per cent from 2010 to 2021. Over the same period, overall advertising spend increased by more than 40 per cent in Sweden. The most important source of income for daily newspapers is therefore subscriptions. The development contributes to a focus on what readers are interested in, which is seen as benefitting quality journalism. But it also means that those who wish to read news on the internet are met by more paywalls than before. Public service television and radio is free, but does not offer local journalism in the same way as local and regional daily newspapers.

Fragmented news consumption

A large proportion of the general public value professional journalism where the news items have been through the editors' news evaluation, assessment of credibility and source criticism. At the same time, many are de-selecting news

media. A survey carried out by Novus on behalf of the Swedish Media Publishers' Association shows that access to news via free-of-charge digital sources is the most common reason for not subscribing to a newspaper.

At the same time as an increased interest in quality journalism can be seen, a number of alternative “news media” with a clear political, populist or polarising agenda have been established.

Challenge to attract younger people

A major issue for regional daily newspapers is how to reach the target group of younger readers (under 35 years of age). This group does not subscribe to a newspaper to the same extent as older generations, and they are not as faithful subscribers. To get to know this group, a survey was carried out named 2018 Beta Borås, a collaboration between *Borås Tidning*, the Media & Democracy programme at Lindholmen Science Park, RISE Interactive and Södertörn University. The conclusion of the work was that the target group appreciates a focus on public education, with facts, new forms of storytelling and more perspectives.

Interest in quality journalism

The increased dependency on subscribers, the focus on younger readers and the competition with other sources of information that digitisation has entailed has led to greater interest in quality, in-depth stories and overarching issues.

Content that only a few decades ago could mostly be found in local papers – cinema advertising, television schedules and family pages – have now moved to other channels, such as websites and social media. At the same time, an overload of entertainment can be found in mobiles. What the papers have left to compete with are good journalism, but this is also the type of content that is the most expensive to produce.

An editor-in-chief explains that news reporting has switched from one-sided journalism, where the story is, for example, about a crime that has been committed, to an ambition to describe and explain overarching tendencies and societal change, such as how criminality has changed over time. This entails an increased need to have researchers and other experts taking part in the reporting. The stories are often about complex societal issues, such as immigration and integration, antagonism between city and countryside, or climate change.

“These are difficult subjects, polarising subjects, that I think that we in the media find difficult to address, as they are so difficult to describe, and here I feel that research can contribute a lot.”

Highlighting topical, complex societal issues, starting from research and empirical findings, and questioning – these are activities that are seen as strengthening the paper's credibility. The security policy situation has given rise to many contacts with researchers on defence issues, and the corona pandemic has been described as “a Renaissance for science journalism”. At the same time, few editorial offices have the option of employing science journalists or other specialist reporters.

Another editor-in-chief agrees to the picture of an increased focus on quality and in-depth reportage in journalism:

“This is undoubtedly so. What we have noticed is that is that it works commercially; then you also bring owners and financiers onboard.”

The interest in greater quality is not just noticeable in news journalism. An editor-in-chief of a magazine aimed at women confirms this view. The magazine is now involved in a digitisation process, where all material is first published online. This has resulted in a broader target group, and also greater competition:

“We will want to include more research and weight in our material. This is needed if you are to join the digital battle.”

TV4's *Nyhetsmorgon* (“*News Morning*”) works actively on inviting researchers to the studio. The subjects can vary widely, and are based on topical issues. During the pandemic, they were often about new research findings and healthcare. They also have a physicist who takes part in the programme once a month. Most subjects can be described in a way that interests viewers, but a crucial factor is finding persons who can simplify the subject in such a way that viewers understand it – in a very short time. They are constantly looking for persons to include in the programme.

3.3 Use of Expertsvar/Expert Answer and forskning.se

During the interviews, questions were asked about impressions and use of the website forskning.se and the service Expertsvar/Expert Answer. These are described in greater detail in Section 2.5.

forskning.se

Most of the people interviewed were aware of forskning.se. Some use the website actively and appreciate getting an overview of what is happening at different HEIs, getting ideas for what can be reported on, and subjects to do more in-depth studies of. One science reporter also used forskning.se to find out which researchers are making statements, and what perspectives they might bring with them.

Others do not use it actively, but land on the website now and then via internet searches. One person interviewed thought that the website contains old news, and therefore preferred getting advance information when new research is about to be published.

Local journalists did not know about forskning.se, which might be explained by their local focus on news monitoring.

Expertsvar/Expert Answer

Most interviewees are aware of Expertsvar/Expert Answer and many appreciate the opportunity to ask questions and get answers from HEIs and other research actors across Sweden – when they have the time. It takes a couple of days to get an answer, and journalists often work to tight deadlines. One person responded that it is valuable to be able to contact Expertsvar/Expert Answer with an approximate idea of what you want to do and to get help, while another considered that it was a way of getting more experts to give their views, so that

you do not call the same person every time. How well the service works was thought to be determined by how engaged the communicators answering are.

One interviewee did not think the service works well:

“I can’t get hold of the experts I want to talk to when I want to talk to them. But perhaps it is the case that we ask the questions in the wrong way.”

One interviewee had used Expertsvar/Expert Answer for 20 years, and had benefited greatly from the service, but felt that in recent years Expertsvar/Expert Answer had required increasingly specialised question, and that the answers were not as comprehensive as they used to be. To begin with, the questions could be worded rather broadly, for example when writing a series of articles, and the answers could include tips from several research fields.

Although most appreciate the service, requests were made for an option to easily find contact details for researchers, to get in touch quicker.

3.4 News monitoring

Journalists find news stories in many different ways. They monitor what other media are reporting on, and what is being discussed in society and on social media. Press releases and personal tips are appreciated, but the sheer amount of tip-off emails means that press releases need to be sharp and well written in order to be picked up.

Journalists often work under time pressure, and want to be first out with a news item and to publish exclusively. Advance information about new research results, direct contact with researchers and exclusivity are appreciated. To find experts who can comment and deepen the journalist’s understanding of a subject, well-established contact networks are often used.

Journalists who want to find information on a subject carry out wide searches on the internet services Google, Youtube and Wikipedia. The lists with tips about researchers and subjects that HEIs send out in conjunction with high feast days, before the summer break and special news events were often spontaneously mentioned in the interviews, and are very appreciated.

Science journalists also subscribe to information from the major scientific journals, such as *Science*, *Nature*, *Lancet* and others, for example via the service *EurekAlert*, where they receive embargoed advance information about upcoming scientific publications.

3.5 Challenges and needs

Most journalists are general reporters with varying educational backgrounds, reporting on widely differing subjects, even if they do have room to also monitor specific issues that they are particularly interested in. They often work under time pressure, with tight deadlines.

The selection of news items is done using a news evaluation based on current events, societal debate and what the target group is interested in. The journalists

interviewed were in general interested in including research in their reporting, but thought that it can be difficult to identify what piece of research is interesting and relevant, to find the right persons to interview, and to express themselves in a simple way.

Finding research

Journalists are always interested in tips and ideas about what they could report on. A platform for finding ongoing research and new research results would be welcomed by many. A recurrent wish is to be able to filter, or to search for very specific categories or subject areas. This would also be helpful in finding research linked to the particular question they are currently working on.

The ability to partake of research reviews and obtain an overall picture of the state of research in different areas was requested, as was getting an overall picture of previous and ongoing projects, including long, interdisciplinary projects and collaborations between HEIs.

Finding researchers

When a question arises, journalists want to be able to quickly find a subject expert who can contribute information, depth and comments. Finding the right persons, knowing what they can talk about, and how to reach them is often perceived as difficult.

“If I know that it is a molecular biologist that I am looking for, then it is not that difficult to find a person to interview. But if I have read a claim that RNA vaccine can contribute to DNA changes and want to write something about this, how do I then find the right person?”

The most difficult task seems to be finding experts who can provide background information and an overview of broad issues:

“I often have the feeling that I haven’t found the right person. I have found a person who is good enough, but is it the right person?”

Because of the time pressure, many want access to contact details, so that they can contact researchers direct. Failing such a database, many journalists use their contact networks and often call persons they have interviewed before and who they know can express themselves in a way that works for the audience. For this reason, the reporting risks being one-sided, both because the same experts take part time and time again, and also because researchers sometimes make statements outside their area of expertise.

At the same time as several point to the problem with researchers who make statements outside their core expertise, it is also thought a problem that researchers do not want to make a statement about issues where they actually do have knowledge. Sometimes, potential interviewees turn down taking part, saying that there are others who know even more about the issue.

More researchers being visible in the media could mean more perspectives and a broader representation of who is visible in the role as researcher.

Communicating research and understanding each others' roles

In addition to identifying research that is interesting to report on and finding the right researcher to interview, it is a challenge to find persons who can communicate about research in a simple way.

“It is really important to include research, but researchers are impossible to interview! They can't explain in a way that you can understand.”

This is particularly important for media that work with a moving image. TV4 *Nyhetsmorgon* spends a lot of time trying to find experts who can take part in the studio. Most subjects can be raised in the programme, provided you find the right register and start off with an approach that interests the viewers. Participants are offered tips and coaching, but even so it happens that an interesting subject is left out because there is no person available who can explain it in a good way. Also, not all experts want to take part in a live broadcast.

Journalists have readers, listeners or viewers in focus for their reporting, which impacts on the angle and the language. In contacts with researchers, who are used to a different level of abstraction, a different way of working and an expert terminology, problems can arise. Journalists are also keen to choose the angle and selection independently in their reporting. A certain frustration over differing views emerged from the interviews:

“You can get into a discussion about detail, where we want to simplify for the sake of the reader, but the researcher doesn't think we are giving the whole picture.”

4 Need for research-based knowledge

What is the need for research news among different groups in society? We investigated this as part of the pilot study. The general public, decision-makers, journalists, young persons, teachers and the education and research sectors are the target groups thought to be the most important to provide with research news and research-based knowledge.

4.1 General public

The general public's need for research-based knowledge was investigated both using a user study and also a workshop with librarians. Some results from VA (Public & Science)'s annual surveys of the general public's view of science and researchers may also be relevant (see Section 1.2).

User study

To investigate the general public's need of a platform that gathers together articles and other material about research, the Swedish Research Council commissioned the company Knowit to carry out a user study.

The study results are based on eight interviews and a workshop with persons aged 18 to 66 years, living in southern and central Sweden. The participants were selected with the help of personnel at the Swedish Research Council and VA (Public & Science).

Interviews

The interviews asked open questions about user patterns, how users search for and absorb information, and what their views were on source criticism and credibility.

All users used the internet daily, usually several times per day. All used their mobiles to surf the internet every day. All but one also had a computer. Around half used a computer for work, and therefore used it frequently. Those who did not use a computer for work used it more sparingly and at specific times.

There was great variation in the type of information that was the most interesting to the participants. They also had differing preferences for how they preferred to receive information. Reading was the most popular, but some preferred listening or watching a film.

Nobody had any general problem receiving information via text. But some pointed out that it is more difficult to understand if the text is difficult to read with many academic terms.

Many of the participants thought that video is a format that works well for educational purposes. But the films should preferably be short and concise, and most appreciated subtitles.

Nobody mentioned that the credibility was affected by the type of medium (text, film, audio). Nor did anyone have any need to save information – they considered that it would be easy to find the information again if the need should arise. Browsers were used to search for information rather than apps.

All stated that they find information on the internet via a search engine, and half also mentioned that the information can be found via various social media. The majority used headings to orient themselves in the information they found. Some also read short sections and one or two used the browser's own search function to find the information they were interested in.

Nobody searched specifically for information about research. The research they partook of is the research that pops up on their social media channels or via news flows. Many also mentioned tips from friends and acquaintances as an entry route to research. The majority stated that when they found research that is interesting, they might continue googling the subject.

None of the participants thought that anything was lacking for them to partake of up-to-date research. But most agreed that the greatest problem was finding the research. There was no natural channel to search in. Some also had the idea that research is complicated to absorb, because it used specialised language.

The participants were not used to visiting forskning.se or other platforms that publish information about research. If they were to start doing so, then it would need to be easy to find the information. The following wishes were stated:

- It would be good if the information was available as an app.
- There must be information that appeals to me and affects me and my life.
- It would be interesting if there were short films.
- It would be a good idea if the platform was available both as a website and as an app – then it would feel more serious and it would be easier to partake of the information.
- Great presence on social media would be needed to discover the platform.
- Consider a member page, so that you can sign up to receive notices and newsletters.

The majority checked the source the information came from, and many described that they made a first assessment based on how the text was written – it must be objective and based on facts rather than opinions. One participant assessed the seriousness based on the design of the website. Who the author/publicist is was also of great importance to most.

Sources felt to be trustworthy were:

- public service, SVT (television) and P1 (radio)
- Swedish news media, type SVT and *Aftonbladet*
- public agencies
- tips from teachers
- objective websites
- when there are source references in the text.

All participants generally have great trust in articles about research. Some mentioned that they do not check up on a research article in the same way as for an ordinary news article. The majority did, however, emphasise that it is important that there are references to the original study and possible to see the background information and draw their own conclusions based on these.

Workshop

To complement the interviews, a workshop with four participants was held. The purpose was to investigate any need to regularly visit a platform publishing information about research.

These wishes and views on content were stated by the participants (similar answers have been joined up to form one item):

- links to research that is relevant to both the general public and persons with more knowledge
- easily navigated website
- categorised and divided up by subject
- free of charge
- It must feel welcoming, so that “an ordinary person” can understand what it says without complicated terms.
- engaging
- up-to-date and content that matters to me
- interesting and topical articles
- “This is happening in the research world” – so that you can stay updated.
- varying length of information
- easy to read, and preferably with lists and images that are relevant
- Information that you can relate to, for example common health problems or research about relationships.

In answer to the question of possible activities and services, the following wishes and views on content were stated (similar answers have been joined up to form one item):

- recommendations about similar material: Others who read x also like y.
- search engine after words with option to specify +, AND, NOT
- option to save articles for reading later
- option to follow a specific writer or researcher and partake of a flow of that person’s articles
- suggestions for new research fields for subjects that matter to me
- brief summaries
- number of readers of a certain article
- sort and filter the material, for example by category, popularity and type (video, text, audio)

- printing function/PDF of article

To make the platform known and used, the following was proposed (similar answers have been joined up to form one item):

- visibility at departments, schools and universities
- social media
- search engine optimisation to end up near the top of Google's search results
- collaboration with well-known profiles
- information in workplaces
- open lectures, educational programmes and courses

Librarians

To get further perspectives on the general public's needs and wishes, a workshop was arranged in May 2022 with six representatives from school libraries, public libraries and university libraries. Interviews were also held with representatives from the National Library of Sweden and the Swedish Library Association. The suggestions that emerged are shown below.

Suggested contents

- Adapt material and make it simpler for young persons/pupils.
- Explain what science is, and how research is done.
- Use different formats, not least video clips.
- Make thematic summaries.
- Remember that it is the subject that is interesting, rather than the research!
- For libraries, research into child language development, the importance of reading aloud and school libraries is extra relevant to read about and pass on.
- Make the material accessible in larger minority languages.

Suggested services

- Offer niche-targeted newsletters.
- Link to citizen science projects that people can take part in.
- Offer filmed author discussions and seminars with researchers.
- Offer visitors a choice of level of difficulty of material.
- Give options to ask questions and get answers from researchers.
- Think inclusively – collaborate with minority groups.
- Curate and summarise what is already there.

4.2 Media

Swedish media have a great need for and interest in partaking of and passing on research-based knowledge. This emerges both from the interviews with representatives for media, as reported in Chapter 3, and from the interviews with Swedish actors that communicate research.

Wishes of media representatives

The needs and wishes highlighted by many representatives from the media are described below.

Database of researchers

Being able to find researchers who can comment on a specific subject or a specific event, and to find their contact details oneself are two common wishes. The journalists interviewed would like to see a database where they can search using common words and find researchers who can tell them about their specific subject. The researchers should preferably also be able to explain research in a simple way. It would be an advantage if it could be shown whether the researcher was prepared to appear on television/radio, as such a note would save journalists a lot of time.

Categories and editorship

Forskning.se has subject categories, but these could be further developed and specified. Specific categories could also be designed for different types of journalists and other target groups, so that they can easily find subjects that are interesting to them.

With an active editorship and collaboration with HEIs, forskning.se could highlight subjects that are topical in societal debate, news reporting or for people's everyday lives, with links to research and researchers who can comment.

Competence development

Journalists welcome information material, guides, digital courses and opportunities to invite educators for competence development. Special requests were made for a glossary of research terminology, concrete guides and checklists, for example for reporting on statistics and interpreting research reports.

Shorter and longer courses in reporting on science, as well as opportunities to gain in-depth knowledge in a specific area, such as climate or medicine, would be useful. Such courses are already being offered by the Fojo media institute, which forms an independent department at Linnaeus University in Kalmar (see Section 1.5).

Meetings with researchers to get an overview of a certain research field, obtain greater understanding of scientific methods and opportunities for discussion would also be interesting to journalists.

Swedish actors' contacts with mass media

It emerges from the interviews with actors that journalists are a prioritised target group for communicating to about research. This applies for HEIs as well as for academies, non-profit organisations, public agencies and research institutes. In a small survey about communicators' views on researchers' communication that VA (Public & Science) carried out in 2019¹⁵, 95 per cent of 154 communicators answered that journalists at daily newspapers/radio/television form an important group to communicate with.

¹⁵ [Researchers' views on communication and open science in Sweden – a summary of VA report 2019:8](#)

4.3 Schools

According to Swedish school legislation (Skollag 2010:800), education shall be based on scientific grounds and tried-and-tested experience. This means that both personnel and pupils need research-based knowledge that is credible and easy to understand. To determine the needs of schools, discussions have been held with individual teachers and interviews have been held with the Swedish Institute for Educational Research, the Swedish National Agency for Education, the Committee for Educational Sciences at the Swedish Research Council and the network Vetenskap i Skolan (“Science in Schools”). The suggestions that emerged are shown below.

Contents

The interviewees highlight the following needs:

- reliable and easy-to-understand research-based knowledge and new findings in the teaching subjects
- simplified versions of news articles about research for younger pupils
- knowledge reviews, thematic material and statements about the research frontier in topical areas, such as AI
- descriptions and explanations of what science is, and how research is done
- popular science summaries of relevant educational science research.

Services

The interviewees highlight the following needs:

- guides to source criticism and different aspects of media and information skills
- opportunities to ask questions and get answers from researchers
- offers to participate as citizen scientists in projects
- summarising site for all school-related research and conferences.

Currently, the Swedish Institute for Educational Research’s website Skolforskningsportalen.se contains tools, aids and sources of inspiration linked to the Institute’s systematic reviews and other research summaries, intended for persons working in schools and pre-schools.

The Swedish National Agency for Education’s website skolverket.se offers both the Agency’s own evaluations, analyses and studies, and also other summarised research in the educational field. It also offers articles and links to materials about research results relevant to schools.

4.4 Education and research sector

The interviews with Swedish actors showed that both researchers and communicators have needs for competence development and further education in communication. Some actors also wished for a summarising site for sector news.

Researchers

Researchers were not interviewed within the framework for the study. On the other hand, a survey from 2019¹⁶ shows that most of the interviewed researchers active in Sweden did not feel sufficiently well equipped to communicate with other parts of society (see also Section 1.4).

The interviews with the actors show that many want and try to support and coach researchers when they are to communicate outside academia. Different actors, primarily HEIs, develop short courses, programmes and guides, but national coordination and best practice guides are lacking.

Communicators

Communicators are a professional group that has grown considerably in recent years, both in society as a whole and at the HEIs in Sweden. However, those who work with science communication rarely have training in this particular field. Sweden has many academic programmes in media and communication science, but none that specifically offer education in science communication.

In our interviews with actors, many express a wish for short courses and webinars to develop the competences of communicators. Several highlight the annual conference *Forum för forskningskommunikation/Forum for Science Communication* as an opportunity for further training and networking with others who communicate about research.

¹⁶ [Researchers' views on communication and open science in Sweden – a summary of VA report 2019:8](#)

5 Looking abroad

To gather inspiration and guidance, we have investigated what is done in other countries, primarily in Europe. We have looked both at initiatives to coordinate communication and reporting about research nationally, and also at different ways of supporting and implementing science communication. The initiatives that we found the most interesting are described in this chapter.

5.1 National initiatives in other countries

This section describes national collaboration initiatives with major impact, where actors work together to make research and research results accessible. Representatives of the initiatives were interviewed and their websites were gone through. The initiatives are arranged according to host country and are presented in brief in terms of purpose, content, target group, content/working method, organisation and funding. Longer descriptions are provided in the appendix. Two particularly interesting initiatives were also visited and are described in greater detail: the Danish *Videnskab.dk* and the Norwegian *Forskning.no*.

All platforms have had increasing numbers of visitors in recent years, probably as a result of the COVID-19 pandemic and the general public's need for reliable, research-based and evidence-based knowledge. However, there are some signs that the number of visitors is decreasing again.

Belgium: Daily Science

Daily Science (dailyscience.be) is an independent internet journal that aims to make Belgian research news accessible to the general public. The content is in French, and consists of news articles, researcher portraits, films, photographs and a planned podcast. One news item about research and innovation occurring in Belgium is published every day. The internet journal started in 2014 by a science journalist and freelance journalists are used to produce the content. It is funded via grants from official actors and income from journalistic services.

Denmark: Videnskab

Videnskab.dk offers independent news about science in Danish. The editorial team is Denmark's largest science editorial team, and Videnskab.dk is the widest read science publication in Denmark. The vision is to make the Danes wiser and to create greater interest in science and knowledge – in society as a whole and in particular among young persons.

History

Videnskab.dk originated in a thinktank about understanding research, aimed at giving the population better insight into and greater understanding of the importance of research in the modern knowledge society. In 2004, the thinktank produced the report *Forsk og fortæl* (“Research and describe”), which included a number of recommendations for measures to achieve this. Videnskab.dk started in 2008 and was then located at the Technical University of Denmark. In 2013,

the platform changed its hosting institution to the Danish School of Media and Journalism, which manages the administration and finances.

Since the start, Videnskab.dk has collaborated with the Norwegian website forskning.no (see below), which was also the inspiration for the Danish platform. The websites exchange contents, and in 2009 established the joint platform, ScienceNordic.com, which publishes texts in English to an international audience. Since 2020, this website has however been operated solely by forskning.no.

Organisation and funding

Videnskab.dk is an independent and non-affiliated internet publication, with an editorial team and an editor-in-chief. In legal terms, the organisation is linked to the Danish School of Media and Journalism. Because of Danish legislation, EU rules for government support and the need of the platform to charge for certain services, it has not been possible for Videnskab.dk to become an independent legal entity, which entails both advantages and disadvantages. The advantages include access to finance and HR departments, help with administration, opportunities to carry on commercial activities and to deduct value added tax. The disadvantages include a larger bureaucracy, lack of an independent board, and the risk of not being perceived as independent.

The Danish Ministry for Higher Education and Science supports Videnskab.dk. The governmental support amounted to 6 million DKK in 2021, and then formed around half of the income. To fund the journalistic activities, Videnskab.dk offers a range of services that they either charge for, or operate with the help of project grants. Project grants from foundations amounted to around 4 million DKK, and income from the sale of services to around 2 million DKK in 2021. Advertising is also responsible for a small amount of income.

Since 2018, many of the peripheral activities have been gathered together into a separate organisation, *Center for Faglig Formidling* (“Centre for Professional Training), which in 2022 changes its name to *Videnskabsbureauet* (“The Science Office”), primarily to enable them to be run independently. The journalists at Videnskab.dk do not work with the external assignments.

Center for Faglig Formidling arranges courses for researchers and journalists, in subjects such as storytelling and communication. The Centre also arranges training courses and workshops at research organisations. Videnskab.dk also administrates and markets the project *Bestill en forsker* (“Order a researcher”) on behalf of the Danish Agency for Higher Education and Science, and operates *Forskerzonen* (“Researcher Zone”) see below.

Contents

Every day, the editors publish free research news and in-depth studies, based on Danish research. The material consists of text as well as podcasts and films. The editorial team consists of around ten journalists, full-time freelancers, journalism students and interns.

Videnskab.dk monitors and writes about all subject areas, and also about topical issues where researchers are responsible for the answers. There is a subject index on the starting page, and by tagging subject words and links to relevant contents, users get tips about other material that may be relevant to them. There is also a

section called *Spørg Videnskaben* (“Ask Science”), where researchers answer visitors’ questions and the section *Forskerzonen*, where researchers’ own popular science texts, films, book excerpts and debate inputs are published.

The researchers are coached and get editorial help ahead of publishing in *Forskerzonen*. Some of the texts are also translated into English and published on ScienceNordic.com. This section of the website is supported financially by the Lundbeck Foundation.

In recent years, Videnskab.dk has published fewer articles than before. The aim is to write more thorough news articles, where more sources are cited. In 2021, 845 journalistic articles were published. In addition, 635 notices wrote about what other media were reporting on, under the heading *Andre Skrivers* (“Others write”), as well as 408 articles in *Forskerzonen* and 69 notices with news about named persons. This adds up to around 2 000 articles in a year.

Users

Videnskab.dk is one of the 30 most visited journalistic websites in Denmark, according to Kantar Gallup. The target group is the broad general public, not least those who do not normally partake of science. The aim is that a 15-year-old secondary school pupil should be able to understand the content.

The total number of page views in 2021 was estimated at 29.4 million, compared to 33 million in 2020, a year that saw an unusually high number of visits because of the COVID-19 pandemic. The number is only an estimate, however, as GDPR and Danish cookie legislation means that it is no longer possible to count the users who decline the use of cookies. The visitors are fairly evenly distributed in terms of age and geography across Denmark. Around 30 per cent are under 30 years of age.

Around two thirds of the visitors come via search engines. The editorial team is very focused on setting headings and indexing the material on the website, in order to score highly in search engines’ listings. One fifth of the visitors come to the website via social media, and the rest by writing in the internet address, via media partners, or via the editors’ daily newsletter.

The newsletter is generated automatically. The daily newsletter is sent out to around 26 000 subscribers every morning at 7 o’clock. There are also several specialist newsletters, for example one for *Forskerzonen* that is published weekly. In total, Videnskab.dk has around 50 000 newsletter subscribers.

Channels

The editorial team uses social media to reach out. The aim is to drive traffic to the own website, to spread knowledge where people are found, and to maintain a dialogue with the users. The most important platform is Facebook, where the website has 88 000 followers (in comparison, forskning.no had 129 000 and forskning.se had 8 000 in 2022). Instagram and LinkedIn are also prioritised channels, while Twitter is automated via an RSS flow.

Videnskab.dk is often cited by other media, which use the material as the basis for their own articles. Since 2016, collaboration has been in place with Denmark’s largest news agency, Ritzau, which receives news articles from Videnskab.dk for publication, primarily in local papers. Selected material is also

delivered free of charge to various digital publications for free republication, for example *Ekstra Bladet* and *Aller Media*. This is a way to reach groups that are otherwise not interested in research.

Services and development projects

In 2017, a starting page for schools was created, where they can read about things like how the editors work, and read articles in selected areas. Themes are developed together with a group of teachers. Many search for material for their teaching on Videnskab.dk. The study-administrative system Lectio, which nearly all Danish schools use, drives a lot of traffic to the website. Astra, which is a network organisation for teachers, also uses Videnskab.dk.

For Danish young persons, Videnskab.dk has started a channel on Youtube called *Tjek* (“Check”), where they publish content that addresses questions that many young persons are concerned about and provides answers with the help of researchers and short films. The channel was previously funded by several foundations, but it has no external funding for 2022 and is therefore updated rarely.

Videnskab.dk also runs a podcast, *Brainstorm*, which is about brain research and is published with financial support from the Lundbeck Foundation. The format is aimed at a younger target group.

Videnskab.dk, in collaboration with the IT University of Copenhagen and supported by Google Digital News Initiative, has developed an *Evidensbarometer* (“Evidence Barometer”). This is a feature on the website that gives users a simple and visual indication of the quality of the underlying research, and is used for articles about health in particular.

Videnskab.dk has also developed a guide to good science journalism for journalists, journalism students and communicators, based on the Videnskab.dk editorial team’s own experiences. The guide has also received external financial support, from sources such as the Danish Union of Journalists, which has also sent it out to its members.

The editorial team has also drawn up a manifest with five questions to ask yourself when you read about new research, and has carried out a project called *Nyhetsjerket* (“News Check-up”) to develop the source criticism skills of young persons.

Other Danish initiatives

In recent years, Videnskab.dk has met competition. The internet publication *Vid & Sans* started in autumn 2021 and has the ambition to deliver research-based answers to important topical questions. It has received innovation support from the Ministry of Culture and works with a commercial model where users pay for reading their newsletter.

The editorial team, which consists of eight employees, illuminate societal issues in long texts produced in close collaboration between a journalist and a researcher. The researcher is paid for their participation, and approves the final text.

The editorial team is based at Århus Universitetsforlag, which issues the publication in collaboration with Folkeuniversitetet in Aarhus. The basic idea is to create an arena where the general public and researchers can meet without intermediaries.

Another initiative is *Science Stories*, a platform for journalistic texts and podcasts, intended to inspire and increase interest in science. A long-term goal is to create dialogue and debate, where researchers and the general public meet and discuss socially relevant issues. The website was started by a group of journalists in 2019 and is supported by the Novo Nordisk Foundation.

In 2021, the Royal Danish Academy of Sciences and Letters started the training operation *Formidlingsakademiet* (“Dissemination academy”), which offers free training in science communication to researchers, both intensive courses in person and digital courses. In parallel, it produces a podcast that brings up the most important parts of the training.

The courses are a three-year project supported by the Carlsberg Foundation and the Novo Nordisk Foundation. The idea is that the course designs being developed can be used by others. They will also be described in book form.

Denmark also has Astra, which is a national centre for natural sciences that works to strengthen the teaching of natural sciences subjects in schools for the benefit of the whole of society.

Estonia

Miks

Miks.ee (“Why”) is a platform that wants to encourage young persons to be curious, ask questions and discover science. The platform has been operated by the Estonian Research Agency since 2015, with funding from the EU’s regional development fund. The content and activities are designed by two employees and one freelance journalist, with contributions from partner organisations. All content is in Estonian, and designed to suit school pupils and teachers. Among other sections there are news articles about research, reports on Estonian researchers and their work, films, and a calendar of events, competitions and exhibitions.

Novaator

Novaator.ee (“Innovator”) is an Estonian portal for research news, operated by Estonian Public Broadcasting (ERR) since 2015. The purpose is to make both domestic and foreign research news accessible for the general public. The website is supported by the Estonian Research Council, which funds two editors. They work together with two editors funded by ERR. The content is in Estonian. Every week, around 25–30 new news items are added: articles, research content from ERR’s television and radio programmes, short films and scientific explanations to questions asked by visitors.

Research in Estonia

Researchinestonia.ee is a platform for displaying Estonian research internationally, primarily for international researchers and journalists. The platform was launched in 2012 by the Estonian Research Council, and is funded

by the EU's regional development fund. Two employees and two freelance journalists work on the content, which is only in English: articles about Estonian research news, information about Estonia's research landscape and funding of research and development, an event calendar and a toolbox with information material about the Estonian research community.

Finland: *Research*

Research.fi functions as a national node that collects and spreads information about research being done in Finland. The purpose is to increase the visibility and societal benefit of Finnish research. The target groups are researchers, research funding bodies, ministries and public agencies, companies, media and the general public. The platform was launched in 2020, is funded by the Finnish Ministry of Education and Culture, and operated by CSC (IT Center for Science). Ten employees work on developing the platform, which is based on automatic integration and linking of data that is already stored in systems at universities, research institutes, university hospitals, research funding bodies, international databases, libraries and scientific publishers. The content is in Finnish, Swedish and English. It includes research news, publications, projects, calls, information about organisations, and information about research and innovation policy in Finland.

In 2022, Research.fi is in the process of developing a database with researcher profiles. The service will gather together information about individual researchers from different sources, to enable passing on information such as contact details, employers and other affiliations, CVs, research fields, expert assignments and publications. Having a researcher profile in the database is, of course, voluntary.

Luxembourg: *Science*

Science.lu is an internet platform about research that was set up in 2011, and is funded and operated by the Luxembourg National Research Fund. The main purposes is to highlight research and innovation in Luxembourg, provide support for teachers of natural sciences, and contribute scientific perspectives to the public debate.

The main target groups are the general public, journalists, teachers and young persons. Three persons, who together represent just over one full-time equivalent, work together with freelancers, a science communication agency, and a number of teachers. The content is in one of Luxembourg's official languages, and is usually translated into one further official language (usually French and German). The material consists of information about the research and innovation sector in Luxembourg, films with scientific experiments to carry out at home, content from television and radio programmes for young persons, teaching resources for teachers and parents, and scientific answers to questions that are of interest to many. The focus has recently shifted towards creating "Science Checks" in the form of in-depth reports on topical societal issues, intended particularly for journalists and politicians.

Norway: *Forskning*

Forskning.no is Norway's largest publication about research. It is a website for independent science journalism that most of the actors within Norwegian higher education and research operate jointly.

History

Forskning.no was established in 2002 at the initiative of the Research Council of Norway. To begin with, twelve research institutions took part in the funding. The idea was to establish a platform for science communication, and to then hand over control to an independent editorial team, working according to journalistic principles. The editorial team originally consisted of three persons; today, there are 20 employees.

Organisation and funding

Forskning.no is owned and operated by the organisation *Foreningen for drift av forskning.no*, with 78 members (2022) that produce and/or fund research. The organisation aims to increase interest in and knowledge about research. It also works towards making more people choose to study and conduct research, so young persons are an important target group.

The editorial team is led by an editor-in-chief and responsible publisher, and consists of journalists, editors, head editor, membership desk and marketing department.

The publication is operated according to journalistic principles and what in Norway is known as *Redaktørspilakaten*, a national agreement on the independence, duties and responsibilities of the editor. The members have no influence over the journalism; instead, the editorial team is free to both describe and scrutinise research, researchers and the institutions that conduct research.

Each member/owner pays a fee based on the size of the member organisation. These fees make up around 40 per cent of the overall income of around 25 million NOK (2021). The fee levels vary from 55 000 NOK to 506 000 NOK (2022). In addition, the Research Council of Norway contributes around 3.5 million NOK. Income also comes from project grants, employment advertisements, advertisements that advertising agencies place on the website, and participants' fees for courses and conferences.

Contents

The website has news, background articles, in-depth articles, discussion forums and blogs relating to all subject areas within Norwegian research in particular, but also international research. The website is open and free for all to read.

The employees at the editorial offices take turns to write short news articles and more in-depth reports; the total in 2021 was 958 texts. Through the collaboration with videnskab.dk, articles originally written in Danish are translated and published. Many of the articles and reports have very long useful lives and score highly on searches made using the Norwegian version of Google.

In the *Forskerzonen* ("Researcher zone") section – another collaboration with the Danish Videnskab.dk – researchers and subject specialists can publish popular science articles, columns and opinion pieces; the total for 2021 was 371 texts. Researchers linked to the member organisations can also get help from an editor to edit their texts so that they can reach a larger audience. In 2021, *Forskerzonen* had 1.3 million page views.

Members of the organisation are entitled to publish texts under the heading *Saker fra våre eiere* (“Items from our owners”). In 2021, a total of 1 068 articles, films and podcast episodes were published here. The member organisations also deliver background material for notices that are published on the starting page and link on to the organisations’ websites. The material from members are clearly marked, and differentiated from the journalistically reviewed material written by the editorial staff.

Users

The number of visitors has increased year by year, with record numbers during the COVID-19 spring 2020. In 2021, there were 2.2 million visits per month, and the page views amounted to 3 million per month. One quarter of the visitors are under 29 years of age. Equal numbers of men and women visit the website. Visitors are distributed across the whole of Norway. Surveys show that 60 per cent of Norwegians are aware of forskning.no, and among young persons awareness is 82 per cent, probably because the website is used a lot in schools.

Channels

40 per cent of the visitors get to the website via search engines. 30 per cent come from Facebook, and 30 per cent via direct links from others, from the channel’s newsletter and by actively writing “forskning.no” in the address field.

Forskning.no has around 129 000 followers on Facebook. This is the result of a goal-oriented initiative, with publications several times per day.

In 2021, forskning.no was cited 2 221 times in other media. Previously, the editors had agreements with many Norwegian media that they were allowed to re-publish the website material provided they linked back to forskning.no. There are fewer agreements these days. One newspaper pays 15 000 NOK per month to publish one article per day, and another has permission to publish articles from the owners.

Since the start, forskning.no has collaborated with the Danish sister website Videnskab.dk. The websites exchange contents, and in 2009 established the joint platform, *ScienceNordic*, which publishes texts in English for an international audience.

Services and development projects

In 2019, a section was started on the website for children and young persons, called *ung.forskning.no*. Its aim is to give insight into what research is, and how researchers work, in an easily understandable way and using simple language. The section had 1.9 million page views in 2021 and published one article per day. It uses young person panels and a young person reporter to adapt the material to its target group.

Other services offered are *Fråga en forskare* (“Ask a researcher”) and several podcasts. There is also a section for job advertisements: *Stilling.forskning.no*. News in English is available under the section *Sciencenorway.no*. Blog inputs from researchers are available under the heading *Blogg.forskning.no*. A total of 46 researchers contributed 217 blog inputs during 2021.

Forskning.no arranges courses in popular science writing for researchers, and offers further education for communicators. Every autumn, it also arranges *Kommunikasjonsdagene* (“Communication Days”) over two days for researchers and communicators.

Other Norwegian initiatives

Just as for Videnskab.dk, forskning.no has competitors. Since 2013, there has been an independent national internet magazine, *Khrono*, with news and discussion about higher education and research. It is a collaboration and is funded by 11 of the universities in Norway.

Since 1999, there has also been website *Viden.no*, which distributes digital resources in natural sciences to primary and secondary schools. The website is a project of the Norwegian Centre for Science Education, which wants to contribute to exploratory working methods and critical thinking. The resources are developed in collaboration between HEIs and schools.

Poland: Science in Poland

Scienceinpoland.pap.pl is a public information service about Polish science. The aim is to highlight the successes of Polish researchers, both at home and abroad. The target groups are the general public, but in particular young adults, students and the research community. The platform was set up in 2004 as a result of a collaboration between the Ministry of Science (which funds the platform) and the Polish Press Agency (PAP). It is operated by the Foundation of the Polish Press Agency via three editors, who also engage journalists at PAP and correspondents around the country. The platform includes information and journalism about research and advances, Poland’s universities, innovation, grants, prizes and awards, science communication, researcher portraits and some international news. It is available in both Polish and English. The website grows by around 50 news articles in Polish and 15 in English every week.

Switzerland: Higgs

Higgs.ch is a Swiss platform with independent science journalism. The purpose is to make high-quality, independent science news and backgrounds to research accessible to the broad general public. The platform is run by a science journalist and the content is produced by freelancing science journalists. All content is in German, and covers both domestic and foreign research news, but from a Swiss perspective. The material focuses on science, engineering and innovation in particular from a societal and political perspective. It includes news articles, longer reports, films, podcasts and pictures. The platform started in 2018 and was free of charge to use up until October 2021. At that time, some of the content was placed behind a paywall, but most of the content is still available for free.

Spain: SINC

SINC, (Scientific Information and News Service), agenciasinc.es is FECYT’s news agency. FECYT (Spanish Foundation for Science and Technology) is funded by the Ministry of Science and Innovation. SINC produces science news in Spanish for Spanish media and the Spanish research community. Six employees, of which five journalists who are specialists in different scientific fields, work on the editorial team together with two interns who are journalism

students. The content consists of articles, reports, interviews, analyses, photographs, illustrations, infographics, and films that are relevant to society at large and that highlight the work of Spanish researchers. All the material is published under a Creative Commons licence, so it can be used by others, as long as SINC and the writer are credited as sources.

Germany: Wissenschaftskommunikation.de

Wissenschaftskommunikation.de is a national German portal for science communication. It aims to improve communication about research in Germany, by offering a discussion forum for communicators, researchers, science journalists and others who are interested and involved in science communication. The portal is operated by *Wissenschaft im Dialog* in collaboration with Karlsruhe Institute of Technology and the National Institute of Science Communication (NaWik).

The editorial team consists of three persons who are employed by the three different organisations. It is supported by an advisory group, freelance journalists and guest participants. The portal was established in 2016 and funded by grants from the Federal Ministry of Education and Research and the Klaus Tschira Foundation. The content is mainly in German, with a few articles in English. Further material in English is planned for the future.

The portal has five sections: *Journal*, with news about science communication, *Forschung*, a research section with scientific articles, *Formate*, a format section with descriptions of communication formats, *Praxis*, a practice section with communication advice, and *Arbeitswelt*, a working world section with training courses and job opportunities.

Austria: APA-Science

APA-Science (science.apa.at) is an Austrian platform for research news. The primary purpose is to pass knowledge about research an education to the broad general public and to increase the visibility of research conducted in Austria and by Austrian researchers around the world. The main target groups are the general public, journalists, and the member organisations.

The platform was set up in 1992 and is operated by Austria Press Agency (APA), which is an independent news agency. It is funded through membership fees at varying levels (in 2022, there were 6 principal members and 46 network partners).

The content is in German and is free to partake of, but some sections are accessible only for members. The material includes news articles about research, innovation, technology and education; researcher portraits; longer reports and podcasts. There is also material from the members, which is clearly marked as being exactly this. The editorial team consists of five journalists.

5.2 International initiatives

Two international initiatives that have become established in a number of countries around the world are worthy of special notice. Their activities have been brought up by several Swedish actors who think that something similar would be interesting to try in Sweden. They are *The Conversation* and *Science*

Media Centre, which we therefore visited in London, and whose activities we describe below.

The Conversation

The Conversation UK is an independent, English-language news website that publishes news, comments and in-depth articles for the interested general public. What differentiates the website from other news media is that all articles and reports are written by researchers active at universities and research institutes, with the support of journalists.

Background

The Conversation started in 2011, after the British-Australian journalist Andrew Jaspán was tasked to investigate how the University of Melbourne could communicate with the public in new and engaging ways. The basic idea was – and is – that the knowledge and results of researchers should be presented in popular science form, straight to the general public, without taking the detour via traditional media.

The website also wants to contribute to better understanding and knowledge of topical events and complex developments in society, and in this way contribute to more fact-based societal debate and more well-informed conversations between people. Since its start in Australia, The Conversation has also been launched in the United Kingdom, USA, South Africa, France (in French), New Zealand, Indonesia (in Indonesian), Spain (in Spanish) and Canada.

Organisation

The Conversation works as a normal editorial office, where the employed editors, who are all science journalists, evaluate news stories and angles. The editors help the researchers to write in a way that engages and encourages reading. During the last year, around 3 000 articles have been published. Many texts are reactions to or more in-depth texts about topical subjects in societal debate.

The texts are short, and the aim is for the language, tone and level of difficulty to work so that a 16 year-old can read and understand. Authors are only allowed to write on subjects on which they have proven expertise. Their competence shall be clearly shown, as well as the researchers' funding and any conflicts of interest.

The website is now available in twelve countries, and each country has its own organisation but is owned by The Conversation Trust in England. The Conversation Media Group, which operates the websites, is a non-profit organisation. The British version of the website has 35 employees.

The organisation's board consists of persons from universities, media and business. The editorial board consists of representatives from higher education institutions.

Target groups and dissemination

Readers come from all sectors of society, and are relatively young. The Conversation UK states (April 2022) that it has 7–8 million unique visitors to the website per month, and 15–20 million page views, including the texts re-

published on other platforms (see below). Globally, the websites in total have 15–18 million unique visitors and 70–80 million page views per month. There are eight editions of *The Conversation*. Half of the traffic to the websites comes from search engines. Around five per cent of the articles from the British edition are translated into French. Ten per cent of the French articles are translated into English.

In addition to the websites, *The Conversation* also has a number of Facebook and Twitter accounts, plus daily newsletters that reach around 90 000 readers. There are also weekly newsletters and thematic newsletters. The website also arranges webinars with researchers and produces podcasts.

Most of the reading is done elsewhere than on *The Conversation*'s website. This is because all the material is free to use and re-publish under a Creative Commons licence. The website also collaborates with newspapers, which regularly publish full pages or spreads with material from *The Conversation*. Journalists can also find ideas and experts who are used to collaborating with media.

All authoring researchers are also available to other journalists following publication. Contact information is published alongside the article, where the researcher is also presented in brief. *The Conversation* has a database where journalists and others can search for experts in all possible fields. The database covers around 50 000 academics.

Funding

The Conversation has the expressed policy to provide free access to information to as many as possible. The website is funded via support from universities and research clusters, through government grants and contributions from private individuals, businesses and foundations. According to an interview with Chris Waiting, MD, in April 2022, each university pays an annual fee of 16 000 GBP, while French universities pay between 16 000 and 18 000 EUR per year.

In addition to the universities' membership fees, which represent just under 80 per cent of the income, the organisation receives grants from bodies such as Research England. Donations from readers have increased greatly in recent years, and in 2021 amounted to 160 000 GBP. In addition there is funding for different projects, for example the production of podcasts, from UK Research and Innovation (UKRI).

The role of higher education institutions

The Conversation had 85 university members in 2022, mostly in the United Kingdom. Three members are Swedish (Lund University, Karolinska Institutet and Stockholm University) and there are around a dozen in total in Australia, South Africa, Canada, New Zealand, Ireland, France and Spain. The goal is to give members help to strengthen their profiles by giving their researchers the chance to address a global audience. The website is therefore also in a way a marketing channel for the universities.

Researchers at the universities in question get access to a publication tool that helps the author to check the readability of a text, but also shows statistics about where and how the text is reaching out and being read. Researchers affiliated to the member universities can themselves suggest subjects for articles, and are

more often asked to write than other researchers. Some training is also given to researchers at member universities, where The Conversation's editors teach them how to write in order to reach out.

In addition to contacts with individual researchers, The Conversation also has regular contacts with the managements of the member universities and continuous contacts with their press managers and communicators. Every day, an email is sent out to the communicators with requests for suitable researchers.

The researchers are not paid for their participation, but their research is often widely disseminated. On average, each article is read by 30 000 persons. Some subjects are more popular than others, not least medicine and health, where readers can often be counted in hundreds of thousands.

Opportunities for collaboration with Sweden

The Conversation is keen to have a discussion with a future platform about opportunities to enrol more of the Swedish HEIs as members. As the cost of membership is relatively high (in 2022, corresponding to around 200 000 SEK per year), they propose that Swedish actors could jointly fund a Swedish editor of The Conversation, preferably based in Sweden. This editor could maintain contacts with all Swedish HEIs and be responsible for a separate newsletter for Swedish/Scandinavian recipients. Texts that are written for The Conversation at Swedish HEIs could also be translated into Swedish and be published on a Swedish platform for research news.

Science Media Centre (SMC)

This centre in London, United Kingdom, offers support to British news media when they report on research, controversial subjects and major news events. The purpose is to improve media's reporting on research. The work is largely governed by the needs of the media.

Researchers are offered support ahead of media contacts, and may be included in SMC's database of experts. Communicators are also given help to present research in a correct and responsible way. The centre also arranges various courses, press briefings and other meetings.

Background

Most people – still – partake of research news via traditional media. SMC was established in the United Kingdom in 2002 to support journalists to report correctly and increase the proportion of research-based knowledge in the public discussion.

Since then, the concept has spread to Africa, Australia, New Zealand, Canada, USA, Spain, Germany and Taiwan. All SMCs are independent and have slightly differing focuses, but all follow a common policy. In Australia, SMC publishes press releases from universities, and also allows journalists to search in their database of experts on their own.

All SMCs around the world usually have a joint meeting every second year.

Organisation

Eleven persons work at the centre in London in 2022, primarily press communicators and technicians. They monitor news developments and read press releases about research, so that they can contribute with various types of activities and meetings as needed. A central feature of their work is a database developed in-house with almost 5 500 researchers, communicators and journalists.

Target groups and services

For journalists, the centre produces *Rapid Reactions*, where experts offers background and comments on major news events. The centre then contacts a large number of experts and press managers. It then sends out unedited comments from researchers in the database.

Round ups are also sent to journalists and include expert comments on press releases about new research results. Not least is this done for subjects that often are complicated or controversial. This is often done under an embargo – which means that the comments can only be used once the press release the comments relate to has been published. The comments can then be freely published by the media.

Press briefings are arranged digitally or on location at SMC when the news stories being commented on are particularly important. *Background briefings* are arranged for a certain subject area, rather than for individual studies.

SMC also responds to requests from individual journalists about suitable experts to interview.

A couple of times per year, the centre arranges the course *Introduction to the news media* for researchers. Previously, it also arranged courses for journalists on how to report on research. Media training is also provided for women researchers with the help of UKRI.

Funding

To safeguard its independence, no individual actor is allowed to contribute more than five per cent of SMC's overall income. Those that contribute funding get nothing more in exchange than supporting a good cause. The contributors are universities, media organisations and companies. Larger contributions are also provided by the Wellcome Trust and UKRI.

Opportunities for collaboration with Sweden

There are a number of *Science Media Centres* around the world that work independently, but are inspired by the original SMC in London to varying degrees. They are keen to see further centres established. The centre in London can provide advice and support if there is an interest in creating a centre in Sweden.

5.3 Initiatives outside Europe

The work on this report did not include mapping services on other continents. However, during our work we did encounter some services that may provide inspiration, and they are therefore described briefly below.

Scimex

Scimex (*Science Media Exchange*, scimex.org) is a news portal on the internet for Australia and New Zealand, started by the Australian Science Media Centre in collaboration with the Science Media Centre for New Zealand. The primary purpose is to help journalists to monitor science.

The portal has a news flow with content from universities, research institutes, scientific journals and conferences. Journalists can sign up to partake of content under embargo (which means that the journalists receive material in advance, but must wait to publish it until the results have become public). There is also a database with contact details for researchers, images, films and graphics that are free to use for media. An event calendar is also included.

Scimex is free to use for journalists and experts, while research organisations pay for their material to be included. The portal has been developed with funding from the Australian government's *Inspiring Australia* programme, and also received financial support from foundations.

Futurity

Futurity (futurity.org) is a platform that since 2009 has gathered together news articles about research carried out at prominent universities in USA, Canada, Europe, Asia and Australia. It is coordinated by the University of Rochester in USA and was established as the universities found it difficult to get traditional media to report on their research.

Around 80 universities pay a membership fee to have their material published on the website. The material is in some cases edited before it is published. In addition to articles and press releases, the portal also includes films, interviews, presentations and audio files.

SciLine

SciLine (sciline.org) is an independent and non-profit service for journalists and researchers in USA. The purpose is to have more research and more researchers included in news reporting.

SciLine links together American journalists with researchers and research results through a matching service, internet-based briefings on different subjects, quick facts about areas linked to research in the news, comments from experts on major news stories, and interviews with researchers for further broadcasting. Media training for researchers and further training for journalists is also offered. All services are free of charge.

SciLine's employees are experienced researchers, communicators and journalists. Researchers in both USA and Canada are used as experts in the various services for journalists.

The initiative is based at and supported by the American Association for the Advancement of Science. The main funding comes from the Quadrivium Foundation, with further contributions from other philanthropical organisations and foundations.

6 The view on collaboration

In this chapter, we summarise the views, ideas, proposals and other input into how research can be made more accessible, proposed by representatives of groups and organisations that produce, fund, communicate on and/or use research-based knowledge.

One important issue is what languages a future platform should be available in. If as many people as possible are to be able to partake of it, it should be in both Swedish and English, and also in the most common minority languages.

The persons who have participated and commented are shown in Chapter 8.

6.1 Purpose and aims

In the interviews with various actors, a number of purposes and goals for their science communication emerge. The most common ones are that they want to:

- increase understanding of what research is
- enable the research to be used
- spread knowledge and make people wiser
- show the benefit and value of research
- increase interest in research
- offer meeting places for researchers and the general public.

6.2 Target groups for a joint Swedish initiative

The foreign platforms we have mapped have very differing target groups. This is because they have differing overarching goals. The goal may be to provide the general public with research news, to develop material that awakens the interest of young people, to support teachers in their teaching, to produce content for media, or to support those who work with research or research communication.

In the work on the pilot study, both wishes and needs for increased access to communication about research have emerged for a number of Swedish target groups. We present these groups below.

Journalists

The target group that most actors highlight as the most important to address are journalists. As the most common sources for partaking of news about research is television and newspapers (see Section 1.3), a function that assists journalists with ideas and help to reach the right researchers can contribute to increasing media reporting on research. In this way, more people can get access to news relating to science. Some actors propose that media should also be allowed to republish the material on a platform for research without charge, or against a small fee.

Representatives of media that we have interviewed express great interest in reporting on research, and in getting tips about and access to researchers to interview (see Chapter 3).

Schools

Few actors have schools as a prioritised target group. Yet many consider it important to offer schools good teaching materials about research. The pupils would benefit from up-to-date, quality-assured and easily accessible research-based knowledge, both in different school subjects and on topical issues. Teachers have the same needs, but also need more in-depth knowledge and information about new findings in their teaching subjects, as well as in educational science research.

A governmental report¹⁷ from 2018 proposed that the Swedish Institute for Educational Research should both produce more systematic knowledge reviews and also develop a national website to facilitate for people working in the schools sector to take part in and partake of practice-related research. The proposals have not been implemented.

The general public

It is often said that the general public is not a target group – it is too broad, as it consists of us all. However, many actors consider the general public to be a reasonable target group, as research should be accessible to all, in such a form that it is possible to understand and use. This means that everybody should have access to information based on their own preconditions, irrespective of their reading ability or reduced functional ability.

Interested parties

Much of the communication about research that takes place in Sweden is aimed at those who are already interested in research. These are both people who are generally interested in reading about research findings, science journalism and popular science, and also those who are in need of new knowledge that is relevant for their work, studies or leisure interests, as well as for competence development, further education and learning.

The difficult-to-reach parties

Science is of interest to large parts of the Swedish population (see Section 2.2), but this does not mean that they actively seek out news and findings that relate to research. As the user survey shows (see Section 4.1), it is often by chance that people without a particular interest in science find information about research.

Even more difficult to reach are those groups in society that are not all that interested in news in general, or do not come into contact with research naturally. Yet many actors still try to contact the difficult-to-reach to trigger a curiosity about science. For example, Swedens HEIs have a mandate to broaden the recruitment to their courses and programmes. Several mention libraries as an important intermediary for reaching both those who are difficult to reach and those who are already interested.

¹⁷ [Forska tillsammans – samverkan för lärande och förbättring. SOU 2018:19](#)

The elected parties

With the pandemic, a spotlight was shone on the need for communication about research to enable well-founded decisions to be reached. There is a consensus that both individuals and organisations should be able to make decisions based on research-based knowledge and evidence. Here, a platform could play an important role. Many actors also highlight decision-makers as an important target group for the initiative.

Researchers

The Swedish research sector is large, and the researching organisations are also competitors for the research funding that can be applied for. Despite this, they already collaborate in several ways. One way of promoting collaboration in the sector and with other societal actors may be to gather together news for and about the sector in a single place. This could be about the research funding and positions that can be applied for, the projects that are in progress, and the persons who are working in different fields – information that several actors are asking for.

When it comes to communicating research to groups outside academia, researchers must have the ability to do this in a way that also works for non-academics. Many actors highlight a need to offer researchers courses and short education programmes on various aspects of communicating research.

Communicators

There are many who work with communicating research at HEIs and at other researching and research-funding organisations. At the same time, there are no specific programmes for science communication itself. Most of the persons working as science communicators or press communicators have general communication or journalism training, in the same way as most of the reporting on research in the media is done by general reporters, not science reporters. Some therefore call for opportunities for competence development and further education to enable communicators to get better at communicating research.

6.3 Content

The Swedish Research Council regards forskning.se as the basis for a larger collaboration on spreading knowledge about research. The website is already well-visited, with more than 4 million page views in 2021. The website does need developing, however if it is to meet the needs that exist.

Below follows a list of the content wished for by representatives of both target groups and actors. An overall viewpoint is that the content should be available in both Swedish and English, and preferably also in the most common other languages spoken in Sweden.

Research news

News about research linked both to topical subjects or matters that impinge on people in their everyday lives, and also to new results, findings and scientific publications, is what is most requested, both by different target groups and by the actors working with research in Sweden.

One proposal that has emerged is that the news items could be marked to clearly show whether the study reported on has been peer reviewed, if it is based on experiments on animals, and so on. This would make it easier to assess the content of the news. Many also state that it is important to provide a link to more information or direct to the studies, theses and scientific publications that the news is based on.

Whether a future Swedish platform should include research news produced in-house, or only edit, package and make accessible news from other organisations is a watershed. Many actors consider that material produced in-house is the most attractive and would be a valuable offering. Others argue that this type of journalism is not needed, as it is already done by other editorial teams, both in public service radio and television and also in commercial newspapers and television channels, as well as in popular science magazines.

News should not just be understood as written articles and reportage. It could also be about short or longer films about new research, interviews with researchers and explainers – brief educational clips – based on research-based knowledge.

Another popular format is podcasts where researchers participate. The podcasts can either be about science in general, or focus on certain themes or disciplines. There are also a number of commercial podcasts where researchers take part.

General requests that have emerged are that the material on a future platform should be easily understandable, clearly structured, well categorised and easily searchable. A number of functions are suggested to tempt people to browse the material:

- referrals (others who read x also liked y)
- option to save articles for reading later
- option to follow a specific writer or researcher and partake of a flow of that person's articles
- brief summary of each article
- popularity: number of readers of a certain article
- printing function/PDF of article

Knowledge reviews

Both journalists and school personnel request knowledge reviews and summaries of research-based knowledge within different subjects. The others are more doubtful about the option of producing such reviews – they involve considerable work, and in order to keep them up-to-date, they need to be revisited, adjusted and supplemented regularly. There are, however, some popular science reviews that could be included in a platform, for example the short publications called *Vetenskapen säger* (“Science says”) that the Royal Swedish Academy of Sciences produces.

Explaining research

Both target groups and actors call for descriptions of what science is, and how research is done. This could, for example, be in the form of descriptions of the history of science and how new research results are scrutinised by other researchers (peer review), or support for how to read and assess scientific publications and interpret statistics.

Some such material has already been developed by various actors, and could be linked to or gathered together on a future platform.

Seminars, conferences and events

Thousands of seminars, conferences and other events are arranged all over Sweden every year, where research in different areas or topical societal issues are presented and discussed. Many of these arrangements are filmed, and some can also be followed in real time.

Some actors consider that it should be possible to link this material to, and make it searchable on, a platform. Some also request a national calendar for events relating to research.

Researchers' own material

Some researchers write about their research in popular science form. Others take part in societal debate by writing opinion articles. Such material written by researchers could be published on an expanded platform. It might, for example, consist of material from the journal *Forskning & Framsteg* or the international internet journal *The Conversation*. Other examples are the Danish and Norwegian equivalents of *forskning.se*, which have a separate section, *Forskerzonen*, where researchers can write, speak and take part in films about their research or discuss issues using their expertise as the starting point. The researchers get help to write from editors at *forskning.no* and *Videnskab.dk* respectively.

Tiktok, Snapchat and Clubhouse

Several actors express an interest in exploring newer social media in order to better reach young people in particular. They would like to see collaboration with other actors on joint accounts, where a platform editorial team could be the coordinator.

Research for young people

Many want a Swedish initiative to focus on children and young persons in particular. There are a number of such initiatives in other countries. Swedish examples of news about science and facts that is adapted for children are found in the children's magazine *Kamratposten* and its website *kp-webben*, and also in the printed newspaper *SvD Junior*.

In order to reach young people, some research news on a Swedish platform could be shortened and simplified, with a link to a longer article for those who want to learn more.

Higher education news

Some actors request news about the sector that they themselves are part of, or collaborate with: They think that a website similar to *research.fi* is needed in Sweden, where news from organisations and public agencies that work with higher education and research is gathered together. It might be about persons in new positions, appointments, major research projects, research ethics, where different types of infrastructure can be found, new legislation, as well as job advertisements and notices of calls for funding.

What they are looking for is an assembly point for things happening and those who work in higher education and research.

6.4 Services

There are a number of services that different target groups have requested and that various actors have stated an interest in collaborating on. In addition to the services described below, many state that there is a lack of funding for developing services and projects in science communication in particular. In Sweden up until 2022, it was only the research council Formas that issued recurrent calls for funding for communication projects. Now, several other research funding bodies are in the starting blocks, starting with funding for communication initiatives by researchers who are already receiving funding from the funding body.

News agency for research

Some Swedish news editors have expressed an interest in publishing news from a Swedish platform for research. This would be something like a news agency service, but entirely focused on research, a news agency only for research.

One example that inspires could be the website *The Conversation* (see Section 4.2).

Find researchers

Journalists and various actors express interest in creating a searchable database with relevant experts, and getting a general view of which researchers are working in a specific research field. Examples in other countries are *Science Media Centre* in London and the Finnish *research.fi*.

Some actors also mention that it would be a good idea to have a list of those who work with informing about research in Sweden, for example museums, science centres, science festivals and other popular science events.

The already existing *Expertsvar/Expert Answer* works well, but it takes some time to get an answer, as the service relies on communicators at the HEIs having the time to go through the emails with questions and responding to them. Some journalists would like a faster service, where they can get tips about researchers who can participate already in the next news broadcast.

Both journalists and communicators at Swedish HEIs have positive experiences of 'expert lists'. The lists summarise contact details and descriptions of a number of researchers within different disciplines at the HEI, who can speak about a topical issue from different perspectives. The lists are sent as press releases, published on the HEI's website, and some of them are also published by *Expertsvar/Expert Answer*.

Ask researchers

Most actors receive questions more or less often about all types of matters relating to science, for example from young people who want help with schoolwork. A service in the form of a letterbox for questions to researchers in different areas would be appreciated, both by schools and by the general public.

The Belgian service *ikhebeenvraag.be* (“I have a question”) is an initiative that could provide inspiration. The answers could also be spread via social media.

Another idea is to have researchers doing shifts as “researcher on call” and taking turns to answer questions. The Swedish Natural History Museum has had a similar service for many years. Their “biologist on call” answer questions from the general public and the media, with the help of researchers at the museum.

Meetings between media and researchers

Both journalists and other actors call for opportunities for media to learn about researchers’ perspectives as needed. The need to get comments from relevant experts when new research results are presented is specifically mentioned, in order to get help to assess the importance and credibility of the results. One model may be the one offered by *Science Media Centre* in the United Kingdom, namely “rapid reactions” to new studies, written by experts.

There is also expressed interest in meeting researchers digitally when major news stories emerge, and to get expert comments quickly, in a similar way to the regular press briefings during the pandemic, when journalists could ask questions to representatives for several public agencies.

Fact checks

A service requested by both schools and the general public is reviews of whether specific claims are true.

Some existing examples are *Dagens Nyheter’s* article series *Fakta i frågan* (“The facts of the matter”) and *Svenska Dagbladet’s* *Vetenskapskollen* (“Science check”), where the researcher Emma Frans regularly participates and explains topical issues and claims. The journalists at *Källkritikbyrån* also carry out regular reviews of claims, which are published on its website. *Faktajouren*, which is operated by the Fojo Media Institute, also works with this.

Niche-targeted newsletters

Newsletters play an important role in distributing news. Some target groups have a need for more niche-adapted newsletters.

Guidance on source criticism

Both schools and the general public requests checklists and guides for how to carry out source criticism.

Wikipedia articles

None of the interviewees, with the exception of Wikimedia Sweden, proposed an initiative to write more articles about specific research for *Wikipedia*.

Wikimedia Sweden is a non-profit association that works to make knowledge freely accessible for all people, in particular by supporting the Swedish Wikipedia and other projects. The association is keen to collaborate with a national initiative to increase the number of Wikipedia postings in Swedish relating to research and to making research data accessible.

There is a separate section of Wikipedia for children and young people. On *Wikimini*, they can both read and write articles themselves. There is also a separate, simplified Wikipedia called *Simple English Wikipedia*, but this is of course not available in Swedish.

Research for teachers

Many consider it important to offer schools good teaching materials about research in different fields. Teachers and other school personnel are also interested in partaking of such material, and of educational science research.

Research for pupils/children/young persons

Pupils/children/young persons need to find information on how research works, what research is, and about research results in a way that they can absorb.

Finding and taking part in citizen science

A future initiative may include a summary of ongoing citizen science projects that the general public are welcome to participate in. Such summaries already exist and can be linked to on websites such as *medborgarforskning.se*¹⁸.

Competence development in science communication and science journalism

Many actors say that their employees would like and need competence development and further training in different aspects of communicating about research. For example, researchers need training in how to communicate their own research, and communicators need competence development to get better at different aspects of science communication.

Media editors express great interest in and need for further training in how to report on research without being a science journalist. Journalists also request brief guides and digital courses, as well as being able to invite educators to the editorial offices to develop their competence. This can, for example, be training and checklists for how to interpret scientific publications, reports and statistics.

Evaluation of science communication

Most actors state that they evaluate their communication on research, primarily by analysing quantitative measures such as media impact, internet statistics, followers and engagement in social media. Many want to carry out more in-depth evaluations, but state that they lack time, resources and/or methods to manage this.

6.5 Organisation

There are several different opinions on how greater collaboration on science communication in Sweden could be organised, which organisation would be a suitable principal, and what legal format the operation should have. It is, of course, also possible for different parts of an initiative to be run by different organisations.

¹⁸Citizen science, in brief, is where researchers and volunteer citizens together develop new knowledge. Read more on www.medborgarforskning.se/ and the ARCS project.

Public agency

The Swedish Research Council has national responsibility for coordinating communication about research, and works to ensure the research benefits society. *Forskning.se* is currently run by the Swedish Research Council (with support from Vinnova, Forte and the Swedish Environmental Protection Agency). Many actors therefore consider it natural that the Swedish Research Council should be the organisation that coordinates an initiative to increase access to research in Sweden. Other common arguments for why the Swedish Research Council should be the host is that it is a public agency with great knowledge about science and a high level of credibility in the research community.

Other actors say the opposite, that a future initiative should not be part of a public agency but should instead be separate and independent. It is particularly higher education institutions, funding bodies, public agencies and research institutes that are of this opinion. As part of a public agency, there is a risk that the editorial team is not independent but instead influenced by the public agency's management or by the Government and ministries that allocate funding and formulate the public agency's appropriation document and instructions.

Foundation

A foundation is one of the organisation formats proposed as an alternative to a public agency. Setting up a foundation to run and operation makes it better protected against outside influence and creates stability. Foundations are formed for a particular purpose, and are administered by a board. To establish a foundation, property is needed – for example money.

As an example, the journal *Forskning & Framsteg* is published by a foundation whose purpose is “to publish the journal *Forskning & Framsteg* as an organ for information about research and research results, and also the role of research in society”. Ten founding organisations have undertaken to contribute financially to the foundation. There are also a number of other organisations that provide financial support.

Non-profit association

Another alternative organisation format mentioned is a non-profit association. The internet magazine *Forskning.no*, for example, is run without any profit interest by the association *Foreningen for drift av forskning.no*. The members are 78 Norwegian research institutions. With a non-profit association format, Swedish actors who wish to become engaged in the initiative could correspondingly become members of a non-profit association and together decide on the content, focus and annual fees.

The only existing organisation apart from the Swedish Research Council that has been mentioned as a possible host for the initiative is VA Public & Science. VA Public & Science is, in fact, a non-profit association with organisations and individuals as members. The association's purpose is to promote dialogue and openness between the general public and researchers.

6.6 Funding

Greater collaboration between actors to make research more accessible will require more funding than is spent on *forskning.se* today.

Platforms in other countries are funded in a number of different ways: government support, grants from research funding bodies, foundations and the EU's regional fund, subscription fees or fees for participants. Many of the platforms are fighting to find greater and more long-term funding.

Swedish Research Council

The Swedish Research Council is the largest public research funding body in Sweden, and the national agency with coordinating responsibility for science communication. At the Swedish Research Council, there is also a communications department staffed by communicators och journalists who run *forskning.se*, Expertsvar/Expert Answer and the internet magazine Curie.

The most common answer to how a coordination initiative can be funded is that it should be the Swedish Research Council that covers the funding. Depending on the level of ambition, many also propose co-funding by other governmental research councils, and preferably also private foundations.

Other research funding bodies

The four governmental research councils the Swedish Research Council, Vinnova, Formas and Forte collaborate in a number of ways, and have received some joint Government mandates over the years. They also collaborate on initiatives in science communication, for example the competition *Forskar Grand Prix* ("Researcher Grand Prix"). Sometimes, the Swedish Energy Agency and the Swedish National Space Agency are also included in collaborations. All of these six funding bodies are not tasked to communicate with the general public, however.

There are a number of private foundations that fund and/or communicate about research in Sweden. Some of the largest were interviewed, and several are positive towards contributing to a joint initiative, with both funding and content.

Government grants

Considering the fact that the Government and the Riksdag have decided that Sweden shall move to a system for open science, a national initiative for communicating science may be seen as a governmental cause. Many also think that the Government should mandate an organisation to coordinate such a communication platform.

Collective funding

Another way of arranging the funding is to let all who contribute content share the cost of build-up and operation of a unified national initiative. In Norway, the website *forskning.no* is run by an association whose purpose is expressly to manage the operation of *forskning.no*. The 78 member organisations (2022) pay fees in relation to their sizes.

In the United Kingdom, Science Media Centre is funded by contributions from a number of different actors: HEIs, research institutes, media organisations,

individual companies and others. To safeguard its independence, no individual actor is allowed to contribute more than five per cent of the overall income, with the exception of a couple of major research funding bodies.

Subscriptions and advertising

A couple of the platforms in other countries (see Chapter 5) are funded with the help of subscription fees for those who want to read the contents. Few actors in Sweden think that it would be possible to fund a national initiative in this way. Nor do media editors express any interest in a subscription service, even if this could offer both articles and tips for news stories and support with finding researchers to interview.

The news websites *forskning.no* and *Videnskab.dk* are partly funded by advertising. The advertising income only makes up a small part of the overall income, however. Both representatives of the general public and of various research organisations are negative to advertising. The most common arguments are that advertisements are intrusive, and that they reduce the credibility of the website.

6.7 Attitude towards collaboration of interested parties

Most of those interviewed are positive towards establishing a major platform for communication about research in Sweden. Of the 71 organisations interviewed in total, 56 actors are clearly positive towards the idea, 14 are unsure of what they think, and one is negative.

Most would also like to take part in such a collaboration, in particular through contributing content. 62 organisations state an interest in contributing content, and a further seven say that they might be able to contribute. 27 say that it may be possible for them to contribute financially, while 20 state that they perhaps could do so.

Academies

Three of the four academies interviewed can contribute content to a future platform, and the fourth may be able to contribute. One of the academies also thought it may be able to contribute financially.

Sector organisations and trade unions

Four of the seven sector organisations and trade unions can contribute content, while three state that they might be able to contribute. One says that they could contribute financially, while six respond perhaps.

Civil society organisations

Five out of eight organisations interviewed can contribute content, while one further may be able to do so. Two organisations had no relevant material that could be included in a platform. Three organisations state that they might be able to contribute financially, while five say no.

Research funding bodies

All except one of the 14 research funding bodies interviewed have material that they would like to contribute to a future platform. Three funding bodies say that

they could consider contributing financially, while a further six say that they might be able to.

Higher education institutions

HEIs are generally positive to the idea of a joint platform. 25 out of 27 state that they could contribute material, and two say that they might be able to. 16 HEIs think that it is possible that they could contribute financially, while five state that they might contribute funding, and one that they could contribute in kind, that is with other input than funding. Five consider that they could not contribute financially.

Public agencies and institutes

Out of eleven public agencies with research mandates and one institute interviewed, all except one state that they could contribute material to a platform. Three organisations would consider contributing financially, while a further four state that they might be able to do so.

7 Analysis and conclusions

It may seem odd, given the ambition of the Government and the Riksdag to make science open and be a leading knowledge nation, that Sweden does not already have a national platform for science communication. In part, one already exists in the form of forskning.se, but compared to several initiatives in other countries, forskning.se is a relatively minor operation.

Interest is strong in collaboration on science communication and in developing forskning.se into something bigger than it is today. A clear majority of the actors we have contacted consider that more collaboration is needed. There are, however, a number of different opinions about how this collaboration should be organised, what and whom it should include, as well as how it should be governed, funded and marketed.

In this chapter, we draw conclusions based on what has emerged in the pilot study.

7.1 Purpose and aims

There are a number of different reasons why actors work with communicating research. Some of the most common ones are that research should be transparent¹⁹, accessible to all, and useful to those that need it. Other reasons are to awaken and stimulate curiosity in research and to inspire to higher education, as well as to contribute to societal debate and counteracting misinformation and disinformation. Many also highlight advantages for their own organisations, for example by increasing opportunities for interaction and funding, strengthening the brand, and facilitating recruitment.

The current purpose and mandate of forskning.se is to:

- contribute to ensuring the results of research are communicated to the general public
- make it easy to find scientifically based knowledge
- explain what research is

Recommendation: The purpose and aims of the future operation should be worked out in dialogue between the Swedish Research Council and other actors that wish to be part of the collaboration and the intended target groups.

7.2 Target groups

The groups that most actors want to focus on are journalists, the general public and all who work or are taught in schools.

¹⁹ To the actors, transparent research means that the preconditions for the activities shall be openly reported in all parts – funding, ethical conditions, methods used, researchers involved, and so on – and that the data and results shall be openly accessible.

Journalists

Many actors already have journalists as a prioritised target group for their science communication. By helping journalists, they can in turn report more and better on research in media that reach the broad general public. Journalists themselves also express great interest in reporting more about research, and interviewing more researchers.

The target group that by far the most actors highlight as important is journalists/mass media. Journalists themselves also have a number of wishes to get advice and support to better monitor science.

The general public

Many actors highlight the general public, in particular the interested sections of the general public, as a priority target group. Several also bring up the importance of reaching those who are not already interested and engaged in science.

Offering support and help to journalists can be a shortcut to the general public. To be where people already are is another tried-and-tested method. This argues for using Expertsvar/Expert Answer as a starting point and developing it further.

Many actors highlight the importance of search engine optimisation, so that Google and other search services can find their way to material on the future platform. The majority of the page views on forskning.se, as for forskning.no and Videnskab.dk, come via search engines.

Schools

There are not many actors that currently have young people, teachers or schools as a priority target group. Even so, many think that a national initiative should focus particularly on both school pupils and also on school personnel.

A number of different types of content and services are requested by schools:

- news about different subjects and linked to topical societal issues
- news adapted for children and young people
- knowledge reviews and themes
- facts about what science is, and how research is done
- tips for source criticism and media and information knowledge
- postbox where you can get answers to questions from researchers and experts
- easy-to-understand summaries of educational science research.

The content and most of the services on the future platform will be useful and valuable for teachers and most school pupils, even without specific adaptation.

During spring 2022, a survey was done where the four public agencies in the school area mapped and summarised in what ways they communicate about research. The Swedish National Agency for Education and the Swedish Institute for Educational Research both have websites with a lot of information about relevant research for schools and teachers.

The school system is a major actor with complex needs for research-based knowledge to enable it to carry out teaching that rests on a scientific foundation. To be able to offer schools good support in this work, without doing work that is already being done by other organisations, further mapping and consultation needs to be done with other actors, to find out the needs that exist and how they best can be fulfilled.

Recommendation: Prioritised target groups for the future operation should be journalists and the general public, with special focus on school pupils and teachers. To make it useful for young people (schools), the language and content should be easy to understand.

7.3 Content

There are lots of different ideas and wishes for content on a future platform. A large majority recommend news from different actors, of the type found on forskning.se today. Quite a few consider that independent science journalism is what is primarily needed, as a lot of media reporting on research costs money to read. Others think that it would be unwise if public funding was used to compete with the media, including the public service companies, that is already monitoring research.

The previous report, *Forskning.framsyn* (2020) proposed that independent science journalism from the journal *Forskning & Framsteg* could be part of the platform. The journal's editor-in-chief/responsible publisher is now underlining the importance of editorial independence and can see conflicts relating to this that must be solved if such a collaboration is to be possible.

Making material from *Forskning & Framsteg* accessible on a future platform together with the news content that is today found on forskning.se is, however, an idea that a number of actors have put forward. The Danish website Videnskab.dk and the Norwegian website forskning.no combine material from research actors with independent science journalism.

Gathering together, sorting and making filmed seminars and events accessible is something that several actors request, and some mention in particular the Swedish Educational Broadcasting Company's programmed and filmed events. The target group primarily want short, educational films that explain research.

A common request from both actors and target groups are for descriptions of what science is, and explanations of how research is done.

Several HEIs would like their researchers to participate in the international internet journal *The Conversation*. The journal is interested in collaborating with a Swedish editor on the platform's editorial team. Texts in English written by researchers could also be translated into Swedish and be published on the Swedish platform.

Many would like to see knowledge reviews and in-depth thematic articles, as well as separate research news for young people. Some would also like a section gathering together news about and for education and research in Sweden. Such initiatives require a lot of resources, and should be preceded by more detailed mapping of actual needs.

Nearly all underline the importance of transparency and clarity in relation to who is responsible for the platform, as well as about the selection criteria and editorial principles that govern the content. The value of active and clear editorship is also highlighted.

There is great unanimity about the platform having to be free of charge to visit, and that the content shall be easy to understand and absorb using different and combined formats: text, images, illustrations, fact boxes, infographics, and audio and video clips. It must be visually appealing with journalistically written headings, have a powerful search function, good metadata and a clear structure. To enable the material to be spread and be used, it should be free to re-publish provided the source is cited and a Creative Commons licence is held.

The platform should be published in Swedish principally. Parts of the material should also be available in English.

Recommendation: The content should consist of research news from different actors and be easy to understand, well structured and searchable. As a complement, the editors may initiate their own news articles based on what is topical in society. The material on the platform should be accessible in different formats. Researchers may be given the opportunity to write for publication on both The Conversation and the platform. Who the senders are, and what editorial principles govern the work and the selection of news must be clearly shown. The material should be free to partake of, and preferably free to re-publish.

7.4 Services

A number of possible services have been proposed by different organisations. The most requested service, by both the target groups and the actors, is help to find researchers who can take part in media or various events, and opportunities to put questions to researchers. Both a question service, where all who so wish can ask questions about different subjects to researchers, and separate press briefings, where journalists can ask questions to relevant researchers on a particular issue are also requested. Lists with subjects and researchers that HEIs send out to editorial offices ahead of high festivals and summer holidays, are also much appreciated. Journalists also request competence development to make them better at understanding research and monitoring science.

A number of organisations think that researchers both need and are interested in getting help and support in communicating with other sectors of society. This corresponds to the findings of other studies (see Section 1.3).

Offering material for free publication by editors, a “news agency for research”, and developing more niched newsletters are also recommended by relatively many.

Another service that a number of actors is calling for is a summary of opportunities to take part in ongoing citizen science projects. The latter could be done through collaboration with the website medborgarforskning.se, which is run by the University of Gothenburg.

Services for fact checks and guides for source criticism in Swedish are already available on a number of websites. Such material could also be included on a future platform, in collaboration with one/some of these.

Other suggestions for services to offer are training and support in evaluating science communication, and help to make research accessible that specifically relates to and may be useful to schools. The latter suggestions were only made by a few actors. All the suggested services are described in more detail in Section 6.4.

Several actors express an interest in exploring new social media in order to better reach young people in particular. The target groups highlight social media as good channels for them to partake of research-based knowledge. In order to reach young people, some research news on a Swedish platform could be shortened and simplified, with a link to a longer article for those who want to learn more.

Some actors mention the importance of dialogue and interactivity on the platform; that the editors need to be accessible, active on social media, answer questions and pick up on requests. Some propose that the platform could also be an arena for meetings between different types of users and different actors. Such a meeting place and “community” would be an asset to all and provide opportunities to involve and engage the general public and different stakeholders direct in research and innovation.

Recommendation: In the first instance, develop the services “Find a researcher”, niche-targeted newsletters, competence development for researchers in communicating their research and for communicators in reporting on science and supporting researchers.

7.5 Organisation

Most actors recommend the Swedish Research Council as principal for a national initiative, based on the fact that it appears to work well for forskning.se and Expertsvar/Expert Answer. Other arguments are that the Swedish Research Council already has national responsibility for coordinating science communication and that it has a high level of credibility. However, many think instead that the website and services should be independent of the Swedish Research Council, and that they need independence so that the Swedish Research Council does not make decisions about the operation.

None of the various legal formats investigated are particularly well suited for a national initiative, however. For this reason, we propose that the initiative should initially be part of the Swedish Research Council’s operation, but that editorial integrity and opportunities for influencing from different participating organisations is be safeguarded through an editorial declaration of intention, a governing body and one or several advisory bodies. It is also important to make it clear externally who are behind the initiative, as well as how the editors are governed and work.

Other organisations could be tasked to develop and carry out parts of the operation, such as certain services. Many actors, in particular those that are not

active in major cities, point out that it would be a good idea if the platform's staff were stationed also in other parts of Sweden.

Recommendation: The Swedish Research Council will initially coordinate the collaboration on a national platform. The work will be done by an editorial team in Stockholm, whose integrity is safeguarded through an editorial declaration of intent. Other actors who wish to participate are given influence via advisory bodies. A steering group with representatives from the organisations included in the collaboration makes decisions about the operation.

7.6 Funding

If the content and services on the platform are to be accessible to all, they should be possible to access free of charge. Subscription fees or a “paywall” will therefore not come into question. Advertising income partly funds some platforms in other countries, but at the same time constitute a relatively small proportion of the income. Many discourage advertising, as it reduces the credibility and makes the website less interesting for some visitors. On the other hand, fee-charging courses in communicating research could be offered to researchers, communicators and journalists.

Considering that the platform constitutes a gathering place for news and other material about research, it can be seen as part of the striving towards an open science system in Sweden. Funding to build up and run the platform should therefore come from the public sector, either as an earmarked grant from the Ministry of Education, or from the Swedish Research Council, which is responsible for coordinating the work on science communication in Sweden. Several other research funding bodies have also expressed interest and willingness to contribute funding. Furthermore, many HEIs have stated that they could contribute, both content and funding, but that they cannot pay high fees, and instead a small membership or subscription fee.

Recommendation: The Swedish Research Council funds the initial phase and other research funding bodies join during 2023. HEIs and other actors participating in the platform could contribute a small fee. The Ministry of Education is contacted about earmarked funding for the initiative

8 References

This chapter describes how we obtained knowledge. We here name the organisations and persons who have provided information and opinions, and also list the written sources used.

8.1 Obtaining knowledge

One of the primary purposes of the pilot study was to investigate how different actors work with communication about research today, and to gather together their views and ideas about greater collaboration in Sweden. For this reason, great emphasis has been placed on identifying and interviewing Swedish actors, as well as representatives of Swedish media. In addition, organisations and persons in other European countries have been interviewed, to gather inspiration and experiences from platforms that communicate about research abroad. The participants are listed below.

Five workshops have also been held: two with a reference network, one with representatives of public, university and school libraries in Sweden, one with personnel at forskning.se, and one with the directors of communication at Swedish HEIs.

Knowledge has also been obtained through literature, reports, websites and searches on the internet.

8.2 List of interviewees

Representatives of Swedish actors

ABF, Johanna Mårtensson, Team Leader

Akavia, Marie Lindgren, Communications Manager

Blekinge Institute of Technology, Margareta Ahlström, Press Manager

Swedish Cancer Society, Karin Nordin, Digital Editor

Chalmers University of Technology, Sara Jönsson, Director of Communications

Swedish Energy Agency, Ylva Norberg, Communications Manager

Erling-Persson Foundation, Ylva Linderson, Senior Research Officer

Swedish Defence University, Josefin Svensson, Research Communicator

Swedish National Defence Research Institute, Maria Hugosson Bygge, Press Manager

Swedish National Council of Adult Education, Rebecka Svensén, Communications Manager

Folkuniversitetet, Klara Johansson, Magazine Editor

Formas, Elisabet Blomberg, Director of Communications

Forskartorget, Mona Holmfors, Manager

Forte, Kruna Madunic, Director of Communication

University of Gothenburg, Maria Eriksson, Section Manager

Dalarna University, Martin Ström, acting Communications Manager

University of Borås, Ann-Christin Andreasson, Director of Communications

University of Gävle, Tommy Löfgren, Communications Manager

Halmstad University, Christa Annell, Communications Officer

Halmstad University, Selma Sedelius, Head of Communications

University of Skövde, Jill Elmshon, Research Communicator

University of Skövde, Elisabeth Oesterreich, Director of Communications

Kristianstad University, Fabian Rimfors, Research Communicator

University West, Anna Hallberg, Research Communicator

University West, Maria Derner, Director of Communications

IKEM Chemical and Innovation Companies in Sweden, Ulla Nyman, Head of Public Affairs

Institute for Futures Studies, Erika Karlsson, Communicator

Jönköping University, Daniel Ekman, Research Communicator

Jönköping University, Camilla Hallgren, Production Manager

Jönköping University, Åsa Idrén, Communicator

Jönköping University, Patrik Sandberg, Internet Manager

Karlstad University, Christina Knowles, Assistant Communications Manager

Karolinska Institutet, Katarina Stenudd, Communication Strategist

Knowledge Foundation, Eva Högström, Communications Manager

KTH Royal Institute of Technology, Åsa Ankarcrona, Director of Communications

National Library of Sweden, Katarina Wiberg, Administrator Open Science

Royal Swedish Academy of Engineering Sciences, Ann Brunnberg, Chief Communications Officer

Royal College of Music, Marie Halling, Collaboration Manager

Royal Swedish Academy of Sciences, Fredrik All, Communications Manager

Royal Swedish Academy of Letters, History and Antiquities, Karin Helander, Permanent Secretary

LIF – The research-based pharmaceutical industry, Annakarin Svenningsson, Communication Strategist

Luleå University of Technology, Sofia Stridsman, Press Manager

Lund University, Caroline Runéus, Administrative Director, MAX IV

Lund University, Jesper Falkheimer, Professor of Strategic Communications

Malmö University, Ingrid Persson, Head of Communications

Mistra, Malin Lindgren, Communications Manager

Swedish Civil Contingencies Agency, Morgan Olofsson, Director of Communications

Mid Sweden University, Kicki Strandh, Director of Communications (now in new position)

Natur & Kultur, Lena Forssén, Publisher

Swedish Natural History Museum, Catharina Hammarskiöld, Communications Manager

Swedish Environmental Protection Agency, Berit Oscarsson, Communications Manager

Nobel Foundation, Anna Sjöström Douagi, Advisor

PRO, Marie Näslund, Social Policy Manager

Ragnar Söderberg Foundation, Anna Wetterbom, Managing Director

Ragnar Söderberg Foundation, Siavash Pournouri, Communications Manager

Riksbankens Jubileumsfond, Jenny Björkman, Director of Collaboration

Swedish Sports Confederation, Andreas Linderyd, R&D Manager

Swedish Sports Confederation, Lina Wahlgren, Department Manager

RISE, Niklas Jälevik, Press Matters

Swedish National Space Agency, Johan Marcopoulos, Director of Communications

Swedish Confederation of Professional Associations, Emma Nilsson, Director of Communications

Swedish Forest Industries, Torgny Persson, Research and Innovation Director

Swedish Institute for Educational Research, Eva Grönlund, Director of Communications

Swedish National Agency for Education, Niklas Arevik, Research Editor

Swedish National Agency for Education, Helena Bergmark, Educational Advisor

Swedish University of Agricultural Sciences, Sara Arons, Communications Manager

Swedish Meteorological and Hydrological Institute, EvaMarie Törnström, Research Communicator

Sophiahemmet University, Pia Hultkrantz, Communications Manager

Swedish Foundation for Strategic Research, Sofie Pehrsson, Communications Manager

Stockholm Environment Institute, Robert Watt, Communications Director

Stockholm University, Johan Brandt, Communications Manager

Young Academy of Sweden, Karolina Kauppi, Panel Member and Researcher

Young Academy of Sweden, Philippe Tassin, Panel Member and Researcher

Swedish Library Association, Karin Martinsson, Senior Analyst

Swedish Science Centres, Christine Sundberg Carendi, Managing Director

Södertörn University, Kenneth Wall, Communications Manager

Umeå University, Gunilla Stendahl, Communications Manager

Uppsala University, Pernilla Björk, Director of Communications

Vinnova, Karin Sevedag Tell, Communications Director

Wallenberg Foundations, Carina Dahlberg, Communicator

Wikimedia Sweden, John Andersson, Operations Manager

Wikimedia Sverige, Eric Luth, Project Manager

Örebro University, Sara Arvidson, Communications Director

Representatives of Swedish media

Aftonbladet, Hanna Olsson Berg, Assistant Chief Editor

Blekinge Läns Tidning, Mimmi Karlsson-Bernfalk, Chief Editor

Borås tidning, Stefan Eklund, Chief Editor

Dagens Nyheter, Maria Gunther, Science Editor

Expressen, Amina Manzoor, Medical Reporter and Commentator

Torill Kornfeldt, Freelance Journalist

Anna-Maria Stawreberg, Freelance Journalist

Institute of Media Studies, Lars Truedson, Manager

Lokalt i, Lisa Björklund, Editor and Reporter

Mitt i, Johan Thornton, Editor

Nya Wermlands-Tidningen, Kasper Norling, Head of Editorial Office

SR P4 Dalarna, Charlotta Rådman Frans, Reporter

SVT, Ulrika Engström, News Editor, Science Editorial Office

Svenska Dagbladet, Maria Carling, Editor Idag page, SVD Livet

Sydsvenskan, Camilla Sylvan, Head of Editorial Office

Sydsvenskan, Daniel Rydén, Journalist

Tara, Annika Ortmark Lind, Chief Editor

Swedish Media Publishers' Association, Johan Tauberg, Managing Director

TV4 Nyhetsmorgon, Agnetha Bäckström, Planning Editor News

TT News Agency, Petra Hedbom, Medicine and Science Reporter

Representatives of foreign organisations

Astra, Denmark, Mikkil Bohm, Director

Austria Press Agency, Austria, Sylvia Maier-Kubala, Manager

CSC – IT Center for Science, Finland, Joonas Nikkanen, Development Manager

CSC – IT Center for Science, Finland, Tommi Suominen, Information Architect

CSC – IT Center for Science, Finland, Sonja Sipponen, Junior Coordinator

Daily Science, Belgium, Christian Du Brulle, Manager

Estonian Research Council, Estonia, Siim Lepik, Manager

Estonian Public Broadcasting, Estonia, Jaan-Juhan Oidermaa, Science Reporter

Estonian Research Council, Estonia, Mare Vahtre, Science Communication Coordinator

Fonds National de la Recherche, Luxembourg, Jean-Paul Bertemes, Editor-in-Chief

Formidlingsakademiet, Denmark, Peter Hyldgård, Project Manager

Forskning.no, Norway, Nina Kristiansen, Editor-in-Chief

Research Council of Norway, Norway, Thomas Evensen, Special Advisor

Higgs, Switzerland, Beat Glogger, Editor-in-Chief

Polish Press Agency, Poland, Anna Ślęzak, Editor

Science Media Centre, United Kingdom, Freya Robb, Press Officer

SINC, Spain, Pampa Garcia Molina, Coordinator and Editor

The Conversation, United Kingdom, Chris Waiting, Chief Executive

Videnskab.dk, Denmark, Vibeke Hjortlund, Editor-in-Chief

Videnskab.dk, Denmark, Jonas Salomonsen, News Editor

Vid & Sans, Denmark, Carsten Fenger-Grøndahl, Administrative Director

Wissenschaft im Dialog, Germany, Rebecca Winkels, Director of Communication and Strategy

8.3 Other discussion partners

Reference network

Thirteen reference persons were linked to the work on the pilot study. They participated in two workshops in February and May 2022. All except one were also interviewed individually.

Participants:

Maria Ahlsén, researcher and author

Björn Appelgren, Project Manager, Swedish Internet Foundation

Sara Arvidson, Communications Director, Örebro University

Jenny Björkman, Director of Collaboration, Riksbankens Jubileumsfond

Mina Dennert, Journalist and Secretary General, I Am Here International

Jesper Falkheimer, Professor of Strategic Communications, Lund University

Klara Johansson, Editor, Folkuniversitetet Magazine

Hannah Kroksson, Secretary General, Sweden's Youth Organisations LSU

Åsa Larsson, Freelance Journalist, Källkritikbyrån

Amina Manzoor, Medical Reporter, Expressen

Jonas Mattson, Editor-in-Chief, Forskning & Framsteg

Caroline Runéus, former Director of Communication at Lund University, now Administrative Manager, MAX IV

Jonas Söderström, UX-specialist and author

Other discussion partners

Olle Alexandersson, Skåne Research Network

Sara Bengtsson, Uppsala Library

Maria Brännström, Science in Schools in Sweden

Catharina Ek, Upplands Väsby Library

Lisa Gemmel, Swedish Library Association

Åsa Lundholm, Sigtuna Municipality

Gustav Löfgren, Expertsvar/Expert Answer, Swedish Research Council

Pernilla Nilsson, Committee for Educational Sciences, Swedish Research Council

Linnea Saxtrup Hermansson, Linköping City Library

Erik Stattin, National Library of Sweden

Sara Tuncel, forskning.se, Swedish Research Council

8.4 Written sources

Printed and digital publications and webpages used in the pilot study are listed here.

- Arvidson, S.; Boström, M.; Dahlgren, C.; Falkheimer, J.; Fleetwood A.M., Golkar, A.; Jonsson, A.; Lagerström, R.; Nihlfors, E.; Olsson, J.; Runéus, C.; Spehar, A.; Stier, J.; Syssner, J. (2022) [Framework for courses in science communication](#). Joint publication (report on the Swedish Research Council's website)
- Askwall, C. & Ljungström, V. (2020) [Forskning.framsyn](#). Forskning & Framsteg, Vetenskap & Allmänhet (report on VA Public & Science's website)
- Bauer, M. & Bucchi, M. (red., 2007). *Journalism, science and society: science communication between news and public relations*. Routledge.
- Bergman, M., Bohlin, G. & Bronéus, F. (2021) [VA-barometern 2021/22](#) (VA report 2021:5 on VA Public & Science's website)
- Bergman, M.; Bohlin, G.; Bronéus, F.; Rådmark, L. & Jönsson, A.M. [Kommunikation om corona \(VA report 2021:4\) on VA Public & Science's website](#)
- Bohlin, G. & Bakker, J. (2020) [Forskning om forskningskommunikation i Sverige](#) (report on Swedish Research Council's website)
- Bohlin, G. & Bergman, M. (2019) [Researchers' views on communication and open science in Sweden – a summary](#) of the report *Jag vill men hinner inte – forskares syn på kommunikation och öppen vetenskap* (VA report 2019:8 on VA Public & Science's website)
- Bohlin, G. & Bronéus, F. (2019) [Bakom rubrikerna – Intervjuer med 12 journalister om att bevaka forskning](#). (report 2019:3 on VA Public & Science's website)
- [Ds 2022:14. Ett hållbart mediestöd för hela landet. Kulturdepartementet \(report on the Swedish Government's website\)](#)
- [European Science Engagement Platform](#), summarised by European Science Engagement Association (on EUSEA's website)
- Jönsson, A.M.; Bohlin, G. & Bronéus, F. (2019) [Forskning i svensk press 1995–2015 – en innehållsanalys](#) (VA report 2019:7 on VA Public & Science's website)
- Lindholmen Science Park (2020-03) [Medier och demokrati. \(Beta Borås-final project report 2020:1 on Lindholmen's website\)](#)
- Ohlsson, J. (red., 2022-05) [Mediebarometern 2021](#) (report on Nordicom's website)
- Proposition 2020/21:60. [Forskning, frihet, framtid – kunskap och innovation för Sverige](#). Utbildningsdepartementet (report on the Swedish Government's website)
- [Science Communication for Greater Research Impact: Position statement](#) (2022-06, on Science Europe's website)
- Skolforskningsinstitutet (2022) [Skolforskningsportalen.se](#) (on the Swedish Institute for Educational Research's website)
- SOU 2018:19. [Forska tillsammans – samverkan för lärande och förbättring: betänkande. Utredningen om praktisknära skolforskning i samverkan](#).

Utbildningsdepartementet (report on the Swedish Government's website)

[Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology](#) (2021) European Commission (report on the EU's website)

[Svenskarna och Internet 2022](#) (report on the Swedish Internet Foundation's website)

[UNESCO Recommendation on Open Science](#) (2021-12-16, on UNESCO's website)

8.5 Authors and directly involved persons

The person responsible for the pilot study is Cissi Billgren Askwall, Secretary General of VA Public & Science. The following employees at VA Public & Science have also been involved in the work: Gustav Bohlin, Assistant Secretary General and Investigator, Helen Garrison, International Project Leader, Lena Söderström, Project Leader and Press Manager, and Oskar Tornborg, Office Coordinator.

The pilot study was carried out on behalf of and in dialogue with Mikael Jonsson, Director of Communications and Public Relations at the Swedish Research Council. Ongoing dialogue has also been held with Sara Tuncel, Coordinating Editor of forskning.se. Gustav Löfgren, Editor of Expertsvar/Expert Answer, has also participated in the work.



Swedish Research Council
Hantverkargatan 11B
Box 1035, 101 38 Stockholm
Tel +46 (0)8-546 44 000
Email: vetenskapsradet@vr.se
Vetenskapsrådet.se