EFFECT PROJECT

Creating effects through communication and engagement in Future and Emerging Technologies

D2.4 Report on content collection and selection

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PU = Public

PP = Restricted to other programme participants (including the Commission Services)

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Executive Summary

EFFECT is a H2020 project funded under the FET Programme aiming to enhance visibility and impact of FET research among a variety of actors (researchers, industry, policy makers, civil society organisations, citizens etc.) and to stimulate debate and collaboration among multiple stakeholders through dedicated community building and public engagement activities.

This deliverable, called "Report on content collection and selection" provides the results of the content collection and selection process of the most interesting screened FET projects for communication and engagement purposes.

Content collection and selection activities have been implemented from month 1 of the project until month 8 (January - August 2017) through all the tasks of Work Package 2 "Content Provision".

The starting point of the information collection process was a preselection of 170 FET funded project based in the following criteria: projects started between 2012 and 2014 and that finished or will finish between 2015 and 2018, leaving CSAs out.

Starting from this preselection, the EFFECT team built a project database through desk research (included in deliverable 2.1 EFFECT project's database), containing the main contact information of the projects.

Based on this information, the EFFECT team developed Task 2.2 **'Searching for involvement and commitment of results' owners, interviewing the projects'** and Task 2.3 **'Identify contents (and individuals) suitable for public communication and engagement'** with the aim of engaging FET project coordinators and/or partners and elaborating the project fiches gathering information on FET projects. For this purpose, the team sent two rounds of emails to FET projects' coordinators offering information about EFFECT project and asking for collaboration.

After the contacting phase, the EFFECT team conducted interviews to FET projects' coordinators and/or partners and elaborated project fiches. Along this process, the EFFECT project's team has conducted 46 interviews (27% of the pre-selected projects) and elaborated the same number of project fiches. Each expert evaluated the projects individually, rating different aspects of FET projects (deliverable 2.3. "Definition of Criteria for Scientific Evaluation") and then together in a physical meeting in Rome, on the 22nd of June. During the meeting, experts put their insights and opinions in common and agreed on highlighting the most suitable projects for communication and provided inputs for stories to be developed by the communicating team.

The results of the Advisory Board evaluation have been matched with the assessment of the consortium partners focusing on non-scientific criteria (such as communication aspect and marketability potential).

Table of Content

1 Objective

The final objective of this deliverable, “Report on content collection and selection” is to explain the process designed and implemented by the EFFECT team in order to select the content to be communicated in the framework of the project. This deliverable offers a complete explanation of the methodology and helps understanding the selection of contents made according to the purposes of the project. The deliverable also collects the main results of this process at this stage.

This paper describes all the steps followed by the EFFECT team to collect and select the projects for its communication purposes. Therefore, it contains an outline of the screening and selection process and the final evaluation of the Advisory Board and the consortium, offering a general vision of the activities carried about within the Work Package 2 “Content Provision”.

All the tasks developed in the framework of WP2 aim at defining the editorial strategy and selecting the content to be communicated through the EEFECT project. In order to gather the most accurate information and elaborate truthful and engaging messages, the EFFECT team has implemented a multi step methodology to screen, assess and finally select the most suitable FET stories.

The Methodology has been implemented along all the tasks of the WP2, which begun in month 1 of the project (January 2017) and lasts until month 8 (August 2017). The activity of this WP, however, will not cease completely: the EFFECT team will keep on contacting new projects and re-contacting those which did not have tangible results at this stage.

2 Screening process

2.1 Approach

The EFFECT team applied a multistep screening methodology based both in desk research and interviews with projects' coordinators or partners.

The process started with a preliminary selection of 170 FET projects, aiming at addressing projects which already have relevant outputs to be disseminated. Based on this pre-selection, the EFFECT team collected contact information of the projects through a desk research, elaborating a complete data base of FET projects.

Making use of the database, FET projects coordinators were contacted by email and invited to arrange an interview for sharing information about their projects. As result of the contacting phase, 46 interviews were conducted. Each interview was later transcript and completed on a project fiche containing the most relevant information for the assessment.

The following diagram shows the steps of the screening process and the outputs of each step:

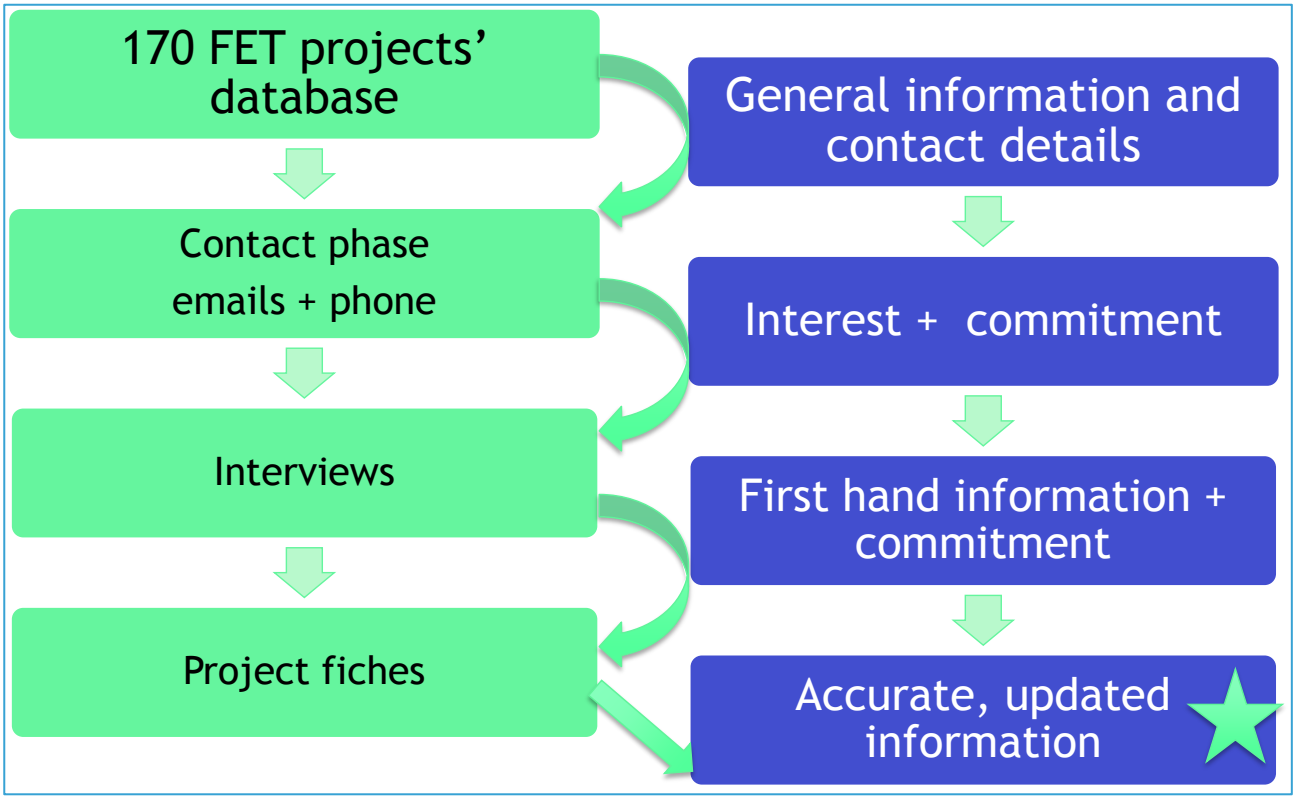

Figure 1: Diagram of the screening methodology

2.2 Preliminary selection

Before any final selection, and taking into account the high amount of FET projects, EFFECT team applied some pre-selection criteria in order to focus on achievements and impacts in different communication formats. A first selection criterion has been applied by excluding CSA projects. A second criterion includes the timing of execution of the projects, i.e. including FP7 projects that started between 2012 and 2014 and that finished or will finish between 2015 and

2018 and H2020 RIA projects that started in 2015 and that will finish between 2016 and 2018, for a total number of 170 projects to be screened.

EFFECT has screened FP7 and H2020 FET themes: 170 projects out of a total of 252 funded FP7 projects and 117 H2020 projects.

2.3 Desk research

EFFECT team has collected contact information of FET projects' teams through desk research: extracting information from both CORDIS and projects' own websites. Based on this database, project coordinators or partners were contacted and asked for direct collaboration to share their experience on the project.

This step of the process, together with the database of FET project, is further explained in deliverable 2.1 "EFFECT projects' database".

2.4 Interviews

The EFFECT team interviewed 46 FET project coordinators and/or partners. The interviews were conducted via teleconference, which allowed interviewees sharing supporting material during their explanations, such as power point presentations, videos or images.

In order to engage FET project partners, EFFECT team contacted them using a "two rounds" mail method: the first mail contained a brief presentation of EFFECT and asked for further collaboration, while the second email offered a detailed explanation of the projects and the required participation.

The questions of the interviews were focused on extracting the main information about results of the projects, their further application and impacts in society. The interviewees were asked to provide information in a non-technical way, as if they were explaining the experimental results of their project and their future potential applications to a lay audience.

Most of the interviews were recorded, only for internal use, and always with the agreement of the interviewee.

EFFECT team conducted interviews to the following FET projects:

1. BOC
2. DEDALE
3. EVOBLISS
4. EVOPROG
5. GRACEFUL
6. GreenFlash
7. HASVEST4D
8. HELENIC-REF
9. HELICOID
10. HRC POWER
11. IBSEN
12. LANDAUER
13. MAGIC SKY
14. MRG-Grammar
15. MULTI
16. PAMS
17. SCALEQIT
18. SCENENET
19. SIMPLESKIN
20. ABACUS
21. ABIOMATER
22. BRAINBOW
23. EUNISON
24. IQUOEMS
25. LINABIOFLUID
26. MUSE
27. NEXTGENIO
28. PLANTOID
29. PROME3THE2US2
30. QALGO
31. QUANTICOL
32. SAGE
33. SCORPIO
34. SMARTSOCIETY
35. SWARM ORGANS

36. TOPOSYS
37. UAESMC
38. H2ESOT
39. MATTERWAVE
40. MINIMAL
41. READEX
42. RYSQ
43. GEMINI
44. EXCAPE
45. SIQS
46. TOLOP

EFFECT team aimed at engaging FET projects belonging to the different categories taking part in the programme. The table bellow shows the categorization of the interviewed FET projects, which includes projects from all the categories. As the diagram reflects, half of the projects belong to "Artificial intelligence & Information technologies", an expected result taking into account that a very high amount of projects approved under the FET programme are focused on ICT.

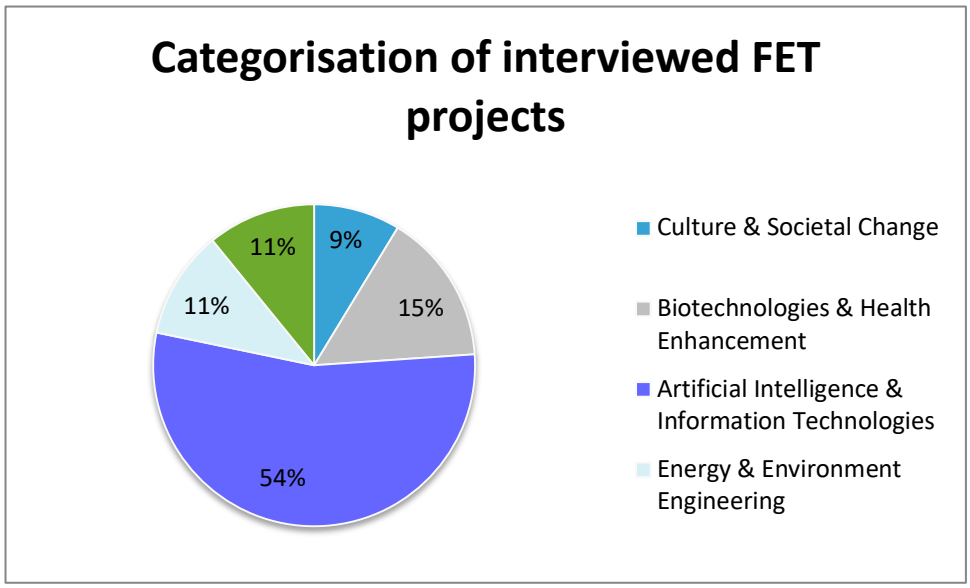

Figure 2: categorisation of interviewed FET projects

Based on the information collected during the preparation of the interviews and the interviews themselves, the EFFECT team completed a "project fiche" per project, which was used by the Advisory Board to carry out the evaluation of FET projects.

Further information about the screening process is available in the deliverable 2.2 "Methodology of content screening". This deliverable also contains the completed 46 project fiches.

3 Selection process

3.1 Approach

The final aim of the EFFECT project is the wide communication of projects funded by the FET programme in the form of stories (articles, news releases, videos) to be easily understood by the general public and stakeholders at large beyond peer-to-peer dissemination. Distribution through a mix of channels will also support the communication of the FET programme itself.

Taking this objective into account, the selection process implemented by EFFECT is focused on finding the greatest communication potential and impact on the general public, including interest groups such as industry and citizens, in a transparent and balanced way. Consequently, the EFFECT project has not conducted a selection based only on scientific or technological excellence. The score or classification does not represent only projects' success and relevance in scientific terms but also the potential impact in society and general interest they may create.

However, considering to FET projects' key features based on novelty, experimental nature and high-risk research, a high scientific and technological expertise was needed for an appropriate selection. Although the final messages to be forwarded are not intended to be technically complex, a deeper understanding was needed at this stage for selecting ground-breaking ideas, assessing their feasibility and medium-long term impact and selecting projects representing FET "nature" (long term vision, interdisciplinary, high risk and basic research)

For this reason, EFFECT project counts on the advice and feedback of an Advisory Board of experts, with knowledge in different scientific fields, covering all the technical domains of the FET programme:

- Mathematics, Computer sciences and information science
- Physical sciences
- Chemical sciences
- Environmental sciences and engineering
- Biological sciences and biotechnology
- Civil, mechanical and aerospace engineering
- Electrical and electronic engineering, robotics and automation
- Materials engineering
- Medicine and medical engineering
- Humanities and Social sciences

Experts from the Advisory Board completed an evaluation fiche per evaluated FET project before the Advisory Board Meeting. The same exercise was performed individually by each partner of the consortium. During the meeting, all the evaluations were jointly discussed and the Advisory Board agreed a selection of the most interesting projects for communication purposes. Experts also highlighted the most appealing aspects of the projects and the most engaging stories.

3.2 Applied criteria

The EFFECT consortium designed a multi-criterion method in order to properly asses and select FET stories for the purposes of the project. These criteria are focused in the following main aspects:

- Novelty and Originality
- Innovation Ecosystem
- EU Leadership
- Controversial or positive aspects to be taken into account (e.g. Interdisciplinarity, ethical issues, international interest on the domain and European research excellence).

The advisory board answered the following questions in order to evaluate and rate the FET projects:

1. Are project results clearly stated and unambiguous?
2. Is the project responding to specific technological needs ready for a market uptake?
3. Rate the level of further research needed to upgrade the scientific results in all the disciplines involved in the project (not foreseen in EFFECT evaluation form) Please give small explanations in the Notes section, giving references to new potential paths.
4. Rate the exploitation potential of the project (is there any further innovation activity which has not emerged in the EFFECT evaluation form). Please give small explanations in the Notes section on experimental trials, demonstration activities, pilots and testing needed, giving references to new potential paths.
5. Is there any industrial research roadmap in place, which can benefit from FET results? Please give small explanations in the Notes section.
6. Does the project respond to societal needs? Please give small explanations in the Notes section.
7. Rate the interdisciplinary level and the knowledge integration within the project
8. Rate the potential media interest and relevance to a lay audience
9. Rate the Visual Potential of the project
10. Rate the Communication Potential/attitude of the project
11. Rate the global interest on proceeding with the project specific scientific disciplines?
12. Capacity/willingness of the project coordinator to communicate their results.

For a more complete explanation of the “Applied Criteria” and the meeting, check deliverable 2.3. “Definition of Criteria for Scientific Evaluation”.

Each field had to be rated on the basis of the clear evidence and correspondence of the criteria through the following scoring:

- Definitely, With Clear Evidence (3 points)
- Implicit or inferred (2 points)
- Not Clearly Evident (1 point)

The final aggregate score was provided by summing up all the scores given on each specific field.

The following table provides an overview of the Advisory Board’s members individual scoring before the Advisory Board meeting.

3.3 Internal scoring/validation

In addition to the scoring made by the Advisory Board members, EFFECT partners made their own scoring. The criterion applied for this internal scoring is focused only in communication aspects:

1. Potential media interest and relevance to a lay audience
2. Visual Potential of the project
3. Communication Potential/attitude of the project

Each partner, YOURIS, ZABALA and APRE made its own scoring, based on the above described scoring (from 1 to 3 points).

Complementing this scoring, the EFFECT team which conducted the interviews also ranked the communication ability or potential of project partners. In some cases, the interviewed people were clearly used to participate in communication activities with general audience. This is also an asset to be taken into account when defining communication formats.

3.4 Advisory Board scoring

With the aim to provide advice and guidance on content selection to the consortium, EFFECT has set up the Advisory Board composed by ten world- class experts in different domains covered by FET funded research.

The main objective of the EFFECT Advisory Board has been to highlight main features related to the scientific excellence, innovation and future market exploitation, items of public interest of the 46 FET funded projects previously screened within WP2 Implementation.

3.4.1 Approach

All the 46 FET projects fiches were distributed to the Advisory Board Members together with: 1. the guidelines for the Experts, containing information on EFFECT, its goals and the consortium's expectations from the experts before and at the meeting, 2. a further Q&A section included after having received by the panel requests of clarifications; 3. The Evaluation Form for FET Funded Projects to be filled by the expert with scoring and notes.

The Advisory Board Members were asked to read all the project fiches and to focus on a set of projects, identified by the EFFECT team, according to their specific area of expertise, and rate according to the different set of criteria described in Deliverable 2.3 Definition of Criteria for Scientific Evaluation.

Finally the Advisory Board members met in the Advisory Board meeting, held in Rome on June 22, 2017, to present and discuss the results of their individual analysis and scoring and to define main communication contents suitable for EFFECT communication of the FET funded projects.

3.4.2 Members of the AB

Advisory Board's key role in EFFECT has been to provide insights on the projects' excellence and innovation value within the actual context and regarding the projects' potential development. The selection of the Advisory Board members has been ensured by their key role as experts in terms of scientific excellence, diversity in their fields of expertise, affiliation in key

organizations or research centers and EU representation and previous commitment in Future and Emerging Technologies.

	G	Name	Institution	Field of Expertise	FET previous commitment
1	F	Lucia Sorba	Consiglio Nazionale delle Ricerche (Italy)	Materials Sciences	➔ FETAG member until 2015
2	M	Sten Grillner	Karolinska Institute (Sweden)	Cognitive sciences e neurosciences	➔ Executive Director Human Brain Project
3	M	Arvydas Tamulis	Vilnius University (Lithuania)	Atomic, Molecular and Optical Physics	➔ No direct experience on FET
4	M	Erich Prem	Eutema GmbH (Austria)	Computer Science	➔ Coordinator of COFET and FEAT projects
5	F	EefjeCuppen	Delft University of Technology (Netherlands)	Governance of technology, science-policy interaction, sustainable development and governance	➔ FETAG member until 2016
6	M	Calogero Oddo	Scuola Superiore Sant'Anna (Italy)	Biorobotics	➔ Observer during the H2020 FET Flagship Interim Evaluation process, held in 2016-17.
7	F	Raquel Garde	National Renewable Energy Centre (Spain)	Inorganic Chemistry	➔ No direct experience on FET
8	M	Matteo Mascagni	Ministry of Education, University and Research (Italy)	High Performance Computing and Aerospace	➔ Scientific-Technical Policy expert at European Commission DG CONNECT
9	F	Anne Van den Bosch	IMEC (Belgium)	Micro-electronics and engineering economy	➔ Current FETAG member
10	M	Afonso Ferreira	Centre National de la Recherche Scientifique (France)	Communication Networks, High Performance Computing and Algorithms	➔ Expert to the European Commission, DG CONNECT – FET Unit

Table 3: Advisory Board's composition

3.4.3 Advisory Board meeting

The meeting of the Advisory members was held on the 22nd June in Rome. The main objective of this meeting was the evaluation of the 46 FET projects that had been interviewed during the previous phase of content collection.

The meeting session was divided in two main sessions:

1. Introduction and explanation of the EFFECT project, the selection process and evaluation criteria;
2. Evaluation of the projects and AB's selection.

During the first session, youris, Apre and Zabala offered a brief explanation of the project and WP2.

During the second session of the meeting, the Members of the Advisory Board were divided into three different groups to evaluate the projects. FET projects were assigned to each group depending on the area of expertise of each group's members and a rapporteur was nominated for each group. Two persons from different organizations of the EFFECT Consortium chaired and moderated the three sub-groups' discussions and took notes.

After the group session, evaluations were put in common as wrap up of the meeting.

For a more complete explanation of the Advisory Board itself and the meeting, check deliverable 2.3. "Definition of Criteria for Scientific Evaluation"

4 Results

4.1 Quantitative results

4.1.1 Results from the screening methodology:

After the implementation of the screening methodology, the EFFECT project achieved the following quantitative results:

- 170 projects' contacts collected on a database
- 53 positive answer from FET projects
- 46 interviews conducted
- 46 project fiches elaborated
- 27% of the preselected projects interviewed

4.1.2 Results from the Advisory Board meeting:

As stated before, members of the Advisory Board met in Rome in order to put in common their evaluations and discuss about the FET projects in terms of excellence and innovation.

They were asked to rate the projects according to three main aspects:

- Target audience: experts rated the interest each project can arise among the scientific community and the general public.
- Strengths: experts rated the following three aspects, breakthrough innovation, groundbreaking excellence and social impact.
- FET: experts rated whether the project is representative of the FET programme (taking into account FET gatekeepers).

Each field was rated on the basis of the clear evidence and correspondence of the criteria through the following scoring:

- Definitely, With Clear Evidence (3 points)
- Implicit or inferred (2 points)
- Not Clearly Evident (1 point)

Advisory Board members were also asked to highlight the most interesting concept and focus to be communicated for each project.

During the meeting, the Advisory Board was split into three different groups to discuss about the projects, as explained in the section above. Each group rated the projects according to the criteria stated before and selecting the most interesting projects for the wide audience. The final outcome of the Advisory Board discussion, based on a balanced view of different aspects (i.e. their original project scoring, the feedback from the experts of each group and the outcome of the discussion), is provided in the following table. Projects rated with 3 in the "final selection" column are to be considered as the most promising in terms of scientific breakthrough and communication potential.

4.2 Qualitative results

Through the implementation of the screening and selection methodology, EFFECT team gathered a lot of first hand information, which is extremely useful in the elaboration of communication messages and stories.

4.2.1 Results from the applied methodology:

- Accurate and updated first hand information about projects: EFFECT team gathered first hand and updated information about the projects. High quality inputs are key to elaborate effective communication messages.
- Commitment of projects: contacted projects were informed about the activities of the EFFECT project and the need of their collaboration to spread the success of the FET programme.
- Identification of Communication potential on projects' coordinators: due to the direct contact with projects partners the EEFFECT team has identified experts who have already participated in communication and dissemination activities, people with good communication skills.
- Better understanding of FET concept: analysing and gathering inputs from several FET projects offered a clear image of the projects which are meeting the criteria to be part of this programme.
- Raise awareness on global communication among FET projects: through the interviews the importance of spreading FET projects' results was highlighted. EFFFECT members insisted on the need of communicating the potential of basic research to the public. Most of the interviewed scientists were aware of the need of making their work known, despite the difficulty of these concepts to be understood by the public.

4.2.2 Results from the Advisory Board meeting discussions:

The experts from the Advisory Board their insights about the FET projects offered some recommendation and ideas to focus on.

- The convenience of clustering some of the projects according to the topic. The reason beneath this is the complexity of the projects to be understood, or the very early stage of research. However, clustering them and making a joint communication focused on certain topic could work better in reaching wide audience.

  Following clusters were proposed:

  - Quantum: QALGO, QUANTICOL, RYSQ
  - Energy: HRC power, PROME3THE2US2
  - Fundamental research: TOPOSYS

- Focus ideas of the projects (see table in section 4.1.2 Results from the Advisory Board meeting). The main topics to be highlighted among the projects are:
  - Green computation: energy efficiency in computation. This concept is relatively unknown as general public is not aware of the huge energy consumption in computing.

- Health and genetics: topics related to these fields are suitable to rise the interest of the general public. Their social impact may be very high, having direct consequences in daily life.
- Understanding of the environment: some of the projects may be highlighted by the new understanding of different behaviors surrounding us. They may help to understand and predict the behavior of huge groups of persons of the behaviors of small organisms, but the new knowledge itself can also be attractive for the general media.
- Role of fundamental research: it is needed to communicate the relevance of the fundamental research for its future applications and innovation in society. Even if there is no specific application foreseen in the short term, projects focused on fundamental research will create new research itineraries, which may lead to groundbreaking achievements. It must be considered as first step.

5 Conclusions and next steps

EFFECT team has designed and implemented a screening and selection methodology all along the Work Package 2: Content provision. Starting from month 1 (January 2017), the team has compiled updated and accurate information about FET funded projects, which already have results or are about to deliver them.

This information has been analysed by experts from different scientific domains during month 6 (June 2017). Their inputs and insights have been key to identify excellence at the very ground level and draft the main topics to be further developed.

The screening and selection methodologies have been designed taking into account FET projects main particularities: low proximity to market and visionary thinking (low TRL and revolutionary concepts).

The screening methodology, starting from a preselection and desk research, has looked for the collaboration of FET projects as primary source of information. It may not be easy to find messages or results that can be easily understood by a general audience. The uncertainty of tangible results, which will be reached in ten or twenty years, makes it necessary to foresee a projection into the future in order to better understand the impact of current research.

However, the direct involvement of projects' coordinators and partners, achieved through the interviews, has helped the EFFECT consortium to understand the final potential applications of the projects' results and their development stage. This is especially effective to build connections between basic research and its impacts in society, taking into account both future applications and new principles they introduce.

The technological complexity of the projects required the evaluation of a group of experts. Therefore, after the screening process an Advisory Board of experts evaluated each projects fiche. Their expertise was required in order to rank excellence among the projects, keeping in mind the final purpose of the selection, which is communication to the general public.

As results of this process, the EFFECT project obtained about 46 different stories to be used as inputs of different communication messages. 14 projects were ranked as the most interesting and complete ones for communication purposes.

- ABACUS
- BRAINBOW
- EVOBLISS
- EVOPROG
- GEMINI
- GRACeFUL
- HELICOID
- IBSEN
- LANDAUER
- LiNaBioFluid
- MAGicSky
- NEXTGenIO
- PLANTOID

- SMARTSOCIETY

Complementing this selection, specific aspects, such as social impacts or groundbreaking scientific excellence and breakthrough innovation were also highlighted in other projects, which may be interesting also for communicating certain disciplines or domains.

In addition to this, some of the stories can be clustered to have a higher impact on a specific research area and put some fields such as green computing or quantum in the spotlight.

In conclusion, EFFECT team implemented a methodology which made it possible to identify and select stories targeting different audiences beyond the scientific community. The collaboration of projects' coordinators and partners has been essential for the content screening, while the work of the experts of the Advisory Board has been necessary to balance scientific excellence and communication potential through the selection process.

This process has provided the EFFECT consortium with a baseline of good stories to be communicated in different formats. The Editorial Manager of EFFECT is responsible of finding the most suitable format (article, news release, video) and the right angle for each story in order to be easily communicated to the general public in such a way that it can also increase interest and engagement among different societal players.

As previously stated, the selection process is still continuing throughout EFFECT. New FET projects will be screened upon the consortium initiative and new FET projects have already spontaneously asked to be communicated via EFFECT, stimulated by the call to action message "tell us your FET story" visible on the website and promoted on social media.