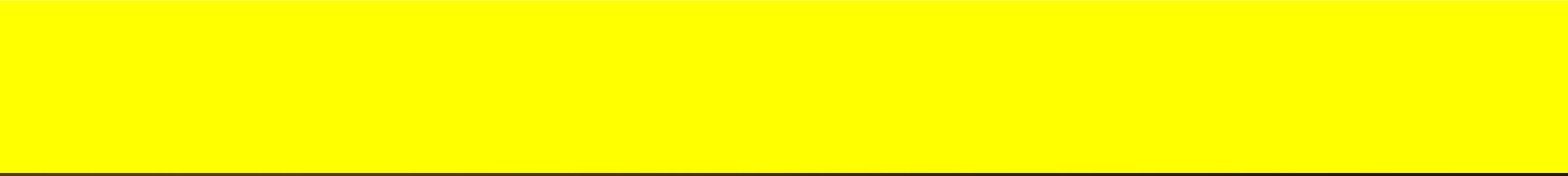




INCREASING THE IMPACT OF HORIZON 2020: THREE SOLUTIONS



Ron Weerdmeester
Managing Director PNO Innovation

Paolo Salvatore
Executive Board Member PNO Group

Tjerk Wardenaar
Consultant Energy & Environment

Lieke Gerris
Senior Consultant Life Sciences & Health

INCREASING THE IMPACT OF HORIZON 2020: THREE SOLUTIONS

A retrospective from the halfway point

This year marks the halfway point for the Horizon 2020 programme. The programme, which began in 2014, has already spent billions of euros and helped thousands of companies expand their innovation horizons. It was created to have an impact on the European innovation landscape; but at the halfway point we must unfortunately conclude that Horizon 2020 is not yet as impactful as it could be. Although the innovation potential and ambition of the programme remains unparalleled in Europe, we see that the programme suffers from various inefficiencies, which prevent it from reaching its full potential.

This ePaper aims to give insight into what we believe to be the programme's main pitfalls, but also take a look at its opportunities, and to start a discussion about future improvements (for both the next 3 years and the upcoming Framework Programme 9, FP9). We have combined the knowledge of the Cordis database, European Commission reports and our Horizon 2020 project experiences to not just come up with criticism, but also to propose solutions to make the programme more efficient in translating the available potential from ideas to project results to market introduction of new innovations.

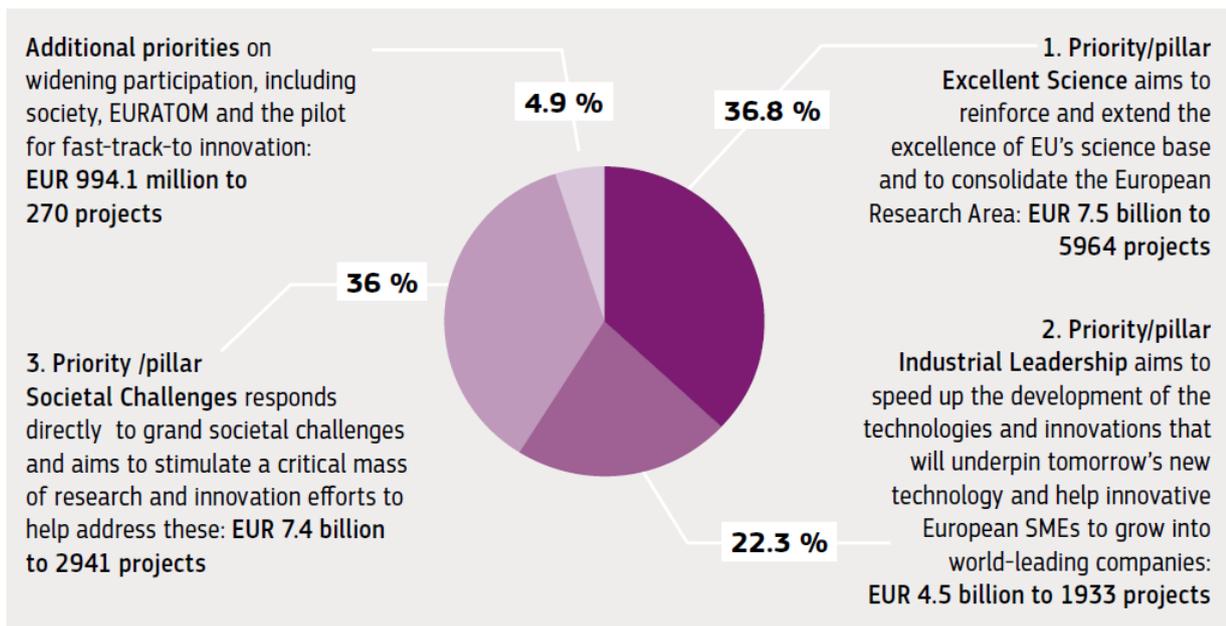
1. Horizon 2020: the past 3 years

Let's begin with some facts and figures on the budget, applications and success rates of Horizon 2020. Being the biggest EU Research and Innovation programme ever, Horizon 2020 has nearly 80 billion euro of funding available over a total of 7 years (2014 to 2020)¹. In the first 3 years of its implementation, 20.4 billion euro – nearly one fourth of the total Horizon 2020 budget - has been allocated to 11,108 signed grants. See the figure².

¹ Horizon 2020 programme, <https://ec.europa.eu/programmes/horizon2020/en/what-horizon-2020>

² Interim Evaluation of Horizon 2020, p. 37

FIGURE 5: Funding allocation and number of projects per programme part



Source: Corda, cut-off date: 1/1/2017

How relevant the programme is, is shown by the sustained interest in its highly competitive calls: more than 30,000 proposals are submitted each year, compared to 20,000 for its predecessor, the Seventh Framework Programme for Research and Technological Development (FP7). However, the attractiveness of Horizon 2020 has a downside: the programme has a very low success rate of 11.6 %, compared to the 18.5 % success rate for FP7. This leaves many proposals and projects strongly underfunded: only 1 in 4 high-quality proposals were granted. This underfunding results in a large-scale oversubscription, much larger than under FP7: a whopping 62.4 billion euro extra (!) would be needed to fund all proposals submitted to the programme³.

The oversubscription constitutes not only a waste of resources for applicants, but also a loss of high-quality research for Europe. In a recent report the European Commission agrees on this and proposes to double the overall budget of the future EU research and innovation programme, FP9. The post-2020 programme must again ensure a success rate in the range of 15-20% to be efficient and avoid the excessive costs of high-quality but unfunded proposals. Furthermore, the funding should be secured for at least 30% of high-quality proposals⁴.

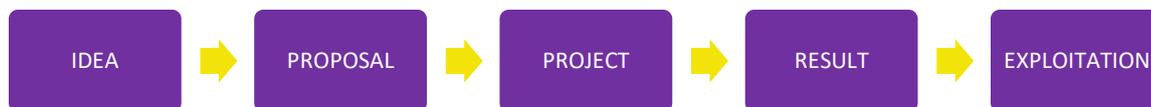
Of course, increasing (doubling!) the current EU grant budget for Research and Innovation is a good thing, as too many good quality projects are being rejected. It could prevent a loss of time and money invested by the interested parties, and provide new opportunities for society, as the innovations will reach the market faster -- or at all. Perhaps that last sentence already makes our position clear: while helpful, more money is not the ultimate solution to the issues plaguing the programme.

³ Interim Evaluation of Horizon 2020, p.10

⁴ Report of the Independent High Level Group on maximising the Impact of EU Research & Innovation Programmes, p.10

2. Issues and solutions

Within R&D and innovation, there is a process from idea to exploitation. Within this 'innovation value chain', first, an idea is born that needs to be moulded and shaped into a project proposal; then the project takes place and yields results; and these results are brought to market. Within the Horizon 2020 programme, funding is available for most steps in the innovation value chain.



However, the innovation value chain does not run effortlessly from point A to point Z. In fact, there are three key stops along the way where we see projects failing to make a market impact, or failing to even leave the drawing board at all.



To see so much potential wasted should be unacceptable. But how to change the situation? We believe Horizon 2020 and its successors need to make 3 key adjustments:

1. Ensure a more efficient translation from ideas (proposals) to projects.
2. Ensure a more efficient translation from project to results.
3. Ensure a more efficient translation from results to exploitation.

2.1 Translation from idea (proposal) to projects

Filing an application is often time-consuming, as are the waiting terms associated with its review and approval. Project management, dissemination and exploitation strategies are notoriously complicated, causing some businesses to miss their innovation window.

Possible solutions

- Predefine the project management structure by adding standardised project management demands. This is already obligatory for professionals in many EU countries. A demand could be to only allow certified project managers to do project management; think of a PRINCE2 certification. Adding demands should save time in writing. But, as an aside, would have to be grounded in reality.
- Standardise demands for dissemination and exploitation strategies. However, this is more difficult than standardising management demands, since every market is different and there are no standard methodologies

to comply with. However, some general rules and measures could be applicable, like obliging companies to involve exploitation partners with adequate expertise and track-record.

Our services gladly help a lot of clients through the 'application stalemate'; but we believe our clients would be better helped by Horizon 2020 introducing standardisation in the application process.

2.2 Translation from projects to results

Once a project is started, one factor that decides if the project will lead to results is the number of partners in the consortium. The European Commission often asks for a multi-actor approach: a collaboration of all players in a value chain, certainly if new industry or societal standards are pursued. However, very large consortia, if not held in check by diligent project management, run the risk of being inefficient or even ineffective, causing projects to fail.

Possible solutions

We strongly advise to limit the amount of core partners involved in the project, by subcontracting other organisations that need to be involved. Subcontracting is often seen as undesirable; however, in several projects we developed and managed, we believe subcontracting may actually have been a better way to implement a project, especially if part of the work is related to the realisation of large-scale demos or pilots (e.g. engineering, or contract research for the actual inventor and holder of innovative intellectual property). Clearly, the ideal partnership depends strongly on the type of project. However, smaller consortia work better, more efficient and often more effective. Moreover, it is our experience that in general partners with small sub-critical budgets are less committed to a project and thus less effective. It is thus worthwhile seriously considering ways to keep the consortia as small as possible, in order to ensure project success.

2.3 Translation from results to exploitation

In FP7, it was shown that some 80% of funded Health projects lacks valorisation⁵. Horizon 2020 suffers from that same lack of valorisation: many interesting innovations created and developed within the programme don't reach the market. Sometimes, stakeholders have been insufficiently involved in the innovation process, causing a mismatch between supply and market demand. Sometimes, consortium members have too little experience with market implementation.

On paper, Horizon 2020 has made some steps into increasing the exploitation power of innovations. The importance of exploitation strategy has been increased; involvement of the full value chain is an important precondition; an innovation manager is recommended to be part of the project team. However, while these criteria have improved

⁵ http://ec.europa.eu/research/evaluations/pdf/archive/fp7-ex-post_evaluation/staff_working_document_annexes_part_1_en_autre_document_travail_service.pdf

the market orientation and effectiveness of EU funding, in practice it seems to still be insufficient for an optimal exploitation of an innovation. More focus on market introduction is necessary.

Possible solutions

- Make project evaluation and publication in an online marketplace mandatory. Evaluate projects after they have ended, to ensure that promising project results get extra attention and support to find market access. Our UTILE platform⁶ is one step in this direction, actively bringing together innovation providers and innovation developers in Life Sciences & Health.
- Consider more open, bottom-up calls, driven by real market needs and less administrative burden or eligibility rules. Like, for instance, Fast Track to Innovation (FTI): giving room to real market based innovation projects with small, manageable consortia.
- Consider more flexible research-driven projects, based on strong market requirements lead by users, with clear intermediate research results (the 'Fast Track in Research'). Reinforce the possibility to abort the research project at intermediate milestones if the targeted results have not been met, and there are no viable alternatives.

Conclusion

The future of Horizon 2020 is set, and the final budgets are to be announced. We hope this ePaper has caused you to consider how the programme could be improved upon in the coming 3 years, and has helped you reflect on a number of key novelties that could be implemented into the next Framework Programme, to make that the programme truly will have a positive impact on society.

Do you want to share your opinion? Or do you want to know more about the new Work Programmes 2018-2020?

Then feel free to [contact us](#).

⁶ <https://www.health-breakthrough.eu/>

ePaper authors and contributors



Ron Weerdmeester

Email: ron.weerdmeester@pnoconsultants.com

Tel.: +39 349 513 5491



Paolo Salvatore

Email: p.salvatore@ciaotech.com

Tel.: +39 347 463 7178



Tjerk Wardenaar

Email: tjerk.wardenaar@pnoconsultants.com

Tel.: +31 6 527 72204



Lieke Gerris

Email: lieke.gerris@pnoconsultants.com

Tel.: +31 6 227 07585