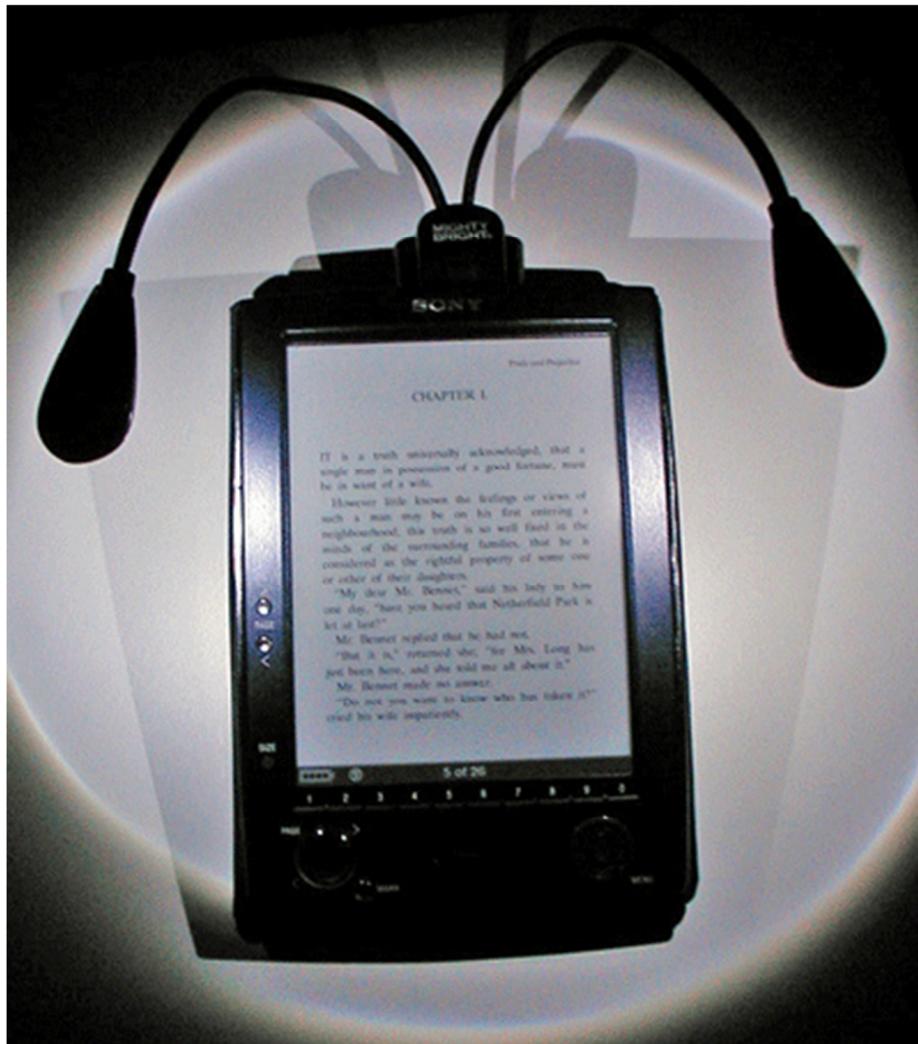


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Eindevaluatie STEVIN-programma

Eindrapportage



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Jasper Deuten

Bastian Mostert

Anke Nooijen

Geert van der Veen

Frank Zuijdam

Summary

This summary presents the main conclusions of the final evaluation of STEVIN, the Dutch-Flemish research programme for Dutch Language and Speech Technology.

Mission and governance of STEVIN

The STEVIN-programme aims to contribute to the progress of human language technology for Dutch (HLTD) in Flanders and the Netherlands and to stimulate innovation in this sector. In addition, it aims to strengthen the economic and cultural position of the Dutch language in the modern ICT-based society.

The mission of the programme is translated into three specific goals:

1. Realise an effective digital language infrastructure for Dutch, based on the BATAVO priorities (i.e., 'BasisTaal&spraakVOorzieningen' = BLARK 'Basic LAnguage Resources Kit');
2. Carry out strategic research in the field of language and speech technology, especially in areas of high demand for specific applications and technologies;
3. Advance the creation of networks and the consolidation of language and speech technology activities, educate new experts, stimulate the demand for HLT-products and transfer of knowledge, and adequate control of IPR ownership.

The STEVIN programme targets higher education institutes, research institutes and companies to ensure that the BATAVO-products and the research results reflect the real needs of language and speech technology vendors, application developers, and their customers. To reach the objectives mentioned above, a combination of different funding instruments was used.

The following funding instruments (open calls and calls for tender) were implemented in the STEVIN programme:

- Three open calls for research and development projects in 2004, 2005 and 2007;
- Two calls for tender in 2005 en 2007;
- Three calls for demonstration projects in 2005, 2006 en 2007;
- Three calls for educational projects in 2007, 2008 en 2009;
- Two calls for master classes in 2008 en 2009.

Several supporting activities were organised, such as networking meetings, conferences and public events.

The STEVIN-programme is jointly financed by the Flemish government (Department of Economy, Science and Innovation, Agency for Innovation by Science and Technology and the Research Foundation Flanders) and Dutch government (Ministry of Education, Culture and Science, Ministry of Economic Affairs and the Netherlands Organisation for Scientific Research). The Dutch partners are responsible for two thirds of the budget and the Flemish partners for one third. The total budget of the programme is 11.4 million Euros (plus interest) for 2004-2011.

The programme is coordinated by the Dutch Language Union and supervised by a board of representatives of the funding bodies (HLT board). The Dutch Language Union coordinates the programme office and is financially responsible. A programme committee, including both academic and industrial representatives, is responsible for scientific and content-related issues. A programme office, a joint collaboration of The Netherlands Organisation for Scientific Research and NL Innovation, takes care of operational matters. In addition, two working groups have been set up: the Working Group for STEVIN supporting activities and the IPR Working Group.

The assignment and design of the evaluation

Several general and a number of more specific questions were mentioned in the evaluation request. These questions concern:

Efficiency: these are questions such as: Are the resources properly and adequately used?; Is the management of the programme efficient? and Is the monitoring of the programme adequate?

Effectiveness: these are questions regarding the effects and impact of the programme, such as: Did the programme reach the stated objectives? Is the programme effectively organised? and Has the programme influenced the policy agenda in Flanders and The Netherlands?

Usefulness: this concerns questions such as: Are the problems in the HLT domain identified at the start of the programme successfully addressed? Is there an overlap with other activities / efforts? and What is the role of STEVIN within the HLT domain, both nationally and internationally?

Relevance: this deals with questions such as: To what extent has STEVIN led to usable material for the HLT field and user groups? To what extent has the

technological and scientific progress in the HLT field evolved? and What is the added value of STEVIN?

The evaluation questions are grouped around the different processes that take place in the STEVIN-programme:

1. Governance and management of the programme
2. Application and selection process
3. Effects and impacts of the programme
4. Positioning of the programme with respect to other programmes
5. Future of the programme

To find the answers to the questions, a combination of both quantitative and qualitative research methods was employed. Desk research was used to analyse all the relevant documents. Two online surveys were sent to the participants of the programme. In addition, 23 interviews were held with a large variety of the people involved. An international benchmark study allowed for comparing the STEVIN-programme to other (foreign) programmes. An international expert panel judged the scientific output of the programme and a network analysis was used to map the relations within the STEVIN-programme.

The present report is the result of the comprehensive analysis of all of the data collected.

Conclusions related to the governance and management of the programme

The STEVIN-programme has been built according to clear invention logic. One of STEVIN's strong points is that it focuses on the whole chain of BATAVO, strategic research, application-oriented research and demonstration projects. Another advantage is the combination of both language and speech technologies in one programme. Also, the combined effort of Flanders and the Netherlands stimulates quality (through selection of the best proposal in competition) and prevents fragmentation. Other bi or trilateral programmes usually do not work with a 'common pot' and have a decentralised governance system that is less efficient.

The governance structure of STEVIN is considered to be complicated, but at the same time people involved think this is inevitable because of the programme design. The only flaw is the distance between the programme office and the Dutch Language Union. The Dutch Language Union, and the HLT board specifically, have a need for more direct support. The distance between the programme office and the Dutch Language Union is relatively large. In addition,

the programme office consists of two organisations. One of the main bottlenecks is the lack of a clear definition of tasks and responsibilities of the organisations involved. The situation has led to problems in financial management. Another bottleneck has been the lack of support by the programme office (NL Innovation) because of multiple changes in personnel. According to the people involved there is also room for improvement in the Dutch-Flanders balance in governance structure.

The working groups of the STEVIN-programme were also included in the evaluation. The Working Group for STEVIN supporting activities did not function properly according to the respondents, although the demonstration projects were well-received by the people involved. The tasks and positioning of the working group were unclear, there was insufficient commitment from the members, not enough support from the programme office, and not enough representatives from HLT-applicators and companies. Most respondents were positive about the IPR Working Group. The working group showed significant progress in a very complex matter. Even so, looking back, there is some room for improvement. Firstly, more substantial effort is needed to have IPR-issues ready on time. Secondly, a remark of a more principal nature, there has been little room for open source.

The financial monitoring initially did not go well. Because of the lack of arrangements on the financial reporting between the Dutch Language Union and the programme office, there was confusion on the amount of money that still could be spent. In addition, there were no arrangements on the calculation of the interest income. It took the necessary efforts to get both issues right. Finally, there were some ambiguities related to items in the STEVIN-budget.

The overhead costs amount to 6.6% of the total budget. This percentage is comparable to costs of other similar programmes. Overall, it can be concluded that the overhead is at a normal level.

Conclusions related to the application and selection process

STEVIN's budget was divided in several funding instruments and calls. This has proven to be a good design, because it allowed for changes in calls during the programme. The respondents considered the calls to be clear and they were satisfied with the communication and information flow. The programme office did receive very few complaints about the selection process or conflicts of interest. The application and selection process was carefully managed. Respondents deemed the International Assessment Panel's (IAP) contribution to be very valuable. The IAP guaranteed impartiality in the selection of proposals and its input helped to position STEVIN internationally.

The evaluation shows that the programme was able to reach its target groups (higher education institutes, research institutes and companies). Organisations from the HLT-application domain were reached to a lesser extent, but this is understandable since the main focus of the programme was BATAVO and strategic research. Part of the users were reached through the products of the participating companies.

Conclusions related to the effects and impacts of the programme

The majority of STEVIN's main targets have been reached to a large extent. Sufficient projects that were aimed at realising an effective adequate digital language infrastructure for Dutch were financed, and this enabled STEVIN to make a significant contribution to realise this infrastructure. This effort is recognised as one of the strongest points of the programme.

In general, respondents judged that the target 'executing strategic research' has been reached. The quantity of the scientific knowledge production is sufficient. The research is of good quality but, at the same time, is not frontier research. There is no publication on the coherent results of STEVIN. The number of publications in top-level magazines is relatively small. This is caused by the weak position of Dutch as a target for scientific research and by the fact that the nature of the research projects is less suitable for international high-level publications. For this reason, the ambitious publication strategy, which was addressed in the mid-term review, was never properly realised.

STEVIN has a high added value for the research projects. Only a minor percentage of the projects at higher education institutes and research institutes would have taken place without the STEVIN programme. This is an indication of the additionally of STEVIN.

Another strong point of STEVIN is the focus on applications and more specifically, the demonstration projects. These projects have demonstrated HLT's possibilities and were able to involve applicators in the valorisation process of the research results. On top of this, these projects generated publicity and the application procedures were simple. The STEVIN-programme has been less successful in contributing to education and human capital. Relatively few new young researchers were hired and the educational projects were limited in numbers and size.

The opinion of all respondents was that the third target, which is to advance the creation of networks, has been reached. Because of STEVIN, existing collaborations intensified, and new collaborations arose, particularly between higher education institutes and research institutes and industry. The programme contributed to the Flemish-Dutch collaboration to a lesser extent. The existence

of several follow-up projects (such as CLARIN) show that the network is also a durable one. In addition, STEVIN has an important platform function

Conclusions related to the positioning of the STEVIN-programme

STEVIN is a good example of cross-border cooperation. It fits in the pursuit of cross-border cooperation in the fields of economy, science and innovation. STEVIN has a unique position compared to other programmes. It is virtually the only programme that focuses on HLT for Dutch explicitly and exclusively. It is also one of the few programmes that have an integrated approach. An important added value of STEVIN is that it aims at building a basic infrastructure for the Dutch language, since there are few other financial sources for this.

There has been little active cooperation or coordination in STEVIN with related programmes. But, through the boards, steering committees, programme committee, and research groups that participate in STEVIN and other programmes, there have been opportunities for informal exchange. Alignment between STEVIN and other programmes has also been created by the fact that STEVIN is part of a broader coordinated approach to the Dutch HLT.

The STEVIN programme has had a positive effect on national policy. STEVIN was able to draw attention to the HLT sector in Flanders and the Netherlands. A significant impact of STEVIN is that it prepared the ground for new forms of bilateral cooperation. The effects on the two countries differ, however. In Flanders there is a strong commitment, particularly by the department EWI, and there is willingness to invest in the HLT domain for the long-term. In the Netherlands there is a more differentiated picture. HLT is in the picture for the Netherlands Organisation for Scientific Research and the Ministry of Education, Culture and Science, however, that is not the case for the Ministry of Economic Affairs. In The Netherlands, long-term financing for HLT is not guaranteed.

Recommendations and a forward look

Language and speech-technology for Dutch evolved rapidly, also thanks to STEVIN. Major bottlenecks identified in the BATAVO priorities have been resolved. The programme has achieved its objectives. STEVIN was a successful programme. With regard to a possible continuation of the programme, we present the following recommendations:

1. The integrated approach of STEVIN was a good approach and should be replicated in a potential follow-up of STEVIN. The focus should then be shifted from the lower layers in the HLT-innovation system (BATAVO and strategic research) to the upper layers (application-oriented research and demonstration projects). It is important to balance between the different

types of research. In the design of the programme, multiple modalities should be possible: basic research combined with more application-oriented research and projects aimed at either strategic or application-oriented research. Maybe less of a priority, but still important are projects aimed at basic language infrastructure.

2. STEVIN is an example of transnational cooperation through "joint programming" that has value for both funders and performers. A possible follow-up to STEVIN should also have a bilateral structure with a "common pot".
3. The main structure of governance does not need to be adjusted. However, the tasks and responsibilities should be defined more precisely, so that it is clear to everyone what the tasks and roles of the various organisations involved are.
4. The programme office needs to be positioned more closely to the Dutch Language Union. This could be done by means of a secondment to the Dutch Language Union from various organisations.
5. The programme office should also be more balanced, in the sense that there is a better Dutch-Flanders balance in governance structure.
6. In general, partly dependent on the focus of a follow-up programme, the composition of different committees and commissions should be reviewed. If its focus is to be more on the application of HLT-knowledge in practice, representation of industry and applicators should be enforced.
7. Before the start of a follow-up to STEVIN there has to be an idea of how the programme intends to deal with IPR. The role of open source and an inventory of required actions are important aspects in this. Prior to the programme, the rules regarding IPR should be clearly defined and availability of standard contracts, et cetera should also be taken into consideration. The preparations can build on the work of the IPR Working Group and the experiences of the HLT Agency.
8. A more active collaboration with related programmes at the national level, such as CATCH (2), and at European level is needed in the follow-up programme. In addition, it is to be considered whether a junction is possible with social innovation programmes in the fields of education, care, and safety.
9. If strategic research obtains an important role in a follow-up programme, greater emphasis should be on publications in international journals and at international summits.
10. Consider dedicating part of the budget to an international publication in which the results of the STEVIN programme are presented in conjunction.

From our evaluation and various brainstorm and forecasts, a number of application areas appear to be promising for the follow-up of the STEVIN programme. These are the following areas:

Healthcare: in healthcare, there are numerous examples of possible applications of HLT. On the one hand it is about a growing demand for patient information, computer systems, and unlocking information, and on the other hand it is about the aid to specific groups of patients in everyday life.

Education: HLT can contribute to the so-called e-learning and in shaping life-long learning. HLT can also bring new opportunities for solving problems such as dyslexia, low literacy and language deficiencies.

E-government: the government has different ways to use HLT applications. These include, for example, the efficient provision of information through digital outlets and to manage and provide access of information and documentation.

Safety: large amounts of information are stored for security purposes. Automatic means can rapidly process large information flows and set aside the salient passages for further inspection. HLT can also contribute to increasing road safety through technological devices in the car.

Cultural heritage: cultural heritage is becoming more and more digitally available. Language and speech technology enables us to ask the material more complex questions and enables the accessibility of the material (to a wide audience).

These application areas - and corresponding explorations - should be explicitly included in the design of the thematic domains in a possible follow-up of STEVIN. The programme committee will have to involve the representatives of these application areas more closely (recommendation 6) and to reconsider the relationship with other relevant programmes (recommendation 8).

technopolis **[group]** The Netherlands
Herengracht 141
1015 BH Amsterdam
The Netherlands
T +31 20 535 2244
F +31 20 428 9656
E info.nl@technopolis-group.com
www.technopolis-group.com