Instituut Samenleving & Technologie

State of affairs IST projects May 2011

Work schedule 2010

1. ICT, always a good idea?

Setting

For some time now, the Flemish authorities have been arguing in favour of a clever use of ICT with senior citizens. The main focus is on the possible applications in (health) care. However, ICT for elderly people is not necessarily limited to those health- and services-related applications. 'Active ageing' can as well refer to the ambition to keep participating in the social, economic, cultural, spiritual, and political life. The project 'ICT, always a good idea?' explores possible ICT applications from a wide point of view: not only from the (health) care perspective but also with respect to an optimization of the life quality of senior citizens in general.

However, the Flemish senior citizens constitute a very heterogeneous group with strongly varying needs. Moreover, they may have very diverging opinions about the appropriate ways to fulfil their needs. That aspect too is taken into account in this IST project by asking the question of freedom of choice. Take online banking: unmistakably an ICT opportunity, but sooner or later becoming an ICT constraint too, as alternatives will gradually disappear.

Planning: 4 steps.

The project encompasses 4 steps. The first step is meant to provide a 'map' of future visions. Which kind of future visions participants usually foster? For which situations are they intended? Which (types of) senior citizens figure in those visions? Which 'regions on the map' remain un(der)exploited and where do applications jostle one another? During a second step (Spring 2011) the team will inventory a first list of sticking points: which reasons or causes do stakeholder groups see for the fact that offer and demand not always match the way they should? The third step (September-October 2011) will explore the expectations and preferences of (future) seniors. How differently do elders react to a selection of possible ICT applications. In a fourth and last step, the results of the first three steps will be converted into a series of recommendations that might contribute to nourish the future debate and policy framework on senior citizens and ICT in

Flanders. The objective, upon completion of the project, is to present the results during a public activity (Spring 2012), as part of the *European Year of Active Ageing and Intergenerational Solidarity*.

2. Noise pollution in Flanders

Setting

The IST investigates the impact of noise pollution on the environment on the one hand and public health and wellbeing in Flanders on the other hand, as well as the social controversies about the issue. Earlier, the IST conducted comparable researches into non-ionizing radiation and fine dust.

The planned report and the accompanying dossier will describe different sound sources and various types of exposure. The IST intends to come to a state of the art report about the policies and research about noise pollution, so as to identify problems and points of interest. Various cases will illustrate the societal debate on noise pollution, e.g. music festivals and hearing damage, wind energy and environmental planning.

Planning

In November 2010, this investigation was assigned to the Research Group Acoustics of the Universiteit Gent, with the Laboratory for Acoustics and Thermal Physics of the Katholieke Universiteit Leuven, as a subcontractor. The release of the report and the accompanying dossier is planned for December 2011.

3. Transition away form a waste policy

Setting

The Flemish economy depends upon the supply of scarce and thus more and more expensive raw materials, energy and natural resources. Both Flanders' economy and its environment will benefit from a more sustainable materials management. In the past years, lots of concepts have been introduced to come to a sustainable materials management: sufficiency, sustainable entrepreneurship, product-service systems, industrial ecology, ecological efficiency, cradle to cradle, ...

The authorities, knowledge institutions and the industry alike demonstrate a growing interest in the various concepts. Step by step, they realize that a transition, a gradual process, will be necessary to come to a green recycling economy that deals with materials and energy in a sustainable way.

The purpose of this project is to give an overview of the conceptual evolutions, to discuss the initiatives that support the transition and to identify loopholes in the current policy. The first part of

the project will be to compose an information dossier, based upon a literature study, complemented with interviews with stakeholders, such as OVAM, VITA, and the industry.

A lunch debate or an interactive panel discussion with the above-mentioned stakeholders about the political challenges of this kind of transition will conclude the project.

4. Climate adaptation

Setting

This project intends to prepare the authorities to new situations that have arisen as a consequence of climate changes. It is the duty of any government to anticipate by acting timely and by introducing an adequate climate policy on a 2020-2030 horizon.

It goes without saying that the climate machine is a lot more complicated than what a computer model could possibly comprehend. As a result, each and every result of whatever prediction shows its uncertainty margins. Nevertheless, in spite of the lack of simple, quantitative data, it is the duty of whatever government to anticipate and to outline an appropriate policy to be developed over a period of 20 years.

The first part to be commissioned will aim at creating a set of decision criteria to assess the seriousness of the impact of future situations. An expert panel will comment the results, thereby providing fundamental elements of information to the policymakers on emergency situations that call for actions

The central objective of a follow-up project will be to trace a potential adaptation policy for the legislative power. The report should be complementary to the initiatives of the executive power in Flanders en will build on the results of various policy areas. This kind of thinking exercises is intended to test the accuracy of the current political instruments for future circumstances. Emergency situations that are considered as absolutely to be avoided should be timely countered by firm political action.

How are things?

The project has been postponed to the fall of 2011.

5. Smartly underground

Setting

The so-called ViA plan (Vlaanderen in Actie) is intended to turn Flanders into a top region by 2020. An important spearhead activity of this action plan is called "Flanders' role as a smart turntable within Europe". It consists of developing a strong vision on how to optimize the transportation

modes by a maximal use, a revalorization, and — if necessary — an expansion of other means than those already belonging to the existing mobility infrastructure.

Theoretically, the underground transportation of goods in Flanders seems to have a future. From a technological point of view, there are already lots of possibilities and 'going underground' might reduce the pressure on the surface infrastructure, thereby offering both people and goods an unhindered mobility, as well as positive health aspects, by reducing the inherent inconveniences of intensive logistics.

The strategic policy choices that can be made now will be of crucial importance for the decades to come. Therefore, to evaluate the opportunities of this technology (also for the Flemish industry), we need an assessment framework that is taking into account the undeniable and specific characteristics of the environmental planning in Flanders.

Planning

This project proposal encompasses the following steps:

- Nomenclature: describes and arranges the various options in 'Smartly underground' and defines the scope of the project.
- Comprehensive literature study: screens, in a structured way, the most relevant sources and cases (best practices) and draws the right lessons to learn.
- Questioning of the 'leading' stakeholders and privileged witnesses about the subject, a crucial step to obtain a realistic, balanced and up-to-date view.
- SWOT and scenario planning to cluster the analysis: in other words, the information is processed into knowledge, through a thorough analysis that leads to the development of new theories.
- SCBA (Societal Cost-Benefit Analysis): provides a rough overview of the costs and benefits within a broad societal framework.
- Synthesis: with a focus on the connection between policy ambition level and technological possibilities, on field-specific requirements as well as on critical success factors (hindering factors, risks, multimodality and co-modality, other consequences).

6. Gender & Technology

How does it come that in some countries, significantly more women choose engineering studies than in Flanders? Why do boys and girls with comparable study results not move up to the same extent to the higher levels in the research world? Which relationships are there between gender and cognitive styles and how do these cognitive styles affect the choice of an education? What is the surplus of gender diversity for the research method of various disciplines? How do novel technologies affect the experience of femininity and masculinity? When and where do opinion-makers use or misuse scientific theories in support of male or female stereotypes?

The 'gender and technology' theme gives rise to very different questions, to some of which the Flemish government attaches special importance. It strongly believes for instance that more

women should contribute their ideas to our knowledge economy. Moreover, gender mechanisms should no longer lead to unequal opportunities and inequality. A sharper gender awareness will be required to realize those changes.

The IST is preparing an **essay bundle** on the gender and technology theme. Acco will publish the bundle in the fall of 2011.

On **10 November 2011** — shortly before the 40th Women's Day in Flanders — the IST organizes a **conference** on the theme in the Flemish Parliament. The authors of the different essays will open the debate. An invitation and more information are to follow.

Work Plan 2011

7. Youth and science

Setting

How do young people look at the poor interest of their peer group in exact sciences and in technical and engineering studies? In Flanders, several initiatives have been taken to try to motivate young people to choose a technical or an exact-scientific career. However, these young people themselves have hardly had a voice in the matter so far.

Therefore, this project is an attempt of IST to let the Flemish youth explain what brings them to choose such a discipline (and career) or not. By doing so, we can understand to what extent the incentives of the authorities to move young people in these direction fits in with their motives to do so or not.

Planning

1st step: a literature study, which consists of an inventory of the arguments used in Flemish initiatives to promote the science and technology sector, earlier (international) studies, and an inquiry into the factors that have an impact on their choice (moments), and referential frames with respect to the societal role of research and education.

2nd step: online survey with young people about their reasons and motives to choose an exact-scientific / technological (study) career or not. The results of this survey will be compared and confronted with the referential frameworks from the 1st step. From an analysis of the results, we should learn to what extent the arguments used in Flemish recruitment campaigns really respond to young people's motives.

3rd step: a reflection and discussion on the results obtained in step 1 and 2, through some interactive exercises with a panel of young people. The objective of this confrontation is a more

thorough and thoughtful insight in the dynamics of choice moments and in the reasons and motives of young people.

8. Cancer and pro–active health care

Setting

Early detection of cancer and screening for risks of cancer constitute an enormous surplus value. Nevertheless, there are also some disadvantages to this kind of pro-active health care: false positives, false negatives, early detection does not always lead to a better cure, the right not to know, the huge social cost,...

Planning

1st step: scientifically reliable exploration of the theme, 'Cancer and pro-active health care', by means of a literature study. This study will provide a state of the affair concerning the scientific knowledge and the policies with respect to cancer and pro-active health care in Flanders and abroad.

2nd step: an exploration of the societal debate (opinions and positions in Flanders) through interviews with experts and stakeholders (ethicists, jurists, scientists, epidemiologists and other relevant actors). The basic assumptions of the literature study are being checked. This 2nd step aims at identifying the positions and controversies in Flanders, briefly comparing them to the societal debate in the neighbouring countries. The objective of this 2nd phase is to collect information about the concerns (listed under C.2 Broader Framework). In the project document, technology cases and examples of technological applications will illustrate these concerns. An exhaustive overview is required with respect to the description of the concerns, but not as far as the description of the technological applications is concerned.

3rd step: the objective of this potential follow-up step is to formulate recommendations for the Flemish parliament, possibly based upon the information which has been brought together during a meeting with the relevant stakeholders.

9. Wise sciences

Setting

On the one hand, developments in R&D are determined by different driving factors: the size of the available budgets for R&D activities in different scientific disciplines, the decision-making processes that lead to the definition and selection of the R&D-activities to be funded, the criteria against which the scientific character and the technical and scientific quality are being assessed, etc.

On the other hand, in the Flemish, European and international context, various initiatives have been developed to monitor the societal relevance and acceptability of R&D developments, such as the creation of technology platforms, the implementation of codes of conduct, the establishment of ethical committees, etc.

The IST project 'Wise sciences' wants to ask the question if the current science and innovation landscape is organized adequately enough to timely realize those socio-technological innovations that are most necessary to be able to respond efficiently to the big societal 21st century challenges we have to face.

With this project, the IST would like to 1) map the existing initiatives and proposals to tailor R&D developments to the big societal challenges, and 2) together with the stakeholders of the Flemish R&D landscape, verify if and where there are any needs and opportunities in Flanders to better equip the R&D landscape to meet the big societal challenges.

Planning

In a first phase, a literature study, maybe complemented with interviews, will investigate the value of the current initiatives and proposals to tailor the technical and scientific innovations to the societal challenges. On the basis of the results of this research, a proposal will be worked out with possible adjustments to the Flemish R&D landscape.

During a second phase, the IST wants to check the proposal, a) by illustrating its actual significance by means of an application to a specific case, and b) by sounding the stakeholders out on the value and the feasibility of the proposal.

Finally, the IST wants tot translate the results into a series of policy recommendations.

10. Synthetic biology

Setting

Synthetic biology is a new scientific and technological domain where scientists and engineers attempt to change existing organisms by designing and synthetically creating genes or proteins, metabolic or development processes, and entire biological systems, in order to understand the basic mechanics of the molecules of biological organisms and to create new and useful functions. Synthetic biology might have an impact in the following industries: biofuels, anticontaminants, textile, cosmetics, diagnostic and therapeutic instruments, vaccines, medicines, and ingredients for food products and pet food and feed (Europese Groep Ethiek, 2009).

Until now, there have hardly been any societal or political discussions in Flanders about the significance of synthetic biology for our society and the potential for the environment, the biodiversity, economy, (bio)safety, health care, and so on. Nevertheless, synthetic biology, with its

predominant engineering perspective touches on some fundamental dichotomies, such as natural/artificial, life/death, man/machine, study/design, etc.

Therefore, the first objective of this IST project will be to provide an IST dossier on synthetic biology, being relevant for Flanders, with an elucidating and introductory exploration of the subject. This dossier is principally directed at the Flemish policymakers but interested citizens, scientists, knowledge institutions and civil society organizations are potential readers too.

The information contained in the dossier will be presented in an attractive and purposive way during a valorization activity related to this research.

Planning

The elaboration of a text for the IST dossier will take three steps.

- Phase 1:
    - To collect, synthesize and formulate the technological and societal aspects, opportunities and policy-related points of interest of synthetic biology, found in both national and international academic literature, policy documents and written media.
    - To map out the big (potential) players (companies, research and government institutions), both at an international and national or Flemish level.
- Phase 2:
    - To plan, carry out and process the interviews with the knowledge actors in Flanders about the societal and policy relevance of synthetic biology for Flanders
- Phase 3: to synthesize the data from the 1st and 2nd step in the form of an informative text for an IST dossier relevant for Flanders, with a clear and introductory exploration of the subject 'synthetic biology'.

PACITA

The European PACITA project started on 1 April 2011. PACITA, or Parliaments and Civil Society in Technology Assessment, is a four-year project (2011-2015), funded through the 7th Framework Programme of the European Commission. After the EUROPTA project (Participatory Methods in Technology Assessment and Technology Policy, 1997-2000) and the TAMI project (Technology Assessment in Europe; between method and impact, 2002-2003), PACITA is the next large-scale European project that focuses on knowledge sharing, evaluation, and reflection with respect to parliamentary TA-practices.

The Institute Society and Technology is one of the 15 partners who participate in PACITA. Some of the partners belong to the well-established parliamentary TA-institutions; others are scientific research institutes, universities and civil society organizations from European regions and countries, without formal parliamentary TA-history. From Wallonia, the research group SPIRAL

from the Université de Liège is participating in PACITA. Our colleagues from the Danish Board of Technology (DBT) coordinate PACITA.

PACITA wants to strengthen and improve the institutional basis for knowledge-based policy practices with respect to subjects such as science, technology and innovation, essentially by looking at the diversity of existing practices within parliamentary TA-institutions.

The IST is responsible for carrying out the case 'European Future Panel on Public Health genomics' (work package 5), which consists of setting up a parliamentary TA path on a European level with experts and policymakers about the impact of the use of genetic information and genome technologies in optimizing the health care system. On top of that, the IST assumes partial responsibilities in other work packages.

Planning

Through 9 work packages and spread over the period 2011-2015, the PACITA partners want to reach the following objectives:

- to map out and document the existing parliamentary TA-practices;
- to make up schemes for the use of parliamentary TA-practices among different countries and on a European level (pan-European TA);
- to draw up training schemes for (potential) users of parliamentary TA;
- to create a web portal for European TA-expertise;
- to stimulate the debate on TA-practices in European countries and regions which do not possess any formal parliamentary TA institutions at the moment. The focus here is on building local TA-capacity, gaining TA experience and mobilizing the local actors for TA-practices.
- to involve experts, social partners, citizens, and politicians in European debates on parliamentary TA-practices
- to carry out 3 important exemplary projects (cases) with expert consultations on the impact of genome technologies for the health care sector, stakeholder workshops on ageing and society and a citizen consultation on sustainable consumption.