

# **CIVISTI**

Collaborative project on Blue Sky Research on Emerging Issues Affecting European S&T

# CIVISTI



Grant Agreement no. 225.165 Activity acronym: CIVISTI

Activity full name: Citizen Visions on Science, Technology and Innovation Activity type: Collaborative project

Deliverable 3.2

Report on S&T priorities

from the second meeting

of the Hungarian citizen panel

Due date of deliverable: Actual submission date:

Start date of Activity: 1 September 2008 Duration: 30 month

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Organisation name of lead beneficiary for this deliverable: Danish Board of Technology

Revision [draft, 1, 2,

# **Change Records**

Version	Date	Change	Author
1	4 <sup>th</sup> November 2010	Draft version	Eszter Bakonyi
2	5 <sup>th</sup> November 2010	Edition and final version	Eszter Bakonyi, László Beck

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# **Preface**

The Civisti project is a project funded by the European Commission under the FP7 Science in Society programme. The aim of the project is to identify new, emerging topics for the EU R&D policy. This will happen by consulting citizens in 7 European countries (Denmark, Austria, Flanders/Belgium, Finland, Malta, Bulgaria, and Hungary) uncovering European citizens' visions of the future and transform these into relevant long-term science, technology and innovation issues. These results might be useful tool for the Commission in desginging the 8th Framework Programme.

Another important objective of CIVISTI is to mediate between the different groups such as European citizens, experts, and politicians. The CIVISTI Consortium developed a methodology to approach and prompt these different social groups and also worked on the challenge how different these groups are expressing themselves and understanding terms and concepts.

The first step of this project was that seven citizen consultations were held in the participating countries at which citizens formulated visions based on their hopes, dreams, and concerns about a desirable future in 50 years. The next step was that experts with different scientific backgrounds translated these visions into research questions and policy proposals, and then, elaborated into scientific and policy recommendations. In the third phase, second citizen consultations were held in the seven participating countries to validate the recommendations based on the given national visions and to prioritize the elaborated recommendations by the citizens. As a final step, the CIVISTI Consortium will present the results to the policy makers in a policy workshop in Brussels.

The aim of this report is to present the process and summarize the results of the second citizen consultation in Hungary organised by the Medián Opinion and Market Research Institute.



Hungarian participants of the second citizen consultation

# **Chapter 1** Introduction

The second citizen consultation (CC2) of the CIVISTI project took place on 16<sup>th</sup> October, 2010 in the Teleki-Wattay Castle in Pomáz, a village near to Budapest. The day started with a warm-up session to get back into the CIVISTI work, then, there were two big sessions to fulfil the tasks of CC2, namely, validation and prioritisation of expert recommendations based on citizen visions.

The day started with an introductory part in which all participants and organisers introduced themselves and explained what happened to them since the last citizen consultation. As the Hungarian experts who took part in the expert workshop could not come, the national organisers explained and showed photos about the process and the results of this workshop where the recommendation were developed. As a next step, citizens formed small groups in which they validated those recommendations which were developed from a Hungarian citizen vision. The aim of the validation was to explore how much the citizens feel that their ideas are understood and represented in the recommendation and how much it helps the idea of the vision to come true. The group discussions were coordinated by moderators and followed three criteria defined in advance by the CIVISTI Consortium: 1) faithfulness which about how much the recommendation represents the idea of the vision; 2) effectiveness which examines how much the recommendation helps to realize the vision; and 3) desirability which leads to the next session and it examines how much the citizens want this recommendation to be implemented. In the afternoon, a science and technology (S&T) expert explained some important aspects of S&T on EU level and why the CIVISTI project is different or special. Citizens could ask questions and had a common discussion about it. Then, the second big session started about prioritisation of the expert recommendations which were developed in the expert workshop. Moderators presented the recommendations except the three they spent the morning session with. After that citizens voted for the 7 best recommendations and discussed the results of the group. The next step will be that these results – together with the priority list of the other six countries where citizen consultations were held – will be presented for policy makers at a policy workshop in Brussels.

There were 14 participants out of the original 22 at the citizen consultation, plus one family member of a participant who needed assistance, but her answers were not added to the others and were not analyzed. One participant died some time before this second meeting and the national organisers together with the Coordinator agreed on inviting his wife who followed the whole CIVISTI process and had the reading material that the organisers sent out before the meeting, thus, the group and his wife could work on what had happened. There were other personal reasons why some participants from the first citizen consultation did not come to this meeting. Regarding the composition of the group at CC1 and CC2, there were significantly more men at the first meeting but this difference disappeared in the second one. On the other hand, older and younger people were present at the first meeting in an equal proportion but this time there were more old than young people. Another effect might be that after the first citizen consultation, participants followed the news about European issues and became a bit more aware about common, societal issues – as they explained it at the second meeting. For example, one participant told us that he started selective waste collection after the first CIVISTI meeting as he understood that we share the costs and risks of the future. Besides, there was an environmental accident in Hungary about 10 days before CC2 which is told to be the most serious environmental catastrophe of Hungary in the last decades. Participants also referred to it at the meeting that it was another example how important is the environment, solidarity, and common actions for our future.

Last but not least, on behalf of Medián, we would like to say thank you for the citizens for their work, enthusiasm, and creativity, and also to the S&T expert, namely

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Arrival of the citizens

# Chapter 2 Validation

We will present here the national results of the validation in Hungary. The main objective of this validation was to examine the relationship between the original vision of the citizens and the recommendation developed by experts. The full version of the three recommendation and the three visions can be found in the Annex.

Participants of the 2<sup>nd</sup> citizen consultation read the original vision and the recommendation and then worked individually. After that they discussed their opinions and arguments in the group. All groups had a moderator to coordinate the discussion and record the content of the group work. We try to show and summarize this very complicated and complex process of validation. We will present the validation process in case of each recommendation according to the following method: we will present the results of individual work, group work, and the role of group dynamics in changing individual viewpoints through social interaction. We will go through these processes by following the three criteria that the CIVISTI Consortium developed for validation of the recommendations. The validation process always started with scoring by each criterion, but we will not analyze these scores in details as it was just rather a tool to orient and start the assessment of the recommendation.

After presenting the validation process about each recommendation linking to a Hungarian citizen vision, we will summarize the most important results of the validation. We will present briefly how citizens argued for and against the faithfulness and effectiveness of the recommendation, and then how much they found it desirable or not. This latter exercise and approach led the work closer to the afternoon session of prioritizing the expert recommendation.



Welcome and introduction

#### 2.1 Validation in details

#### 2.1.1 Validation of the recommendation 25

#### **Recommendation 25**

European integrated policies on sharing work

The need for new ways of working demands European level integrated policies on new models of work and employment. New integrated European models of work should be based on interdisciplinary research and overview of existing international studies of different work models.

Corresponding vision: 53. A happy day – Tuesday, 16<sup>th</sup> of April 2045.

# Validation process

1st criterion: Faithfulness

1st group: when the participants worked individually, they gave mostly positive assessment on the loyalty of the recommendation (3x4 points, 3, 5) arguing that the main points of the vision were covered by the recommendation such as family lifestyle and changes in lifestyles, increase of life expectancy, and active use of leisure time. Some critics were also added that the recommendation is rather a dream but not realistic enough, and that it was not detailed enough.

When they worked together in the group, they extracted their arguments more and mentioned more things both as pros and as cons. They mentioned that the recommendation was loyal to the vision in the new interpretation and distribution of work; in a new type of lifestyle that takes into consideration the importance of the family itself, the time schedule of a family; it makes e-working possible; and that it pays attention on health and prevention. The main criticism was that the recommendation does not cover some issues such as research on pandemics, and besides that it is too narrow and too idealistic about the new model of family.

2nd group: when the participants worked individually, they were a bit critical with the loyalty of the recommendation (3x3 points, 2x4 points). They appreciated that the recommendation deals with new models of work in Europe, but they were sceptical about the term of European work and lifestyle if it exists at all in a diverse Union. They also missed some social aspects such as solidarity and healthy lifestyle - these did not have big emphasis in the recommendation.

When they discussed their opinions in the group, their arguments became more precise and together they found more points in the recommendation that were loyal to the vision of the citizens. The most important aspects of loyalty of the recommendation are that it deals with the role of the family and family models, it asks for research on new models of lifestyle; and that it tries to give new interpretation of work. On the other hand, the group found some important aspects missing from the recommendation: it talks about the distribution of work but does not mention how to distribute it. According to the group, the example of solidarity among Japanese women is too far from the European culture, and some parts of the vision were missing from the recommendation or did not get enough emphasis such as shorter working time, prevention and healthy lifestyle, and the role of multigenerational family model in looking after old people.

3rd group: when participants worked individually, they gave rather critical assessment when it was about the marks (2x3 points, 4, 5), but actually, they found many examples and arguments that showed a rather fair loyalty of the recommendation to the vision. During the group discussion they agreed that the recommendation covered the vision well by focusing on the relationship between work and leisure time, and also that it wanted to connect work with earning money. They also appreciated the demand for new interpretation and distribution of work, and social solidarity. Solidarity in the recommendation was both about mutual assistance for each other and solidarity inside the family. The recommendation tries to make

life more meaningful. On the other hand, the role of the family did not get enough emphasis in the recommendation, the role of the State was also missing for the group. Some economic aspects such as the importance of profit orientation and the role of the economic crisis were also missing for them.

2nd criterion: Effectiveness

1st group: when the people worked individually, they evaluated the realisation of the recommendation rather positively (4x4 points, 3), and they mostly agreed on it also in the group discussion. They thought that research on work, on different models and distribution of work would help to decrease unemployment and offer more jobs for more people - and these two were also important parts of the vision. As the recommendation gives important role to mental development, solidarity, leisure time, and lifestyles, it would help multigenerational families to live together, have personal and familial harmony, and would help the families to have a decent level of living. There were also some criticism emphasising that the recommendation is a utopia as it does not realistic when it does not mention or deal with conflicts inside the family and among people who should cooperate.

2nd group: when participants worked alone, they were a bit sceptical about the realisation of the recommendation (3x3 points, 2x4 points), but as it turned out during the group discussion, it does not mean that they thought that the recommendation did not help the ideas of the vision to come true. It was rather because the recommendation was effective in general, but they did not see the practical steps that would be done. They would like to see more real models than just spending money on research somewhere in a library. They like models and comparative research to analyze the characteristics of different countries or cultures, but these should take into consideration the peculiarities of the local society when actions or policies are taken or implemented. They liked the idea of solidarity in the recommendation, but the example of Japanese women was not concrete enough or it was not clear for them how this solidarity could be introduced as a model on EU level.

3rd group: when people worked individually, they were positive about the effectiveness of the recommendation (4x4 points). Also in the group discussion they did not have any argument or criticism against it. They emphasized that the state and the elites will have an important role in implementing this policy. They argued that there are important aspects of the vision that would come true if the recommendation was implemented such as a good balance between work and leisure time in the family, the role of the state in fighting against poverty, the importance of analyzing the existing models on a European level, research and communication campaign on lifestyles and mutual assistance among people. An important aspect the group emphasized was that these actions would be governed and controlled on European level.

3rd criterion: Desirability

1st group: this recommendation was very desirable for the group, and the arguments strengthened each other during the group discussion. The group thought it to be important that the people, through the government on national or European level - can change or modify the trends of the society. Hungarian people and the whole world would be happier, the living and working environments would be better if this recommendation was implemented. The only criticism was that it does not tackle or do anything against the growth of population.

2nd group: the recommendation was rather desirable for the people when they worked alone (3x4 points, 3, 5), but they formulated some more criticism when they discussed it in the group. This recommendation contains many positive things, especially, the part about timing. It helps to eliminate discrimination on the labour market against families with small children or old people. Although, they missed research on construction to make appropriate buildings for families and the issue of education, healthy food, and health care.

3rd group: this recommendation was very desirable for the people both individually and as a group. They liked that it shows a new approach about the distribution of work and solidarity, especially, that it focuses on EU level when tackling these issues. Living standards will increase, and that it handles work as a process of producing something valuable. They also said that the part under timing is very positive for them, because as the EU has more members, it becomes a more and more diverse community and it would be worth to modify or control the trends in our societies. They had just one criticism that the recommendation does not talk about the possible negative effects and how to react to these effects.



Individual work as start of the validation process

# 2.1.2 Validation of the recommendation 26

#### **Recommendation 26**

Develop effective urban infrastructures supporting multigenerational lifestyle

Support the development of communication and mobile technologies that support multigenerational families. Support urban design and infrastructural development that provide a friendly environment for large families and their changing needs during familial life cycles.

<u>Corresponding vision</u>: 56. Traditional, multigenerational family model in the EU.

#### Validation process

1st criterion: Faithfulness

1st group: the people found this recommendation to be rather loyal to the vision (3x4 points, 2x3 points), and they were more positive about it when they discussed the recommendation in the group. They mentioned many elements of the vision that could be found in the recommendation such as infrastructural development, preserving the multigenerational family model, friendly environment and living closer to the nature, and that old people also have a role in the family. The most important arguments were the development of research and education, the friendly environment, and the emphasis on the role of old people. A few criticisms also

evolved. The group would not develop only the cities, but also the life in the countryside. And they missed the future of people who are single.

2nd group: these participants were rather critical about the loyalty of this recommendation to the vision (3x3 points, 2, 4), and they became more critical when they discussed their arguments in the group. However, there were some important aspects of the vision that were represented in the recommendation, e.g. the importance of family ties and development of urban infrastructure. But they found modern technologies and techniques to be too strong in the recommendation compared to the traditional forms. They would have preferred a recommendation that helps real and not only virtual communication between people and they did not feel that modern communication and mobile technologies played an important role in the vision. They also missed the development of the countryside and the role of some social institutions such as the church, religion, and ethics. They also mentioned that it would be impossible to reach this as family models are diverse in Europe.

3rd group: the participants evaluated this recommendation as rather loyal to the vision (2x5 points, 3, 4), although, they formulated some criticism when they discussed it in the group. They found many parts of the vision that were reflected in the recommendations such as the multigenerational family living together, the friendly environment and good infrastructure which are appropriate for the different life cycles of a family, e.g. an eco-house. The most important argument for them was that the recommendation helps to sustain the multigenerational family model and that it tries to make the environment more humanistic. On the other hand, they missed the role of the head of household and a decent standard of living.

#### 2nd criterion: Effectiveness

1st group: the first group found the recommendation to be rather effective in realizing the vision (5x4 points) and the viewpoints did not change much during the group discussions. The group said the most important argument on the side of effectiveness is that this recommendation helps to sustain the multigenerational family model through the development of communication technologies, infrastructure and a friendly environment. The other important argument was that this recommendation helps to make a change in lifestyle that is important in an aging society. It makes possible to spend the money and share the costs more efficiently and it also offers a more humanistic world. They also mentioned that they like that these developments and changes can be made and are focused on local level and the recommendation does not try to unify the world as it happens with globalisation and internationalisation. Although, a few criticism were also mentioned such as the problem of aging societies that the recommendation does not give enough emphasis on and that it does not handle the difficulties of disabled people who are in working age.

2nd group: the members of this group formulated very polarized opinions about the effectiveness of this recommendation (2x4 points, 2, 3, 5), although, they could make some common arguments for and against it. They emphasized that both the recommendation and the vision focuses on the multigenerational family model and they can see a strong connection between the two. They liked the idea of using the living lab approach to gain more knowledge and experience also from others and from the process of the living lab. They liked that the recommendation tries to eliminate the distance between work and home by communication technologies, but they thought that the recommendation emphasizes too much and misinterpret the role of mobile and communication technologies as these should not replace real communication such as personal talking. An important argument was that the recommendation emphasizes the importance of developing urban infrastructure and it would help the vision to come true. But they missed the possibility to choose, they felt that there is no alternative in this recommendation.

3rd group: when the people worked alone, they were rather positive about the effectiveness of this recommendation (2x4 points, 3, 5) but they became a bit sceptical when they discussed it in the group. They found it very important that this recommendation would help to sustain and strengthen family values through decreasing the costs and the possibility of living lonely but developing friendly environment and infrastructures. This recommendation would make family life more harmonious with work and it is also

important that it handles the issue on EU level. They liked that the recommendation can help the vision to come true in a humanistic way, but this beautiful picture also got some criticism. They argued that it was rather a utopia that a multigenerational family could live a decent life with only one family member earning money. They also thought that these changes that the recommendation mentioned should take a lot of time and money that questions the realisation of the vision through this recommendation.

#### 3rd criterion: Desirability

1st group: the people found this recommendation rather desirable (3x5 points, 4, 3), although, they formulated more criticism when they discussed it in the group. Basically, they liked this recommendation because it makes possible that people do not live lonely but together in a family. They also appreciated the development of telecommunication to make it fast, efficient, and available for all. They also liked the idea of making human environment friendlier. But they also pointed out the dark side of these developments that more communication technologies might reduce real human communication and that living together with family members is not always an easy and joyful thing. For example, mother-in-laws are sometimes difficult to live with.

2nd group: this group had again a bit diverse result when they worked individually (3x4 points, 2, 5). During the group work they mentioned that the recommendation is desirable because it solves many social and economic problems such as loneliness, high costs for the elderly and their children, but they also added that living together with many people and many family members is not something that all people like and want. They also said that the recommendation is desirable in the countryside, because this kind of harmonious nature-friendly environment is possible to develop and sustain there. But in big cities it is not possible to live in a big house with a garden and all family members together, thus, urban infrastructural development is desirable but not possible everywhere as it is described in the recommendation and the vision.

3rd group: when the participants worked individually, they found it very desirable (4x5 points), although, when they discussed it in the group they formulated some sceptical arguments as well. They found it desirable mainly because of the social function of the family that solidarity should be strengthen in the small circles and then it will develop more on societal level. Big families, better infrastructure, more attention for the nature and the environment were those parts of the recommendation that people were in favour the most. They also added that it was important that all generations find their places and roles in the society and that traditional value structures do not diminish. On the other side they found the recommendation unrealistic as the present value preferences and economic situation do not help this recommendation to come true.



Group discussion about the main arguments during the validation process

#### 2.1.3 Validation of the recommendation 27

#### **Recommendation 27**

Encourage alumni work in corporate governance

European companies should be stimulated to establish Elderly Councils for using the knowledge and know-how of the former employees as advisory teams.

Corresponding vision: 59. Tranquil elderly period – actively.

### Validation process

1st criterion: Faithfulness

1st group: when the participants worked individually, they found this recommendation to be rather loyal to the vision (2x3 point, 2x4 points, 5), but when they discussed it in the group, they found some more criticism about loyalty of the recommendation. They appreciated that the recommendation ensured employment for the old and pensioners through an Elderly Council and that old people might feel to be important and not neglected. But they missed the idea of a Single European Pension System which was mentioned in the visions and could have been incorporated into the recommendation. They also missed some control on employment of the elderly, e.g. that they should leave some opportunities for the young people as well. The group also mentioned that a Youth Council would help to represent the interests of the new generations at corporate governance. There were two more arguments against the loyalty of the recommendation that the group thought to be important, one was that the recommendation did not refer to the pension age at all. And the other one was that it was not clear if this model fits to blue collar workers, how they could be involved in corporate governance when they become pensioners.

2nd group: when the participants worked individually, the opinions about the loyalty of the recommendation were rather polarized (2x2 points, 2x4 points, 3) and these different opinions did not change much during the group discussion. They appreciated that the recommendation contained an important part of the vision, but they missed other important details on the one hand, and the resolution of possible conflicts generated by the realization of the recommendation on the other. They mentioned as arguments on the side of loyalty of the recommendation that it ensures an active life for the elderly and that it emphasizes the postmaterial values of setting up Elderly Councils. But they missed any reference to the conflicts and possible solution for these conflicts that emerge by these measures between young and old labour force. They emphasized that young workers also should be respected so that they would not be jealous for the older ones. Another criticism was that the recommendation picked up only the Elderly Council from the original vision, but did not paid attention at all on health care and health prevention which were mentioned in the vision, and it does not handle an active and peaceful life for the elderly in complex way.

3<sup>rd</sup> group: when the participants worked individually, they found the recommendation rather loyal to the vision, although, they missed some important parts (2x3 points, 4, 5). They appreciated that the recommendation dealt with Elderly Councils and re-activization of pensioners which is also useful for the companies as the knowledge of the former employees is not lost. But they missed the idea of a Single Pensioner System on EU level, the harmonisation of the age limit of retirement in Europe, they ways how old people could spend their leisure time, how old people get a decent standard of living if they work a few hours a week. They also missed some reflection on the lifestyle and health care of the elderly, and the ways how the psychic burden could be eliminated when healthy and active people will not work 5 times a week any more.

#### 2nd criterion: Effectiveness

1<sup>st</sup> group: when the participants worked separately they were a bit sceptical about the effectiveness of the recommendation (3x3 points, 4, 5), but they became more positive about it during the group discussion. They emphasized on the positive side that the recommendation would help that knowledge and experiences of the older people are transferred to the younger people and that it enhances social participation. On the negative side they mentioned that the recommendation is too short and not detailed enough that would weaken the realisation of the vision.

2<sup>nd</sup> group: when the participants worked individually, they found this recommendation an important tool to make this vision true (4x4 points, 3), but during the group discussion they found quite a lot of counter arguments. They thought that this recommendation would help to set up the Elderly Councils, but this is the only element of the vision that is tackled effectively. Thus, this recommendation would help the companies, but the social problems of an aging society would not be solved. Moreover, they thought that this recommendation deals with the "younger elderly" and do not suggest anything for the really old ones. They also missed the education and training for the elderly to keep them mentally active.

3<sup>rd</sup> group: the group found the recommendation rather effective (3x4 points, 3), although, they mentioned some details as well which were important parts of the vision, but the recommendation did not help to realize. The most important aspects that the recommendation focuses on are the introduction of Elderly Councils on EU level, the transfer of knowledge between generations in an organised way, and the ensuring of an active life for pensioners. These were the most important arguments for the group, but besides these, they mentioned that this recommendation would eliminate the conflicts between the youth and the elderly. And they also appreciated that this recommendation would help to start a general change in the way of thinking. However, they formulated some criticism as well, i.e. this recommendation did not ensure a decent pension for the elderly, nor it mentioned a reform of the pension system in Europe.

# 3rd criterion: Desirability

1<sup>st</sup> group: when the participants worked individually, they gave a bit diverse opinions about the desirability of the recommendation (2x5 points, 4, 2x3 points), but they became more positive about it during the group discussion. They mentioned among the most important arguments that the recommendation would ensure that knowledge was not lost and that people could enjoy an active elderly period in their lives. They also mentioned some postmaterial aspects of this recommendation that would be desirable. Old people will be encouraged to think and will not feel to be needless which will have a positive effect on them both cognitively and on their health. Another aspect that this recommendation would give a positive personal vision for young people that they will have a future after they finished their career at the company. And lastly, these organisational changes will have a mutual positive impact on the corporate sector and the EU institutions that will benefit for all. The group mentioned a side effect of this recommendation that old people will have less time for their private life that they have to share between their family and work.

2<sup>nd</sup> group: when the people worked individually, they found this recommendation rather desirable, although, some criticism was also formulated (5x4 points), but when they worked in the group, they put the emphasis on the positive and desirable aspects of the recommendation. The most important arguments were that people did not become dependents after retirement. People can be active for a longer time as being a pensioner does not mean being old. And the experiences of ex-employees could be built in the procedures of the organisations. Although, they mentioned some weak points as well but did not find it very important except the one that the recommendation should have incorporated health prevention and leisure time of the former or older employees.

3<sup>rd</sup> group: the group found this recommendation very desirable both when they worked individually (4x5 points) and during the group discussions. Although, they were concerned about the value of old-age pension

and the standard of living of old people if they will have to work still when they are retired. For reaching a Western lifestyle and standard of living for pensioners they would urge for a pension system on EU level. But they emphasized the positive and non-material aspects of the recommendation more strongly. They appreciated that this recommendation would ensure that knowledge did not lost and we would benefit more, the society would have more people producing and more specialists. But besides these, this recommendation represented very important societal, moral, and postmaterial values. It ensures respect for the elderly and all people after retirement. And it decreases the conflict between the generations.



All groups listened to the results of the other groups

# 2.2 Summary of the validation

#### **Recommendation 25**

Participants mentioned among the most important arguments for faithfulness that the recommendation dealt with the role of the family and family models, it asked for research on new models of lifestyle. They also appreciated the demand for new interpretation and distribution of work, and social solidarity. Regarding effectiveness, as the recommendation gives important role to mental development, solidarity, leisure time, and lifestyles, it would help multigenerational families to live together, have personal and familial harmony, and would help the families to have a decent standard of living.

However, citizens mentioned some examples about the recommendation for not being loyal to the vision. Some parts were missing from the recommendation or did not get enough emphasis such as shorter working time, prevention and healthy lifestyle, and the role of multigenerational family model in looking after old people. As a critical comment on effectiveness, they would like to see more real models than just spending money on research done in libraries.

This recommendation was very desirable for the people, although, they formulated some criticism when they discussed it in the group. It helps to eliminate discrimination on the labour market against families with small children or old people. As the EU has more members, it becomes a more and more diverse community and it would be worth to modify or control the trends in our societies. Although, they missed research on

construction to make appropriate buildings for families and the issue of education, healthy food, and health care.

#### **Recommendation 26**

The most important arguments for faithfulness were the development of research and education, the friendly environment, and the emphasis on the role of old people. They also appreciated very much that the recommendation helps to sustain the multigenerational family model through the development of communication technologies and infrastructure and that it tries to make the environment more humanistic. About effectiveness, they thought it would help to change our lifestyle which is important in an aging society. It makes possible to spend the money and share the costs more efficiently and it also offers a more humanistic world. It would make family life more harmonious with work and it is also important that it handles the issue on EU level.

Some criticism was formulated as well. They would have preferred a recommendation that helps real and not only virtual communication between people and they did not feel that modern communication and mobile technologies played an important role in the vision. They also missed the development of the countryside and the role of some social institutions such as the church, religion, and ethics. They also mentioned that it would be impossible to reach this as family models are diverse in Europe. Regarding effectiveness, citizens complained that the recommendation did not give enough emphasis on and that it does not handle the difficulties of disabled people who are in working age. They thought that the recommendation emphasizes too much and misinterpret the role of mobile and communication technologies as these should not replace real communication such as personal talking. They were sceptical that a multigenerational family could live a decent life with only one family member earning money.

People found this recommendation rather desirable, although, they formulated more criticism when they discussed it in the group. It is desirable because it solves many social and economic problems such as loneliness, high costs for the elderly and their children, but they also added that living together with many people and many family members is not something that all people like and want. They also said that the recommendation is desirable in the countryside, because this kind of harmonious nature-friendly environment is possible to develop and sustain there. But in big cities it is not possible to live in a big house with a garden and all family members together. They expressed their concern that more communication technologies might reduce real human communication and that living together with family members is not always an easy and joyful thing.

#### **Recommendation 27**

Regarding the faithfulness of the recommendation, it contained a significant part of the vision, but citizens missed other important details on the one hand, and the resolution of possible conflicts generated by the realization of the recommendation on the other. In relation to effectiveness, the recommendation would help that knowledge and experiences of older people are transferred to younger people and that it enhances social participation. The recommendation would also ensure an active life for pensioners.

Going back to faithfulness, citizens missed the idea of a Single European Pension System which was mentioned in the vision and could have been incorporated into the recommendation. According to citizens, the recommendation picked up only the Elderly Council from the original vision, but did not paid attention at all on health care and health prevention which were mentioned in the vision. When it was about the effectiveness of the recommendation, they argued that it would help to set up the Elderly Councils, but this is the only element of the vision which is tackled effectively. Citizens also criticized it for not suggesting anything for the really old people. They also missed education and training for the elderly to keep them mentally active.

When the participants worked individually, they gave a bit diverse opinions about the desirability of the recommendation, but they became more positive about it during the group discussion.

Regarding desirability, the recommendation would ensure that knowledge was not lost and that people could enjoy an active elderly period in their lives. Citizens also appreciated some postmaterial aspects of the recommendation. Old people will be encouraged to think and will not feel to be needless which will have a positive effect on them both cognitively and on their health. Besides, the organisational changes proposed in the recommendation will have a mutually positive impact on the corporate sector and the EU institutions. On the other hand, the recommendation should have incorporated health promotion programs and leisure time of the former or just older employees. Citizens would urge for a pension system on EU level.



Discussion with the S&T expert

# **Chapter 3** Prioritisation

The afternoon session dealt with the recommendations of the experts and the citizen visions did not play a role any more in the working process. The short version of these recommendations can be found in the Annex. First, our S&T expert explained the citizens some important details of science and technology development on EU level and the citizens could ask questions for more clarification. Then, the moderators of the citizen consultation explained the citizens the 27 recommendations (30 recommendation minus the 3 that the citizens validated in the morning session) that the Hungarian panel had to prioritise. Citizens had the list of the titles of the recommendations and could make notes during the presentation. After that they went around the exhibition of the recommendations and read the full version of those they were more interested in. It was followed by the voting on the recommendations they thought to be the most important ones. The result of the voting is as follows:

Recommendations	Votes	
24. Go and re-appropriate countryside!	10	
5. Foresight and research to explore sustainable options of decentralized energy production		
systems and the resolution of energy related conflicts		
9. Optimization of urban space: towards dense European eco-cities	7	
12. Increase direct democracy through e-voting	7	
15. Agreements with farmers organizations on avoiding antibiotics and hormones		
18. Promote technical and social innovations that can enhance people's access to and use of		
public transportation		
10. From CAP to European Agricultural policy: back to a gardening tradition		
28. Worldwide collaboration on space technology		
3. European TV – unity in diversity. A permanent lab for experimentation on building and		
expressing identity (IdenTVLab)	4	
6. A 'Platform of the future of work' at a local, regional and global level should be		
considered within upcoming calls of the SSH program	4	
17. Social innovations for aging societies are needed		
29. Project to explore global governance		
1. Humanistic research to explore what dignity during the dying process means to		
contemporary Europeans	3	
2. Tools for disabled people	3	
8. Enhance the ethical reflection on science based organic and "bionic" production	3	
20. Select or develop plants and techniques for areas with extreme climate conditions	3	
22. Foster the use of biorefineries	3	
4. Plug and play communication: development of standards for smart gadgets	2	
19. Develop avatars that are able to act as a remote physical representation of myself	2	
7. Stimulate research to expand/augment the human sensory capabilities	1	
11. Research to overcome the tension between the use of highly complex materials in		
products and their recyclability	1	
13. Recognition policy	1	
14. Develop Sofia into an eco-model for European capitals		
16. Innovative participatory structures		
21. Policies towards immigrants and refugees appreciation		
23. Project for Finnish best practices to be disseminated and used in other countries		
30. Stimulate research on human-machine interfaces		



Moderators present the 27 recommendations for prioritisation

### The top 6 recommendations

Because of the time pressure, we could not discuss the whole process and all results of the prioritization with the panel. Instead, we chose the first 6 recommendation from the top of the prioritisation list and made a round in which all participants commented on the common result of the group. The short versions of these six recommendations are the following:

#### 24. Go and re-appropriate countryside!

Foresight studies should be conducted to develop new visions of the future for establishing attractive, contemporary life in the countryside. Foresight studies should include mobility, cultural and political life, employment and balance between production and recreation in the countryside.

- 5. Foresight and research to explore sustainable options of decentralized energy production systems and the resolution of energy related conflicts.
- Implement foresight studies and research in the governance challenges related to different scales and levels of energy production and distribution in order to develop new options for decentralised, sustainable energy production and to avoid future conflicts.
- 9. Optimization of urban space: towards dense European eco-cities. Initiate pilot projects creating eco-cities in Europe with sustainable waste management, transportation, urban space use and energy usage. It should be based on citizens participation.
- 12. Increase direct democracy through e-voting.

Citizens should be involved more often and easily in parliamentary elections as well as in special decisions affecting the development of the society through e-voting.

15. Agreements with farmers organizations on avoiding antibiotics and hormones. Implement research on ethical, legal and philosophical status of animals in FP8. Develop agreements on avoiding antibiotics and hormones to be implemented at the local or regional level but that are harmonized at the European level.

18. Promote technical and social innovations that can enhance people's access to and use of public transportation.

Promote technical and social innovations to improve people's access to transportation schemes, through an intelligent and interactive network. This network should cover and integrate both local and trans-national travel in a flexible, user friendly and environmentally sound way.



Voting for the most important recommendations

## Comments on the final results of prioritisation

It is surprising that the recommendation about human-machine interfaces is not among the top recommendations, although, it is coming and very close to our own life.

It was surprising that the recommendations in general and the top 6 did not refer to religion or the development of military technology.

It is surprising that the recommendation about avatars were not among the top 6, moreover, it was legging behind on the list, although, it was a very innovative, very new, and useful idea.

This result is very logical to me as these were exactly or more or less the ones I have voted for – it was mentioned by several participants.

I am happy about this result, because regional development and development of the countryside is very important.

I have the impression that this result expresses very well what are the main problems in Hungary at the moment on the one hand and the role of the media that enlarge some issues on the other.

I had some, and I think that we all had some, interpretational problems with the recommendations and I think that those recommendation with a less understandable text got much lower scores during the voting.

I am very satisfied with these results, because I personally think that these are really the best recommendations for the future of Europe and European sciences.

I am not very satisfied about this top 6, because I think that dense eco-cities got high scores just because the vast majority of this group come from big cities, but in my opinion, presently, the countryside would need more development that the big cities where pollution and density decreases the quality of life. We should attract more people toward the countryside. Maybe I am wrong, but I think that people voted here in accordnace with their close environments, how they live and what is important for them personally. The way of thinking was much more local than European here – this comment generated a big

discussion, some people argued against it, e.g. that the development of the countryside and dense cities were both among the top recommendations.

I like this result, especially, because of the recommendation about e-voting, I like that it got many votes. Democracy and referenda will be cheaper for us if it comes into being.

I am satisfied with this result, because the recommendation about the countryside and about urban spaces were really good.

I am surprised that the recommendation about biorefineries was not among the top 6, it should have been given much more votes as it would solve a very important problem that affects all of us.

I am very suprised and a bit unhappy about the results that the recommendation about tools for disabled people is not among the top 6 and that it got a rather low score. It is a real and very serious demand...



Final discussion about the results

# **Annex**

#### The three recommendations and the three visions used for the validation

# Recommendation 25: European integrated policies on sharing work.

#### **Description of the recommendation**

Population growth, aging, and increased productivity involve the risk that work will have to be shared in new and radically different ways in the future. For this reason, there is a need for new definitions and models of work and income, integrated policies on a European level, and research into new models of work, employment, earning, and way of living. Existing models should be investigated and compared, such as the Japanese women cooperative, in which one million women help each other (e.g. in child care) and create a new system of mutual support and cooperation.

Sociological, philosophical, and economic research should be conducted and an argumentation developed, to revise the future European way of working and living, in a way that will be characterized by the decoupling of working and making money. Such research should take into account different dimensions of human life: working, family, leisure, relaxation, values, spiritual development and technological communication and interaction.

#### **Evaluation of the recommendations by the experts**

### Novelty

There are existing studies about work and employment, but at the European level of governance, such models are lacking.

# Importance

In order to manage the increasingly difficult balance between work, leisure, and life long learning, it is important to study new models of employment.

#### • Timing

Changing ways of working, leisure activities and structural trends is a gradual process, but it important to intervene before problems would become unmanageable.

# Vision the recommendation was derived from

Vision 53: A happy day – Tuesday, 16<sup>th</sup> of April 2045

# A short description

- change of demography trends
- emphasizing the role of the family
- increase of life expectancy
- combating mortal illnesses and epidemics
- decrease of environmental pollution
- transform energy management
- complete harmonisation of transportation
- change of lifestyle through the intensification of the role of education (prevention)

#### The detailed description

TUESDAY, 16<sup>TH</sup> APRIL 2045

8:00- The multifunctional biomechanical robot wakes me up twitteringly and asks me if I would like to have a coffee or a soft drink (fresh fruit juice). It adds politely that my partner has already swum three rounds in the communal swimming pool and that the children (there are three of them) are having

breakfast with the grandparents in the dining room. Besides, it informs me that it is Tuesday today, so my four-day working week has started and I have a meeting from 10. I join my partner and go to the wellness centre (there is one built for every 20 families) for a refreshing massage.

10:00-12:00 Conference in "world-English" with the African and Asian colleagues via interactive telephone. The topic of the conference is: "What kind of new alternative energy could improve the inter-world travelling?"

12:00-13:00 Lunch

13:00-13:30 Relaxation

13:30-14:30 Laboratory work: experiment for improving the intensification of vividness and performance capacity of human brain over 120 years.

14:30-15:30 Guided tour for students at the exhibition (as Biology and History class) entitled 'How has the cure of cancer, AIDS, and epidemics been resolved?'.

15:30- The maglev wings me home where I learn old Hungarian poems with my children from 15:40.

16:00-17:00 We go for an excursion and jogging into the forest by maglev.

17:00-18:00 Common dinner with the family.

18:00-19:00 Live exhibition of old Hungarian musical instruments and contest of singing folk songs among families and children.

19:00-20:00 Family program (together with the grandparents): chess, playing card, board game, conversation etc.

20:00-21:00 3-dimensional cinema for children and grandparents. Interactive quize among friends and families in the community club until 11 p.m.

23:30- Having rest.

The aging trend of Europe has turned to the opposite.

More children are born by means of social, economic, and educational support, and better usage of working and leisure time. Banks give priority support to families having or planning a child. The three-child family model has become dominant.

Medical technology develops and has been harmonised in the European Union. Life expectancy of people is 120-130 years.

Wastes are recycled.

Environmental pollution has reached a minimum through the usage of renewable energy sources.

The success of Programs for improving and preserving health, and of the preventive work has decreased significantly the level of drug and alcohol consumption, and smoking.

Mortal illnesses as AIDS and cancer have disappeared. Epidemics have been eliminated.

Unemployment rate is under 2 percent.

The most important elements of spending our leisure time are cultural and sport activities, and the conscious cultivation of traditions.

We have supplanted carbon-hydrogen from the energy industry by renewable and fusion energies.

Waiting time has ceased through harmonization of transportation and even the two furthest points of the Union can be reached in two hours.

The "world-English" is a common language of the EU, too.

Significant differences between the social strata have been eliminated.

We have combated ethnic problems through the development of tolerance to a higher level.

#### What are the benefits associated with it? For who?

For the individual: longer, calmer life on a higher standard.

For the family: togetherness grows stronger.

For society and the world: cleaner environment, more efficient education and upbringing, more developed society – and all these are available for everybody.

#### What is necessary for this future (knowledge, policies, resources, skills)?

-laws

- social policy, sociology
- psychology
- medical science, health care
- environment management
- economics, economy
- education, teaching
- space research

# Recommendation 26: Develop effective urban infrastructures supporting a multigenerational lifestyle.

#### **Description of the recommendation**

Ensure that there will be possibilities for the traditional family model to survive in the future. Support the development of communication and mobile technologies that help to maintain family value structures. Support urban design and infrastructural developments that provide a friendly environment for large families and their changing needs during familial life cycles

#### **Evaluation of the recommendations by the experts**

#### Novelty

Answering the future challenges that will be raised by our higher average life expectancy and the need for sustaining family structures.

#### Importance

Because of the aging society, the costs are rising very steeply. That means that turning the costs into a more efficient pathway can be coupled with the humanistic idea of sustaining family structures in an era of multi-age-families.

# • Timing

SSH research, ICT research and economics should immediately take into account these requirements in the 8th FP.

#### Additional comments from the experts on the recommendation

A living lab-approach can help to sustain and reinforce the connections inside the multigenerational families.

#### Vision the recommendation was derived from

Vision 56: Traditional, multigenerational family model in the EU

#### A short description

Support for the traditional, multigenerational family model. The liveable family which is determined by the micro and macro environment. Thanks to this, a new transformation in the social structure has come into being.

#### The detailed description

Stable, harmonious, and sure value systems have to be generated by which a vision comes into being which can be represented with credibility and which can pull through changes and crises. (New social structure.) Pensioners, economically active workers, and children hoping a fairer walk of life can all find their places in this model.

The common breakfast of a multigenerational family in 2045 happens by the involvement of the whole family. Division of gender roles in the family is as follows: The father stays at home with the third, the youngest child. It takes a few minutes to get there (to the workplace) from the residence which is an ecohouse with a reduced rental and supported by the workplace. The one working person of the family is able to

ensure the existential and material welfare of the whole family. The grandparents run the ecosystem suitable for the whole house. The grandfather is repairing the solar collector; the grandmother is looking after the biogarden. The parent staying at home takes the children to a school in which there is the opportunity to have integrated education according to demand. Children in this school study together regardless to gender, race, sexual identity or disability. The family can go for an exchange-holiday to any part or region of the EU with a holiday coupon or cheque. This exchange-holiday program is supported by the Social Renewal Operational Programme in the EU member states. In the media, traditionalist, image-building programs and commercials designed for the EU member states are shown in prime time. Support for educational, cultural, and leisure time activities is available also on the family level by the extended tendering program of social responsibility (CSR). These are coordinated by one organization per member state. In Hungary, this organization is the National Association of Big Families (NGO representing families with 3 children or more, Hungarian abbreviation: NOE – eds.).

#### What are the benefits associated with it? For who?

A transformation of social structure has occurred which helps the multigenerational family model to function.

### What are the negative repercussions of this future? On who?

It is good for the traditional multigenerational families, but it may be negative for other types of families or people living in other social forms.

## What is necessary for this future (knowledge, policies, resources, skills)?

The proper knowledge about traditions. Education policy, communication, and governmental and civil dialogue of the familial and social sphere. A single social institute of the EU has to be set up with coordination on regional level. Some material sources can be gained by bringing those back to the labour market whose working capacity has changed. Real and fair taxation is also necessary. And to have harmony in the family.

# Recommendation 27: Encourage alumni work in corporate governance.

#### **Description of the recommendation**

Encourage alumni councils and networks in the context of corporate governance. Include reporting about alumni work and forms of cooperation with formal employees in corporate governance codes.

#### **Evaluation of the recommendations by the experts**

#### Novelty

There have been some preliminary discussions on this issue. Alumni (former employees that are on pension) work happens in corporate governance but not in an organized manner.

#### Importance

In the case of our ageing society, an enormous amount of knowledge is lost when the pensioned employees leave their company. A competitive knowledge-based economy cannot afford that kind of loss.

## • Timing

It should be considered in the 8<sup>th</sup> Framework Programme's priorities.

# Additional comments from the experts on the recommendation

European companies should be stimulated to establish Elderly Councils to take advantage of the knowledge and know-how of the former employees within advisory teams. Knowledge accumulation should be a priority in company governance.

#### Vision the recommendation was derived from

Vision 59: Tranquil elderly period – actively

#### A short description

Retiring age, special offers Preserving health, prevention State and private pension insurance, EU Pension Fund More generations living together Active lifestyle, transmitting experiences

# The detailed description

After a busy working life, s/he reached the retiring age which is 65 years for both men and women. Since s/he was 40, s/he has taken part in obligatory preventive health examination covering everything. His/her pension comprises two parts: 50 percent State pension and 50 percent of private personal pension account savings. S/he is not afraid of remaining without pension or retiring allowance, because the EU member states set up a common pension fund which is used to supplement the pension funds of the less developed countries. Because, there is a Single Pension System in the EU.

S/he has not lost contact with his/her workplace after becoming a pensioner, they count on his/her professional knowledge s/he accumulated. S/he takes part in the so-called Elderly Council at his/her former workplace once a week. S/he would like to continue to run an active life, thus, s/he takes part in the work of several civil organizations (NGOs). After lunch, s/he goes to the thermal bath which has been free for him/her since s/he was 55. S/he is planning to which club to go tomorrow, because s/he would like to learn sculpturing. S/he would like to visit his/her friend tomorrow morning who sold his flat and in return for this, he lives in a social institution. Unfortunately, the neighbour of his/her friend was not this lucky to have this opportunity, but he has three children. Although, he did not want to ask for help from his three children, but the social service for families obliged them to contribute to the institutional services in proportion to their financial circumstances.

As more generations live together in their house, s/he has the opportunity to look after his/her grandchildren in the afternoon.

S/he talks with his/her friend through a voice-controlled PDA in the evening. His/her friend has a special profession related to the public sphere, and as s/he has reached the age of 60, s/he is retired.

They will celebrate the 65<sup>th</sup> wedding anniversary of his/her old parents who have reached this age healthily, because the treatment of old-age illnesses has developed significantly, and because they have been always using the special offers given by the membership in the health insurance fund.

#### What are the benefits associated with it? For who?

There is a tranquil elderly period and there will not be frustrated people. A pensioner does not feel to be unnecessary, because the society needs his/her activity.

# What is necessary for this future (knowledge, policies, resources, skills)?

Social scientists, Ministry of Social Affairs and Health Care, NGOs, civil organizations. A single, elaborated, and calculable reform of the pension system.

# The short version of the 27 recommendations used for the prioritisation

# 1. Humanistic research to explore what dignity during the dying process means to contemporary Europeans.

Participatory research (anthropological) of an aging population in modern societies for developing spaces, where citizens can discuss and develop a community around their concerns about dignity during the dying process.

<u>Corresponding vision</u>: 7. Being allowed to die in dignity, a companionship of dying in a network of family and relatives.

The recommendation is also related to:

vision 11: The death passport.

#### 2. Tools for disabled people.

Investigating the state of the art in the development of tools for disabled people and older adults. Based on the introduction of a balanced multidisciplinary approach to the issue by involving experts from technological and social sciences.

Corresponding vision: 9. Disabled people as fully valuable members of the society.

# 3. European TV – unity in diversity. A permanent lab for experimentation on building and expressing identity (IdenTVLab).

Establishing TV that contributes to the creation of different forms of European identity and to the cooperation of diverse cultures.

Corresponding vision: 10. TV for the creation of a European identity.

### 4. Plug and play communication: development of standards for smart gadgets.

To support the vision of a smart society and reduce the risk of wasting resources standardisation of smart gadgets are needed. Standardisation shall ensure a minimum standard of security and privacy and that smart gadgets can communicate with each other regardless brand or type.

Corresponding vision: 12. Smart society.

# 5. Foresight and research to explore sustainable options of decentralized energy production systems and the resolution of energy related conflicts.

Implement foresight studies and research in the governance challenges related to different scales and levels of energy production and distribution in order to develop new options for decentralised, sustainable energy production and to avoid future conflicts.

<u>Corresponding vision:</u> 13. Endless energy (independence of fossil fuels. Local and environmentally friendly production of energy).

# 6. A 'Platform of the future of work' at a local, regional and global level should be considered within upcoming calls of the SSH program.

Establish a platform within the upcoming calls in the SSH program about work at local, regional and global level. Including research about redefining work, 'flexicurity', work-life balance, basic income, new jobs, and social responsibility. This platform should involve citizen participation.

<u>Corresponding vision</u>: 17. Where there is a will, there is work (Employment for all. A vision about the balance between work and private life, voluntary work and full employment).

## 7. Stimulate research to expand/augment the human sensory capabilities.

Promote cutting-edge research on bionics and machine-human interface to expanding human sensory capabilities. Main focus on the technological prospective but also focus on the knowledge generated by the recent studies with interdisciplinary research in psychology, ethics and philosophy.

Corresponding vision: 19. Make me human! (A dream about health and wellness, technology and ethics).

#### 8. Enhance the ethical reflection on science based organic and "bionic" production.

The ethical aspects of development of radically new genetic and technological treatments should be systematically approached by ethical research councils and advisory bodies at a European level. Ethical interdisciplinary research programmes should be designed.

Corresponding vision: 19. Make me human! (A dream about health and wellness, technology and ethics).

#### 9. Optimization of urban space: towards dense European eco-cities.

Initiate pilot projects creating eco-cities in Europe with sustainable waste management, transportation, urban space use and energy usage. It should be based on citizens participation.

Corresponding vision: 20. A contemporary European city in the year 2050.

# 10. From CAP to European Agricultural policy: back to a gardening tradition.

Establish Foresight studies and comparative analyses on the agricultural potentials of the different regions in Europe with the purpose of developing policies for re-establishing a gardening tradition in Europe that would deliver high quality agricultural products.

Corresponding vision: 21. Bulgaria, the garden of Europe.

# 11. Research to overcome the tension between the use of highly complex materials in products and their recyclability.

Establish research in new materials that deliver technical performance while at the same time are easily recyclable, and research in new processes that allow for the recycling or reuse of high performance materials. Corresponding vision: 22. Eco-techno future.

#### 12. Increase direct democracy through e-voting.

Citizens should be involved more often and easily in parliamentary elections as well as in special decisions affecting the development of the society through e-voting for

Corresponding vision: 25. Link among the generations, space and time.

#### 13. Recognition policy.

The development of a new research area that is called the 'Politics of Recognition' and that focuses on promoting the inherent uniqueness of an area, country, region, values, traditions etc. The research should include participatory process/action research.

<u>Corresponding vision</u>: 26. One Bulgaria, one Europe, one world – one whole.

#### 14. Develop Sofia into an eco-model for European capitals.

Establishment of an interdisciplinary "Eco City" European programme with significant funding for supporting the transition of European cities to eco-models and the exchange of good practices. Corresponding vision: 27. Sofia – the green capital.

# 15. Agreements with farmers organizations on avoiding antibiotics and hormones.

Implement research on ethical, legal and philosophical status of animals in FP8. Develop agreements on avoiding antibiotics and hormones to be implemented at the local or regional level but that are harmonized at the European level.

Corresponding vision: 31. Responsible animal production in the EU.

#### 16. Innovative participatory structures.

Implement innovative experiments with citizens participation. Large scale explorative action research based on trying new methodologies and including new communication technologies for citizens political communication debates.

Corresponding vision: 32: EU for the people.

The recommendation is also related to:

vision 36: Mass communication replaced by masses communicating (by providing communication technologies to facilitate the participatory structures)

vision 42: Europe TV (by providing a medium for these methods)

#### 17. Social innovations for aging societies are needed.

Research should be done to investigate the effect that a transition period between full-employment and full-retirement would have on the labour market. The aim of this would be to re-evaluate the rigid retirement age/pension system that currently characterizes pension policy.

Corresponding vision: 33. The ageing man/woman is a resource.

The recommendation is also related to:

vision 17: Where there is a will, there is work.

vision 50: Support for starting and maintaining a family - and the EU.

# 18. Promote technical and social innovations that can enhance people's access to and use of public transportation.

Promote technical and social innovations to improve people's access to transportation schemes, through an intelligent and interactive network. This network should cover and integrate both local and trans-national travel in a flexible, user friendly and environmentally sound way.

<u>Corresponding vision</u>: 35. Environmentally sound transportation throughout Europe.

#### 19. Develop avatars that are able to act as a remote physical representation of myself.

Start research on the many aspects of creating avatars, including research in brain-machine interface, technical research, research in legal and insurance issues and research in social consequences. Corresponding vision: 36. Mass communication by masses communicating.

# 20. Select or develop plants and techniques for areas with extreme climate conditions.

Increased research, development and use of plants adapted to extreme wet and dry areas and capable of resisting extreme climate conditions.

<u>Corresponding vision:</u> 39. Food production in the EU is sustainable.

### 21. Policies towards immigrants and refugees appreciation.

Policies towards immigrants and refugees should become less threat-focused. A new immigrant positive approach to educative, cultural, immigration and media policies is needed for changing the mental framework of citizens as well as bureaucracy towards the appreciation of immigrants. Corresponding vision: 40. Strengthening of language and culture.

### 22. Foster the use of biorefineries.

Implement a research program on biorefineries that are able to produce natural based, biodegradable chemicals that can replace fossil-based chemicals, both on the European and national level, with focus on the interplay between local and international biorefineries.

Corresponding vision: 44. The worst environmental threats have been beaten.

# 23. Project for Finnish best practices to be disseminated and used in other countries.

Finland's success in innovation should be presented by Finnish science and technology policy makers, while other EU countries comment on it, identify its weak points, suggest complementary and/or alternative solutions

<u>Corresponding vision</u>: 45. Finland as a pioneer of innovations.

#### 24. Go and re-appropriate countryside!

Foresight studies should be conducted to develop new visions of the future for establishing attractive, contemporary life in the countryside. Foresight studies should include mobility, cultural and political life, employment and balance between production and recreation in the countryside.

Corresponding vision: 49. Go countryside!

#### 28. Worldwide collaboration on space technology.

Create popular support for worldwide research cooperation in the form of a new mega-programme along the lines of the space programme in the 1960s and to ensure the democratic way of the process. Funded internationally with the overall objective of ensuring the longer term survival of human culture when the world is burned out.

Corresponding vision: 60. Outer space exploration for future solution.

## 29. Project to explore global governance.

Explore conditions for trans-national governance working for global justice and peace. The 8<sup>th</sup> Framework Programme should begin with educational and exchange programmes for creating world citizenship identity. Corresponding vision: 63. A brighter future – or just a dream?

#### 30. Stimulate research on human-machine interfaces.

New interfaces between humans and machines need to be developed to allow for a broader perception of sensory information. This raises a lot of technical, but also societal and ethical (health and safety) issues to be examined.

Corresponding vision: 69. Natural access to ICT everywhere!