

# Report of SDDP co-laboratory

**A systemic evaluation of actions that the  
COST219ter community can take to alleviate  
the obstacles that prevent the development of  
practical applications**

**COST 219ter Meetings  
9-11 May 2007, between Stockholm and Helsinki  
1-2 October 2007, San Sebastian**

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## COST 219ter Meetings

Stockholm – Helsinki 9-11 May 2007

San Sebastian 1-2 October 2007

# **What actions can the COST219ter community take to alleviate the obstacles that prevent the development of practical applications?**

Report on Identifying Actions that Push the Development of Practical Applications in the COST219ter Community.

## **EDITORS**

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The authors would especially like to thank the COST 219ter community members who have participated for their enthusiastic contributions, time, energy and expertise they brought to the co-laboratory described in this report. All 26 participants were willing to dedicate the time necessary to work together to create a shared understanding regarding the obstacles that prevent the general public exploit broadband technologies (referred to as the *problématique*), to build commitment within the COST 219ter community to an action agenda for collaboratively addressing the 'system of obstacles', and to serve as a model for other European networks working on complex problems. Their hard work, perseverance, and humor made the co-laboratory's experience both richly diverse and productive.

The participants, i.e. the experts of broadband technology, are the primary authors of views expressed in this document. This report is a follow-up of another co-Lab, which focused on the *problématique*. The current concerns:

- COST219ter Corrective Actions – Identifying *Actions*.

**COST Action 219ter** - Accessibility for All to Services and Terminals for Next Generation Networks

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## EXECUTIVE SUMMARY

This report documents the results of a co-laboratory, which took place partly on a boat between Stockholm and Helsinki (9-11 May 2007), and was later completed in San Sebastian (1-2 October 2007). The co-laboratory was organized as the next phase to a previous one in which the *obstacles that prevent practical broadband applications from being produced and exploited* have been defined. The results of the previous co-laboratory were published in a book<sup>1</sup>. This co-laboratory focused on:

- COST219ter Corrective Actions - Identifying *Actions*.

In the context of two regular COST 219ter management meetings, the authors have offered a structured democratic dialogue co-laboratory to explore options, which can be taken by the COST219ter community in order to address the various obstacles that were identified in previous work. Through a process known as Structured Dialogic Design Process (SDDP), the experts of the COST 219ter network collected and structured all their ideas concerning obstacles to achieving this goal. The process was initiated asynchronously before the co-laboratory by sending to all participants the following triggering question by email: "*What actions can the COST219ter community*

*take to alleviate the obstacles that prevent the development of practical applications?"*

The participants were requested to contribute one or more ideas, expressed in single sentences, but with the option of providing separate clarifications. During the co-laboratory all ideas were presented again and participants were given time to ask questions, provide clarifications. They were then guided through a structured process to cluster and prioritize their ideas. Subsequently, with the help of special software (Cogniscope™), the relative influence of one idea on another was systematically studied. This process resulted in an influence map, which provides a clear picture of which actions have the greatest influence (i.e., if tackled first, their effect will be maximum).

Two Factors came out to have the greatest influence Layers VII & VI):

- **Factor 26:** Provide empirical rather than anecdotal evidence that evaluation/testing makes products easier to use for every one
- **Factor 25:** Unify the disability community around a clear set of expectations, requirements and principles as an agenda for industry

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<sup>1</sup> Laouris, Y. and Michaelides, M. (2007). What obstacles prevent practical broadband applications from being produced and exploited? In: Towards an inclusive future; Impact and wider potential of information and communication technologies, Editor Roe Patrick. Chapter 7. On-line: [www.tiresias.org/COST219ter/inclusive\\_future/inclusive\\_future\\_ch7.htm](http://www.tiresias.org/COST219ter/inclusive_future/inclusive_future_ch7.htm)

The next layer (V) feature two factors:

- **Factor 3:** Hold workshops in each country inviting disability representatives to agree on a common set of accessibility measures
- **Factor 1:** Help formulate specific design requirements from user needs

And layer IV has four Factors:

- **Factor 2:** Create an agreement between the handicap community about accessibility concerning products and services and market potential
- **Factor 20:** Push the European level inclusive laws and standards that cannot be avoided by European countries
- **Factor 14:** Find ways of influencing public attitudes to create a political will for actions
- **Factor 24:** Show examples of where designing inclusively has been good for business

It is therefore concluded that the stakeholders need to focus their efforts in actions that satisfy the above.

## 1. INTRODUCTION

A series of previous co-laboratories addressed the obstacles that the COST219ter community faces and which are perceived as obstructing their work.

To achieve the goals set-up in the Memorandum of Understanding of COST219ter, the participants decided to organize a co-laboratory to define valuable actions that would be useful in addressing the obstacles defined.

The *triggering question* that was tackled during this co-laboratory was:

**What actions can the COST219ter community take to alleviate the obstacles that prevent the development of practical applications?**

## 2. STRUCTURED DIALOGIC DESIGN PROCESS

The Structured Dialogic Design Process (SDDP) is a methodology that supports *democratic* and *structured* dialogue among a heterogeneous group of stakeholders. It is especially effective in resolving complex conflicts of purpose and values and in generating consensus on organizational and inter-organizational strategy. It is scientifically grounded on seven laws of cybernetics/systems science (see page 19) and has been rigorously validated in hundreds of cases throughout the last 30 years.

The SDDP methodology was chosen to support the COST 219ter network in structuring the stakeholder representatives' ideas on actions that could be taken and which are most influential in their ability to resolve

and address the obstacles identified in the previous co-laboratories.

The SDDP is specifically designed to assist inhomogeneous groups to deal with complex issues, in a reasonably limited amount of time. It enables the integration of contributions from individuals with diverse views, backgrounds and perspectives through a process that is participatory, structured, inclusive and collaborative.

A group of participants, who are knowledgeable of the particular situation are engaged in collectively developing a common framework of thinking based on consensus and shared understanding of the current or future ideal state of affairs. SDDP promotes focused

communication among the participants in the design process and their ownership of and commitment in the outcome.

## 2.1 Structure and Process of a typical co-laboratory

When facing any complex problem, the stakeholders can optimally approach it in the following way:

1. Develop a *shared vision* of an ideal future situation. This ideal *vision map* serves as a magnet to help the social system transcend into its future state.
2. Define the current *problématique*, i.e., develop a common and shared understanding of what are the obstacles that prevent the stakeholders reaching their idealized vision.
3. Define actions/options or a *roadmap* to achieve the goal of transcending their system into its future state.

The three phases are implemented using exactly the same dialogue technique. Each phase completes with similar products:

1. A list of all ideas [SDDP is a self documenting process].
2. A cluster of all ideas categorized using common attributes [helps participants “see” minor differences between ideas].

3. A document with the voting results [They choose the five ideas they consider most important].
4. A map of influences. This is the most important product of the methodology. Ideas are related according to the influence they exert on each other. If one is dealing with problems, then the most influential ideas are the *root causes*. Addressing those will be most efficient. If one is dealing with factors that describe a future ideal state, then working on the most influential factors means that achieving the final goal will be easier/faster/more economic, etc. [Erroneous Priority Effect=most popular ideas that received most votes do not turn out to be the most influential].

In the following, the process of a typical SDDP session with its phases is being described more precisely:

First The breadth of the dialogue is constrained and sharpened with the help of a *triggering question*. This is formulated by a core group of people, who are the Knowledge Management Team (KMT) and is composed by the owners of the complex problem and SDDP experts. This question can be emailed to all participants, who are requested to respond with at least three contributions before the meeting.

Second All contributions/responses to the triggering questions are recorded in the CogniScope™ software. They must be short and concise, hence restrict one idea in one sentence. The

authors may clarify their ideas in a few additional sentences.

Third The ideas are clustered into categories based on similarities and common attributes. A smaller team can do this process to reduce time (e.g., between plenary sessions).

Forth All participants get five stickers-votes and are requested to choose their favourite (most important to them) ideas. Only ideas that received votes make it to the next and most important phase.

Fifth In this phase, participants are asked to explore influences of one idea on another. For example, they might be asked to decide whether solving problem X will make solving problem Y easier. If the answer is yes (great majority) an influence is established on a map of ideas. The way to read that influence is that items at the bottom are root causes (if what is being discussed are obstacles), or most influential factors (if what is being discussed are descriptors of an ideal situation or actions to take). Those root factors must be given priority.

Sixth Using the root factors, participants develop an efficient strategy and come up with a road map to implement it.

Please refer to Annex A: Structured Dialogic Design Process – Frequently Asked Questions for more detailed information.

## **2.2 COST 219ter SDDP co-laboratory**

The Structured Dialogic Design Process (SDDP) methodology was chosen to serve the needs of the COST 219ter community. An SDDP co-laboratory is specifically designed to assist inhomogeneous groups to deal with complex issues in a reasonably limited amount of time (Banathy, 1996; Warfield & Cardenas, 1994). It enables the integration of contributions from individuals with diverse views, backgrounds and perspectives through a process that is structured, inclusive and collaborative (for a complete review see Christakis & Bausch, 2006). A group of participants, who are knowledgeable of the situation are engaged in collectively developing a common framework of thinking based on consensus and shared understanding of the current state of affairs. The SDDP promotes focused communication among the participants in the design process and their ownership of and commitment in the outcome. In sum, an SDDP co-laboratory provides an excellent opportunity for experts to not only expand

their shared understanding of the current problématique, but moreover to develop a roadmap for their future work and achieve a consensus as to how to move forward.

The first two authors of this report, who were also facilitating this and the previous co-laboratory, have extensive experience in the SDDP methodology and have used it in many other analogous forums to facilitate organizational and social change (Hays & Michaelides, 2004; Laouris, 2004; Laouris & Christakis, 2007; Laouris & Michaelides, 2007; Laouris et al. 2007).

The specific objectives set for this COST 219ter co-laboratory were:

- To build commitment within the COST 219ter community to an action agenda for collaboratively addressing the 'system of obstacles identified in the previous co-laboratory, and
- To serve as a model for other European networks working on complex problems.

A slight variation of the methodology was applied, inspired by previous work (Laouris & Michaelides, 2007; Laouris & Christakis, 2007), in which the authors attempted to exploit virtual communication technologies to reduce the time required to obtain results. This involved the following steps:

The last author, in consultation with other experts of the COST 219ter community, formulated a triggering question three weeks before the face-to-face phase of the co-laboratory. The triggering question was sent by

email to all participants in order to stimulate their interest and encourage them to begin generating their ideas before the actual co-laboratory. It also served to reduce the time required to explain the methodology at the onset of the workshop.

During the following weeks and until the day just before the co-laboratory, participants were allowed to forward their ideas in writing by email sent to the facilitators.

All ideas were recorded by the facilitators, entered into the CogniScope program (see below), and a compilation mailed back to all participants just before the actual co-laboratory.

The face-to-face part of the co-laboratory took place in a spacious conference room equipped with comfortable chairs, screen, computer, and beamer. The space, the surrounding walls (where messages can be posted) and the overall structure and organization of the room was carefully chosen to meet the standards set by Christakis and Bausch (2006). Further details of the method are explained in connection with the presentation of their corresponding results.

### **3. RESULTS OF THE CO-LABORATORY COST219TER CORRECTIVE ACTIONS**

The results presented here stem from a co-laboratory, which took place in San Sebastian on the 2<sup>nd</sup> of October 2007 as well as on a boat between Stockholm and Helsinki between 9<sup>th</sup>-10<sup>th</sup> of October 2007. A total of 34 experts engaged in a structured dialogue focusing on the triggering question:

**What actions can the COST219ter community take to alleviate the obstacles that prevent the development of practical applications?**

The COST219ter experts produced 48 ideas in response to the triggering question and therefore described 48 ideas ahead of the co-laboratory and during the dialogue with the entire group. These ideas appear as actions in Table 1 'COST219ter Corrective Actions – List of Actions'. Table 1 lists all ideas perceived by the COST219ter experts as the most important actions, which the COST219ter community can take to alleviate the obstacles that prevent the development of practical applications.



## Table 1 'COST219ter Corrective Actions - List of Actions

Triggering Question: "What actions can the COST219ter community take to alleviate the obstacles that prevent the development of practical applications?"

#: Action

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- 1: Help formulate specific design requirements from user needs
- 2: Create an agreement between the handicap community about accessibility concerning products and services and market potential
- 3: Hold workshops in each country inviting disability representatives to agree on a common set of accessibility measures
- 4: To make effort of conceiving applications that address real user needs
- 5: Include accessibility and universal design concepts in all the pre graduate curricula
- 6: Link standardization and legislation
- 7: Encourage production of equipment, which is useful for people with and without disabilities
- 8: Teach companies how to run, develop and organize elderly and disabled user groups for new product development
- 9: Develop a meaningful business case for industry for inclusive design without using the word disability
- 10: Define the meaning of term accessibility
- 11: Engaging with manufacturers to influence the design process to incorporate accessibility, testing/evaluation
- 12: Write a damn good proposal for fp7 addressing problems to be alleviated
- 13: Develop cross-stakeholder actions, define and work on common interests of stakeholders
- 14: Find ways of influencing public attitudes to create a political will for actions
- 15: Educate disability organizations on techniques to systematically quantify the likely take-up of new systems or services
- 16: Provide a forum for users and user organizations to engage with service providers and industry
- 17: Create a better awareness of technological solutions to functional limitations
- 18: Stop using the term 'design for all' and adopt a different one such as 'inclusive design'
- 19: Stop discussing about words and start discussing about real problems
- 20: Push the European level inclusive laws and standards that cannot be avoided by European countries

## Table 1 'COST219ter Corrective Actions - List of Actions

Triggering Question: "What actions can the COST219ter community take to alleviate the obstacles that prevent the development of practical applications?"

#: Action

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- 21: Specify user needs in a context
- 22: Initiate standards work specifying solutions for disabled people
- 23: Involve elderly and disabled people in product/service testing
- 24: Show examples of where designing inclusively has been good for business
- 25: Unify the disability community around a clear set of expectations, requirements and principles as an agenda for industry
- 26: Provide empirical rather than anecdotal evidence that evaluation/testing makes products easier to use for every one
- 27: Provide direct and free consultation services to industry
- 28: Analyze best practices, and learn from them
- 29: Support and stimulate the market power of the users
- 30: Look to equality legislation, which will be difficult to achieve EU wide, but we can move by easy stages starting with electronic communications
- 31: Organize workshops to educate user organizations about the possibilities offered by next generation networks
- 32: Assist standardization bodies through direct participation
- 33: Establish accurate marketing figures on numbers of people that can be included by inclusive design
- 34: Re-introduce innovation in assistive technology
- 35: Empower the users giving them decision capacity
- 36: Involve the industry as a part of the solution
- 37: Seek to influence specifications or regulations that ensure the rights of disabled people
- 38: How to facilitate an environment and forum to bring all stakeholders together to achieve a common objective
- 39: Set transparent and achievable goals together with a road map in achieving them
- 40: Provide training courses for beginning students

## Table 1 'COST219ter Corrective Actions - List of Actions

Triggering Question: "What actions can the COST219ter community take to alleviate the obstacles that prevent the development of practical applications?"

#: Action

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- 41: Plea to governments for funding more AT innovations
- 42: Development of an R&D program including technology and services for people with disabilities and older people
- 43: Use the universal service green paper as a lever to produce a statement of aims
- 44: Produce a film with a scenario showing a user interacting with a product as a means to reach a wider audience
- 45: Produce a repository of teaching materials to enhance awareness at all levels
- 46: Intensify cooperation with common objectives and actions
- 47: Provide an opportunity, which key business stakeholders, disability organizations and regulators can meet openly to discuss relevant issues where attendance is guaranteed
- 48: Bring about a change in the negative perception of the term disability

## Clustering the Actions

The next phase was implemented by a small number of four experts during the break. They were requested to cluster the actions in categories, using common attributes among the factors identified by the COST219 experts. They came up with 8 categories with the following names:

(1) User Needs, (2) Consensus among Disability Community, (3) Education & Awareness, (4) Policy Making, (5) Industry Involvement, (6) Research & Design, (7) Cross-Stakeholders' Consensus, and (8) Standardization. For more detailed information, refer to Figure 1 'COST219ter Corrective Actions – Cluster'.

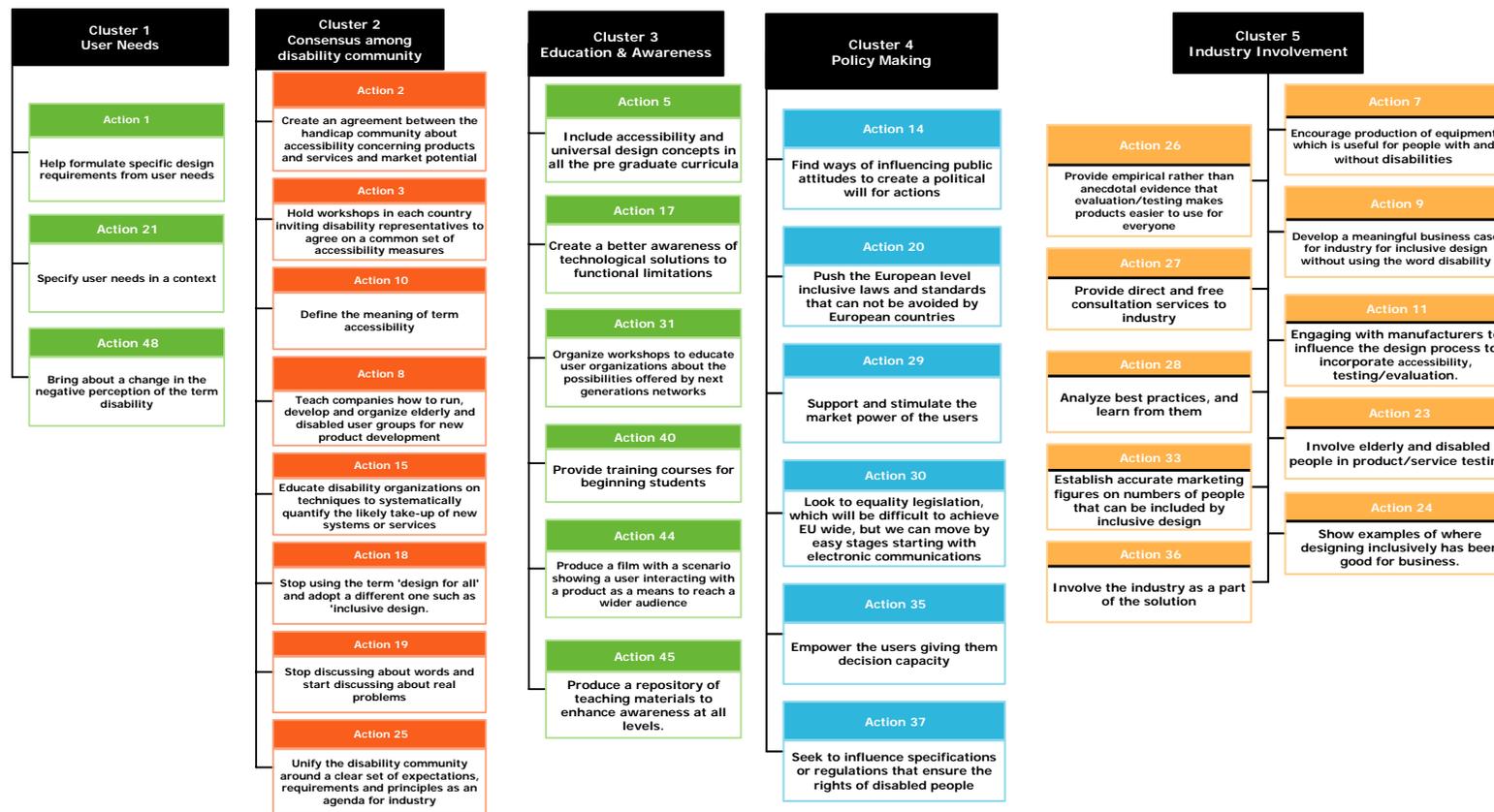


Figure 1 COST219ter Corrective Actions – Clusters 1-5

# Results of the co-laboratory 'COST219ter Corrective Actions'

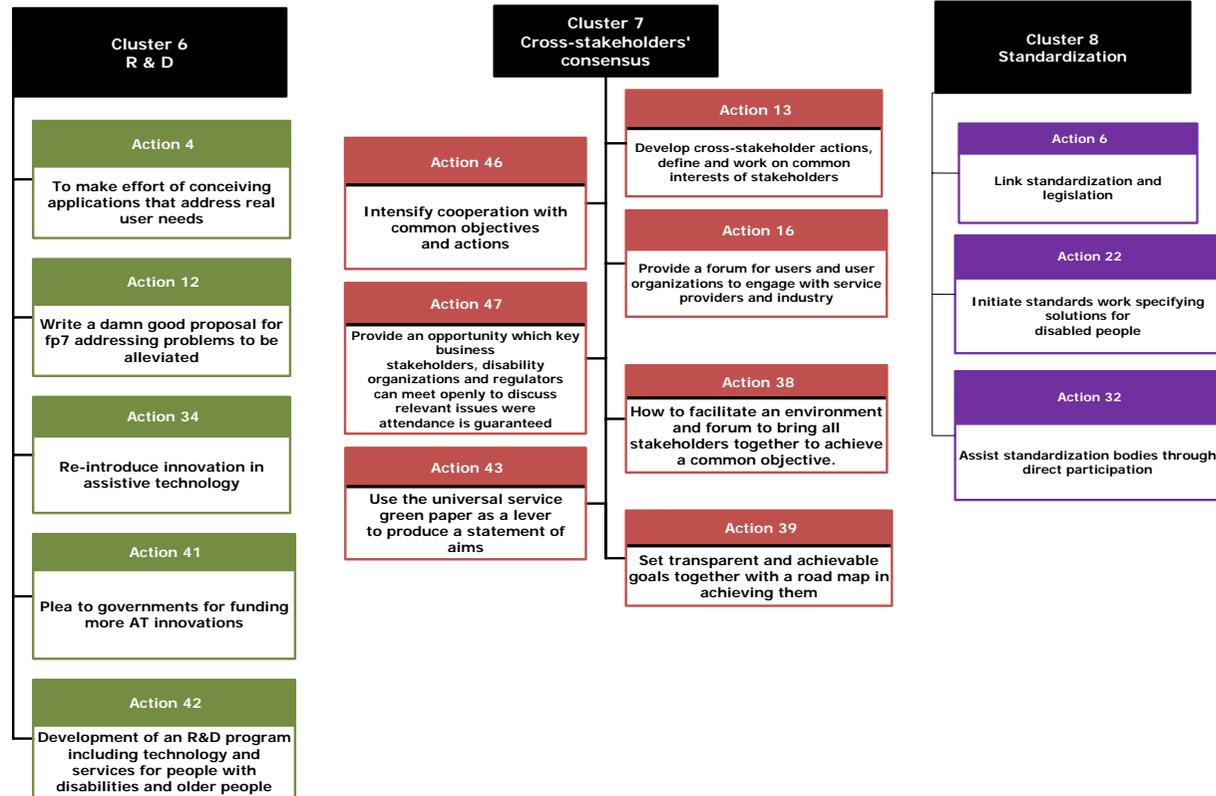


Figure 1 COST219ter Corrective Actions – Clusters 6-8



## Prioritizing the Actions

The figure with the categories was printed and handed over to all participants. It was also replicated in a full wall version. Participants were given a few minutes to discuss and study the cluster with the categories. Subsequently, they were asked to choose the five actions they considered the most important. Their votes were counted and inserted into the Cogniscope software. Table 2 'COST219ter Corrective Actions – Voting Results' documents the prioritizing of the factors, which resulted through this voting process. As shown in Table 2, 31 actions received one or more votes; one idea received 7 votes, two received 6 votes, one received 5 votes, two received 4 votes, three received 3 votes, eleven received 2 votes, and eleven actions received 1 vote each. The four dominant statements that received five or more votes are:

**Action #11: Engaging with manufacturers to influence the design process to incorporate accessibility, testing/evaluation** (7 votes)

**Action #9: Develop a meaningful business case for industry for inclusive design without using the word disability** (6 votes).

**Action #20: Push the European level inclusive laws and standards that cannot be avoided by European countries** (6 votes).

**Action # 47: Provide an opportunity which key business stakeholders, disability organizations and regulators can meet openly to discuss relevant issues were attendance is guaranteed** (5 Votes).

## Table 2 'COST219ter Corrective Actions - List of Actions

Triggering Question: "What actions can the COST219ter community take to alleviate the obstacles that prevent the development of practical applications?"

# (VOTES) Action

---

- 11: (7 Votes) Engaging with manufacturers to influence the design process to incorporate accessibility, testing/evaluation
- 9: (6 Votes) Develop a meaningful business case for industry for inclusive design without using the word disability
- 20: (6 Votes) Push the European level inclusive laws and standards that cannot be avoided by European countries
- 47: (5 Votes) Provide an opportunity which key business stakeholders, disability organizations and regulators can meet openly to discuss relevant issues were attendance is guaranteed
- 25: (4 Votes) Unify the disability community around a clear set of expectations, requirements and principles as an agenda for industry
- 33: (4 Votes) Establish accurate marketing figures on numbers of people that can be included by inclusive design
- 14: (3 Votes) Find ways of influencing public attitudes to create a political will for actions
- 22: (3 Votes) Initiate standards work specifying solutions for disabled people
- 34: (3 Votes) Re-introduce innovation in assistive technology
- 2: (2 Votes) Create an agreement between the handicap community about accessibility concerning products and services and market potential
- 3: (2 Votes) Hold workshops in each country inviting disability representatives to agree on a common set of accessibility measures
- 6: (2 Votes) Link standardization and legislation
- 8: (2 Votes) Teach companies how to run, develop and organize elderly and disabled user groups for new product development
- 15: (2 Votes) Educate disability organizations on techniques to systematically quantify the likely take-up of new systems or services
- 24: (2 Votes) Show examples of where designing inclusively has been good for business
- 26: (2 Votes) Provide empirical rather than anecdotal evidence that evaluation/testing makes products easier to use for every one

## Table 2 'COST219ter Corrective Actions - List of Actions

Triggering Question: "What actions can the COST219ter community take to alleviate the obstacles that prevent the development of practical applications?"

# (VOTES) Action

---

- 28: (2 Votes) Analyze best practices, and learn from them
- 37: (2 Votes) Seek to influence specifications or regulations that ensure the rights of disabled people
- 42: (2 Votes) Development of an R&D program including technology and services for people with disabilities and older people
- 43: (2 Votes) Use the universal service green paper as a lever to produce a statement of aims
- 7: (1 Votes) Encourage production of equipment, which is useful for people with and without disabilities
- 10: (1 Votes) Define the meaning of term accessibility
- 12: (1 Votes) Write a damn good proposal for fp7 addressing problems to be alleviated
- 16: (1 Votes) Provide a forum for users and user organizations to engage with service providers and industry
- 18: (1 Votes) Stop using the term 'design for all' and adopt a different one such as 'inclusive design'
- 19: (1 Votes) Stop discussing about words and start discussing about real problems
- 21: (1 Votes) Specify user needs in a context
- 29: (1 Votes) Support and stimulate the market power of the users
- 32: (1 Votes) Assist standardization bodies through direct participation
- 36: (1 Votes) Involve the industry as a part of the solution
- 45: (1 Votes) Produce a repository of teaching materials to enhance awareness at all levels
- 1: (0 Votes) Help formulate specific design requirements from user needs
- 4: (0 Votes) To make effort of conceiving applications that address real user needs
- 5: (0 Votes) Include accessibility and universal design concepts in all the pre graduate curricula
- 13: (0 Votes) Develop cross-stakeholder actions, define and work on common interests of stakeholders
- 17: (0 Votes) Create a better awareness of technological solutions to functional limitations
- 23: (0 Votes) Involve elderly and disabled people in product/service testing

## Table 2 'COST219ter Corrective Actions - List of Actions

Triggering Question: "What actions can the COST219ter community take to alleviate the obstacles that prevent the development of practical applications?"

# (VOTES) Action

---

27: (0 Votes) Provide direct and free consultation services to industry

30: (0 Votes) Look to equality legislation, which will be difficult to achieve EU wide, but we can move by easy stages starting with electronic communications

31: (0 Votes) Organize workshops to educate user organizations about the possibilities offered by next generation networks

35: (0 Votes) Empower the users giving them decision capacity

38: (0 Votes) How to facilitate an environment and forum to bring all stakeholders together to achieve a common objective

39: (0 Votes) Set transparent and achievable goals together with a road map in achieving them

40: (0 Votes) Provide training courses for beginning students

41: (0 Votes) Plea to governments for funding more AT innovations

44: (0 Votes) Produce a film with a scenario showing a user interacting with a product as a means to reach a wider audience

46: (0 Votes) Intensify cooperation with common objectives and actions

48: (0 Votes) Bring about a change in the negative perception of the term disability

Total Votes Cast: 74

## The Influence Map

Using the method as explained above, participants were encouraged to engage in a structured dialogue with aim to develop a "map of influences." The items were projected on the screen in pairs with the following Relational Question:

*If action X was successfully implemented,  
will that SIGNIFICANTLY support  
implementing action Y?*

During each comparison, the participants were engaged in a focused dialogue aiming to explore the particular relationship as it was projected on the screen. This usually presents an opportunity for participants to refine the meanings, uncover relationships and dependencies and generally to develop a much better understanding of the situation. This discussion also serves as an educational exercise, because it helps all participants achieve the same level of understanding and knowledge about the particular field.

The technique uses the simple mathematical concept of 'If  $A > B$  and  $B > C$  then we can safely assume  $A > C$ ,' to minimize the number of combinations needed to examine the influence interrelation between a number of statements in a reasonable amount of time. The fact that we are not dealing with quantities, but with ideas makes it necessary to go deep into the meanings of the statements thus supporting the process of creating a common knowledge base.

After going through all the necessary pair comparisons, a schematic presentation of the "actions map" was created automatically by the CogniScope™ software and projected on the wall. This inter-relationships diagram is given in Figure 2 'COST219ter – Influence Map'. This particular tree has seven levels. The items shown at the top of the chart are those with the lowest influence. The ones with the greatest influence or the "deep drivers," as they are usually referred to, are gathered at the bottom of the tree. This method of presenting the results makes the interpretation of the outcome of the participants' observations easy and visual. One should read the map as follows:

The following Figure 2 'COST219ter – Influence Map' shows the resulting influence tree map.

## Results of the co-laboratory 'COST219ter Corrective Actions'

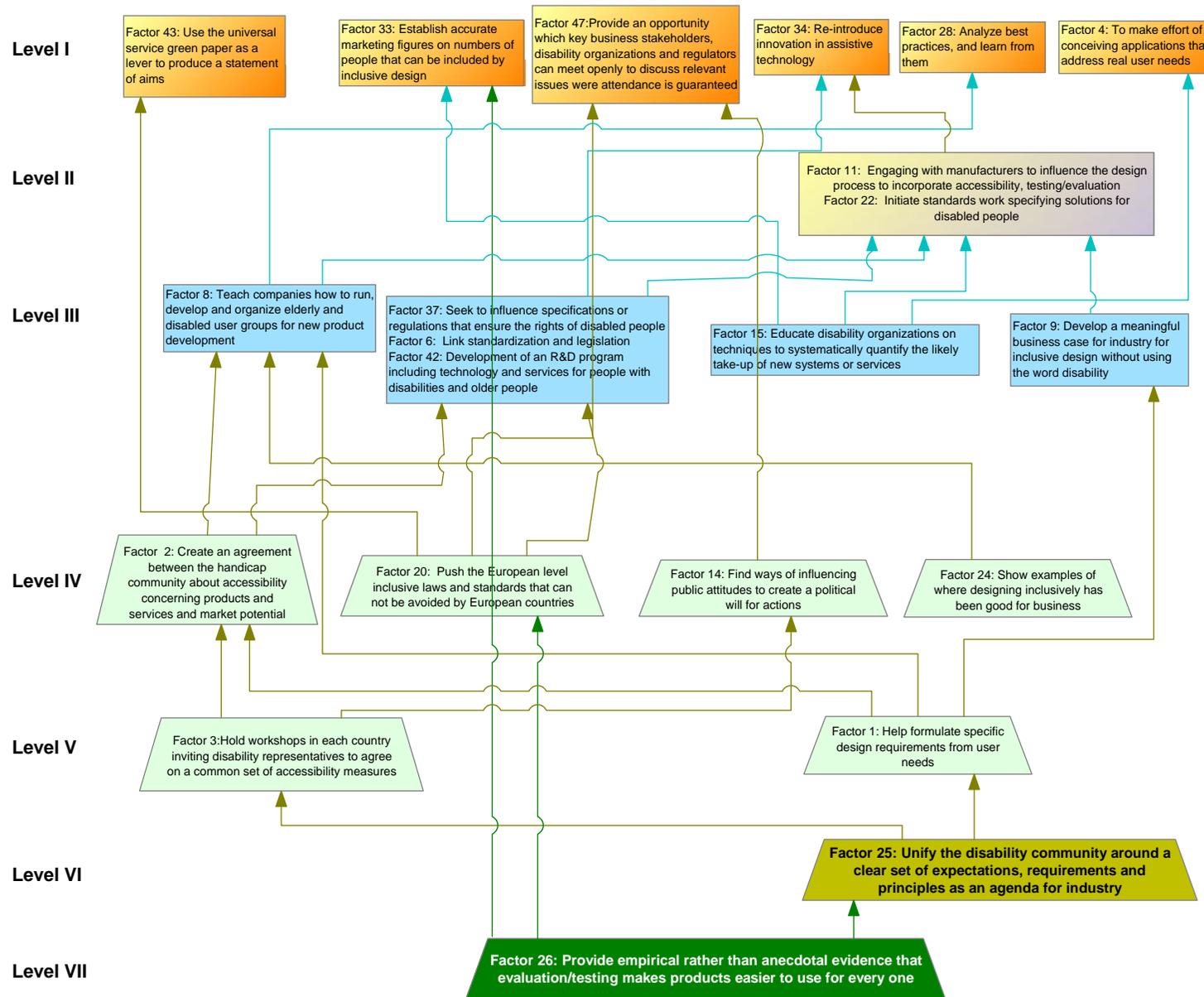


Figure 2 'COST219ter Corrective Actions – Influence Map'

The voting results were used to select factors for the subsequent structuring phase in order to identify inter-relations among the generated factors. A total of 21 factors were used to structure the influence map shown in Figure 2. The 21 factors were structured within seven levels and are related according to the influence they exert on each other. Those factors that appear lower in the Influence Map, hence are positioned at the root of the tree, i.e. Levels VII and VI, are more influential than those at higher levels.

The most influential driver is Action 26:

**Action #26:** Provide empirical rather than anecdotal evidence that evaluation/testing makes products easier to use for everyone

If this Action is addressed with priority, the stakeholders will achieve maximal impact. Its implementation will significantly help implementing all actions that lie above.

Factor 25 in Level VI is almost equally important.

**Action #25:** Unify the disability community around a clear set of expectations, requirements and principles as an agenda for industry

It bears particular emphasis that this factor is directly related to the root factor of the Obstacles Definition co-laboratory.

Layer V features two actions:

**Action #3:** Hold workshops in each country inviting disability representatives to agree on a common set of accessibility measures

**Action #1:** Help formulate specific design requirements from user needs

Layer IV has four Actions:

**Action #2:** Create an agreement between the handicap community about accessibility concerning products and services and market potential

**Action #20:** Push the European level inclusive laws and standards that cannot be avoided by European countries

**Action #14:** Find ways of influencing public attitudes to create a political will for actions

**Action #24:** Show examples of where designing inclusively has been good for business

## 4. DISCUSSION OF RESULTS AND CONCLUSIONS

The greatest value of this methodology lies in its power to identify the root causes of a problematic situation and highlight the ideas that are most influential when one attempts to achieve progress.

According to the collective wisdom of the COST 219ter community, the actions, which the community can take to alleviate the obstacles that prevent the development of practical applications, are those that appear at the bottom of the influence map.

This result helps the COST 219ter community focus its activities towards two directions. One, approach and work more with the designers and researchers of new technologies to provide empirical rather than anecdotal evidence that evaluation/testing makes products easier to use for everyone. The second direction involves unifying the disability community around a clear set of expectations, requirements and principles as an agenda for industry. Interestingly, this idea came out also as the root problem when the same group of experts explored the obstacles. This map is not to be considered as a rigid map. Moreover, the map must be seen as the collective consensus mapped on paper in ways that enable the stakeholders discuss and plan their action. The stakeholders have the right and the possibility to review issues, re-do some of the structuring and place more elements on the map. For example, in some cases it is possible that elements in one of the clusters have not received any votes and are therefore not included in the map. If the group feels that they are still important

factors, they may add a few elements in the system and continue the structuring process to place them in their map. The stakeholders remain always in control and they are the owners of their data.

### Placement of factors with highest votes in the influence map

The experts in the COST 219ter community perceived factors **11** (7 Votes), **9** (6 Votes), **20** (6 Votes) and **47** (5 Votes) as the most *important* or most *significant*. It is interesting to examine where these factors were finally placed in the influence tree of actions. The instinctive expectation is often be to think that they will prove to be mostly influential and would therefore be the first actions that need to be addressed and implemented. This is clearly not the case: of the four factors that received the most votes, one is in the layer II (Factor 11); one in layer III (Factor 9), one in Layer IV (Factor 20) and one in Layer I (factor 47). This means that during the structuring phase of the SDDP, the “collective wisdom” of the experts favored other factors as having priority to be addressed first. Herein also lays a particular strength and value of this methodology. It yields a *structured road map*, that none of the individual experts could have foreseen, let alone drawn up, showing the order in which the actions need of be tackled in order to achieve greatest impact addressing the triggering question.

The structuring phase determined that Factors 26, 25, 3, and 1 are the most *influential*. During the voting process, these factors received however only 2, 4, 2, and 0 votes respectively. In sum, the actions that are most influential and which would have the greatest impact if implemented, are not obvious before the structured dialogue.

### **Critical assessment and limitations of the method**

A SDDP co-laboratory is specifically designed to assist a group of stakeholders to deal with a complex problem in a reasonably limited amount of time (Banathy, 1996; Warfield & Cardenas, 1994). It uses structured democratic dialogue to enable the integration of contributions from individuals with diverse views, backgrounds and perspectives. The process is inclusive and collaborative (for a complete review see Christakis & Bausch, 2006). It has been applied to over 600 complex problems around the globe. According to one of its founders, Dr. Aleco Christakis, the level of success in these co-laboratories was over 90%, therefore securing a very high confidence level. The methodology is, however, bound to fail if any one of its seven laws is violated. In particular, if Law 7, the “Law of Requisite Action” (which states that “the capacity of a community of stakeholders to implement a plan of action effectively depends strongly on the true engagement of the stakeholders in designing it”) is violated, one cannot anticipate implementation of envisioned actions and

resulting outcomes. In other words, disregarding any stakeholders is not only unethical, but moreover it guarantees that any plans developed during the structured dialogue process are bound to fail.

### **The seven laws of dialogue**

The SDDP is scientifically grounded on seven laws of cybernetics recognized by the names of their originators. If any of these laws is violated in the process, the results will deteriorate. Ashby’s Law of Requisite Variety (Ashby, 1958) calls for appreciation of the diversity of observers (i.e., invite “observers” with diverse views). Miller’s Law of Requisite Parsimony (Miller, 1956; Warfield, 1988) emphasizes the fact that humans have cognitive limitations, which need to be considered when dealing with complex multi-dimensional problems. This is secured by the fact that participants are asked to focus on one single idea or one single comparison at a time. Boulding’s Law of Requisite Saliency (Boulding, 1966) calls for comparisons of the relative importance across ideas proposed by different people. This is secured through the voting process. Peirce’s Law of Requisite Meaning (Turrissi, 1997) says that meaning and wisdom can only be achieved when the participants search for relationships of similarity, priority, influence etc. within the set of ideas. Tsivacou’s Law of Requisite Autonomy in Decision (Tsivacou, 1997) guarantees that during the dialogue, the autonomy and authenticity of each person contributing ideas is protected and distinctions between

## Discussion of Results and Conclusions

different ideas are drawn as a method of deepening our understanding of each idea. Finally, Dye's Law of the Requisite Evolution of Observations (Dye et al., 1999) tells us that actual learning occurs during the dialogue as the participants search for influence relationships. Laouris' Law of Requisite Action (Laouris, 2007) states "the capacity of a community of stakeholders to implement a plan of action effectively depends strongly on the true engagement of the stakeholders in designing it." Disregarding any stakeholders is not only unethical, but moreover it guarantees that any plans

developed during the structured dialogue process are bound to fail.

The SDDP method is designed to fully implement these laws, but if they are compromised, the results are bound to suffer.

In sum, a SDDP co-laboratory provides an excellent opportunity for experts, to not only expand their shared understanding of the current *problématique*, but moreover to develop a roadmap for their future work and achieve a consensus as to how to move forward.

## STRUCTURED DIALOGIC DESIGN PROCESS

### FREQUENTLY ASKED QUESTIONS

#### **What does SDDP stand for? What is the difference with SDP?**

The Structured Design Process (SDP) or Structured Dialogic Design Process (SDDP) is a methodology that enables groups of stakeholders to discuss an issue in a structured democratic manner that enables them to achieve results. It is a deeply reasoned, scientific, psychosocial methodology that has evolved from over 30 years of development to its current implementation as a software-supported process for large-scale, collaborative design.

#### **When was the first time that structured dialogue was considered necessary?**

The need for such an approach was first envisioned by systems thinkers in the Club of Rome ([Ozbekhan](#), 1969, 1970), and systematically refined through years of deployment in Interactive Management (IM), to emerge as methodically grounded dialogue practice that now is supported by software specifically designed for the purpose (e.g., [CogniScope](#) system). Interactive Management, originally developed by John Warfield and [Alexander Christakis](#) in the early 1970's (Christakis, 1973; Warfield & Cardenas, 1994), has evolved into its third generation as SDDP.

#### **What does Agoras mean?**

The agoras were the vital centers of the Greek cities. The outdoor markets and convention halls of Athenian Agoras is where gossip mixed with politics. The agora of Athens was the birthplace of democracy. Here the town's citizens discussed pressing issues and made decisions on the basis of popular vote.

#### **What is the Institute for 21st Century Agoras?**

The [Institute for 21st Century Agoras](#) is a volunteer-driven organization dedicated to vigorous democracy on the model of that practiced in the agoras of ancient Greece. It employs Co-Laboratories of Democracy that enable civil dialogue in complex situations. Systems thinkers who were also presidents of the International Society for Systems Science ([ISSS](#)), such as Bela Banathy and [Alexander Christakis](#), founded the Institute.

#### **What is the Club of Rome?**

The [Club of Rome](#) was founded in April 1968 by [Aurelio Peccei](#), an Italian industrialist, and [Alexander King](#), a Scottish scientist. The Club of Rome is a global think tank and center of innovation and initiative. As a non-profit, non governmental organization (NGO), it brings together scientists,

economists, businessmen, international high civil servants, heads of state and former heads of state from all five continents who are convinced that the future of humankind is not determined once and for all and that each human being can contribute to the improvement of our societies. [Hasan Özbekhan](#), [Erich Jantsch](#) and [Alexander Christakis](#) were responsible for conceptualizing the original prospectus of the Club of Rome titled "The Predicament of Mankind." This prospectus was founded on a humanistic architecture and the participation of stakeholders in democratic dialogue. When the Club of Rome Executive Committee in the Summer of 1970 opted for a mechanistic and elitist methodology for an extrapolated future, they resigned from their positions.

### **How are co-Laboratories different from workshops?**

Many group processes engender enthusiasm and good feeling as people share their concerns and hopes with each other. Co-laboratories go beyond this initial euphoria to:

- Discover root causes;
- Adopt consensual action plans;
- Develop teams dedicated to implementing those plans; and
- Generate lasting bonds of respect, trust, and cooperation.

Co-laboratories achieve these results by respecting the autonomy of all participants, and utilizing an array of consensus tools including discipline, technology, and graphics that allow stakeholders to control the discussion. Co-laboratories are a refinement of Interactive Management, a decision and design methodology developed over the past 30 years to deal with complex situations involving diverse stakeholders. It has been successfully employed all over the world in situations of uncertainty and conflict.

### **What are usual purposes applications of SDDP?**

The SDDP is the perfect tool to support a diverse group of stakeholders resolve conflicts and work together in designing by consensus a new vision/solution/strategy/roadmap. It is perfect for:

- Resolve issues among diverse stakeholders
- Democratic large-group decision-making
- Policy design & decision-making
- Complex (wicked) problem solving
- Strategic planning & effective priority setting
- Portfolio & business asset allocation
- Problem identification

### **How many hours does a group need to invest on a co-laboratory?**

The duration of a typical co-laboratory ranges from a minimum of 10-20 hours to over 100 hours. The application of virtual technologies has made it possible to shorten the time required for an SDDP

application, while securing the fidelity of the process and of the products. Parts of the co-laboratory are done asynchronously (e.g. through email communication having the facilitators compile and share all data) and others synchronously, in a physical or virtual environment. The virtual SDDP model has been described in a paper by [Laouris & Christakis](#).

### Is SDDP grounded on solid science?

The SDDP is scientifically grounded on seven laws of cybernetics recognized by the names of their originators:

1. Ashby's Law of Requisite Variety (Ashby, 1958);
2. Miller's Law of Requisite Parsimony (Miller, 1956; Warfield, 1988);
3. Boulding's Law of Requisite Saliency (Boulding, 1966);
4. Peirce's Law of Requisite Meaning (Turrisi, 1997);
5. Tsivacou's Law of Requisite Autonomy in Decision (Tsivacou, 1997);
6. Dye's Law of the Requisite Evolution of Observations (Dye et al., 1999) and
7. Laouris Law of Requisite Action (Laouris & Christakis, 2007).

### Which are the four Axioms of Dialogic Design?

1. COMPLEXITY: We live in a world that is very complex. Problems are complex & interconnected.
2. PARSIMONY: Human cognition & attention is limited. Attention and cognition is usually overloaded in group design.
3. SALIENCY: The field of options in any evaluation is multidimensional. "Salient synthesis" is difficult.
4. ENGAGEMENT: Disregarding the participation of the stakeholders in designing action plans is unethical and the plans are bound to fail.

### Where can I read more about SDDP?

You can search about SDDP on Wikipedia or visit any the following sites:

Book by Aleco Christakis; A must for beginner or advanced practitioners	Book	<a href="http://Harnessingcollectivewisdom.com">http://Harnessingcollectivewisdom.com</a>
A Wiki for Dialogue community Support	The Blogora	<a href="http://blogora.net">http://blogora.net</a>
Institute for 21st Century Agoras	Website	<a href="http://www.globalagoras.org/">http://www.globalagoras.org/</a>
Lovers of Democracy; Description of the technology of Democracy	Website	<a href="http://sunsite.utk.edu/FINS/loversofdemocracy/technologyofdemocracy.htm">http://sunsite.utk.edu/FINS/loversofdemocracy/technologyofdemocracy.htm</a>
New Geometry of Languaging	Publication	<a href="http://sunsite.utk.edu/FINS/loversofdemocracy/NewAgora.htm">http://sunsite.utk.edu/FINS/loversofdemocracy/NewAgora.htm</a>

And New Technology of Democracy by Schreibman and Christakis		
Application of SDP in a network of scientists from 20 countries by Laouris and Michaelides	Book chapter	<a href="http://www.tiresias.org/COST219ter/inclusive_future/inclusive_future_ch7.htm">http://www.tiresias.org/COST219ter/inclusive_future/inclusive_future_ch7.htm</a>
A paper on the application of synchronous/asynchronous SDDP by Laouris and Christakis	Publication	<a href="http://sunsite.utk.edu/FINS/loversofdemocracy/Laouris_Christakis_VirtualSDDP_2007_04_28.pdf">http://sunsite.utk.edu/FINS/loversofdemocracy/Laouris_Christakis_VirtualSDDP_2007_04_28.pdf</a>

## FACILITATION AND SUPPORT TEAM

### Dr. Yiannis Laouris

Dr. Laouris is a Senior Scientist and President of CNTI. Heads the "New Media Lab," and the Neuroscience Lab. Neuroscientist (MD, PhD) and Systems engineer (MS) trained in Germany and the US. He publishes in the area of learning through computers, the web and mobile phones and about the potential role of IT to bridge the gaps (economic, gender, disabilities etc.) in our society. Participates in COST219ter: Accessibility for All, and Cost276: Knowledge Management. Laouris was a co-founder of a chain of computer learning centers for children ([www.cyber-kids.com](http://www.cyber-kids.com)). He is also the Executive Director for the Safer Internet "CyberEthics" project. He is a senior SDDP Facilitator with extensive experience in diverse settings.



### Mr. Marios Michaelides

Marios Michaelides has Masters Degree from the University of New York and more than 20 years of experience in applying SDDP in diverse groups of people. During the last 10 years, from his post in the Government's Academy, he has been applying SDDP in key members of the public system. He is a senior SDDP Facilitator with extensive experience also in applications for resolving inter-communal conflicts. He is the Acting Head of Cyprus Intercultural Training Initiative.



### Ms. Elia Petridou

Ms. Petridou has received her Bachelor of Arts degree in New Jersey City University with a double major in Economics and Political Science, and a Masters in International Relations from McGill University. Previously she served as coordinator for the Media literacy and the EU Citizenship projects. Now she is Director for the Safer Internet Hotline and Associate for the "CyberEthics" Awareness Node. Ms. Petridou is also a trained facilitator for SDDP and serves as the Secretary of the Cyprus Intercultural Training Initiative.



### Ms. Tatjana Taraszow

Ms. Taraszow has a Master degree in Psychology with the emphases on Media, Educational, and Organizational Psychology as well as Political Science as an elective subject. She did her studies at Universities of Wuerzburg, and Tuebingen, Germany, and McGill, Canada. She is a trained Mediator, trained facilitator of SDDP and in the process of being trained in Nonviolent Communication. Since February 2007 she is the assistant coordinator of the bi-communal Civil Society Dialogue Project.



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