# How to create national foresight culture and capacity: case study South Africa

In this work we look at the collaboration projects between COFISA Y SAFIPA, which were set up by the department of external affairs in Finland between 2006 and 2010 in cooperation with South Africa. COFISCA's objective was to help increase the effectiveness of the national innovation system, contribute to the growing economy and in turn, help tackle poverty. For their part, the goal of the SAFIPA project was to support the creation in an environment that would make it easier to develop and deploy the TIC application services for the benefit of the South African citizens. Public awareness and the creation of foresight and innovation strategy capacities in business development played an important role in both programs. The results of both projects included: Future images, scenarios, visions, innovations, action plans, policy recommendations, matter capacities of foresights and networks. The next challenge will be to inculcate these types of "Foresight and Innovation" procedures both at a regional and national level with the aim of them becoming something customary and so that we can speak about a culture of foresight and cooperation.

*Lan honetan, Finlandiako Atzerri Arazoetako Ministerioak Hegoafrikako Gobernuarekin lankidetzan 2006 eta 2010 urteen artean bete zituen COFISA eta SAFIPA lankidetza-proiektuak deskribatu dira. COFISAren helburua berrikuntza-sistema nazionalaren eraginkortasuna handitzen laguntzea zen, ekonomia hazten eta pobrezia arintzen lagunduz. Bestalde, SAFIPA proiektuaren helburua IKTen zerbitzuen aplikazioak Hegoafrikako herritarren onerako garatu eta hedatzen laguntzeko ingurunea sortzen laguntzea zen. Enpresa-garapeneko prospektiba eta berrikuntza estrategikoan gaitasunak sortu eta kontzientziatzeak zeregin garrantzitsua izan zuen programa bietan. Honakoak azaldu ziren proiektu bien emaitzetan: etorkizuneko irudiak, agertokiak, ikuspegiak, berrikuntzak, ekintza-planak, politikei buruzko gomendioak, prospektibaren alorreko gaitasunak eta sareak. Hurrengo erronka eskualdeko eta nazioko prospektiba eta berrikuntzako prozesu hauek irakastea izango da, ohikoak izan daitezen eta prospektiba (eta lankidetza) kulturaz hitz egin dezagun.*

**En este trabajo se describen los proyectos de colaboración COFISA Y SAFIPA puestos en práctica entre 2006 y 2010 por el Ministerio de Asuntos Exteriores de Finlandia en cooperación con el Gobierno de Sudáfrica. El objetivo de COFISA era ayudar a aumentar la eficacia del sistema nacional de innovación contribuyendo al crecimiento económico y al alivio de la pobreza. Por su parte la meta del proyecto SAFIPA era apoyar la creación de un entorno que facilitara el desarrollo y el despliegue de las aplicaciones de servicios de las TIC en beneficio de los ciudadanos sudafricanos. La concienciación y la creación de capacidades de prospectiva e innovación estratégica en el desarrollo empresarial desempeñó un papel importante en ambos programas. Los resultados de ambos proyectos incluían: imágenes de futuros, escenarios, visiones, innovaciones, planes de acción, recomendaciones sobre políticas, capacidades en materia de prospectiva y redes. El próximo desafío será inculcar este tipo de procesos de "pinnovación" (prospectiva + innovación) regional y nacional para que sean algo habitual y hablemos de una cultura de prospectiva (y cooperación).**

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## 1. BACKGROUND

*The Global Challenges of eDevelopment* project (eDeve), 2003-2005, coordinated by the University of Tampere, aimed to initiate cooperationbetween developed and developing countries. The Finland Futures Research Centre (FFRC) participated in eDeve research with a pilot projectcalled *The Digital Balance between Industrialised and Developing Countries – a case study: thedevelopment of an information society on the African continent'*. The purpose of this study was to discover how information and communication technology(ICT) and e-services developed in Finland will work on the African continent, andvice versa. (Hietanen 2006)

*Post-industrial transition is shaping the structures of the global economy.* Globalisation and the associated new international division of labour and well-being require a continuous renewal of Finland's national economy and productionstructures. Trends associated with this transition process include: internationalisation, networking, growth of information technology intensity, new working environments and technologies, industrialisation of the developing countries, and transformationwithin industrialised countries from an industrial society towards a service society. (*Ibid.*)

Traditionally, access for every citizen was considered to be one of the criteria necessary for the social sustainability of the information society. Access mainly referred to technical access (an interface) and occasionally skills and motivation. In Finland, information and communication technology is already so abundant and common (ubiquitous) that the sustainability of the information society is not so much dependent on technical access but rather on what one can do with the technology. (*Ibid.*)

In the initial phase of information society development, the Finnish national economy made money through technology (mobile phones, electronic machines, etc.). During the second phase, money was made using the technology (content and services). In the third phase, the direction of development is moving away from the physical infrastructure towards the social infrastructure. The products of the third phase include the concepts and formats of culture and well-being. With this being applied in education, innovation and healthcare systems and their management. In this case, the real sustainability of the information society can be evaluated, based mainly on whether the technology, services and content can meet the real social and cultural needs of the people. (*Ibid.*)

There has always been an economic transformation process from extensive growth to intensive growth and internationalization. At first, the industry and service sectors need increasing amounts of labour for the growth, but after a while that need diminishes despite the rise in production and turnover. This transition process occurs at an increasing pace in the digitalized and internationalised world where investments, materials and people can move without barriers. A continuation in this trend (of acceleration) will result in a "*butterfly economy*", *where the average life span of products and enterprises – or even clusters and value chains – is only "one summer", i.e. couple of months (from the point of view of extensive,* labour intensive growth). (*Ibid.*)

New events in globalisation lead to an acceleration of the transformation process. This increasingly rapid process of change is shaping the new technology driven economy into a service pulled creative economy. In the ever-changing global operating environment, the competitive ability of (for example) the Finnish national economy is based on its ability to renew itself. Creativity is essential. We have to be creative and innovative in all our activities ensuring that our most important skills, knowledge and capitals are dynamic structures, supported by an innovation culture and international knowledge networks. (*Ibid.*)

The various encounters between creativity, culture and business are increasingly important for the future. The creation of dynamic and global innovation environments presupposes a new kind of co-operation culture. According to Manuel Castells (1996 and 1998) the main economic driver in industrial age was energy/energy efficiency. In the information age however, the main driver is information/information efficiency. (*Ibid.*) In the future (at the third level of information society) the main driver should be co-operation/co-operation efficiency. With cross-sectorality we can increase creativity and promote a change-friendly atmosphere in the society and business environments.

The main challenge of competitive regions and economies is managing this multi-dimensional transformation process. Inter-cultural sensitivity and expertise, as well as diversity and pluralism of actors, are essential factors in business operations and international networking. By increasing interaction and promoting activities that create something new on the interfaces of the industries, creativity is made a regular element in the everyday operations (management, production, marketing, etc.) of organisations and companies. (Hietanen 2005 and 2006)

Thus the challenge of national development and policy is to combine the innovation and foresight systems to produce sustainable "finnovations" (foresight + innovations). (Kettunen & Meristö 2010)

## 2. **TWO PILOT PROJECTS ON INNOVATION SYSTEMS AND KNOWLEDGE PARTNERSHIP BETWEEN THE GOVERNMENTS OF SOUTH AFRICA AND FINLAND**

The main finding of eDeve project was that Africa does not need Finnish technology or e-services. It does however need more skills and competence to create its own future. Indications of this were apparent for example when the Ministry for Foreign Affairs of Finland asked South African researchers to assess the Finnish information society. The researchers were less interested in the Finnish technology or content services than in the Finnish national innovation system, specifically its ability to invent and develop independently. (Sibisi & Day 2003)

The eDeve research identified two practical tools for developing the kind of social infrastructure required for sustainable information society development: networking African and Finnish futures studies experts, and developing multidisciplinary development research clusters between Finland and Africa. It was also suggested that a best practice for this sort of co-operation project could be to implement some form of a foresight organisation – for instance a society for futures studies, a futures research centre, the committee for the future with the Parliament of RSA, or a futures academy. (Hietanen 2006) These types of

institutions are an important part of the Finnish national innovation and foresight system. (See for example Kamppinen, Kuusi & Söderlund 2003 and Vapaavuori & von Bruun 2003)

In the past few years the Ministry for Foreign Affairs of Finland organized a couple of large development projects in co-operation with Government of South Africa. Finland Futures Research Centre took part two of them and tested the above idea of foresight for development:

— *Cooperation Framework on Innovation Systems between Finland and South Africa (*COFISA) 2006 – 2009 and
— *South Africa - Finland knowledge partnership on ICT* (SAFIPA) 2007 - 2010

The COFISA programme was developed jointly with the Governments of SA (through the Department of Science and Technology) and Finland (through the Embassy of Finland in Pretoria). Its objective was to contribute enhancing the effectiveness of the national system of innovation contributing to economic growth and poverty alleviation.[1]

The figure (Fig. 1) below illustrates four key areas of innovation system development, grouping together key COFISA activities into four strategically important lines of action focusing on building structures and competences at the provincial level. COFISA's three pilot provinces are: Gauteng, Eastern Cape, and Western Cape. (James 2010)

*Figure 1.* **FOUR KEY AREAS OF INNOVATION SYSTEM AND STRUCTURE OF THE COFISA PROJECT**



*Source:* Own elaboration.

[1]  http://www.dst.gov.za/links/cofisa
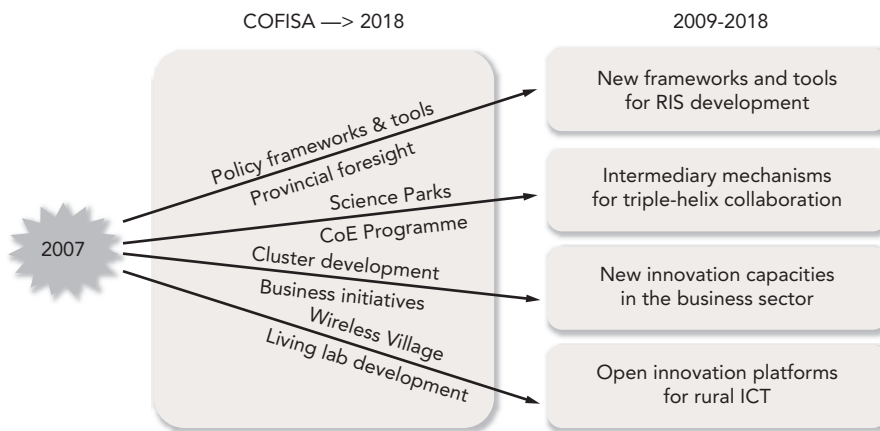
The aim of the *South Africa - Finland knowledge partnership on ICT* (SAFIPA) project was to support the creation of an environment which facilitates the development and deployment of ICT service applications for the benefit of South African citizens. Thus the programme addressed the development of models of ICT based service applications which were suitable for local conditions, particularly in the most vulnerable parts of the population. To achieve the overall objective of the programme, three interdependent components were designed: 1) institutional capacity development, 2) innovative IS applications and new solutions for end users, and 3) network creation and dissemination.[2]

Awareness-raising and capacity building on foresight and strategic innovation in business development played an important role in both the COFISA and SAFIPA programmes. Foresighting refers to methods and techniques used to develop viable and sustainable futures for communities. The strength of foresighting is in its proactive development approach towards desired futures. It is a departure from short term incremental planning, which typically focuses on *how to solve present problems. Foresighting focuses on what can be and then directs efforts towards systematically developing the desired futures. (See James 2010 and Day, Greenwood & Karuri-Sebina 2009)*

## 3. **FORESIGHT FOR DEVELOPMENT**

The purpose of scenario building is to provide you with the ability to cope with a rapidly changing world where insecurity is high. (Ralston & Wilson 2006) Futures studies are concerned with the collection of knowledge about the future and its critical analysis, creatively synthesising a desirable future from the many alternatives, and systematically presenting this future. (Hietanen & Kaivo-oja 2005)

The goal of a foresight system is to generate future data which will assist the actor(s) to prepare for possible changes. In applying foresight, data is systematically gathered from the operational environment and future images and visions from the mid- and long-term future are formulated. In addition to basic future research methods such as Delphi questionnaires and future wheels, scenario methods such as future tables and system methods such as soft system methodology are beneficial in comprehending and modeling technical, political, ecological, economic, social and cultural change processes. (See Godet 1994, Kaivo-oja, Kuusi & Koski 1997, Kuusi 1999, Keenan, Loveridge, Miles & Kaivo-oja 2003)

The mere collection of available data and specialist opinions, systematic analysis and the calculation of probabilities does not ensure an adequate standard for futures information. An effective foresight system represents an information generation and

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[2]  http://www.safipa.com/

management process which in addition to data contains creative innovation, strategic evaluation and the rendering of proactive futures (Deutsch 1997, Slaughter 1995, Kuusi 1996, Kaivo-oja 2003). It includes data, evaluation, innovativeness, networking, strategic decision making and the proactive creation of the future. In addition to information on the possible changes in the operational environment, this sort of foresight system tells us how we may impact matters and with whom we can, through cooperation, best achieve the future condition we desire. The acquisition of futures information can also be described as a four-stage futures process (Fig. 2). (Hietanen & Kaivo-oja 2005)

*Figure 2.* **THE FUTURE PROCESS PHASES[3]**
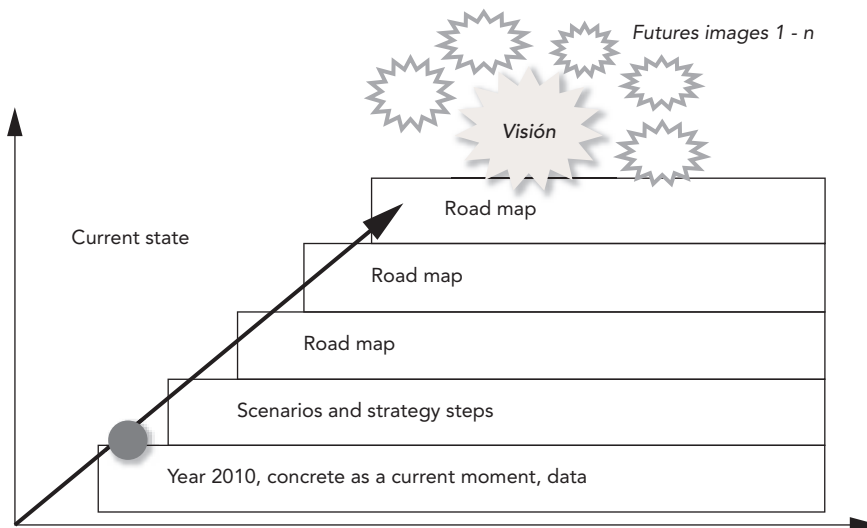


*Source:* Own elaboration.

1. As with other developmental planning and research, the point of departure for the foresight procedure is scientific knowledge that concerns the phenomena, structures and processes of which the anticipated matter is composed. Other foresight systems stop here, thereby losing the most fruitful benefits gained from futures information. (*Ibid.*)

2. During the second stage of the futures process, imagination and creativity are added to the data. Not only must the foresight process provide an understanding of how matters in the future shall apparently be, but it must

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[3] The futures process is built on the assessment of the present condition; the building of potential, probable and desired images as well as those that should be avoided; deciding on the futures representing the goal (vision) and the creation of strategy steps.

consider how they could be. Human activities are not usually limited by economic or technical limitations but rather by the lack of good ideas and creativity. (*Ibid.*)

3. During the third stage of the process, values are combined alongside information and imagination. The scenarios and images of the future are roughly divided into specific possibilities, probabilities and hoped-for futures, as well as those that should be avoided. Of these, the possible and probable futures are objective to an appreciable extent. The hoped-for fulfillment and desirability of various possibilities can however differ depending on the perspective of the actor. As a result of this working stage, alternative images of the future, which are not necessarily mutually exclusive, emerge. This stage concludes with the selection of a common vision where an actor's desired future is chosen from all the potential futures. (*Ibid.*)

4. During the fourth stage of the futures process, a strategy is devised based on the current moment which could lead to the desired future condition. This stage is value rational: after it is decided which sort of world is desired, the most effective choice of implementation method is, to a large extent, logical and objective. At this working stage, the foresight process becomes making the future. (*Ibid.*)

When the four working stages described above are regularly repeated, the result is a participatory foresight system which functions as an effective tool for change administration and visionary management. (*Ibid.*)

Often in the foresight system participatory methods are emphasized, from a perspective of change, in an attempt to promote the synergy and networking of pivotal key actors. Through networking the collective knowledge of the network members, with respect to future challenges and possibilities, is optimised and the innovation and pro-activity of the foresight system is enhanced (Mattila & Uusikylä 1999 and Holman & Devane 1999). Pro-activity is regarded as the conscious readiness and belief in the freedom to choose one's own reaction to matters and situations that occur. This is the belief that the future can be affected and that it does not merely happen in and of itself. The opposite of pro-activity is reactivity which is regarded as the operational mode in which ensuing circumstances and events are not separately prepared for in advance. In this respect, the degree of freedom for resources taken into use in unexpected circumstances is small. In reactive functions, the operational methods are randomly and impulsively chosen without the capability of reflecting on their impact or consequences over the long term. One of the advantages of using participatory methods through futures workshops is that more data as well as a greater number of perspectives into the causes and consequences of the matter under study, is obtained for the foresight process. (Hietanen & Kaivo-oja)

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A prerequisite for effective foresight, based on networked interest group work, is that the actors are capable of finding and defining a common vision. This means that the actors have the same view of the desired future condition. The goal is not one solution for all but rather that each actor in the foresight system has his/his own path and his/her own measures for the realization of the common vision. (*Ibid.*)

The task of the forecast system is not to invent new mutual operational modes for all actors in the network but instead to develop various skills for each actor. Although the vision of the interest group is indeed one held in common, the means of implementing that vision can be quite varied. A map can be used as an analogy. At the starting position the actors are at various points. If the goal is to reach the same point, each must follow their own path to the destination and the direction must be chosen according to where one is at time of departure. (*Ibid.*) A strong learning process is often connected with the foresight system (Van der Heijden, Bradfield, Burt, Cairns, & Wright 2002).

In a foresight system based on a pro-active interest group work, multiple-voices and versatile knowledge of the theme which represents the object is gathered into the upper part of the 'foresight sieve'. The more actors participating in this value discussion the better. During the second stage of sieving, the value discussion is analysed and proportioned according to the available data. Thisstage is carried out by the specialists. During the last stage of sieving, the analysed value discussion (futures information) is transformed into action, in other words making the future (Fig. 3). (Hietanen & Kaivo-oja 2005)

*Figure 3.* **PROACTIVE WORK OR THE STAKEHOLDER[4]**
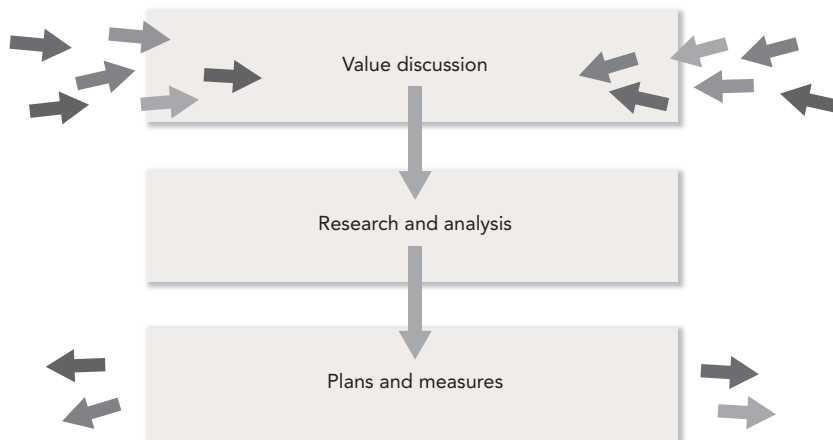


*Source:* Own elaboration.

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[4] Multiple-voice value discussion in the foresight sieve is converted into pro-actively making the future.

The essential feature of the foresight systemis whether or not it is only a process of exclusive trend extrapolation based on time series in which future images are postulated on the basis of the already realized time series: 'business as usual',will grow a little, and will decline a little (Fig. 4). (Hietanen & Kaivo-oja 2005)

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*Figure 4.* **TREND EXTRAPOLATION, FORESIGHT BASED ON REALIZED TIME SERIES**
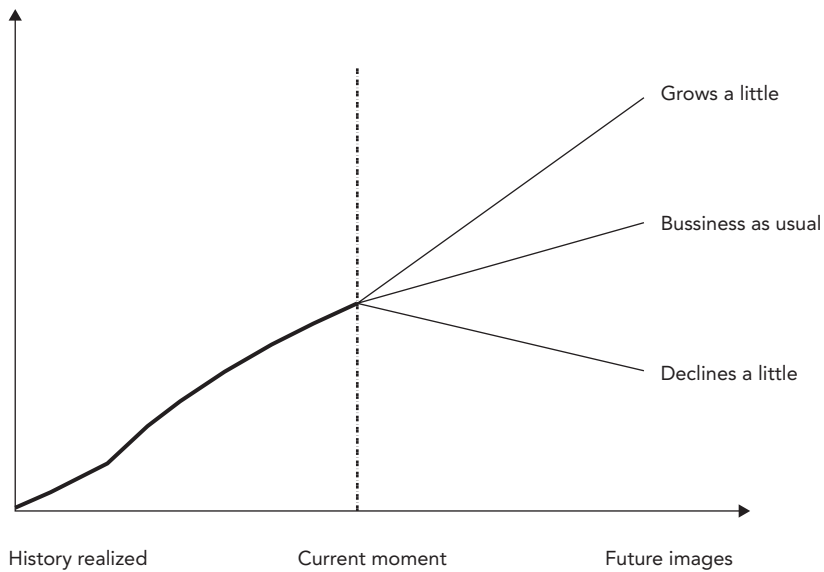
Source: Own elaboration.

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An alternative to the foresight system in seeking these probabilities is a heuristic approach in which the point of departure is free will. Even if matters have always been like this, it does not mean that they should also happen the same way in the future. (Hietanen & Kaivo-oja 2005) In a similar manner to assessment, the foresight system is always linked to learning from history (hindsight), the problems of the present (insight) and estimated futures (foresight) (Kaivo-oja, Seppälä & Katko 2004, Kaivo-oja 2004).

In addition to knowledge, human beings have also been bestowed with imagination, the ability to invent new things. Heuristic foresight seeks and even actively creates discontinuities. (Mendonça, Cunha, Kaivo-oja & Ruff 2004) For this reason, values are also emphasised in the heuristic foresight system - the discussion of how matters could be and how they should be. (Fig. 5)

*Figure 5.* **CREATIVE FUTURE IMAGES ARE NOT BASED ON CONTINUA BUT RATHER ON DISCONTINUITIES**

History realized          Current moment          Future images
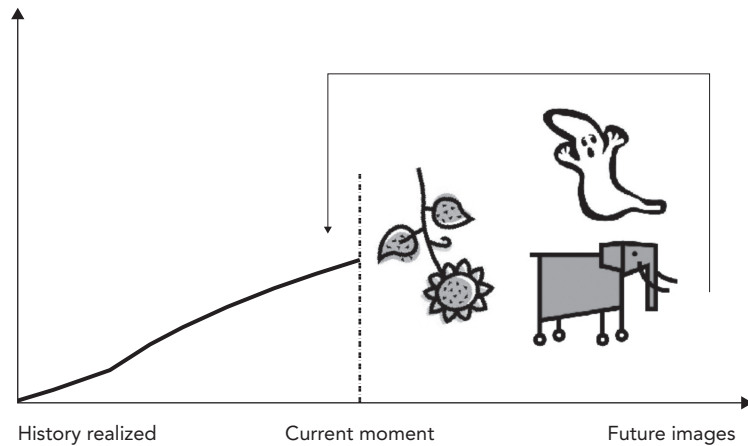
*Source:* Own elaboration.

### 3.1. **Basic investigation model**

In the COFISA and SAFIPA futures workshops, the ACTOVD futures process developed at the Futures Studies Research Centre is utilised. In this process five basic research methods are combined: a futures workshop, futures wheel and futures table as well as the Delphi questionnaire (or Delphi process) and soft system methodology.

### *Futures workshop*

*The Futures workshop* is an instrument for making the future whereby various actors participate on a wide-ranging and comprehensive basis. In participation via workshops it is possible to gain benefits from different types of group work techniques, depending on the actors, goals and content. Nevertheless, what is generally characteristic of the workshop structure is that the workshop diverges according to content. Five stages occur (Nurmela 2003):

1. preparation stage which takes place before the workshop
2. problem stage, in which the problem being handled and the starting situation are specified
3. imagination stage in which alternative solutions are sought
4. realization stage, in which concrete measures are sought
5. post-measures which occur after the workshop is over

### *Futures wheel*

*Futures wheel* is a "mind map" method in which the theme being dealt with (for example the future of schools) is taken apart layer by layer. After this, the fields can

be challenged one-by-one with various future trends for example ageing, globalization, etc. In this way a conception is formed which encompasses the entirety of the theme and how the future challenges the various sectors that make up the theme. At the same time, it is possible to examine the interactive relationships between the parts of the system. (Glenn 1994)

The futures table is a scenario method used in futures studies for the outlining of alternative future images. When the alternative future images also contain a description of the alternative paths leading to the same, it is possible to speak of scenarios. The futures table is an inspection matrix on whose left side (in the column) all variables concerning the matter under study or affecting the phenomenon are marked. The table's horizontal lines on their part include the various conditions of these variables. Alternative future images of the matter under study are formed by selecting various status pairs (generally one value/line). (Seppälä 2003, Kuusi & Kamppinen 2003).

### Soft systems methodology

The Soft systems methodology  is utilized when the goal is to outline and model system operations. Soft systems methodology is particularly applied to the explanation of human activity. In this method, some comprehensive overall system is divided into sub-systems and their interfaces, and the various interactive relationships acting between these systems. (Rubin 2003)

### Delphi method

The Delphi method Has been developed specifically for the collection and analysis of specialists' concepts concerning the future. The method is not based on a comprehensive statistical sample but concentrates rather on limited specialist group replies and the rationales of future-based claims as presented: discourse and argumentation. In the Delphi method, the replies in the specialists' first stage alongside their rationales are used in the second (and third) stage as the starting point for discussion. In this manner, the Delphi process deepens from stage to stage into the current situation and future prospects of the problem under examination. What is essential to the Delphi process is the accumulation of data occurring in each consecutive working stage (Kuusi 2003, Linstone 1999).

### Futures table

The ACTVOD futures table used in the COFISA and SAFIPA futures workshops has been composed by combining the futures table (scenario method) and soft system methodology (Peter Checkland's CATWOE model[5]).The combination of

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[5]  Checkland & Holwell 1998, Checkland & Scholes 1990 and Checkland 1985.

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these systems has been carried out in such a way that the CATWOE model variables, which have been slightly modified and arranged at the same time (Table 1), have been set in the left-hand side of the futures table as variables/factors. In this way, ACTVOD has emerged from CATWOE.

*Table 1.* **CHECKLAND'S CATWOE VARIABLES AND THE ACTVOD APPLICATION RENDERED FROM THE SAME**

| Checkland's variables: | ACTVOD table variables: |
|---|---|
| C (customer): whose activities the process affects | A (actors): those who produce and do things |
| A (actors): who complete the process | C (customers): the actors for whom things are done |
| T (transformation process): in which the system's incoming resource changes into a product: i.e., a description of the change that various actors attempt to achieve through their activity | T (transformation process): the goal of operations and the basic tasks of the actors; i.e., that intended for accomplishment through activity: condition X changes by means of action Z into condition Y. |
| W ( worldview): overall perspective | V (values): the values connected with operations (among other things, the values of clients and actors) |
| O (owners): who may halt change | O (obstacles): those factors which act as obstacles to the attainment and realization of objectives and goals |
| E (environmental constraints): constants set by the operating environment, i.e., external restrictions | D (drivers): those resources and other factors which help the actors to achieve their aims |

*Source:* Own elaboration.

The table can also be filled in on a case-by-case basis by filling in new variables such as: areas of core expertise (knowledge), products and technologies.

When the ACTVOD futures table is combined with the futures wheel, it is possible to speak of the ACTVOD futures process (Fig. 6), in which the "correct question" is first sought by means of the futures wheel. Action begins on the basis of some tentative theme, but generally some other choice (a new question found to be interesting in discussion) is made for the next stage for example on the basis of a vote. This new question is presented during the next working stage by means of a futures table in the form of future images and scenarios. During the final stage of the process, the measures are sought to implement the scenarios. These procedures can be looked for either in the same workshop as has been done with the futures wheel and table or as post-measures by means of the Delphi questionnaire. If measures are sought through the questionnaire, the results for the futures workshop can simultaneously be distributed for the wider interest group's assessment. At the same time, willing actors can be sought to join in to realize the desired future (vision and strategic measures).

*Figure 6.* **THE ACTVOD FUTURES PROCESS[6]**
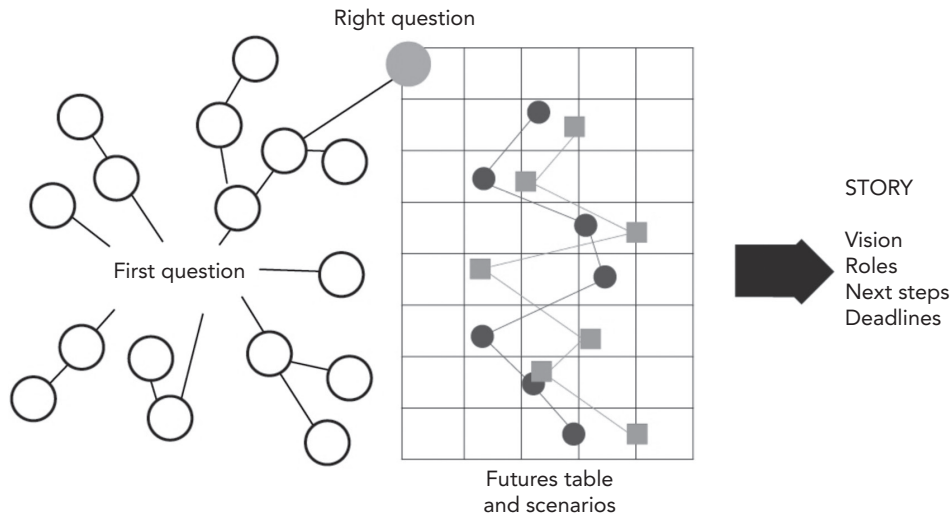


*Source:* Own elaboration.

The main idea of the Delphi methodology is that there are several rounds of dialogue between experts. Usually this dialogue process is carried out through questionnaires and experts work anonymously. The COFISA Foresight Process did not include questionnaires at all, but presented four workshops in every pilot province (Western Cape, Eastern Cape and Gauteng). The result of the first work shop was then used as the starting point of the second one and the result of the second work shop was the starting point of the next one and so on. In addition to this three group activities (different kind of methodologies) were used in each workshop with the results from the first group work (futures wheel) used as the starting point of the second group work (futures table) and so on. The COFISA Foresight Process could then be regarded as a participative "*Double Delphi process*" in which new experts and stakeholders took part in every round and directed dialogue from first common ideas and visions to concrete action plans and policy recommendations during the process.

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[6] The ACTVOD futures process is composed of four working stages: 1) a search for the right question by means of the futures wheel (mind map), 2) the construction of a futures table on a selected theme, 3) formation of scenarios and 4) specification of measures (realization of scenario). These measures are carried out at the futures workshop (1 – 4 workshops). If desired, a (internet) questionnaire can be added to the method as a fifth (post-)measure, in which the results of the workshop are subjugated to the assessment of the wider interest group / specialist group. At the same time, it is possible to look for cooperation with interested parties. This multiple-stage futures process forms the Delphi process, in which the working stage enters more deeply from the same into the perceptions of the specialists about the future.

The use of multiple methodologies and different kinds of pre and post actions meant that the COFISA Foresight Process was a seven phased visionary network management project which is illustrated more detailed below in Table 2.

*Table 2.* **SEVEN PHASES OF THE COFISA FORESIGHT CAPACITY BUILDING PROGRAMME[7]**

| Phase of programme | Place and time | Contents and targets |
|---|---|---|
| 1. Pre activities: Capacity building workshop | Finland Futures Research Centre/ Turku School of Economics 22.-23.01.2007 | Foresight activities require skills and capabilities within the core team and especially from the South African experts. For this purpose, COFISA organized a two-day workshop in Finland as a part of the COFISA Study Tour in January 2007. In this workshop, the COFISA team got acquainted with foresight methods and tools needed in the programme. The workshop aimed at effective planning of the actual exercises and baseline studies in the three pilot provinces, Gauteng, Western Cape and Eastern Cape. |
| 2. Stakeholder work shops | Gauteng 30.8. – 3.9. 2007 Eastern Cape 04.09.2007 Western Cape 05 09.2007 | — Information about COFISA<br>— Information about COFISA foresight process<br>— Information about provincial timetables<br>— Feedback discussions<br>— Definition of strategic stakeholders |
| 3. First futures work shop | Western Cape 13.11.2007 Eastern Cape 01.11.2007 Gauteng 15.11.2007 | This Foresight workshop was the first in a series of four workshops to be held to develop realistic and implementable futures for the pilot Provinces. The purpose of the workshop was to introduce participants to the overall COFISA innovation systems programme, and the foresighting process in particular. The first round of provincial workshops were coordinated and facilitated by the Finnish foresight expert with help of South African experts (one national and three provincial coordinators/foresight experts). |
| 4. Second futures work shop | Western Cape 25.01.2008 Eastern Cape 23.01.2008 Gauteng 28.02.2008 | The second round of provincial foresight workshops was intended to investigate realistic and implementable futures in the context of the development of regional systems of innovation in the Eastern Cape province. The purpose of the workshop was to further develop the thematic areas produced in the first workshop. Second workshops were facilitated by South African experts (one national and three provincial coordinators/foresight experts). This was an important part of The COFISA capacity building programme. |
| 5. Third and fourth work shops | Western Cape 25.-26.02.2008 Eastern Cape 28.-29.02.2008 Gauteng 03.-04.03.2008 | This seminar was the final of a planned series of four workshops. The purpose of the two day residential workshop was to achieve the following outcomes:<br>— To identify potential improvements to the current systems of innovation at both provincial and national levels, and to make related policy and strategy recommendations.<br>— To develop specific action plans within each chosen futures theme to enable the implementation of prioritised actions by the delegates, supported by COFISA and a range of relevant stakeholders.<br>These workshops were co-coordinated and facilitated by both South African and Finnish foresight experts/coordinators |
| 6. Post activities | 24.-30.8.2008 | Foresight training/study visit to Finland. As a follow-up to the capacity building programme that was put in place for the three Provincial Coordinators during the 2007-2008 provincial foresight exercises, a study/training visit to Finland took place in August 2008. The delegation included also the Gauteng Provincial Coordinator of the Biotechnology Foresight project. The visit served to build on the participants' knowledge and skills of foresight tools and methodologies and expose them to foresight institutions within the Finnish National System of Innovation. (Appendix 4) |
| 7. Report | | |

*Source:* Own elaboration.

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[7]  See also James 2010 and Appendix 4.

An innovation system, like all human systems, is a communication system between strategic stakeholders. It is for this reason that we must understand the foresight process as a communication process. In futures workshops communication is carried out through dialog. The participatory foresight process combines the tools and methodologies of visionary network management and dialog management. Each COFISA foresight workshop included an average of 40 stakeholders whointeracted in small working groups (about 6 persons per group). The small working groups provided an ideal situation making dialog more efficient asmore or less people at degrades the quality of conversation.With more people, disturbance occurs as people at one end of the table cannot hear people on the other end.Fewer people results in fewer opinions and knowledge. One of the other problems experienced was accommodating people who needed to leave during the day, having six people in a group meant that group dialogcould still continue without significant disruption as certain people left.It is also extremely important to invitenew experts to join workshops during the process. New ideas developed during the process presuppose new kind of expertise too. As a result of this "*snow ball methodology*" (Table 3) almost two hundred stakeholders took part in this process.

*Table 3.* **METHODOLOGICAL STRUCTURE OF THE COFISA FORESIGHT WORKSHOPS[8]**

| First work shop | Second work shop | Third work shop | Fourth work shop |
|---|---|---|---|
| Lot of multidisciplinary stakeholders invited | New stakeholders invited (snow ball) | New stakeholders (for example politicians and municipals) invited (snow ball) | New (public, business and NGO) stakeholders invited (snow ball) |
| Futures wheel **opens** the first theme (Question 1): RSA 2050 | Futures wheel **opens** Top Ten Future Challenges (one theme in every board) | Futures wheel is used as policy wheel to **open** possible policy recommendations: what kind of policy actions we'll need to make our visions and dreams to come true? | Futures wheel is used as action wheel to **open** possibleshort and long scale actions. |
| Stakeholders vote the most important themes | Stakeholders vote the most important sub themes in every theme | Stakeholders vote the most important policy actions | Futures table **focus and define** roles, actors, responsibilities and next steps: who will do what and when? |
| Futures table **focus** these new themes as actions, products and networks | Futures table **focus** these (more concrete sub themes) as actions, products and networks. | Futures table **focus** these policy actions and areas more concrete way. | The result of the fourth work shop is a new more concrete action plan (included first ideas of funding sources and so on). |
| Story writing | Story writing | The result of the third work shop: stakeholders write policy recommendations. | |
| The result of the first work shop is visions and TOP Ten lists of future challenges | The result of the second work shop is more concrete visions and sub themes and more concrete action plans. | | |

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[8]  See also Day, Greenwood & Karuri-Sebina 2009.

This kind of process which encompasses various phases and various methodologies in each workshop allows for the development of separate foresight methodologies to a visionary network management process which opens and focuses visions and ideas on many levels with multiple stakeholders. Methods for example include: analytic trend extrapolation (probable futures images), heuristic scenario building, proactive futures management, a methodological line from hard data to social sciences, risk management and creative innovations, and pure imagination (almost art and pure creativity). A foresight process creates communication between strategic stakeholders and methodologies create better dialogue. Results of this kind of process include: futures images, scenarios, visions, innovations, action plans, policy recommendations, foresight capacities and networks. You cannot predict the future with any certainty, which is why you need to create it in co-operation with your stakeholders. Visions help us to focus and to understand the present giving us the freedom to create our future so that we can reshape our present and history. The next and maybe the most important challenge is to instill this kind of finnovation (foresight + innovation) process as a routine. Only then we can speak about foresight (and cooperation) culture. (See for example Segal 2007, James 2010 and Day, Greenwood & Karuri-Sebina 2009)

The COFISA foresight process was a bottom up process which started as a foresight project that developed during the process into a capacity building programme. The SAFIPA foresight process was however carried out in the opposite way, it started as a capacity building programme and developed into a foresight project. SAFIPA sponsored technology foresight capacity building at the CSIR Meraka Institute and its stakeholders through expert training by the Finland Futures Research Centre. The goal of the SAFIPA foresight programme was to develop the Meraka Institute's foresight capabilities. The content of the *Meraka Foresight Capacity Building Programme* is presented more detail below in table 4.

The Meraka foresight training was divided into two phases with Phase 1 being the theoretical Foresight facilitator training in November 2009, and Phase 2 being a refresher course and practical hands-on training in facilitating two foresight workshops in March 2010.

The first training phase took place from 25 to 26 November 2009 at the Knowledge Commons, CSIR[9], and was attended by ten people from Meraka, one from CSIR and four people from the Department of Science and Technology (DST)[10]. The attendees were given background reading material followed by an intense two day training course. On day two of the course the attendees did a foresight exercise with the theme: South Africa's ICT in year 2050. After that

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[9] The Council for Scientific and Industrial Research (CSIR) in South Africa is one of the leading scientific and technology research, development and implementation organisations in Africa. It undertakes directed research and development for socio-economic growth. http://www.csir.co.za/
[10] DST is a department of RSA Government.

stakeholders discussed about how Meraka could use foresight and planning was initiated for the next workshops to be held in Phase 2.

*Table 4.* **MERAKA FORESIGHT FACILITATOR COURSE**

**Pre actions during November 2009**
— Identification of possible foresight facilitators and a survey of their interests. Pre-work (e.g. reading material) sent by FFRC.
— Tuesday 24.11. 2009: Presentation at LLiSA conference: A short introduction to Futures Research and foresight and a discussion session on how to prepare and conduct such workshops in Southern Africa LL (living labs) contexts.

| Day 1: 25 November 2009<br>Venue: Sedibeng room, Knowledge Commons, CSIR North Campus | Day 2: 26 November 2009<br>Venue: Sedibeng room, Knowledge Commons, CSIR North Campus |
|---|---|
| 08:30  Welcome by Kristiina Lahde (SAFIPA) and Kobus Roux (CSIR, Meraka)<br>08:45  Foresight Training Session 1 (Introduction to Foresight, Futures Research and Visionary Network Management) by Olli Hietanen (Finland Futures Research Centre)<br>10:30  Coffee, Tea & Refreshments<br>11:00  Foresight Training Session 2 (Two kinds of Futures Wheels)<br>13.00  Lunch<br>14:00  Foresight Training Session 3 (Futures Table/Matrix)<br>15:30  Coffee and Tea<br>15:45  Foresight Training Session 4 (Scenarios/Images of the Future and feedback discussions)<br>17:00  Wrap-up of Day1 | 08:30  Summary of Day 1 by Olli Hietanen<br>08:45  Foresight Training Session 5 (Another way to use Futures Matrix)<br>10:30  Coffee, Tea & Refreshments<br>11:00  Foresight Training Session 6: end of Phase 1 of Training (Black Swans Theory)<br>13.00  Lunch<br>14:00  Application of Foresight in Meraka: Developing Action Plans (by Olli Hietanen and Meraka {Anybody who is interested is welcome to join this planning session}<br>16:00  Closure |

**Training - Phase 2 (between January and March 2010)**
— Day 1: Training (refresher ofPhase 1 training as well as new material – new people can join in). Detailed planning for Foresight workshop on Day 3.
— Day 2: Do training by developing a specific Living Lab-based (or topic x??) foresight scenario as a case study. Prepare for Foresight workshop on Day 3.
— Day 3: On the job training. Large stakeholder/kick off workshop organized by the Meraka. FFRC foresight expert will be there to help and observe but it's Meraka's job to facilitate everything and learn foresight by doing. This kind of foresight seminar (presentations and future workshops) is at the same time a concrete foresight project from the point of view of Meraka - and an interesting capacity building exercise from the point of view of stakeholders. Reflection session afterwards with foresight expert on the learning emerging from the session.

The second phase of training took place from 15 to 18 March 2010 at Meraka Institute, CSIR. The first day (memory refresh) of phase two was attended by five people from Meraka, one from CSIR and one person from the Department of Science and Technology (DST). The second and third day of phase two were on the job training when Meraka organized two stakeholder workshops on mHealth and

Information Security. During both workshops a foresight expert from Finland Futures Research Centre acted as a mentor, observer and advisor for the workshop providing just-in-time guidance and advice if needed to help and observe but it was Meraka's job to organise and facilitate these workshops.

The mHealth workshop was planned in cooperation with the mHealth Alliance. The 18 attendees present represented a wide spectrum from aid organisations (USAID), NGOs (Praekelt Foundation, Lovelife) to technology companies (SAP research) as well as Meraka people. The theme of the first foresight exercise was "mHealth in South Africa 2041". The objective of the Mobile Health Foresight Workshop was to capture the thinking of some of the best minds in Mobile Health in South Africa. The purpose was to map out key themes relating to the potential impacts and challenges faced by the public, private and NGO sectors in establishing mobile health as a key enabler in improving health outcomes for all sectors of the population. The areas of research, innovation, implementation, eco-system engagement, sustainability, and scalability were amongst those explored. The impact on collaboration was made clear by the fact that a large project proposal to USAID that involved most of the participants from the workshop, was submitted shortly thereafter.

The Information Security workshop was also facilitated by experts from Meraka. The objective of the Information Security workshop was to capture the thinking of some of the best minds in information security in South Africa. The purpose was to map out themes related to risks and opportunities for the future and what these mean for information security research and focus areas. The 12 attendees represented key players from academia (University of Johannesburg, University of Pretoria), industry (Ciphertec, Net1/Prism) and the CSIR. Government, a key player, was invited, but could not attend.

## 4. **RESULTS**

There are four kinds of results of COFISA and SAFIPA foresight projects:

### 4.1. **Foresight Capacities**

As a result of the SAFIPA capacity building programme described above, four to five people from Meraka Institute and Department of Science and Technology (DST) are able to facilitate foresight processes.The COFISA project produced similar results: five people from various private companies are now able to facilitate foresight processes. Only one of these experts used foresight tools before the training programme, however he improved his expertise by learning new methodologies through the process. In addition to this and as a result of the COFISA programme, one trained expert from the public sector proceeded to set up a foresight and innovation oriented company (*Innovation Ecosystems).*

These were then the educational results of the COFISA and SAFIPA Foresight Capacity Building Programmes but these programmes additionally produced future oriented knowledge, scenarios, action plans and policy recommendations too.

### 4.2. **Meraka foresight results**

Meraka organized two stakeholder workshops on mHealth and Information Security. The overall results of these workshops are summarized in Table 5 below.

*Table 5.* **MERAKA FORESIGHT CAPACITY PROGRAMME'S FORESIGHT RESULTS**

| TOP Challenges of Information Security (Time scale 2020) | | TOP Challenges of mHealth (Time scale 2050) | |
|---|---|---|---|
| Group A | Group B | Group A | Group B |
| — Safe e-Government<br>— Laws and Regulations<br>— Cashless Society<br>— Trust and Universal Identification. | — Overall, all-encompassing awareness<br>— Strong Identities (the identity should not have economic value, should prove who you are, it should also be rugged and robust)<br>— Ensured Non-Repudiation and Accountability<br>— Strong transactions<br>— Reaction and Remediation to cyber crime on a global scale through a cyber Interpol. | — Set of integrated devices for diagnostic purposes feeding into a medical infrastructure for systemic diagnosis and treatment<br>— Role of consumer: self diagnosis and demand-driven medicine<br>— Information sharing needs and privacy concerns | — Shift in location of healthcare from hospital to body<br>— Privacy and security<br>— Transmit recipes not medicines<br>— Monetising health care with the impact it has on our humanity<br>— Communication is as essential as oxygen |
| The resulting theme for the futures matrix was "Establishing Trust in an Information Society in 2020."<br><br>Products and services were identified as back-end systems (CA, PKI), tokens and smart card IDs.<br><br>The key driver was the creation of greater efficiency for Government and business. | The resulting theme for the futures matrix was "Awareness relating to Risks, Privacy, Legislation and Accountability."<br><br>Products and services were identified as education, more specifically noted in this was the concept of an Internet Driver's License.<br><br>The key driver was criminality and the constant need to stay ahead of it. | The resulting theme for the futures matrix was "Dr in my pocket."<br><br>Products and services were identified as: expert mobile systems, mobile services (mservices) and use of cloud computing for managing all the medical data.<br><br>Key drivers include: consumer demand as a bottom up approach, social networks and private sector self interest. | The resulting theme for the futures matrix was "Preventative, in-body healthcare with consent."<br><br>Products and services were identified as: sensors used in bio-medical services, health monitoring services, ethical counseling services, automate customized adherence (ACA™).<br><br>Key drivers include: high cost of traditional health care, supply and demand, patient education, enabling ethical choices, demographics. |

*Source:* Own elaboration.

There was a question, in the Information Security Work Shop, of whether technology alone can solve the problem in 10 years' time, bearing in mind that people are always considered to be the weakest link. Technology can be used to control the impact of criminal activity. This lead to the comment that team A's scenario would be complemented by the scenario developed by team B. Combining the two scenarios would thus lead to the perfect solution. During the discussion stakeholders acknowledged the issues surrounding the authenticity of SA passports where the physical document itself is of an acceptable security standard, but it is the corruption by people in the Home Affairs office that is the problem. It was agreed that most of the technology exists that should keep systems secure, but this requires the will of Government to be implemented properly. A recognised problem exists in the South African context where to be secure it is required that the responsible Authorities remain independent regardless of the Government and politics of the day.

The question of how technology will change your life was also addressed from the point of view of information security. The changes should be unseen, with computers becoming more invisible, limiting dependence on humans and becoming easier to use. It was however still noted that you could have the best systems protecting you from the outside, but an insider could just as easily compromise the system, or there could also be a bug in the software (millions of lines of code) or by infection from targeted Malware the person could actually be innocent. Essentially the threat can come from anywhere and achieving security is a constant battle. The main point being that while we may be losing the battle against cyber crime, we won't stop fighting.

Other points raised included for example addressing proper legislation. With regulations, the idea should be like road safety - if you're hosting a site you should have certain security measures in place. We should use human psychology as well, remembering that Awareness is more important than merely having laws in place. If we want to create a trusted information society all role players need to play their part in this shared responsibility. Internet crime is happening and will increase due to the increased dependency on the Internet in our everyday lives

A recurring theme in the mobile health workshop was the need for a fundamental shift in the design of the health care system – it is just too expensive to keep on building more hospitals, health care needs to be done pro-actively at home and in the body with information flows supported by communication systems. The business model of the health care system (government, private sector and consumer relationships and partnerships) needs a radical re-invention. Privacy and ethical concerns dominate any discussions of health and it is very important to educate citizens to enable informed decisions and healthcare practitioners in how to ethically guide those decisions.

One example about this kind of new partnership was a meeting with Meraka and Department of Science and Technology (DST) which was held after the foresight workshops in March 2010. DST has to develop a 10 year ICT Roadmap

and the discussion was on how Foresight techniques can play a role. Two possible Foresight processes were explained:

1. The snowball process with three stages: develop a Vision, develop a Roadmap and develop Action plans
2. The use of Foresight Platforms[11]

The outcome of the feedback meeting was that Meraka Institute will develop two proposals: a proposal to develop a custom Foresight snowball process for the development of the ICT Roadmap and a proposal for the establishment of a DST Foresight Forum. Extensive notes of the meeting were written up and sent to DST. Negotiations are still ongoing.

### 4.3. **COFISA foresight results**

*Provincial results of the* COFISA Foresight Process are presented in appendixes 1 – 3. The national summary report is reported below in Table 6.

*Table 6.* **THE MAIN CHALLENGES OF THE SOUTH AFRICAN NATIONAL SYSTEM OF INNOVATIONS (SANSI)**

| RSA National Innovation system | |
|---|---|
| Education hub | — International education hub produced by university cooperation<br>— International Capacity and Support Systems for Entrepreneurial Excellence |
| Free information infrastructure | — Knowledge economy: Free information infrastructure (Two sub groups: Data and Broadband Internet)<br>— Free information infrastructure: breaking the monopoly barriers |
| KIBS sector | — KIBS for service sector (service intensive economy)<br>— KIBS as a mechanism for service innovation (public and private) |
| Green engineering | — Bio fuels, transportation, built environment, infrastructure and housing (green future) |
| Virtual government | — Virtual (automated) system of government - Integrated (back office) Service Delivery - (Shared Services – CRP)<br>— Transparent LOCAL government and service delivery |
| Everyday technologies for sharing | — Everyday technologies (ubiquitous ICT, teleservices, solar power, dry toilet, recycling, transportation<br>— Mechanisms for SHARING technology to the mutual benefit of ALL |
| Reinterpreted rural reality: | — Innovation capacity for Non farm rural economy<br>— Innovation capacity for agriculture and farming<br>— Institute of Agricultural Technologies, Agri-Science Park |
| Healthy Green Urban Communities | — Mechanisms(s) for developing green urban "built environment". |

*Source:* Own elaboration.

[11] Meraka and Finland Futures Research Centre presented bench marking examples from Finland: national foresight platforms which are coordinated by Finnish Ministries, Prime Ministry's Office and national R&D funding organisations like the Academy of Finland and National Technology Agency (TEKES).

Some of the above projects have already been initiated at national or provincial level. The COFISA programme provided additional benefits. Due to the availability of seed funding, it was possible to start some small projects immediately. This led to so called "quick wins" and the ability to gain momentum and keep the process going on after the COFISA project ended. One of the results was the Provincial Biotechnology Foresight Process which followed COFISA Foresight Capacity Building Programme. Provincial Innovation Foresight Process (2007 - 2008) and Provincial Biotechnology Foresight Process (2008 - 2009) produced fifteen detailed reports and two overviews (intended for both practitioners and researchers) that were generated during the process. (See for example James 2010 and Day, Greenwood & Karuri-Sebina 2009)

There is, however, a risk of losing the momentum gained in the capacity building process of COFISA, if no link is established between (for example) the Presidency's National Planning Commission, DST Technology Road Maps and existing cadre of foresight practitioners. One of the criticisms of the government driven foresight process is the lack of communication about the results, outcomes and impacts of the foresight processes already completed early in 2002. (Segal 2007)

### 4.4. **National and regional foresight and co-operation culture**

Another challenge is entrenched habits and processes. For example, the Western Cape provincial ICT Foresighting project resulted in the development of a fully fledged business plan for possible funding a Citizen Centric Knowledge Intensive ICT portal for public and private sector shared services in the security and tourism sectors. The local funding institutions who traditionally fund large industrial age infrastructural projects were however not keen to fund second and third level information society content and serviced based initiatives as these did not fit in with their typical funding models.The most important national innovation challenge lies then not inside the organisations but outside them. There are three dimensions to an innovation system (Figure 7):

— Innovative organisations (for example structures, management, material and immaterial capitals etc.),
— Concrete innovations (for example products and services) and
— Business environment (actors who should buy and use those innovations).

Most of the Finnish enterprises can easily produce innovations – but it can still happen that nobody wants to use them. Innovative organisations need innovative customers too. That's why we need two separate innovation cultures – one for innovations and another for implementation. We have a lot of research and knowledge about the culture of innovations (inside enterprises and other organisations) but the culture and structures of implementation (outside enterprises and other organisations) are the real challenge for the future innovation and foresight (finnovation) research.

*Figure 7.* **THE THREE DIMENSIONS OF AN INNOVATION SYSTEM**

3. The culture of inplementationin business enviroment (outside of organisations)

1. The innovation culture and structures inside organisations

2. Innovations

2. Innovations

2. Innovations
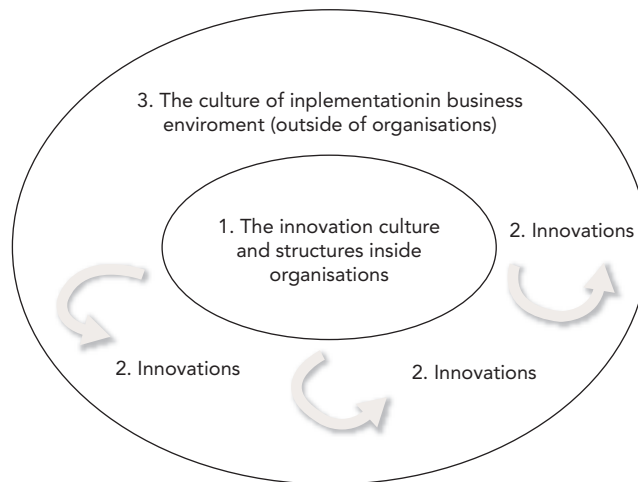
*Source:* Own elaboration.

### 4.5. **Other foresight projects**

Another outcome is the foresight projects conducted by experts and consulting companies after the COFISA and SAFIPA training. Two of the trainees from Meraka applied their skills in facilitating the *Mobility in Africa Foresight Workshop* sponsored by SAFIPA and arranged by SAINE. In addition to this the Knowledge Crucible/ Ontolligent Software Services (PTY) Ltd, Kayamandi Informatics (Pty) Ltd and Sakaza Consulting (Pty) Ltd have facilitated more than 20 strategy projects in the past 2 years (post the COFISA programme) using the foresighting methodology. For example the Sakaza Consulting (Pty) Ltd in cooperation with The Knowledge Crucible/ Ontolligent Software Services facilitated *The Gauteng 2055 Human Settlements Scenario Planning Project* for the Gauteng Department of Local Government and Housing. Kayamandi Informatics (Pty) Ltd in cooperation with The Knowledge Crucible/ Ontolligent Software Services facilitated *The Development of Maritime High Schools in the Eastern Cape* foresight process for the Department of Education of the Province of the Eastern Cape. These three companies have together conducted the Development of an Information Society for the Northern Cape Province of South Africa.

During these projects the Knowledge Crucible/Ontolligent Software Services (Pty) Ltd, Kayamandi Informatics (Pty) Ltd and Sakaza Consulting (Pty) Ltd have not only used ACTVOD-methodology but have also modified it to work better in a South African context.They for example discovered that when the words, Breakthrough Initiative and Enablers, were added to the ACTVOD table, it suddenly came alive and provided more pointers and insight into designing a more complete conceptual frame towards futuristic solutions. This became more apparent at the

next stage, the Story Writing and again later, the Backasting process that provides time dimensions to the scenario stories. Another innovation was to combine ACTVOD methodology with other foresight tools such as the visionary management (Malaska and Holstius 1999) and scenario planning tools such as systems thinking (Checkland and Scholes 1990), four quadrant scenario analysis tool (Schwartz 1991), and Stafford Beer's viable systems model.One of the interesting and informative tools used ahead was also strategic conversations interview to help determine and uncover the dominant mental models of the Gauteng Department of Local Government and Housing's mental models. The Seven Questions of Strategic Conversation approach, adapted from the Institute of the Future (Roy Amara and Lipinski 1993) by John Ratcliffe, and refined at Shell (Schwartz 1991), by van der Heiden was used to inform the process on the real or perceive factors that shaped and influenced decisions within the Department.

The overall results of COFISA and SAFIPA foresight processes are summarized in Table 7 below.

*Table 7.* **FOUR KINDS OF RESULTS OF COFISA AND SAFIPA FORESIGHT PROJECTS**

| | |
|---|---|
| Foresight results | — Futures images, scenarios, visions and policy recommendations from COFISA work shops<br>— Futures images, scenarios, visions and action plans from Meraka training workshops (mHealth and Information security) |
| Foresight experts | — Eight well educated foresight facilitators in five business companies and in one research institute.<br>— One new foresight and innovation oriented company |
| Co-operation networks and educated customers | — More co-operation with partners<br>— Business and public sector customers for foresight projects<br>— Foresight culture |
| Next steps | — South African foresight experts have used ACTVOD-methodology already in at least 20 foresight projects after COFISA and SAFIPA programmes (during 2009 – 2010) |

*Source:* Own elaboration.

## 5.   **REFLECTIONS**

A feedback session was conducted after the training sessions at the Meraka Institute where a foresight expert from Finland Futures research centre provided his opinion based on his observation of the two workshops and the trainees and expert reflected on the sessions. A discussion was held and learning was shared regarding the pre-workshop, workshop and post-workshop phases. The SAFIPA feedback session is described in more detail in appendix 5.

One of the key observations made at this session was the quality of the discussion between participants that took place after the planned exercises. The participants reported a positive experience of the workshop and it had a positive influence on their strategic thinking towards longer term (future) considerations and closer collaboration.

In general, people who only attended Meraka Foresight Capacity Building Programme's Phase 1 would need more facilitation experience while those who attended only Phase 2 would need a short exposure to the theory (self-study) as well as some facilitation experience. The Phase 2 participants gained more value from their experience of the group dynamics and the power of the techniques to get energy and ideas flowing. In nut shell the main reflections from the Meraka Foresight Capacity Building Programme were:

1. Mixing up people with very different perspectives (e.g. artists and computer scientists) led to higher energy in conversations and more innovative outputs.
2. Keeping the pace brisk keeps the focus and the energy levels high. It is difficult to continue after lunch.
3. Sufficient time at the end is needed to allow groups to share their work. One of the key observations made was the quality of the discussion between the participants which took place after the planned exercises.
4. We assume that it is easier to get people to attend if they can leave at 13h00 and choose to have lunch or not.
5. The small things are important. The set-up of the room – should not be like a lecture hall, but tables around which conversations can be held.
6. The "what next" question always looms. There is always a need to define follow-up activities.
7. The conclusion discussion in the mHealth Work Shop was too short.
8. The introduction on the security domain was too probably long and focussed the group on the present.
9. The time-scale in the Information Security Work Shop (10 years) was too short and led to a focus on the difficulties of the present situation. Having said that there was a strong feeling that the problems of today need to be solved before thinking of tomorrow.
10. One of the aims of the foresight training was to build some capacity within DST. They participated in the first workshop, but their attendance of the second workshop was limited. The conversation with ICT unit of DST is however ongoing about use of futures/foresight techniques for development of the ICT Roadmap.

Respectively the main reflections from the COFISA Foresight Process were:

1. Nothing really went wrong with the COFISA Workshops, which proved to be the best possible way of learning (foresight) by doing.

2.   The COFISA workshops represented the doorway to a whole new future for facilitators. Exposure to the foresight methodology appears to permanently change the view on how strategic planning should be carried out at an organizational and personal level.

3.   The three provincial facilitators (from the Knowledge Crucible/Ontolligent Software Services (PTY) Ltd, Kayamandi Informatics (Pty) Ltd and Sakaza Consulting (Pty) Ltd) came from completely different backgrounds and professions and yet they were able to form a "thinking cell" between them.

4.   Finland Futures Research Centre has served as a source of inspiration providing support and advice all along the way as an initial *Global Link.*

5.   *The COFISA programme on its own is not sufficient to give an aspiring practitioner the complete fundamentals and tools to practice effectively, hence extensive reading and regular application is extremely useful.*

6.   There is a strong need to rapidly increase the number of Finnovation experts to address the demand for the Foresighting and Innovation facilitation at all levels of society.

7.   The what next question should be fully thought out and addressed at the end of each Foresight workshop session to deal with anxiety and expectations brought about by the energy the Foresighting workshops generate.

8.   The action plan component of the workshop needs a separate workshop to get full value from it.

9.   It is not clear that what link exists between the Presidency's establishment of the National Planning Commission and the capacity building processes of the Department of Science and Technology that were carried out through the COFISA Programme.

10.  It's not clear that what resources remain available to enhance and extend relationships between South African and Finnish based experts or what additional knowledge can still be acquired from the Finland Futures Research Centre.

6.   **CONCLUSIONS**

One of the aims of the above foresight processes was to strengthen a culture of communication and cooperation. This was achieved. A foresight process helped stakeholders to adapt better to the future, showing them the landscape and bigger picture. By creating networking sessions with important stakeholders, foresight experts were able to receive reports of visionary and rare information. The process brought together key people who did not even know of each other and built new networks. Collaborative actions also resulted, a prime example being the development of a proposal in mobile health. Regarding the sessions discussed above,

the interaction between participants demonstrated the relevance and importance of the subject matter as well as the foresight methodology. We conclude that the foresight exercise was beneficial and that further benefits can be gained by building on these sessions.

The longer term aim is to see that the culture of doing futures thinking and foresight is maintained and grown in capacity over time. This will be achieved by next steps for example by co-operation projects with Meraka and DST and by foresight projects facilitated by The Sakaza Consulting (Pty) Ltd, The Knowledge Crucible/ Ontolligent Software Services, Kayamandi Informatics (Pty) Ltd, Non-Zero-Sum Development and Innovation Ecosystems(i.e. companies which were trained during the COFISA project).

In order to stimulate the growth of Living Labs in South Africa foresight techniques can be used to assist collaborative development of bottom up visions. Advanced technology(high tech) will help us create sustainable futures if (and only if) the technology helps us to build better social machinery (social high tech): better decision-making and planning processes, better education, health and innovation systems and so on. The task of socially sustainable technology is to help people, cities and nations to avoid and minimise the inequalities like digital divides.

In a normal technology development project we first have some kind of technology or pilot product and then we test how people would and could use these products and technologies(technology push strategy). We can, however, also start our process by having a futures workshop and letting local people and citizens first create dreams and visions. Then we can think about how to make these dreams come true and the type of technology and products we need to make them come true. Sometimes we do not need technology at all or we even need to take away some technology in order to improve people's everyday lives (social pull strategy and bottom up empowerment).

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## APPENDIX 1
## Eastern Cape Foresight Results

| First work shop | Second work shop | Third work shop: National policy recommendations | Fourth work shop: Provincial next steps | |
| --- | --- | --- | --- | --- |
| | | | High level action | Sub actions |
| Reinterpreted rural reality: Engineering (transportation) intensive – "rurban" | Mechanism(s) to coordinate expertise, resources, funds for range of future transport solutions | — Policy on Externalities<br>— Research into spatial structure (nodes?) at transport costs?<br>— Sustainable Settlements<br>— Allocate costs to allow natural change<br>— Define the specific as institutions partners<br>— How to make this self-funded<br>— 6 – Helix Policy | Establish a transport think tank:<br>— High Level support in terms of rethinking green transport approach.<br>General Public Support of Concept. | — Action Plan to establish a think tank<br>— Establish A Think Tank<br>— Demonstration Projects (Small Scale): Green transport = MOT<br>— (and Baseline)<br>— Research and Development of models. Relations between logistics and economic systems.<br>— Develop Concept<br>— (Include ICT Alternatives)<br>— Promote Concept<br>— Draft Potential Policies, Discussion Document<br>— Project Management<br>— Preliminary Concept Document (Think Tank) |
| Green Future (economic, social, ecological, cultural sustainability) | Green Technology Innovation Capacity for non-farm rural economy | The implementation of renewable energy and efficiency<br>— Build Conceptual Framework<br>— Create Operational Platform to: transfer, create Evaluate, receive & Turn it into Practice.<br>— Set up a forum between all partners<br>— Set Up a Forum for all partners<br>— Seed Funding for R&D<br>— Set Up a PPP<br>— Get Funding from Government and The Private Sector<br>— Facilitate the renewal of legal obstacles.<br>— KIMPs<br>— Environmental impact Assessment<br>— Social Awareness Impact<br>— Identify Barriers and Put Interventions | Budget considerations, future/requirements analysis, self sustainable renewable energy system:<br>— Economic Development,<br>— Community Upliftment,<br>— R&D,<br>— Environment<br>Sustainability, Eco Tourism, CoE in Renewable Energy Supply Store (IP) | — Setting up a driving force<br>— Analysis of natural resources (Applied Research)<br>— Collaborate with stakeholders especially Communities (Sect 21)<br>— Establishment of Clear, good lines of Communication<br>— Monitoring and Evaluation<br>— Project Management |

**APPENDIX 1**
**Eastern Cape Foresight Results** (*cont.*)

| First work shop | Second work shop | Third work shop: National policy recommendations | Fourth work shop: Provincial next steps | |
| --- | --- | --- | --- | --- |
| | | | High level action | Sub actions |
| Eastern Cape as the food basket of SADC (two sub groups: organic and GMO) | E Cape Institute of Agricultural Technologies, plus Agri-Science Park | Agri Innovation Platform<br>— Build Conceptual Framework<br>— Create Operational Platform to: transfer, create Evaluate, receive & Turn it into Practice.<br>— Decision Makers / Independence<br>— IP Strategy (Looking at sustainability of Existing policies)<br>— Needs Analysis<br>— Analysis of the Funding Options<br>— Funding Model<br>— Market Agri as you would BMW | Establish integration framework:<br>— Needs based integration<br>— Bioregional planning,<br>— Collaboration,<br>— Coordination,<br>— Implementation,<br>— Monitoring,<br>— Evaluation.<br>— Improved<br>— Livelihoods: social, economic, productivity | — Stakeholder mobilization and identification<br>— Needs identification<br>— Building framework, mapping building blocks<br>— Bioregional planning<br>— Funding models coordination<br>— Risk management<br>— Management structure |

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**APPENDIX 2**
**Western Cape Foresight Results**

| First work shop | Second work shop | Third work shop: National policy recommendations | Fourth work shop: Provincial next steps | |
|---|---|---|---|---|
| | | | High level action | Sub actions |
| International education hub produced by university cooperation | A world education hub that leads to self sustaining communities & just social order; International Capacity and Support Systems for Entrepreneurial Excellence | A mapped environment and a proposal model<br>— Strengthen, Stats SA, etc, (patents),<br>— Determine stats better, better access,<br>— Expanding focus,<br>— Use appropriate tools + measurements and spaces,<br>— Knowledge IP,<br>— Closely linked with value chain<br>— Roll out models across sectors where applicable,<br>— Role models,<br>— Story telling<br>— Parallel processes<br>— Subsidise<br>— Incentivise<br>— Enhance Depts. relationship with TIA<br>— Encourage open source<br>— Ethics discussions<br>— Closer relationships<br>— TIA<br>— Long term interventions<br>— ROI<br>— Black hole for certain business sectors<br>— Culture of mistakes<br>— Learning | Role Models:<br>— Motivation /<br>— Identification<br>— Transfer of skills (tacit & tech.skills).<br>— Creating a database on all levels.<br>— Call for interest for mentors & mentees (multimedia).<br>— Align & gather info that exists for best practice.<br>Risk Taking Culture:<br>— Change of mind set.<br>— New ideas.<br>— Competitive culture/ barrier of entry.<br>— Culture of learning.<br>— Action learning to include parents.<br>— Incentives.<br>— Life skills – presentation, marketing the brand – self.<br>Residence (Facilitates: enterprise Model)<br>— Better service.<br>— Access to knowledge<br>— Networking<br>— Investment<br>— Steering committee.<br>— Creating the appropriate (Virtual & actual) space. | Creating a database on all levels<br>— determine user categories and market<br>Call for interest for mentors & mentees (multimedia)<br>— determine the form e.g. multi-media<br>— determine criteria for call of interest e.g. for mentors etc<br>Align & gather info that exists for best practice<br>— identify benchmarks and call for information on best practice in South Africa and Internationally.<br>Quality management<br>— create matches between mentors and mentees with database<br>— determine projects which matches mentors<br>— identify concurrent programs, opportunities for those who have entrepreneurial interest and not necessarily start a business |

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**APPENDIX 2**
**Western Cape Foresight Results** (*cont.*)

| First work shop | Second work shop | Third work shop: National policy recommendations | Fourth work shop: Provincial next steps | |
|---|---|---|---|---|
| | | | High level action | Sub actions |
| KIBS for service sector (service intensive economy) | **A thriving knowledge economy underpinned by a strong human base;** — KIBS as a mechanism for service innovation (public and private) | Map KIBS in sector - KIBS systems map — Applying existing resources e.g. knowledge of sector, tech, case studies — Communicate / create awareness of KIBS to people - KIBS - style — Thinking from lower levels — Incentivise KIBS by gvt recognition. - Subsidised services — Measure effectiveness + application of research — Let research be driven mainly by pvt sector — KIB Forum — Sector forum — Building trust — Market benefits — Contribution from industry — Following buy in from all relevant parties - also international partnerships — Also international partners — Source funding also from provincial and local gvt. e.g. writing proposal | Kick-start Project: Map KIBS — Mouth = month; demo / tangible / visible; believers; delivery — Stakeholder session to identify project and buy-in — Project plan & terms of reference & budget & risks & working groups — Mechanism to mitigate risk of "no" / contract for delivery! | — Access KIBS research globally – methodology, definition and data instrument Stakeholder management — Framework and plan — Gather data — Collate information — "Propose" findings — Reference group — Distil intervention — KIBS Map prototype — Prioritise plan and prototype |

**APPENDIX 2**
**Western Cape Foresight Results** (*cont.*)

| First work shop | Second work shop | Third work shop: National policy recommendations | Fourth work shop: Provincial next steps | |
|---|---|---|---|---|
| | | | High level action | Sub actions |
| Everyday technologies (ubiquitous ICT, teleservices, solar power, dry toilet, recycling, transportation... | The development and use of everyday technologies to create a poverty – free, economically and environmentally sustainable, tolerant society;<br><br>— Mechanisms for SHARING technology to the mutual benefit of ALL | Western cape local ubiquitous collaborative platform used by everyone (access + collaboration)<br><br>— Competition for the plan and conceptual framework (open, international competition)<br>— Different levels, schools, general public (applications), designers<br>— Obligation to address public and address the issues raised by schoolchildren<br>— Everyone to participate<br>— Start building a research community and mapping research /knowledge interests<br>— Build policy beforehand, set rules<br>— Initial funding from Provincial Government + City of Cape Town<br>— Sponsors for prize-money<br>— Regional innovation funding<br>— Training for KIBS must be organised<br>— Political consensus needs to be built for the project<br>— Continuous evaluation<br>— Regulator must un-bundle local loop, consortium to govern fibre<br>— Storage capacity<br>— Different infrastructures have to be linked, gradual expansion from the City onwards? | Build the "FreeCape":<br>— Free-for-all ubiquitous communication network & collaboration platform<br>— Zero-cost access model<br>— Community empowerment<br>— Business & innovation opportunities, minimal barriers to entry | — Shared workspace for group<br>— Securing high-level champions extending to forum / action team<br>— Run a workshop<br>— Open up optical fibre<br>— Rolling out connectivity<br>— Planning a concept document / process map<br>— Preparing the business case<br>— Define access mechanisms and tech requirements<br>— Setting up freecape as a section 21 company or extending the mandate of citi<br>— Open competition for collaborative systems (3 levels, schools, local users, international) |

**APPENDIX 3**
**Gauteng Foresight Results**

| First work shop | Second work shop | Third work shop: National policy recommendations | Fourth work shop: Provincial next steps | |
|---|---|---|---|---|
| | | | High level action | Sub actions |
| Healthy Green Communities | Mechanisms(s) for developing green urban "built environment". | **Green charter – (similar to BEE) value based**<br>— Green broad<br>— Green zones<br>— IP wizard (Simplify use and make more effective)<br>— Simplify registration of patents and trade marks<br>— Government to create a public space (open source) for "green"<br>— Easy access to funding (green)<br>— Increase funding for "green" to 1% of GDP<br>— Subsidise good green solutions and<br>— technologies or rebates<br>— Formal recognition<br>— Carrot and stick<br>— Reduce emmisoins cars etc –emmission policies<br>— Replace paraffin stoves and lamps with green gel products (take away)<br>— Localised green D.I.Y. center<br>— Preserve green spaces /belts<br>— Clean technology & production<br>— Install horizontal structures in government to reduce bureaucracy<br>— Make compliance easy & simple (not costly or admin intensive) | **Set-up green design future:**<br>— Commitment to charter<br>— Entrenched "green" thinking; organisation and consumer institutions<br>— Reward/incentives/ for green behaviour and recognition<br>— Visibly see a green (sustainable) environment<br>— Change in consumer behaviour and green consciousness<br>— Green brand – green province: Gauteng recognised as green province (green industry, lifestyle and, etc) | **Institutionalise**<br>(Foundation documents, legal etc)<br>— Institute, driving members, funding, constitution.<br>— Charter, potential signatories, Operational and measurement tools.<br>— Charter commitments, targets<br>— Green ambassadors and champions<br>**Organisational Mobilisation**<br>— Create a Charter<br>— Design & practice principles for green<br>— Incentives, rebates, tax incentives, subsidised technologies.<br>**Consumer Mobilisation**<br>— Educational drive: (schools, HI, degree)<br>— Awareness and advocacy (checklists, DIY, wizards) Media, barometer.<br>— Incentives: Green points and recognition for greenness.<br>— Make "green" fun and aspirational<br>**Sub-chapters per sector**<br>— Specialised, focussed an contextual.<br>— Industrial ecology – eliminate and reduce waste.<br>— Sustainable settlements<br>— Built environmental focus<br>— (example)<br>— Transport (emission control, greening of transport) |

**APPENDIX 3**
**Gauteng Foresight Results** (*cont.*)

| First work shop | Second work shop | Third work shop: National policy recommendations | Fourth work shop: Provincial next steps | |
|---|---|---|---|---|
| | | | High level action | Sub actions |
| Virtual (automated) system of government - Integrated (back office) Service Delivery - (Shared Services – CRP) | Transparent LOCAL government and service delivery | — Research incentives: research on how to build collaborative systems of service delivery. <br> — Expertise development: in the field of transparent interactive governance and service delivery/participation. <br> — Initiate events/projects that involve representatives from key stakeholders to build public resources/platforms <br> — Develop model platforms for public domain/heritage information. Initiate a public policy process that identifies information in the public domain and gaps that exist and their accessibilities. <br> — Multi-sectoral co-funding , private sector, government and philanthropists <br> — Help inter-governmental relations Bill <br> — Government funding of collaborative ICT research projects. <br> — Monitoring and evaluation of social and environmental impact before and during | Transparency for citizen empowerment: <br> — A case study on how communities are engaged and empowered in helping to run community affairs. <br> — A model for sharing IP in a community and what should be public/private/commons. <br> — Needs analysis (what info, what devices, for how long) <br> — Develop local tools for citizens to use to populate and get feedback. <br> — Citizens will have access to full information about their enquiry/ transaction with feedback | — Research in order to choose 3 or 4 wards to do a pilot in including developing a criteria for (monitoring and evalauation of ) research <br> — Fundraising and visioning <br> — Conceptualise and design the specific interventions for each ward. <br> — Implement and support of communication channels <br> — Event Management <br> — Project Management and Reporting <br> — Monitoring an evaluation & impact assessment <br> — Story telling and PR |
| Knowledge economy: Free information infrastructure (Two sub groups?: Data and Broadband Internet) | Free information infrastructure – breaking the monopoly barriers | Technology becomes tangible & available <br> — Legislative reform <br> — Create Awareness of rights, & advocacy space <br> — Cell phone streaming, 'branding' <br> — Culture of changing mindsets <br> — Copy, innovate: 'appropriate practice' dependent on technology and business case <br> — Incentives <br> — Acknowledges capitalism, make room for it, driven by social transformation | Free connectivity as the market driver: <br> — Champions; <br> — New markets; <br> — Growing markets; <br> — Legislative changes | — Create Markets (Increase usage, through champions, plot projects, and awareness campaigns) <br> — Awareness campaign, (target kids, role models, media campaign, competitions) <br> — Leverage on existing govt initiative (Lobby) <br> – Identify relevant role players <br> — Risk management |

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**APPENDIX 4**
**Cofisa Foresight Working Visit to Finland 23–31 August 2008**

| Date | Item | Accommodation | Notes |
|------|------|---------------|-------|
| 23.08.2008 | Delegates depart SA | | |
| 24.08.2008 | Delegates arrive in Finland | Hotel Hamburger Börs (Turku) | — Arrive Helsinki<br>— Board shuttle to Turku at 16h30. (The COFISA Bus will be waiting outside the international terminal)<br>— Hotel check in<br>— Nirvash to meet delegates at Hotel: Reception dinner at 19h30/Restaurant Oscarin Olohuone (Hotel Hamburger Börs) |
| 25.08.2008 | 10h00 – 16h00: Introduction to foresight tools and methodologies: FUTU 1 (theory)<br>— Professor Sirkka Heinonen (Finland Futures Research Centre)<br>— Adjunct Professor, Senior Researcher Petri Tapio (Finland Futures Research Centre)<br>— Feedback discussions<br>**Venue: Finland Futures Research Centre/Turku School of Economics.**<br>**Lecture room 13.** | Hotel Hamburger Börs (Turku) | — Breakfast/Hotel Hamburger Börs: 07h00 – 09h00<br>— Taxi transportation from Hotel to Finland Futures Research Centre 09h30<br>— Lunch 12h30: Turku School of Economics<br>— Taxi transportation from the Finland Futures Research Centre to the Hotel: 16h00<br>— Dinner 19h30: Restaurant Hermanni (Taxi transportation 19h15) |
| 26.08.2008 | Case Presentation by Delegation and Application of Tools and Methodologies<br>**Venue: Finland Futures Research Centre/Turku School of Economics.**<br>**Lecture room 33** | Hotel Hamburger Börs (Turku) | — Breakfast/Hotel Hamburger Börs: 07h00 – 09h00<br>— Taxi transportation from the Hotel to the Finland Futures Research Centre 09h30<br>— Lunch 13h00: Turku school of Economics<br>— Evening buffet: 16h45 – 18h00: Turku School of Economics<br>— Taxi transportation from the Finland Futures Research Centre to the Hotel<br>— Free evening |

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## APPENDIX 4
### Cofisa Foresight Working Visit to Finland 23-31 August 2008 *(cont.)*

| Date | Item | Accommodation | Notes |
|---|---|---|---|
| 27.08.2008 | Regional and local visits:<br>— 09h00 - 11h00 - Foresight unit of the South-western Finland Employment and Economic Development Centre Development director Jari Kauppila<br>Venue: **The South-western Finland Employment and Economic Development Centre**<br>— 13h30 – 16h00 - Local Futures Committees/Board for the Future (The town of Loimaa) and Futures Clubs in Rural Areas (Loimaa Region) Mayor Jorma Kopu Director Pauli Salminen<br>Venue: **The Loimaa Region Development Centre** | Hotel Hamburger Börs (Turku) | — Breakfast/Hotel Hamburger Börs 07h00 – 08h45<br>— Bus transportation from the Hotel to the South-western Finland Employment and Economic Development Centre: 08h45<br>— Bus transportation from to the South-western Finland Employment and Economic Development Centre to the Loimaa Region Development Centre: 11h00<br>— Lunch 12h00: The Finnish Museum of Agriculture<br>— Bus transportation from the Loimaa Region Development Centre to the Hotel: 16h00<br>— Free evening (17h00 - ) |
| 28.08.2008 | 10h00 – 16h00: Introduction to foresight tools and methodologies: Futu 2 (two cases)<br>— Researcher Ville Lauttamäki, Finland Futures Research Centre (Future and Security: Scanning the Changing Environment of the Police)<br>— Researcher Toni Ahlqvist, VTT Technical Research Centre of Finland (Technology road maps)<br>— Feedback discussion<br>Venue: **Finland Futures Research Centre/Turku School of Economics. Lecture Room 13** | Hotel Hamburger Börs (Turku) | — Breakfast/Hotel Hamburger Börs 07h00 – 09h00<br>— Taxi transportation from the Hotel to the Finland Futures Research Centre 09h30<br>— Lunch 12h30: Trattoria Romana<br>— Taxi transportation from the Finland Futures Research Centre to the Hotel<br>— Dinner for own account<br>— Free evening (16h30 - ) |
| 29.08.2008 | National Visits:<br>— 10h00 – 12h00 Committee for the Future in Finnish Parliament Foresight expert Osmo Kuusi<br>— 13h30 – 16h00 The Finnish Society for Futures Studies Head of the board Marja-Liisa Viherä Secretary General Iiris Penttilä Emeritus Professor Pentti Malaska<br>Venue: **Helsinki** | Hotel Vaakuna (Helsinki) | — Breakfast/Hotel Hamburger Börs 06h00 – 07.00<br>— Hotel check out<br>— Bus transportation from the Hotel to the Committee for the Future in Finnish Parliament 07h00<br>— Lunch 12h00 (Restaurant Lasipalatsi)<br>— Bus transportation from the Committee for the Future in Finnish Parliament to The Finnish Society for Futures Studies<br>— Bus transportation from the Finnish Society for Futures Studies to the Hotel Vaakuna<br>— Closing Dinner (Restaurant Sipuli) |

**APPENDIX 4**
**Cofisa Foresight Working Visit to Finland 23-31 August 2008** (*cont.*)

| Date | Item | Accommodation | Notes |
|------|------|---------------|-------|
| 30.08.2008 | Delegates depart Finland | | — Breakfast Hotel Vaakuna<br>— Free programme<br>— Depart from Helsinki (Taxi transportation from the Hotel to the Helsinki-Vantaa Airport – own account) |
| 31.08.2008 | Delegates arrive in SA | | |

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**APPENDIX 5**
**The SAFIPA feedback mind maps**

Feedback on Foresight training

**Mobile Health wshop**
- Stopped a little to quick    No final discussion by groups
- Good innovation in developing scenarios
- Reasonable turnout    No govt people though
- 2020 a little too close to reality
  - Whatever we did eople will get stuck with where we are now
    - e.g. Info sec 2010 - what is the state of the art - as first wheel
  - Wshop before to discuss current reality    Then do 2nd wheel about future
    - Vote on both wheels

**Info Security wshop**
- Had good final discussion
  - Invited people to come to front and discuss their results and discuss each other's work
  - Could see two sides of the coin
- Nobody was bored - all actively participated
  - Lot of people expressed value in the network and the fact that different people participated
- Facilitators
  - 3 instead of 1
  - Too many
  - Just your presence influences
  - Need assistants if there is many tables
  - One facilitator    And away as much as possible
  - Expert not normally part of groups    BUT, if an important stakeholder - then participate to show how important this is
    - Because people act differently if "teacher" is present

**Background of Foresight**
- Admit problem    Is it therapy!
- Imagine future
- Open and close way of thinking    Also as a way of thinking
- Between stakeholders    It is dialogue management
- To get a result
- Visionary network stimulation
- Can use with longer and shorter timeframes
- Can scale from 5 to 600 people    Techniques can be valuable in many contexts
- Turns around the tiredness of many presentations
- And not just attend    Useful to get people to engage
- Useful to get people to come to a point quickly    Rhythm of Foresight process is valuable
- Can do it for just one company and its network (inside one value chain)
- They agree beforehand about
- Confidential business
- The dialogue creates trust and people forget a bit about IP and go after ideas    How to address IP issues
- Show how you are working towards a common goal
- Back at office take scenario and use it in a private way    At scenario level it is open
- At action steps you ID what and how role player will take it forward
- Decide to take it forward within your own value chain

**Foresight valuable**

**Feedback on Foresight training**

**Pre-actions**

Need more efforts before wshop.

- Who should we invite
  - Ask stakeholders to think about who to invite
  - Stakeholder analysis
    - Use broad understanding about who stakeholders are
  - Invite 3 months before to get empty calendars — Make invitations personal
  - Invite really NB people personally

- One week before send a handbook of the wshop
  - info on Foresight tech
  - Info on topic
  - List of participants
  - It motivates, it is a gift

- Choose venue
  - important wshop should be at venue that is so far away that people can't go in and out
  - small enough for interaction
  - Size of table
    - too large and people sit back
  - 6 maximum for dialogue
  - so people feel good — So that they are creative
  - it takes 2 hours to remove a bad mood due to environment
  - Need inspiring place, good breakfast
- Usually ask people not to bring laptops — Inform people beforehand that it is a participative wshop
- Refreshments available all the time — so people can get up and stretch legs
- Choose independent facilitator

**During**

- Why are we here
  - Easy to collect knowledge together
    - But after that, that knowledge is our problem
    - Our main challenge is to create imagination - they have the knowledge already — and still get concrete results
    - Reason for long time scale — To use imagination
  - Long timescale
    - sometimes use actors
    - to make you think differently — there is so much outside your mind
- Then use inspiring presentation

- **First task** — Futures Wheel
  - No rules — need open discussion so that a common language can be created amongst artists, engineers
  - Tell people anybody can create
  - As soon as something is written down it stimulates thinking
  - Slow writer — Be polite, ask everyone to write something - stop debates
    - Ask them to write 3 things and then discuss
  - Vote on 3 most NB themes - 5 minutes only
  - Total duration: 45 to 60 minutes
  - Pick only one thing from each row in table

- **Second task** — Futures Table
  - A harder task — Facilitator intervenes more
  - More than one person writing
  - What was voted as most NB by experts
  - Results — Then scenario built from most NB points
  - Total duration: 30 to 45 minutes

- **Third task** — Scenarios and story
  - Instead of stories can also ask for an action plan as to how to make scenario come true
  - Innovation instructions about scenario making as part of story making
  - Total duration: approx. 30 minutes
  - Or ask for vision or policy recommendations
  - Prepare people to get into a good mood, then late arrival not in the mood
- **What do we do with late arrivals?** — Invite people to breakfast
  - Explain to people in invite that it is a methodology — and we need you there from the start
  - It is a recipe that can be adapted
- **Ideas for variations**
  - Rotate groups to build on each others people Futures Wheel
    - One person remains behind
    - If the topic is different
  - Gallery walking — Papers on wall
    - Groups rotate
    - 1 remains and explains
    - Then have Futures Table
    - Questions
  - Foresight presention first and then expert presentation on topic
  - Walking seminars
- **Strong personalities**
  - Do we force somebody to be the writer? — Better to use the natural grouping and then change something
  - Use the pen to rotate and choose an option to go forward
  - BUT - do we need the state of the art?
  - Purpose is to open people's mind

**After**

- As a result of dialogue process
  - important things did emerge
  - Snowball - keep building network
  - Voting — Analyse wshop results
- Send questionnaire out. Use stories people have done and how they have voted and ask them what do they want?
  - Why is very important
    - Ask and ask why do you respond so?
    - Then use Delphi
  - Ask why these are the top 5 challenges
    - Maybe only use the explanations you get as the topics for the next round
    - is it a good reflection of current status?
    - Work back from future vision of green elephant
  - How to act now?
    - Lunch afterwards is NB networking opportunity
    - Win-win proposition for attendees
    - Participants get report that contains visionary new ideas
    - If there is a next project you can participate
    - Participants build capacity in Foresight
    - For all - the network is being built to the benefit of all

- Also send to others - invite
  - choose 5 — e.g. top 10 challenges
  - Ask what kind of actions we should do given these challenges — To try for completeness
- Add Futures wheels and ask people to read - what is not there
- Remember the importance of the dialogue