

SEVENTH FRAMEWORK PROGRAMME

ICT and Ageing



**D2.1
Interim Report on a
Vision for Active Ageing in Europe**

October 2008

D1.1 – Interim Report on Consolidated Baseline

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Date: October, 2008

Distribution level: Public

Abstract:

It is a known fact that the European's older population is growing very fast.

Nearly every country in Europe is faced with the prospect of a population that is getting older. The demographic tides rising across the developed world, and which will before long engulf the entire European continent, are now well recognised. "Most of us understand that Europe is turning grey; that more and more of us will soon join legions of the elderly, even as the numbers of those of working age left to support the old dwindle" (*Business times magazine, June 25, 2007*).

The challenge of ePAL project is to identify ways to assist promoting the role of older people within our continuously changing society. The suggested approach focuses on one part of this challenging problem, namely on the senior professionals and how to assist with the continuation of their professional active life and creation of a **support environment** for this purpose, in the coming decade. Starting with the results reported in deliverable D1.1 as the baseline, the activities in WP2 has produced a 1st vision constructed for the support environment of ePAL, and has instantiated this vision into three perspectives. These three represent the main perspectives under which the extension of professional active life must be considered, namely the technological, organizational and social perspectives. The designed vision aims at enhancing the involvement of senior professionals in the European silver economy. Thus the vision suggests building a cohesive social fabric to benefit both the Europe's economy as well as the older population and the European society as a whole.

As a part of the ePAL's roadmap, this document presents the first vision statement and its instantiations for enhancing the active life of senior professionals in the European society. It first proposes an approach for building the vision. Then, applying this proposed approach, a first vision for extension of professional active life is both (1) systematically constructed through the analysis of drivers and trends in the European market/society, and (2) enhanced through the careful examination of a number of representative scenarios, while being partially validated through the involvement of a number of various types of stakeholders.

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1. Introduction

A pessimistic view on population growth was common at the end of the eighteenth century, when for example in 1798, Thomas Malthus [Malthus, 1798] in his famous Essay on the Principle of Population, argued that the power of population is indefinitely greater than the power on earth to produce subsistence for man. He argued that population, when uncontrolled, will be increasing in a “geometric” ratio while the subsistence will be growing only in an “arithmetic” ratio. Thus in Malthus's view, the population growth will inevitably outstrip the earth's capacity to produce food, resulting in widespread of famine, diseases, and poverty.

During the last half a century, arguments regarding changes in population worldwide were still mostly focused on population over explosion. Different societies predicted that the world will face some dire consequences such as the lack of natural resources due to the continuous growth of population. It was argued that the supplies of natural resources such as food, water, forest resources (such as timber, fire wood, etc.), metals and petroleum would become insufficient in future [Hinrichsen & Robey, 2008], mostly due to the rapid growth in the birth rate. Consequently, the life standard was expected to decline as certain essential resources would have become increasingly scarce and costly.

While the main concerns about population in the twentieth century were around the *growth of population* and the *resource scarcity* consequences, the forecasts for the twenty first century introduced some other new concerns, primarily focused on the *ageing population* and the *overloaded pension systems*. Of course, in the current decade changes in population still indicate some forecasts from Malthus regarding the problems caused by the birth rate issues and its follow up scarcity of some resources. However, Malthus's view that these consequences are inevitable - the view that earned economics the label of "dismal science" - is no longer shared by other social scientists. Furthermore, in several parts of the world the decline in birth rate seems to have reduced some of the severity of the problems related to scarcity of natural resources. Nevertheless, the main concern today related to the population, becoming even more serious in developed countries such as those located in Europe and North America, is the rapidly ageing population. The percentage of people ageing 60 and above in Europe is increasing fast while that of the workforce is decreasing, as shown in Figure 1.

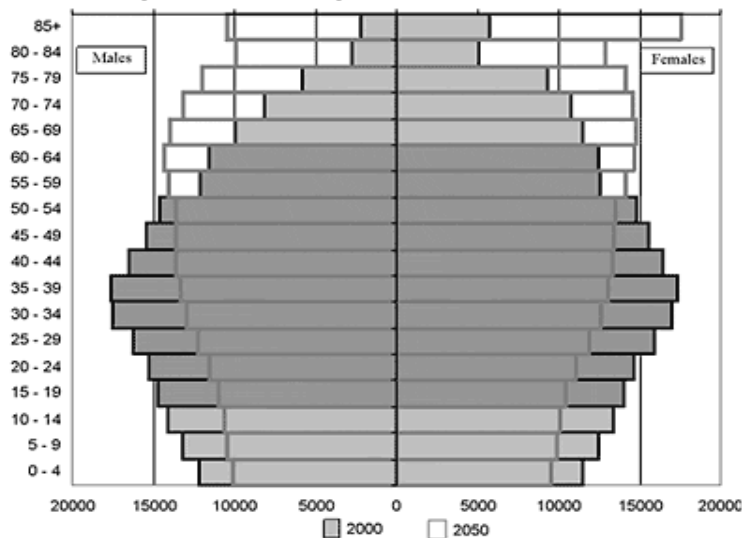


Figure 1: European population projection [Stranges, M. 2008] – values in thousands

The challenge of coping with an ageing population dominates Europe's attitude to population policy, because as Europe's population ages the number of those who are of working age (defined as 15-64) will become smaller in relation to those of 'non-working' age who are usually referred to as economic "dependants". In the same direction, as indicated in [Stranges, M. 2008] ,

in 2006 some 16% of the EU27's population was aged less than 15, people of working age accounted for 67.2%, and those aged 65 or more for 16.7%. By 2050, however, the ratio of older dependants to people of working age will drastically rise, and around 30% of Europe's inhabitants are expected to be 64 years old or more [OPT – website 2008]. In other words, and as shown in Figure 1, in 2000 the population of workforce in Europe was one and a half times larger than those who did not work, while in 2050, the situation will be very different, since the percentage of the people who do not work will become more than one and a half times the percentage of the workforce. This is primarily due to the forecasts of longer life due to the better health and care for European population¹.

Severe economical difficulties will rise for the pension system in Europe, in relation to supporting the life of this large group of retired people. Traditionally, the life of elder people was supported through the government's provided pension systems, which relied on the taxes paid by the workers active at the time. Even today, but more steeply in the coming decades, the pension systems are becoming overloaded, as on one hand the number of people who shall receive benefits increases, while on the other hand the labour force and thus the respective number of tax payers gradually decreases.

At the same time, harsh economical challenges will be faced increasingly at the workplace, by the lack of qualified human resources, since every year a very large group of ageing population retires. One recent promising approach to address the challenge of dealing with the ageing population in Europe, looks into the possibility of extending the involvement of this population (namely the ones willing to do so), and specially the elderly professionals, referred to as "senior professionals" in this document, in the on-going activities in market and society. In the past, the society perceived the elderly, including the senior professionals, as ineligible and/or incapable of being involved in daily economical activities. As a result, this group is still restricted in contributing to the economy, and like other seniors, fully depend on the pension support that is created from the labour force (current workers). Consequently, at present time, from the side of the society, seniors are often considered and treated as a burden; on the other hand, from the side of the seniors, and especially senior professionals, there is a lot of frustration due to their inactiveness and isolation.

The results reported in this deliverable, focuses on development and presentation of a 1st vision (2 steps of the 5-step approach) on development of the support environment for extending professional active life of seniors (called **ePAL environment** in this deliverable) in Europe, arguing that in future with proper motivation, infrastructure, and support, the senior professionals become both eligible and capable of contributing to the economy/society of Europe. As such, the introduced vision statement of ePAL environment comprehensively addresses the technological, organizational, and social perspectives of this paradigm in relation to the market and society.

This deliverable first addresses the base concepts for building a vision regarding the involvement of senior professionals in economical activities and specially addresses the possibility of involvement in associations and some team work by senior professionals. It then presents some policies/visions that are so far defined and/or applied in currently running associations of senior professionals. These are usually used as guidelines for the daily activities of these associations. It then proposes a 5-step approach to formulate the desired vision for ePAL (extended Professional Active Life) environment in Europe. The remaining of the D2.1 addresses the results achieved in Steps 1 and 2 of this process. It introduces the **main drivers** and sub-drivers for this vision, and provides a set of observed trends in the market/society in relation to these drivers. As a very important step in the visioning approach, a set of **twelve example scenarios** are then defined and perused, each addressing certain specific aspects related to the extension of professional active life for seniors. Next, based on all lessons learned from this visioning exercise, the main elements of a comprehensive ePAL environment are identified, and a **1st model for ePAL environment** is defined and visualized. Finally this deliverable proposes a **1st vision statement for ePAL environment**, and **three instantiated vision statements** for the technological, organizational, and social perspectives of the support environment for ePAL.

¹ As with any other forecasts, the reality might be different. For instance, current forecasts do not take into account the potential damaging effect that current life styles (under continuous stress) might have on people's life expectation.

2. Base concepts

Visioning process is one of the least straightforward, yet most important, concepts that enable influencing the future, and building successful organizations and societies. The concept of vision is sometimes confused with mission, strategy, purpose, etc., which makes it muddled by these concepts.

Mission, sometimes also referred to as a mission statement, is a short and concise statement, describing *what an organization is striving to bring about*. It is a statement that makes clear the organization's purpose, principle business goals, identity, policies and values. It describes the reason why the organization exists in terms of its impact in the society. The mission statement does not change very often. A good mission statement should provide answers to the following three questions:

- (1) Why should this business exist?
- (2) Who will be its customers and how will it benefit them?
- (3) Why will the organization be better off with this mission?

Sometimes the mission statement is derived from the vision of an organization/society, established during its strategic planning stage, therefore representing the consequences of the more vivid vision.

Strategy is a long-term *plan of actions*, designed to achieve a particular goal. The concept of strategy has in fact been borrowed from the military and adapted for use in business. But in business, similar to the military, the strategy bridges the gap between the two other elements of policies and tactics.

The vision, for an organization or society, is different from the Mission and Strategy, in the sense that it defines *a desired future*, while strongly interconnected with the rigorous framework that underlies the organizations or societies.

A vision is a deeply held picture of where a person, a group of people, an organization, or a society, wants to reach in the future. For a society or even an organization for instance, when everyone thoroughly understands and shares the same vision they become intensely motivated and their production and cooperation increases. In other words, they will apply their whole selves to achieve their vision.

A vision for an organization or society shall provide the following:

- Compelling image of the future
- Credible and attractive view of what's potentially feasible for the organization or society
- Unifying guides to what the organization or society wishes to and can become
- Inspirational focal point for the spirit of the organization/society and its members.

Therefore, a common vision, for example in an organization, creates and enhances the sharing of initiatives among employees for co-operation towards the achievement of the common goal. As such, vision preserves a cherished core ideology while simultaneously stimulating progress and change in everything that is not part of the core ideology [Cummings, 2005]. This helps the organization/society achieve its goals of performance, service and gain. And thus the reason "why building a vision".

A well-conceived vision consists of two major components, namely, the **core ideology** and the **envisioned future** [Cummings, 2005]. *Core ideology* is the first primary component of the vision framework which consists of two parts: **core values** and **core purpose**. *Core values* are the essential and enduring tenets of an organization or a society - a small set of timeless guiding principles that require no external justification. Core values have intrinsic value and importance to those inside the organization or society. *Core purpose* however points to certain fundamental reason for organization/society to exist. An effective purpose reflects the importance that people

attach to daily activities of the organization or society. *Envisioned future* is the second primary component of the vision framework which also consists of two parts: a **long-term audacious goal** and a **vivid description** of what it will be like when the goals are achieved. In Section 8 of this deliverable we will come back to these different aspects of a well-concieved vision, in relation to the specification of our vision statement for the eAPL environment.

Following are three concepts introduced in ePAL environment, and used in this deliverable, and their descriptions (Figure 2):

CASP (Community of Active Senior Professional) constitutes an association of senior professional individuals that are largely autonomous, geographically distributed, and potentially heterogeneous in terms of their: capabilities, offered capacities, culture, system of values, etc., but sharing their main compatible and/or common goals of increasing their active professional life in the society and/or market, through co-working with others in Teams of Senior Professionals supported by computer networks, under the slogan of: "Together Everyone Achieves More!".

TSP (Team of Senior Professionals) is a collaborative network of individuals configured and established within the CASP in response to opportunities in the society and market that are in need of their wisdom and/or knowledge assets that they can offer, which as a consequence supports the retired professionals remaining professionally active.

SP (Senior Professional) is a retired professional who becomes a member of CASP in order to increase his/her chances of staying active and involved in the socio-economic system, and perhaps also through getting involved in potential TSPs established through the CASP.

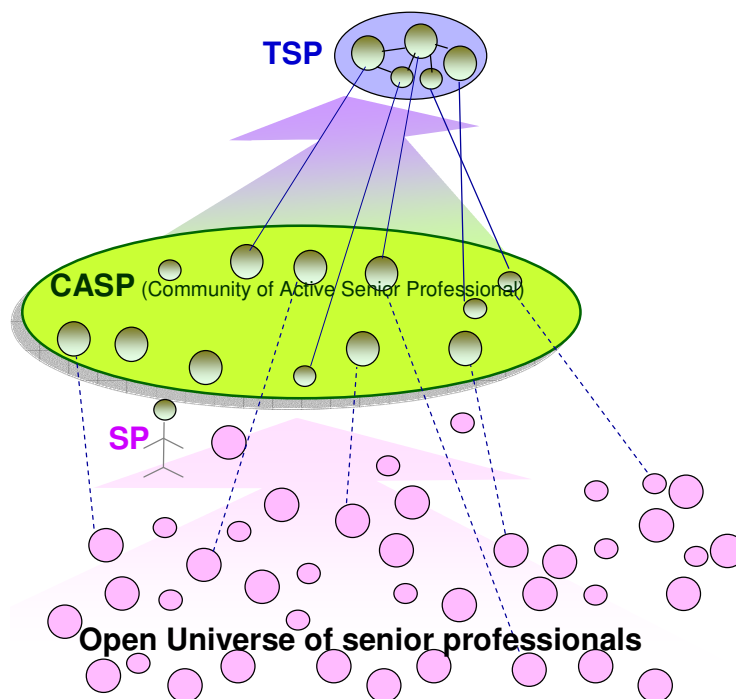


Figure 2: Concepts from a potential ePAL environment

3. Related work on vision building for ePAL environments

European population shows that the percentage of its elder people is larger than that of any other society in the world region and is set to increase further in the next few decades. By year 2020, close to one-quarter of the population in several European countries will be aged 65 or more [United Nations Organization, 2002]. Therefore, European society needs a clear vision for addressing the ageing of its population with a global picture of understanding the variety of its needs.

To address the ageing population, Europe needs to first identify and tackle different aspects of this challenge. For instance, the European society shall not only focus on one alarming aspect, such as concentrating only on supporting elder population with their health problem, and forget about the big picture and other complementary aspects of their life, as they continue ageing, including the creation of a balanced active life. Therefore for each aspect, its desired vision shall be defined to guide the society with both the direction and the set of actions required for reaching the specific goals of that vision. Furthermore, the identified actions that are needed to implement the vision shall be successfully executed, in order to achieve a better future in Europe.

In past years research and practice has mostly seen elder people as recipient of market services and ineligible to contribute to market production. However, in recent years elder people are more and more interested to continue their professional activities as senior professionals, and becoming valuable contributors to the society in providing services related to their knowledge and experience. To guide adoption of silver economy² and thus enhance activeness of senior professionals in Europe, for the extension of Professional Active Life (ePAL) environment a **vision** needs to be developed.

In related areas, and specifically by the elderly associations, a number of visions, missions, or policies statements are defined, addressing different specific aspects of their activities related to the silver economy. In the following subsections, some examples of these statements are provided. Among others, these also constitute a part of the state of the art including some background for our vision development.

3.1 Some example visions, missions, or policies for associations of senior professionals

At present, a number of associations are established for senior professionals in some regions of Europe (see D1.1). Their operations fall partially within the European regions, and partially across the globe. These associations aim at providing some kind of services which are lacking in the market or addressing specific beneficiaries not addressed by normal market actors, and thus there is no competition or conflict with business organizations. They also aim at providing services to some categories of organizations, for example, those that cannot afford buying such services in the market. Each of these associations has either explicitly stated their vision or implicitly applied certain vision in form of policies/mission, incorporated in their operational rules and bylaws. As such, we present here a few vision/policy/mission statements that are either explicitly expressed by associations of elderly professionals as their vision/mission, or that can be found among their brochures, implicitly representing their policies. These statements constitute a part of the base for formulating our proposed vision, as addressed later in Section 8.

² It shall be noted that we are adopting an extensive notion of “silver economy”, considering the full potential of value creation, and not the more usual restrictive notion of the “economy of providing services to the elderly”.

A. SEN@ER – Silver Economy Network of European Regions

SEN@ER perceives that in today's political debates, the demographic change and in particular the ageing population is commonly regarded as a threat. What is required is a shift in both, the focus and the approach: It is needed to consider demographic change and the ageing of European society as both a challenge and an opportunity for economic growth and improving Europe's competitiveness. SEN@ER emphasizes the economic opportunities inherent in this demographic change. Its vision on silver economy follows [Source: SEN@ER website]:

“Increased social inclusion of and improved Quality of Life for older people, employment and job creation in the regions increase of competitiveness”.

B. PUM – Netherlands Senior Experts

With the slogan of **“Practical and business-like”**, PUM perceives that sustainable economic growth in developing countries cannot be achieved if it does not benefit the poor. Because industrial small and medium-sized firms play the most significant role in creating new employment, PUM grants preference to local companies in the country which is in need of its services. PUM believes that ensuring a sustainable development of the private sector is the best way to fight poverty. Thus PUM's vision to service provision within silver economy, which is founded on the base of free knowledge and experience offered by its senior professionals, is stated as: *“Practical and business-like: helping small and medium-sized businesses stand on their own two feet is more effective than theorizing and moralizing.”* [Source: PUM website]

PUM provides help in response to specified requests from those who cannot afford to pay for their requested services, therefore it performs cost-effectively. This method has proved to be extremely successful and has created a great deal of goodwill. The idea behind PUM is that companies and institutions in developing countries usually need help with organizational skills and management. The Netherlands has a large number of retired experts with such expertise, who are willing to offer their services and skills free of charge and thus these organizations can benefit from them.

C. ASEP – Austrian Senior Experts Pool

Under the umbrella of **“Net of experts”**, ASEP believes that nowadays the so-called "retirement phase" is being addressed and treated as a separate phase of life. The engagement of elderly people within the family and within honorary voluntary jobs (activities) gives this phase of life a greater meaning. It represents an important social potential, which could be used more extensively. ASEP and its members, the Senior Experts, are building a so-called **“net of experts”**, consisting of retired executives and experts. They pass their experience, their knowledge and their competence free of charge: the potential of Senior Experts can be used by the whole community. Senior Experts realize the concept of a 3rd phase of life, which is characterized by health, activity and service to the community.

[Source: ASEP website].

D. Associação VIDA – Valorização Intergeracional e Desenvolvimento Activo (Portugal)

The VIDA organization is an association for the intergenerational valorisation and active development. They assume that for the intergenerational valorisation, there has to be at least two generations for increasing the interaction, cooperation and exchange /sharing of skills, knowledge and experiences. They are a full member of AGE (European Older People's Platform). The main aim of VIDA is to provide information, care, assistance and activities for their members. In order to be a member of this association there is an annual fee. The members have then access to goods and services that are at least of the same value as the fee. The association participates in several projects always with the aim of valuing the elderly / seniors life. As there are more and

more seniors that wish to keep an active life and continue their professional activity, one of the association's aims and vision is to be able to create a senior entrepreneurship network.

[Source: VIDA website, project TIO website, AGE website, direct contact]

E. APCS – Associação Portuguesa de Consultores Seniores (Portugal)

Associação Portuguesa de Consultores Seniores (APCS) is a private, voluntary and non-profit organization comprising more than 100 retired managers, scientists and teachers committed to helping social, cultural and scientific development. Target groups are financially weak, small and medium size companies, as well as public and private institutions in need of support in solving problems related to technical, managerial, administrative or organizational matters. Being a member of CESES (Confederation of European Senior Expert Services), APCS volunteers work worldwide with a special vocation to Europe and Portuguese-speaking countries, offering professional, voluntary, short-term assistance and advice to enterprises and institutions. Given so, one of the aims and visions of the association is to provide seniors with the opportunity of being professionally active and therefore feel included and part of the society. For that, all operations are strictly non-commercial (although senior professionals may receive some payment), without political, religious or racial constraints.

[Source: CESES website direct contact]

F. Seniores Italia

With the slogan of **“Together for development”**, 'Seniores Italia - Partner per lo Sviluppo' (ONLUS) is the leading Italian non-profit association offering professional voluntary senior expert assistance worldwide. The Association's aim, following the experience of analogous well-established organizations in Germany, France, Japan and the Netherlands, is to mobilize retired executives, professionals and experts in support of international cooperation initiatives promoted by international organizations, the European Union, the Italian government and NGOs in favour of emerging countries or economies in transition. Specifically, highly qualified know-how is transferred through short-term missions, especially as far as the different sectors of the economy, vocational training, industrial maintenance and managerial advice are concerned. The association aims to contribute to:

- International cooperation with developing countries by training local human resources through professional advice, research and technical assistance in a wide varieties of fields such as of agriculture, industry, the arts and the crafts, banking, energy, infrastructures, health care, social work and urban planning.
- Enhance activities of non-profit organizations and of third sector in Italy by training human resources working in voluntary organizations, NGOs, cooperatives, associations and any other organization or public or private body committed to promoting social and international solidarity or social entrepreneurship initiatives; to carry out training and refresher courses for teachers.
- Strengthen the presence and image of Italy and the European Union worldwide, to this end combining its human, ethical and professional resources in favor of international development cooperation initiatives.
- Enhancement of the ethical and professional patrimony of voluntary Senior Expert who belong to the Italian civil service and entrepreneurial world by making good use of its sense of solidarity.

[Source: Seniores Italia website]

G. VAECAT - Voluntaris en Assessoría Empresarial (Spain)

VAECAT is an association whose main objectives are to offer to the society the abilities and competences acquired by the seniors during their professional career and to stimulate the transfer of knowledge between generations. The main values of the association include:

- Retirement does not mean either inactivity or loss of interest. Retired people with many years of experience must maintain their vitality and their self-esteem.
- Senior professionals have an important asset – *the value of their experience* – which must be transferred:
- Volunteering is an active and appropriate form to express commitment to the society.
- The experience of senior professionals must be used in order to help with creation and consolidation of businesses.

[Source: VAECAT website]

H. ASECAT – Asociación de Expertos para la Cooperación y Asesoría (Colombia)

With the slogan “**be voluntary**”, the ASECAT association, using the knowledge and experience of its professional seniors, gives voluntary advice, assistance and administrative services to entrepreneurs and businesses with lower incomes. Its main objective is to contribute to the society in generating value, improving the conditions of life, and promoting the socio-economic development.

[Source: ASECAT website].

I. Reach (United Kingdom)

Under the umbrella of “**Bringing together voluntary organizations and volunteers with career skills**”, REACH supports the UK voluntary sector by recruiting volunteers with business, management, technical and professional career experience and placing these skilled people in voluntary organizations that need their help. It works closely with organizations and volunteers to find the best possible fit between skills, interests, expectations and needs. The association benefits from the knowledge and experience of senior professionals who are its members to provide needed training and voluntary services

[Source: Reach website].

J. OTECI (France)

With the slogan “**Know how and experience to serve companies and nations**”, OTECI association, using the knowledge and experience of its senior professionals aims at participating in the development of companies. OTECI members provide help, analyze and give advice on different aspects, exchange know how with those in need, create opportunities for SMEs, assist with the commissioning of new plants, etc. These services are provided with special care to avoid replacing salary workers.

[Source: OTECI website].

In addition to these examples, similar visions and mission statements can be found in a large number of similar organizations, as surveyed in D1.1.

4. Approach to building the vision

There are two schools of thought when it comes to developing a vision for the society. On the one hand vision building is believed to be the responsibility of the leadership of societies to develop and articulate a powerful vision. On the other hand, it is advocated that all 'stakeholders should together support what a society wants to achieve in future. Therefore, according to this second school, vision should be co-created by its stakeholders across the society. In this deliverable we perceive that none of these schools of thought are completely wrong or completely right for developing a vision for a part of the society! There is a case for the role of leadership in developing and articulating a vision. However also all stakeholders must be involved to tune and re-define the vision by incorporating their interests and to commit themselves on providing support towards achieving the envisioned future (Senge, et al 1994).

We propose an approach for building a vision with involvement of stakeholders at different stages. The following approach provides a general step-wise guidance for the process of building a vision for an environment. To enhance the clarity of presentation of the proposed approach in some steps we provide examples related to vision construction for ePAL environment. This approach has five steps as shown in Figure 3, namely:

- (1) Discussion and generation of visionary ideas for the environment.
- (2) Elaborating of 1st vision.
- (3) Testing and validating the elaborated vision.
- (4) Consensus building through consulting and workshop.
- (5) Documenting and finalizing the vision.

Although the first two steps are the main steps in this process, performing the large analysis of many aspects and elements of the ePAL environment (Step1), and analyzing all collected results to extract and build the 1st vision of ePAL and reaching preliminary expert consensus on the vision (Step2), there are still a few other minor stages that together complete this process and finalize the development of the vision.

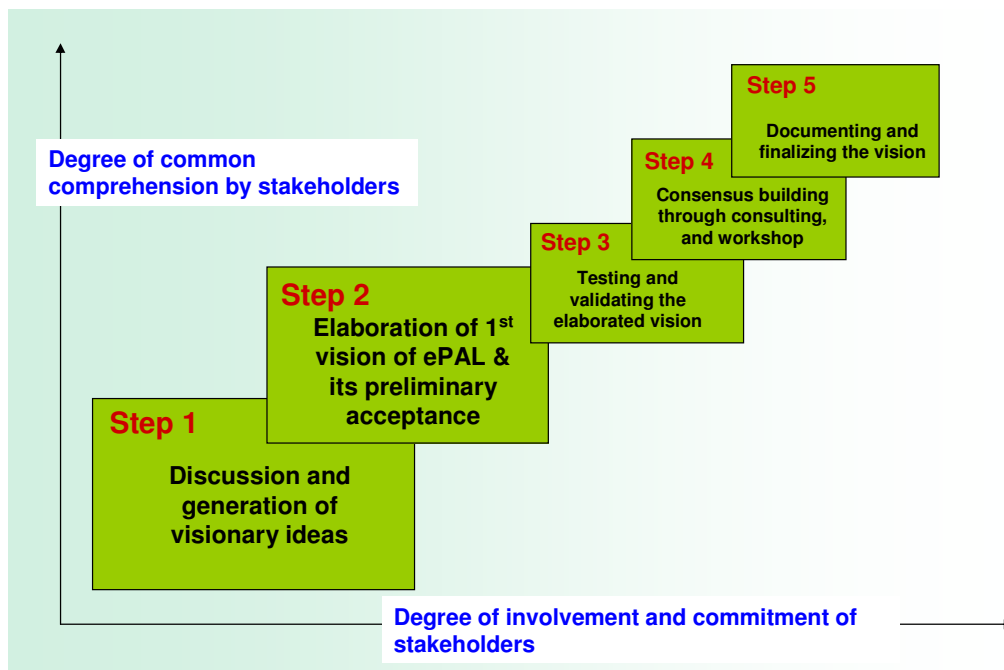


Figure 3: Generic steps in the process of building a vision, involving main stakeholders

Step 1: Discussion and generation of visionary ideas

This step starts when the need for building a vision is realized and that some aspects of the society require systematic changes to reflect on the future life of the society. For example, this step is triggered by identification of a crisis or immediate need in the society and where its possible solutions demand changes within the society.

In this step variety of people, such as decision makers and leaders, experts, research community, etc. are involved in the discussion of what elements must be addressed and/or included in the vision for the targeted environment. VOMap project has developed a so-called “*vision building process*” (Camarinha-Matos & Afsarmanesh, 2003) which is applied to the approach to support generation of visionary ideas. This process guides the identification of main elements that must be addressed to build a comprehensive vision of an environment or a society, such as the vision for guiding the enhancement of active life of senior professionals (Figure 4). The process is modelled in the style of IDEF0, addressing all inputs (from left), resources and mechanisms used (from below), constraints (from above), and the output (on the right).

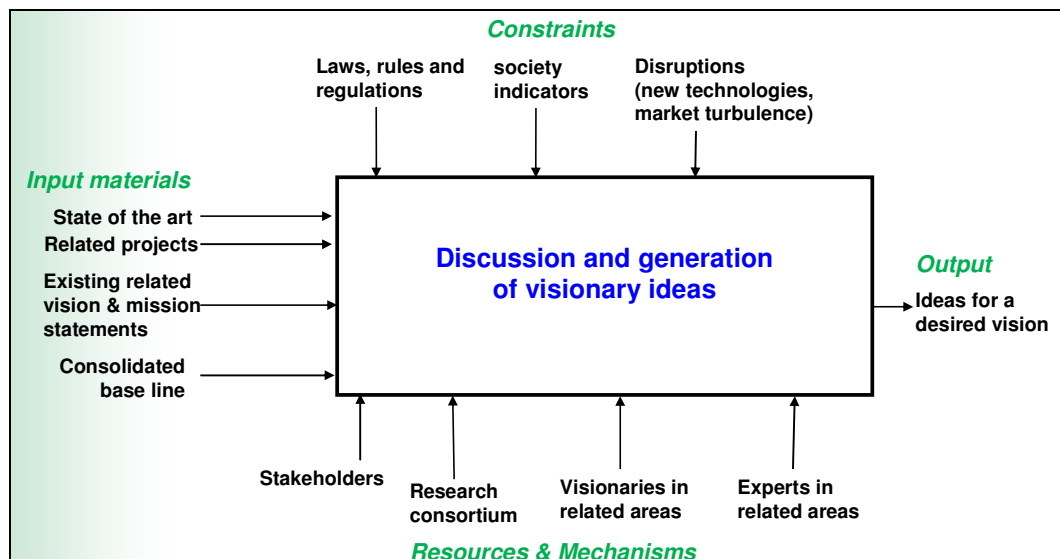


Figure 4: Elements that need to be addressed while building ePAL vision (Camarinha-Matos & Afsarmanesh, 2003).

As indicated in Figure 4, in step 1 the process of generating preliminary vision’s ideas for ePAL environment is influenced by three different types of elements/aspects as described below:

- **Input materials:** Refer to existing materials that can be sources of fundamental ideas related to the ePAL vision. Some input materials to be considered and analyzed include: state of the art as described in the DoW, results of related projects, existing related vision and mission statements, the results of consolidated baseline from WP1, etc. A comprehensive survey on the state of the art on ePAL environments was performed and documented in D1.1, as part of the base line consolidation.
- **Constraints:** Refer to practices relevant to the ePAL environment in the European society which unless properly considered and addressed by the vision may have the potential to prevent, restrict, or dictate the actions that may need to be taken to realize the vision. Example constraints to be addressed while generating vision’s ideas include: laws, rules and regulations; society indicators; some practice related disruptions (such as emergence of new technologies), etc.

- **Resources and mechanisms:** Refer to the available knowledge, competencies and capabilities that can be applied to generate, analyze, and organize vision's ideas for ePAL environment. During the process of generating vision's ideas the resources and mechanisms are to be provided by the following: the research consortium (i.e. ePAL consortium), visionaries in related areas, experts in related areas, stakeholders, etc.

A number of different types of stakeholders were involved, namely through participation in a number of workshops and seminars, in the process of generating vision's ideas for ePAL environment which aims at enhancing the active life of SPs, to provide the consortium with necessary resources and mechanisms. The following are some example stakeholders:

- Representatives of communities of senior professionals (e.g. CASPs)
- Experts from different disciplines addressing enhancement of life of senior professionals
- Representatives of active labour forces in different market domains
- Representatives of employer organizations
- Visionaries in related areas
- Individual senior professionals.

In brief, the following activities, among others, are performed (and continued from WP1 activities), as a part of collecting external contributions towards generating visionary ideas for ePAL environment:

- **Discussion with representatives of CASPs:**

A number of representatives of associations of senior professional were invited to provide presentations about the operations and management of their networks. The presentations were provided in organized workshops in different cities, namely, in Porto, Portugal (March, 2008), Seville, Spain (May, 2008), Lisbon, Portugal (May 2008), and Poznan, Poland (September 2008). Each presentation was followed by a discussion about the needs of ePAL environment that must be addressed to enhance the networks' operations and management in the coming future. This activity aimed at presentation of the main elements of the vision to networks of senior professionals and collecting their suggestions regarding the improvement of these ideas.

- **Discussion with individual SPs:**

A number of individual senior professionals were invited to provide their experiences regarding life after retirements. Presenters addressed, in addition to their experience in retired life, what needs to be improved in terms of government policies, individual perceptions, involvement in economical activities, etc. Thus these senior professionals made presentations and also attended discussions in some organized workshops, including Porto, Portugal (March, 2008), Seville, Spain (May, 2008), as well as in another dedicated workshop in Poznan, Poland (September 2008). Additionally, some retired professionals (e.g. from USA and Australia) provided input via email. These activities aimed at collecting the opinion of individual SPs on the main elements aimed for ePAL vision.

- **Questionnaires:**

Associations of senior professionals represent an important organizational structure in support of active ageing. In order to get a consolidated view of the current practices, as a fundamental input to the vision, a number of existing associations were contacted. The list of contacted associations of retired professionals is provided in D1.1. One of the objectives of this survey was to:

- (1) Identify good examples of successful retired professionals' organizations (success stories).
- (2) Determine the level of professional involvement in such associations
- (3) Understand how they contribute to the socio-economic activities
- (4) Understand how they are organized and how they operate and sustain
- (5) Verify if they resort to ICT tools, and the level of used ICT support tools
- (6) Understand what are the main potentials and barriers.

This activity aimed at identification of some crucial gaps existing in networks of senior professionals regarding their operations and management that need to be captured by the vision of ePAL.

- **Technical presentations and discussions:**

A number of experts in different research areas related to supporting retired professionals in remaining active were invited to present their own vision in different workshops, including Maastricht, The Netherlands (July, 2008), and London, United Kingdom (October, 2008). This activity aimed at collecting opinions related to technical aspects supporting involvement of senior professionals in economical activities.

- **Discussion with visionaries in related areas**

A number of visionaries (decision and policy makers) were involved in the process of formulating the ePAL vision regarding enhancement of activeness of the senior professionals in Europe, such as London, UK (October 2008) and Poznan, Poland (September, 2008 during the PRO-VE 2008 conference). To mention a few, the contacted visionaries included: experts in the field, executive leaders from different European countries, executive leaders of companies, directors of NGOs and directors of international organizations, etc. The involvement of these actors was achieved through different forms, such as sending project newsletter, discussions between individual consortium members and respective decision and policy makers, contribution through the project website, interviews, etc. This activity aimed at collecting ideas regarding the direction of Europe in relation to policies on life of senior professionals. This step also aims at bringing to the attention of stakeholders, some potential ideas for the planned desired future of ePAL environment that might impact some aspects of their life style, as may be proposed in the vision statement.

- **Related projects:**

The ePAL project consortium has also analyzed some related projects and relevant research literature which address different aspects of the life of senior professionals. The results from this survey are also presented in D1.1 as part of the consolidated baseline for ePAL environment. The knowledge gained through surveying related projects and existing literature, as well as the existing expertise in the consortium has helped the consortium to on one hand identify drivers and trends that need to be reflected in the vision of ePAL, and on the other hand to capture the fundamental aspects that have been addressed in the past and need to be incorporated in the vision. The identification of drivers and trends for ePAL environment is addressed in Section 5.

The output of this step is a set of general visionary ideas, related to the ePAL environment, and achieving a deep understanding of this area.

Step 2: Elaboration of 1st vision & its preliminary acceptance

In this step the vision building consortium (such as the consortium of the ePAL project) aims at the identification and generation of the main elements related to the vision statement for the environment, based on the knowledge and experience available/gained within the consortium, the acquired understanding of the baseline and the visionary ideas generated in Step 1. This second step is an extremely important step where the 1st vision statement is established based on the analysis of the main drivers and trends, and through developing and analysis of a number of representative scenarios. The lessons learned from these two studies are the constituting elements for the establishment of the 1st vision.

As shown in Figure 5, there are two fundamental processes in this step whose results are important input materials to the elaboration of the 1st vision as described below.

- **Establishing drivers and trends:** a fundamental prerequisite for developing a vision is to identify both the main driving forces, so called drivers, as well as the observed society trends regarding the area/environment, such as ePAL environments. The analysis of

drivers and trends enables the consortium to identify fundamental areas or perspectives that need to be properly covered by the vision. Thus the vision's ideas are elaborated and improved on the basis of identified perspectives in the society such as technological, social, and organizational. The analysis of drivers and trends for the ePAL environment is in details addressed in Section 5.

- Establishing scenarios:** Building scenarios serves as a tool to provide actors with essential understanding, orientation, context, direction, and some degree of consensus in planning research developments and implementations. In relation to ePAL's vision for future, scenarios are used to support understanding of different future possibilities regarding the enhancing of active life of senior professionals, as well as possible actions to take and which events are probable to occur in future. The analysis of scenarios is in details addressed in Section 6.

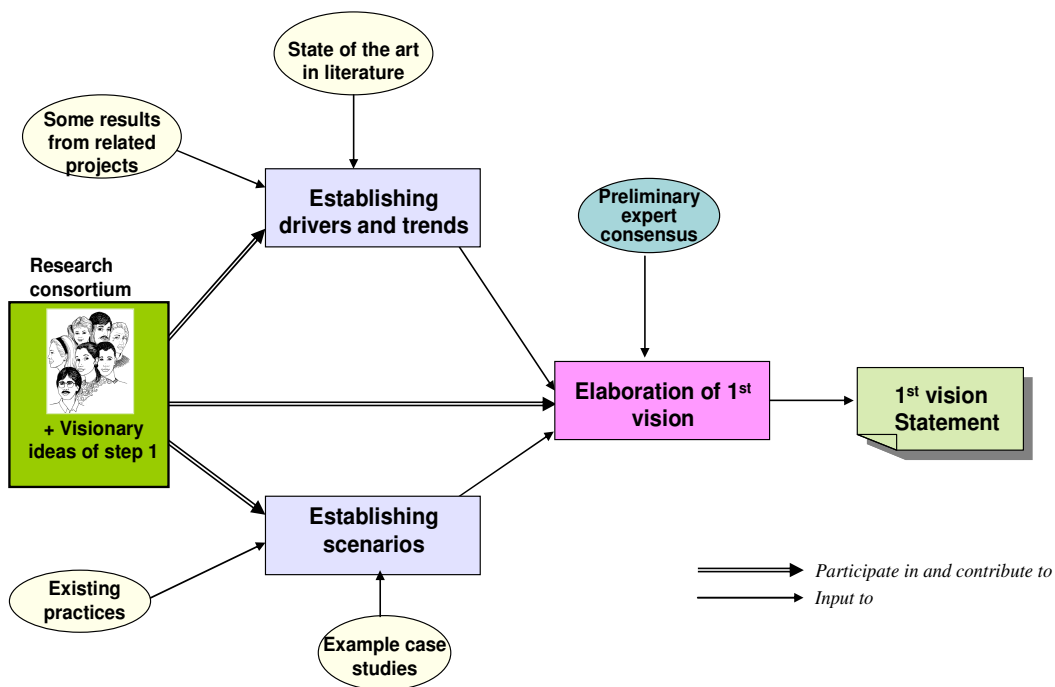


Figure 5: Presenting and elaborating the vision ideas

From the result of the above two developments, namely identification of the drivers and trends related to the ePAL vision, and building a number of representative scenarios for potential cases, both the potential of the ePAL as well as its main constituents and limitations become evident. One outcome of this extensive analysis is that we reach a good understanding of the ePAL environment, which is necessary to properly “model” this environment. Furthermore, with all the experience and results gained, the consortium reaches the point to be able to define elements of the 1st vision for the ePAL environment. The main output of this step is therefore the elaborated 1st vision statement for ePAL, addressing all fundamental aspects of this area. To pass the first acceptance stage for the ePAL’s 1st vision statement, at this stage a preliminary evaluation of the vision will be achieved through presenting this 1st vision to a small group of stakeholders, through a small workshop. The next three steps are related to widely validating the elaborated vision, to reaching consensus, and to finalization of the vision statement in steps 3, 4 and 5, as, addressed below.

Step 3: Testing and validating the elaborated vision

Validating the vision is an important step focused on making sure that the society will be moving in the right direction once it implements this vision. In this step, representatives from each group of stakeholders must be involved in assessing the vision and consequently providing improvement and extension suggestions. The focus of the validation, is analyzing whether the vision is:

- Capturing the current objectives of the society
- Properly addressing future potential objectives of the society
- Feasible for the society to achieve such future objectives, considering the current trends, drivers and strategies

Furthermore, the WP3 of the ePAL project will in parallel perform a detailed gap analysis, comparing that state of today's market and society against the state planned by the vision for future of Europe, for creating a balanced active life for senior professionals. Therefore, a part of the WP3's results related to gap/feasibility analysis will be also used as a feedback into the step 3 of the visioning process, contributing to the test and validation of the vision of ePAL environment.

Step 4: Consensus building through consulting and workshop

Consensus develops from agreement of the parties involved. It is a decision making process that includes all stakeholders to together make decisions. It is the most powerful decision process as stakeholders agree to the final decision. In order for the vision to get full support from visionary stakeholders in the society it first needs their acceptance. Building consensus on the proposed vision can apply the following approaches:

- Organizing workshops of representatives of stakeholders' groups
- Generating questionnaires and other kind of surveys
- Arranging round tables involving decision makers
- Performing online discussions and forums.

The results of this step provide fundamental inputs to the finalization and documentation of the vision (see Section 5).

Step 5: Documenting and finalizing the vision

This step focuses on improving the vision statement by applying and incorporating feedbacks from the consensus building actions (Step 4). The final vision statement will be documented, ready for directing further research regarding the gap analysis (WP3) and defining actions for their realization and implementation in the society (WP4).

In this deliverable, only results up to step 2 are included. The following steps will be reflected in the final roadmap.

5. Identification of trends and drivers

As addressed in section 4, particularly in Step 2 of the proposed approach for formulating a vision, for instance for the extension of Professional Active Life of seniors in the society, a fundamental prerequisite for developing such a vision is to identify both: the key **drivers** (i.e. the main driving forces in the market and society) and their related trends (i.e. the main happenings in the market and society) regarding the ePAL environment. In our research, to comprehensively cover the most important aspects related to a desired vision for ePAL, we have identified three main perspectives that are required to be addresses. Namely, the vision of a desired future for ePAL shall cover its technological perspective, its social perspective and its organizational perspective. Therefore, the three following key drivers are identified to be considered for better study of the ePAL environment, as also illustrated in Figure 6, namely: (1) Technological driver, (2) Social driver, (3) Organizational driver

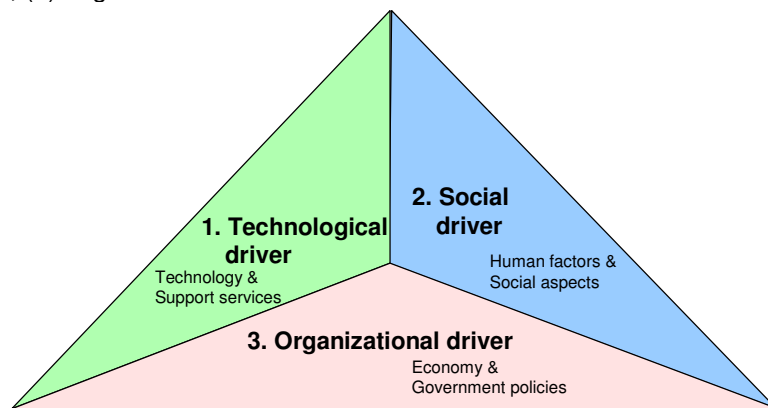


Figure 6: Key drivers for ePAL environment

Furthermore, the above three key drivers are each further divided into two sub-drivers (as shown in Figure 7) for the sake of their more detailed study and analysis. The identified sub-drivers are addressed below in this section in order to capture their respective trends and needs for ePAL environments of the future.

As such each driver in Figure 6 is represented by two **sub-drivers** in Figure 7, namely:

1. Technological perspective of the ePAL environment shall be further studied and analyzed from the perspective of the technology itself, e.g. the infrastructure and hardware/software area, as well as the support services (tools / applications) perspective that may specifically support the ePAL environment requirements. Thus, this driver is represented by the two sub-drivers of (1.a) Technology and (2.a) Support services.
2. Social perspective similarly constitutes on one hand the human factor perspective and on the other hand the social aspects that affect the senior professionals. Thus, this driver is represented by the two sub-drivers of (2.a) Human factors and (2.b) Social aspects.
3. Organizational perspective also similarly covers the perspective of economy as it influences the ePAL environment, as well as the perspective related to the organizational policies set by the governments in Europe. Thus, this driver is represented by the two sub-drivers of (3.a) Economy and (3.b) Government policies.

Figure 7 also provides several example trends in relation to each sub-driver, while further in Table 1 of this section more identified trends are presented in more details.

Table 1 includes description of the identified trends for each of the six sub-drivers. These trends were identified in collaboration with representatives of associations of senior professionals, individual senior professionals, technical experts, decision and policy makers, etc., who attended some of the workshops and/or responded to us by e-mail. Every trend presented in Table 1 is further analyzed and its positive and/or negative influences (in relation to the ePAL environment) are identified. Particularly, the left column in Table 1 introduces some simple classification names for the trends, while the right column addresses some aspects of trends and shows the positive/negative influence of each trend on ePAL.

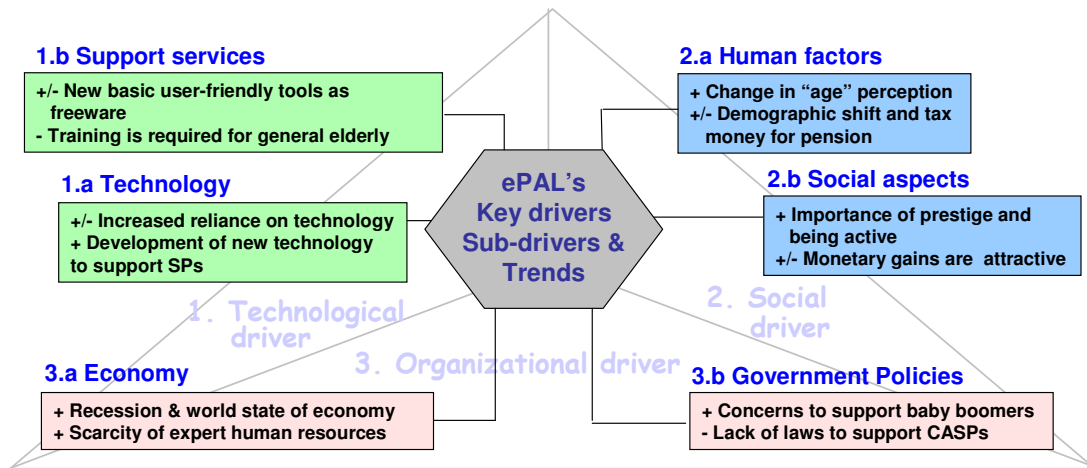


Figure 7: Sub-drivers and example trends related to ePAL environments

Please note that each example trend may have both some *positive* and some *negative influence on the future state of the ePAL environment, for supporting the extension of professional active life of seniors*, as indicated in this section with a (+) and/or a (-); and this is independent of how these trends may generally or individually be evaluated by different stakeholders in the market/society. For instance, the decision to increase of retirement age from 65 to 67 by the governments might be completely disliked by those seniors who would not like and/or need to work further than 65. However the ePAL environment is focusing on the group of elderly who wishes to extend their active life and to create a balanced life even after the retirement age. Therefore, the general government rule of acknowledging the workers until the age of 67 will in turn open the possibility and better integration of senior freelancers to get accepted as regular workers by the market/society. For this reason, this trend presents some positive aspects for the ePAL. Similarly, while in general the world’s economy is at present at negative state and recession, when it comes to influence of this issue on the ePAL environment, this trend produces a bigger need in the market and society for involvement of voluntary senior professional, and thus it presents a positive influence on ePAL.

Table 1: Trends and drivers for ePAL environments

1. TECHNOLOGICAL DRIVER	
1.a Technology sub-driver	
Trend	Positive / negative aspects
1. Availability of pervasive and inexpensive computing	+ Technology, required to work within the modern economy, is becoming affordable and more widely available to everybody, including senior professionals.
	- As more and more people buy and familiarize themselves with computer technology, those who have not done so become more marginalized. Today, senior professionals are a high risk group in terms of lack of IT knowledge.

1. TECHNOLOGICAL DRIVER	
1.a Technology sub-driver	
Trend	Positive / negative aspects
2. Increase in development of technology to support elder people	+ EU has assigned funds from the community budget of member states and private sector to the development of ICT, with the target of improving the quality of life of the elderly people and helping them to be active and independent.
	+ Fear of elderly people about new technology is decreasing through introduction of easy to use and intuitive technologies. This motivates elderly people to use such technologies.
3. Pervasive use of the Web	+ User generated content of Web2.0 eases the involvement of seniors in future market / society activities
	- User generated environment of Web 3.0, and especially the possibility of intelligent adaptation is still in primitive stages, while very much needed to assist the older people with their use of computers.
4. Increase attention on affective computing	- Need to build mechanisms into the technology to understand user reactions and allow users to customize it. The current level of technology is off-putting for older people; embedded technologies are needed to facilitate computational perception of individual emotions: the technology should be invisible.
	+ Affective computing can make the process of communicating through computers closer to the human needs.
	+ Affective computing can facilitate more effective inter-generational and inter-cultural communication.
5. Introduction and deployment of Cloud Computing	+ Cloud computing promises to be a new technology in which tasks are assigned to a combination of connections, software and services accessed over the Internet. It should allow users to access super-computer level power. Therefore, senior professionals can have an access to the powerful computers/systems at home.
	- This is new technology that is still immature and need further improvements. One example is the necessary bandwidth to support such technology.
1. TECHNOLOGICAL DRIVER	
1.b Support services sub-driver	
Trend	Positive / negative aspects
1. New tools supporting collaboration among SMEs and / or individuals	+ More tools emerge in the market for collaboration
	- There is a lack of more advanced user-friendly supporting tools for co-working as well as contract negotiation tools, trust building tools, support for privacy and ethical issues.
	- Training is required for general elderly to use the tools.
2. Availability of easy to use ICT tools	+ Some new basic tools are being developed as freeware with easy to use interfaces (e.g. email, chat, etc.), which can be easily used by senior professionals
3. Wide availability of tools for information management	+ The costs associated with information management are decreasing and Information can be accessed in an easier and faster way.
	- The improper management of information can create serious problems, so it requires careful attention by elderly.
2. SOCIAL DRIVER	
2.a Human factors sub-driver	
Trend	Positive / negative aspects
1. Demographic shift	+ Ageing of the population will accelerate the emergence of new-organizational and collaboration forms involving senior professionals.
	+ Many pre- and post- retired professionals express that they are happy to continue working beyond traditional retirement age to fill skill gaps as well as mentor younger professionals.

2. SOCIAL DRIVER	
2.a Human factors sub-driver	
Trend	Positive / negative aspects
	- Younger workers are becoming an increasingly scarce resource, therefore less Tax money is generated.
2. Influence of change in labour markets	+ Employment dynamics are changing from people competing for jobs to organizations competing for people with skills.
	- If free acquisition of knowledge and experience in the market increases then organizations might become reluctant to employ paid professionals.
	- As workers fully retire at an older age, younger workers become increasingly frustrated with the lack of advancement and promotion opportunities.
3. Change in the "age" perception	+ Those approaching and past retirement age are now recognised as important economic actors in some sectors and are increasingly valued for their experience and skills in the workplace.
	+ Seniors are increasingly used to fill skills gaps within the EU, particularly in supporting the SME community and within mentoring programmes.
4. Improvement of Social support and Public Health	+ Life expectancy is increasing and thus people can live longer and work longer than in the past.
	+ Improvements in Social support systems and Public Health Systems have important effects on the life and well-being of seniors.
	- Demand on quality of life for older people is increasing, and thus the requests from the social support systems also increase.
5. Progress on identification of elderly needs	- More Pensions are needed to support the increased expectancy of life.
	+ There is significant research activity in the area of older workers and their needs.
6. Increase in senior worker's motivations	- There is still an enormous lack of differentiated knowledge on the current needs of elderly people.
	+ Retired people are increasingly in need of making money. Increasing number of older workers are partially due to the current pension laws and rules in certain regions of Europe (such as east Europe), which necessitates a continuation of paid employment.
7. Importance of being independent	+ There is a growing sense of motivation amongst senior professionals to remain active and thus to participate in economic activities.
	+ The number of older people who want to remain independent is increasing.
8. Obsolescence of traditional education systems	+ Increase in opportunities for seniors to retrain or update their existing knowledge and expertise.
	+ Some new education programs offer (smaller) continuous units, making lifelong learning more accessible and achievable to older people is being considered.
	- Need for a support platform for education programmes for older people, and a course on how to manage the second phase of careers is rising.
2. SOCIAL DRIVER	
2.b Social aspects sub-driver	
Trend	Positive / negative aspects
1. Mentality change	+ Society is placing a higher value on contribution of elderly people in all fields: family, social, cultural, economic, etc.
2. Increase in number of Social Networks	+ Many emerged Social Networks appear to be self-organizing, i.e. appearance of random social communities working in an organized way.
	+ Online communities allow individuals to assume new/different roles.
	- Need to find ways to manipulate/revitalize networks when members' activities slow down.
3. Obsolescence of traditional roles of	- Need to identify and characterize the new roles that seniors can play in society.

2. SOCIAL DRIVER	
2.b Social aspects sub-driver	
Trend	Positive / negative aspects
seniors in the society	+ Greater engagement between social/voluntary organizations and seniors.
4. Continuation of social discrimination in companies	- When companies reduce staff, generally seniors are more at risk of being dismissed as their salaries are generally higher than younger workers and they have less future projection as a long term employee.
	- Seniors have great difficulties in searching for a work place.
5. ICT-based media is still aimed at young people	- Seniors struggle with images which are portrayed in the ICT-based media, aimed at young people. Seniors are not recognized as potential user group.
6. Pressure on Social Security system	- Social security systems are coming under increasing pressures to provide anything more than basic support for the needs of seniors.
7. Increase in number of projects providing opportunities for elder	+ There is an increasing trend that supports more flexible working environments (like tele-work) which offer a great number of opportunities.
3. ORGANIZATIONAL DRIVER	
3.a Economy sub-driver	
Trend	Positive / negative aspects
1. Overload on pension	+ Generation of government income through taxes for supporting seniors is becoming inadequate, which might mean increasing state retirement age. This will also open door for senior professionals.
2. Economy opening to elderly people	+ More companies and social organizations are now open to using experience/services provided by retired professionals.
3. Scarcity of experts and human resources	+ Scarcity of highly skilled human resources is increasing and as a result Pre/Post retired workers find out that their skills are highly valued.
	- There is a higher expectancy on seniors to contribute for free to the economic welfare of the EU.
4. Recession & world state of economy	+ In difficult economic climates where companies have less money to spend on consultancy services, the knowledge transfer services provided either free or at low cost by senior volunteer organizations are increasingly valued.
	+ Although there are still issues around discrimination towards older workers (identified by groups such as Age Concern), a reduction in number of employment opportunities associated with an economic downturn will disproportionately affect seniors.
5. Need to assist developing countries	+ More opportunities arise for networks of senior volunteers to send their members to work on humanitarian and development projects.
6. Elderly people in need of making personal income	+ Private savings are becoming the main income source supporting most elderly, but these are not enough any more.
7. Economy in need of Virtual Volunteering	+ Virtual volunteering is being taken up by seniors and growing fast due to the flexibility that it brings.
3. ORGANIZATIONAL DRIVER	
3.b Government policies sub-driver	
Trend	Positive / negative aspects
1. New polices encouraging the use of ICT for elderly	+ The main policy areas and challenges related to ageing, addressed at the EU level, are those in which the ICT-based applications are maximized.
2. Government policies supporting retirees	+ Governments are increasingly encouraging and supporting the involvement of older professionals in the (silver?) economy through policies and initiatives, especially considering the baby boomer generation.

3. ORGANIZATIONAL DRIVER	
3.b Government policies sub-driver	
Trend	Positive / negative aspects
	<ul style="list-style-type: none"> + Increasingly government policies focus on reducing the burden on the national pension system. Therefore, governments are increasingly legislating to reform retirement age which will keep senior professionals at work for longer time. - Convincing the private sector of the benefits of retaining older workers may be a difficult task.
3. Retirees' rights protection	+ Organizations supporting the rights of elderly, are becoming more active and even plan to take governments to court if needed, in order to protect the social security support and their rights to work after retirement.
4. New policies to maintain seniors active	+ The issues of Active Ageing and inclusion appear increasingly on the political agenda in the European Union.
5. New programs for transition and integration between generations	+ There are increasing numbers of new international programs focused on transition of the current state into an integration between generations.

Analysis and understanding of the trends related to the six sub-drivers for the ePAL environment is aimed to assist both in building and in validating the planned scenarios, as well as in building the ePAL's vision of the future. The identification of positive and negative aspects and influences of the trends is aimed to further assist with the identification/definition of required "actions" for the ePAL's roadmap, which in turn support reaching the desired vision for ePAL. Therefore, the identification and analysis of trends are important, and require careful validation by experts. For example, the trends related to technological driver of the ePAL environment with positive influences, point to those areas for which further extensive research & development are required to a lesser degree than others. At the same time, those trends with negative influences identify the areas for which further research & developments are definitely required.

6. Scenario development

Scenarios are typically synthetic descriptions of series of actions and events. They also reflect synopsis of a projected course of action, events or situations. Scenarios are widely used by organizations of all types to understand different ways that future events might unfold. Developing scenarios is usually used in policy planning, organizational development and generally when organizations wish to test some strategies against uncertain future developments.

In relation to ePAL's vision for future, scenarios are used to support understanding of different future possibilities regarding the enhancing of active life of senior professionals, as well as possible actions to take and which events are probable to occur in future. The developed ePAL environment's scenarios address among others, aspects related to:

- ◆ Technologies that need to be developed or tuned to support involvement of senior professionals in economical activities.
- ◆ Policies, rules and regulations that need to be formulated to favour active life of senior professionals.
- ◆ Interactions and related motivations among senior professionals and working forces.
- ◆ Responsibilities of governments and other regulatory organs in enhancing activeness of senior professionals.

This section presents an approach for building scenarios. It then presents example scenarios addressing ePAL environments and their related operations.

6.1 Approach for building scenario

Building scenarios serves as a tool to provide actors with essential understanding, orientation, context, direction, and some degree of consensus in planning research developments and implementations. In this sense, the biggest difference between a scenario and a roadmap is that while scenarios take a rather "passive" approach, and aim at the discovery of future developments, roadmaps establish an "active" plan on how to reach a desirable constellation in the future. On the other hand, a scenario can also be seen as a "communication tool", an easy way to convey a model or a concept.

Under uncertain conditions that organizations and societies have to face these days, the frequent use of forecasting techniques becomes a prerequisite for coping with possible future developments. Given the shortcomings of traditional and often linear forecasting methods in today's environments, new tools and techniques have emerged during the last decades. One of the most popular forecasting techniques nowadays is the so-called *scenario building*. Having its very roots in military forecasting developed in the United States in the fifties by Helman Kahn, the famous systems theorists employed at RAND Corporation, USA, the scenario development emerged as one of the most widespread tools used in business during the last decades.

In the context of a roadmap for ePAL, the use of scenarios can play a helpful role as they provide a complementary effect to the roadmap development. The biggest difference between these tools is the intention behind their use. Whereas scenarios take a rather "descriptive" approach and address potential future cases, roadmaps develop a plan of action addressing how to reach the desired future. In other words: Scenarios give an answer to the question "which directions are more probable for future", while roadmaps use the scenarios as guidelines for the final aims, and address how to go there (see Figure 8).

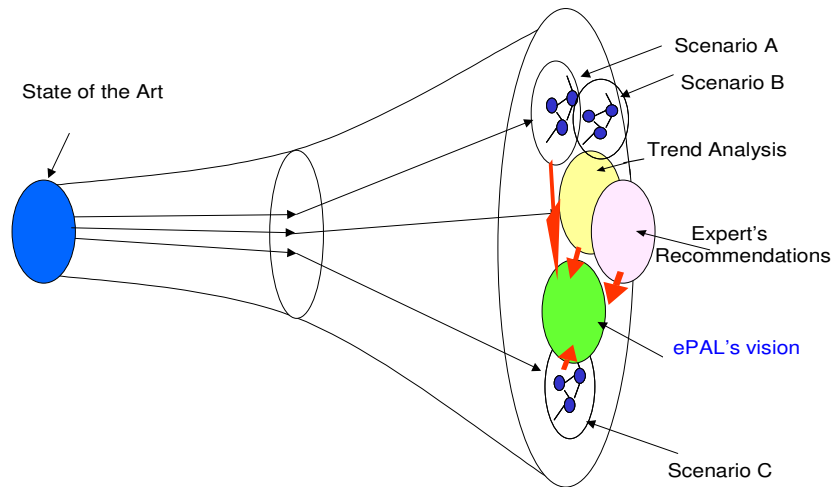


Figure 8: Use of scenarios for visioning step of roadmaps

Included in the use of scenario building is a distinct type of thinking. In societies as well as in the business domain, there are always a number of forces, e.g. individuals who come up with some ideas on how to improve and revolutionize the current situation and practice. Usually these individuals continuously *push for change* and are able to motivate and move others to agree with their desired future scenarios. Such scenarios are typically built on an estimation of future possibilities and/or a series of emerging events, which are in principle unpredictable and, to a large extent, simply random.

However, while difficult to define a procedural approach for developing scenarios, a complementary way to deal with estimation of the future is applied today in business domains. This approach to scenario development increasingly gains more acceptability. The approach requires careful and intense situation analysis with a dash of imagination to plan the storyline for it. In practice, for this type of scenario development, as the first step, it is necessary to focus on a few of the driving forces and their potential influence in the society and/or business. Figure 9 presents a number of example driving forces related to the ePAL environment. As a second step, the possible trend, in relation to these drivers, which can be so far observed in the relevant environments, shall be considered. As a final step, the above two findings shall be applied to the *building of a storyline for a scenario case*, while maintaining a high degree of flexibility in the planning of the scenario.

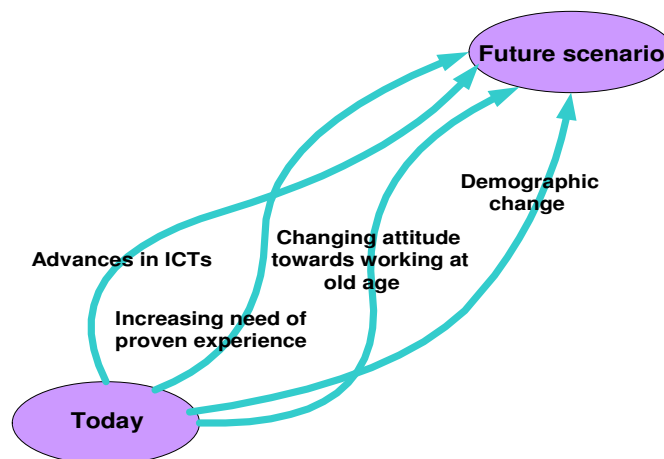


Figure 9: Some driving forces for change related to ePAL

There are three types of scenarios, namely: **existing, emerging, and futuristic**. Existing scenarios capture the current status of the society. Emerging scenarios capture the next immediate possible situations that the society might face considering some emerging trends. Futuristic scenarios are based on some imaginary situations that a society can face in the future. In the next section we present some example scenarios which address the possible existing, emerging, and futuristic states of the ePAL environments.

6.2 ePAL environment scenario spaces

Scenario-building process provides a structured method for integrating a number of individual forecasts into a limited number of comprehensive, feasible narratives about future developments. Its ability to combine quantitative and qualitative information in a format that is understandable for decision-makers makes it a valuable tool for daily use and as a communication means. Since scenarios assume the fact that the future can never be predicted with certainty, they stress the need for flexibility. However, in principle, scenario-building needs a significant amount of time and resources, especially when developing large-scale scenarios such as for ePAL environments.

In Figure 10, we briefly present the two extreme scenario cases (comprehensively defining the scenarios spaces) based on the concepts suggested by Laubacher and Malone in 1997 [Laubacher, Malone 1997] that are frequently referenced and used by researchers usually as the *seed* for designing other scenario cases. These two extreme scenario cases address on one hand to the global CASP and on the other hand to the regional CASP.

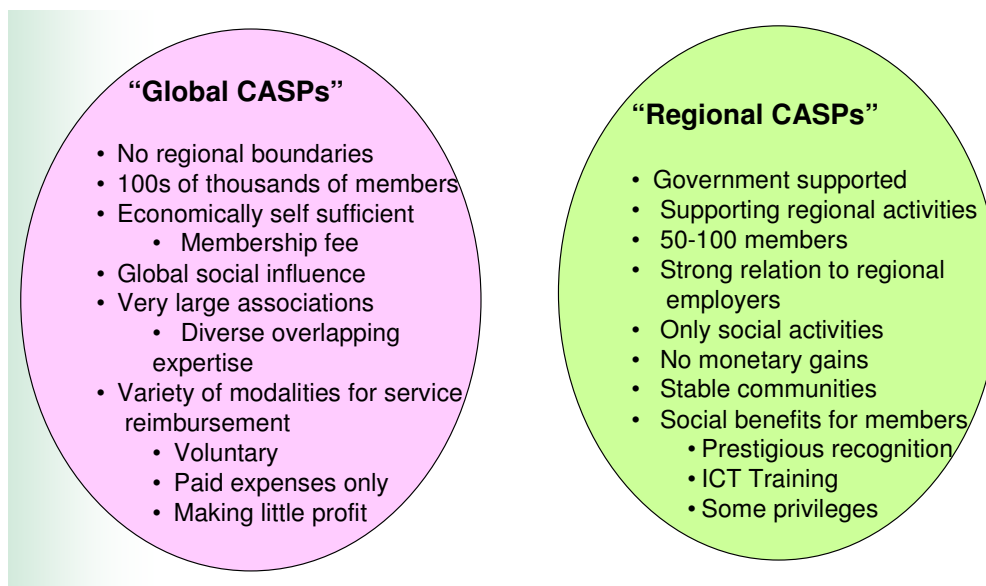


Figure 10: Extreme classification of scenario cases

Considering that these two represent extreme cases, their actual feasibility as well as desirability is in question. The reality of future however, is foreseen to fall somewhere between these two extreme cases. As such, the twelve example scenarios presented in the next section fall between these two extreme scenario spaces.

6.3 Examples of ePAL environment scenarios

As mentioned earlier in the deliverable, development of representative scenarios is an important step of the visioning approach. With each ePAL environment related scenario, a set of new possibilities for the desired future of “extending professional active life” is revealed. To build a strong vision is therefore dependent on the definition of a set of scenarios representing the foreseeable as well as futuristic cases for ePAL environment. With classification of the lessons learned from the scenarios, the base elements for the 1st vision of the ePAL are established. Below we present a set of example scenarios addressing different aspects of the ePAL environments for this purpose. Twelve scenarios are developed addressing different ePAL environment cases. These scenarios are classified into six categories as illustrated in Table 2:

Table 2: A summary of example ePAL environment scenarios

Scenario Category	Title of the scenario	Main focus
1. Associations of retired professionals: voluntary work	Scenario 1: Senior professionals association	<i>Focusing on the need for CASPs to enhance chances of the involvement of SPs in daily activities as volunteers within their own societies or in other regions.</i>
	Scenario 2: Elderly person volunteering services	
	Scenario 3: Virtual Volunteering: cyber-grandparents	
2. Associations of retired professionals: brokerage and launching	Scenario 4: Identifying Problems and providing solutions	<i>Focusing on the role of brokerage of opportunities that can be responded by SPs either individually or through CASPs.</i>
	Scenario 5: A virtual well of knowledge and expertise	
	Scenario 6: Specialized and adaptive IT systems for seniors	
3. Service markets	Scenario 7: A service market portal	<i>Focusing on potential markets, mostly technology enabled markets, which are typically feasible for SPs to deliver their services.</i>
	Scenario 8: Remote working and virtual workers	
4. Tri-partite collaboration forms	Scenario 9: Tri-partite company	<i>Focusing on different roles that need to be performed by different parties to realize the establishment and operation of CASPs.</i>
	Scenario 10: Multi-actor network	
5. Keeping the link to former employer	Scenario 11: Knowledgeable jubilees	<i>Focusing on existing practices regarding keeping communication with the former employers and how it enhance the professional activeness of SPs.</i>
6. Second job	Scenario 12: Paid work involving senior professionals	<i>Focusing on the need for establishing some form of payments for the involvement of SPs in market and society activities.</i>

For each scenario, first a textual description of the storyline is provided, followed by a list of challenges, and also augmented with a brief analysis diagram, representing its involved:

1. Active senior community,
2. Relevance for ePAL environment, and
3. Most important challenges.

The scenarios as summarized in Table 2 are in details presented in the next six sub-sections.

6.3.1 Associations of retired professionals: voluntary work

Scenario 1: Senior professionals association

Mario is a senior electrical engineer that used to work for the national energy distributor as a public installations analyst and inspector. Although 65 years old he is a healthy man and felt frustrated for being obliged to retire so soon and at the same time depressed because he was at home with nothing interesting to do; he was feeling that he needed to give his brain some activity.

One day, when navigating on the Internet, Mario found a website that attracted his attention – the ActiveSeniors Community. This website supported a community of senior people that was created out of the necessity of people to remain active after retirement through sharing with others their experiences, skills and knowledge. The main objective of ActiveSeniors is providing professional assistance to people, companies or organizations located in developing countries through unpaid/volunteering senior expertise.

Mario felt enthusiastic with the ActiveSeniors Community, especially with the idea of travelling to a new country and of putting his brain in motion again, and registered immediately as a new member. After the registration process Mario received a welcome letter and a collection of information containing the community rules.

A couple of months later, Mario was still waiting to be contacted for an assignment and he started to feel anxious with the situation and remembered to start looking for missions. After a couple of days searching he found a small electrical company in Cabinda, Angola, that was passing severe financial problems. Mario contacted both ActiveSeniors and the small Angolan company and after all the arrangements were properly made Mario went to Cabinda.

When Mario returned from Angola he was so happy that his relatives realized the importance of keeping retired people active...

In fact, contributing to help a region in need and also having the opportunity to travel was a great reward, specially considering that Mario's pension is enough for his needs. But the lack of opportunities to contribute is something that still worries him ... By the way, thinking about the difficulties, he also felt a bit uncomfortable for having to perform his mission alone and having to do some field work in Cabinda to better understand the problem before he actually could contribute to solve it.... As a result his contribution was a bit limited as the resources for the mission ended ...

Challenges:

A great number of senior/retired communities working on a voluntary basis exist nowadays. Examples can be for instance, Seniors Experts Benevoles – EGEE based in France, or SECOT in Spain.

Nevertheless what commonly happens in these communities is that members lose interest due to:

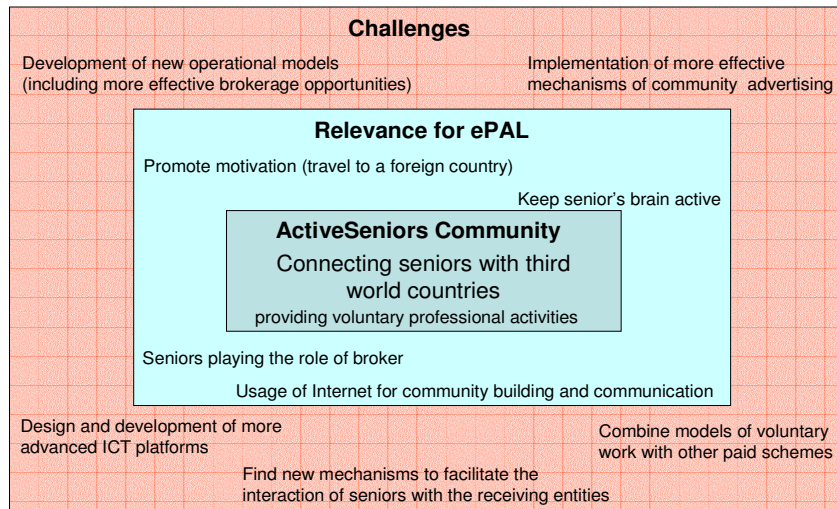
- The fact that there are not many opportunities to get involved; there are more volunteers than tasks.
- Communities do not have a good incentive/motivation system for its members; this could be because they cannot evaluate the state of the community and interact adequately.
- Not being paid for their missions, even if it was a symbolic remuneration it would give them a different motivation.
- As pensions are getting lower, many potential new members of the associations cannot afford to do much voluntary work as they might need to find some complementary sources of income.
- Working alone in a mission does not promote socialization and is sometimes risky.

Therefore, some challenges include:

- Development of new operational models, including more effective brokerage of opportunities.
- Implementation of more effective mechanisms to make the community known.
- Design and development of more advanced ICT platforms to better support socialization and team work.

- Find new mechanisms to facilitate the interaction between seniors and the receiving entities.
- Combine models of voluntary work with other schemes providing some payment or fringe benefits.

Scenario 1



Scenario 2: Elderly person volunteering services

After a long professional career as a high ranking marketing executive for his company, Manuel opted into an early retirement plan, despite not having even reached the age of 60, as a consequence of a multinational restructuring of his company in 2005. The first few months of retirement were, for Manuel, a time of great satisfaction since he was at last free from responsibilities, long working hours and long business trips that meant he had to pass a lot of time away from his home and family.

Getting up late, playing sports, dedicating time to his reading and spending more time with Sara, his wife of more than 35 years, all allowed him to enjoy his newfound way of life. About six months later Manuel realised that his new routine was not giving him the same satisfaction as before. His wife Sara had not retired and she had to maintain her normal timetable on top of her home and family responsibilities. His sons had grown up and were no longer living at home and although his activities engaged him and occupied a certain amount of what he would call quality time, he still had time spare and at such times he found himself missing the surge of adrenaline he got from the problem solving that had been normal in his work.

Upon talking with a friend, Jim, who had co-retired from the same company, Jim commented: I've joined an association of early retired. After having a series of interviews with the head of the association, Manuel joined up and started to get involved in helping other people and small companies using his knowledge and experience.

The association is aimed at providing business development help to small businesses, that don't have the necessary resources to pay specialised consultants and to giving conferences and limited training to young people who want to start their own company. Since then Manuel's life has changed. In the morning, after having breakfast with his wife, he opens his laptop and logs into the associations intranet through which, in his own site, he receives the work assignments given to him and that are urgent.

Typically he deals with short answers to very structured questions about business problems, which have been categorised by one of the heads of the association. Not more than 30 minutes later he finishes with this activity so he is free to go and play some sport, an activity that, added to the aperitif with his friends, usually takes him up to lunch. In the afternoon he dedicates an hour to dealing with longer questions related to the four companies for which he undertakes a more

continual consultancy, including a video conference of 15 minutes with the finance director of one of them.

After a walk with his wife he spends an hour getting himself up to date, by using the association’s “on line” training, on a new method introduced for the control of varied procedures, with which he finishes the day’s work. Manuel is extremely satisfied with this new activity since it allows him to make use of the knowledge and experience he has gained and allows him to develop a wide range of relationships with other people while at the same time maintaining his independence. The arrangement also allows great flexibility in both workload and timetabling and is completely compatible with his leisure time and family time. On the downside, Manuel is a bit disappointed that on some occasions there are not enough work assignments for all members of the association ...

Challenges:

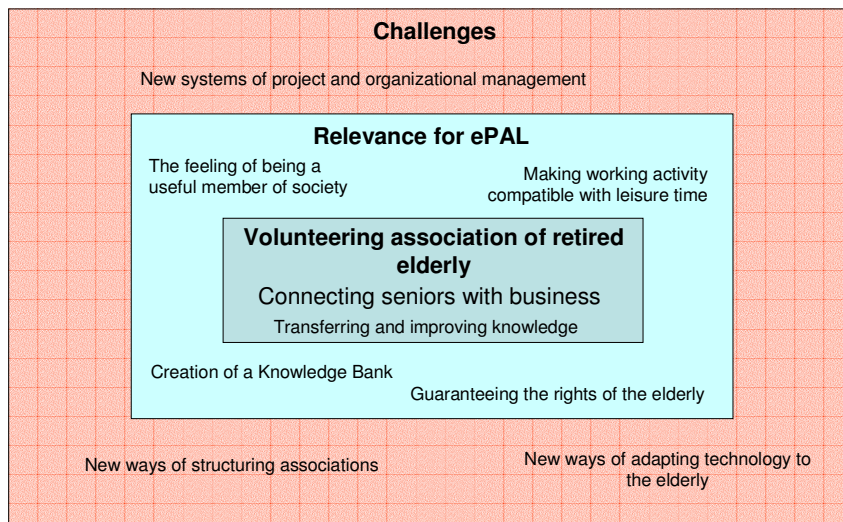
This scenario illustrates some important aspects:

- *The feeling of being a useful member of society:* Elderly people, fundamentally the early retired, need to feel useful since they have ended their professional life at an age that that is not considered normal retirement age by society.
- *Making working activity compatible:* As an estimated projection of the future we can envision a “retiree’s professional career”
- *Creation of a knowledge bank:* The existence of associations that continually maintain knowledge banks of professional retired people will guarantee that society in general does not lose the range of experience that these people poses and will assure adequate intergenerational transfer of such knowledge.
- *Guaranteeing the rights of the elderly:* The existence of associations of retired, or early retired and their providing services in this particular manner increases, without doubt, the measure of confidence we can have that their individual rights are upheld.

Therefore, the scenario suggests include some research challenges:

- New ways of structuring associations: The new roles assigned to these types of associations of the retired professionals imply a need to develop new structural models.
- New systems for project and organizational management: Both from a methodological and technical standpoint, new organizational models and the people integrated into these associations will require in depth research with respect to the management methodologies and technologies used in the management of both people and projects.
- Ways of adapting technology to the elderly.

Scenario 2



Scenario 3: Virtual Volunteering: cyber-grandparents

Sandra has been retired for a number of years and had been working in a part time capacity as a customer service manager at a local DIY store. Unfortunately, she recently developed a number of mobility problems due to her increasing old age and is no longer able to make it into work. Sandra very much enjoyed the social side of her work, talking with her colleagues and customers. Without her work and due to her lack of mobility she is forced to stay at home and spend a lot of time on her own. She also feels like she has little sense of purpose and reason to get up in the morning.

Sandra's family, being worried about her decided to search online for a scheme that would help alleviate her boredom at home. Her son came across the Elder Wisdom Circle while searching for a virtual volunteering programme for seniors. Elder Wisdom Circle is a good example of how elders can continue to remain "active" in society from their own homes. Advice seekers in their teens, 20's and 30's from all over the globe consult the EWC, a widely diverse group of wise sages aged 60-105. The elders themselves are given the name "Cyber-Grandparents". Virtual volunteering differs from traditional volunteering as the volunteer and host may never meet in person, with communication between the two parties happening in cyberspace. The working relationship is conducted via email or online.

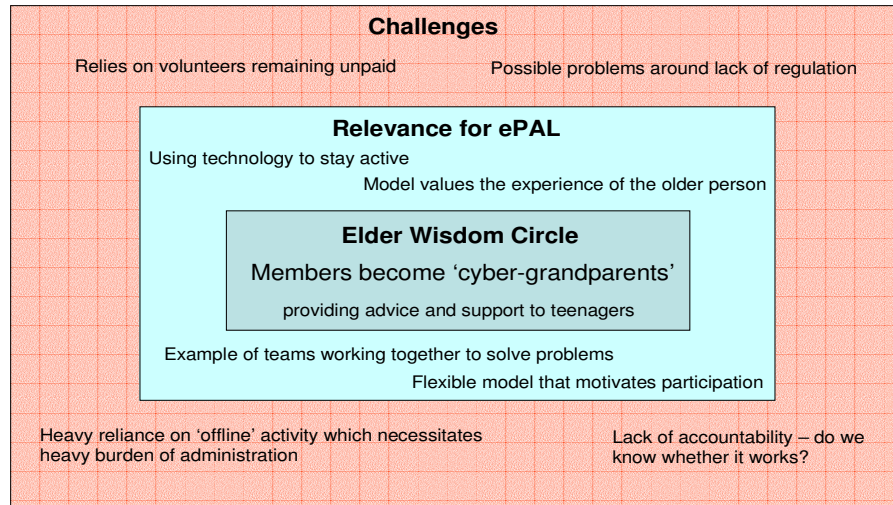
Sandra signed up as a Cyber Grandparent and now receives emails from young people looking for her help. She now has a renewed sense of purpose and really enjoys helping out young people. She still misses seeing her old colleagues and getting out of the house everyday as well as meeting new people at work, but is still much less worried about the prospect of having to spend most of her time at home. She even has the chance to occasionally work in a team with other cyber-grandparents to address the issues that need such a collective approach. If only she could do more of this online, it would be easier to work more often in a team...

Challenges:

The Elder Wisdom Circle provides one example of the way in which seniors who have retired from their careers can stay actively involved in their communities or can share some of their accumulated wisdom with other, in this case young people. The Elder Wisdom Circle is particularly interesting for the way in which it facilitates interactions using IT but does not rely on the senior being able to use IT. Also, it provides an example of how teams of seniors can be engaged to address a common issue. However, there remain some challenges with this approach:

- This system (like many that involve volunteering) is inherently reliant on seniors giving their time for free. In fact, the EWC charges a membership fee to the elderly. Lack of remuneration can be an issue for some seniors, either for practical reasons or for reasons of motivation or self-worth.
- A system of virtual volunteering necessitates an extremely effective brokerage of skills and an ability on the part of that brokerage to effectively vet appropriate members. The notion that 'you never meet your volunteer' is powerful on the one hand in that it allows for huge flexibility in the way in which volunteers can work. However, it also leaves the system open to failure or, at worse, abuse.
- Without adequate technologies to facilitate the interactions between seniors and young people and, particularly, between teams of seniors and young people, this creates a significant practical and administrative burden on those who are running the virtual volunteering system and inherently means that such a system is limited by the number of staff it is able to employ. Better and more pervasive IT systems could facilitate and support greater scalability in this model.

Scenario 3



6.3.2 Associations of retired professionals: brokerage and launching

Scenario 4: Identifying Problems and providing solutions

Last year Jane was an employee of a hoe manufacturing industry that faced job redundancy. Following a difficult life in the city, six months ago, she decided to go back to her home village in a far remote area. After arriving at the village she learned that there are a number of individuals and small groups of people who are producing traditional hoes manually. Although, these traditional hoes are of relatively less quality as the ones produced by industries but they are cheap and thus affordable by peasants in the village.

Jane realized that these craftsmen produce small number of hoes than their capabilities and cannot even sell them as little as they produce. However the craftsmen themselves could not exactly pin-point their problems. She knew from the past that such groups of people can acquire support for knowledge and experience provided through *associations of senior professionals*. Thus the next day she decided to go to the near town to visit one association of senior professionals. At the office of the association she met the administrator, a retired person who used to be district development officer. After explaining to him the purpose of her visit the administrator told her that the members of the association could provide support of knowledge when the problem is clearly defined. She was further told that in past some senior professionals were sent to some areas to solve problems, however they found out that the problems were not in their areas of expertise. Therefore, she needs to workout herself and clearly define what kind of knowledge is needed to those local craftsmen. Lastly Jane was told that at the district office where the administrator used to work there is an office responsible for entrepreneurship. So she was told to try to get support from that office.

Jane left the office of the association and directly went to the *district office* to meet the district community development officer at the entrepreneurship department. At this office she was told that if she can find experts to help her with the task of identifying related inefficiency problems of these craftsmen which need solutions, then the district office will provide necessary funding for the experts. She left the office thinking about how to get the needed experts.

Jane decided to call a friend who is a professor in industrial engineering at one university in her previous city of residence to ask for possible approach to help her identify the problems. The professor finds it interesting and promises to send four senior PhD students with different related expertise related to small industries to do the research. But these students need some financial support related to transport and accommodation. Jane confirmed to the professor about the financial support that will be fully compensated by the district office.

A week after, the PhD students were sent that under supervision and through mediation of Jane could consult the craftsmen and do some necessary research. After one month, a report was handed by Jane to the district office and the association of senior professionals. The report identified a number of problems, among others, they included lack of steady suppliers of raw materials, lack of capital, lack of needed workers, and poor marketing. The report also suggested some needed specialized training for craftsmen.

The association of senior professionals then used the report to form a few teams of professionals, e.g. for training and providing advice on financial and economical aspects to the village craftsmen, etc., who started their work.

One main achievement requested by the district was that the craftsmen should be then capable to produce and sell beyond their village(s) and even in other regions where such traditional technology is lacking.

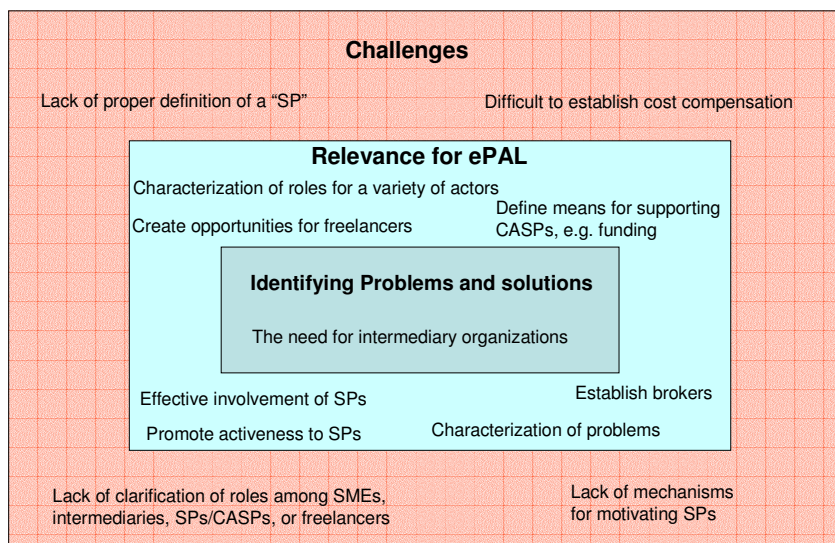
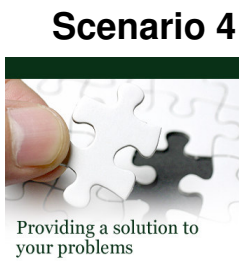
Furthermore, the report motivated the district office and asked Jane to continue collaborating with the association of senior professionals to find possibilities and propose projects that will deliver solutions to existing problems in that village and others in the region. The projects were then be fully funded by the district office. Jane was happy not only because she has found a solution for people in her village but also that she will now have a formal job for a relatively longer period.

Challenges:

There is a gap between providers of services (i.e. senior professionals and their associations) and recipients of services (SMEs, and young professionals). This gap needs to be filled with a third party (i.e. intermediaries) in order to smooth the needed interactions. A third party can be a government organization, an NGOs, an individual professor or researcher, or small consulting business, etc., who can support on one hand pinpointing the problem that can be solved by senior professionals and on the other hand mediating it to be solved.

There is also a gap in the definition of who is a senior professional. At the moment the term “senior professional” is being defined on the bases of the retirement age. Is Jane who faced redundancy but has not reached retirement age a senior professional? Therefore, some challenges include:

- Proper establishment of roles and responsibilities of the three parties, namely: SMEs, the association of senior professionals, and the intermediary elements must be addressed.
- Establishing a clear definition of the term “senior professional” that can be contextually tuned to meet the need of a particular geographical area.
- Some other challenges detailed in the first two scenarios also apply here.



Scenario 5: A virtual well of knowledge and expertise

Three years ago the governmental national authority (NAUT) organization responsible for supporting the sustainability of small industries in a developing country realized that, when motivated, senior professionals in the country present potential sources of knowledge and experience. It also learned about the concept of Communities of Active Senior Professionals–CASPs- and started the creation of a so-called “*virtual well of knowledge and expertise - VWKE*”. Today, the VWKE has a number of stakeholders who either support or benefit from it. Matika is one of the beneficiaries of the VWKE.

Matika, a citizen of this country, has been abroad for more than 20 years. She returned to her homeland after retiring at 60. One day while driving, her car has unexpected problems and its engine shuts off, but she manages to park it at the roadside. While standing by her car, two young men of around 19 years old –Ziga and Shana - approached her. Ziga asked her whether her car has a problem and if she allows them to help her. Ziga further told Matika that they are car technicians and have graduated from college the year before and helping people with problems such as hers is their daily works. Matika allowed them to inspect her car after seeing evidences.

After some minutes Ziga informed Matika that her car have a problem in the auto-electric system. He further tells her that they are specialist of car engine and thus they cannot help her with this problem. But they can call another friend who can help to fix the problem. Matika accepts the proposal and Ziga calls Juma who is an auto-electrician. After 30 minutes Juma arrives and checks the car and identifies a problem in the electric switch the car that he managed to repair.

Then Matika asks how much she has to pay them. While they were arguing among themselves on the collective amount, Matika thought of some amount to pay them based on typical services in a garage but not more than that. When Juma tells her the amount of money they wanted she realizes that it was one fifth of what she calculated. After paying them Matika asks them if and how she can help them to set up a small business in order for them to efficiently use their know-how? Shana told her they would like to have a garage close to a main road where customers can bring their car. They also need basic tool boxes for car maintenance. Then Matika asks them whether there is any formal organization which deals with helping small industries. Juma answers that he has heard about the NAUT in the past. Matika takes their contacts information and promises to call them once she has found a solution.

Another day, on her way around the city she decides to visit the NAUT office. In that office she meets Meda, an operational manager of NAUT, responsible for the management of VWKE. Matika first tells her the story of the three young car technicians and how they helped her. She tells Meda about her willingness to help them by establishing a car garage where they and others can use for free the facilities to provide services to customers until they get formal employment or set up their own businesses. While responding to Matika’s interests, Meda searches on the system to find out which expertise is needed to start such a small industry. She tells Matika that NAUT, with the use of the expertise in VWKE, can help her with the process of starting the garage once she finds a place and required facilities.

Matika is happy and thanks for the support that NAUT can provide. She then tells Meda that there might be problems related to the management of the garage since there will not be any fulltime employees. Meda promises that once the garage is operational it can further benefit from financial and administrative experts available in VWKE. Matika is very happy after realizing that she can actually invest some time and money to both help the young professionals in the car repair industry as well as perhaps making a little income for herself. She then goes home thinking about the next day to start searching a place where the garage can be established.

Challenges:

A large number of SPs might be willing to either initiate their own businesses or support other people in need of their knowledge or experience. Particularly in developing countries a number of young professionals with qualified education face challenges when trying to establish a business not only related to the capital but also the needed experience and specialized knowledge.

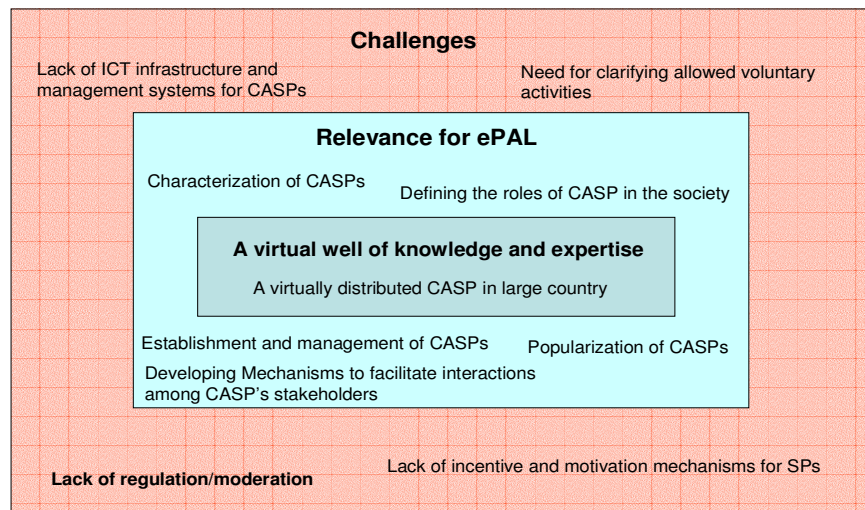
Nevertheless the common situation when senior professionals try to get involved and apply their knowledge and experience in these developing countries is the following:

- Most SPs are located in cities where the competition with the market in delivering knowledge services is high and also the regulations are restricted. Thus they cannot acquire opportunities which leave them frustrated and feeling useless.
- Young professionals and SMEs located in remote areas face difficulty in locating SPs.
- When senior professionals manage to establish interactions with young professionals or SMEs, the necessary formal organs that are needed to support their interactions, such as by helping them with building trust and/or establishing some assurance are lacking.
- Sometimes active senior professionals themselves need support from other professionals but they face difficulty in locating them.

Therefore, some challenges include:

- Establishment of associations of senior professionals to be accessible from all areas across the country.
- Implementation of more effective mechanisms to make the association known for example advertisement in newspapers and other media.
- Development of more advanced ICT platforms to better support socializing and teamwork.
- Provide some support for senior professionals to be able to travel and meet their respective knowledge recipients in remote areas.
- Combine models of voluntary work with other schemes providing some payment or fringe benefits.
- Establish some intermediaries and formal organs to support the interaction between senior professionals and their customers.

Scenario 5



Scenario 6: Specialized and adaptive IT systems for seniors

Paul had been retired from his job as a senior executive for nearly a decade when he found out about *It's Never 2 Late* through his local Community centre. With the development of new technologies and new ways of communicating he had begun to feel rather isolated in his community and left behind by what he saw as the impersonal and confusing nature of online communication. This isolation extended to his family where his grandchildren spent most their time on computers and he struggled to find a common point of reference with them. He also has a problem with his hearing and eyesight.

Having once been an active part of his community he decided to get back on touch with a local community group and explained that he would like to enrol himself on a computer skills course but felt that at his age and given his complete lack of computer knowledge it just seemed an impossible target and too daunting. Luckily, he was not the only senior to express such concerns and his Community Centre was able to offer him access to adaptive technology. His Community Centre through hearing many seniors concerns got in contact with *It's Never 2 Late*.

It's Never 2 Late helped them to source a local grant to pay for their adaptive technology, specifically tailored for seniors. They were then given help to set up the software to fit the needs of their group and training so they could effectively teach ICT technology to seniors.

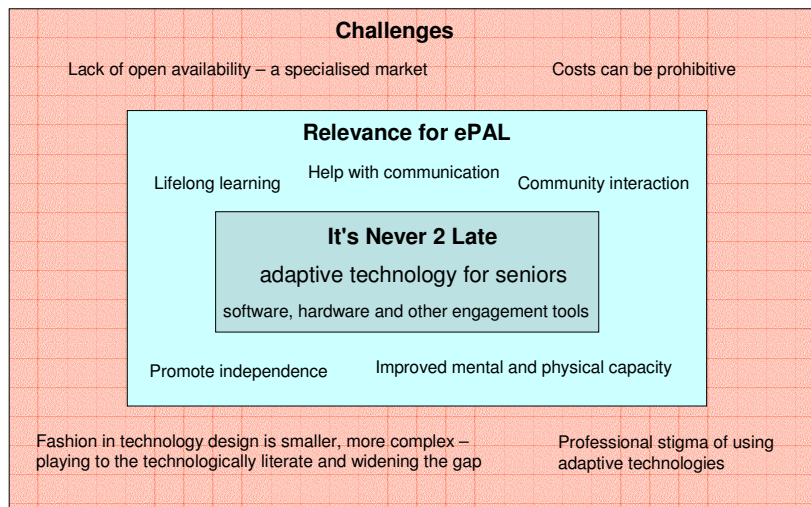
Paul is now learning about ICT technology in an environment which has been specifically adapted for the needs of people of his age and includes provisions for his hearing and sight impediment. He is now able to communicate with his family members through email, is enjoying learning new skills and has made new friends through the other seniors on the course. He feels that his short term memory has improved and is even considering getting involved in online volunteering activities to help local businesses, through a scheme his community has told him about. He realises, though, how lucky he was to find a Community Centre that was able to support him in his endeavours. Without their support, the skills he now values and the technology he uses would have been inaccessible.

Challenges:

The example given above demonstrates the growing commercial marketplace for genuinely adaptive technologies. The changing demographics suggest that this market will increase exponentially in the coming years, driven not only by the needs of seniors but also by the increasing ubiquity of technology as a method of delivering entertainment and facilitating commerce. However, there are some challenges remaining:

- The vast majority of IT tools and systems are still not currently designed with the particular needs of seniors in mind. Therefore many of these specific tools are not openly available on the marketplace and have to be 'searched for' which, in itself, is a barrier to seniors acquiring this type of technology.
- What is openly available in the marketplace tends to reflect current design trends rather than the particular needs of seniors. In many cases, this actually means that things are getting smaller and, to a degree, more complex as an increasingly technology-literate younger generation demand ever more sophistication from their technology devices.
- Interoperability remains a problem (although is becoming less so). While certain technologies are widely available to seniors with specific needs – e.g. screen reading software to read aloud web pages for the visually impaired – many websites are not built in an appropriate way to fully support such software.
- The issue of stigma could become a problem within the context of seniors working within a professional environment – if a senior needs to use an adaptive technology in order to interact with others, this may be seen as a sign of weakness or as an indicator of an inability to effectively do the job (even if it is merely a sign of a minor health issue – partial sightedness for example). This is a cultural issue and one that may take time to change.

Scenario 6



6.3.3 Service markets

Scenario 7: A service market portal

Manuel just finished his breakfast and while enjoying this lovely morning of early Spring, he is now logging in the ProSolve portal. ProSolve is an electronic market place for innovation and problem solving allowing a community of retired highly skilled professionals to address problems and innovation challenges posted by client companies. A number of mechanisms are implemented in this marketplace, including:

- Open innovation challenges. A company looking for new ideas and potential solutions places a “challenge” in the market and indicates the associated monetary value. Members of the pool of experts of ProSolve can offer ideas / solutions (bid) on a confidential basis. The author of the idea / solution picked by the client company will be the one to be paid.
- Target problem solver. A company wants to find an expert with the right profile to perform a specific problem solving task. ProSolve helps matching potential experts with the requested expertise and facilitates the negotiation and contractual arrangements as well as other due diligences.
- Assistance / coaching. A company needs consultancy / coaching on some best practice. Potential experts are identified by ProSolve (matching mechanisms) and when agreement is reached the task is contracted.

ProSolve plays an important role in all issues related to confidentiality, intellectual property, contractual aspects, and quality monitoring.

After browsing over the new opportunities, Manuel found an interesting challenge and started digesting a solution based on his accumulated experience but also considering the pleasure of competing to offer a winning idea.

Two weeks later, Manuel received the great news that his idea was selected. Wow! He had been participating in other challenges before without being selected ... nevertheless he continued just for the pleasure of exercising his knowledge and experience. But now, the 10 000 euros reward for his solution are certainly much welcomed and right on time to plan his summer holidays!

While enjoying the news of the day, another idea came to his mind: It would be much more interesting if ProSolve evolved from a marketplace to a real community offering social networking aspects and also mechanisms for easily teaming up with our experts to work together on a problem instead of being alone ...

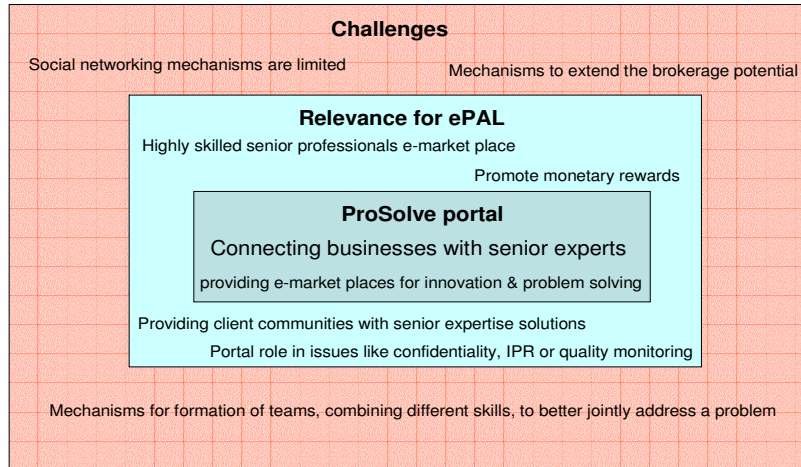
Challenges:

A number of e-market places along these ideas are in fact emerging lately. Examples are the www.innocentive.com and the www.yourencore.com. While the first one is general purpose, i.e. open to active professionals, the second one is specifically focused on retired professionals.

Nevertheless these initiatives, although showing signs of some success, still lack some important features:

- Social networking or virtual community mechanisms are quite limited.
- Brokerage (opportunity finding) is limited; only the portal management organization acts as a broker. Mechanisms to extend the brokerage potential (and the inclusion of other specialized actors) could increase the number of offers.
- In most cases activities are performed by single individuals, not teams. In some cases the concept is even one of competition. Mechanisms for formation of teams, combining different skills, to better jointly address a problem would improve the quwality of the outcomes.

Scenario 7



Scenario 8: Remote working and virtual workers

Jonathon is a recently retired, successful Sales Manager. He was given a generous retirement package from his full time job by his employer but he is worried that his private pension plan will not be enough to provide for a comfortable retirement. Having worked for 25 years for the same company in a full time position, Jonathon does not know how to market himself and find work as a freelancer. His retirement package and pension mean that he does not need a full time job to cover his living expenses but he does need some work to top up his retirement income. He is also keen to avoid taking up the travel burden which his former position involved and would like to be able to work from home in order to devote more time to pursuing his passion for golf and other hobbies. Unfortunately, he is concerned about the lack of work opportunities available to someone of his age regardless of his many years of valuable experience.

Through searching the internet he came across Guru.com. The Guru.com model – and others like it – demonstrates the way in which the internet is creating a virtual marketplace for services where the physical identity of the person carrying out the work is less important than the market price and the results. Bearing in mind some of the inherent prejudices that exist within the physical workplace towards elderly workers, the virtual workplace offers the opportunity for elderly workers to compete for work on a level playing field.

Through registering his profile and experience on Guru.com, Jonathon has been contacted by a number of employees seeking his skills. The fact that he already has a retirement income means that Jonathon is able to offer a competitive fee for his services and the online nature of virtual working means he is able to attract a wider pool of potential clients, who benefit from his advice as a consultant. His paid advice has meant that a number of companies have been able to turn around their negative sales results and he is free to devote more time to his hobbies, being free from travel commitments.

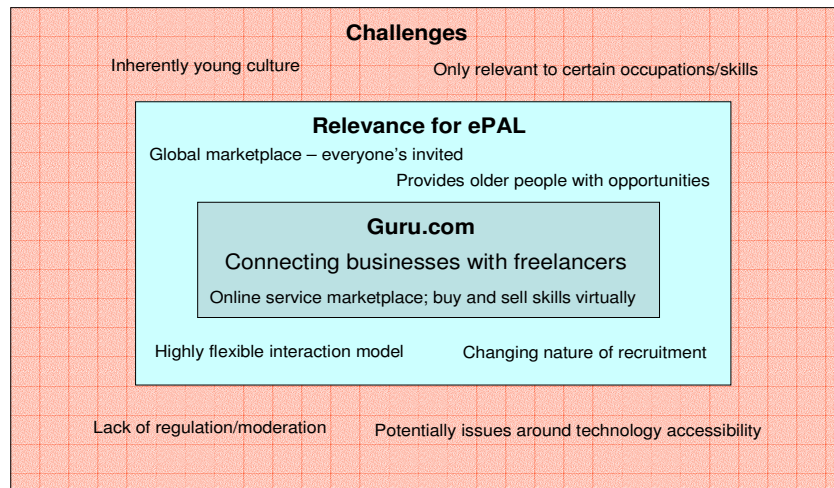
He has also been looking to involve his friend John in the same type of activity. However, John is a little older and is less of a regular Internet user. He's worried that the whole experience might be difficult for him to connect with. Also, John worked as an engineer and there are not that many opportunities for engineers on the Guru portal. If only there was something geared more to John's needs...

Challenges

The sheer size and number of web-based services like Guru proves the success of this approach. This is particularly true if you consider how young, relatively speaking, this type of business is. The emphasis on results, and the irrelevance of identity, both provide an interesting glimpse into how business could be transacted in the future. However, some challenges remain, particularly in relation to the engagement of seniors in this paradigm:

- The 'culture' of these types of Internet businesses is inherently young and this affects every aspect of the experience including the language used, the design of the interface and the usability of the technology. There is an assumption that the end user is completely web-literate. This could present significant challenges to the current group of retiring seniors.
- The nature of this kind of remote working is that certain jobs lend themselves to it better than others. In many cases, these jobs are the jobs of the young, not the jobs of older people nearing or reaching retirement. As mentioned above, technology-based work, design work and written work are all common within this context and all, to a degree, play to the strengths of a younger demographic. The challenges would be to see whether the skills and experience of a recently retired senior could be effectively communicated through this medium.
- These web-based services are, by and large, unregulated and un-moderated. Therefore they rely entirely on the ability of the potential employee to communicate their worth or value and on the potential employer to understand and connect with that. The lack of a real 'middle man' could be seen as a weakness, if we consider the complexity of skills and experiences that a retired senior may bring to the table. Without someone who understands the value of the senior, and is able to communicate that effectively, it may be that opportunities for seniors to engage in such a system are few and far between.

Scenario 8



6.3.4 Tri-partite collaboration forms

Scenario 9: Tri-partite company

José is apprehensive today. In fact he has been worried lately. Everything was different two years ago when he and his friend had this idea for an innovative low consumption air conditioning device and started their FreshAir company. The two engineers soon developed the new equipment thanks to their dedication and enthusiasm. But now they are facing difficulties. They don't know much about marketing or internationalization, although they understand the need to target a global market. Unfortunately they spent all their resources in the start-up phase and now cannot afford to get assistance from one of those big consultancy companies ... Either something happens or may have to close and fire their employees soon...

Three weeks later ...

José and his colleague are having a meeting with Carlos and Ana, two members of the local branch of the Regional Development Agency (RDA). After some initial contacts, Carlos and Ana spent some time in the company making an analysis of its problems and today they are presenting their conclusions. The diagnosis seems logical to José. It is clear that FreshAir needs

some coaching and specialized guidance in two crucial areas – focused marketing and internationalization.

But they cannot afford the high costs of such specialized assistance. RDA, an organization funded by the local government and that aims to promote local businesses, made the analysis for free. Unfortunately they do not have the expertise to help in the next phase ...

Guessing the worries passing through José’s mind, Ana told them that there is a potential solution. Then she mentioned the ActiveSeniors association ...

Pedro is a retired professional, member of ActiveSeniors. Based on his specific expertise and experience in marketing, he was invited to join a team involving 2 other members of ActiveSeniors with competencies in internationalization and air conditioning. Together with Carlos and Ana from RdA, this team started a temporary collaborative network with people from FreshAir. After 3 months the first results are starting to show up. The ActiveSeniors team not only provided technical assistance and guidance, but also helped FreshAir establish some contacts with a new market in India. Now the business prospects for the young company seem brighter...

Pedro is quite satisfied for having this opportunity to work on a topic where his experience was a real added value. He very much appreciated the diagnosis and preparatory work done by RDA, which allowed him and his senior colleagues to focus on the core issues. Working in a team was a great experience. The small payment Pedro received is also great to complement his pension and give him some better living conditions. FreshAir and RDA could mobilize some resources to pay a small fee to the 3 members of ActiveSeniors, a value much lower than the typical consultancy prices that could never be afforded by FreshAir.

Carlos and Ana got a special recognition from their boss at RDA for being successful in helping a local company and thus creating better economic prospects for the region.

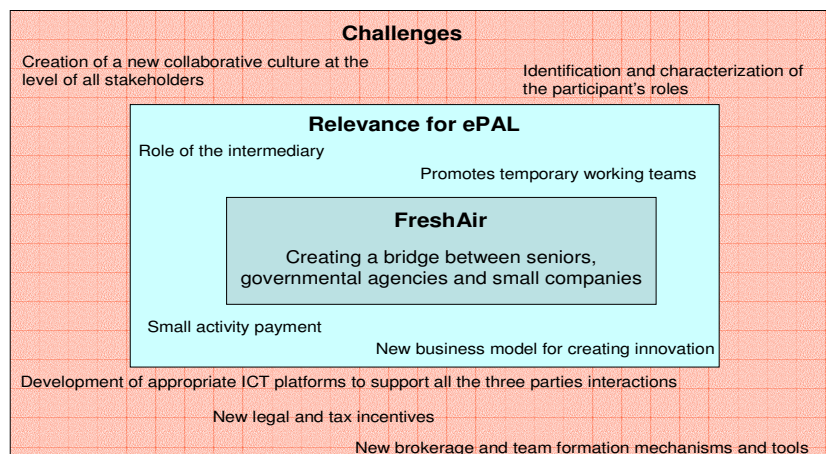
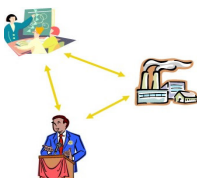
José and his friend re-gained their enthusiasm and they really appreciated the value of this collaboration endeavour with RDA and ActiveSeniors. They certainly plan to keep contact and look forward to again use the amazing pool of expertise & experience available at ActiveSeniors.

Challenges:

The materialization of this scenario poses a number of socio-organizational and technical challenges including:

- Creation of a new collaborative culture at the level of all stakeholders.
- Clear identification and characterization of the roles and possible added-value by each participant in the tri-partite network.
- Development of adequate ICT platforms to support the interactions among the various stakeholders and the work of the collaborative teams.
- Creation of new brokerage and team formation mechanisms and support tools.
- Development of a new legal and tax incentives framework to facilitate this type of collaboration.
- Development of tools for distributed and multi-party project management.
- Clear rules to avoid unfair competition with the normal market actors.

Scenario 9



Scenario 10: Multi-actor network

ANDALUCIA is a European region in which there is a clear growth in interest to create new companies, especially amongst the population of young people. Additionally, due to the agreeable climate and high quality of life, it finds itself as a popular place of, more or less permanent, residence for a growing number of retired/early retired, amongst who stand out management professionals and business people.

As a consequence of joining the European Union and of a desire to join the computer age, it is developing dense communications networks, amongst which broadband Internet is very prominent, so much that in a short while the entire region will have access to it. There coexist, therefore, a wide range of business people, above all young, in need of assistance and without the financial capital to be able to pay for it, a wide range of professionals with vast experience and a large amount of free time and a dense network of high speed communications technology. There does not however exist a way of connecting and structuring these resources.

Helped by local government, a network which integrates retirees is being put into place with the aim of resolving this situation and of taking advantage of the situation, with the aim of providing free support to young business people and small companies, using new computer and information technology. Initially, the retiree has to connect by Internet to the network in order to evaluate their experience and training upon which they will be rejected from or incorporated into the network. In this way, the network keeps an up to date database of the elderly people available to provide services.

The network itself organises promotional activities for young people and small companies in order to gain clients for the elderly who form part of the network and the network makes token payment to their elderly members for the services they supply. An individual agreement is reached between the network and the professional which stipulates the length of time they supply services for, the hours required and the specifics of the work required. The elderly person provides the services to the young and small businesses, both in person and through various communications and computer technologies.

It is the network itself that monitors the activities, analyzing the level of satisfaction gained and evaluating the final outcomes so building up and adding to part of the database of personal files of the participants. Although at the moment there is no ongoing training nor other additional services based on new technology, it is envisioned that such will be provided in the future. In this way the elderly retired and early retired are able to continue to have an active life with commitments sufficiently flexible and compatible with their new needs and desires that accompany their retired situation.

Challenges:

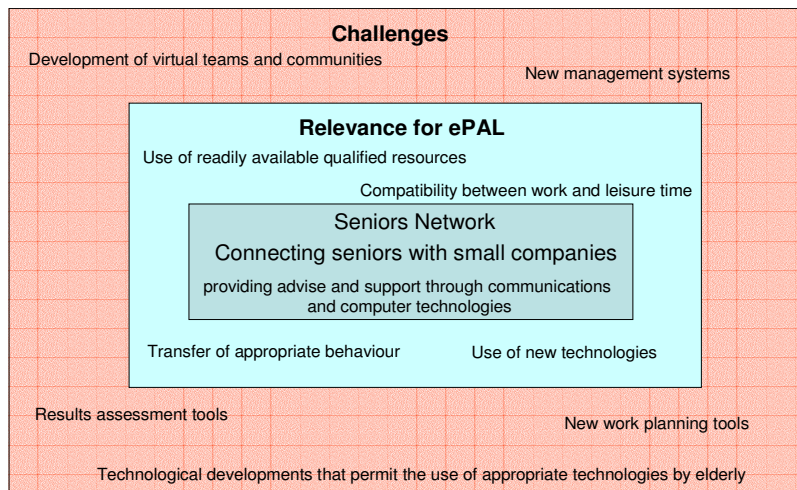
This scenario illustrates the:

- *Use of readily available qualified resources:* Having a high number of retired professionals on hand of various nationalities and wide ranging specializations, permits the development of a highly qualified service which enables these professionals to maintain an active professional life which at the same time is not burdensome.
- *Compatibility between work and leisure time:* Based on highly flexible systems and low levels of commitment, retired people can maintain their previous levels of social interaction and at the same time feel useful to society through their professional activities which are of high social value.
- *Transfer of appropriate behaviour.* Allowing new generations to learn through the presentation of real personal experience by people who have really lived them.
- *Use of new technologies:* Through such interaction the elderly will be obliged to keep up to date with new methodologies and new technologies that will in turn not only enable them to maintain an active work life.

Therefore, the scenario suggests some research challenges:

- Technological developments that permit the use of appropriate technologies by the elderly, together with the training programs that allow these end users to effectively use such technologies.
- Management systems that allow the effective development of virtual teams and additionally resolve the needs for substitutions of personnel throughout the project, whilst bearing in mind the specific needs as regards physical capacities and temporal availability of the elderly involved.
- Management systems for collaborative networks that allow the public administration bodies to maintain virtual communities and teams that can be called together quickly and managed effectively.
- Management procedures for resolving problems in such a way that they can be broken up in simple parts and that allow such piecemeal resolution to produce global integrated solutions from these partial solutions.
- The development of project results evaluation systems, which are adapted to these characteristics of changing teams and complementary partial problem solving.

Scenario 10



6.3.5 Keeping the link to former employer

Scenario 11: Knowledgeable jubilees

Like in the past, Robert is heading to the headquarters of WiseCompany where he used to work as a senior project manager. But today he travels in a relaxed mood. His destination is not his old office where he would get immersed on the daily routine problems, all waiting for urgent solution. Now that he is retired, his destination is the SeniorClub, so he is not under stress and can spend time observing the frenetic movement around and enjoying his trip.

Concerned with the prospects of the first wave of brain drain as baby boomers generation retires – i.e. face the sudden departure of thousands of skilled workers, WiseCompany launched the SeniorClub as a mechanism to keep the links with their best knowledge workers after retirement.

The club offers conditions for socializations of former employees and among them and active (young) employees. Furthermore, retired experts are encouraged to continue contributing to some high-level activities of the company, e.g. coaching or advising in critical projects,

participation in strategy and roadmap definition brainstorming sessions, or acting as consultants in specific tasks.

The Senior Club offers a nice lounge / meeting facility, with free access to ICT equipment, refreshments, entertainment facilities, etc. Furthermore, members can get some other fringe benefits and some payments as a result of their contribution to the economic activities of the company.

Robert joined the SeniorClub initiative and today he is going to discuss with his fellows and some young engineers some strategy for the introduction of a radical new product in the market. It is very rewarding for him to feel that his accumulated experience and mature knowledge is appreciated by his former employer and that he has the opportunity to continue active. Keeping the social links with his former colleagues while given the opportunity to stay in touch with new developments and trends is also very important for Robert. Furthermore, his contribution to the company is rewarded with some payment and fringe benefits that help him keep is standard of life.

Robert feels lucky for having this opportunity but a sad though came to his mind. He just remembered his relative Fred, that used to work for a SME and has no such opportunity to keep and active life. Last time they met at a family gathering, Fred looked a bit depressed...

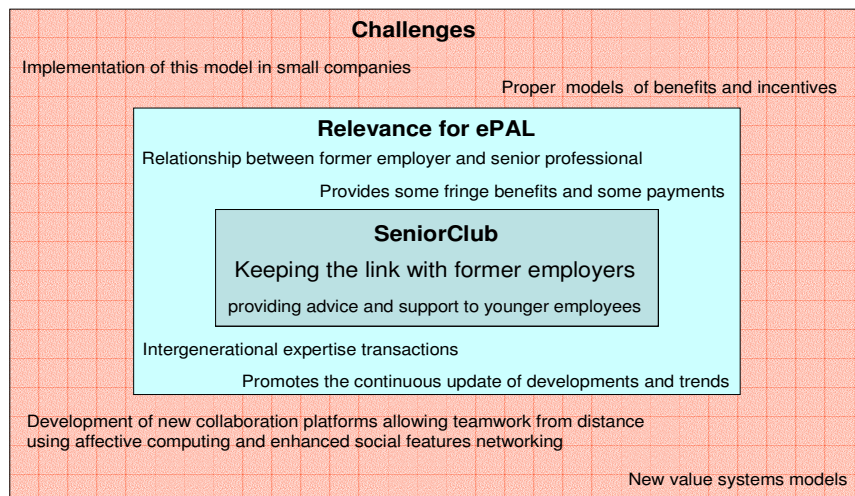
Challenges:

This initiative is quite advantageous, both to the former employer and to the retired professionals. This is in fact a concept similar to the mechanisms available at universities to keep jubilee professors. It is however only emerging in some big organizations and limited to highly skilled professionals. The model is hard to implement in the case of small organizations.

In S&T terms, the main challenges include:

- Development of new collaboration platforms, smoothly integrated with the enterprise systems, which allow extending the SeniorClub facilities to being used from distance (from retired professionals' homes or other places when they are travelling). The base technology is available (being mainly an engineering issue), but some specific affective computing and enhanced social networking features could greatly improve the platforms.
- New value systems models are needed that adequately combine the values of the enterprise (and employees) with the changing values of the retired professionals. A proper model of benefits and incentives is also needed, complemented by a fair assessment model of the generated benefits. Since these aspects are not yet clearly present in society, tools that could help in making explicit the benefits (based on carefully designed indicators) could greatly contribute to a change of the mind set.

Scenario 11



6.3.6 Second job

Scenario 12: Paid work involving senior professionals

Pedro is 67 years old, a university professor who has reached retirement age and has thus had to give up teaching in the faculty of Economics where he has taught for more than forty years. When he retired, two years ago, he considered himself happy since he was able to dedicate time to writing, one of his passions, to sports and dedicate more time to his wife, their children having long left the family home.

A few months ago his wife died, which has meant a drastic change in both his personal and economic situation. As regards his personal situation, his spare time has increased considerably while at the same time his interpersonal relationships have reduced in number and quality. Economically he is facing a considerable increase in his monthly expenditure, now that he has to afford to pay someone to fulfil the care needs that used to be fulfilled by his wife. This, added to the steady loss of buying power of his pension may, in the medium term, result in economic problems.

Talking the subject over with his friends, one of them told him about the existence of a consultancy firm in his city that regularly reaches agreements with independent professionals, who are experts in certain fields, to cover work contracts usually related to international institutions. On talking to the consultancy firm, he finds that it is indeed true that certain agreements of this nature are possible, always assuming that the retired person is legally able to carry out the service and bill for it accordingly. Whilst chatting to his financial advisor he learns that the government has made a recent change in the law that allows retirees to sign up on a part time basis for the execution of professional services.

Working it all out on paper, with the time that the consultancy is willing to guarantee him, Pedro thinks he would be interested, since it would give him a guaranteed increase in his level of income, would cover his new expenditures and at the same time would be compatible with the time he has free and would additionally afford him a chance to increase his social and interpersonal relations. As an aside, he tells the consultancy that his health seriously limits his ability to travel, for which reason his services should be limited to his immediate environment or be given through new information technology. The consultancy makes it clear that in this regard he will have no problems, since they dispose of the necessary methodologies and technical equipment and communications to allow him to work, even through video conferencing.

On reaching an agreement, Pedro starts his working activities and a few months later finds himself very satisfied. His expectations have been met and apart from a few problems related to the use of some technology (which were resolved by the training provided by the consultancy) he has adapted perfectly to the new situation. His next objective is to diversify his sources of work so he is thinking of the possibility of affiliating to a body of retired professionals that offers similar opportunities, or in the case that no such body exists in his city, attempt to found one himself. To this end he is using his recently gained knowledge of the Internet to look into the existence of this type of association.

Challenges:

Some important aspects illustrated by this scenario include:

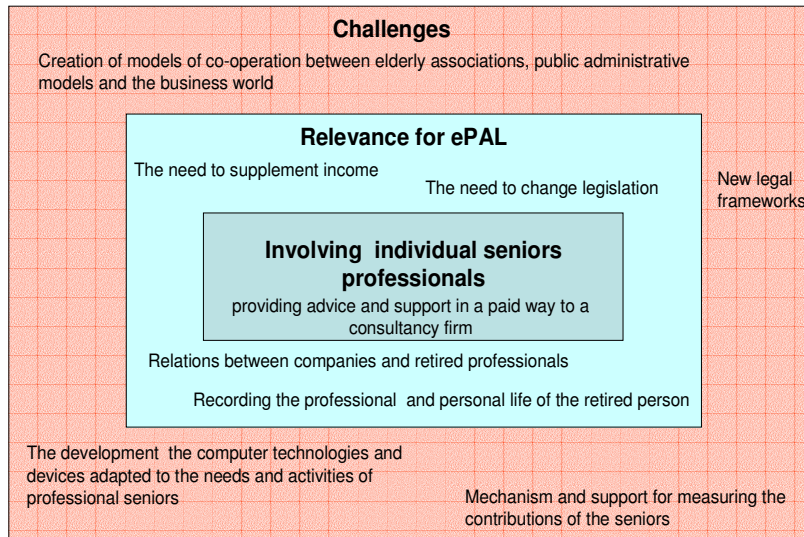
- *The need to supplement income:* Trends in the social security system of pensions mean that the elderly will not be able to face their new needs and maintain their previous standard of living.
- *The need to change legislation:* Making retirement compatible with earning extra income requires that national legislation allows such, without diminishing income derived from the state and fosters conditions that encourage retired people to carry out these extra activities and that allow interested companies to avail themselves of this type of hiring.

- *Relations between companies and retired professionals*: Right now no methodologies or procedures exist for the integration into teams of various types of professionals, which at the same time integrate highly flexible systems of working hours for certain professionals,
- *Reconciling the professional and personal life of the retired person*: The system must allow maintaining an active working life for retired people and be ready to adapt to the rapidly changing abilities of elderly people.

Therefore, the scenario suggests some research challenges:

- Mechanisms and support for measuring and managing the contributions of each of the professionals involved in a project.
- The creation of models for co-operation between the diverse agencies that intervene, in particular those agencies related to associations of elderly people, the participation of the public administrative bodies and the business world.
- The development of computer technologies and devices that allow elderly people to use them with ease in their new activities together with the development of training programmes specifically adapted to these kinds of people so they can effectively use such devices.
- The development of project management systems and the specification of concepts in problems which allow for their breaking down and resolution in a piecemeal manner.

Scenario 12



7. Lessons learned and characterization of CASPs

A fundamental lesson from the scenarios presented in Section 6 responds to the need for better understanding and capturing of the many distinguishing structural, componential, functional and behavioural aspects of the ePAL environments. Therefore, the scenarios of the ePAL environments facilitated proper characterization of this complex environment, addressing the identification of its variety of constituent elements, and in turn the classification and modelling this environment's features and components, as addressed further in this section.

7.1 Main elements of the ePAL environments

From the lessons learned through the scenarios presented in Section 6, a 1st model for the ePAL environment is developed, to help fully understand this environment. This model addresses the following five elements, as shown in Figure 11, namely: (A) senior professionals, (B) teams of senior professionals, (C) communities of senior professionals, (D) Intermediaries, and (E) recipients. These elements are addressed further below.

A: Senior professionals

These are retired professionals who are willing to provide services in terms of experiences and expertise either directly to the customer as individuals or through TSP configured within CASPs. SPs are encouraged to join CASP in order to increase their chances of getting involved in potential SPTs established within the CASP. The categories for SPs considered as senior professionals can include: technicians, knowledge workers, managers, and specialists.

B: Teams of senior professionals

This is another fundamental element of ePAL environment which refers to a group of senior professionals temporarily joining their efforts to provide services to a particular recipient. It is a collaborative network of individuals configured and established within the CASP in response to opportunities in the society and market that are in need of their wisdom and/or knowledge assets that they can offer, which as a consequence supports the retired professionals remaining professionally active.

Based on how the services are provided and the possible agreements between the recipient and the TSP, we have characterized TSPs into four types, namely:

1. TSP operating on competitive business activities (market profit).
2. TSP operating on service business activities (small profit or cost compensation).
3. TSP operating on voluntary activities (no form of payment).
4. TSP operating on voluntary and/or paid involvements (inclusion of the three above possibilities).

C: Communities of senior professionals (CASPs)

This is a fundamental element of ePAL environments which constitutes an association of the retiring and retired people who are willing to provide some services to the market/society in response to demands of recipients. Thus a CASP constitutes an association of SPs that are largely autonomous, geographically distributed, and potentially heterogeneous in terms of their: capabilities, offered capacities, culture, system of values, etc., but sharing their main compatible and/or common goals of increasing their active professional life in the society and/or market, through co-working with others in TSPs supported by computer networks.

A number of different types of CASPs can be established but they can be distinguished on the basis of the following four characteristics:

1-Related to its internal functions:

- 1.A E-market (provision of ready made products/services)
- 1.B Virtual Organization (team-based new developments).

- 2- Related to its external functions:
 - 2.A Transaction-based (sale of products/services)
 - 2.B Collaboration-based (customer involved design/development).
- 3- Related to how it is initiated:
 - 3.A Employer-initiated (by large / very large organizations)
 - 3.B Government-initiated (regional / national initiatives)
 - 3.C Seniors-initiated.
- 4- Related to how it is financed (main source):
 - 4.A Sponsors (government, large companies, etc.)
 - 4.B Self financed - based on commission from profit, subscription fees, ...

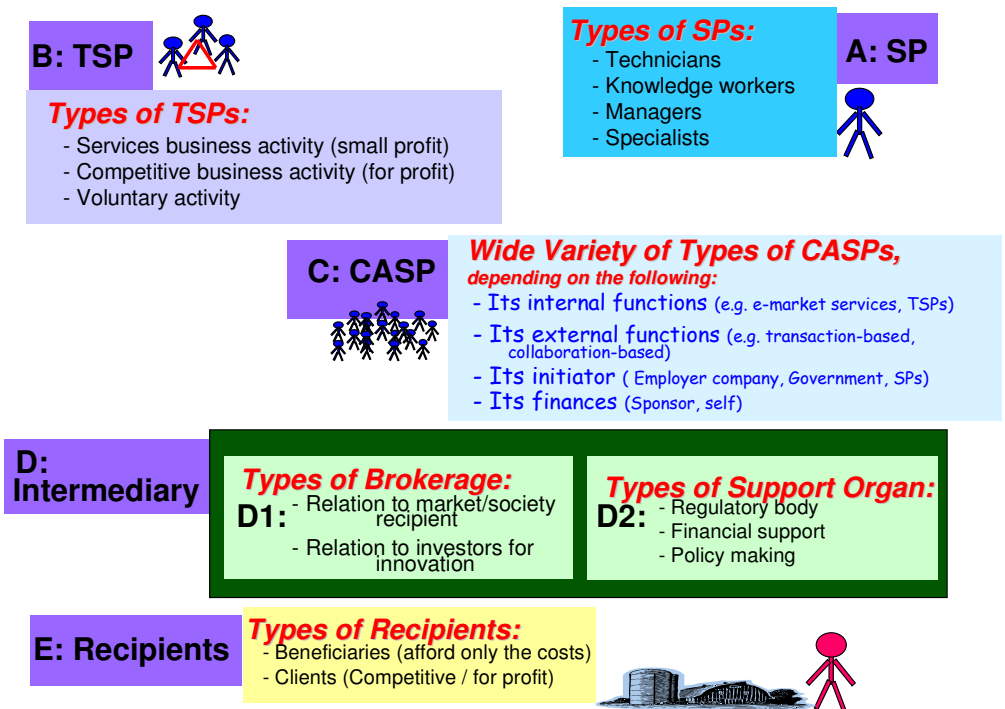


Figure 11: Main elements of the ePAL environment

D: Intermediaries

These are organizations which act as mediators or agents between CASP (or individual SPs) and recipients. Intermediaries are mainly responsible for two fundamental tasks, namely:

- D1. Broker organization: Brokering of opportunities that can be responded by CASP through configuration of TSPs. The brokered opportunities can also be responded by individual senior professionals.
- D2. Support organization: Establishing conditions that will support CASPs, TSPs and individual senior professionals to smoothly interact with recipients, such as regulatory bodies, National/international policy making bodies, etc.

E: Recipient

These can range from individual persons, groups of people, SMEs, or large organizations. Recipients include the two categories of clients and beneficiaries. Clients constitute competitive organizations that are able to pay for the services provided by senior professionals. Beneficiaries on the other hand are those recipients that are not able to afford the costs of the services they

require, so these recipients seek senior professionals that can provide voluntary services, for which only the actual costs are paid.

7.2 Towards establishing a model of ePAL environment

Based on the identified elements of the ePAL environments as presented in Section 7.1, we have made a preliminary attempt to develop a 1st model for the ePAL environment as shown in Figure 12. This model is then used as the “reference” for specification our ePAL environment vision.

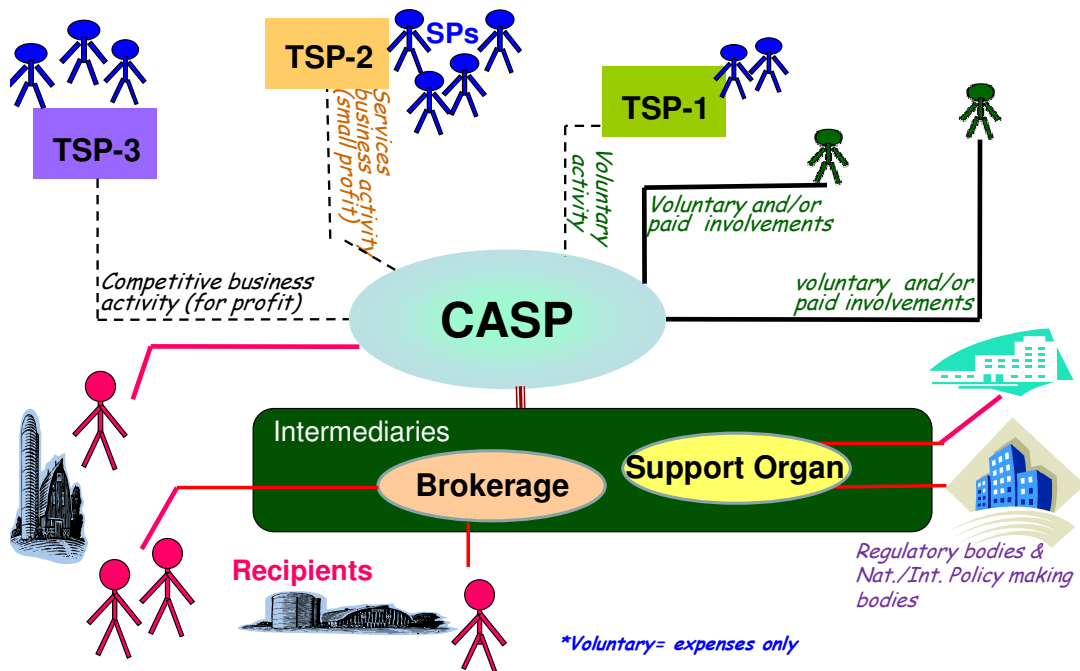


Figure 12: A 1st model of the ePAL environment

The model addresses a variety of kinds of involvements from active senior professionals, shown as SPs in Figure 12, in the market and society, thus capturing the structure of both the present involvements as well as future potential involvements. In other words, currently the activities of senior professionals, being voluntary or paid involvement, are concentrated on either:

- one to one contact with a recipient, as established through simple intermediaries e.g. a regional governmental offices, or
- some regional elderly professional clubs (the early emergence of CASPs) that again connects a senior professional directly with one recipient.

But there are already a few cases in Europe when a team of senior professionals from within an association of senior professionals, and together deliver a service to the market/society. Therefore for the future of the ePAL environment the following structures are foreseen:

- the team-work type of activities, as specified above by the three kinds of TSPs,
- the stronger and more pro-active establishment for the CASPs and its administration and involvement in the market/society, and
- the presence of Brokers and brokerage of senior professional activities as a strong intermediary between the senior professionals and the market/society.

7.3 Lessons learned about modeling needs

A rough summarization of all scenarios studied in this WP has revealed a number of areas in need of attention and consideration for the development of the 1st ePAL vision. These areas point to the main lines of related research and development that must be performed in the coming years to support making the desired vision of ePAL a reality. The four main areas in need of great attention within the ePAL vision consist of (see Figure 13): Reference model, Operational model, Public relation model, and Socialization and trust building model.

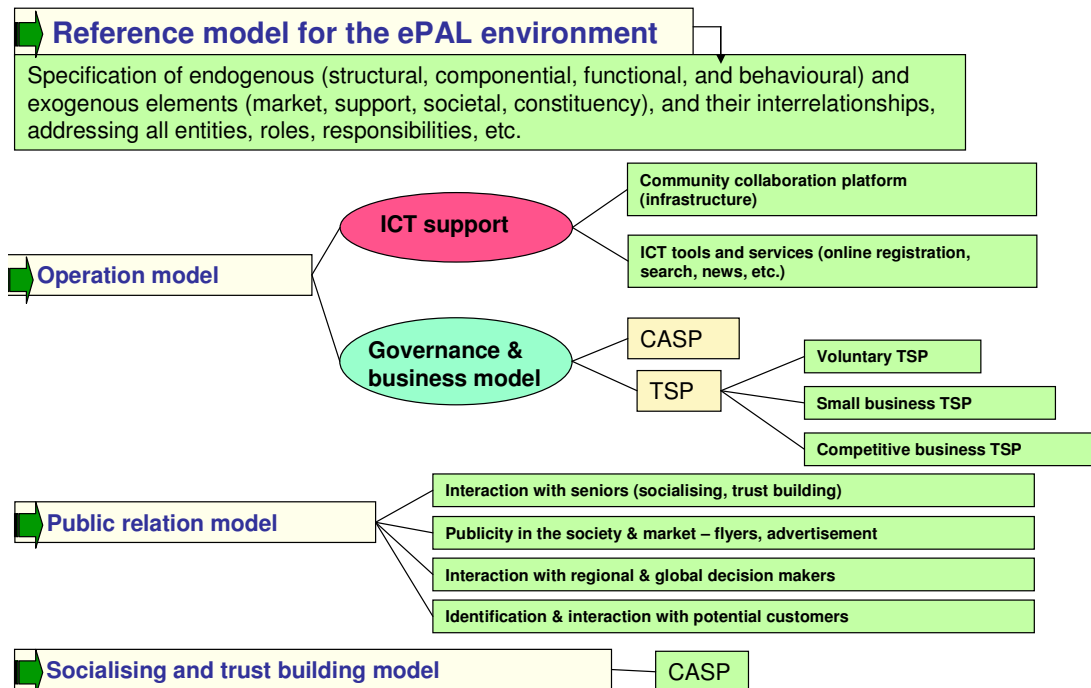


Figure 13: Some lessons learned related to modelling

- **Specification of a reference model for ePAL environment:** A Reference model is a computer science term that describes an abstract framework for understanding significant relationships among the entities of an environment, and for the development of consistent standards or specifications supporting that environment (Camarinha-Matos, Afsarmanesh, 2007 & OASIS website, 2008). A reference model is based on a small number of unifying concepts and may be used as a basis for education and explaining standards to a non-specialist. Therefore, reference models are not directly tied to any standards, technologies or other concrete implementation details, but they aim to provide a common semantics that can be used unambiguously across and between different implementations. Research on developing a reference model for ePAL environment shall result:
 - **ePAL environment:** Specification classifying the constituents of the ePAL environment into endogenous and exogenous elements. The endogenous elements include those elements related to the structural, componential, functional and behaviour aspects of the ePAL environment. The exogenous elements include those elements related to the market, support, societal and constituency aspects of the ePAL environment.
 - **Specification of interrelationships between ePAL environment entities:** Focuses on defining all entities as well as their roles and responsibilities which

guide the nature of their interactions within the ePAL environment. The interrelationships / interactions between entities may include:

- How they operate within the ePAL environment (Operational model)
 - How they relate to the outside environment (public relation)
 - How they share and exchange information and knowledge (socializing and trust building)
 - etc.
- **Operational model:** An operational model for a business is a schematic element which shows the operating units for the business and the relationships between these operating units. It describes how an organization operates across both business and technology domains. CASPs and TSPs focus on providing services in the market / society e.g. in terms of packages of advice and expertise from senior professionals. Therefore, an operational model is needed to be researched and developed, for instance for CASPs to on one hand guide the establishment of ICT support and on the other hand to guide the governance and working principles of these associations as shown in Figure 13.
 - **Public relation model:** Public relation is the practice of managing the flow of information between an organization and its public. It facilitates gaining exposure for organizations to their audiences, recipients, partners etc. by addressing public interests that relates to organizational operations as well as the external interactions. A public relation model shall address and provide guidelines on how these aspects can be realized within and between organizations. Particularly, for ePAL environments, such as CASPs, the public relation model shall address:
 - Interaction with senior professionals (socializing, trust building)
 - Publicity in the society and market (flyers, advertisements)
 - Interaction with regional and global decision makers
 - Identification and interaction with potential customer.
 - **Socialization and trust building model:** A fundamental aim of CASPs is to support senior professionals remain active in their life. One key aspect necessary for SPs to remain active is to continue socializing between each other, as well as with the entire society. An enabler to the needed socializations among senior professionals is the existence of trust among them. This model shall guide the creation of trust among SPs and from the society towards the SPs and their professional activities.

7.4 *The visioning related worlds of ePAL environment*

In order to properly position the ePAL environment within the European society, we need to carefully analyze different kinds of involved organizations and classify them on the basis of their relation to the operation and interaction with CASPs, TSPs, and SPs. Based on the empirical study of existing associations of senior professionals, extensive requirement analysis for the ePAL environment, identification of the environment trends and drivers, as well as lessons learned from the variety of developed scenarios, we have classified the elements within the general environment of ePAL into three groups, each labelled as one “world” through which the ePAL vision will take us, namely (1) the world of knowledge and talent, (2) the world of mediation and support, and (3) the world of recipients and innovation (Figure 14):

1. **World of knowledge and talent:** This constitutes individuals such as professional freelancers, group of individuals such as professional virtual communities, organizations such as universities, etc. which act as sources of knowledge that are needed in the market for providing required services. It is in this world from which the senior professionals originate.
2. **World of mediation and support:** This constitutes the intermediary organs of a wide spectrum from the governmental and decision making bodies to the consulting companies that find/create the market for senior professionals with the Market and recipients. Therefore, elements in this support senior professionals and other collaborating parties, with variety of assistance, e.g. potentially connecting them with

recipients, paving the road through establishing needed laws and policies and in delivering the required services into the market among many others. Intermediary organs can be consulting companies, freelancers, national and international organizations, regulatory bodies, etc.

3. **World of recipients and innovation:** This constitutes the people and organizations that need the services and expertise which can be provided by the senior professionals either as an individual or through TSPs and CASPs. Recipients may include start-up enterprises, SMEs, large companies, as well as investing firms or government organs that may finance their activities and even support their potential initiatives for innovation.

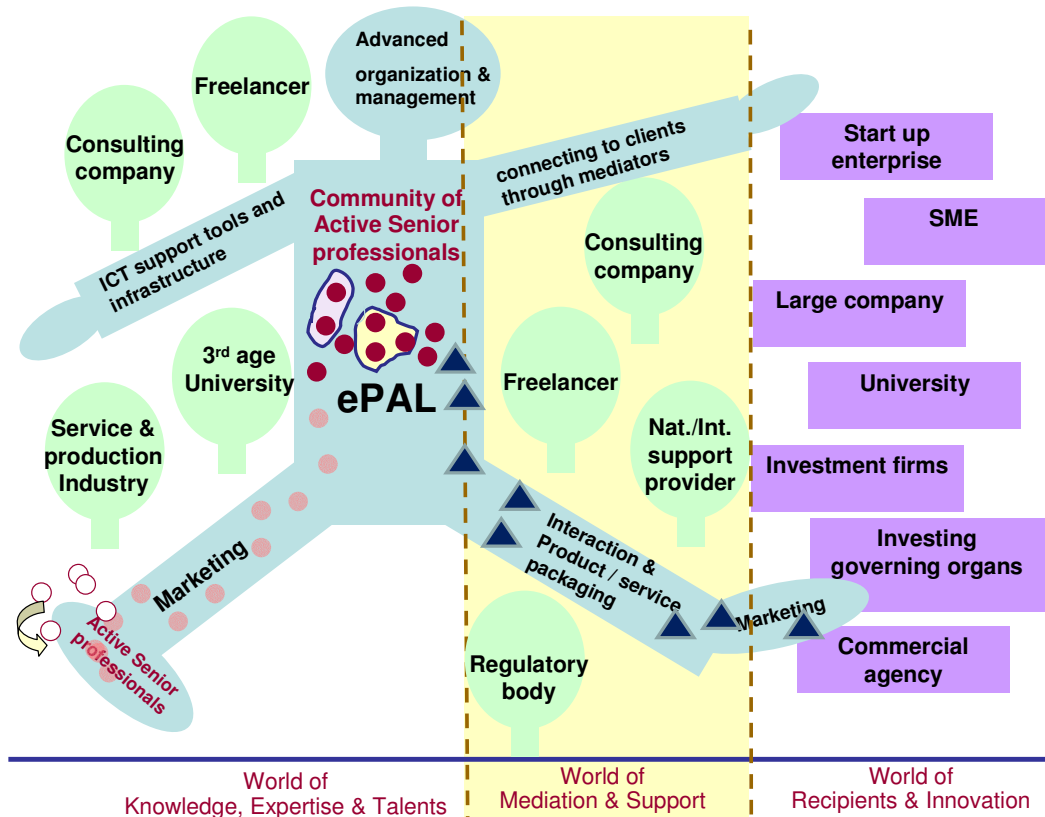


Figure 14: Lessons learned - vision of ePAL in future

Considering these three worlds, we can conceptually design the target for the vision of ePAL environment, visualized as a person walking through these three worlds. First, the vision is focused on the development of strong communities of retired professionals, supported by advanced organization and management systems, referring to the body and the head of the ePAL vision.

Then the strategic plans of each community established to promote active life of senior professional, would be to on one hand attract and motivate the active senior professionals into joining this community, namely the right foot of the ePAL vision, and provide ICT support tools and infrastructure to enable the senior professionals with contribution of their knowledge and talent, namely the right hand of the ePAL vision. On the other hand absorbing the support and opportunities that will be provided through the mediation and support world, the community can connect to the potential recipients through the national/international mediators, namely the left hand of the ePAL vision, and interact with them, providing packaged products and services, namely the left foot of the ePAL vision.

8. First Vision for active ageing society in Europe

The critical challenge for the European society in respect to the "active ageing / ageing well" process is to identify new structures, approaches, and mechanisms so that on one hand senior professionals do not feel excluded, and on the other hand they have the chance to use their knowledge and expertise in making valued contributions to the communities where they live. Furthermore, depending on their financial situation, e.g. in regards to pension and retirements, some senior professionals may be able or even prefer to offer their services voluntary, only compensated for its costs, while the others may need or prefer to make some income with their services. Therefore, for extending the professional active life of seniors in Europe, the technological, social, and organizational aspects of this panorama must be carefully addressed by the vision of ePAL.

The ePAL project is aimed at developing a strategic research roadmap focused on inducing new ways toward a balanced active life for retiring and retired professionals while promoting a new notion of silver economy with a wide societal impact. Thus it aims at proposing a feasibility study and development of the roadmap to cover a comprehensive approach for discovering new ways for promoting a balanced active life for retired professionals. Consequently, ePAL project targets sustainable new notion of silver economy, with a wide societal impact, in alignment and contributing to the EC's policy on ageing. Furthermore, ePAL vision approach aims at identifying and characterizing the key research challenges, the required constituency, and the implementation model for a comprehensive approach to support in innovative ways the increasing numbers of professional seniors in Europe.

Effective road-mapping process is reliant on significant **vision** and commitment to what is an **iterative and initially exploratory process** [Phaal et al, 2001]. In this respect, this section introduces the first attempt in formulating the ePAL vision.

8.1 1st Vision statement for ePAL environment

Following the approach presented in Section 4 and also based on the analysis of consolidated baselines, the drivers and trends in market and society, and the plausible scenarios of future, we have elaborated and formulated the 1st desired vision for ePAL, as represented in Figure 15.

This vision statement provides a clear direction where the European society shall strive to follow, in order to achieve a balanced life for senior professionals who either need or desire to remain active in the society and market. It addresses providing opportunities and support for those who are willing to get involved in socio-economic activities. On the other hand, it suggests the main areas needing attention from other social bodies and responsible organs, in order to reach this desired state. Namely those areas:

- (1) in which the governments and regulatory bodies must invest more attention, and
- (2) that require more research and development.

Clearly enough the creation of a desired vision for ePAL for next decade is not a one shot action, rather it is a live and interactive process. In other words, in further steps of processing the ePAL roadmap, through both internal and external workshops the vision of ePAL will be further refined.

To develop the 1st vision statement for the ePAL environment, to the extent possible at present stage of WP2 activities, we have followed a systematic approach, as presented throughout this deliverable. In the same manner, for the challenging task of **defining the vision statement** itself, we applied the approach proposed by Cumming [Cummings, 2005] for defining a well-conceived vision, as addressed earlier in Section 2 of this deliverable, that can be summarized as follows: *A well-conceived vision consists of two major components, namely, the core ideology and the envisioned future [Cummings, 2005]. Core Ideology as the primary element of the vision framework which consists of two sub-elements of: core values and core purpose. The Core Values constitute the base for defining the vision for an organization or a society – acting as the principle to be hold with no compromise, with high importance for those inside the organization or society. The Core Purpose on the other hand indicates the fundamental reason*

for building the vision from the organization/society point of view. The Envisioned Future is the second primary element of the vision framework, also consisting of two sub-elements of Long-term Audacious Goal and a Vivid Description of what it will be like when the goals are achieved.

We therefore piece by piece define the needed **conceptual elements** for the **well-conceived vision for ePAL environment**. Below first each such element of this vision is defined and then they are integrated to form the “1st vision statement for the ePAL environment – for Active Ageing Society”, as presented in Figure 15.

- ◇ **Core Ideology** that is composed of:
 - ◇ **Core Values**
Active senior professionals, as an important part of the European silver economy
 - ◇ **Core Purpose**
Building a strong and cohesive social fabric
- ◇ **Envisioned Future** that is composed of:
 - ◇ **Long-term Audacious Goal**
In the coming decade, a comprehensive paradigm will emerge in response to Europe’s ageing population and its inevitable skill shortage, that extends the balanced active life of senior professionals, facilitating the use of their talents and expertise, and thus facilitating value creation from these mature assets, for the benefit of both Europe’s economy as well as the European society as a whole.
 - ◇ **Vivid description**
 - Well founded reference model of the environment, specifying its:
 - endogenous (structural, componential, functional, and behavioural), and
 - exogenous (market, support, societal, constituency) elements, and their interlinks
 - Well established technological infrastructure, support tools/services
 - Support for social responsibility and adaptation of suitable ethical code
 - Established organizational infrastructure, supporting economic and societal involvement through government policies and actions
 - Established national/international regulations for involvement of senior professionals in market/society and related legal frameworks



Figure 15: 1st desired ePAL vision

Further to the core ideology and the envisioned future, represented inside the quotes, within the definition of vision for ePAL environment, on the left side of the Figure 15 the three **main outcomes of the vision** are also listed. These outcomes shall be further investigated in the ePAL roadmap, as a follow up action. Namely: the first element in that list will be studied in Wp2 – *identifying required areas for research and development*, while the other two elements are a part of the subject of work in WP3 – *gap analysis identifying some potential opportunities*, and WP4 – *implementation model identifying the role and requirements from social bodies*. Later on in Section 8.2 below, some elements related to the first item among these three, namely “*the identification of required areas for research and development*” are addressed in relation to the instantiation of the vision for ePAL environment for the: technological, social, and organizational perspectives.

8.2 Instantiation of the vision into multi-disciplines

Development of future European balanced society, involving senior professionals in daily societal and economical activities, requires a **multi-perspective approach**. This approach shall target needed perspective and stakeholders. But capturing all aspects and perspectives relevant to the ePAL environment within one vision statement and a set of desired facets is challenging and presents a barrier to a successful vision development and specification.

Therefore, we apply the visioning approach that is introduced in the EC-funded project VOMap, regarding the “instantiation of the vision statement” to its main focus areas / perspectives (Camarinha-Matos & Afsarmanesh, 2003). Thus, capturing the impact of the main perspectives related to the ePAL environment on its vision, and not losing the comprehensive view. As such, the vision development mechanism applied to the ePAL environment *instantiates its vision statement* for three main contributing areas, namely: the technological, social, and organizational perspectives, as presented in

Figure 16.

The main areas which require further research & development are also classified for each of the three perspectives, which also points to some next execution steps that need to be followed for achieving the vision of ePAL environment for the future society and market in Europe.

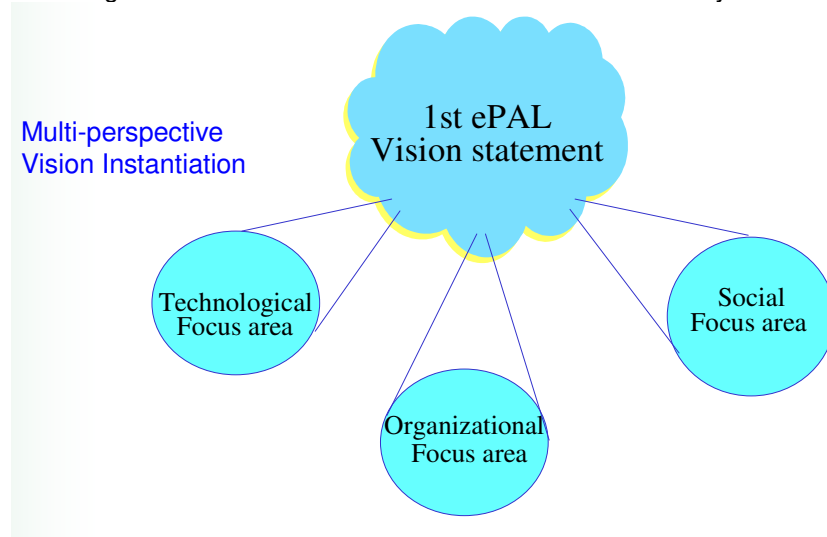


Figure 16: ePAL Vision instantiation

8.2.1 Vision instantiation for technological perspective

The focus of this instantiation is on addressing the required technological aspects of ePAL vision environment, as specified in Figure 17.

In the coming decade, the ICT collaboration platforms and tools will be developed as an easy to use enabler of new approaches for continuation of the active involvement of elderly people in the socio-economic system. As such novel infrastructures and intelligent functionalities will act as a catalyst of new organizational forms, supporting effective management of geographically disperse communities of retired professionals, and facilitating the active participation in the socio-economic activities, as an extension of the human capabilities towards fitted participation.

Main desired facets:

- Advanced collaboration support services, including (virtual) teams' formation and management
- Development of collaboration ontology supporting variety of stakeholders
- Support for user-generated knowledge content
- "Configure yourself" based philosophy infrastructure
- Easily adaptable and customizable user interfaces
- Affective computing and context aware enriched environments
- Support for establishment of trust among stakeholders
- Tools supporting the process of value creation
- Novel contractual and cooperation agreements, including negotiation support
- Advanced marketing and brokerage services
- New networking models for elderly communities' involvement with the socio-economic system
- Security and ethical / privacy support

Figure 17: 1st ePAL Vision instantiation – Technological perspective

Main related research areas:

In addition to the needed engineering developments, materialization of this vision poses a number of research challenges in areas such as:

- Reference models for ICT infrastructures and tools to support communities of active senior professionals.
- Progress in affective computing in the following directions:
 - Extending current research mainly focused on human-machine interaction and emotions recognition, fitting the specific needs of elderly.
 - Emotional / identity fulfilment of members of a community of senior professionals.
 - Developing an affective computing perspective at community / network level (collective emotional states, community emotional health, etc.).
- Semi-automated generation of network ontology
- New value systems, considering the needs and expectations of senior professions and all the other stakeholders in the socio-economic system.
- New e-contractual support based on a proper legal framework to regulate the participation of retired professionals in the socio-economic activities.
- Mediation and collaborative problem solving mechanisms assisting and extending the capabilities of the elderly communities and virtual senior professional teams.
- New behavioural models coping with evolving behaviour of individuals and emerging behaviour of communities of elderly.

- Trust and respect management and promotion facilities.
- Specialized competency models and competency management tools considering both the potential and evolving limitations of elderly professionals.
- Business models for these specialized ICT infrastructures.
- Advanced social networking systems, including multiple classes of stakeholders, link analysis, dynamic networks, value generation and knowledge sources, emergence versus design, etc.

8.2.2 Vision instantiation for social perspective

The focus of this instantiation is on addressing the required social aspects of ePAL vision environment, as specified in Figure 18.

In the coming decade, extending active professional life will be a high priority strategy in addressing Europe's aging population. The social infrastructure will mature to accommodate demographic shifts through the creation of mechanisms to support active involvement of elderly people in the silver economy. Attitudes in society will evolve towards positive acceptance of elderly people as a value-creating pool of talent, thereby creating opportunities to support and promote active aging. Both senior and young professionals will derive greater benefit from the exchange of knowledge and experience. As the social environment evolves, new support mechanisms will arise to sustain an aging but more active and inclusive population.

Main desired facets:

- New mechanisms to enhance positive understanding and perception in the society regarding the value of abilities, skills and experience of senior professionals in the economy
- Motivating mechanisms for senior professionals to join CASPs
- Mechanisms to support cross-cultural interactions among senior professionals as well as to the active labor force
- Mechanisms to support a balanced economical benefits sharing among the entire society including senior professionals
- New mechanisms for social networking to help articulate the collective needs of seniors across national boundaries
- Mechanisms to support cross generational interaction between seniors and younger citizens; fomenting inter-generational solidarity and understanding within the EU
- Mechanisms to capitalise on the increased sense of trust and understanding which comes through leveraging seniors' social capital.

Figure 18: 1st ePAL Vision instantiation – Social perspective

Main related research areas:

In addition to the needed engineering developments, materialization of this vision poses a number of research challenges in areas such as:

- Social welfare mechanisms
- New adaptable frameworks to facilitate social collaboration
- Mechanisms to enable social cohesion
- Frameworks to support social knowledge and experience exchange
- New human resource policies
- New approaches to promote life-long learning
- Frameworks to support seniors' interaction and solidarity across national boundaries

- Developing systems which can create tangible socio-economical added value out of the pan European social interaction of seniors

8.2.3 Vision instantiation for organizational perspective

The focus of this instantiation is on addressing the required organizational aspects of ePAL vision environment, as specified in Figure 19.

In the coming decade, the primary organisational stakeholders – governments, intermediaries, and businesses – will adopt positive and proactive policies and approaches that enable senior professionals to continue their active life and generate income that compensates for pension shortfalls and facilitates a valuable contribution to Europe’s economy.

Main desired facets:

- Employment and retirement policies will change to provide greater flexibility for seniors to continue as economic actors
- Global regulations and policies will change to encourage the participation of businesses in collaboration with senior professionals
- The knowledge and skills of seniors will be harnessed to generate wealth and stimulate innovation amongst European businesses
- New forms of intermediate organizations will provide highly efficient brokerage that will help seniors engage with businesses in Europe
- There will be significant long-term funding – from both public and private sectors - and the political drive to support new forms of senior associations and other intermediate brokers
- Seniors will have access to the (re)-training services they need to facilitate their continued professional life
- New organizational cultures will positively embrace relationships between senior professionals and pre-retired (active) professionals

Figure 19: 1st ePAL Vision instantiation – organizational perspective

Main related research areas:

The economic role of senior professionals in European society will be clear, opportunities to remain professionally active will be accessible, and wealth creation for both seniors and businesses will result. The knowledge and experience of seniors will be valued, maintained and transferred. However, in addition to the needed engineering developments, materialization of this vision poses a number of research challenges in areas such as:

- Need to understand better the characteristics and motivations of older people (socio-economical research)
- Need to understand the areas of the economy where involvement of seniors would be most valuable/valued
- Now can senior professionals complement (and not compete with) existing economic activities
- Identify and characterise new (economic) models of associations
- Identify and characterise new models of brokerage
- Identify and characterise ‘transition’ mechanisms that help seniors move from full employment to post-retirement professional activity
- Clarify the role of regional/national/European government(s) in making this happens.

9. Conclusion

The population of European countries is rapidly ageing, and this process has many social and economical consequences. The current regulations restrict and certainly not motivate or support the involvement of senior professionals in daily economical activities and especially those activities that will lead to some payments. In some cases senior professionals are perceived as ineligible and incapable to participate in market / society activities. However, a yesterday's retired professional is as knowledgeable and experienced as he/she is today. Therefore, there is a need for establishing all conditions necessary to allow the participation of willing senior professionals in market / society activities.

This document has made a contribution towards a roadmap for enhancing the activeness of senior professionals in Europe, by proposing a 1st ePAL vision. Following the systematic description of an approach for building the ePAL vision as presented in this document, the 1st vision is derived through an extensive analysis of drivers and trends as well as proper examination of a number of representative scenarios.

Furthermore, based on the lessons learned from this visioning exercise, the main elements of the ePAL environment are identified and further, a 1st model of a comprehensive ePAL environment is achieved. The 1st vision of the ePAL environment is also instantiated for its main three focus areas, namely, for its technological, social, and organizational perspectives.

The next activities in WP2, in relation to development of the **desired vision for the ePAL environment** will continue with the steps 3, 4, and 5, as specified in Section 4, for generic visioning process, including:

- Further refinement and tuning of the 1st ePAL vision within the *step 3: Testing and validating the elaborated vision*,
- *Refinement of the areas of research & development, related to the three instantiated perspectives of the vision*
- Dissemination and discussion of the ePAL vision within the *step 4 of visioning: Consensus building through consulting and workshops*, and
- Achieving the final vision specification for the ePAL environment within the *step 5 of visioning: Documenting and finalizing the vision*.

In parallel and complimentary to these activities in WP2 however, WP3 will perform a detailed gap analysis, comparing the state of today's market and society against the state planned by the ePAL's vision for the future of Europe, and identifying what needs to be developed to achieve this desired vision. Simultaneously, WP4 will identify and plan the needed actions that shall be executed in order to reach the planned vision for the eAPL environment.

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