



AAL FORUM 2016

EXECUTIVE SUMMARY



Innovative technology for active and healthy ageing



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AALA President's Foreword

We wanted the AAL Forum 2016 to focus on what we know to be out there – AAL innovations user driven that are ready to break through into the market place. It is widely recognized that this market is growing fast and, with the continued rise in the ageing population, it will continue to do so for some time to come. So it is exciting to see the success the AAL Programme and the projects it supports are having and the Forum was a celebration of this work

Of course, the exhibitors on the floor and the AAL projects who attended the many sessions provided ample evidence of the market potential of state-of-the-art of the AAL innovation and inclusiveness, but the Forum also provided platform for debate and interactive discussion on how to maximise this potential and build on it for years to come.

It was this approach that once again attracted big players to the event, with investors and large corporations attending in search of partners, investment opportunities and ideas on how to scale up their operations in new territories, i.e. IBM was one such giant attending, which recognises the potential for AAL solutions to become part of its portfolio.

The Forum has always been a hotbed of collaborative opportunity, and 2016 was no different, with the matchmaking platform once again proving popular with many delegates eager to make contact with potential collaborators and start planning balls rolling.

Another highlight this year was the presentation of the AAL's first ever Challenge Prize, the culmination of several months of fierce competition between inventors and entrepreneurs tasked with developing an Internet of Things (IoT) solution designed to help older people's empowerment for them to live more independent, and rewarding lives at home for longer. The potential for IoT to transform ICT based solutions designed for older people is enormous and the Challenge Prize, which offered an award of €50,000 to the winner, is another example of how the AAL is able to pick up on current trends and use innovative ways to foster innovation.

The AAL has always set itself ambitious goals, and not only in the calls it has developed and the projects it has selected to fund. The AAL Programme has also helped to drive the ageing population agenda and ensure



that the very notion that ICT based solutions can assist active and health ageing remains a top research and development priority as well as a commercial reality. We now have several AAL project consortia forming exciting start-up companies, while more and more established companies are engaging with AAL stakeholders to develop concrete innovation in this market, too.

Another important goal we have set is to bring regional players together to ensure that regional needs are incorporated into globalized technical solutions. This ambition was highlighted at the Forum this year with the launch of an innovative outreach campaign targeting more regional players. We believe that regional authorities can play an increasingly important role in advancing AAL solutions. They know what their citizen's needs on the ground and are in most countries legally competent and are looking to deploy the right solutions to meet these needs.

The regions are also able to fund ideas that work for them. Indeed, we believe that the regions have a great deal to gain by becoming funding authorities of the AAL Programme themselves and this will help deliver the solutions they need and older people want.

Rafael De Andres Medina
President of the AAL Association

➤ AAL Forum 2016

Background and executive summary

The AAL Forum 2016 took place in St.Gallen, Switzerland on 26-28 September. Hosted by FHS St.Gallen and taking place at the Olma Messen St.Gallen, the event welcomed more than 450 delegates, who were treated to talks from experts, interactive workshops, poster sessions, a matchmaking event, and many other opportunities to interact with the people who make up the core community of active and healthy ageing work in Europe.

The theme for the 2016 AAL Forum was “innovations ready for breakthrough”. With so many of the products and services developed in the programme having reached a fairly mature stage in development, there was a concerted effort at this year’s forum to talk about the challenges and barriers that may be holding them back from getting to market. The plenary sessions at the event discussed some of these issues in greater depth, bringing in stakeholders from a broad cross-section of the AAL ecosystem to offer their opinions and observations on the current market and to consider the mechanisms by which AAL products might become more integrated into our daily lives in the near future.

As ever, this year’s event brought its delegates into close contact with the organisers and speakers, with 30 interactive workshops over the two main days covering topics including marketing; awareness, education and training; meeting stakeholder needs and expectations; bringing products to market; neighbourhoods of the future; and AAL in the year 2030.

The sessions were well received, with a mixture of presentations, group discussion and interactive brainstorming bringing about much-needed dialogue and teaching valuable lessons to those involved. As one delegate put it, “the chance to interact with people from all areas of the AAL world and to learn from their mistakes and successes is something you do not get anywhere else. I have come away from the forum with greater direction and knowledge about what I am trying to achieve with my project.”

The exhibition of AAL solutions and products (page 14) was also a key part of the event, with projects and related industries able to demonstrate their products and services to a receptive and lively audience. The exhibition floor also hosted poster sessions, held over the two days throughout

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the coffee and lunch breaks to ensure maximum participation. Projects were given the opportunity to present their products, deliver a poster and answer questions from the floor. It was informal and relaxed and the posters remained available to view throughout the forum.

For two days before the AAL Forum started, a group of eager and talented young developers and designers gathered to participate in the AAL's hackathon event called Hack for Ageing Well (page 43). At the end of the two days, the seven teams pitched their concepts and demonstrated their prototypes to a select panel of judges involved in AAL from several stakeholder groups, including end users. The winning entry this year was called Permanent Memories, an online service for sending photo-postcards, which are collected in a cloud service and printed on site.

This year marked a departure from the standard AAL award and introduced the AAL Smart Ageing Challenge Prize (page 33). Launched earlier in the year in collaboration with Nesta, the prize aimed to source Internet of Things innovations that empower older adults to achieve the

“The chance to interact with people from all areas of the AAL world and to learn from their mistakes and successes is something you do not get anywhere else”

quality of life they aspire to, socially and independently. After narrowing down from a shortlist of nearly 200 entries, 15 of the most promising applications were chosen as finalists and took part in a social innovation mentoring academy in Brussels in July, where they received expert coaching and support to develop their ideas. Five of these finalists were then selected to attend the forum, where they pitched their ideas to the delegates in one of the plenary sessions.

After careful deliberation by judges, Activ84Health was selected as the overall winner and received a cheque for €50,000. The brain-child of brother Jan and Roel Smolders, the smart system uses Google Streetview connected to a bike, cloud-based software and touch screen controls to allow older people, unable to get about as they once could, to explore familiar areas from their past. As well as stimulating memories, this activity also prompts social interaction in the home, while at the same time providing a valuable exercise routine. Each user has an individual profile, which allows the platform to take into account personal physical and cognitive abilities. “Just being in the top five was incredible,” says Roel. “I am now completely overwhelmed and a little tearful. It has been fun, but I was nervous today.

“We have already won a number of innovation awards in Belgium with our Activ84Health Explorer, but we were always uncertain whether our new technology would be appreciated by others outside of our own country as well – and being here proves it is!”

As in previous forums, the matchmaking event (page 40) paired delegates with complementary skills and assets and allowed them to informally discuss possible collaborations for the future.





"Nowhere else in Europe will you get an opportunity to meet so many people within this field of work," said one participant. "I have come away with some excellent contacts and am planning on meeting up again with the person I was matched with to discuss how we can work together in a more concrete manner."

This executive summary provides an overview of the event from all key perspectives – with reports from key sessions involving the care-givers, living labs and smart homes. Opinion and analysis is also published from all tracks, from the awards, from the hackathon event and from the exhibition floor.

The publication also contains interviews with key stakeholders at the event. This content provides valuable background insight into the variety of opinion, analysis, advice and strategies that exists for AAL as it is now and for the future, how the opportunities in the active and healthy ageing market can be best exploited, what users expect, how industries such as insurance are getting involved, and co-creation.

Overall, this year's event provided every type of delegate with useful information and interesting discussion on AAL developments, whether they were researchers, caregivers, investors, or even the end-users themselves. Following the success of last year's drive to make the forum more interactive, the event this year in St.Gallen took heed and continued in a similar manner, making sure that people were not only listening to experts but also offering up their own valuable contributions to the forum.

The plenary session on Tuesday afternoon summed up the feeling of the event well with the launch of the European Commissions' digital innovation blueprint to transform health and care in Europe's ageing society. Acting as a manifesto of sorts for the AAL ecosystem, it recognised the need for health and care systems to keep up with the quickly evolving digital world, and set out a number of key issues and areas which need to be agreed upon across Europe so that we can help improve the lives of the older adults among us. After all, that's what the AAL Forum is all about, and the optimism at this year's event can only have helped to reinforce delegates' determination to build products and solutions that will benefit all of society.

▶ AAL Forum 2016: The opening ceremony

For those arriving on Monday evening, an exciting opening ceremony featuring regional politicians and researchers was put on at the Olma Messen St.Gallen. Setting the scene for the next two days, the anticipation from both the speakers and delegates was palpable

Compère for the plenary sessions was TV presenter Julia Bauer



Traditional Swiss music was provided by Trio Anderscht

After a lively performance of traditional Swiss dulcimer music from the "Trio Anderscht", the opening ceremony of the forum began. Host Julia Bauer welcomed the delegates to St.Gallen and wished that everyone would be able to learn about what AAL technology was available today and how it can be spread to reach as many people as possible. After thanking the organisers of the event and the main sponsors, she then handed over to AAL president Rafael de Andres Medina.

The president welcomed the delegates to the forum and said what an honour it was to be opening the annual event, this year organised jointly with FHS St.Gallen. This year the forum was run under the headline "innovations ready for breakthrough", an important sentiment that reflected the drive behind those attending forum to

turn the results of AAL research and development into successful products and services.

The president reminded the audience that the AAL Programme brings together participating countries to work towards a common goal of improving the quality of life of older people through technical innovation and ICT solutions. This means helping them to stay healthy and independent, both at home and in the wider community, while respecting important issues such as privacy and security. "The forum is an excellent meeting place for private investor interested in the sector," he said. "Meanwhile, the programme also encourages innovation through instruments such as the Smart Ageing Challenge Prize and the hackathon."



Sebastian Wörwag



Rafael de Andres Medina



Martin Klöti

As ever, the president also reminded the delegates that the event would be heavily interactive. One of the main priorities of the forum is to connect people and the ideas that they bring. He urged people not just to sit and listen, but to offer their opinions and views, which are just as valuable as those of the speakers and panellists. It is this interactivity which always makes the forum an event to remember.

Next on the stage was Martin Klöti, St.Gallen's interior minister, who began by welcoming the delegates to the city and mentioning what an honour it was to be speaking at the opening of the event. St.Gallen has positioned itself as the one of the leading locations in Europe for looking after older adults. 6000 older people are homed within its specialised residencies – just under 30 per cent of all those over 80 years old. These figures demonstrate that people always prefer to live independently if possible, and Klöti suggested that if science and the state work together, they can help people to do this. The state provides the framework conditions that help people take

advantage of public services and participate in society, while science develops assistive technologies and support structures that make independence possible.

Since the ratification of the UN Convention on Rights of Persons with Disabilities, Switzerland has taken positive steps on the issue and science is helping the country successfully implement the convention's aims. In many cases the financial burden on public administrations can be reduced when people are able to live at home for longer and not be housed in institutions. The government and science need a strong partnership, said Klöti; together they can help provide an environment in which older people can live independent and autonomous lives. He reiterated his government's aim to make the country place where where everyone has equal opportunities.

Sebastian Wörwag, president of FHS St.Gallen, announced how privileged everyone at the institution felt to host so many regional and international researchers. He voiced the strange paradox that all of us face: we all want to reach old age, but none of us want to be old. AAL technology can however improve quality of life for those in old age, aiding with physical and mental challenges and contributing to helping



people stay in their homes for longer. It is important for people to participate in the modern technological society, he said, and that is a reason why everyone at the forum should be proud of their work.

A lot of technology has been developed under the umbrella of the AAL Programme, but making feasible products that people want to buy is one of the biggest challenges we face. FHS St.Gallen has been carrying out research specifically aimed at bridging the gap between technology development and the market - a "difficult challenge indeed," he said, "but not insurmountable. Another theme related to this challenge was the need to make products that are desirable but that do not make people feel old. "Dementia is probably the most difficult challenge we face as a society," said Wörwag, "and that should be the main focus of the AAL Programme in the future."

short speech on the end user perspective of AAL. As the largest organisation in Europe representing older adults, AGE Platform Europe recently launched an online debate to help with their online strategy. Asking people what their dreams for the future as older adults were, the main response was that people wanted to be able to contribute to society irrespective of their age, having fun and discovering new things while still remaining connected to family and friends.

But how can we achieve this dream? The first step is to fight ageism, said Parent. People face ageism every day, whether it is through access to employment, or indirectly through the increasing digitalisation of society that can marginalise the technically illiterate. Finance, appointments and chronic disease have all been made easier to deal with through technology, and this technology has the potential to improve the

“People face ageism every day, whether it is through access to employment, or indirectly through the increasing digitalisation of society that can marginalise the technically illiterate”

He signed off by encouraging the delegates to go and see the city of St.Gallen and the surrounding area, with its picturesque mountains and beautiful lakes. "Nestled in amongst the borders of four countries, the city of St.Gallen is a culmination point not just of cultures but also of ideas," he said. As part of the Internationale Bodensee-Hochschule (IBH), a network of German, Swiss and Liechtenstein universities located around Lake Constance, FHS St.Gallen is at the heart of international collaboration in the AAL ecosystem.

Anne-Sophie Parent, secretary general of the AGE Platform Europe, then gave a

quality of people's lives, but if they do not know how to use it then the technology is useless. We need to do more to bridge this digital divide, which can be even more pronounced if the person has a disability such as decreased mobility or vision.

The evening ended with a panel discussion on AAL in the region of Lake Constance. Sabina Misoch of FHS, Alan Thielemans of IWT, Stefan Kroll of Terzstiftung, and Guido Kempfer of FHV joined earlier speaker Sebastian Wörwag to discuss the creation of living labs in the region and how they can provide deeper insight into what users really need.



▶ Looking on the bright side of ageing

Anne Sophie Parent leads Age Platform Europe, an organisation that represents the views and interests of more than 40 million people aged over 50 in Europe. Delivering the first keynote of the forum, it was no surprise that she put the needs and desires of the older person at the heart of her message to all those developing solutions for active and healthy ageing

Anne Sophie Parent is a well-known face in Europe, for many years representing the voice of older people at events like the AAL Forum and as head of AGE Platform Europe, an organisation that brings together many other groups and associations that provide support and services for older people. While, an organisation like AGE needs to ensure that the challenges faced by our ageing society are addressed at every level, from policy to market, Parent adds a dimension to the debate that is both extremely constructive and refreshing. She looks at ageing “from the bright side”.

For Parent, ageing should not just be seen as a problem, a time when we face health and social issues, a time when we need help and support or a time when we are isolated from the rest of society. Parent likes to see ageing as an opportunity to have fun and to do this there are other needs to be addressed if we are to continue having fun, getting out, engaging in social, sporting and cultural activities and contributing to the community as active citizens.

From this perspective, the AAL Forum was timely for AGE, coming as it did soon after the organisation launched a Europe-wide consultation looking to define its future strategy for the coming years. This involved a questionnaire to all members, which started with a simple question – what is your dream; what do you want the future to hold for you?

“The answers we received from across the network, despite different challenges and circumstances being faced, were all very similar,” explains Parent. “Broadly speaking, people said they want a society where everyone, regardless of age, is able to contribute to their community.

“People want to remain at home, safely, while being connected with their friends and relatives. And people want to have fun, discover new things. They want to remain active citizens throughout their lives and to enjoy every moment.”

The next question in the survey asked people how they thought we could achieve this dream? And here again, there was a general consensus.

“All said that what we need if we are to fulfill our dream and realise our vision is to fight ageism,” Parent continues. “Every single one of our respondents said that they face ageism in their daily lives – from access to employment for older workers to access to goods and services.

**“People want to remain
at home,
safely, while being connected with
their friends and
relatives”**

“What people are saying is that they want to create a society where older people can operate like anybody else, enjoying new products and services, new activities like anybody else.”

Of course, with society becoming more digitalised, Parent admits that this is a problem for some older people and so this is another challenge. She acknowledges that it is now getting easier for people to manage their finances through online banking and on smartphones and quicker to make appointments with the doctor online without having to wait a long time on the phone. Meanwhile eHealth devices that have been developed for



Anne Sophie Parent

“What people are saying is that they want to create a society where older people can operate like anybody else, enjoying new products and services, new activities like anybody else”

self-monitoring and health management all bring great comfort to the lives of people with chronic diseases, while older people are discovering more and more of the wealth of cultural and recreational activities available on the internet.

“But despite all this, we are hearing that the digital society is just not as accessible as it should be for older people and to people with disabilities, many of whom are old,” she says.

“The ageing process means that people may be losing their hearing or eyesight a little, or finding mobility or memory a little more difficult. These impairments, or combinations of them, make it more difficult to pick up and use new devices.

“And this is why we think that solutions that were very promising when they were developed as pilots are not really picking up the way they should be and they are not being deployed the way they should be.”

Parent believes that there needs to be a fundamental shift in the way solutions are developed to meet the challenges older people face and to deliver the fun they so obviously want. “The reason we believe older people are not picking up the new devices and feel reluctant to embrace what they can offer is that these products are being developed like products being developed in any ICT sector,” she says. “Something new is developed and designed, the market is tested to see if there is demand for this product and then it is launched and marketed.

“For older consumers this approach, where the market is imposing something new for them to use, does not work so well.

“The solutions that answer real needs generally start the other way around,” she continues. “These directly involve the older people — the target market — at the beginning of the process, when they can help developers find the technical solutions for the problems and challenges they face in their daily lives. Those are the ones that hit the market.”

Another reason why Parent believes older people are not embracing technology as perhaps they might is that new solutions are often designed to last for two or three years and then change into something else. “Older people have problems with this approach,” she says. “First of all, it makes technology more expensive and secondly, by the time they have managed to use the device, become comfortable with it and find it useful for their daily life, it is time to change.”

“People want solutions that will adapt with their evolving needs,” she continues. “The physical and mental conditions of older people evolve all the time. They may get better at some stage and then worse again, and they need solutions that can cope with these fluctuating changes.”

In a recent study by CREDOC, the research centre for the study and observation of living conditions, researchers found that 31 per cent of older people are less attracted to new technology because of its complexity, while 24 per cent are because they don't believe it will be useful in their daily lives. Twenty two per cent are concerned about privacy and poor data protection and 19 per cent find the technology too expensive. Parent seized on these statistics to drive home her key message to delegates at the forum.

"What we are pushing is for all stakeholders, especially those who have brilliant ideas, to try to involve older people as early as possible," she says. "Don't develop one solution and then try to convince people that it is what they need. Start by assessing the needs of a particular group and then try to develop the product that will meet those needs."

"When you reach a certain age, you get to know what you want out of life – and this will not always be what others think is good for you," she says. "So, as people developing the solutions to help older people live the lives they want using technology, do not try to impose things without them being involved."

Parent believes here that organisations like AGE and all its members associations also have a great deal of work to do to help older people engage with technology "As older people's organisations, we feel we have a duty to explain in a neutral and independent way the benefits technology brings for older people. We need to try to demystify technology and how it is used," she says.

"When you reach a certain age, you get to know what you want out of life - and this will not always be what others think is good for you"

She acknowledges that how older people interact with technology is changing and people have moved on from simply expressing their needs in terms of health and care and how technology can help. Now they are expressing their expectations and wishes as well and are beginning to look at technology as a means to achieve those wishes.

Parent sees a strong parallel between technology addressing the needs and wishes of older people and the development of smart cities, which is why the Age Platform is looking for synergies with the European Commission's Innovation Partnership on Smart Cities. "For us it is obvious that you cannot be a smart city if you are not

age friendly and this also includes being dementia friendly," she says.

Another key European policy Parent is supportive of is the European Accessibility Act, which is an initiative at EU level to set common rules on accessibility, which will lead to cost reduction for the consumer and public authorities, will facilitate cross-border trading and will create market opportunities for accessibility products and services. This act will apply to computers and operating systems, ATMs, ticketing machines, smart phones, TV equipment including access to digital TV services, telephony services, audio media services, all transport services, banking services, eBooks and eCommerce.

"With all this going on, we at AgePlatform are convinced that there is huge potential for the developers of ICT in support of active and healthy ageing," says Parent. "We are all very happy with the growth of the silver economy and feel that AAL projects will soon be able to benefit from this. We would, however, like to see faster deployment."

"What I recommend, therefore, is that AAL projects should make themselves better known to AGE Platform member organisations and try to involve them more directly at the start of the development process. They will be met with enthusiasm and this will help many overcome any reluctance to use ICT."

Returning to the theme that these solutions should be both useful and add to the joy of life, Parent also advises looking at development with a holistic vision. "Make use of the older person's experience," she advises. "Then you can be sure that your solution will bring an added value to their lives, not just solving one problem, but solving one problem among many others and helping to solve those, too."

➤ Your thoughts from the floor

The exhibition space at the Olma Messen St.Gallen this year was alive with new projects, new ideas and new faces. As ever, the idea was to immerse the delegates into an interactive environment where they could see the tangible outcomes of many of the projects being funded by the programme. Eye-catching demonstrations and poster presentations were abound, bringing people together in discussion and creating an atmosphere of excitement and optimism.

This year we spoke to many of you at the exhibition space to hear your thoughts about the forum, the projects being exhibited, and what can be done to propel the AAL Programme's work into the hands of the people who need it most

It is very important to train **policy makers**
to understand and manage the risk of **innovation.**
There are barriers to this that still exist today. Peter Wintlev-Jensen, EC

We don't need to invent anything new and complicated. We just need to keep things simple and stupid. People don't have the room or the money for large installations in their homes, so make AAL solutions affordable and simple to use.

The exhibition was a great showcase of some excellent results from AAL projects and exciting ideas from people who work with the AAL community. We have also heard in the sessions and presentations about many solutions that have been developed with business in mind and how we can take these things to the market.

I think there are now really good business opportunities for AAL solutions and we need to work on business models and distribution channels as these are the last steps that are missing. We have the technology and the solutions. We just have to bring them closer to the consumers. **Karina Marcus, AAL**





It is very important for the forum to bring **business** into the research sector as together they can develop more **innovations** and get those to market. We need more of that.
Gary Honegger, YouRehab

Everything about the product or invention should be thought about from the perspective of the end user. Understanding this and understanding why something matters to them is the key to any successful project. Put yourself in the shoes of the people your product is for, understand their needs, their pains, their difficulties, and then design solutions from there.
Montse Monllau, ESCOOL



We develop apps that are designed to be simple for older people to use and are hosting a number of workshops that are finding that these users are very open to using technology if it is made accessible. People are sometimes fearful of new technology, so you need to support and guide them to help them get in touch with technology.

We have the technical platform with the apps we develop but the AAL is the business platform for us as well as a platform for meeting other organisations, keeping us in touch with what is going on and helping us conduct further research and trials.

If you come from research, you often cannot see that the market for these products for older people is there, or cannot see how to make a good business case. As a start-up company, we now scan the market from all over Europe and the US and we can see that there are many products out there and, with better distribution networks and better marketing, the market place for these can only grow.

Martin Petzal, TAVLA



Together we are **stronger**. There are a great many of us in Europe and as we have seen in the European **Innovation Platform** for Active and Healthy Ageing, there is a real appetite for the exchange of ideas and for **collaboration**.

Miguel Gonzalez Sancho, European Commission

The forum gives us the chance to meet people in person who we usually only see online and communicate about what we are doing. This gives us a good understanding of what partners are out there, what they can bring to the table and find opportunities to work on together. **iHome Labs**



Solutions that help older adults remain connected with society and increase social inclusion are hugely important. The forum is a great place to see a variety of technologies that do this and to meet people with different ideas about how to use it and take it to the market.

The big issue with AAL projects, however, is the lack of resources available after the project ends, often making it difficult to take what is a promising prototype further into the market. The two or three years a project is funded for is not necessarily long enough to get a product to market. **Miroslav Sili, Austrian Institute of Technology**



Such was the diversity of challenges the people we were working with faced, it took us a couple of years to develop a product that did what we wanted it to do and that helped the people we were trying to help. And now, the fact that you are all saying we did a good job is well, I am beyond words! **AAL Smart Ageing Challenge Prize winner Roel Smolders, Active84Health**

Kompai is a robot born out of AAL funding. We are now at the pre-deployment stage, with experimentation taking place in nursing homes in France. The AAL has introduced me to many people and I have a very good network of organisations who are interested in my robot. Indeed, we had a meeting at the forum with a contact in England who is going to put us in touch with various councils with a view to doing some trials with the robot.

Patricia Commarieu, Robosoft



Technology used to bring down the cost of **care packages** is essential because the money available to be spent on care will not **grow**.

That is a huge challenge but also an **opportunity** for AAL.

Stefan Locker, Helvetia Insurance



Users educating the **researchers** and the **developers** is as **important** as the other way around.



We have a market that is very fragmented, so we are really going to have to deal with systems issues if we are going to have a successful market for AAL. We will also have to address the issue of interoperability and real integrated solutions, so the older person doesn't have to buy lots of devices, but one that offers many solutions. Finally, we have to address accessibility and make these solutions less complex for the user.

Peter Saraga, AAL Advisory Board and Challenge Prize judge



The AAL Forum showcases a lot of amazing technology but we need to focus more on the human aspect of the products. Why do people need this technology and why will it make them happier? When we think about products for the home, it shouldn't be because it is cheaper for people to stay at home, but because it can keep people happy. If this is kept in mind, the right products and services can be designed.

Michelle Hawkins-Collins, Virgin Care UK



➤ Older people should not just be identified by age

TerzStiftung promotes the interests of older people and acts as a service provider of products designed for older adults. Deputy Managing Director **Stefan Kroll** took part in the AAL Forum 2016 as a panelist advocating the idea that older people should not be seen as a homogenous group but as citizens and consumers like everyone else

A major part of our work is to consider the needs of older people and try to understand how these needs may differ and who the users of specific products and services actually are. This is the work we are doing in the AAL projects in which we are involved.

Developing products and services for people over the age of 65 requires a deep understanding of who these people are. There are many terms now being used – third agers, the silver economy, master consumers – but nobody really knows what stands behind these terms or how they apply to the people themselves.

We must acknowledge that people over the age of 65 should not simply be identified by their age or defined by it. They should be identified as informed customers who want to make use of products and services like everybody else.

Ideally, therefore, these people should not be excluded from using the services and products, which are designed for all other user groups. This gives us the challenge of how to design these products and services that are friendly to all generations, so that they are of intergenerational appeal.

This should be a fundamental consideration when products are being designed. Often, if they are not, then people will feel stigmatised by having products aimed at them based on preconceived ideas about their age. People will feel discriminated against by simply being reduced to a category of older adults.

The AAL Forum has developed over the years into the perfect meeting place for promoting this vision of older people and to

“We must acknowledge that people over the age of 65 should not simply be identified by their age or defined by it”

directly promote solutions that are designed to help them have access to all services in public life. I am not only talking about living comfortably within your own walls but also having access to public infrastructure and private industries.

The challenge is now to make this visible to all kinds of stakeholders and this is what the AAL Forum does so well, bringing together people from all stakeholder groups – research and academia, user groups, industry, policy makers and investors. When people get a good idea of the types of products that are around, we have a great opportunity to leverage this technology and make it big on the European market place.

What investors need

What do investors look for when people pitch their AAL solutions? This is one of the most important questions those involved in AAL must ask themselves. The workshop on investors asked the question to a panel with differing perspectives and experiences

Angelo De Rosa, a member of the AAL advisory board, chaired the session “What investors need”. He started proceedings by reiterating what has been heard many times in recent years; the AAL market holds great potential, but at the moment many struggle to find funding. He wanted the session to dissect the possibilities, challenges and experiences surrounding the funding process.

Peter Wintlev-Jensen of the EC believes that the AAL market has now evolved and is finally starting to emerge as a real market. Creating scalable markets is an issue, and a critical mass is needed in the public sector. The question is, as a collaborative research programme, does it have the capacity to challenge commercial development? The long-term research goals of Horizon 2020 such as artificial intelligence and robotics will come in the future, and these may well attract investment.

Barbara Castellano of venture capital investor Panakes Partners asserted that there is not a lack of interest from private investors. Indeed, they are in fact very interested in AAL projects, with the ageing population providing an ever growing market for products that improve quality of life and stop the onset of disease before it becomes debilitating.

She then went on to outline the five things investors look for when being presented to by a potential investment opportunity. The first is whether the group has clearly identified a market. You need to demonstrate that customers exist, that you have a revolutionary treatment, and that you are ahead of your competitors. Second point: how big is the market? You must have a clear idea of whether you are aiming for a niche market or larger; overestimating or underestimating is off-putting to investors. Third point: who will be buying the product – healthcare providers or patients? If the presenters are not sure of this, it demonstrates a lack of commercial consideration. Fourth point: has the team presenting got a good track record? Investors want to see commitment in the team. And finally, the fifth consideration: has anyone else invested, and who are they? If others are involved and can bring valuable expertise, more investors are likely to be attracted in.

The next speaker, a leader of the AAL Business Support Action for the last three years, emphasised the need to get a good team around you if you want to attract investment. AAL projects often consist of a number of organisations, and this can seem unwieldy to investors. He suggested having a core group, a company who the investors could relate to. That group





needs to appeal to the ambition of the private investors; they are in it to make a high return on investment, and so it is of tantamount importance to demonstrate that you match their ambition and motivation.

AAL projects are not competing with each other – they are competing with startups! What is the difference between an AAL project and a startup? Startups are lean, agile, and have fast iteration cycles. The people involved have to rapidly learn how to prototype, and experiment a lot with this. They also have to learn how to make a business viable quickly, otherwise they go under. The reality of their existence is tougher, but this

also makes them more competitive. AAL projects should take heed.

Up next was the owner of a small SME which has been involved in a number of AAL projects since 2010. He talked about the value of dissemination. Showing that you attracted the attention of respected scientific publications is attractive to investors, and it is also important to show how you have dealt with problems, major or minor, during your projects. Most of all though, practice how to pitch! Don't make it too technical – investors want the hard facts about whether or not your product is worth investing in.

Overall, the take home message from the session was that it is important to have a solid game plan before seeking investment. Predict the questions that the investors are likely to ask, and make sure you have confident answers with the evidence to back them up.

➤ Harnessing global supertrends

Creating a solution that can help people retain independence in their old age is a fantastic achievement, but it means nothing if that solution does not find its way to the people who need it. As part of the them “Marketing AAL solutions”, participants in the “Supertrends SWOT Matrix” session were invited to consider prevailing market trends and how they could be utilised to create better products



“People first” is a basic motto of human-centred design. Knowing and understanding the needs, pains and gains of people is essential for the successful business development of any AAL solution. This session aimed to give participants tools to place themselves in their audience’s shoes by carrying out marketing analysis and ideation techniques that could help them turn fresh knowledge and possibilities into strategic business decisions.

The session was hosted by Montse Monllau and Lorena Vegas of ESCOOL in Barcelona. Their work involves providing consultancy for brands, startups and healthcare organisations. They are also involved in marketing and communications, with a focus on healthy living and food.

The activity for the session involved looking at 20 global market “supertrends” that are conditioning the outcome of products and services aimed at people over the age of 60. Each participant was given paper and Post-it

notes, and then had to carry out a SWOT analysis of each trend, by assigning each one as either a strength, a weakness, an opportunity or a threat to their work. The exercise helps people to reflect on their work and to create new ideas for improving their service for the users.

“The aim of the session was to provide the participants with tools that would help them to bring their solutions to market in a more effective way,” said Monllau. “By looking at trends that are happening in the world right now, it is possible to gain insight into how to develop your marketing strategy to meet the needs of users.”

Monllau began the session by referring to Simon Sinek’s famous TED talk, which she said had profoundly changed the way she thought about communication. He suggests in it that what matters when trying to communicate and lead is to explain why you are doing something, rather than what you are doing. As he put it: “Martin Luther King’s famous speech began with “I have a dream...”, not “I have a plan...””.

Monllau highlighted the need to always think of the end user first. “Everything about the product or invention should be thought about from the perspective of the end user. Understanding this and understanding why something matters to them is they key to any successful project. Put yourself in the shoes of the people your product is for, understand their needs, their pains, their difficulties, and then design solutions from there.”

One example of the supertrends that were explored was the idea of “the angry consumer”. Nowadays it is important to carefully consider how communications with the public are carried out. There have been many cases in which poor communication has led to angry backlash from the consumers, especially with rise of social media which has allowed consumer groups to organise themselves together effectively.

Participants were then led through a number of other supertrends, including the concepts of freemium products, ageism, big data, and brand-centrism. They left with many new ideas of how to tailor their research into products and solutions that would take into consideration the needs and desires of their target market.

“The aim of the **session** was to provide the participants with **tools** that would help them to bring their solutions to market in a more **effective way**”

▶ Embrace the life sciences

AAL technology has taken leaps and bounds in the years that the programme has been running, but the products being developed are struggling to be taken up by the market. **Keith Baker**, independent innovation producer at Two Healthy Life Years EU, suggested in his keynote speech that a closer, symbiotic relationship with those working in life sciences could be beneficial for both sides

New technologies and digital disruption are changing the world we live in at lightning pace. Concepts such as the Internet of Things seem limitless in their scope at this point, and much of the technology developed in the AAL Programme is using such concepts to push the boundaries of what we think is possible. However, Keith Baker, formerly of Philips, believes that we are still yet to push this technology to its limits.

Baker, formerly of Philips, told the audience in his keynote speech why he believes that there needs to be a coupling between the technologies created at AAL with the life science industries. He explained how working with the life sciences would be essential for AAL and Europe if it is to address the problems that will arise from its ageing demographic.

“Ageing is a huge problem for Europe,” says Baker. “Although life expectancy is increasing across the world, the number of healthy life years is not. The World Bank recently suggested that any country without a ratio of at least 70 per cent between life expectancy and healthy life years lived into

old age will struggle at an economic level to achieve a healthy ageing population. At present, there are only a handful of countries achieving this.”

This worrying trend has the potential to become an overwhelming burden to society if is not dealt with properly. At present, not nearly enough money is being invested in the prevention of ill health in ageing. There are numerous comorbidities of ageing that occur, but many of them are not well understood. “Hearing loss is a significant problem in dementia, but this is not well recognised by the EU,” says Baker. “Endocrinal disruptors are talked about a lot in reference to pregnant women, but little is known about their effects on ageing women. Sleep is another area where little is being done, as well as periodontitis.”

Dementia is probably the biggest problem faced

“Hearing loss is a
**significant
problem**
in dementia, but this
is not well recognised
by the EU”



Keith Baker

by society today, Baker says, for the obvious reason that for now there is no cure. AAL technology is therefore hugely important for creating a more robust population that shows reduced cognitive decline with ageing. This must involve combatting this decline from middle age, focussing on fitness, diabetes, social health, and other areas.

Baker explained how working with the life sciences can help push both technology and science to new heights and can create a far better business case for the resulting products.

“The technology I see being created and used in AAL projects is hugely advanced, and they are succeeding in that respect,” says Baker. “But what we see from areas such as the hearing aid market is that they are much more influential and involved in the life science that underlies the basic service they’re trying to provide. They’ve been involved and collaborating with life scientists for 80-90 years, and it shows. Now, research from the AAL Programme and beyond has hinted at many new ideas of what can be done in terms of the ear, but the life scientists are not involved or are even unaware that these possibilities exist.”

“Although life expectancy is increasing across the world, the number of healthy life years is not”

Hearing loss has been shown to play a significant role in dementia, and this is an area where a lot of work can be done. “Apple’s recently released AirPods, although they are lacking in many areas compared to hearing aids developed by the hearing aid industry, can help de-stigmatise the wearing of hearing aids,” says Baker. “The technology they contain can also help to start connecting hearing aids with the Internet of Things, as so many AAL projects



are aiming to do.

“There are many lessons to be learned from the hearing aid industry. They have successfully collaborated with life sciences to understand the neuroscience behind their technology, and are in fact leading the way in terms of their research in this area. There is huge potential here for AAL projects to create really life-changing technology if they can utilise the life sciences in the same way. The ear is also an excellent place to monitor vital signs such as arrhythmias and heart rate, as well as hormonal balance. This can be incorporated in hearing aid technology using the Internet of Things.”

Baker believes that this is a key point for AAL projects: embrace the life sciences, and the technology has the power to achieve so much more. “If you don’t understand the life science behind the tech, you are blind to where you should be going with it. The way to do this is through funding PhDs which, although expensive, is the best way to start collaboration.”

There sleep is the body’s way of recuperating; it helps repair the body and the mind. Understanding the role

2 HLY as EU policy within H2020; Silver Economy for Ageing well



of circadian rhythms, as well as the lymphatic system's ability to clear the brain of unwanted chemicals, could be vital in fighting dementia. People can sleep badly due to respiratory problems, and cardiovascular problems can also be exacerbated by poor sleep. "This is an area which AAL projects must be looking at," implores Baker.

Women's health in ageing presents an intriguing issue to the life sciences due to their unique physiology. "Women are different to men in that they have two x chromosomes. In each cell of their body, one of these x chromosomes must be silenced in order to function properly, and the chromosome that is silenced is random in each cell. "This phenomenon, known as lyonisation, means that women's bodies are a mosaic of their two x chromosomes," says Baker.

"After the menopause, however, this effect is not stable, and the woman's body changes in a way which is impossible to predict," he explains. "This means that women's bodies are harder to treat in terms of the effects of ageing. All treatments must be personalised to the individual woman."

Women not ageing as well as men can have a profound effect on families. "Women are the natural caregivers, and often look after the man in a family unit as they age," says Baker. "If the woman has dementia, it has significant effects on the cognitive decline of the man and puts a lot of pressure on the wider family and social system. It is an issue that needs addressing fast."

Baker believes it is essential for AAL to address this particular challenge. Sensors can provide the data needed to help improve treatment of women as they age. "We need monitoring technology to see how an individual woman reacts to medication, how they react to disruptors such as changes in diet and sleep, and other factors which can affect health," he said. "This then opens the door for using big data to crunch the numbers provided by this monitoring to find personalised solutions that a human could not possibly hope to provide. AAL projects need to help the life sciences here, because at the moment, the life sciences provide good understanding, but not the solutions."

➤ We must seize the opportunity and accelerate market uptake

One of the keynote speakers at the Forum 2016 was **Miguel Gonzalez-Sancho**, Deputy Head of Unit “ICT for Inclusion” at the European Commission. Immediately following his address, he answered some fundamental questions about his message and about the future of the AAL Programme in delivering effective solutions to the market

How can the market be created? The technology is already there but what more can be done?

The unprecedented change that is occurring in our society represents as much an opportunity as a challenge. The digital transformation that the world is experiencing in the uptake of digital health technology, solutions and services can drive a triple win for Europe; better quality of care for citizens, more efficient health and care delivery systems, and increased competitiveness, including new economic opportunities, jobs and investment.

This triple opportunity can, however, only be seized if we overcome barriers to public and private investments in order to scale up innovation in active and healthy ageing. These barriers result predominantly from

dispersed initiatives and stakeholders, lacking critical mass and alignment on costs and benefits, dominance of data-silos and lack of interoperability that inhibits the sharing of information, failure to adopt suitable approaches to innovation and clinical validation, fragmented markets across the EU and across the spectrum of services covering the care continuum.

These barriers have been exacerbated by the financial crisis. The acknowledgement of the overwhelming that today's health and care systems are not sustainable and that innovation can deliver solutions, has not been sufficient to shift public policies towards innovative and more cost-effective solutions.

The EU must develop a coherent vision shared amongst all stakeholders to accelerate the uptake of digital health and care innovation at scale. A vision that clearly identifies particular market-needs in the health and social care sector, that aggregates actions to overcome fragmentation and that defines joint strategies to maximise benefits for citizens, health and social care delivery systems, and the economy.

What role can the EC play?

The EC can bring new ideas and possible solutions to the table, which is what we fund in Horizon 2020 and through our support of the AAL Joint Programme. The creation of the Digital Single Market makes it possible to offer digital products and services across all of Europe under a set of common rules and regulations. In particular the proposals for a harmonised legislation on data protection and ePrivacy have been designed to protect the right to privacy of citizens and create conditions for products and services entering scalable markets.

Work on interoperability is also under way for the transfer of essential information from personal health records in digital form across borders, so that citizens can receive healthcare wherever they reside.

Miguel Gonzalez-Sancho



VISION FOR AAL

In particular, our support for the AAL JP helps SMEs bring new products and services into markets across Europe. We have launched the European Innovation Partnership on Active and Healthy Ageing in order to help scale up innovation and share proven experiences and practices on innovation solutions for active and healthy ageing.

Recently our commissioner Gunther Oettinger launched a challenge to public and private stakeholders to join forces and define a common vision and develop a blueprint for the digital transformation of health and care and to mobilise key investments across Europe. It called for companies to provide relevant products and services that meet these needs, solve interoperability issues, create open ecosystems for large and small companies (using the Internet of Things for example), and clarify and skills requirements. The response has been very promising and should help to accelerate market creation and stimulate investments.

How can the market be more policy driven? To what extent should it be left to market forces?

There is a need for a common vision about how best to use the potential of innovation to scale up the market. This can then help inspire policy making at EU level (such as the DSM, medical device regulations and cross-border healthcare directive) and at national, regional and local level, by adopting guidelines and strategies for the introduction of innovative solutions and practices.

**“The EC can bring
new ideas and
possible solutions to the table,
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Different countries have different policy approaches to how health and care is implemented, and our EC actions can support such policies through their different dimensions. It is clear that the digital transformation of health and care provides new potential for citizens themselves to become further engaged at an earlier stage in their health and care needs and the solutions they may require. The EU can provide meaningful market regulations which can support the provision of innovative products and services across Europe in open and fair markets, including those for providers from outside Europe as well.

There is also always a need for consumer protection, which is why we are looking at the safety of health-related apps in order to understand how we can best avoid risks while ensuring that innovative solutions can enter the market quickly.

What is your opinion on the future of the AAL?

Innovative solutions for active and healthy ageing will continue to be required for a long time to come and with the pace of the evolution of digital technologies there is also no shortage of new ideas to be exploited. I see a clear need to continue to support and help translate such ideas into real solutions with market and business models.

The discussion about the future of the AAL JP has just started and we have launched an interim evaluation of the programme with a number of experts to get strategic input for such a discussion. We will then, during the next period, carefully analyse the options for continuation together with our partners from the member states to jointly agree on a way forward. This would then become part of the overall proposal for the next EU Research and Innovation Framework programme beyond 2020.

➤ Challenges in matching user needs and ethics issues



Satisfying the needs of the end user should always be at the heart of the development process in any AAL project. This not only includes the older adults using the solution, but also care associations, medical professionals and the family and friends of that person. One session at this year's forum raised some of the issues surrounding this difficult topic, and then invited debate and discussion in a lively interactive manner.

Technological development for informal care is a very important topic for research in the AAL ecosystem. Pervasive technologies have emerged as strong allies to the task of providing carers with informational, emotional and tangible support. Despite the benefits that pervasive technologies can provide, current and past research has raised several important ethical considerations regarding their use. The session "Challenges in matching user needs and ethics issues" addressed the ethical issues that arise from the use of user-centred design approaches for the elaboration of pervasive health technologies, with the objective of identifying elements of an ethics roadmap regarding technologies for informal care.

Miroslav Sili of the Austrian Institute of Technology gave three examples of AAL projects in which interesting questions were raised regarding meeting user needs and ethical considerations. He began with Youdo, a platform for older adults caring for other adults that provides information on how to look after others. He asked: what is the best way to present a care situation on video to another older adult?

Another project allows informal caregivers to send messages that appear on the assisted person's TV. These can then be answered using voice recognition technology. The ethical consideration here was whether the system should be recording all the time to listen for commands, or only be active in certain circumstances.

Finally, he pondered RelaxedCare, which allows the assisted person to send information on their mental state to informal caregivers. Questions arose about whether or not the system provides too much information to the caregiver so that they are overwhelmed. Or might the user say that they are not feeling well in an effort to engage with their informal caregiver?

Martin Kampel of the Vienna University of Technology outlined a list of points of acceptance criteria that should be considered for any AAL solution. Does it increase independence, safety and quality of life? Is it easy to use? Is the user in control of their personal data and the system? Is it affordable? He particularly highlighted the fact that people are far more accepting of technology if it does not invade their privacy, allows them to stay independent, and does not try to replace human care.

Having end users involved in the development generally helps with acceptance of technology, and it also helps if the technology is designed to align with the users lifestyle as much as possible— people often do not like to accept help as it makes them feel less independent, so the more seamlessly a technology integrates with normal routine, the less stigma that surrounds it.

The session then became interactive, bringing participants together to discuss the issues raised and get an idea about how to think about the topics discussed in relation to their own work.

Hilda Tellioglu, who chaired the session, outlined the ambition of creating a report based on the discussions held so that the lessons would not be forgotten. The ethical issues that surround AAL projects and ICT in general are wide-ranging and sometimes difficult to understand, and so this report will be a must-read for anyone involved in the AAL ecosystem who wants to find out more.



AAL awareness

For AAL products and services to be successful in the real world we need to create a real awareness of their potential amongst those making decisions about support and care for older people as well as older people themselves. The “Creating awareness of AAL technology” sessions explored how we can create this awareness, provide assistance and educate all the relevant stakeholders about the benefits of AAL solutions.

It has been recognised for some time that because of increasing financial stringency the statutory bodies in each European country will have to reduce the level of financial support and resources they can dedicate to the health and care of their ageing citizens. As a consequence there is now an accelerating need to create increased awareness of and educate citizens in AAL technology, digital services and open access to records.

Policy makers and employers have a responsibility to citizens and workforces to develop content for educational courses or academic curricula, elaborating on specific opportunities for users, industry and professionals. These should contribute to CPD Certification, specific qualifications and the highly improved services and application of funding. Two sessions entitled “Creating awareness of AAL technology” were organised by EKTG (European Knowledge Tree Group) at the Forum to highlight cost-effective education systems and their application.

One session began with a talk from Birgit Vosseler, director of nursing at FHS St.Gallen who spoke briefly about the European Federation of Nurses’ eight competencies that help define what nurses should do every day. At FHS St.Gallen the development of a living lab will enable nurses to teach patients and patients to teach nurses, ensuring AAL systems and services are better developed and deployed for the benefit of all.

Dr Christiane Brockes, leader of clinical telemedicine at the University Hospital of Zurich has taken the delivery of eHealth to a new level through the organisation of a medical online consultation service, including services for patients with heart failure and independent living assistants. Education in clinical telemedicine and eHealth is embedded in the curriculum of medical students at the University of Zurich, through the delivery of 20 hours of learning over a six-month period. The students’ response has been extremely positive.



Tony Cornford of LSE believes it should be possible to have a positive intervention when supporting people in the adoption and use of AAL services by incrementally building people’s skills and competencies – not forcing an unnatural change or driving forward any specific ‘project’. Training should not be the principle goal on the basis that the more training you give the worse the outcome. This positive intervention could be done by drawing good practice from models found elsewhere. In doing this we must be cognisant of existing education and training systems.

Maggie Ellis of LSE finished the session with a short talk on identifying legal and ethical requirements for assistive living technology innovations in specific countries. This is essential and should always include both the workforce and the user. Certification, qualifications and methods for the audit of knowledge should equally be part of this as much as providing knowledge and understanding. Checklists can easily be provided to facilitate comprehensive coverage of the issues, not forgetting that individual country requirements can vary tremendously.

A summary of issues and actions identified during the session will be created that will act as a basis for a report that will be shared with the AAL Forum, EU officials and others at both national and individual levels.

➤ And the winner is ...

The first ever Smart Ageing Challenge Prize

A stationary bike hooked up to Google Streetview and the Internet of Things wins the €50,000 top prize in the AAL's biggest ever competition. In an emotional awards ceremony, the winning entrepreneur **Roel Smolders** accepted the prize money, pledging to spend it on further investment and getting the invention to market

One of the highlights of the AAL Forum 2016 was the award of the first ever AAL Smart Ageing Challenge Prize, which saw a top prize of €50,000 going to the best Internet of Things (IOT) innovation designed to enable older people to achieve the best possible quality of life, socially and independently. From a huge entry of close to 200 applicants, the field was eventually whittled down to five top finalists, who were all given the opportunity to present their ideas to a packed plenary session.

After a nail-biting wait for these five top finalists, Activ84Health Explorer was eventually announced as the winner, picking up a cheque from the AAL's Karina Marcus, who said: "The Challenge Prize was a new event for AAL and it has been a great success in helping people focus on the importance of engaging



*Roel Smolders
accepting
the award*

*Martin Morandell
presents the
key features of
RelaxedCare*

*The SightPlus
app assists
the visually
impaired*

The five top finalists discuss their work on stage at the packed plenary session



with the end user in the development of a successful product and ensuring that a market is there before it is launched. Our winner has certainly done that.”

Activ84Health Explorer was an idea that took root in a nursing home in Belgium and developed into a smart system that allows the housebound to cycle the world.

Jan and Roel Smolders of Activ84Health Explorer picked up the major European award at a glittering ceremony held a long way from Witte Meren, the nursing home Jan runs in Belgium and where the idea was born. They are now looking to take the product into nursing homes around Europe.

The idea emerged when Jan was looking for a way to keep his residents physically active in a safe, motivational and fun

environment. Teaming up with his brother Roel, a health technology expert at the Flemish Institute of Technological Research at the time, the two brothers went on to develop the technology that offers older people who can no longer get out and about a window on the world.

Called the Activ84Health Explorer, the smart system allows users to freely explore towns and countryside while cycling on a stationary bike from the comfort of their own home. Autonomy and the stimulation of memories are two of the core values that drive this innovative start-up company to provide physical and cognitive wellbeing for its users.

Using Google Streetview connected to a bike, cloud-based software and touch screen controls, the Activ84Health Explorer was designed to allow older people, unable to get about as they once could, to explore familiar areas from their past. As well as stimulating memories, this activity also prompts social interaction in the home, while at the same time providing a valuable exercise routine. Each user has an individual profile, which allows the platform to take into account personal physical and cognitive abilities.

➤ The other top finalists

AlzhUp: The first service of its kind, AlzhUp allows Alzheimer's patients and their caregivers to upload memories to the cloud in the form of photos, video, music and text and catalogue them to build a clear and recognisable picture of the patient's history. All the family can share different moments through different devices — tablets, phones and wearables — and combat the effects of the illness together.

Customised therapies, based on personal memories, are also available, designed to maintain cognitive functions and prevent behavioural problems. These come in the form of mental and physical exercises and, by using gamification techniques, are designed to be enjoyable as well as a valuable in fighting the effects of the disease.

RelaxedCare: Informal caregiving is often a stressful role to take on. The RelaxedCare System aims to connect informal caregivers with assisted persons via an intuitive, user-friendly device to eliminate undue concern.

The RelaxedCare System is about conveying information, allaying fears and connecting users. Sensors in the assisted person's home record their status and the RelaxedCare System calculates their wellbeing state which is displayed as a colour on a cubed device, the main component of the system. Different colours indicate different states. If the informal caregiver wants to know more, they can get detailed info via the app, which is the second component of the system. The third component is a simplified messaging system that lets assisted people show when they are out, when they've safely returned home, or simply that they are thinking about the person at the other end.

SightPlus: SightPlus is a wearable, hands-free, vision-enhancement application that powers smart glasses to assist visually impaired people. The app enables partially sighted people to see again by combining real time video augmentation with a heads-up display technology to leverage the remaining vision of the sight impaired users. This allows them to see the faces of their loved ones, recognise signs and objects at a distance, watch TV and stay connected over the web. It also offers the ability to enlarge text and enhance the remaining sight of people with limited vision.

An important distinction from existing technologies is scalability. The technology works off any Android smartphone and doesn't require manufacturing of specific hardware or unique parts. This means the price of the sight-aid tools can be reduced significantly, making the solution much more affordable than existing tools.

TAVLA: TAVLA is a new app platform that empowers care providers to develop apps for their services and reach their customers more easily. This increases the quality of life and security of older adults in their homes.

Due to the innovative interaction model of TAVLA, the usability of apps is much more intuitive and can be personalised. This standardised interaction model has not been implemented by any other platform so far. The individual setup makes TAVLA usable for people with different limitations. This helps to make up-to-date technology usable for everyone following the "design-for-all" approach.



*Roel Smolders
holds his award*

Now the company, which began life as an AAL project and has been on what Roel describes as an “unexpected journey” is on the verge of international exposure having won this prestigious award that was initiated to find the most promising product that uses the internet of things (IoT) to enable older people to live more active, fulfilling lives.

With close to 200 entries for the prize, which was run by the AAL Programme, Activ84Health beat off stiff competition, eventually being selected from the final

five, who all attended the forum. “Just being in the top five was incredible,” says Roel. “I am now completely overwhelmed and a little tearful. It has been fun, but I was nervous today.

“We have already won a number of innovation awards in Belgium with our Activ84Health Explorer, but we were always uncertain whether our new technology would be appreciated by others outside of our own country as well – and being here proves it is!”

As a start-up company, the money will be a valuable prize as the business seeks to expand throughout Europe. “We already have distributors in Belgium and the Netherlands, but the exposure we get from winning the Smart Ageing Prize will certainly rocket launch us to reach many new opportunities and business

➤ Stimulating and testing new innovations – that’s our challenge

Nesta is a UK-based innovation foundation which worked with AAL in developing the first ever Smart Ageing Challenge Prize. Constance Agyeman explains the thinking behind the prize in encouraging innovative ideas to blossom to help older people live more connected, fulfilling lives using the potential of the Internet of Things

Challenge prizes are on the rise again and we see this as a good way of focusing people’s attention around a challenge or issue and then encouraging them to find new types of solutions that address these.

The prizes we set up offer a reward and we set out the challenge, but we don’t say how this needs to be addressed. We are prescribing what we are looking to achieve, but not who can achieve that or how they should do it – and that really does stimulate a whole new range of innovation and opens up a whole range of different thinking for ways of addressing different issues.

So, when working with AAL, we wanted to find a way of addressing some of the challenges facing our ageing population. We also wanted to embrace the new opportunities being offered by the Internet of Things (IoT) and see how these two

“When we talk about **innovation**, we also want people to consider adapting products and **technology** that are already out there in ways to address different **problems**”

things can be brought together to really support a more diverse, healthy and active ageing population and think about how older people could be supported socially and independently.

When setting this challenge, innovation was clearly a key criteria but we were not just talking about completely new products. When we talk about innovation, we also want people to consider adapting products and technology that are already out there in ways to address different problems. It’s not always just about the new, but looking at new ways to address a problem.

partners across Europe,” says Roel.

The brothers, along with partners Wannes Meert and Jesse Davis, have “tons more ideas” but will now be concentrating on their core product. “With the award behind us and the money in the bank, we are confident that this is the right product for us and we are very confident that it has a big future.”

As well as providing a novel and engaging means for older people to

“I am now completely overwhelmed and a little tearful. It has been fun, but I was nervous today”

keep fit in the home environment, the Activ84Health Explorer also has applications for healthcare professionals, who can use the collected data to monitor the health and well-being of the older person.

Another key criteria was that the products had to be internet connected, but we wanted to see quality and usability embraced, too. We didn’t want to see things thrown together – thought needed to go into what it was to be used and who was going to use it.

We also wanted entrants to think about the possible impact their solution would have on people’s lives and the way people would actually use it and were looking for prototypes if possible. We wanted to have something that could demonstrate its potential impact.

Also important for us was the opportunity to take a product to market. Often a range of grant programmes rely on a set of core funding whereas the challenge prizes are designed to support the innovators to think about their business models, find markets and engage with their customers. By supporting them to demonstrate the efficacy and viability of their products, we are looking to open up a whole world of opportunities for them within the market place.

Support and guidance for participants is another key part of challenge prizes. They are not simply about people giving in their idea and getting money for it if they win. They are about the journey and the development of ideas and helping to diversify thinking – and this could be support for business planning, prototyping or just understanding what is happening in the market place where your product is aimed.

While we had the final five and, ultimately, the winner of this challenge prize at the AAL Forum 2016, a key success for us is that everyone who took part in this process will have strengthened their capabilities and built their capacity to be able to continue to develop their ideas – so there was real value in taking part.



Constance Agyeman

➤ Evaluating risk: how AAL technology can transform insurance



AAL technology has the ability to change people's lives in many ways, and insurance companies are coming to realise that it can be used to provide a better service to their clients. **Stefan Locker**, formerly of Helvetia Insurance, offered his opinion on how insurance companies view the potential of the nascent AAL market

The second plenary session invited a panel of experts from different backgrounds to discuss the need to invest in AAL technology. Technology has the potential to decrease hospitalisation, decrease chronic-disease-related costs, help older adults to live healthier and more independent lives, and generate business and jobs within the technology industry.

Stefan Locker, former CEO of Helvetia Insurance, was in the panel to give some perspective on the issues faced by insurance companies in the modern financial climate. He initially set out to underscore his view that the ageing population of Europe has presented huge challenges to insurance. "I was responsible for a large balance sheet at Helvetia, carrying long-term savings and future pension funds for people

in Switzerland and across Europe," he said. "People living longer does provide opportunities, but the reality of today's capital markets along with zero interest rates or even negative interest rates means that funding a good living after the active period of life is becoming extremely difficult.

"On this front there is no good news," he continued. "Redistribution of money between the active employed and older adults will only become more challenging, and the monetary policies of today do not help at all."

These difficulties do bring with them a silver lining, however. "Active and assisted living has now become a necessity, and that means that the AAL market holds huge potential," he explained. "Technology and digitisation will play an increasingly important role as the need to bring down the cost of care programmes and infrastructure grows, because the money available will not grow."



Stefan Loacker

Aside from these macroeconomic issues, the insurers themselves — especially life insurers — face huge pressure to grow capital funds and provide money for pensions that have been guaranteed. “Not only is their given business model under pressure, but they also have disruptive influences from Fintech and Insurtech companies. So after a hundred or so years of stability, innovation is now key for insurers if they want to survive this kind of disruption.”

“Active and assisted living has now become a necessity, and that means that the AAL market holds huge potential”

Big data can help insurers provide more individualised proposals for customers. Information on behavioural patterns and other health related matters are consequently valuable to insurers as they allow them to be more precise in evaluating risk. Many insurers are now moving away from just paying out in case of claims and are getting more involved in terms of prevention, protection and assistance around different areas of living. Smart homes, smart mobility, and smart health are all of great interest in this respect.

In fact, most insurance companies now have their own venture funds to pay into startups. This brings them closer to where innovation is happening and allows them to use the newest technology with their clients. “Insurers are huge institutions with millions of clients, so there is big potential for rollout,” said Loacker.

Loacker believes it is imperative that companies set out the business case for their technological solutions; they cannot exist just for altruistic reasons. “Insurers are looking for features that give them more precision in predicting claims in all settings,” he said. “This follows into using data about external factors and then getting involved in prevention rather than waiting for things to happen and then paying out. In the lives of older adults, there are many areas which technology can help with in this respect. For example, the ability to make emergency calls and tools that help around the home can all help bring down the costs of dealing with old age.

“Any diagnostic tool that helps with early response before something escalates can help insurance companies to be better risk managers and to reduce unnecessary costs. We are already starting to see these technologies being used, and they show great promise.”

However, there is a digital divide that exists between the solutions and people who have not grown up using such technology. “People who never worked before the internet was ubiquitous are unable to use many technologies and do not have the necessary infrastructure in their homes,” said Loacker. “This divide needs to be bridged, otherwise the technology being developed is only theoretically helpful, but not practically.”

Insurers today must remain intelligent risk managers in terms of the ageing society while always keeping in mind the zero-interest capital market. Loacker believes that the forum’s motto “Innovations ready for breakthrough” projects the right attitude, but innovation does by necessity take time. “The full value chain must be involved, the framework and all the participants from the providers to the end consumers,” concluded Loacker. “This is not a quick process, but from what I can see at this year’s forum we are moving in the right direction.”



Meeting of minds

The matchmaking sessions at the AAL Forum bring people together to discuss potential collaborations.

One of the most exciting and well-received innovations at the AAL Forum 2016 was the matchmaking event, an effort to bring industry, researchers, investors and other key AAL stakeholders together for intimate, private meetings to discuss ideas for collaboration in the active and healthy ageing space.

Delegates hoping to make these valuable connections were able to complete an online profile before the event, outlining what they were looking for or what they could offer potential partners.

The event proved highly popular, with meetings occurring throughout the forum. Those seeking funding, potential investors, deployers in the health and care sectors and suppliers of AAL solutions all took advantage of the quiet space made available.

One participant expressed how pleased he was with the people he had been matched with and the productivity of his meetings.

“I have been going to the AAL Forum for a few years now as I believe it is an area where we can expect real growth in the coming years”

“I have been going to the AAL Forum for a few years now as I believe it is an area where we can expect real growth in the coming years,” he said. “Before this year I had never participated in the matchmaking sessions, but this year I decided to join in as I am now looking to get involved financially with products and solutions that I think have the potential to make money.

“Although it is also possible to make connections informally throughout the forum, I found the meetings I had as part of the matchmaking very useful and got the ball rolling on a few discussions. I had an extremely productive meeting with the leaders of one AAL project that is now coming to an end. They are looking to start a small company and I think we are on the same page with how we think the market is looking. I will definitely be meeting up with them after the forum.”

In total, 39 meetings took place over the course of the forum. Most participants in the sessions were from the host country Switzerland, but there were representatives from various other countries around Europe involved as well.

▶ AAL in the year 2030

As we look towards the future, one thing is certain – our population will continue to get older. AAL can play a pivotal role in helping define areas of need, but can also provide a platform for visionary innovation. We live in rapidly changing times, where disruptive technologies like the Internet of Things, augmented reality, robotics and smart cities and devices are changing the way the world work. But how exactly will the future of health and care look in fifteen years time and beyond?



Advances of technology are steadily increasing and pervade all different areas of our lives, including work, leisure and care. Whereas the 1980s can be described as the era of personal computing, nowadays computers are embedded in a variety of materials and artefacts. Beyond the keyboard and mouse, new ways of interacting with computers have emerged, such as mobile, affective, tactile, and social computing.

The workshop entitled “Back to the future – Visions for age-friendly computers in 2030 and beyond” aimed to discuss future visions based on current trends in the field of human-computer interaction, in particular social and tangible computing, two trends that have huge potential for AAL products. Markus Garschall, a researcher at the Austrian Institute of Technology, introduced the concept of the session, which was to explore what being old might be like 15 years from now and beyond. He asked everyone to keep this in mind throughout the session and to think about how they could apply their ideas to solutions for future informal care and age-friendly communities.

The workshop began by looking back at technology visions from the past and by providing an overview

on current and emerging trends in human computer interaction. It was interesting to look at how visions from the past differed from each other, with some of them proving to be quite accurate while others were wildly off the mark. Some, like the idea of a postman delivering letters door to door sitting on his own personal aeroplane, seemed ridiculous at first, but when you think about Amazon’s recent pledge to start delivering parcels using drones it suddenly seems not that far from reality.

In order to try to encourage thinking about the design of AAL products beyond “solutionism”, participants were then asked to engage with fictional stories describing imaginary care scenarios. They were asked to come up with “alternate endings”, describing how ICT-based interventions will have improved (or worsened) the quality of care in specific scenarios in 2030 and/or 2050.

In the imagined scenario of Helmut Schlingel, an 81-year old and enthusiastic user of technology, the delegates were asked to imagine how he might stay connected with family and friends in the year 2030. Virtual reality was seen as an excellent method for sharing activities, allowing people to enjoy each other’s company over long distance. New interfaces could also help enable shared experiences, for instance transmitting the sights and smells of a country while travelling. The delegates also believed that wearable technology that transmits data on health and wellbeing to family members would be fairly standard technology by this time.

It was an interesting exercise that captured the participants’ imagination. “It really made me think about the huge possibilities that are available to us when developing new products,” said one delegate. “Thinking about how the Internet of Things can connect everything we do together into one ecosystem is mind boggling! But I think that by harnessing this power we can really transform the way we think about care.”

Design for happiness

The housing market is struggling to keep up with demographic change; at present, 75 per cent of European housing stock is not considered to be age friendly. The “Neighbourhoods of the future” theme provided delegates with a forum to discuss the issues surrounding homes for older adults

How can we leverage the maximum economic and social benefit from new technologies in the home? The second “Neighbourhoods of the future” interactive session provided delegates with an opportunity to participate in an analysis, consultation and discussion covering all factors contributing towards innovative solutions that promote growth in the construction of smarter age-friendly homes and environments. Innovative practices were discussed, and attendees were able to contribute towards a European Reference Framework for age-friendly housing.

“The AAL Forum showcases a lot of amazing technology but can sometimes fail to show the human aspect of the products, said Michelle Hawkins-Collins, head of futures at Virgin Care UK. “Why do people need this technology and why will it make them happier? When we think about products for the home, it shouldn’t be because it is cheaper for people to stay at home, but because it can keep people happy. If this is kept in mind, the right products and services can be designed.”

Poor quality housing can be as much of a killer as smoking, she added, reporting that the UK spends £4.6m a day on falls in the home. Dementia at home is also very tricky issue – it is not useful to change the environment of someone suffering from dementia.

Discussion also focused on the need to take into consideration that people are pleasure-driven. Hawkins-Collins briefly mentioned the concept of the hedonic treadmill – the tendency of humans to return to a relatively stable level of happiness despite major positive or negative events or life changes. How can we design houses to keep people stimulated and happy? “Ultimately, we need to design a society where we look forward to getting old, and where we have a purpose ,” she concluded.

The majority of the session took the form of lively discussion and debate between everyone present. Many people voiced frustration at the lack of visible results that are helping older adults despite the millions of euros that have been invested by AAL into addressing the challenge. Various barriers to introducing new technology in the home and building age-friendly homes still exist due to fragmented market forces and the muddled complexities of everyday life.

One member of the audience wondered how we could make hospitals a better place for patients to free up time for care. He suggested that if we could use tech to automate routine tasks then there would be more time for human interaction that is so valuable for older adults’ wellbeing and happiness. Another’s response to this was that we should in fact be moving parts of hospitals into the homes. Homes can be holistic environments that provide many services to those living in them.

Don't miss the boat and do a Kodak or Blockbusters, said Dawid Konotey-Ahulu in his inspiring speech at the first session. Now is the time for large financial institutions to invest in homes for the future



Hack for Ageing Well

For two days before the AAL Forum started, a group of eager and talented young developers and designers gathered to participate in the AAL's hackathon event called Hack for Ageing Well. Seven teams developed some impressive prototypes before pitching them to judges



Olag Lavrovski

An increasingly popular part of the AAL Forum is the annual hackathon, a competition that brings together teams of developers and designers to explore ideas, develop prototypes and pitch the resulting product or service designed for older people to live more independent lives.

It's always an intense affair, with the teams having only two days to bring their ideas to life, but the long sessions are highly creative and lead to exciting developments that have real market potential.

This year, seven teams worked at the event, called Hack for Ageing Well, which was organised with Opendata.ch, which runs a regular hackathon series, and located at Startfeld in St.Gallen, an entrepreneurship hub for the region and a hotbed of creative thinking.

After the two days, the seven teams all pitched their concepts and demonstrated their prototypes to a select panel of judges involved in AAL from several stakeholder groups, including end users. A winner was chosen from the group, although judges were impressed with all ideas on show.

The winning entry was called Permanent Memories, an online service for sending photo-postcards, which

are collected in a cloud service and printed on site. The system was developed by Gerard, who works with a retirement centre in France and Martina and Katrin, who are designers from Germany skilled in software development.

Olag Lavrovski, an independent software engineer and representative of Opendata.ch, helped organise Hack for Ageing Well and was delighted with this winning idea as well as the high level of creativity on display and the quality of the solutions developed in such a short time by all participants.

"A hackathon is a meeting of minds, a place to start projects and to address a variety of challenges, usually using ICT," he said. "The idea is to bring ideas to life in a very constrained period of time, taking them through the conception, design and prototyping stages – and all our teams did just that.

Hack for Ageing Well was set up with the goal of creating solutions that help people remain independent into their old age. "We're all getting older," continued Lavrovski, "so everyone taking part felt committed to the cause to create something that would benefit someone in their family or neighbourhood with technology that actually fits their context, rather than with technology to which they would have to adapt.

"We set out to create a number of projects that clearly demonstrated potential in a business context, which is why they were all presented to relevant stakeholders

"A hackathon is a meeting of minds, a place to start projects and to address a variety of challenges, usually using ICT"

involved with AAL, from the public sector, industry, funders and user communities. We were hoping that some of our ideas would convince them to support the projects with coaching or funding to take them to the next level.

“I think every one of the teams who participated in Hack for Ageing Well has demonstrated real potential and applied themselves very well and very quickly came up with a range of creative solutions.

“It’s a difficult area to work in for some, partly due to the fact that most of our hackers are not familiar with the

experience of being old, so thankfully we were able to get some people from Pro Senectute Switzerland, the largest Swiss organisation representing the needs of older adults to come along and provide us with some first-hand experience of the challenges faced by the older adults like reduced mobility and cognitive impairment.

“Often businesses are misrepresenting the problems of old age and not offering the solutions that are possible to help address these issues. I hope that we have developed some really good project ideas that do address these challenges and sometimes not in the way we expected.

The winner

Picture perfect: Martina Uhlig was a member of the winning team at Hack for Ageing Well, developing an app that enables smartphone users to share their pictures instantly in analogue format with people who don’t have the digital technology to see them. Martina explains how she found the whole experience:

“It was a really good experience and a great opportunity to refine an idea we had and develop a working prototype. We didn’t know anyone when we arrived, but we presented our idea and built a team.

“We wanted to show off our idea and see what people think. There hasn’t been much time to get things done, but I think we have developed something worthwhile.

“We have developed a system of a shared memory platform, so there is a pool of memories that a family can share. What we want to do is develop a system that can transfer pictures taken on our phones to analogue. So grandparents, for example, who don’t use smartphones, can be connected to the rest of the family who do.

“When a picture is taken on the phone using the app, it is sent to the box in the home where it is printed out as a postcard.

“This can work for individuals at home or in the care home, where there can be a central printer. People can then share images and it will bring people together to talk about them, perhaps creating a physical memory board.”

The other teams

Social data: This team tackled the problem of finding appropriate social services on a national level, observing that the lack of a single database for all cantons in Switzerland leads to many problems. In order to support people using the internet to get help, they created a prototype directory service for addiction support based on data from infodrog.ch.

They demonstrated this in a live web application, which visualises the data on the map and illustrates the services and how to get in contact or travel to them clearly. For their efforts in connecting people to destinations, they were awarded a prize from the Swiss Federal Railways (SBB). Their further goal is to build a national database, which could be used to develop apps of other types.

The active life: In response to the challenge to explore and collect data related to the issues of ageing, this team wanted to understand the challenges of socialising and motivating older people to take part in healthy activities.

They analysed various scenarios for collecting data on ageing, proposing creative ideas such as engaging younger relatives in monitoring and supporting their elders. Their proposal included a data collection process that would certainly benefit from a highly secure cloud data platform – and would prove to be of immense benefit for social research and policymaking.

The team also looked at the market for apps that track health progress and created a business case that impressed the jury representing the AAL Forum, who recognised their efforts with a startup boost prize from Pryv.

"People who are retiring now are much healthier, fitter, more active and in many cases better off than ever before. They are very active consumers and a great community for development and I think we have overlooked that, particularly the IT industry," concluded Lavrovski. "To make products accessible for older people and supportive of their needs has often been considered a burden, so I hope what a hackathon like this will do is critique this situation and show that there is a real market for IT products that support the older person."

Ask4Help: Two teams decided to work on the topic of emergency assistance for people who fall and are immobilised. They worked in the same room, exploring two different platforms to achieve a similar result.

Gesture4Help is a smart watch, which recognises repeated thumping of the arm and activates an alarm. This was developed with the understanding that it is impossible in some situations to use both hands to use a watch.

Meanwhile, Voice4Help achieves a similar result using voice recognition on the Amazon Echo/Alexia platform. They prototyped additional scenarios such as contacting doctors or relatives, and demonstrated how this exciting new technology is developed.

Basefire: One of the members of the Social Data team was also interested in the "Map your childhood" challenge and so also developed the Basefire demo.

This web application allows the user to record a story, which is transcribed using Google's cloud speech to text service. It then detects locations and facts and plots them onto a GeoAdmin map. The story snippets are beautifully displayed in an interactive presentation.

While the demo glitched during the public presentation, it was later seen in action to great approval. Developer Stefan hopes to find time to polish this off and help us create Storymaps of our lives by voice.

Mobile Angels: Train travel can be overwhelming for older adults. This was the challenge that this team committed themselves to address by developing solutions to help older adults with public transport and their mobility.

They developed a concept of virtual assistants and intelligent services, designed to help older people reach their destination by catering to their specific needs – such as reduced speed when going between platforms, more persistent notifications, clearer explanations and help with orientation at busy stations.

Extending an established concept from Italy, called Travel Angels, into the digital realm, they designed and demonstrated their ideas with a conversational bot that uses messaging platforms such as SMS to interact with the user.

Interestingly, working on this team was Graham from Bern, a 66-year-old and so, as he described: "One of the people for whom these systems are all being designed for".

Aufschnitthilfe - Ham Opening Device: Thomas started the hackathon by asking his elderly mother what would really help her get through the day. Her answer was simple: she likes cold cuts of meat, but finds it tough opening the packaging.

And so a hardware prototype of a tool to open vacuumed cold cuts was developed. Ideal for trembling hands and less dexterous fingers, this type of packaging, which is popular all over Europe can now be opened with one easy motion!

➤ Opportunities for cooperation in a new Digital Switzerland

Mauro Dell'Ambrogio, the State Secretary for Education, Research and Innovation of Switzerland briefly outlined the Swiss government's strategy for Digital Switzerland, touching on the need for a vibrant private sector to drive innovation and for more cross-border collaboration to ensure the best products and services for older people are taken to market

Delegates were welcomed to

Switzerland by Mauro Dell'Ambrogio, the State Secretary for Education, Research and Innovation, who took to the stage at the opening plenary of the first main day of the forum to offer greetings on behalf of the Swiss government.

The State Secretary, however, also used the opportunity of addressing so many stakeholders involved in active and assisted living across Europe and beyond, to speak about the size of the challenge society faces and how Switzerland will be addressing this.

Using the latest numbers to emerge from the Swiss Office of Statistics, Mr Dell'Ambrogio asked the audience to imagine itself in a country where more than a quarter of the population was more than 75 years old and only half of the people were in employment.

"This is what the situation will be in Switzerland by the year 2045," he proclaimed. "And this situation will be similar in other countries, at least in Europe."

Dell'Ambrogio was also keen to emphasise the positives of this demographic shift, labelling the increase in life expectancy as a "pleasant phenomenon" but warned that when seen in conjunction with other factors

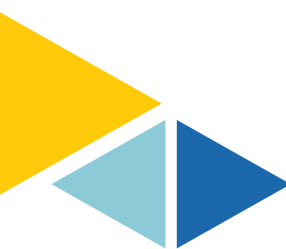


like a shrinking workforce and the effects of migration, European society should expect fundamental changes in the way we live together and the way we organise ourselves.

"Already today, we have to face the consequences these developments are having on our society and on our social systems," he said, suggesting that cooperation is the only way to address these challenges. "Switzerland is certainly eager to learn from other countries about how they deal with these challenges," he said, "and we will gladly share our own insights about these challenges with them, too."

"For Switzerland, the AAL Programme is an ideal platform on which we can all develop solutions together," he continued. "With participation in more than 70 projects since 2009, together with 22 other countries, Swiss players have been using this platform very actively and successfully. I am convinced we will all profit from international cooperation."

So where have we got to after eight years of developing solutions through the AAL Programme? Warming to the theme of the forum and the role AAL must play in this future, Dell'Ambrogio pointed out that it is clear that technological innovation will play an important role in how society deals with demographic ageing and in this sense, the programme is playing a vital role.



"We are now at the point where we have a great variety of technical solutions and, increasingly, these products and services are reaching the market readiness," he said. "But, the market for these types of technologies is still sketchy," he warned. "The so-called silver market is still developing and assistive technologies have often not yet found their places in it."

Dell'Ambrogio then asked the audience to consider a key question in how this silver market could be developed and the role government should play in this development. "What role should the state play in the development of technologies for the silver market and should the state do more to support such innovations?" he asked before clearly outlining how Switzerland sees this crucial question, quickly establishing that the Swiss government adheres to its established market principles when it comes to technology for the silver market.

"Innovation happens first and foremost in the private sector," he proclaimed. "In Switzerland only one third of R&D investment comes from the public sector. In this sense, innovation means success in the market, so the state is a subsidiary player and its role is restricted to providing the right environment where innovation can happen.

"For this favourable environment to flourish," he continued, "I count a good education system, with a dual path of academic and vocational training, renowned universities, excellent infrastructure, a lower-regulated job market and favourable legal and tax environment as essential."

Of course, public R&D funding has its place in Switzerland, too, and Dell'Ambrogio was keen to outline how it should be used. "It can help turn good ideas into marketable products," he said. "Ideally, however, public funding should only support research without defining it. Research topics should be defined by the researchers, and the government must not interfere at this stage.

"It is our conviction that researchers, together with their partners in the private sector, know best in what field they should conduct research, what they should develop and how they should take it to market."

"Public co-funding should go to the most promising projects without pre-setting narrow topics and without rigid timelines and rules. This should go hand in hand with state support for young entrepreneurs, start-ups, business incubators, coaching and so on."

**"With participation in more than
70 projects since 2009,
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Dell'Ambrogio believes that it is this policy of focusing on favourable framework conditions in the research arena that allows for additional single measures to be implemented at a government level and he used the recent government launch of Digital Switzerland, the new state strategy for the digitisation of the country. The strategy has the overarching objective of creating an "informed and democratic society and ensuring the wellbeing of our citizens".

This will create opportunities for cooperation in Switzerland for all those involved in ICT development, including all involved in active and assisted ageing, and this was something Dell'Ambrogio was keen to point out to the AAL audience.

"The federal administration is seeking an exchange and cooperation with the EU and one particular element of Digital Switzerland is particularly relevant for AAL" he said as he concluded his address. "The strategy wants to empower Swiss citizens to use more information and communications technologies in their daily lives competently. To that end, the strategy seeks to promote the digital skills of older adults and provide open access to ICT.

"Different kinds of digital inclusion projects are supported and these include the development of ICT products and services which allow older adults to live independently and securely."



We need to find ways to disrupt the system

Two packed sessions at the forum addressed how society can develop the neighbourhoods of the future that, with innovative smart home technology and creative thinking, can enable older people to live more meaningful and connected lives. Led by **Ian Spero** of the Agile Ageing Alliance, the debate was lively and open and addressed some of the key questions that need to be answered if we are to meet the enormous challenge ahead as well as take advantage of what is a massive opportunity

The Neighbourhoods of the Future fact-finding roadshow ran two popular sessions over two days at the forum, as part of an ongoing series of events that have been taking place all over Europe over the past six months. The roadshow, which is a collaboration between the Agile Ageing Alliance (AAA) and the European Commission, brought together a variety of influential stakeholders from the digital, construction, health/ social care, finance, security and third sectors for lively discussions and interactions about the development of innovative new-build and retrofit home environments specifically designed to empower the ageing population to live more meaningful, connected lives.

According to AAA founder Ian Spero, who chaired both sessions, the Roadshow is a European Commission initiative which aims to gather consensus from stakeholders working across the Silver Economy to inform the development of the European reference Framework for Age Friendly Homes, with a view to accelerating development of smarter age-inclusive homes, that will empower citizens to enjoy more meaningful, healthy and creative lives, seizing new opportunities for learning and social engagement”.

It is estimated that around 75 per cent of the EU’s current housing stock is not suitable for independent living, while only some new-build housing schemes are embracing the concept of smart homes. This provides a huge opportunity for the development of new-build and retrofit solutions for homes, particularly homes for older people. In this context, Spero clearly set the tone for the discussion at the outset. “Neighbourhoods should be about bringing people together,” he said. “Homes should not be prisons for older people and there is clearly an opportunity now for us to work together on developing the technologies that ensure they are not.

Ian Spero



“But this will only happen with stakeholders talking to each other,” he warned. “And all stakeholders need to be involved in this conversation if the ideas we have are to become the innovations that make it to the market.

“Having technology in the home to enable independent living is all well and good, but you have to also think about the wider community,” he continued. “We need to connect the dots between technologists, health and care services and the construction sector. These are important considerations to create growth and at the moment, these are barriers to growth because those working in programmes like AAL and those working in the construction sector are not working together.

“So what we are doing is going across Europe and bringing together those different stakeholders to create a common consensus about what it really will take to create social and economic impact.” Of course, the AAL Forum was a natural home for this important discussion topic, with smart homes

a key enabling factor in much of the technology being developed by AAL projects and the Internet of Things being at the core of much of the AAL's current thinking.

But, as co-chair for the two sessions and a member of the AAL Forum's organising committee for 2016, Urs Guggenbuehl, pointed out that while a great deal of money has been invested in AAL projects over the past years, the impact has been minimal. "Over the past decade AAL has invested more than €400m to initiate ICT-based solutions which support older adults in their daily life," he said. "But so far, only a few of projects have found their way on to the market and none has had a major impact.

"The industry churns out a lot of connected devices which could support AAL solutions but there are still no real breakthrough solutions on the market. We believe that with the development of smarter homes, from those being built new, to those being retrofitted and enabled with smart technology, we could at last really start see things take off."

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older adults
in their daily life”**

Spero believes that the discussions at the forum were productive and generated good understanding of the need for creative and, as he emphasised on a number of occasions, disruptive thinking. "The forum was open, with lots of open thinking," he said. "There seems to be an acknowledgement that beyond technology, there is a need to identify a market. For this to happen there is a real need for cross-sectoral collaboration and I think there is an appetite for that. And that is why we called for disruption and innovation at our sessions – because that is what it is going to take to get real change."

This form of creative thinking saw delegates address fundamental questions at the heart of how AAL can

contribute to the disruption Spero sees as needed. Are the products and services being developed by AAL projects good enough for the market? Do AAL projects need to initiate better business concepts and marketing techniques? Are older adults actually ready to engage in new digitally-enabled products and services? And how we can leverage maximum benefit (economic and social) from new technologies in the home?

In essence, the answers to the questions that emerged from the sessions remain complex and to a large extent un-answered.

Yes, there are products that are emerging on to the market that will make a difference to the way older people live their lives, but not necessarily emerging from research projects. Tech companies, the construction industry and others from the private sector must engage more with researchers to leverage good ideas that won't necessarily see the light of day.

Yes, some older adults are ready to engage with these products, but older adults are not some homogenous group, so individual needs and, as importantly, desires, need to be considered at an early stage.

And, yes, there is a huge market potential for active ageing products, particularly those built in to homes, but much more needs to be done to take advantage of this potential, particularly in terms of different stakeholders working together, understanding the possibilities and developing clear business strategies that push products into the right markets – towards care organisations as well as individual consumers.

As Ian Spero concluded: "We need people to think about how we can disrupt the system. How can products, services and solutions be used in the real world to make a difference?"

Neighbourhoods of the Future is produced and directed by the Agile Ageing Alliance which aims to identify like-minded private, public and 3rd sector stakeholders willing to join forces to champion the needs and rights of European citizens to enjoy their later years with dignity and (where possible) autonomy, in their own technologically enabled smarter homes and neighbourhoods.

➤ Bringing care to the home

It is a well accepted fact in the AAL community that most older adults would much prefer to stay at home rather than go into care. Retaining independence like this improves people's quality of life and keeps them engaged with society. **Béatrice Fink** of Pro Senectute was on the panel in the second plenary session, offering up her insights on how the AAL Programme and society at large can help to support this goal

For the last 90 years, Pro Senectute has been providing services to people aged 50 years and upwards so that they can continue to enjoy their lives within their own four walls. It is the largest professional and service organisation for retired people in Switzerland. With around 1,600 employees and 15,000 volunteers, every year it is in contact with around 700,000 elderly people throughout the country, providing services in areas such as personal counselling, domestic help, sale and rental of aids and appliances, education and fitness.

"Everyone wants to stay at home and live autonomously and independently as long as possible," said Béatrice Fink, Pro Senectute's head of finance. "Today, 90 per cent of Swiss citizens over 65 live at home, while 57 per cent of people over 85 live at home. We conducted a

study together with FHS St.Gallen and estimated that this percentage will increase to 65 per cent by 2030. Taking demographic development into consideration, that will give 404,000 older adults living at home by 2030."

This development poses major challenges to Swiss society, and similar situations will be seen in other European countries that face the same demographic development. The cost for assistance and health services at home will increase from €7.2bn to €10.5bn by 2030. It is thus imperative that solutions are found for how to

Béatrice Fink



finance this, as well as better and more effective methods of health prevention in order to reduce these costs.

“There will also be a huge demand for services that support older adults when they are at home,” said Fink. “Switzerland already faces a shortage of skilled workers for health and elderly care services. By 2030, this problem will have increased enormously if innovative solutions are not invested in, and it is likely that a similar pattern would emerge across Europe.”

With families tending to live further and further apart, no longer in the same city or even country, the issue of social isolation has become critical. Numerous studies have shown that loneliness can lead to unhappiness and consequently have a negative influence on mental health. Fink believes that the AAL Programme has the ability to address these challenges, but as yet it has not made the impact that it could eventually have. “One key reason for this is that people over the age

**“People over 80
aren’t comfortable
with new technology.
We need to
remedy this”**

of 80 are not very comfortable with new technology. We need to become more active to remedy this situation.”

Encouraging uptake of new technology amongst older adults is not easy, as Fink outlined: “It’s much the same as the internet,” she said. “In our daily work at Pro Senectute we see that it is really important to show older adults how the internet can benefit them in the immediate term, rather than in the long-term. They also need to be coached on how to use new things. Older adults can often harbour fears of the difficulty of using new technology, but providing them with the correct information can help to allay these fears.”

A positive note is that Pro Senectute has seen the uptake of computer tuition rise dramatically in recent years, with the numbers of women getting involved rising greatly. “We also get a lot of requests for one-to-one help with technology, which involves going to the shop with them to buy the technology, setting it up, and then teaching them how to use it,” said Fink. “This is an encouraging trend, and we need to find ways to finance this drive from the older population to become technologically literate.”

Fink believes that if technology is going to be accepted by a generation that did not grow up using it, it must be intuitive, easy to learn, and adapted to the daily lives of the users. “It’s also important to make sure that the solutions developed are not too deficit-oriented,” she said. “Hearing aids are a classic example of this. It is often very difficult to convince people that they need hearing aids as they associate them with old age. This stigma and fear of using technology designed for older people needs to be overcome, and the best way to do this is to make sure the technology is designed in a way that does not suggest the person is diminished in some way. We need technology that people makes people feel empowered. This is something all AAL projects should keep in mind when designing new solutions.”

➤ A new living lab for the IBH network

Living labs provide a user-centred innovation environment that provide a stepping stone into the real world for the good ideas and solutions created in AAL projects. The International Lake Constance University Internationale Bodensee-Hochschule (IBH), a network of German, Swiss and Liechtenstein universities located around Lake Constance, discussed the creation of a living lab in the region at this year's forum.



Guido Kempter

A consortium of several IBH universities is working to build a living lab within the Lake Constance region for the user-centred co-creation, exploration, experimentation and evaluation of active and assisted living within a public-private-people partnership. An infrastructure of 150 households, demo flats and public showrooms will be used to determine and reduce user barriers, technological barriers, network barriers and market barriers against assistive technologies for older adults in an open-innovation ecosystem.

In a session dedicated to the new network, Guido Kempter introduced the idea and explained some of the challenges of working in a cross border region with differing legal conditions and societal pressures. Ten social services, 15 technology providers and 10 universities are already involved, with more expected to join, and Kempter suggested the possibility of collaborating with similar networks.

Living labs are an incredibly useful tool for helping to bridge the gap between the results of AAL projects and products that are ready for the market. They can



also help refine solutions from the user's perspective. All solutions, products and prototypes of those involved in the network will be evaluated for specific cases. The network will provide support in selecting them and implementing them, but this is not the network's main role, according to Kempster: "The most essential point for bringing AAL solutions to market is individually configuring them to a specific end user or organisation," he said. "This takes months of work, and is the difference between failure and success of the product with both carers and older adults."

"We want to build up regional advisory services, which I believe are important because there are a lot of differences in cultures concerning legal and organisational aspects"

The idea behind this initiative is to elevate solutions by building up an infrastructure - the living lab - with homes of older adults, care facilities and other places where older adults reside. "We want to network them and implement solutions in them, and then monitor how they get along for extended periods of time," said Kempster. "This is how living labs are able to provide superior insight to normal research." The network also aims to build up a large group of people who can enter studies and answer questionnaires consistently.

Creating viable business models will make up an important part of the network too. There needs to be a combination of services with technological solutions to make the results of AAL projects a success in real life. Financial models also need to be taken into consideration, both from the perspective of customers and companies.

"We want to build up regional advisory services, which I believe are important because there are a lot of differences in cultures concerning legal and organisational aspects," said Kempster. "We need people on-site who know about these conditions and can give good advice on how to solve the problems or challenges presented by demographic change."

The session at this year's forum brought together stakeholders from a variety of different backgrounds and regions involved in establishing the network. This diverse group ensure that practical requirements are fulfilled and that, going forward, it corresponds with the care systems already in place. "I think it is important to talk about these things based on the experience we all have, whether this is to do with primary users, secondary users, or concerning aesthetic or ethical aspects of products and solutions," said Kempster. "We want to both fulfil existing demand whilst also creating more demand for these solutions through the network."

After the successful brainstorming session that brought up numerous concerns and ideas from the delegates involved, the IBH network living lab is now ready to start making things happen. Hopefully we will be hearing about some of its success stories at next year's forum.

➤ Add experts to your AAL project

Protelhealth promotes the use of technology designed for independent living, allowing people to live more active and healthy lives for longer in their own homes. Protelhealth director **Clive Noake** attended the Forum 2016 with a view to understanding how AAL projects are approaching the market and what new technologies they are developing. What he discovered led him to provide some valuable advice

The AAL Forum provides us with an amazing platform to be able to see everything that is going on in Europe in terms of technology and active ageing.

One area that particularly interested me was how the consumer market is going to be addressed by the forthcoming projects and in particular how social media and digital marketing should be used. It is refreshing to see people beginning to understand the importance of this.

Another important point is that when AAL projects come to pricing their products and services for the market, one of the things we have found is that they are not being priced according to the market needs.

“Often the amount of profit margin that is built into the price of the product is less than 10 per cent”

For example, often the amount of profit margin that is built into the price of the product is less than 10 per cent. In reality, to really make a product sing in the market place, you need at least 40 per cent wriggle room to be able to market the product properly.



Clive Noake

My advice to anyone now starting an AAL project would be to bring in people who are already operating in the market place so they can guide you on things like VAT relief, reseller agreements, the appropriate margins and how to handle the consumers in that market place.

It is also important to have people on board with specific marketing experience and, in particular, those who understand social media and digital marketing techniques.

Daniel Egloff – Closing remarks

At the closing ceremony of the forum, vice-president of the AAL Programme **Daniel Egloff** gave some parting remarks to sum up the activities of the previous few days

At the very start of this forum, Rafael De Andres Medina said that this is your forum. He asked us to use it as a platform for our work, and to interact. After the several workshops I went to, and after hearing from my colleagues who attended other sessions, I must say that I think we all succeeded in doing just that. We saw vivid discussions, and we covered a great variety of aspects related to AAL and healthy and independent ageing issues. I think we all gained valuable insights, and every single one of you contributed in one way or another.

In the exhibition area we met people from many different backgrounds – we had SMEs, academia, user organisations, regional and national authorities, and we gave them a platform to show what they do, what they already have, and what they are working on. Exhibitors came from all over Europe, and also from Canada. I hope you enjoyed trying out some of the solutions that were on display.

**“You should treat the
AAL target group as
informed consumers
rather than
patients”**

The hackathon started on Sunday and lasted till Monday, and I think we can all agree that it was a great success. Why do we do these? This year we co-sponsored three hackathons in Europe because we consider them an alternative funding method for AAL solutions. At one of the working groups on hackathons they said something interesting: “We brought a group of tech-oriented people together, but suddenly we were a think-tank dealing with an important issue – treatment adherence. It was not about technology, but about a problem and finding a solution to it.”

We also had a number of plenary sessions. In the first one – AAL technology for all – we brought industry leaders together with policy makers, which I think was a good achievement. Policy makers help in creating the right environment for AAL solutions to be produced, and the industry leaders show us the evidence of what is already there and what is possible.

You can link this to the blueprint on digital innovation for health and care transformation in Europe’s ageing society. The EC unveiled it here for the first time at the forum. It’s a framework for existing programmes, but it’s also a new vision for healthcare systems in the digital single market. AAL has to find a place in it, because its one of the programmes that they want



Daniel Egloff



to integrate in the new policy approach. They have asked us to contribute to this and fill the blueprint with life.

The AAL Smart Ageing Challenge Prize was certainly one of the highlights. This is a new effort by AAL to support and finance innovation in the field. What is important is that not only did we select one project for the final prize, but 15 finalists also had an academy meeting in Brussels, which contributed to their development. So with this effort we reached a good number of projects and developers, helped them bring things forward.

The theme of the conference was “innovations ready for breakthrough”. In her opening speech, Anne-Sophie Parent said “sometimes its about convincing older people that something is actually useful for them. How can we win them over, and inspire them to use a solution that’s useful?” It has to fit their individual lifestyle, but also their social context and their family system.

Workshops made up the bulk of the forum, and they covered many different topics. Living labs were covered in more than one workshop. I think living labs are a very promising and important method to test user-oriented AAL solutions in private households, in real living situations. They have an important role in adapting existing solutions to the

“Don’t tell them they need a solution because they are handicapped in some way. Instead, convince them that they are smart for choosing to use a solution”

actual needs, and they are the closest you can get to developing, testing and deploying AAL solutions with the users. Why is this important? Because it’s not only about technology – its about people.

In closing I would like to point to a quote by Stefan Kroll. He said of the target group of AAL solutions: “You should treat the AAL target group as informed consumers rather than patients. Take them seriously, and do not consider them as a generic target. Don’t tell them they need a solution because they are handicapped in some way. Instead, convince them that they are smart for choosing to use a solution.” This is something that we should all consider in the year ahead of us.



See you next year!

ACTIVE AND ASSISTED LIVING PROGRAMME



Each national funding agency of the AAL Programme appoints a National Contact Person who is responsible for the respective national activities for organising and implementing the AAL Programme.



For more info on how to contact them, please visit our website at

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