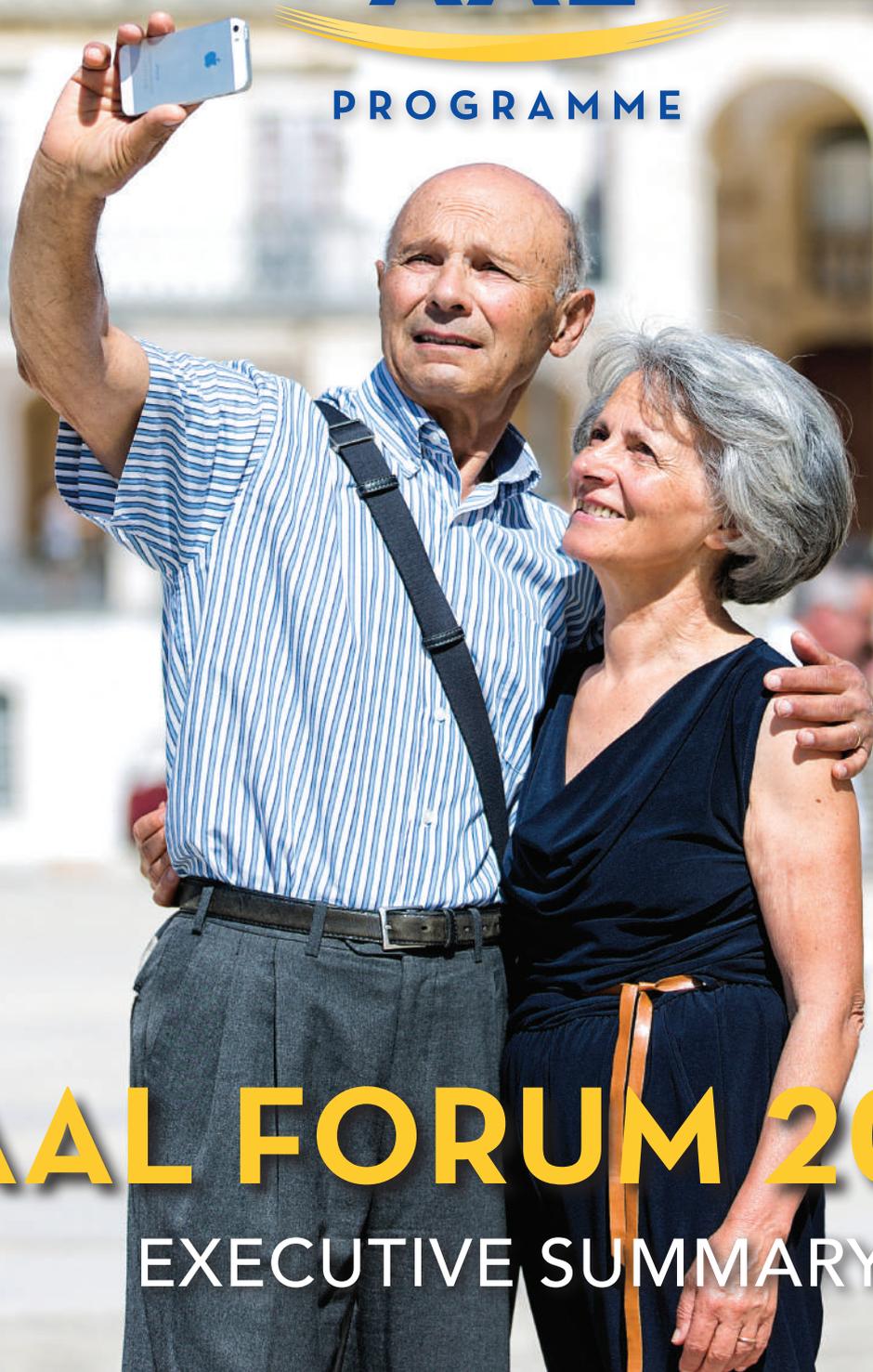# AAL

PROGRAMME

AAL FORUM 2017

EXECUTIVE SUMMARY

Bridging the gaps between technology and active ageing. What can YOU do?

IPN INSTITUTO PEDRO NUNES

FCT Fundação para a Ciência e a Tecnologia

ccdrc comissão de coordenação e desenvolvimento regional do centro

CÂMARA MUNICIPAL DE COIMBRA

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FOREWORD

AAL Association President Rafael de Andres Medina

The idea for this year's forum was to encourage people to think about how we can collectively create real impact in people's lives by helping them live healthier, happier lives for longer into older age. Our theme asked one question: what can YOU do to bridge the gap between technology and active ageing? I hope that many of you went away with an answer to that question and are positive about the future of AAL and your role in it.

First of all I would like to extend my thanks to our hosts in Portugal for providing a beautiful and welcoming venue for the forum this year. Coimbra is a city steeped in tradition but also bursting with new ideas and ways of thinking, and I think some of that attitude seeped into everyone who attended this year.

Through the course of the AAL Programme's existence, we have seen a shift of focus towards working out how to make effective businesses out of the technologies and platforms we have created. After all, without success in this area, the influence we have on improving quality of life for older people is greatly reduced. This change of key in the way we approach things was embodied by the investors event, a new format in which a handful of projects were invited to pitch to real investors.

Having said that, there is still very much a spirit of innovation in our programme, as was clear to see at the exhibition. Bringing a group of end users on to the floor this year was both informative for those involved in the projects, and a delight for all of us and the older people we invited to see the latest technologies being developed and how it can benefit real people.

I thoroughly enjoyed Sacha Nauta's keynote this year; not only did it voice the need for us to change the way we perceive old age, but it also touched on the fact that a lot of the technology that can help older people already exists. All that needs to be done is for us to reimagine it in a new way, from an older person's perspective, and I believe that this approach in particular can reap great rewards in helping older people to become better connected with their communities.

We were keen to hear from you all this year about how you envision the future of the AAL Programme beyond its current term ending in 2020. I heard a lot of interesting views and opinions about this and I encourage people to be open about what they think can be done to help us stride on to greater success. In this publication, we have tried to encompass this variety of opinions so that you can continue thinking about it as well.

AAL FORUM 2017
Background and executive summary

The AAL Forum 2017, Europe's premier event in the field of active and healthy ageing, took place in the beautiful Convento de São Francisco in Coimbra, Portugal, bringing nearly 800 delegates together to discuss the latest developments in this rapidly growing field.

The venue, which dates back to the beginning of the 17th century, was recently refurbished, seamlessly blending the old with the new to create an inspiring venue for all involved.

Reimagining the old was a running theme of the event, with finance correspondent of The Economist Sacha Nauta delivering a stirring speech on the opening evening about what it means to be old today.

A new demographic of older people has emerged – 'the new old' – who are living their lives to the full, travelling the world and trying new things. They have reimagined what retired life can be, and Nauta told the audience that we need to treat them as the people they see themselves as – active, healthy people with time to spend doing the things they love.

Her words were echoed by many in the following days, with the idea of the 'new old' reappearing in a number of the interactive workshops that took place over the next few days. These workshops brought people together to brainstorm, learn from each other, and get new ideas to take away and apply to their own work.

The first plenary session on Tuesday introduced an innovative format to the AAL Forum, bringing together buyers, users, and suppliers of AAL solutions to offer their unique perspectives of the AAL ecosystem. The need for new business models was discussed at length, as well as the need to focus on social care. People should come first, then technology.

Another new event for this year's AAL Forum was the investor's event. Eight investors with money to spend were pitched by eight different projects. Although none of them received funding on this occasion, all of them received invaluable advice about how

to pitch, as well as feedback on the actual technology. "Lots of these projects are doing the same thing – investors won't invest until there's consolidation," said one investor. Another offered: "You need to be bold. Go with one problem and find one solution – don't try to do too much."

Making sure that AAL solutions match the needs of the user has always been a key thrust of the forum, and this year 125 older adults from the surrounding region were invited to come and assess the products and solutions on display at the exhibition, providing direct feedback to the researchers. A prize for the best exhibitor was up for grabs, which was eventually presented to 2PCS Solutions GMBH. The exhibition space also hosted the Speakers Corner, where delegates were given the chance to present their posters.

The days preceding the AAL Forum this year played host to the annual AAL Hackathon, this year dubbed the "Hack 4 Ageing Well". Ten teams had just 24-hours and one pitch to impress the judges. The hackathon is a competition where ideas are explored, tested and cultivated by expert developers and designers under a strenuous 24-hour period, resulting in a five-minute pitch to demonstrate not only how the solution will enable the ageing population to live healthier more independent lives, but also the next steps for the product and possible funding prospects. In the end, the plaudits went to **hello, technology** with their solution that supports impaired people with interactions beyond touch interfaces by using physical space.

The plenary session on the second day brought together representatives from regional, national and European levels. They compared and discussed current and planned AAL and demographic change related policy actions and funding initiatives, asking of each other and the audience how initiatives can address stakeholders at all levels, including care organisations, SMEs and the users themselves. Estonian politician Rait Kuuse summed the discussion up succinctly: "Social policy is expected to fix the malfunctions of other policies. But to have great social policy, it has to engage with all sectors – that is the challenge."

Convento São Francisco

"You need to be **bold.** **Go with one problem** and find **one solution** – don't try to do too much"

Throughout the AAL Forum, the finest Portuguese food was on offer, especially at the Schist Village event on the Tuesday night in which cheese, meat and wine from the Centro region of Portugal were served.

The closing ceremony almost came around too fast, as people were still buzzing with ideas and excitement from the work over the last two days. However, all good things must come to an end, and there was a real sense of positivity as the delegates left the building to the sounds of traditional Portuguese music.

We hope that you enjoyed the AAL Forum as much as we did. See you next year in Bilbao!

KEYNOTE ADDRESS

THE NEW OLD

Sacha Nauta, finance correspondent of The Economist, opened the 2017 AAL Forum with a call to action to rethink the way we look at getting old. Many over 65s see and treat themselves as active and healthy people, but the rest of society is yet to catch up. If we shift our preconceptions and ingrained beliefs on what being over 65 means, we can simultaneously open up a new market and create stronger intergenerational bonds

"I recently attended my first ever online dating night – everyone there was over 60." Sacha Nauta, The Economist's finance correspondent, opened the AAL Forum 2017 with a tale of dating with a difference.

Stitch is the world's only online companionship community created by members, for members. Its app provides a safe and unique profile browsing system that focuses on quality connections between older adults. Nauta became a 'Stitcher' for a night and attended one of the hundreds of events organised around the world for its 75,000 over-50 members.

What attracted Nauta to attend a Stitch event for herself was the success story behind a company that had spotted a gap in the market. "Online dating is not just for the young anymore – there is a growing market for the older person," she said. Stitch has found a niche in this immerging market and opened up new possibilities for users and businesses, but what is it about their achievement that marks them out as ones to follow?

The truth is that a new demographic of older people has emerged – 'the new old' – who have reimagined what retired life can be, living their lives to the full as active and healthy people with time to spend doing the things they love. "These people are starting to adopt new technology, but not as we expect," said Nauta. "The new old are not just adopting technology, but changing it and adapting it."

What Stitch have done very successfully is to demonstrate the potential of taking

Back in the 1800s, old, based on the average life expectancy, was anything from 30 to 40 years old, whereas now approximately 90 per cent of us living in the richer countries make it to 65, with many then going on to live another 20 years or so happily healthy. Yet we still consider 60 or 65 the cut-off age to turning old and being dependent.

"I argue that our institutions, our governments, employers, financial institutions, we are all still stuck thinking life has three stages – learning, working, resting – and if we continue to think like that the doomsayers will be proven right," said Nauta. "But there is a new life stage emerging between working and dependency where there are endless opportunities available for everyone. We are living longer lives and this should be seen as an economic boom, not a burden."

Although a simple marketing phrase such as the 'new old' won't solve the current issues of this in-between group, continued reference to a new age bracket can create societal changes. Take childhood for example, that was only acknowledged a few centuries ago and led to child protection and toy shops. "Likewise, the term 'teenager' was triggered in the US in the 1940s, and became a catalyst for reimagining what this period was for, leading to new markets with a new target audience," continued Nauta. "It's about time we let the new, older in-betweeners do the same."

To reach 60 or 65 no longer means withdrawing from society. It is the beginning of a new 10 or 15 years, another decade or two to offer society more. People be able to share the skills and talents they have acquired throughout their lifetime in exciting new forms, while also having the opportunity to quench their desire to try new things and go to new places. With a growing on-demand economy there are endless opportunities for the over-65's, but not all businesses have caught on to the benefits of this.

"More employers are looking for flexible workers who don't think in black and white (you work for me or you don't).

a product, in this case a dating app, and shaping it to the specific needs of older adults, which are different to those of younger people. It is the innovation of current products and technologies that holds the real potential for truly understanding the theme of the AAL Forum 2017: bridging the gap between technology and active ageing and, perhaps more importantly, adoption.

To enable this innovation to take place however, we must "define and update our understanding of what it is to be old," continued Nauta. "According to the Oxford Dictionary, old is having lived for a long time, when you are no longer classed as young." Are there really only two choices – young or old?

Sacha Nauta of The Economist had the packed AAL Forum spellbound with her speech about the need to reimagine what we currently term as old age

For example, we can already see that a quarter of Uber drivers are over 50 and that Airbnb are looking for older hosts," said Nauta. "However, whilst most companies think that careers end at 65, which make businesses like Uber a minority, smart businesses are not only listening to the new old but anticipating what they would be interested in."

Adventure travel is a good example of how the new old see themselves spending their extra years of health and prosperity, travelling the world ticking activities off their bucket list, and so adventure travel package holidays opens up a new marketing opportunity. The production of electric bikes represents another example of how an everyday product has been modified; enjoyment can still be found in cycling, but it is subtly more suitable and accessible to those who are a bit older.

Innovating existing products has come to be one of the best ways of meeting the needs of the 'pre-tirees' (another neologism to go alongside the 'new old'). Nevertheless, businesses are falling short of understanding two key reasons why this in-between age is vitally important. For one, whilst "on-demand services are developing products with 20-year-olds in mind because they have the longest lives ahead of them, the majority of consumption growth in cities will come from the over-60s in the next 10 years," said Nauta.

On the other side, the success rate of getting and keeping products on market for those who have reached the age where they need help and assistance is fairly low. Instead, businesses should be marketing to the new old, who "are the bridge to getting to the older old," said Nauta. "The older old are the hardest group to get right when creating technology-based solutions, and yet we will all eventually reach the age where we need help.

We need to stop falling into the trap of thinking of old and young, black and white. In fact, we need to see that being over 65 has its own different shades of grey

"It makes sense to get the in-betweeners on board with your AAL product platforms, because when they do reach even older age, it will be much easier for them to adapt to the technological changes of a product they have already had for 10 years," continued Nauta. "It is the adoption, and not the technology, that is the issue. If a 60-year-old today is comfortable ordering bits on online, how much easier will it be for them to order nurses or medication on a similar platform in the future?"

People are likely to be more accepting of being monitored in smart homes or with wearable mobile devices when they need it the most, if they are made to use similar products (for less invasive reasons, perhaps) at an earlier stage, making the step to adoption much smaller. Although there will always be challenges associated with society's changing needs, this can be done fairly simply by using mainstream devices such as Skype and adapting them to the older old.

As Nauta concluded: "Bridging the gap between technology and ageing comes down to two combined things: businesses need to catch customers early in the in-between age and do it subtly, but to do this society needs to radically re-think ageing and what it means to be 65 or over. A new stage of life is quickly emerging where a lot of older people are in fact young.

"There are a great many opportunities and a great many challenges that come with understanding the new old in both our jobs and our personal lives, and to begin with we need to stop falling into the trap of thinking of old and young, black and white. In fact, we need to see that being over 65 has its own different shades of grey."

It makes sense to get the **in-betweeners** on board with your AAL product platforms so when they do reach even older age, it will be **much easier** for them to adapt to the **technological changes**

THE AAL EXHIBITION

The exhibition space at Convento de São Francisco was teeming with new projects, new ideas and new faces. This year's event also ushered in the addition of the Exhibitor Prize, with 125 over-65s from the local area present to judge the project or product they deemed the most desirable.

As always, the exhibition space at the AAL Forum gave delegates and exhibitors alike the chance to immerse themselves in the interactive side of AAL, testing out new solutions and innovative ideas to see tangible outcomes from a handful of the projects the programme is funding and supporting.

Nearly 30 projects sought the opportunity to present at the exhibition, from the European Commission offering information on EU-funded projects and the future of digital health, to AAL projects presenting talking robots, moving toilets and dance games. With everyone sharing ideas and discussing possibilities, there was the notion that something new, something fresh was beginning for the future of AAL.

At one end of the exhibition hall three large electronic poster boards revolved between 31 vibrant posters, displaying the current progress, results and ideas of various projects within the programme. The speakers' corner further enabled projects to formally explain their poster and answer any burning questions.

An inspirational fresh addition to this years' exhibition hall was the attendance of over 125 end-users above the age of 65, all eager to give their honest opinion on what they saw. Exhibitors had approximately seven minutes to present and sell their AAL solution to the guests, which turned out to be more of a challenge than the majority of exhibitors expected.

Winners of the exhibition prize (left to right): Stefan Wünsche (2PCS); Maximilian Bernard (gAALaxy); Paul Paneck (Santis)

Award presenters (left to right): Ana Sanchez; António José Alves; Maria Helena Alves

However, amidst serious discussions there were scenes of laughter, intense concentration and appreciation from both exhibitors and visitors. Fraunhofer Portugal's Active@Home project had set-up a video game on a TV screen designed to increase physical activity. Their staff clearly enjoyed showing delegates not only the physical benefits of the games, but also the social benefits of their multi-player product – partly derived from amused onlookers at those showing off their best dance moves.

The University of Innsbruck exhibited a number of their AAL projects, and one in particular caught the eye of many passers-by offering innovative free eye tests.

iHomeLab from the Lucerne University of Applied Sciences and Arts in Switzerland introduced participants to Heidi and her grandad, the fun virtual characters they used to describe how to keep friends and relatives connected using no more than a box-light with four emoticons, a telephone, a heart, a happy and a sad face.

After visiting each of the exhibition stands, the group of over 65's had the hard job of picking their three favourite stands. In third place came Santis KFT. The simple task of using the toilet in a dignified way becomes increasingly difficult and unsafe as we get older. Santis KFT were at the exhibition with their intelligent bathroom that enables those who struggle to move around the bathroom without external help for a more independent, dignified and safe life. Santis

"The exhibition gave delegates the chance to see new solutions, innovative ideas and tangible outcomes"

introduced iToilet, a service comprised of adaptable equipment such as life toilets, life basins and sit-to-stand assistance.

Coming in as runner-up was gAALaxy. Having spotted a gap in the market between the disconnection of AAL solutions and smart home systems, gAALaxy was presenting its cloud-based middleware system that combines different AAL technologies together with smart home automation. An interoperability bundle of AAL solutions and smart automation would provide an everyday support solution for older people and make both systems more accessible to end-users and those around them.

After a lengthy decision process, 2PCS Solutions GmbH was eventually announced as the overall winner. 2PCS was developed with the support of the AAL Joint Programme and was tested in three main

locations, Austria, Italy and Switzerland. Two years after the project ended, 2PCS Solutions GmbH was founded and took on a new lease of life. "Each single component was modified and essential actions were taken. For example, the interoperability with third parties was improved via design adjustments to ensure rapid scalability," says Lennart Köster, co-founder of 2PCS.

As a company, they have been attending the AAL Forum since 2011. However, this year 2PCS recognised a noticeable shift in the forum's atmosphere: "There were a lot more visitors and the venue and exhibition area was amazing. We especially enjoyed being visited by end users and having them vote, as it added another level to simply exhibiting," says Köster.

"It also added a nice touch and change of pace during workshops and plenaries when we are usually very quiet," continued Köster. "However, in truth, whilst having end users was definitely useful, they are not our primary customers, and I assume this is the same for other exhibitors. We would benefit more if more business-to-business customers could attend."

The company already includes end-users in the ongoing development process of their product, but Lennart said that it was encouraging to see their reactions and receive first-hand feedback. "Hearing

Stefan Wünsche, 2PCS, engages in discussion with some of the over 65+ end users

end-users expressing high demand for the product was very useful. As a company, this means we should start looking into the Portuguese market soon," continued Köster.

The challenges 2PCS faced when pitching will help them scale-up across Europe. "We came across two challenges: firstly, we always give the same presentation wherever we are and the translation differed vastly in length and enthusiasm and vital details were lost," said Köster. "Secondly, there is a big difference between projects and products that was not sufficiently understood by the end-users. A project can be easily sold whereas a real product has lost its fantasy appeal."

As the winners said, the AAL exhibition this year – the space, the exhibitors and the organisation – was a successful hub of knowledge sharing, networking, meeting old friends and welcoming new friends into the AAL community.
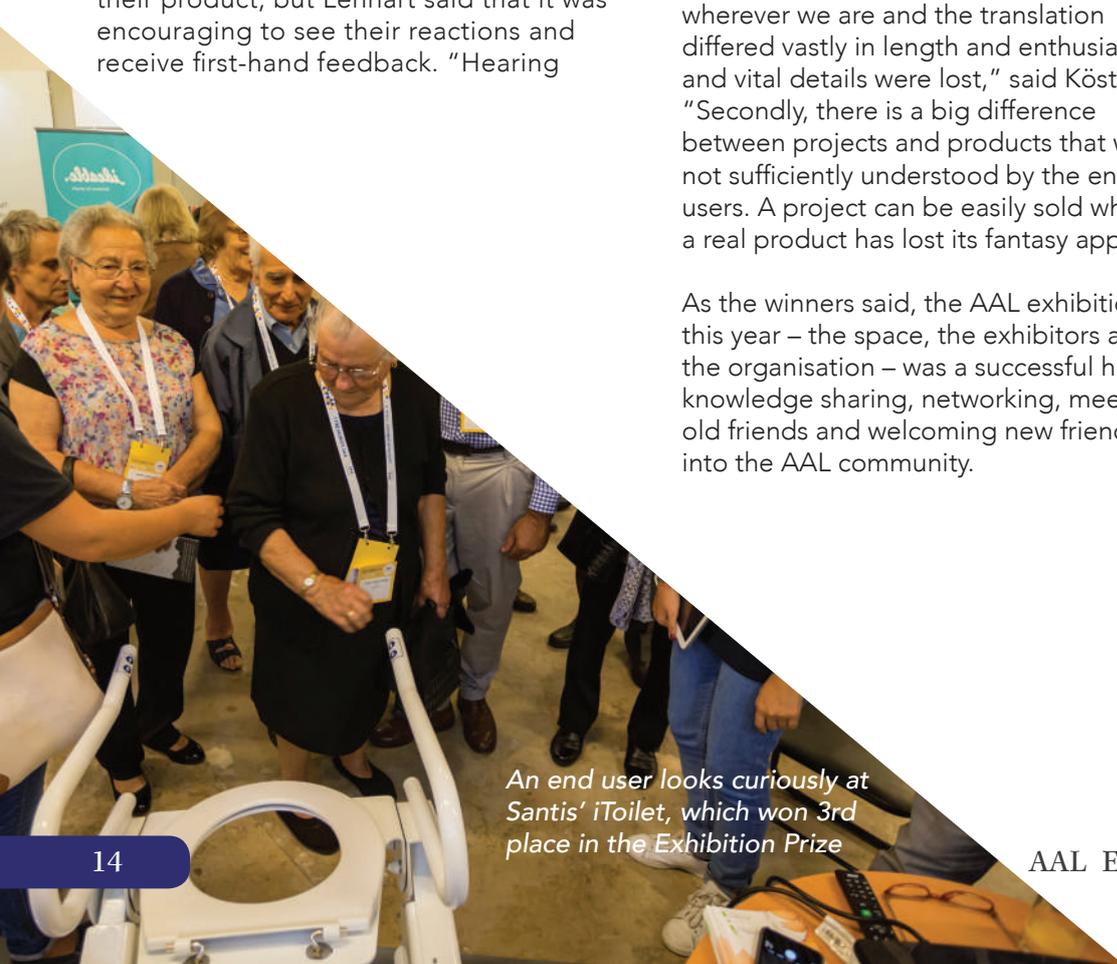
An end user looks curiously at Santis' iToilet, which won 3rd place in the Exhibition Prize

THOUGHTS FROM THE FLOOR

This year's forum was alight with new faces and eager optimism at every turn. We caught up with many of you over the course of the event to hear you voice your thoughts and share your own AAL stories.

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"A new generation of old brings a new generation of family carers"

-Brigitte Bührlen – Chair and founder We! Foundation of Caring People

"I am new to AAL and my boss just said to me that AAL is ending in 2020 – but why should it end? The problems will still exist and the people will still be here."

Vincent Ricard - Software Engineer, University of Geneva

"The project I am working on is called WaveNet and we are using the Google Cloud Speech API speech recognition system, which enables developers to convert audio to text. WaveNet technology collects data that is annotated by Google who use this information to synthesise new speech in fantastic ways.

With regards to this particular speech recogniser we are developing, we are going to publish it as an open-sourced package for the ROS framework – the framework which powers most of the robots you see here. So, any robot in the world will be able to use our speech recognition system by registering with Google, and we very much consider this an AAL success story."

Gonçalo Martins - PhD student at the University of Coimbra, Institute of System of Robotics

"We have to hide **technology** and make it pretty much **invisible** so we don't scare those afraid of technology and develop a good channel to **communicate** with them"

Christian Mandel – German Research Centre for Artificial Intelligence

"You got a hint of the direction AAL is heading this year. On one side there's the technology, while on the other the social part is becoming more relevant. You can't fix everything with technology" gAALaxy

"We are here because we are all trying to **collaborate** and make **AAL work better.**"

Maggie Ellis – Senior research fellow, London School of Economics

"AAL needs some sort of initiative that helps build trust and confidence in new AAL start-ups. Professionals and end-care providers could then look at them and see long-term investment in the product which would get them to the market quicker and easier"

Lennart Köster - 2PCS Solutions

"We track our **fitness daily…** technology for **healthy ageing** needs to be this **subconscious** necessity"

Filipa Fixe – Director of ICT operations health centre, Glintt

"It's been very difficult to collaborate with industry and achieve successful market uptake because of the needs of the users. Our target audience at the moment is not computer-literate people and so the difficulty comes in creating easy to understand usability.

This forum has given us the opportunity to network and present the outcome of our project and come closer to the market by meeting potential investors who are interested in taking our product further"

Andreas Stainer-Hochgatterer - Austrian Institute of Technology

"There is a fragmentation between ecosystems and how they manage themselves in different countries – different centres of gravity. There is huge pressure on civil organisations and a lack of trust in the products. We need to bring organisations into the heart of innovative products."
Iñaki Bartolomé – ZocAALo

"It's difficult getting our product to market because there is too much focus on technology. We should start with the human being, understand their situations and then go to the academics and designers"

Håkan Isaksson – AXO-SUIT

"At Coimbra's University Hospital, we are creating an applied development centre with assisted residences, a new habitat. It will have 70 rooms with ambient living services, 48 rooms for independent living, and an incubation and education centre to continue teaching and learning. This centre will be used to test and develop new technologies and solutions in a real environment."

Luis Fareleiro - Coimbra University Hospital

"We might need nursing care and medication but we also need innovation and technology because it can make life easier and happier. Technology helps me a lot not just in my teaching, but I am still learning a lot through this technology and I have become a student myself."

Piedade Santareno Forte - Academia de Música de Coimbra

"Technology needs to be **flexible** and **adaptable** so that it can be implemented in the **right places.**"

Ana Luísa Jegundo -
Innovation Department of Caritas Coimbra

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

"A user needs **to want to** understand about their **health** and the product"

Padmanabhan Raguraman - Clinical lead manager, NHS

"I have come here as part of a project developed by the Welsh government in collaboration with the University of Wales Trinity St David, Swansea University and Cardiff University. The plan is to connect clinicians, users or inventors into a hub and then have the ability to direct them to particular avenues. Although we don't actually have an AAL project, the networking opportunities are brilliant as we hope to find experts who wish to work with us in researching products that want to be developed.

The project has expertise in any field to do with healthcare, wellbeing and social impact. For example, we have expertise in drug administration, in intelligent wound dressing, 3D printing, and even in rural healthcare drug administration. The forum has been brilliant for us and we have met a lot of people who could be beneficial to the project.

One thing I would say is that there could be more users, whoever they are, are there is such a wide variety of users. Maybe there could be a hub where end-users input their ideas so we can understand what they want – that is the million-dollar question!"

Matthew Bellis - University of Wales Trinity St David

"We need education to address the professionals and young people in society and campaign against ageism to develop a new picture about older people in a more positive way. We need to change our state of mind on older people, but instead collaborate with them more and appreciate and use the knowledge they have gained throughout their years."

Stefan Loacker, Helvetia Insurance

"It's great to see **people talking** and so lively, discussing the issues **surrounding** product design in depth and learning from each other. I hope that **everyone** leaves having learned something **invaluable** that they can take away with them and apply to their own work."

Ad van Berlo – Smart Homes

A TASTE OF PORTUGAL

Delegates cannot keep their eyes off of the beautiful spreads at the Schist Village

After the first jam-packed day of the forum delegates, exhibitors, stakeholders and AAL officials wound down by being treated to some of the most delectable flavours the Centro de Portugal region has to offer.

In the sun-kissed courtyard of the Convento São Francisco, the forum's very own Portuguese Schist Village was constructed. Tables were arranged with local delicacies including a variety of soft, hard and strong cheeses ready to be smothered in the unique flavours of homemade jams, chutneys and tapenades. Accompanying these you could find sweet pastries, olives, nuts, servings of different flavoured cured meats

and the showstopper, a whole cured ham leg of pork, Presunto Ibérico, being sliced in front of you. Alongside this was a pile of fresh bread to be dipped and slathered in golden olive oils.

To complement the delectable nibbles, the Schist Village provided Portuguese delicacies of wines and flavoured liqueurs. As the food seemed to replenish itself and the wine in people's glasses never seemed to get low, there was plenty on offer for everybody as Rede das Aldeias do Xisto did an excellent job showing off the best of the region's gastronomic heritage.

IPN – INSTITUTO PEDRO NUNES

The Instituto Pedro Nunes was the main partner of the AAL Forum 2017 and played a vital part in delivering the impressive event in Coimbra.

Created in 1991 through a University of Coimbra initiative, the Instituto Pedro Nunes (IPN) is a private non-profit organisation which promotes innovation and the transfer of technology, establishing the connection between the scientific and technological environment and the production sector.

IPN has a model that integrates the capacities for market-driven research, business incubation and business acceleration within the same oorganisation, and through this integrated-by-design model, IPN has been able to effectively bridge the gap between knowledge and the development of tradable products for the active and healthy ageing market.

It is not a coincidence that IPN are committed to bridging similar gaps in

society as the theme of AAL 2017, As the main partners of the AAL Forum 2017, it is no coincidence that IPN's values are closely aligned to the theme of this year's event, 'Bridging the gap between technology and active ageing'.

The team at IPN believe in 'market-pull' logic rather than the more predominant (and usually less successful) 'technology push' approach to technological development. "From the work we have done with the community we understand that technological developments are

to be done with older adults, not for them, and so the AAL Forum was a great opportunity for us to reinforce this commitment," said António Lindo da Cunha, executive director of the Laboratory of Automation and Systems at IPN and coordinator of this year's AAL Forum Programme Committee.

IPN's backing expertise noticeably changed the event this year, providing new perspectives and approaches to looking at product development. "We highlighted social impacts, how to improve quality of life and generate economic impact through new innovative solutions," said Cunha.

With their help, the AAL Forum exceeded expectations and became the place "to learn about ongoing projects, policy and research, works, to meet interesting people and share ideas with others in the field of AAL," says Cunha. "This year the forum helped people align policy mindsets, understand end users' needs, and add value and impact to their AAL projects. We want to improve quality of life for older people but also society as a whole."

At the forum, IPN exhibited CaMeLi and CogniWin, just two of the projects they support that focus on overcoming age-related issues for both carers and older adults.

THE VALUE OF AAL SOLUTIONS

A panel of two buyers, two suppliers and one end-user of AAL solutions came together in the first plenary session to demonstrate and debate their value, with the aim of answering the question: what can we do to help current and future AAL businesses succeed?

For AAL solutions to achieve the success they need the AAL ecosystem must be organised and united, and that starts by understanding whose needs the solutions are targeting and who the people are behind them, explained Brigitte Bührlen, the end-user representative and founder of the We! Foundation of Caring Relatives. There is a rapidly developing new generation of 65 and overs – neither old nor young – who want to live on their own, be taken seriously and speak for themselves,

Understanding what older people need is complex, but by allowing them to voice their opinions freely, solutions are more likely to be compatible to their needs and "not their age", mentioned Portuguese technology company Glintt's healthcare director Filipa Fixe on behalf of suppliers in the AAL ecosystem.

Bührlen commented that family structures have now changed. People tend to live apart, parents separate, and mothers are a vital part of the economy. This has added additional strain on caring for older relatives as more time is spent juggling different areas of life. New AAL solutions need to accommodate these changes in the way people live.

Steps need to be taken to ensure the right technology is created. Whilst many stakeholders dismiss end users (informal carers included) after the initial validation stages of making a product, more can be achieved by maintaining a business union with them during all development processes from design, innovation and through to product development, said Ana Luísa Jegundo from the Innovation Department of Cáritas Diocesana de Coimbra. Both Jegundo and fellow panellist Sonia Martínez Arca from the Galician Health Ministry described how they successfully use customers during the whole process to generate more credible solutions.

For this to work effectively, Reinout Engelberts, CEO of Sensara – a smart lifestyle monitoring system for older adults – and supplier representative, said that everyone in the AAL field, including insurers, healthcare systems, municipalities, governments, public administrations, users and carers, need to come together regularly and ask: what can we do? Public procurement for innovation (PPI) is just one way of doing this as it brings together different stakeholders under a model that Arca suggested "decreases the risks"

associated with starting a new business. There might be the need to "innovate in the long term", said Engelberts, but the ecosystem "needs to focus on what is already on the market now", and "explore ways to succeed by adapting current AAL solutions." AAL might be good at stimulating research, but successful companies such as Sensara "need another 30,000 systems installed to be credible internationally." This is where time needs to be spent, not on new innovations.

One thing is for sure, whether a technology is new or old the future success of the solution "is in the business cases and not the technology," said Arca. The "strategies might start small but they need to think big", Jegundo added. "Funding is needed from investors, who will ultimately say yes based on the solution's business effectiveness," said Engelberts. PPI schemes, such as that in Galicia, foster business cases to provide the solid foundation applicants need to breed successful technologies.

Even with sound business plans, AAL solutions are constantly racing against the clock that is the changing demographic, and creating new innovations can waste precious time. The AAL Programme might give companies the time to validate and investigate solutions, yet by the time this

is completed, "investors aren't interested because another advancement has materialised in those 12-18 months", as one audience member acknowledged. It all comes down to the adaptability of the technology and business case. "Once you know the product is beneficial, it needs to be adapted quickly, in one to two days, to what the users want 'now'", Engelberts advised. This not only makes the product up-to-date for investors, it also shows how it will succeed in adjusting to future demographic changes.

The answer to the question, "what can we do to bridge the gaps within the AAL community?" is not a simple one. However, a united front will make it easier. As Jegundo summarised, stakeholders need to continue to "put the user and their needs first", and ensure they are a vital part of the whole process from research to future development. A big part of this process is understanding what we want ourselves. "Would I find this piece of technology useful and would I use it?", Fixe implored us to ask ourselves, because if the answer is no then successfully convincing others is an uphill battle. To help the success of future AAL solutions, everyone in the ecosystem needs to be on the same page.

TRUST MAKES A SUCCESSFUL MARKETPLACE

A workshop on building confidence in the performance of the AAL marketplace gave the stage to a number of AAL projects to provide participants with a brief overview of their projects so far, with particular attention paid to how and where in their project they built trust amongst end users.

Victoria Maringer presents CareInMovement (CIM)

The emerging AAL marketplace is a very complex place and brings a log of uncertainty to those looking to launch a new product, as well as those looking to use them. The challenge is building trust. To improve the adoption of AAL solutions, there needs to be more of a focus on thorough product and service assessments throughout the research, evaluation and validation stages.

To ensure a product has the best possibility to remain successful, businesses go through a number of processes that look specifically at market and consumer analysis frameworks. The workshop looked at how these tools can help characterise and connect diverse user demands with supply-side innovation and foster collaborative processes.

End-user demands are so varied because each AAL project focuses on a different aspect of an end- user's need, and they have to be captured and understood accurately to ensure the end product performs exactly. For example, the project SmartBEAT shared with participants that it conducted diary charts in different countries of user's daily physical, emotional and social states to collect data on how they used the device over a two-month period. CareInMovement on the other hand, completed a market analysis on devices already on the market and a new device was modelled on this data. The new product was then given to users to test and evaluated through questionnaires.

Data collection or assessment, captured from real end-users can be very restrictive to a products performance if gathered incorrectly. As many AAL stakeholders agree, product assessments should not be limited to the evaluation of one group of end-users, such as doctors or nurses, especially as different users have different motivations and requirements. By understanding each user and the correct data collection methods, AAL solutions can develop and maintain vital confidence amongst customers, for example SmartBEAT used diary enteries for more personal in-depth results whilst ActiveAdvice used interviews draw out detailed answers.

The workshop drew attention the eligible scenario of knowing when, and if, one end-user mind-set is entitled to override other mind-set as sometimes there are cases where informal carers need to be listened to if their patient suffers from depression, as the patient's answers may be clouded by other emotions which a product is hoping to address.

"For a product to succeed in any form in the AAL marketplace trust is very much needed", as Diotima Bertel from ActiveAdvice pointed out, and "trust in applications comes through analysis, analysing every aspect of the market," being connected with not only healthcare organisations, but with all potential customers and developers, and understanding all their needs. To do this effectively, a united AAL ecosystem is needed to reduce the gap between the user and successful solutions. By working together and sharing data and knowledge more freely, customers will recognise a more cohesive AAL unti that they can trust; increasing the adoption of AAL solutions.

SUCCESS IS IN EVALUATING

Ivan Kjaer Lauridsen and Simon Albertsen gave participants a detailed description of how they went about evaluating their product, from the raw idea to the product's life cycle. They provided participants of the workshop with methods for evaluating economic effects, and solutions on how to overcome challenges.

A vast amount of data is available for harnessing in the Danish municipality Aarhus to support and improve active and healthy ageing with assistive technology. Nine technologies were tested in one nursing home, and a business case study was established to validate the processes used to ensure products made it to market. Ivan Lauridsen and Simon Albertsen, part of the management team at the Department of Health & Care in Aarhus told workshop 11 participants at their workshop how they used various evaluation methods for studying the effects these technologies had on the economy, quality of life and working environments in nursing homes.

The evaluation processes they chose asked questions about long-term business strategy – what did people want to achieve and why? What were the parameters relating to citizens, employees and the economy? How long would the process take? Did the technology make a positive impact on investment? Was the technology worth the extra training of nurses for example? What would they do differently next time to keep costs down?

One barrier in particular that most AAL solutions will have to consider when developing their product is what Ivan quoted as the "conundrum triangle, made up of three factors – good, fast, cheap – and you decide where you want your product to fit". A product might be expensive, but progress quickly and be a good product, or it might be cheap and good but take a long time. Another complex challenge future solutions face when collecting and evaluating data is that many studies are too hard to implement in other countries as "there is no one-size-fits-all method" with regards to the solution and user needs. Products are either strenuously

Simon Albertsen

Ivan Lauridsen

adapted from old data, or new data has to be collected, both of which are very time consuming and not always rewarding.

To collect enough data, in Aarhus they are starting to look into adapting the existing dataflow set LoRaWAN, used for smart cities, to monitor people's health in their own homes. However, intense monitoring surfaces many ethical questions around surveillance, freedom, moralisation and quality of life, and so AAL projects have to ask themselves what their motivations and responsibilities are in providing solutions for healthy, active ageing.

Technology can enable independent healthy living for the ageing population. However, businesses need to evaluate each stage of the solution's development meticulously to understand the processes that add value to products. Workshop participants took away with them the understanding that an overall business case needs to look at every step of this journey, at the solution's yearly gain, procurement, operational costs, local implementation plan, general project cost, overall results and ethical issues in order to meet customer needs and expectations.

MAKING THE PITCH

A handful of AAL projects were made to feel the heat of a real pitch this year at an event setup by the AAL Market Observatory, where they were given the chance to present their ideas to investors with the real chance of winning funding from them.

Rachel van Berlo pitches the Palette solution for older people

For more information on the AAL Market Observatory, please contact Mr Marco Carulli at AAL Association by email at marco.carulli@aal-europe.eu or the project manager at Technopolis Group, Dr Peter Varnai at aal-market-observatory@technopolis-group.com.

Of all the innovative sessions that took place at the AAL Forum 2017, perhaps the most exciting for those projects who took part, was the exclusive, invitation-only Dragon's Den style pitching event, when seven selected projects were given the opportunity to present their products to a group of investors who were there to spend real money.

The seven projects each had a strict time limit to pitch to the investors and were asked to concentrate on the commercial possibilities of their credible solutions for ageing and the market potential they may have, so the investors could assess the possible return on any investment they may make.

The session was part of the AAL's new framework project called the Market Observatory, which runs until 2018, which aims to contribute to communication and dissemination activities of market and investment trends, events and new technologies. The project is developing a new searchable electronic database on AAL technologies and aims to become a trusted reference site that will continue to provide services to the community after the end of the project lifetime.

As well as providing projects with access to investment opportunities, the AAL Forum session was also an opportunity for projects to learn from those at the cutting edge of investment decision-making just what it is they are looking for when deciding where to invest their money.

None of the seven products pitched during the session actually secured investment on this day, but all agreed that the feedback from the investors about their pitches was extremely valuable.

And the investors were often brutally honest with this feedback, criticising the companies' financial models, lack of business focus, the absence of any value proposition, missing plans for how investors would be part of the company structure and how he or she would see a return on investment. Some received very honest feedback about the products themselves, with comments ranging from whether the investors saw a place for it in the market and whether it would actually work to the aesthetics of the product and whether people would ever actually buy it.

But perhaps the most valuable feedback offered was about the way the projects and companies taking part actually approached their pitches. Overall, it was agreed that the presentations focused too much on explaining the technology and not enough on the business opportunity. The investors said while the pitches explained the projects' aims and objectives well, they "provided the business case as a bit of an afterthought."

"You should include 'the ask' early on in your pitch," was the advice. "How much money do you want? What will you do with the money? What is the roadmap to market success? We want to know why you will make us money, what makes you different to the rest of them and how are you going to get to market?"

Another key aspect of any pitch that all the investors agreed is essential to success is the need to present the product's unique selling point – what makes it different to anything else in the market place that will make people buy it?

"We are bombarded with lots of information about new start-ups and new technologies in this sector, so the first step in any pitch will be to differentiate yourself," said one investor.

All investors also agreed that the assisted living market is a difficult one for investors – and, indeed, start-ups. It's very fragmented and, most importantly, that makes business very difficult to scale, however brilliant the solution. "There will always be lots of different solutions tackling the same challenge," said one investor. "I don't see fast-growing companies in this sector and that is difficult for investors."

A way through that particular issue for companies looking to sell AAL solutions into this fragmented market would be to stress the fact that their solutions can work across different markets in different countries. "You should consider different models in different countries," was the advice. "Focus on your own regional area first, of course, but consider other markets and use local success as a catapult for exploring other markets."

Lack of business focus was also a factor when the companies tried to explain their markets. Investors want the facts – how big is the market, how many people will use the products, what are the metrics?

"We want to know how many use it and how they use it after six months. Be surgical – attack a single niche and make it a worthwhile 'investment'," said one investor.

While the agreement was universal that this market is fragmented, there was some discussion about aiming products at the public sector market or the private sector, with, perhaps, the agreement summed up by one investor at the end of the discussion. "The public sector market may get you further because there is more money but, typically, the private sector has a slimmer focus and so is a better business model."

As the pitchers wiped their brows at the end of this critical onslaught by the investors, they received some encouraging comments. "Most of you are at early stages of your projects and start-ups – and you have done very well to get here.

"So, go away and get help to fine tune your business plan. Be clearer about the use case of your products as there was a lack of clarity here. Be bold and focus on one solution for one market and stay focused. Scalability is a big issue so prepare that route clearly at the very start and, finally, most countries have social investment funds, so look at those at this stage."

INTERVIEW: RAIT KUUSE

Rait Kuuse is the deputy secretary general of social policy at the Ministry of Social Affairs in Estonia. We caught up with him at this year's forum to talk about social policy and the meaning of intergenerational solidarity.

What were your thoughts on this year's AAL Forum? Why do you think this area of research is important?

The issue of ageing is not a single problem for a single European country, but is a common challenge to meet together. Ageing can be viewed as a problem due to shortcomings in resources. But it can also be seen as an opportunity. Research is the way to look at the potential opportunities we do not see yet. There are many possible solutions to bring us closer to a society which embraces the ageing challenge. Combining technology, innovation across sectors and social policy tools can help in this matter. In my opinion, the AAL Forum facilitates interactions of different policy domains towards new solutions and perspectives.

You mentioned in the plenary session at the AAL Forum that social policy on the ageing population needs to be about solidarity between generations. Could you expand on what you mean by this?

The "old" social insurance schemes operate largely on the basis of generational solidarity. As younger generations nowadays face more pressure to grant the continuity of those schemes, there is a need for another balancing mechanism. What we don't want to do is to create a confrontation between generations. Saying that, we also need to find a balanced way forward, which makes the future solidarity-based social security system not only sustainable but also affordable. Looking at skills development and use of technology is one way to go.

"Estonia is a good example of a country which has created not only a well-accepted platform for digital services and interaction for its citizens, but also a habit of solving many issues digitally"

Estonia has been a trailblazer in Europe for digitisation in many areas. How do you see this translating into its active and healthy ageing policies?

Estonia is a good example of a country which has created not only a well-accepted platform for digital services and interaction for its citizens, but also a habit of solving many issues digitally. How does this work in terms of active and health ageing policies? First, of course, it's about reducing the need for human input for technical work, but more importantly it's about accessibility. Accessibility to services, goods etc. also in case you experience some limitations in your life.

Europe's population is ageing, and over the next decades our societies are going to deal with some of the challenges that this brings. What do you think should be the priorities of governments in terms of supporting older people and the people who care for them?

There are many directions to choose, but first you need to invest in the innovation

ecosystem. One part of that is the people who are skilled and educated to meet the challenges over their life through ability and affordable possibility to acquire new skills and knowledge.

The AAL Programme showcases a wide variety of technologies and software each year at the annual forum, but so far, their success on the market has been limited. What do you think are the main barriers in this market? Can policy play a role?

It evident that in order to reach the potential and widen the use of technology to the area of social protection there is a need for supportive policies. Mutual learning, multiplication of experiments and solutions across the EU are all ways to proceed in this way.

ACTIVE AND HEALTHY AGEING POLICIES IN ACTION

The second plenary session of the forum brought together policymakers from regional, national and European level to discuss the successes, failures, challenges and opportunities that the ageing population presents.

The AAL Programme has been working for many years now in creating new technology, new platforms and new research. But getting these innovations to people requires innovative policy. The second plenary session brought together leading minds in the realm of active ageing policy to provide a view of the landscape of how policy can bring innovation to people, as well as some ideas of what needs to be done in the future.

Birgit Morlion, programme and policy officer at the European Commission's DG CONNECT, began the session by marvelling at how technology has made its ways into the everyday lives of older people. Lots of progress has been made in the market, and we are now starting to see how the digital transformation of healthcare can also transform people's quality of life.

There are various industrial opportunities to be had in the field of active ageing. Smart cities, connected cars and various other non-mainstream technologies all have the potential to help older people live at home for longer and stay connected with the community. Keeping older people connected with younger people is a big part of this, but the way to do it is to use existing technologies and adapt them. "We need to listen to what people need to make their lives easier, and

then make technology that does that for them in an inexpensive way," said Morlion.

Lambert van Nistelrooij, MEP and an AAL veteran who has been attending the forum since its inception, had much to say on the way Europe does things. He reiterated Morlion's point that anyone working in policy is working for people – that is the nature of politics. But to do this, van Nistelrooij believes we should be supporting disruptive models. Europe has an excellent record in research, but the gap between the research and healthcare communities is too large compared to countries such as the USA and South Korea. Changes in policy are needed for Europe to be able to introduce technological innovation faster.

Rait Kuuse was up next, bringing to the table his experience as the deputy secretary general on social policy at the Ministry of Social Affairs in Estonia. He espoused the importance of promoting solidarity between generations. "An ageing population is unavoidable, so how can we make the most out of it for all areas of society?" he asked. One key issue is to ensure that there is a balance between public and private sectors, and policy needs to support this cooperation to create greater impact.

Estonia is well known for leading the way in terms of digitisation in Europe. It is a small country that has been able to adopt technology into its way of life extremely well, and Kuuse believes there are now many opportunities to be just as innovative with social policy. "Human capital is actually very limited, and is becoming more so," said Kuuse. "We need to identify the gaps that exist in social policy and then think about how technology can make the most of human capital to benefit everyone."

When thinking about policy surrounding the AAL ecosystem there are two sides of the coin, according to Miguel Telo de Arriaga, head of the Division of Healthy Lifestyles within the Directorate of Disease Prevention and Health Promotion in the Portuguese Directorate General of Health. There are challenges – those that older people face every day. "We need to ask ourselves how we can help people to live more fulfilling lives," he insisted. But these challenges also provide opportunities: opportunities for collaboration. Many approaches need to be considered when trying to integrate older people more fully into society, and this will require collaboration between different people, sectors, regions and countries.

However, it is not always quite as simple as taking a solution from one place and hoping it solves a problem in another. "Cultural differences are important – we all need to recognise this," said Telo de Arriaga. "Technology is a fundamental tool, but not everyone knows how to use it – for instance, only around 10 per cent of over-65s in Portugal know how to use smartphones. We need to help people learn how to use technology and become a part of this ecosystem."

Portugal recently released a proposal for a national strategy on active ageing, outlining the huge potential of social and technological innovation for the field. José Pereira Miguel, coordinator of the strategy and another panellist at the second plenary, outlined the four dimensions of the proposal – health; participation; security; and measurement, monitoring and research – but stressed that the most important aspect would be fostering collaboration between regional, national and European frameworks.

Bringing a regional perspective from the local Centro Region of Portugal was Ana Abrunhosa, president of the areas coordination and development and commission, and a former researcher in the area of regional development, economics and innovation. The Centro Region recently became a three-star European reference site for active and healthy ageing recognised by the European Union, meaning that older people in the region have access to better social services and healthcare, as well as new innovative products, services and tools.

"In the end, results are what people want," she explained. "I think that sometimes we forget that, and care too much about the process. Innovation must be market driven – companies do not innovate without a problem they want to solve in mind. Anyone working at a regional level in this area should bear this in mind."

Sergio Murillo Corzo will be coordinating next year's forum in Bilbao. The government of Biscay has had great success in investing in the field of active ageing, and he hopes to be able to confer some of the themes of their success at the event. "In the end, any innovation and development has to involve all stakeholders. But this isn't just about end users – it's also about business."

Innovation means nothing if it doesn't reach people, and that will be one of the main talking points of next year's forum. Policymakers at all levels should understand this, as it is this way of thinking that can create maximum impact from the fantastic research that has already been carried out by the AAL Programme.

CHANGING THE LANGUAGE OF AAL

Birgit Morlion, programme and policy officer at the European Commission's DG CONNECT, led a panel who drew upon their own projects' experiences of getting products to market, as part of a workshop looking at ways to integrate innovation in Europe.

AAL is looking to bridge the gap between technology and active ageing. But to do this effectively, you need to be able to communicate across borders. To answer this in Europe, people within the AAL Programme need to understand what an age-friendly and healthy environment means in order to stimulate increased exchange of knowledge.

Due to the absence of communication and combined policies across Europe in the field of AAL, solutions and products are not achieving the scale-up anticipated. In order to bridge this gap, at a European level AAL needs to acknowledge and raise awareness of the changing role of users and adapt to what is meant and what it takes to be an age-friendly environment. It is no longer accurate to measure someone by their age – they should be measured by their needs. Social and home environments should reflect this. By altering the social outlook, away from "them and us", commented EKTG ambassador Maggie Ellis, "society can create a new dialogue that sees us talk differently about the ageing population."

In making this cultural change together, as investors, consumers and actors in the AAL ecosystem, AAL solutions can develop a new positive picture to promote healthy living across all ages and focus on looking at "preventative health measures instead of reactive health measures," said João Oliveira Malva, research coordinator at the University of Coimbra and one of seven panellists in the workshop.

One aspect of changing the language involves moving away from actors at each level of society (local, regional and national)

João Oliveira Malva and Maddalena Illario discuss their own business experiences as part of a panel of seven looking at improving AAL adoption

who continue to drive old initiatives, as this only creates fragmentation across AAL. By adopting an age-friendly dialogue, the AAL ecosystem has the opportunity to look, listen and learn together, and open calls for best practice, improved innovation, and entrepreneurship initiatives across borders.

To make this happen, there needs to be improved national education initiatives to change the perspective on the ageing population and communicate this outside of health institutions to professionals and younger people in society. Society needs to learn to understand that within this new group of older people there is a plethora of knowledge waiting to be used. As Birgit Morlion of the EU Commission said, this understanding can "help create initiatives that align policies, social care systems, research, innovation and economic needs to make for flexible frameworks that AAL can adapt to succeed."

"There are a lot initiatives already, but a framework needs to be developed to enable AAL solutions to scale-up and overcome the challenges ahead," continued Morlion. It is apparent that it is important to involve users in the innovation, testing and validation stages of AAL solutions to fully achieve what they want across Europe. Alexander Paine, assistant professor at Utrecht University, concluded: "If AAL solutions are to succeed, we first needs to ask, "what do we want to accomplish with each other?"

TO EDUCATE AND BE EDUCATED

Maggie Ellis, senior research fellow at the London School of Economics, directed a workshop on how education and understanding can increase the adoption of AAL solutions. The session invited speakers to demonstrate the important role education plays at every level in the AAL ecosystem.

"Good education is the route to a successful society," said Maggie Ellis of the London School of Economics, and the same goes for the AAL ecosystem. Users, policymakers, governments, budget holders and industry need to be educated about one another, and to educate one another. Educating means communicating, which will bring AAL stakeholders together and improve the chances AAL solutions have of surviving in the market.

Education can come in a variety of forms, from the formal education of new doctors and nurses to the education of end users and carers. In every case, across local, regional and national levels, there is the possibility to improve teaching and learning to benefit the changing demographic.

Although there are noticeable steps being made across the AAL ecosystem to better educate one another and promote digital uptake of personalised solutions and medicines, there are still many obscurities that hinder widespread implementation. One area in particular, and one that was studied a lot in the workshop, is medical education organisations, where there is a divide in reception between different institutions, such as university hospitals and local GPs.

At Coimbra University for example, which is very involved in telemedicine and telehealth, the use of new technologies is encouraged. Yet in other places, independent doctors "won't easily adopt electronic patient records or new technologies because they find it too stressful and they lack the effective communication skills or training to make it work," said Luis Farelerio, project advisor at Coimbra University Hospital and a speaker at the workshop.

While hospitals open more spaces to increase the number of medical professionals, the workshop revealed that little is being done to bridge the gap between the different institutions or educating the smaller institutions on digital solutions. The current tension and void between the different organisations creates a barrier that stops AAL solutions from scaling-up economically, and ultimately from being communicated to end users in a positive way, or at all.

Doctors outside of large institutions would be an important element in the AAL ecosystem as they listen to what their patient's need to keep t, happy and healthy on a daily basis - especially as the aging population no longer " t traditional patterns of old age", as one end user and speaker, Pedada Forte said. GPs are in a convenient place

to persuade patients to adopt the right technological solutions that will aid them in living a healthier more active life.

It's not just GPs who need to become more involved – all AAL stakeholders must become more educated. This includes those "who might need nursing care and medication but still want to work and teach and take responsibility for their own health, their own lives", Padmanabhan Raguraman, clinical lead manager at telehealth NHS, added.

A lot of effort is being made by stakeholders across all levels of the AAL ecosystem to improve the adoption of AAL solutions through incentives, actions, products and projects. However, to ensure future solutions successfully make it to market and scale-up, more attention has to be paid on establishing communication channels that enable stakeholders to effectively educate, teach and learn from one another so that the best solutions can be adopted and adapted for longer, healthier, independent lives.

AAL FORUM 2018 – Q&A WITH SERGIO MURILLO CORZO

The AAL Forum 2018 will be taking place in Bilbao, the bustling capital of the Biscay region which has enjoyed unprecedented success in investing in innovative solutions in the field of active and healthy ageing. We caught up with the coordinator of next year's event, Sergio Murillo Corzo, who works for the Department of Social Development for the Biscay regional government.

What brings you to the AAL Forum?
I work for the Department of Social Development of the Biscay regional government, which is based in Bilbao. We decided to join hand in hand with the Department of Economic Promotion to come to the AAL Forum and try to promote what has happened in our region, which has seen the rise of a new sector connected to health, ageing, and quality of life. At the same time, we want to create discussion about how societies deal with demographic change, while also promoting the economic activity surrounding this new market. That's our vision.

The market for these products and services is not local – solutions in this sector need global markets. AAL is important for us for this reason; from the very first moment, our start-up projects which are only in the pilot phase can connect with other markets and partners across Europe.

It is also very clear to us that user involvement is very important, and AAL does that well. They ask for social and user

involvement in every project, which was not that common in European calls a few years ago, although the concept of co-creation is now becoming more mainstream. But AAL has been doing this since the very beginning. On a personal level, I worked for a nursing home in Biscay in the past, working with a technological centre to bring the services that were in the nursing home to the rural areas. We had a project funded by AAL, so I have experienced the programme from this angle as well.

What do you think AAL does right, and what do you think it can improve on?
I think ageing issues are complex. It's essential to involve tinvolve the user in order to create a good solution and reduce the time to market. But this is not enough in itself. We believe it is fundamental to involve other stakeholders such as buyers, health policymakers and social policymakers. These are the people who make decisions about whether or not public budgets are spent on new products and services. They have to be convinced that these solutions are tackling the challenges they are meant to be addressing in a better way.

"Ageing issues are complex. It's essential to involve the user in order to create a good solution and reduce the time to market"

Another area to consider is business – we need to involve more stakeholders and parts of the value chain which are key investors. We are absolutely convinced that social development and economic development needs investment from public and private investors. It is OK to have some funding in risky stages of AAL projects in which no investors would take any risk at that phase, but at the next phase there should be a market assessment which is made by private investors. And if there is no direct approval from an investor, we should rethink if we are approaching the issue in the right way. In the end, AAL is about creating social and health solutions, but they have to be viable and sustainable and enter the market, so the market view should always be in the equation as well.

Sergio Murillo Corzo

How do you think these ideas could be integrated into the AAL Programme?

As you know, we will be holding next year's AAL Forum in Bilbao, so we would like to establish some debate about the clustering of stakeholder involvement at local level, as well as about how to get financing involved in these kinds of solutions. We want there to be an effort from the AAL programme to involve private investors with no shame of saying that this is a business – it has to be! Obviously, there have to be some limits as well – if you're dealing with people and with personal data, you have to have limits, and these should be clear and strictly observed. But in the end we have to talk about business – if there is no business there will be no solution at the end and nobody will benefit. If we want AAL to have real impact then we need to create sustainable projects, which means creating a viable business.

What can we learn from the way things are done in Biscay?

We are quite a strange government! It holds a company called Seed Capital de Bizkaia which runs three funds that invest state capital, which is not that common in Europe. The first fund was created for innovative ideas from all companies, to start bringing innovation into the regular activity that the government was involved with. The second fund was for scaling up internationalisation which was a problem in the late 90s, and the third fund was for social innovation projects – sustainable business projects that have an impact on people. This is the history of what have we have been doing, and it has been a great success; we have now directly mobilised more than €25 million, and indirectly at least four times that. Some of the start-ups we have invested in have gone to be bought by companies such as Amazon, which is obviously great for us.

When we assess a project we decide to invest, we will always have an assessment of the business plan. We're not trying to promote these projects – we're trying to make a good investment. This means

What will be happening at the forum next year?

Next year's forum in Bilbao will be taking place in what we are calling the Silver Week. This will begin with the Active Ageing Index Seminar on the 27th-28th of September, supported by the United Nations Economic Commission for Europe. This is more focused on policymakers, universities and academia. Then on the 1st-3rd of October we will have the AAL Forum 2018. Over the course of the Silver Week we would like to set up a couple of position papers, from many stakeholders in Bilbao to try to draft some input to the new Horizon 2020 study for Europe in research and innovation.

In the very centre of the whole week is the 1st October, which is the International Day of Older Persons, where we will have a separate event which older people will be invited to attend. We hope that this will connect the two events happening in Bilbao and bring everyone together. Bilbao is a wonderful city and is quite accessible to older people, so this will also send a message to the world that building up age-friendly environments makes ageing less of an issue and means that people need less support. Creating an accessible environment is key to reducing dependency.

we need to recover our investment and hopefully come out with some profit.

One of our bigger projects is developing software for multiple sclerosis rehabilitation through games, and in that project the users were deeply involved. The project worked with a multiple sclerosis association to work out how to get into the market. Doctors in the main hospital in Biscay were involved in the testing of the solution, providing clinical evidence on the benefits of that solution for the patients of multiple sclerosis. Our government and some other private investors invested in that company and now it's in Chile, Mexico, and has a licensing contract with a Russian company. Bringing these small, local ideas to a global market so that they can create real impact is what we should be trying to do with AAL.

THE FUTURE OF AAL
THE DELEGATES' PERSPECTIVE

The AAL Forum gives a voice to the thoughts, opinions and ideas of a community debating technology and active ageing. With the current iteration of the AAL Programme due to end in 2020, we were keen to hear from you this year: what next?

2017 is the year that AAL saw a resurgence, a change of attitude towards the emergence of a new old. A feeling of anticipation resonated around the forum and people started thinking differently about the prospect of an AAL after AAL and what it should to do to get there.

As with every year, the forum is a place to share ideas, discuss and come together to communicate about everything AAL for help, support and endorsement. The question on many a delegate's lips this year was: where do you see the future of AAL, and what will it look like?

Since the beginning, AAL has progressed, learnt and augmented technological solutions to help improve the lives of the ageing population, with many very significant achievements and success stories. But AAL cannot stop here: "With the end-user percentage population growing, AAL is a very interesting segment… to be involved with and there are a lot of future possibilities for it," said Håkan Isaksson from project AXO-SUIT, voicing the attitude of many of the AAL delegates.

To make the next four years a triumph and to ensure AAL continues after 2020, Peter Saraga, Chair of the Advisory Board of the AAL Programme summed-up: "We need to focus on two pressing issues – putting the end-user at the centre, and innovating current products already on the market," he said. "There is beginning to be a shift in AAL in putting the user at the centre of what we do and treating them as equal partners of our projects. The idea that we only consult the end-users is, I think, a great pity. They should be treated as equal partners and get paid like everybody else."

Delegates discuss the future of the AAL during the breaks and on the exhibition floor

Sacha Nauta's opening keynote speech created a premise for the rest of forum, and got everyone thinking about the potential of 65-and-over year-olds. As Saraga suggested, the feeling among delegates was that without fully integrated end user involvement from the beginning of every project, AAL solutions will always be hindered from reaching their maximum potential and having real impact on peoples' lives. Don't they, more than anyone, know what will work and what won't work for a product? Their knowledge and expertise outshines a lot of those developing the products and by involving them from start to finish in a project, future AAL solutions could see more success at market.

AAL should look to spend less time on new innovations and more on modifying products already on the market.

With increased end-user involvement, the AAL Programme can continue on track to re-balance the gap between technology and adoption. However, many considered that the definition of end-users, for products to fully achieve success in AAL, should incorporate those who provide the care. To truly even out this balance, Christian Mandel from the German Research Centre of Artificial Intelligence chipped in: "More help needs to be given to informal and formal care workers who provide the care and support to those who need it.

"We need to focus on supporting our nurses, our physiotherapists, our informal carers with technology that can help them – not just end-users – in their daily work," continued Mandel. Much like those who need the care, "caregivers are a hub of knowledge that needs to be understood and utilised."

AAL delegates are beginning to realise that end-users as a target group are a much more complex and detailed entity than has previously been acknowledged, with many different needs and potentials with regards to balancing AAL. This very much comes down to Nauta's "new old," the idea that products should be introduced to the in-betweeners (those over 60 but before dependency age) and not to those who already need help, when it is too late.

"If we, AAL, can get this or that solution to end-users when they are younger," said a researcher on the project gAALaxy, "the transition to using a similar product when they get older will be smoother, improving the chance of AAL products lasting longer on the market. For example, if you have a

Peter Saraga

Maggie Ellis

smart home installed at an earlier age, when it needs to be used to start monitoring something you just add another component to it so it is not a new thing."

AAL delegates saw that 65-and-overs not only hold the key to marketable products for the older old, but future products could have the potential to become more specific to the needs of individuals with increased end-user involvement, away from being too general. "Whilst it is important to have a set programme to identify challenges and requirements of a market, a chance lies for AAL in having products that are not limited to a certain target group," said Andreas Stainer-Hochgatterer, Austrian Institute of Technology.

"If you take people with disabilities for example, it is important to be aware of their challenges but it is not okay to put them under an umbrella and say, we only do things for them. It is about stimulating universal design and AAL for the future needs to focus on this," continued Stainer-Hochgatterer.

AAL has the challenge to concentrate on the new old, and concentrate on listening to what they need and what they think in order to develop products that bridge the gap between technology and adoption. A researcher on the project Santis said: "In the near future AAL needs to, instead of having products for everyone, create devices that will have answers for a lot of different people with many different needs."

With only four years left, options to make this happen need to be quick, and many an AAL delegates' thoughts turned to "innovating ideas we already have," as Maggie Ellis, senior research fellow at the London School of Economics, commented. To help solutions make it to market quicker and with a higher success rate, AAL should look to spend less time on new innovations and more on modifying products already on the market. "If we look to introduce these types of products in reality in the next few years, then AAL and society would be a better, healthier place," said Ellis.

Getting products to market quicker was a key concept taken by many from the forum, and not just in relation to physical products,

Stefan Wünsche of the 2PCS project talks with Birgit Morlion from the European Commission, DG CONNECT

as Lennart Köster from 2PCS commented: "Smaller, faster projects need to happen and this can be improved through easier product proposal phases, smaller consortiums and less restrictions when it comes to writing AAL proposals," he said. "There is definitely a future for AAL but it can take a lot of time to do this, especially with start-ups, and so it needs to be made more efficient to get new projects up and running."

The AAL Programme on the road to 2020 and continuing after 2020 were seen as two different entities at the forum. However, that being the case, the 2017 forum left delegates with new challenges and targets to get stuck into together for the next four years. There was even the underlying certainty that there is a definite potential for AAL post-2020; as Saraga put it, "it would be absurd if there was not some innovation programme in the field in the future."

ANTICIPATING USER HABITS

The AAL project gAALaxy led a workshop that looked at defining future areas of life. Groups of up to eight participants worked together to use the project's tAALxonomy model to discuss and decide how to classify the areas of life and quality of life associated with five use-case studies, in an attempt to pre-empt end-user needs.

"We all work in the field of AAL because we want to improve people's quality of life" commented a group of researchers from Innsbruck University However, do we really know how AAL solutions influence various areas of life and quality of life domains in each end user and their individual case studies?

Society's changing demographic is characterised by more than just being old or young, dependent or independent. There is now a complete array of different ages, stages and categories of needing help that AAL solutions are trying to confront. 'Did I take my medicine?' and 'Did I switch off the coffee machine?' might sound like very similar scenarios, but the AAL solution to these questions can be very different for two different people.

For example, Mr Smith might manage daily life independently but is nervous of technology, whilst Ms Brown might be partially impaired but wants to remain socially active. In order to help them both, the AAL product they use needs to match their individual needs.

Researchers from the University of Innsbruck have been researching the impact of AAL solutions on quality of life, which has led to the creation of a classification model called tAALxonomy. This model classifies the areas of life that the ageing population are affected by and provides an online service that enables researchers and future projects in the field of AAL to pre-empt the needs of individuals and scenarios.

The areas of life tAALxonomy classifies include: health & care, living & habitat, mobility & transport, vitality & abilities, safety & security, and communication. Cases can also be categorised by different aspects of quality of life. The World

Health Organisation names six categories: physical, psychological, independence, environment, social relations, and financial resources.

The tAALxonomy model can be used to ensure products are more successful in market, but what is the value of having all this knowledge? To go further, AAL solutions should be evaluated on the model's criteria after they have been implemented, and for the same question to be asked: 'Does this product enhance the quality of life of this person and their situation?'

The challenge for AAL is keeping the situation and person in mind. The unique TAALxonomy model actively aims to align everyone in the AAL field to unitedly understand the ageing population more accurately, and contribute to the improved integration of health and social care across Europe by providing a reference site that helps the up-scaling of AAL products.

HACK 4 AGEING WELL

Although the AAL Forum started for the majority of us on Monday 2rd October, some young, eager and extremely talented developers and designers came together two days earlier to participate in the AAL's Hack 4 Ageing Well. Ten teams, 24-hours, and just one pitch to impress the judges.

The hackathon at the AAL Forum has now become a well-loved annual event that has increased in popularity over the past few years and creates a real sense of intergenerational collaboration. The hackathon is a competition where ideas are explored, tested and cultivated by expert developers and designers under a strenuous 24-hour period, resulting in a five-minute pitch to demonstrate not only how the solution will enable the ageing population to live healthier more independent lives, but also the next steps for the product and possible funding prospects.

Conditions were challenging as 35 participants, with an average age of 26, only had two days to make their ideas a reality. "Participants came from diverse backgrounds and different parts of the country including Lisbon, Coimbra and Porto. One team even came from Germany," says Liliana Castro, founder and creative manager of Filling Empty Spaces (FES), who ran the event in partnership with the AAL Programme.

Whilst the session was long and tiresome, the competitors showed tenacity to produce some highly creative quality products that have real market potential. "All teams got into the hackathon spirit, the enthusiastic demonstrations spoke of the energy and effort that went into these two intense days together. The participants created exciting designs, coded prototype apps, combined hardware components, prepared slides and original presentations," says Castro. "Overall, it was a great weekend."

WHAT HAPPENS AT A HACKATHON?

We've all heard of hackathons, but what actually goes on during these events? Here's a breakdown of how the 24 hours went:

11am: *The opening presentation introduced everyone and the organisers highlighted some of the challenges teams would come across. Then, it was down to the participants.*

1pm: *An hour lunch break for vital refuelling and a brain-power boost.*

2pm: *Mentors arrived from organisations such as siosLIFE, Cowork Lisboa and Fraunhofer Portugal and offered guidance and support to boost creativity and ensure teams remained focused on their path.*

8pm: *Eight hours down and dinner was served, legs were stretched and shoulders un-hunched as participants enjoyed the chance to network.*

9pm: *A long night ahead and only a few stopped for food at 1am.*

6am: *The morning brought relief and a small relaxation respite with breakfast and massages from two therapists, ready for the final push to the finish line at 11:30am.*

hello, technology smile for the camera having won the AAL hackathon 2017 after a mad 24-hours

The winner

The first prize of the Hack 4 Ageing Well Hackathon 2017 went to '**hello, technology'** - a solution that supports impaired people with interactions beyond touch interfaces by using physical space. Not only did they win the opportunity to pitch their project to 750 AAL delegates, they won the chance to have direct access to the acceleration program, Impact Generator, taking place in January 2018.

The team consisted of three members – Martin, Merlin, Henrik – who are all user experience specialists working at a design consultancy called User Interface Design (UID) in Germany. Together their passions span everything from open-source programming to visual user interfaces and experimenting with understanding user needs and reflecting this in experimental design solutions.

"Our idea was based on creating a tool which can improve reminiscence therapy, especially for therapists who work with dementia sufferers," says Henrik Reiss, a member of 'hello, technology'. "Reminiscence therapy is a psychological method to improve people's well-being by making use of memories to help older people with depression and dementia open up to the outside world again."

'hello, technology' noticed a gap in the field of reminiscence therapy. Today's generation are surrounded by digital memories uploaded to sites such as Facebook and Instagram. However, reminiscence therapy involving digital media has low interaction rates and is hard to use for therapists or caregivers. "Our solution," says Reiss, "is to create a guided, non-linear storytelling tool for caregivers who work with dementia patients to help them understand what their patients react to and offer related stimulus material for more in-depth storytelling.

"A picture or scene will be shown on one screen to the patient, whilst on another screen a heat map of a patient's gaze will be shown to the therapist who can track and understand how much attention is being spent on certain areas of the picture. This could also be extended to monitoring muscle tension, heart rate or stress responses," says Reiss.

"With regards to the hackathon itself, all-in-all we had one day – and not much sleep – to try and implement the fuzzy vision we had in our head, but what totally amazed us was how perfectly it was organised and how much this helped make the process a lot smoother. We had such a great time being involved with the hackathon, especially for something like the AAL Programme and the social, technological and ethical discussions it yields, which we believe to be a fundamental part of a future that we are all a part of," says Reiss.

"Approximately **37.3 million** falls by older adults require **medical attention each year.**"

The runners-up

Approximately 37.3 million falls by older adults require medical attention each year. **Smart Aging** looked to tackle this problem. As we grow older, our posture gets worse and we suffer a loss of balance, increasing our risk of falling over. Smart Aging's solution? Smart stability socks. A product that helps older people regain their posture and balance from possible fall risks with ankle movement sensors that sends sub-sensory signals up the leg to help regain posture and balance.

Pharma.chat, the brainchild of a team from the medical writing company doDOC, is a smart-bot that simplifies medication pamphlets and makes them easier to understand for everybody. Over-complex drug documentation can be full of jargon and small type-face which can make the process of looking for a fast and trustworthy answer much harder. The team created a system that could be used through Skype or Facebook where customers can ask basic questions on all FDA approved drugs, with the aim of expanding its complexity and moving towards voice and TV interfaces.

Smart Aging, 2nd prize winners

Rafael de Andres Medina awards 3rd prize Pharma.chat

IS AAL IN YOUR LIFE?

Evangelia Chrysikou asked participants in her workshop a critical question: are people benefitting from the solutions developed in the AAL Programme. Lively discussion followed, covering topics including national funding, public and private sector integration, built environments and architecture, local and national health care systems and end-user needs and how to listen and integrate their requirements

Are users really benefiting from technological disruption and breakthroughs? The AAL funding programme could have an important impact on older people's wellbeing, but projects too often don't find their roots in people's lives. The discussion in this workshop aimed to analyse how projects draw upon people's self-identification of their needs. Are products adjusted to end users' preferences? How are their requirements taken into account in the development? Are national funding programmes working towards the alignment of AAL solutions with the provision of health and social care services?

Evangelia Chrysikou presented her personal vision about accessible homes by telling the story of an old person who died after a fall; such a situation could possibly have been prevented with AAL and architectural good practices. Her intervention helped to motivate the discussion, considering the user perspective not only regarding technology but also other aspects of age-friendly housing and living.

A number of points were raised during the ensuing discussion. Ageing populations in Europe have similar needs but national contexts are often different, influencing the way technological solutions should be developed. For example, in Portugal, 80 per cent of pensioners have low pensions, meaning they cannot afford smartphones, tablets and computers. It is very difficult to engage older generations because they do not have access to the information and some of them still do not trust technologies. The involvement of younger generations might help in engaging older people into this digital shift.

Older people should be at the centre of the innovation process from an early stage to make sure solutions will be useful to them.

The contribution of end users to technology development all along the value chain can help bridge the gap between academia and industry.

Experience shows that the various stakeholders involved in innovation projects speak different languages. The way projects are discussed by stakeholders needs to change, especially during the development phases where trial and feedback processes take place. Without careful language use, co-creation methodologies are almost impossible to implement.

Older people and their representatives need to be associated with technology development processes in a more participatory way that can improve the acceptance of solutions. However, other challenges (affordability, digital literacy and language use, to name a few examples) still need to be addressed to ensure the uptake of digital solutions by older users. Large scale pilot funding opportunities and more time to validate technologies in real-life environments might help.

Finally, more attention and effort needs to be put into planning the exploitation of developed solutions in order to increase the share of solutions reaching the market. This can be achieved through better communication and policy alignment between all stakeholders.

THE AAL FORUM 2017 COMES TO AN END

At the closing ceremony of the forum, AAL Programme director Klaus Niederländer gave some parting remarks to round-up the success of the previous days.

A picture of an older man skydiving was once again projected onto the big screen as it was just two days before at Sacha Nauta's opening speech. "This is how we started our three-day journey," Klaus Niederländer began.

When choosing a picture to represent an entire forum, we question what makes the image so important, has the format of the image encapsulated what we set out to achieve, as "without the right format the best content will disappear," Niederländer said. Just as the image accurately represented the AAL Forum 2017 of reimagining old age, "Coimbra did everything to provide an excellent format" that gave rise to "excellent content."

The image was coined by Nauta as representing the 'new old'. A term, a notion, of reimaging old age to enable not just the AAL community but the whole of society to think differently about what 65 or overs actually want and need, was captured and diffused across the forum. "I believe we have begun developing this new narrative for ageing, one that is about openness and about activism," said Niederländer. "These three days of the forum have seen a palpable change in direction – AAL has moved up a notch."

At the forum where a new era, a new generation of understanding ageing was established, it was also a place for rebalancing. António Lindo da Cunha had opened the forum by speaking about the disparity between technology and adoption, how do we bridge that gap and strike a balance? Niederländer reminded us that the current balance within AAL was weighted too much on the new technologies and that the people, the end-users, needed to be put back at the centre.
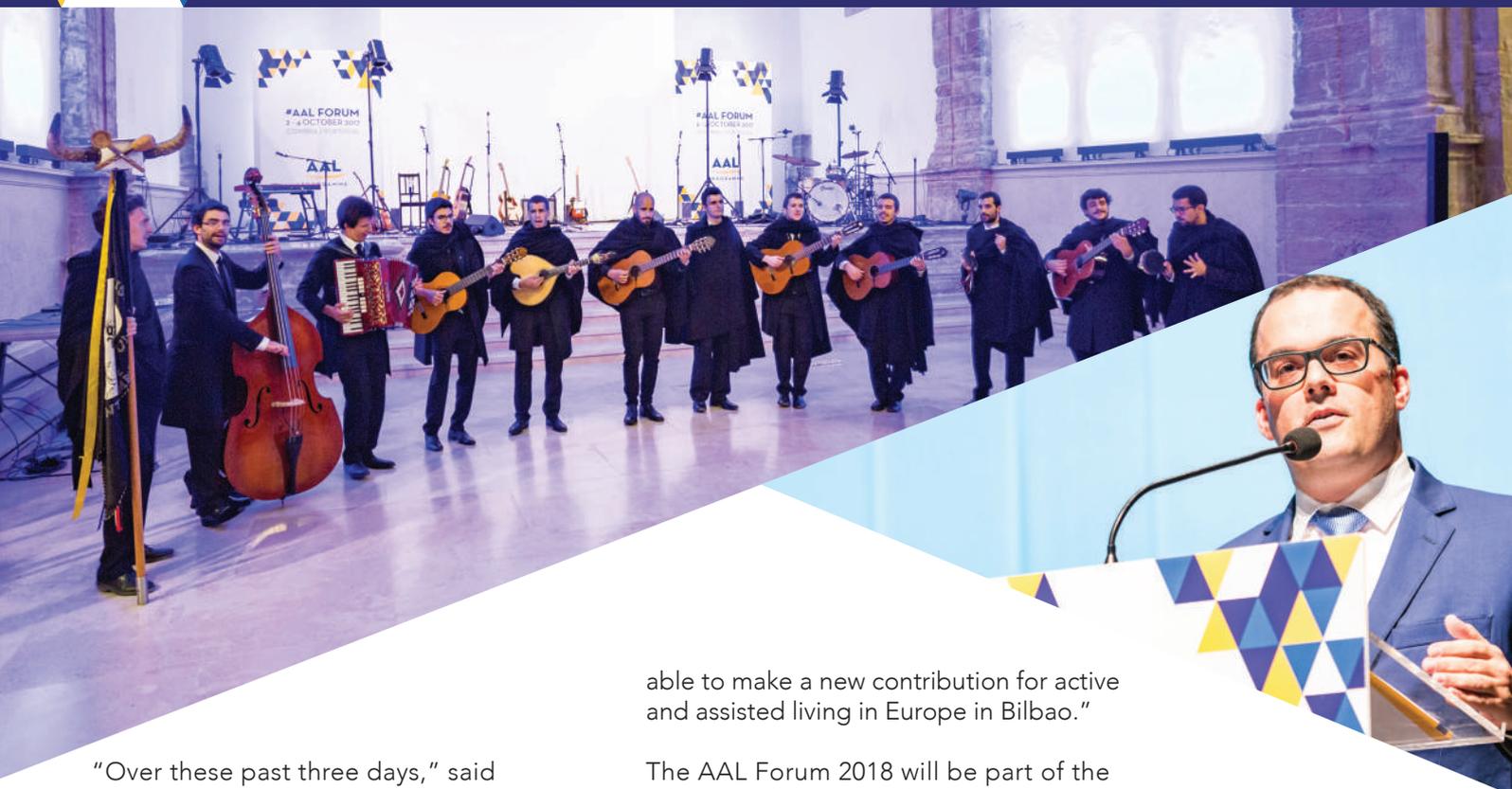
"Over these past three days," said Niederländer, "we have gotten wiser and I can see that each and every one of us has learnt a lot by working on striking the right balance again, and we have all achieved something in some way. This journey has been positive and I hope frustrating, because when you are venturing into something new – which we are - this is what it takes to come out the other end, and we will – together."

AAL Forum 2018 is coming to Bilbao!

The prizes were awarded, thanks were said, and congratulations were honoured and so, with spirits high for a successful end to another year and in anticipation for what is to come, Sergio Murillo Corzo as the host of the AAL Forum 2018 stepped up to provide the teaser video – and what a teaser.

The city of Bilbao, in the province of Biscay, is one of Spain's largest cities and has undergone urban and economic regeneration with architecture and infrastructure projects representing this modern driving force. "This is the landscape, this is the framework for the next AAL Forum," said Corzo, "but we need you. We need all of us, every region and every country in Europe to make a new contribution. Coimbra did it for the AAL Forum this year and I hope that we will be able to make a new contribution for active and assisted living in Europe in Bilbao."

The AAL Forum 2018 will be part of the Silver Week, which will begin with the Active Ageing Index Seminar between the 27th-28th September. The Silver Week hopes to bring together everyone looking to change the future for the ageing population.

What party isn't complete without live musicians?

To begin the start-of-the-end of the forum, Coimbra had one last wonderful surprise up their sleeve in the form of a traditional bagpipe band in customary costume. Called Gaita, it is considered one of the oldest musical forms in Portugal and every party would exclusively have had music played by pipers.

As tradition decrees, when you hear a pied-piper playing you have to follow them to the party and so, from the grand auditorium where the closing ceremony was hosted, hundreds of AAL attendees were delightfully led by the Gaita band playing beautiful music, outside and around the Convento São Francisco to the old convent church where the final party was to get underway.

Food was served, drinks were poured and music was played as everyone danced well into the evening, wrapping up an exceptional year to the AAL Forum 2017.

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
www.aal-europe.eu/contacts

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