

AAL

PROGRAMME

**Innovative technology for
active and healthy ageing**



SUCCESS STORIES

AAL INNOVATIONS CREATING REAL IMPACT





SUCCESS STORIES



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Karina Marcus, Director of the Central Management Unit of the AAL Association

FOREWORD

Welcome to the second edition of AAL Success Stories in which we highlight 13 more AAL projects that have not only finished successfully but are now embarked on a journey that is taking their products and solutions closer to market.

When AAL started in 2008, its mission statement was clear – and it still is. We focus on addressing the needs of our ageing population by developing ICT and other technologies to enhance the quality of life for the older person – and throughout the years we have seen some amazing products emerge from this innovation environment.

But we have never lost sight either of the fact that in developing innovative new technologies that meet the needs of a growing part of the population, there are also huge economic opportunities to grasp as well.

AAL projects all have this commercial focus. They have to. We want to see innovations emerging from our researchers and SMEs, in collaboration with end-users, that have real market potential because they meet an un-met need in the society and in the market place. That is why not only does the AAL Programme provide access to millions of research euros every year but, in aiming to bridge the gap between research and market, we also provide additional support tools like AAL2Business, which is a free service for all projects participants.

The 13 projects we highlight in this special publication are excellent examples of this AAL focus. Each, in a variety of ways, has developed a commercially-viable solution that not only meets a specific need, but also demonstrates a very clear business strategy that will enhance its chances of market success.

As the market for AAL solutions continues to grow I am confident that our projects will continue to find the success all their hard work deserves and we will see even more products in the market that support active and healthy ageing and bring huge benefits to society.

Karina Marcus

➤ 2PCS: HELP AT THE TOUCH OF A BUTTON

The 2PCS Personal Protection and Caring System is a wearable technology designed to tackle the underlying causes of immobility. Poised and ready for the market, 2PCS demonstrates the importance of involving researchers and developers beyond the project phase



➤ **Loss of mobility** among older adults is often compounded by a variety of factors. A lack of communication and information, for instance, doesn't help with immobilising feelings of disorientation, individual fears and insecurities. The 2PCS innovation is an elegant solution to these challenges, offering comfort and support in an emergency.

Small and sleek like a sports watch, the device is integrated into the security systems of relevant call centres, professional homecare organisations, such as Red Cross, and nursing homes so it only takes the push of an SOS button to receive qualified support wherever an emergency occurs. In addition it offers voice communication, GSM/GPRS, active and passive radio-frequency identification (RFID), GPS and 3G-sensor functionalities.

➤ **Keeping it in the family**
2PCS Solutions GmbH was born from the 2PCS project to bring its innovation to the market. Coordinator Felix Piazzolo explains how the team achieved this: "Two thirds of the company are owned by the project's researchers and developers. They came up with the product, which is very important. It means they're a lot more enthusiastic and always working to bring it to the market." And the market is secondary end-users like Red Cross and operators of nursing homes. Following a purely B2B model, it has been crucial for the 2PCS project to maintain a close involvement with professional care organisations throughout.

"The AAL2Business is very helpful in getting your business model in line and also enabling contact with potential investors"



Coaching for commerce

The AAL Programme allowed the 2PCS team to spend two years combining what were originally separate components into a single device, revamping the hardware and the software and developing it up to a specific point. Equally important is how one goes about scaling-up. "The AAL2Business is very helpful in getting your business model in line and also enabling contact with potential investors," says Piazo. "They show you how to pitch your solution and your company. It's very helpful to have an external view on what you're doing." The AAL Forums played a vital role too, allowing the 2PCS team to present its ideas and make international connections with a community already involved with the programme.



PROJECT INFO

2PCS

2PCS is a life-phase oriented care solution based on a watch, a management and integration software and access to services.

Start-Up: 2PCS reduces strains and is enabling action for professional caregivers in emergencies.

Providing a scalable emergency system with unified technologies.



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**"The device
produced by Fearless,
another AAL project,
is integrated
with our system already"**



Improving integration and interoperability

The Personal Protection and Caring System is already shifting units. The involvement of former consortium members means there are sales partners in Austria, the Netherlands and Italy, with the German market just around the corner. Although commercialisation is key, the ideas haven't stopped flowing yet. 2PCS Solutions is indirectly involved with another AAL project which has opened up the possibility of smart home integration, and

interoperability with existing products will provide a greater service still. "The device produced by Fearless, another AAL project, is integrated with our system already," explains Piazo. "Theirs is interoperable with our solution and ours is interoperable with the call centre, so we can provide even more options for support."

According to Piazo, these are the achievements of a consortium carefully organised to foster and maintain enthusiasm in its innovation: "We were lucky to have that consortium. It offered us competencies without which we wouldn't have been able to develop this solution."



➤ ACCESS: PROVIDING ACCESS TO CARE INFORMATION

With multiple carers and a variety of needs, information about an older person's care needs is often lost between people and systems. The Access project addresses this issue with a platform that automatically integrates care plans and data surrounding the patient to be shared amongst all those involved, including the senior

➤ **An older person** living at home will have a variety of care needs. More often than not, however, information about the older person's needs will not be shared effectively between those providing the care and the family members and informal carers interested in the wellbeing of the senior.

The ACCESS project, which is coordinated in France by CEV, set about to address this issue by developing a platform to collect and distribute this information. "The information already exists in the database of the care associations' information systems," explains coordinator David Tizon. "All we set out to do was centralise everything inside this platform and distribute it to the right person - which is the senior and the family, as well as the formal carers."

Another major issue the project looked to solve was to make the collection of all this data more efficient. Currently, most information about the care needs of older people is collected by individuals and shared on request. This costs time and money, so the platform was also developed to collect and share data automatically.



➤ Addressing challenges

Another major challenge was selling the system's benefits to all those involved. "We can involve the seniors but in a sense the senior is less easy to convince than the family member," explains Tizon. "The family member is more likely to say yes to all the benefits, especially if they are affordable, so our software is mainly paid for by the care associations, making the cost to the family small, which is when they buy in."

"The family member can try to convince the senior to use it but this is not strictly necessary. The benefit of the platform is that it doesn't have to necessarily involve the senior directly." One of the partners involved in ACCESS is APOLOGIC, a software provider for care associations. There are only a few major players in this market in France and APOLOGIC have about 43% of the market share. "we were working with this software provider already so we had to find a way to connect this software provider with the elderly people"



AAL support

Tizon is grateful to the AAL for being able to take the Access project to where it is now, where the scope of its market is Europe-wide. "If we'd set out without the AAL, then we would have only been able to launch the product in France alone," he says. "We were able to involve more than 20 care associations as well as carry out detailed profiling of the people who want and will use the product. This has given us a much deeper understanding of the market."

Access is now beginning its first steps into this market, starting the commercialisation of the platform in France, where it hopes to have a solid presence by the end of 2016. The project has set up a start-up company called DOME, which has involved different partners from the consortium and they are currently working on fine-tuning the product to make it ready for the market.

**"We were able to involve more than
20 care associations
as well as carry out detailed
profiling of the people who
want and will use the product"**



A tough market

"This is a very difficult market," admits Tizon. "The people who decide what services to use are the seniors, but they are not always interested or don't understand the technology."

"How we are dealing with this is to contact the people who are already in contact with those seniors and get them on board. It is through these channels that the product will be sold."



PROJECT INFO

ACCESS

Assisting Carers for
CooperativE Services to Seniors.

The ACCESS project implements a communication system for sharing relevant data between elderly people and "their" circle of support.



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➤ AALuis: INDIVIDUAL INTERFACES

Diversity does not disappear with age. Ambient Assisted Living user interfaces (AALuis) addresses the unique needs of the individual to help older adults better exploit the range of ICT-based comfort and care services

➤ **For older adults** it is vitally important that ICT-based AAL services are able to meet their diverse and changing requirements to get the support they need, especially at a time when more and more elderly people want to live independently for as long as possible within their own environments. A one-size-fits-all approach to ICT user-interfaces (UIs) doesn't do justice to such diversity. What the AALuis project offers is an enhanced UI that respectfully adapts to the individual needs and preferences of older adults.

According to Christopher Mayer, project coordinator at the Austrian Institute of Technology (AIT), end-users need different ways of interacting with AAL services at different stages of their lives. "Your eyesight might be good to begin with," says Mayer, "but later it could get worse. You may enjoy using a touchscreen, but over time you can lose motor ability." As an open middleware layer, AALuis lets users choose their preferred platform, be it a smartphone, tablet, PC or TV, with a UI that is recognisable and comfortably consistent across the board.

➤ The customer is always right

End-user involvement has been an integral feature of the AALuis project from the start. Despite some technical hitches, a second run of field trials has proven that it pays to listen to the customer. Tested by independent older adults and by those requiring assistance, AALuis shows that it is possible to provide services ranging from comfort to care on the individual's preferred technology. As Mayer happily recalls: "Most users of the older user group found smartphones a challenge but all the end-users really liked the solution because of the possibility to change, from a touch tablet to a TV screen, for example, or between any other device."



➤ PROJECT INFO



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AALuis

Older adults form a very heterogeneous group comprising a broad range of different cognitive and motor abilities and limitations. However, technical equipment often does not reflect this and often does not fit evolving preferences and needs. This may be one of the reasons valuable AAL services in many cases do not reach enough end-users. The AALuis concept provides a solution by offering user interfaces that adapt to individual needs.

“All the partners have reused aspects of

AALuis

and developed it in

further projects”



Technology in flux

AALuis began with an ambitious aim: to make UIs and AAL systems easier to use in light of changing needs; help facilitate the connection of different services to different UIs and bring about a broader usage of AAL systems. These goals are still key but rather than being brought to the market as a whole, AALuis is progressing in a more segmented fashion. “All the partners have reused aspects of AALuis and developed it in further projects,” explains Mayer, “but to bring it to the market, I think it has to be in combination, as an add-on.” The user interaction layer, for example, is being used extensively in further research projects.



Encouraging environments

The idea behind AALuis originated at AIT but the AAL Programme gave them the impetus to run with it by providing funding, collaboration and strong support. Different funding rules for each participating country can be challenging for the projects but they haven't deterred Mayer: “I think it's a really good programme and we're continuously participating in it. Some challenges occurred during the project, for example, having to change a partner or technical hitches in the field trials, but the spirit within the project consortium was really amazing the whole time, and that is a really important thing for these projects to succeed.”

➤ Care@Home: A PERSONALISED PORTAL FOR ALL YOUR NEEDS

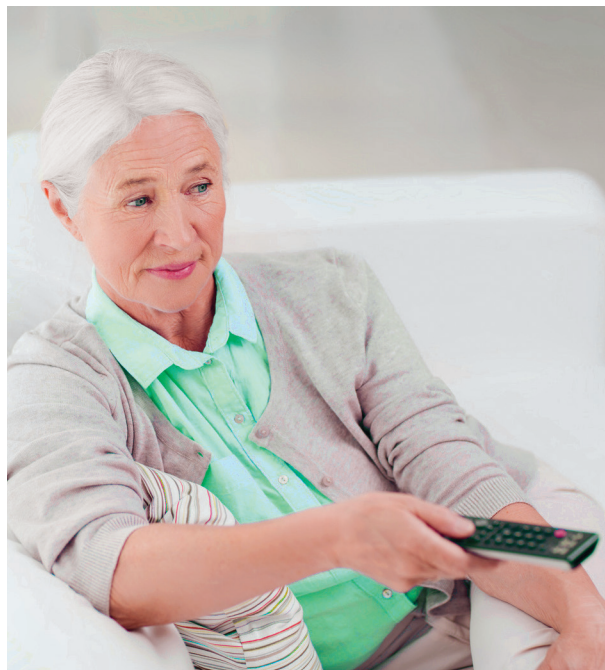
Bringing together a range of services into a personalised communication and service channel, the Care@Home project has paved the way for an innovative solution that allows older adults to continue living in their own homes in safety, comfort and independence

➤ **In order to** help older adults age peacefully in their preferred environment, the Care@Home project looks to combine health and wellness monitoring, access to social care services and the catering of day-to-day needs. Convenience can be expensive, but the concept devised by the Care@Home team also ensures that users won't have to retrofit their homes with costly devices. Using mobile phones, wireless wearables and fixed sensors, the project's open platform makes it possible to assess and manage risk by monitoring emergencies and lifestyle changes in real-time, all the while functioning as a two-way communication channel for family, friends and caregivers.

Originally, the focal point for Care@Home's service integration was only through interactive multimedia SmartTV but the state-of-the-art raced ahead in the shape of the smartphone. "We had to shift from one type of multimedia device to something that was not very clear at the time," recalls Wally Keijzer-Broers, PhD researcher at TU Delft, "but in the end it was done in a very smooth way."

➤ **A strong market focus**

With a media background and proven entrepreneurial record, Keijzer-Broers knows the importance of business modelling in allowing innovations to reach their full market potential. "A lot of projects don't get into the market because there's a lack of viable business models and a risk of overlooking the strategic interests of stakeholders," she says. "You have to be clear at the beginning - who are you designing for and what is the revenue for different partners? So I was really pleased that AAL paid a lot of attention to this."





Addressing the market mismatch

At TU Delft, a spinoff project is expanding the ideas developed in Care@Home to help older adults age at home. Zo-Dichtbij is intended as a solution to the supply and demand mismatch between potential end-users and smart living products. Acting as a brokering platform, older adults can easily search for the products and services they require without experiencing the confusing information overload of a fragmented marketplace. "We're now at the minimal viable product phase," reports Keijzer-Broers, "and we've ended up with something that could easily be taken over by partners to get it to market."

**"I found it
very useful
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and they had a lot of
expertise"**



A fruitful field

The network of project participants within the AAL Programme is an excellent breeding ground for new ideas. Close contact with Netherlands' research and development organisation, ZonMW, has been crucial to Keijzer-Broers in expanding the Care@Home project into Zo-Dichtbij. "I found it very useful having that contact because I could ask for help and they had a lot of expertise," she explains. And the possibilities for innovation are ripe. "There's a lot of potential for healthcare platforms, especially regarding IoT and wearables and mobile solutions. If you have a project you are passionate about it's easy, but if not then I don't think it's going to work," warns Keizer-Broers. "We're not finished yet. It's a very big project within healthcare."



PROJECT INFO



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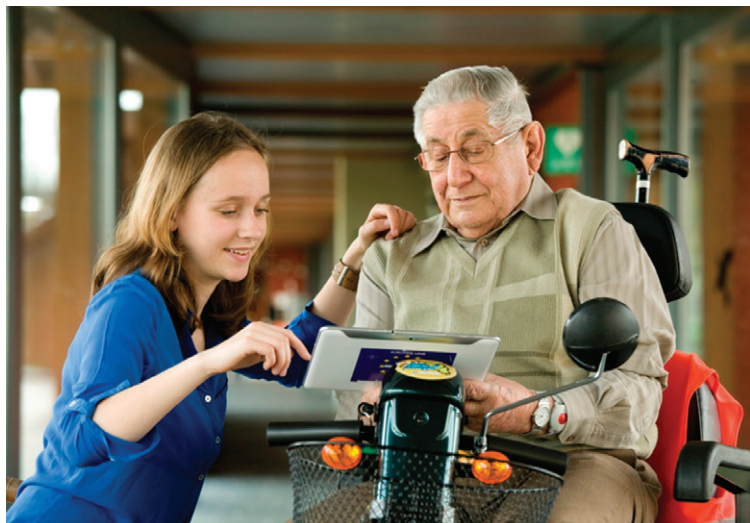
Care@Home

Care@Home was about enabling empowerment, wellness and social care services in the home of the elderly through an interactive multimedia SmartTV. The idea was to enclose the social support system for the elderly and carry this as a personalized communication and service channel in their home, whereby the technology provides a two-way communication for family, friends and care givers as well as entertainment and services for household, shopping and community information.

➤ Co-Living: CREATING COMMUNITIES WITH ICT

The Co-Living project encourages social interaction in elderly care homes through an easily adopted ICT platform that helps older adults to stay actively engaged with friends, family and the world

➤ **Maintaining a healthy** social life can be difficult for seniors in care homes when even light physical and cognitive disabilities act as barriers to an active, community oriented lifestyle. Aiming to boost social interaction and wellbeing amongst older adults in care, the Co-Living project has developed an ICT platform that's all about people meeting people. "That is our central philosophy," explains Roy Beumers, coordinator of Co-Living. "We believe in integration, that elderly people have to be connected. We've seen that if older adults keep active, they need less care." Administered by the care home organisation, the platform allows residents to see what activities are taking place, who's taking part and the chance to get involved.



➤ **An unusual approach** Co-Living was the first European project that Zuyderland, formerly Orbis Medical and Healthcare Group participated in. As end-users, it was an unusual step to take the coordinating role on a technical project. "Everyone said we were crazy. It's a complicated thing to take on but it allows better coordination and control over a project," says Beumers. Led from the end-user's perspective, it ensured the product's optimisation towards healthcare organisations and better acceptance by relatively active and healthy elderly. Upgraded and commercialised as CiTARD Active SCN, by the project partner Citard Services Ltd, the Co-Living platform has been successfully installed in four elderly care homes in The Netherlands.

➤ **A shared ethos** If senior populations aren't encouraged to get involved in stimulating communities through ICT, Beumers believes they will face a difficult future. "They need to be connected with the world and with other people," he says. "Technology can help them to stay socially active and also give them the feeling they can still be part of this modern world by using modern technologies. That's why AAL is so important for elderly people and the care environment."

“They need to be **connected** with the world, with younger people and **technology** around them”

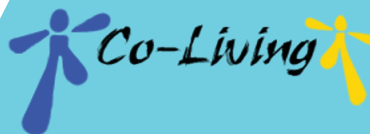


Strategic partnership

Co-Living targeted a large demographic, older adults who are in care homes but still able to actively contribute to the community. A combination of funding changes and the financial crisis, however, has replaced the original target group with the elderly population requiring far more personal assistance. To reclaim their key demographic, Beumers spearheaded a strategic partnership with Citard Services to target the elderly homecare and daycare markets through AAL projects and other European projects. “Now we’re preparing a sort of app for the elderly. For a few euros, they can build their own community. Co-Living was about fixed care setups but now it’s about dynamic communities.” In the future, Beumers hopes this technology will also be able to support the elderly in care homes in need of greater assistance. The demographic may have moved, but the concept is the same wherever they are: helping people meet people.



PROJECT INFO



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Co-Living

The project developed an ICT-based virtual living community for elderly people, aiming to stimulate and prolong their independent and active living.



➤ Healthy@work: MOBILE MOTIVATION FOR HEALTHIER EMPLOYEES

Most of us know how to look after ourselves, but that doesn't mean we will. The team behind the healthy@work project employ gamification approaches in a motivational, health oriented app designed to increase occupational health and wellbeing

➤ **Encouraging healthy** behaviours at work and at home means a fitter workforce that stays in work for longer. But simply knowing about healthy behaviours isn't always enough. The outcome of the healthy@work project is a fun app for smartphones that emphasises motivation as well as education. It allows employees to engage in friendly team competition, tracking the progress of individuals and collecting data to establish healthier behaviours. "The idea started with professional caregivers," explains Reto Blunschli, chief technical officer with project coordinator, YouPers. "Often they have health troubles with their backs, and we wanted to give people a more attractive way of reminding them to look after themselves."

➤ **Business to business**
Businesses are keen to invest in their employees' health whatever their age. Originally targeted at 45 to 65 year olds, the healthy@work team found that younger adults would benefit just as much from an occupational health app. Blunschli thinks the best move is to tap into corporate health budgets as a part of business investment in employee wellbeing: "If you can get into those budgets then there is a way to get money out of this. Every consortium member has the right to take the app to market but right now only YouPers are interested in doing that."



Motivational challenges

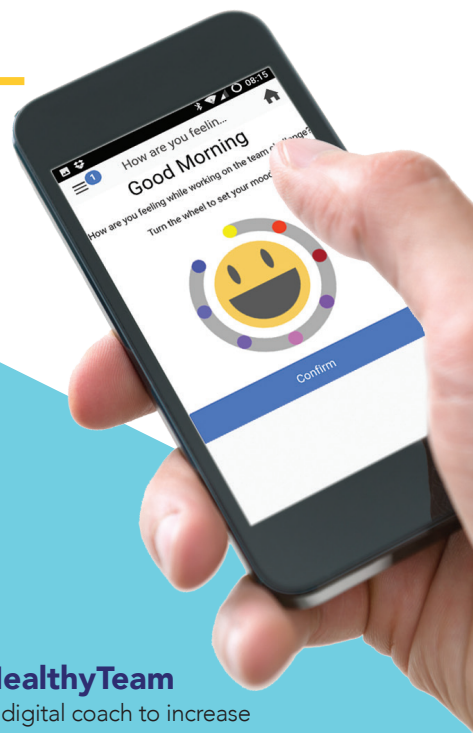
Mobile applications are highly accessible. Once downloaded they are ready to use, but sustaining interest is difficult. That's why the healthy@work prototype prioritises fun, competitive motivation and attractive design, elements that have also proved crucial in YouPers' own mobile app, HealthCampaign. Inspired by the research and ideas behind healthy@work, this integrated corporate health solution is more about education, but in order to sustain user interest, gamification is still key. "People don't want to be lectured everyday on healthy behaviour," explains Blunschi, "so we're thinking it could have fun healthy@work competitions as one of its offerings."



Staying in the game

The mobile application market is fast paced and can easily outrun the goals of a two year project. The key, in Blunschi's view, is patience and flexibility: "You might learn something from trials that means you need to go back and change your proposal. It's a slow process but it will haunt you for the next few years if you don't make the changes." Managing large, unwieldy international consortiums has its fair share of challenges but it's also an extremely valuable opportunity to learn from other's expertise, a fact that Blunschi is acutely aware. "You can benefit tremendously from the knowledge of your partners if you work well together," he says, "Consortiums aren't agile but it's absolutely unthinkable that YouPers would be where we are without AAL. It was a really great experience."

"The idea started with professional caregivers"



PROJECT INFO



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HealthyTeam

A digital coach to increase healthiness of older adults.

The INSPIRATION app supports older adults living a healthier life to stay mentally and physically fit.

➤ HOST: SOCIAL SOFTWARE FOR SOCIAL HOUSING

With a strong team backing a sound concept, the HOST project shows that it is still possible to deliver innovations to the market even when the obstacles keep coming



➤ **Though not as** pronounced as it once was, the digital divide between older adults and younger generations is still very much present. This is especially true for the seniors in social housing who have fewer opportunities to get acquainted with new technologies, but ICT-based web platforms are helping to bridge this divide. The HOST project aimed to provide a digital infrastructure of social housing that connects elderly tenants with a range of services, encouraging social interaction and independence in their daily lives. With the HOST server at the centre, support networks, social housing operators and e-services catering for an array of needs are accessible through devices such as tablets or set-top boxes (STB).

➤ **Lost in translation**

HOST evolved from the concept behind the SMaRT centre, a highly successful telecare monitoring service developed and implemented by the project's end-user partner, the Nottingham Community Housing Association (NCHA). Their success is not one that's been easy to reproduce, however, as coordinator Françoise Abry recalls: "We were three social housing landlords from three different countries with different ways of thinking." Ideas of what services were acceptable to provide differed between cultures, as did the degree of advancement between the technology and tools of the housing providers themselves. "We shared a lot of things in this project but we couldn't share a unique innovation across each country," says Abry, "so the results of HOST are not yet fully on the market. It's still in development."

PROJECT INFO

host



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HOST

Smart technologies for self-service to seniors in social housing.

To provide easy-to-use technologies and services in social housing flats to allow easier relations with, family, service providers and housing operators.

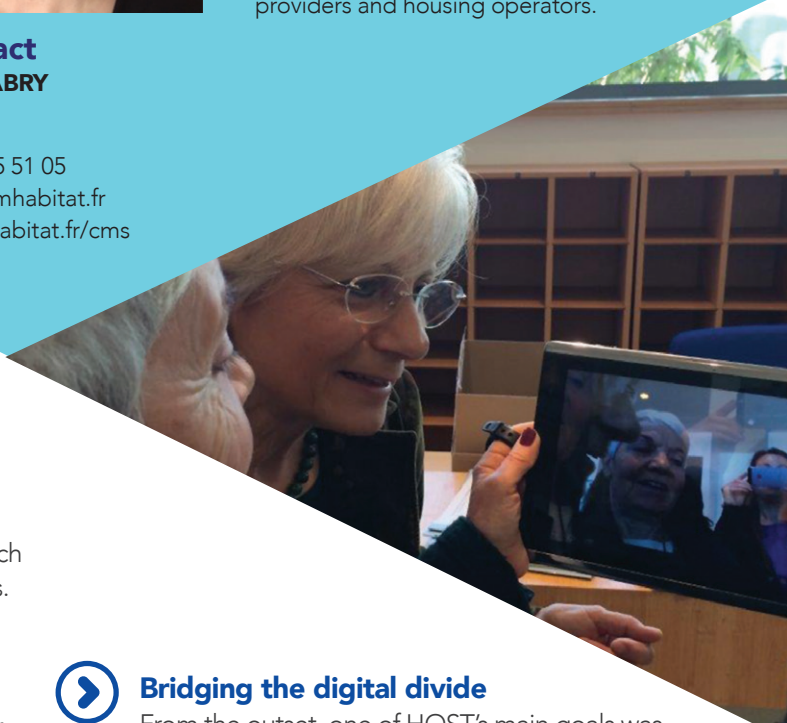
Worthy pursuits

The foremost concern of social landlords is housing, not the creation and development of ICT solutions, but as project manager at OPAC du Rhône, one of the biggest social housing providers in France, Abry believes such communities are important social laboratories. "We could never have conducted this project without AAL," she says. "They provided the opportunity to explore the impacts of technology in social housing." Despite further difficulties like the untimely restructuring of France's administrative regions, which had a large impact on HOST, the project has continued to advance one step at a time.

**"We could never have
conducted
this project
without AAL"**

Bridging the digital divide

From the outset, one of HOST's main goals was to facilitate social connectivity. Starting its life as HOST Communication, IDOLink packages together an online service for communicating with family and friends and the tools to build a local digital community. Currently employed by OPAC du Rhône, IDOLink is already available in France and with the help of CARSAT, the French public organisation for welfare and retirement funds, the development of these services continues today. But Abry prefers to look at the bigger picture: "In France it is difficult to interest seniors in ICT solutions and no project can do this alone. Each project is one part of the way, helping spread awareness and acceptance of ICT and showing that seniors are people too."



➤ ironHand: SMART GLOVES FOR A FIRMER GRIP ON LIFE

The ironHand project is bringing the concept of the smart glove up-to-date to provide users with assistive and therapeutic support. The team behind it explains how a strong focus on end-users and the market place has helped propel their innovation towards commercialisation

➤ **Losing one's grip** is a common feature of ageing. When hand strength diminishes, so too does the chance to engage in and maintain a quality of life enriched by occupational and leisure activities. The ironHand project intends to give that strength back.



Martin Wahlstedt is a project manager with ironHand's partner Bioservo Technologies. Together with the CEO, Tomas Ward, he explains how their innovation works. "It is a slim glove with intuitive sensors on the fingers that detect when it is touching an object. It measures the force between the finger and the object. Through artificial tendons it then applies the necessary force," says Wahlstedt. "It is just like your own hand," states Ward. "You could work as a carpenter or hold an egg with the glove."





➤ PROJECT INFO

ironHand

Reduced hand function due to ageing or age-related disease is supported during functional activities at home and at work, through a wearable soft-robotic glove with add-on exercise games. In this way, we want to empower elderly people to continue using their hands in self-care, household, occupation and leisure activities.



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➤ The right glove for you

Bioservo has a wealth of experience in smart glove development. Before their involvement with the ironHand project, earlier work of theirs evolved into a similar glove that was eagerly adopted by markets in numerous countries. This new version is a considerable upgrade.

The new glove has already garnered excellent feedback from various trial runs. Based on the different requirements identified during these trials, ironHand is not just about developing one single glove. "We are also developing a therapeutic glove to train the hands after an accident, trauma or a stroke," says Wahlstedt. "Customers will be able to choose the glove that most fits their needs, be it an assistive tool or a rehabilitation aid."

➤ The need for a market focus

Getting a project beyond the research phase is not always easy, but the AAL Joint Programme nurtures the process of innovation to product launch and beyond. Ward explains why the programme has been so positive for ironHand: "If we are going to develop technology for the European community then we need to have a very strong market focus because there is a world outside research. AAL is taking the right approach to deal with this because there are many EU-funded projects that do not reach the market."

**"Customers will
be able to
choose the glove
that most fits their needs..."**

➤ Attracting big business

The benefits of smart gloves as assistive and rehabilitation tools have not gone unnoticed by industrial manufacturing. The ironHand concept has enjoyed successful promotion and Wahlstedt and Ward, looking to commercialise the project's results, plan to develop the technology further with General Motors as one of Bioservo's first industry customers. "A bit of support goes a long way," says Wahlstedt. "But choose your partners carefully because they can really boost the project."





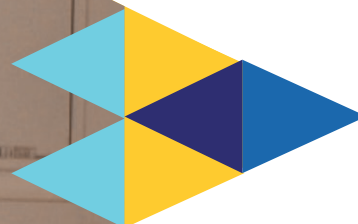
➤ IS-ACTIVE: KEEPING FIT WITH CHRONIC CONDITIONS

By continuously modifying and improving their innovative healthcare solution, the team behind IS-ACTIVE have developed an intelligent device for patients with chronic conditions that can help stave off life threatening comorbidities

➤ **For older adults** suffering from chronic conditions, keeping fit can significantly improve quality of life by tackling the development comorbidities. Overexertion, however, can leave patients severely weakened, leading them to give up exercise altogether. Through a combination of sensing and monitoring technologies, the IS-ACTIVE project has developed a solution that allows patients to follow exercise regimes specifically tailored to their needs.

➤ IS-ACTIVE uses miniaturised wireless inertial sensors and pulse oximeters to measure activity levels and patterns and oxygen saturation. As well as monitoring exercise, the data collected allows for real-time feedback via a phone that also acts as a remote monitoring tool for professional caregivers. "This was the first generation of the 'activity coach'," explains Hermie Hermens, professor of telemedicine at the University of Twente. "Providing real-time feedback was very new but we tested it a lot and it worked very well. In that sense, the project was a success."

"There are a large number of people around the world with chronic conditions who need to get in better physical shape"



AAL SUCCESS STORIES





Finding the right market

The initial drive behind the IS-ACTIVE project was to deliver a person-centric healthcare solution that appealed to everyone. "This was a mistake," says Hermens. "It became clear that we should not aim at everyone, like e.g. Fitbit does, which is a very big market but for cheap devices. The big difference is that they're not personal. People in a critical condition need to balance their activities, take breaks, and with our solution a physical therapist can access the data, change the exercise targets and discuss this with the patient." There are a large number of people around the world with chronic conditions who need to get in better physical shape. It's a more defined market, but still a large one.

**"This was the first
generation of the
'activity coach'"**



Encouraging smaller enterprises

Product marketing and commercialisation can be a difficult business for smaller scale enterprises, but working with AAL has a distinct advantage, as Hermens explains: "It aims at relatively quick access to the market and that makes it more attractive for an SME. You can start building your product early whereas with other programmes you have to wait until the end. It's a lot less risk for the SMEs."



Preparing for launch

IS-ACTIVE's activity coach is getting smarter all the time. The project didn't bring it to market but it's been continuously modified and most recently was employed at the heart of the FP7 projects PERSSILAA and eWall. Now its algorithms can learn a patient's behaviour and adjust itself to their daily routine. "A number of scientific studies are being published that show the activity coach really does have value for people with chronic conditions," says Hermens. "Now that more and more relatively cheap sensors are coming on to the market, I think it's feasible to launch it to the public very soon." It may not be long before IS-ACTIVE's activity coach is dramatically improving people's quality of life.



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IS Active

IS-ACTIVE developed a smart personalised Activity Coach and a video exercise game for COPD patients, to improve their physical condition





➤ iWalkActive: ENABLING ACTIVE LIVING

Despite their benefits, standard rollators remain unappealing instruments and tend to go unused by those who need them the most. Now, iWalkActive are updating the concept to give back independence to the physically impaired



➤ **Declining mobility isn't** simply a barrier to performing the everyday physical activities of normal life; it is a loss of independence that is not always easy to accept and necessitates a growing dependence on caregivers. The iWalkActive project, consisting of nine partners managed by the iHomeLab of Lucerne University of Applied Sciences, was born with the hope of restoring that independence.

Conventional rollators are handy for getting about but as well as being quite basic tools, there is a stigma surrounding them. iWalkActive's aim is to expand on the more advanced Veloped developed by Trionic. With intuitive sensors, e-drive functionality and cloud based services, this active walker brilliantly combines an array of technologies to drag the rollator into the twenty-first century.

➤ **Opportunity for innovation**

A motorised Veloped potentially has a very large reach. With obvious benefits to an older customer base, iWalkActive's product is equally useful to a teenager recovering from surgery, or indeed any adult with mild walking impairments who wants to enjoy the outdoors. "We wanted to position the device as a lifestyle product," explains project coordinator Andreas Rumsch of the iHomeLab. "It is not so much an aiding instrument as it is sporting gear, like an e-bike."

For a purely private market, these are high-end, premium goods that might not have been realised without AAL, as founder of Trionic Stefan Kindberg states: "AAL made it possible to look into the future, to find new objectives and new possibilities." Bringing together end-users, innovative small businesses and R&D partners allowed them to develop a sophisticated motor system capable of negotiating indoor and outdoor terrain. Intuitive sensing technology in the handle grips detect the user's force and controls the e-drive DC motors accordingly. "You only have to grab it and start walking, nothing else," says Rumsch. "You have full control."



The hard sell

End-user tests clearly show the need and value of a motorised walking aid - some wanted to keep it right away - but it is a product with challenges. Rumsch and Kindberg both know how good the prototype is but are under no illusions about its saleability at present. On one hand, the target demographic is large. On the other hand, it's expensive. There are still features that need ironing out but for a small business like Trionic, the cost and risk of bringing a finished prototype to market now is considerable.

“AAL made it **possible**
to look into **the future**,
to find new **objectives**
and new **possibilities**”



Time will tell

With an e-bike or a motorised wheelchair you can get on and ride off. For three to four thousand euros, however, a motorised Veloped still needs to be pushed. “I think it needs more time before the market accepts this type of product,” says Rumsch. Having observed similar commercial activity, however, the team think the critical mass needed for such a product to be successful might be reached sooner than expected. But Kindberg's advice to similar enterprises is clear: “Spend more energy exploring the market at the beginning.”



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iWalkActive

The idea of iWalkActive combines the Veloped with tailor-made navigation and extends it with an efficient, powerful supportive e-drive.

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ACTIVE
I W A L K A C T I V E . C O M

TRIONIC



➤ **MyGuardian: TOWARD A SOCIABLE, CONNECTIVE AND COLLABORATIVE NETWORK OF SUPPORT**

With a different way of thinking about caregiving, the team behind MyGuardian have laid the foundations for a commercial platform that makes mild cognitive impairment (MCI) a safer, sociable and more reassuring experience for seniors and their carers

➤ **Today there are** a range of mobile applications and devices available to help older adults navigate a life with mild cognitive impairment (MCI). Inspired by the role that online social networks play in caregiving, the AAL project MyGuardian developed an innovative service that connects and supports each actor in the caregiving network to enable regular contact and coordination of care. “We think the key thing is that caregiving is a social

**“We think the
key
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caregiving
is a social
group activity”**

group activity,” explains Martijn Vastenburg, managing director of ConnectedCare and business partner of the MyGuardian project, “so it’s a different way of thinking about how you should support people.” At ConnectedCare, results from MyGuardian and other AAL projects have been successfully used to form a major part of their commercial platform for social care collaboration, ConnectedCare in homecare.



Ahead of the market

MyGuardian targeted three groups: seniors, informal caregivers and professional caregiving organisations. Vastenburg is a big fan of comprehensive end-user involvement but soon realised that the best way to bring the project's achievements to market was through the professional care organisations. "We got a really positive reaction from these organisations," he reports, "but for them the big challenge is the financial incentive. The home care market is really slow." Things are changing, however. Commercially speaking, care organisations targeting a focused patient group such as mental health tend to be more open to ICT innovations and could be real pioneers for the future.



Innovate first, sell later

For EU investors it's the norm to make sure you have the clients first before investing in development. In the care market, it seems, this approach does not hold. The market might be slow, but AAL made it possible to develop the MyGuardian solution in preparation for where the market is headed. "It's a risky business and we're willing to put our efforts in," says Vastenburg, "but AAL definitely facilitated the process." And the risks paid off in the form of ConnectedCare. The platform is used by an increasing number of care organisations in The Netherlands, and organisations from other EU countries have shown their interest.



Proactive participation

AAL emphasises participatory design, but to help seniors take the commercial leap and to show caregivers that ICT facilitates personal contact, Vastenburg believes it is crucial to include end-users throughout the process and show them personally how technology can facilitate contact. "A personal approach isn't just about development, but also implementation and the market," Vastenburg asserts. It is a view that is inseparable from the ethos behind the whole ConnectedCare concept - it's a mobile service that isn't just about alarms. It's about reassuring, and it's about collaboration in a social sense.



PROJECT INFO



hallozorg connectedcare



Myguardian

The MyGuardian project aimed to increase mobility of seniors with MCI by taking away barriers. Seniors could use a GPS tracker with alarm button when they would go outside.



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➤ Nitics: OPTIMISING CARE THROUGH THE INTEGRATION OF SERVICES

By delivering multiple care services on a single platform, NITICS is able to optimise care provision by both professional and informal care givers. Not only will this save time and money, it also reassures the older adult that all their needs are being met

➤ Personalised care options

The modular nature of the NITICS platform ensures the system can be personalised according to the needs of the user, while it also comes at a variety of prices. “We have developed a variety of services on the platform including fall detection, alerts, health monitoring, monitoring activity in the home, an interface with care professionals where medical device data can be monitored, and a communication tool,” says Ayadi.

The NITICS system is also expandable, meaning that new services can be added to the platform when they become available in the future, while the user can add new services when their needs change.

➤ Europe’s ageing population

means that increasingly there are not enough people to care for the older adults living at home who need assistance. The NITICS project started from the premise that technology should be used to optimise the involvement of professional care givers as well as make it easier for informal carers to carry on with their normal lives while maintaining support for their elderly relatives or friends.

In its preliminary studies, the NITICS team quickly realised that though there are many support services on the market (such as fall detection), to be able to provide this optimisation of care, several services need to be integrated into one platform. “What we have set out to offer is an integrated platform that is modular, flexible to customisation and expandable,” explains Jaouhar Ayadi, the Research & Development manager responsible for the technical aspects of the project.



Testing and business planning

The project adopted several phases of testing during the development of the NITICS platform. After initial testing in the lab the team carried out extensive trials in target users' home environments, with positive feedback emerging the more people used the system.

The project, which ended a few months ago, now has a fully-functioning, near-to-market prototype platform ready and the focus now is on forming commercial alliances with third parties and investors who can help take the platform to the market.

**“We quickly
learned that
users are different in
every country”**



A Europe-wide solution

As in many AAL projects, much of the work done in developing NITICS was underway by some of the partners before the project started. AAL funding made a huge difference and helped to speed up the process. Both Ayadi and Oana Cramariuc, who managed in Romania one of the major field trials in NITICS, believe the programme brought a lot more than money to the table.

“What was also important was the fact that we worked together with partners from different countries and were able to form a wide European network. Learning about users from different countries was also very important for the project,” says Cramariuc. “We quickly learned that users, as well as their needs and expectations, are different in every country. They may have the same fundamental needs, but how they interact and what they see as important varies, as does the AAL market.

“One of the most important pieces of advice I have for those starting an AAL project is that you should believe in what you are proposing,” he continues. “All AAL projects will face issues, but these should enrich your project rather than be seen as difficulties. If you believe, then it becomes easier.”.



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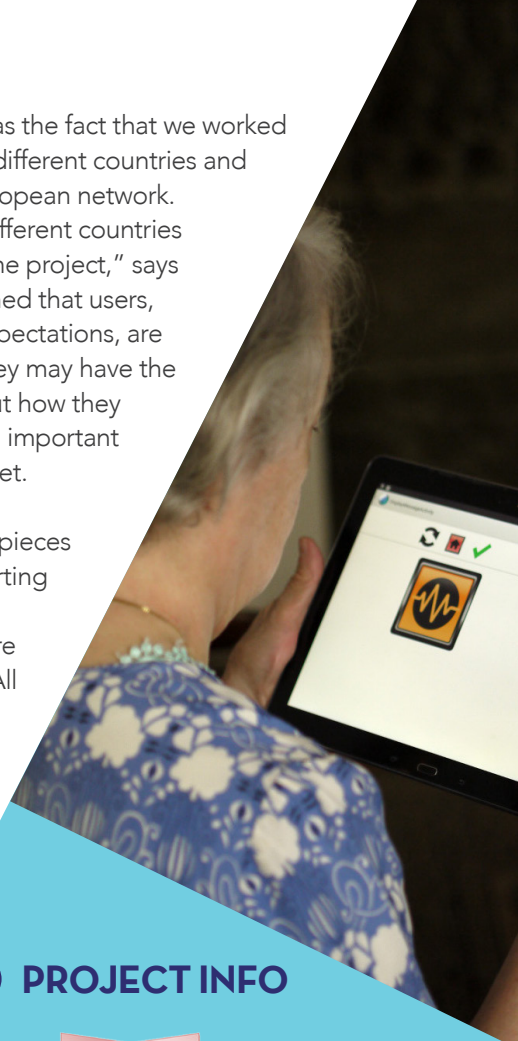
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Nitics

Networked InfrasTructure for Innovative home Care Solutions. NITICS designed and built a holistic expandable platform that offers advanced ICT services including monitoring and navigational support for elderly.

“The “Networked InfrasTructure for Innovative home Care Solutions (NITICS)” project was partially funded by the Ambient Assisted Living (AAL) Joint Programme (JP) under Grant Agreement AAL-2012-255. The NITICS consortium thank the AAL programme and the National Coordinators of Switzerland, Romania, Poland, France and Slovenia for their support.”.





➤ **Relaxed Care:** **THE ENTIRELY NEW WAY OF COMMUNICATING AND CARING**

With its simple yet innovative design, the RelaxedCare System offers an unobtrusive way of monitoring assisted persons' wellbeing, offering quality over quantity of care and peace of mind of informal caregivers

➤ **Informal caregiving** is often a stressful role to take on, but the team behind the RelaxedCare System don't believe that it has to be. Instead of continuously worrying about a loved one's wellbeing and constantly checking in, this novel technology aims to connect informal caregivers with assisted persons via an intuitive, user friendly device to eliminate undue concern.

Led by the AIT Austrian Institute of Technology (AIT), RelaxedCare's partners have combined intelligent behaviour pattern recognition and IoT technology to calculate the wellbeing state of assisted persons. "We want to use this to bring the information to the informal caregiver", explains project coordinator Martin Morandell, "and to reassure them that most of the time everything is going smoothly and the person is fine."



A simpler, smarter system

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



From prototype to product

The RelaxedCare System has been tested as a fully functioning second prototype and produced very promising results. "The feedback from users about the likability and the applicability of the system is really good," Morandell reports. Nestled between the rapidly changing app market and a more rigidly regulated telecare market, competition is currently low and given the positive reception from end users, there's some confidence that this innovative technology will find its feet following a B2C model.



"The feedback from users about the likeability and the applicability of the system is really good"



The fruits of labour

The RelaxedCare project has been a considerable success. Having picked up one prize already at the AAL Forum in Ghent, the team has this time beaten over a hundred and fifty entries to become finalists for the AAL Smart Ageing Challenge Prize. As they go about setting up a consortium to follow up the project's successes, Morandell is more than happy with the partners' motivation to take the technology further and AAL's role in its journey. "I think it's a great programme. It has changed and established this whole area of technology and ageing in Europe well," says Morandell. And his advice to others? "Get a stable version of the prototype as soon as possible, and have a very clear communication strategy. Our success is that from the very beginning of writing the proposal, the idea was clear."



PROJECT INFO

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ACTIVE AND ASSISTED LIVING PROGRAMME



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



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

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