Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
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Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Education,
Research and Innovation SERI

Active and Assisted Living (AAL) Programme

Innovations for an ageing society

SEEING CHALLENGES AS OPPORTUNITIES

Switzerland is experiencing an unprecedented demographic shift as an increasing number of men and women reach old age. And older people are living longer than previous generations. This trend is set to intensify in the coming decades: according to the Federal Statistical Office, there will be 2.2 million over-65s in Switzerland by 2030, and 2.7 million by 2045. That figure is currently 1.5 million. This is not a trend that only affects Switzerland. The World Health Organization WHO predicts that life expectancy at birth will rise by four to five years by 2030 in other industrial nations too.

Joined-up approaches are needed to better meet the needs of older people. In the projects of the Active and Assisted Living (AAL) Programme, researchers and companies from different countries work together to develop technical innovations to improve the quality of life, health and autonomy of older people. AAL therefore also helps alleviate the shortage of nursing staff and supports the care of seniors in their own homes by relatives through specifically-developed products and services. The participating companies use AAL projects as a way of gaining a foothold in the emerging 'silver market'.

Swiss organisations have a success rate of over 30% in AAL calls for proposals and are involved in a third of all projects in the programme. An SME participation rate of just under 40% and systematic involvement of users in the projects ensures the products developed are market-oriented and user-friendly. Not least because of the success of the AAL Programme in Switzerland, our country is a leader in the research and development of technologies for better ageing.

This brochure presents the AAL programme and provides an insight into current AAL projects throughout Switzerland. Another way of finding out about AAL's research and development is the AAL Forum. Europe's largest specialist event focusing on technologies for better ageing takes place every year, and in 2016 will be held in St. Gallen, Switzerland.
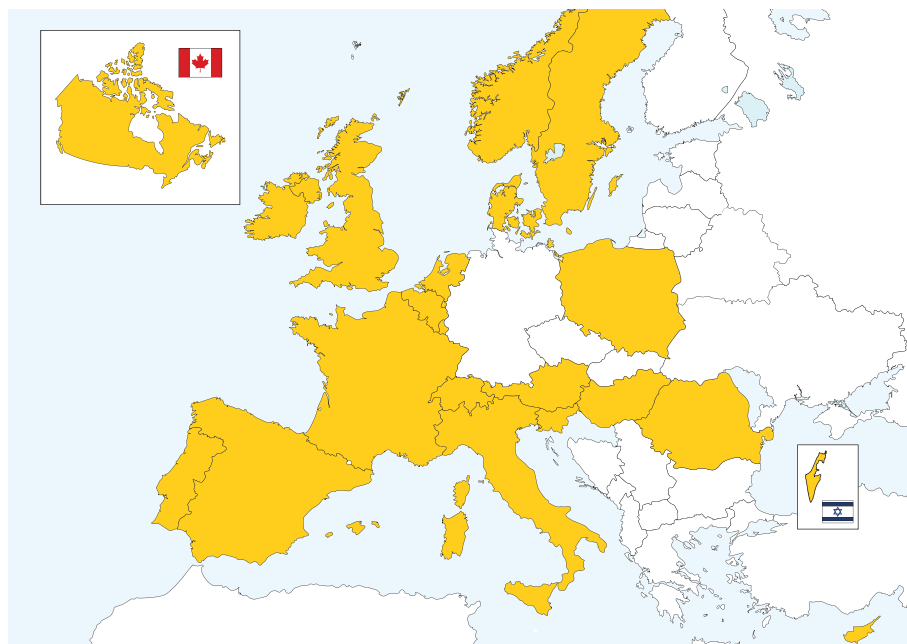
AAL allows not only today's seniors, but in the longer term all of us to enjoy a better quality of life in old age! The point of contact at the State Secretariat for Education, Research and Innovation would be happy to provide further information.

Dr Daniel Egloff
Head of Unit, Research and Innovation Programmes
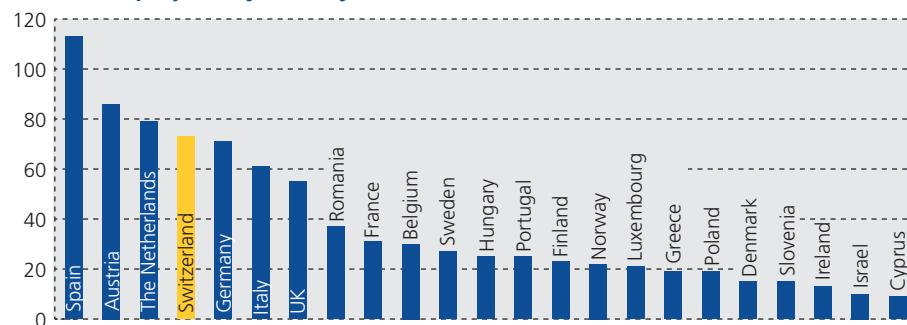State Secretariat for Education, Research and Innovation

THE ACTIVE AND ASSISTED LIVING (AAL) PROGRAMME

Participating countries

AAL network (as at beginning of 2016)

Number of projects by country, 2008 – 2015

Total: 192 AAL projects Source: SERI

Aims

The field of AAL was established in applied research and development to meet the demographic challenges. AAL stands for «Ambient-» or «Active and Assisted Living». The aim of the programme is to improve the quality of life of older people through technical innovations.

AAL solutions support older people in their day-to-day lives and are integrated in their direct environment. The target group ranges from healthy and active seniors to multimorbid persons. AAL enables disabled people or those in need of care to live independently in their own homes. AAL can also relieve the burden on formal or informal caregivers.

Participation and funding

The AAL Programme is centrally managed by the AAL Association based in Brussels. Since 2008, 29 research organisations from 21 countries have joined forces in the Active and Assisted Living Programme to fund ICT projects. Besides EU member states, Switzerland, Norway, Israel and Canada also participate in the programme.

The projects, which are developed in response to thematic calls, are financed with public funds from the participating countries and the European Commission (from Horizon 2020, the EU Framework Programme for Research and Innovation), as well as through own funding from project partners. Between 2014 and 2020, EUR 700 million are to be invested in the development of marketable products and services in this way.
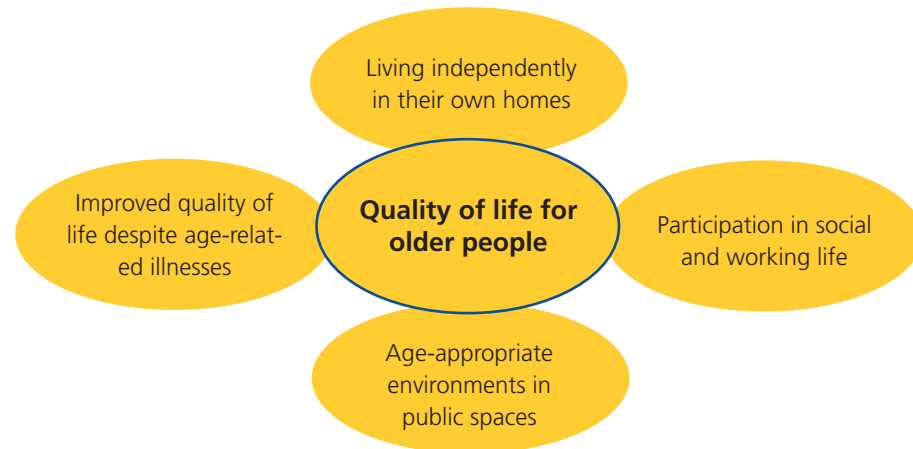
Calls for project proposals and participation

The annual calls always address a challenge linked to the ageing population. Previous themes have been, for example, preserving the mobility of seniors, promoting the social inclusion of older people, facilitating domestic care and improving the lives of people with dementia. The projects are open to companies, research facilities and organisations that represent the interests of older people (for example care organisations, foundations or public institutions and local authorities).

Since 2008, the AAL Programme has resulted in some 200 projects. Switzerland has participated in the AAL Programme since 2009 and has been involved in 73 projects.

BRIEF PROFILE

Social challenges form the basis of AAL calls

Living independently in their own homes

Improved quality of life despite age-related illnesses

Quality of life for older people

Participation in social and working life

Age-appropriate environments in public spaces

European research programme	• Applied research and development • Addressing the challenges of an ageing population through technological innovation • Good complement to other funding instruments
Transnational projects	• 3–10 project partners from at least 3 countries • Companies, SMEs, end-user organisations and research facilities
User-friendly and market-oriented	• Involvement of end-user organisations and companies (SMEs) in all project phases • Launch of a marketable product or service 2–3 years after completion of the project

Rules of participation for Swiss partners

Research institutions, companies and end-user organisations are eligible to participate in a call. The participation of a Swiss research institution requires cooperation with a Swiss company or Swiss end-user organisation in the consortium.
Funding rates for project partners from Switzerland:

Own funding universities, SMEs, end-user organisations 50%	Public funding 50%

Own funding large companies 75%	Public funding 25%

The maximum Swiss funding contribution per project is CHF 1 million (max. CHF 400 000 per partner).

For more detailed information, please do not hesitate to contact the AAL national project office at SERI.

Innovation at the AAL forum 2015

Kevin Salvi, a member of the EDLAH project team at the University of Geneva

PROJECT EDLAH

Services via tablet for older people

The Enhanced Daily Living And Health (EDLAH) project is designed to help seniors live autonomously for as long as possible by providing them with all the information and assistance they need. The product is a tablet-based application that offers various services. For example, it can help users find lost objects, provide nutritional advice, remind users to take their medication and facilitate social interaction. Older people play a central role in the development of EDLAH services, which also extend to cover the needs of carers.

The project was completed in October 2015. The consortium is set to market the product under the name iCare24/7. At the same time, 2016 will see the launch of a new project, EDLAH2, which covers additional user needs. The focus will be on «gamification» (integrating gaming elements) and activity monitoring, both specifically designed for and with seniors.

Project partners

Karis Group KG&S Ltd.	SME	UK	www.karisgroup.com
Everdream Soft	SME	Switzerland	www.everdreamsoft.com
Karis Homes Ltd.	End-user organisation	UK	www.beaumontvillage.co.uk
La Maison de Retraite du Petit-Saconnex	End-user organisation	Switzerland	www.mrps.ch
Pyxima	SME	Belgium	www.pyxima.com
Research Studio Austria	Research institution	Austria	www.researchstudio.at
University of Geneva	Research institution	Switzerland	www.unige.ch

Call objective:	Daily Life Activities (AAL Call 5)
Project name:	Enhancing Daily Life and Health through "One Stop Shop" User Interaction – EDLAH
Coordinator:	Karis Group (KG&S), GB
Project duration:	2013 – 2015 (30 months)
Project website:	www.edlah.eu, http://www.aal-europe.eu/projects/edlah/
Contact person Switzerland	University of Geneva, Prof. Dimitri Konstantas

HEALTH & NUTRITION
GO

COMMUNICATION & SOCIAL NETWORK
GO

MEDICATION
GO

OBJECT LOCATOR
GO

ALMA project coordinator Dr Gianni Di Caro from the University of Applied Sciences and Arts of Southern Switzerland (SUPSI) and project team member Dr Sara Comai from the Polytechnic University of Milan
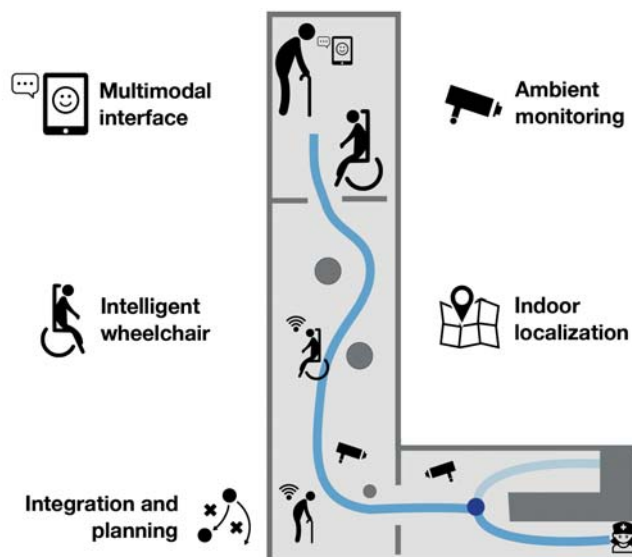
PROJECT ALMA

Making orientation problems a thing of the past

Project ALMA develops modular technologies to support the mobility and orientation of older people. The solution benefits end-users by providing indoor monitoring, assisted navigation, user interfacing, intelligent wheelchair control, route planning and scheduling.

Typical use cases:

1. A visitor to a nursing home has orientation difficulties and needs help. She receives interactive information through a navigation interface, which takes account of her (dis) abilities. Her route is selected to avoid crowds and obstacles.
2. A resident of a nursing home is automatically reminded about an appointment. He needs a wheelchair so a self-driving wheelchair comes to pick him up and transports him safely to his destination with the help of smart navigation, sensors and steering mechanisms.

Based on wheelchairs produced by Swiss company Degonda-Rehab SA, the product's functionality is to be extended to include intelligent, automated steering and interactive control elements and services to meet the needs of older people.

Project partners

Scuola Universitaria Professionale della Svizzera Italiana (SUPSI)	Research institution	Switzerland	www.supsi.ch
Politecnico di Milano, Dipartimento di Elettronica e Informazion	Research institution	Italy	www.polimi.it
Info Solution SpA	SME	Italy	www.infosolution.it
VCA Technology Ltd.	SME	UK	www.vcatechnology.com
Istituti Sociali di Chiasso	End-user organisation	Switzerland	www.chiasso.ch
Clinica Hildebrand	End-user organisation	Switzerland	www.clinica-hildebrand.ch
University of Würzburg	Research institution	Germany	www.uni-wuezburg.de
Degonda Rehab SA	SME	Switzerland	www.degonda.ch

Call objective:	Mobility (AAL Call 4)
Project name:	Ageing without Losing Mobility and Autonomy – ALMA
Coordinator:	Scuola Universitaria Professionale della Svizzera Italiana SUPSI, CH
Project duration:	2013 – 2016 (42 months)
Project website:	www.alma-aal.org www.aal-europe.eu/projects/alma
Contact person Switzerland:	SUPSI, Dr Gianni Di Caro

Edith Birrer, team member of the RelaxedCare project at the Lucerne University of Applied Sciences and Arts

PROJECT RELAXEDCARE

Communicating via a cube

«How's mum doing today?» This question is always at the back of an informal caregiver's mind. RelaxedCare answers questions like these in a simple, comprehensible and discreet way by exchanging information on an individual's wellbeing with their families. Relaxed-Care offers a new type of communication that strengthens contact between seniors and their relatives.

RelaxedCare is a completely new type of communication and care. While the functions are powered by behaviour recognition algorithms, the aesthetically pleasing user inter-face – in the form of a cube and a smartphone app – makes RelaxedCare look more like a user-friendly lifestyle product. The behaviour recognition is displayed on the cube or smartphone using different colours. The product could be used in many areas beyond care situations.

The prototype, which was developed with the involvement of more than 200 potential end-users, is expected to be developed as a market-ready product in the next three years.

Project partners

AIT Austrian Institute of Technology GmbH	Research institution	Austria	www.ait.ac.at
Lucerne University of Applied Sciences and Arts, iHomeLab	Research institution	Switzerland	www.ihomelab.ch
50plus GmbH	End-user organisation	Austria	www.50plusgmbh.com
New Design University	Research institution	Austria	www.ndu.ac.at
Mobili	SME	Slovenia	www.mobili.si/
Eichenberger Szenografie	SME	Switzerland	www.szenografie.com
Ibernex	Large companie	Spain	www.ibernex.es/
soultank AG	SME	Switzerland	www.soultank.ch
Swiss Red Cross Lucerne	End-user organisation	Switzerland	www.srk-luzern.ch

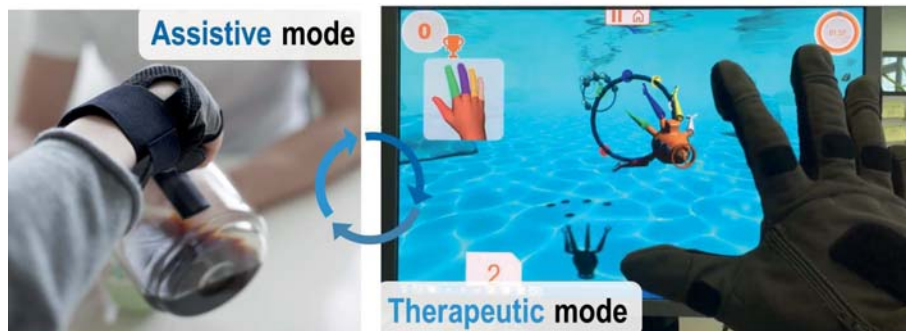|	
Call objective:	Daily life Activities (AAL Call 5)
Project name:	Unobtrusive connection in care situations - RelaxedCare
Coordinator:	AIT Austrian Institute of Technology GmbH, AT
Project duration:	2013 – 2016 (36 months)
Project website:	www.relaxedcare.eu www.aal-europe.eu/projects/relaxedcare
Contact person Switzerland	Lucerne University of Applied Sciences and Arts, iHomeLab Professor Alexander Klapproth, Head of iHomeLab Rolf Kistler, Head of Ambient Assisted Living Research

Alejandro Meléndez and Dr Alexander Duschau-Wicke from Hocoma AG working on the IronHand project

PROJECT IRONHAND

Improved gripping technology thanks to a smart glove

Good hand function is central to the performance of virtually all tasks in daily life, such as occupational activities, personal care and leisure activities. As people get older, their hand function tends to decline. This can have a dramatic impact on their quality of life. The IronHand project aims to enable older people to cope with daily tasks and to help them stay active in their work and community activities and maintain good health.

The IronHand system is based on a soft robotic glove that discreetly supports a person's grip function. In therapeutic mode, the system is connected to an external computer to offer patients personalised therapeutic hand exercises and monitoring. The system gathers valuable data on the user's grip strength, allowing them to receive customised treatment to improve their hand function and keep them involved in social activities.

Project partners

Roessingh Research and Development	End-user organisation	The Netherlands	www.rrd.nl
Bioservo Technologies AB	SME	Sweden	www.bioservo.com
Hocoma AG	SME	Switzerland	www.hocoma.com
Stichting Nationaal Ouderenfonds	End-user organisation	The Netherlands	www.ouderenfonds.nl
Eskilstuna Kommun	End-user organisation	Sweden	www.eskilstuna.se
terzStiftung	End-user organisation	Switzerland	www.terzstiftung.ch

Call objective:	Supporting occupation in life for older adults (AAL Call 6)
Project name:	Smart Glove with Intention Detection and Mechatronic Finger Actuation – IronHand
Coordinator:	Roessingh Research and Development, NL
Project duration:	2014 – 2017 (36 months)
Project website:	www.ironhand.eu www.aal-europe.eu/projects/iron-hand/
Contact person Switzerland	Hocoma Ltd., Dr Lars Lünenburger

«ENGAGING IN DIALOGUE WITH END-USER ORGANISATIONS IN AAL PROJECTS HAS GIVEN US A BETTER UNDERSTANDING OF THE NEEDS OF SENIORS»

An interview with Dr Alexander Duschau-Wicke from Hocoma Ltd., Swiss project coordinator of the IronHand project.

How did you hear about the AAL Programme and what prompted you to get involved in an AAL project?

We had already participated in previous funded projects. Project funding from the Commission for Technology and Innovation (CTI) is important to us. We also took part in projects as part of the 7th European Framework Programme. So when we received a request from abroad asking whether we would be keen to participate in an AAL project, we were open to the opportunity.

AAL is a perfect match for our business field and our plans. The network that is opened up by international projects should not be underestimated either. For example, we now work with a Swedish start-up thanks to our involvement in an AAL project.

What added value does joint product development with European partners offer your company?

International partnerships are very important to us. There are many elements abroad that, when combined with our expertise, can be turned into genuine innovations. In the IronHand project, for example, the combination of Swedish glove technology with our company's software is ideal and saves times and resources. Partners from overseas are also useful for subsequent product launches. Through them we can learn how a foreign market works. And they can help us find suitable distribution partners.

What has been your experience of working with national and international partners?

The collaboration on the IronHand project has been very successful. Thanks to strong industry partners, our work has been very targeted and our interest in the end product has really spurred on our joint efforts. Our academic partners and the end-user organisations who are always involved at AAL are very experienced in international projects. An imbalance in the consortium in favour of academic partners can lead to you losing sight of the end product. It's all about finding the right balance. What's more, with large consortiums there is a risk of cultural problems or difficulties with coordination or understanding.

What are the particular challenges you have encountered over the course of the project?

The development of technology to improve people's health always requires ethical approval from cantonal ethics commissions and Swissmedic. For this purpose we have to submit information that we are often only able to gather as the project progresses. The iterative development process with partners runs counter to such requirements and results in additional work. A simplified process with the authorities would be helpful. On top of this, every country has its own approval process.

Has the AAL project raised your company's profile in the «silver market» and what market potential do you see for AAL products and services in Switzerland?

We currently sell our therapeutic solutions to institutions such as hospitals. However, by engaging in dialogue with end-user organisations in AAL projects, we have gained a better understanding of the needs of seniors. This helps us to optimise our products and offer them directly to those concerned.

How important is supporting older people through technological innovations in Switzerland?

This is undoubtedly an area that is set to become increasingly important in future. If we want to meet the specific needs of older generations, technology has to advance further. In Japan, the pressure is already higher than it is here. Another aspect is the growing need for nurses. Immigration alone can't solve this. Technical assistance services will be needed, too. I'm confident that Switzerland with its high purchasing power can become a leading market for AAL offerings. Switzerland also has a number of other organisations such as the terzStiftung that work to introduce older people to technology. This reduces the psychological barriers more quickly and increases technical affinity.

What would be your advice to any future project participants from Switzerland?
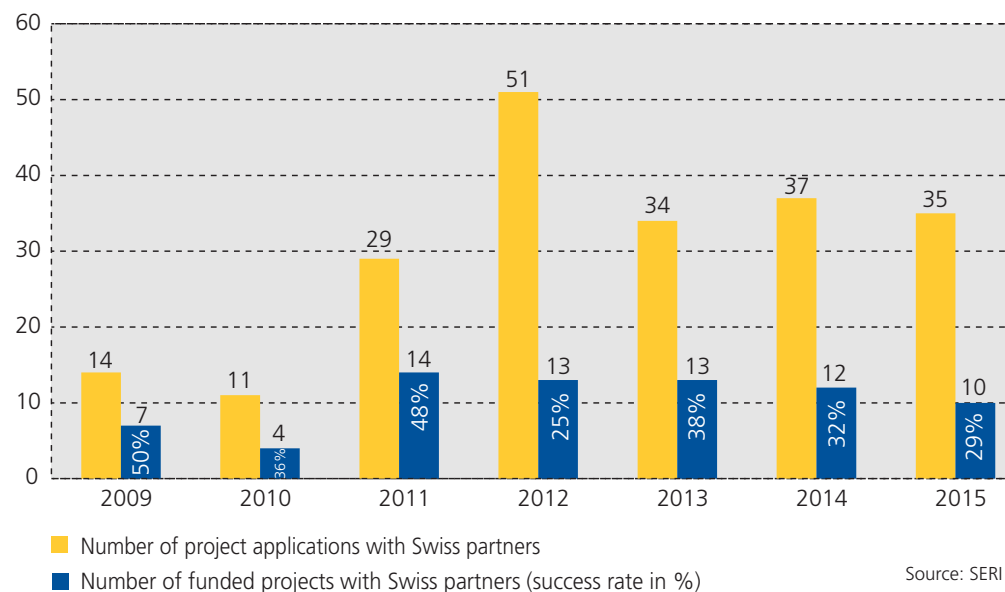
Having a good personal and direct relationship with your project partners before you join a consortium is crucial. The matchmaking events organised by SERI are an ideal opportunity to make contacts with future partners at an early stage.

How is AAL different from other programmes? What sets AAL apart from other programmes?

AAL is the only programme that systematically involves end-users in the development process. The end-user organisations that have to be involved in AAL projects provide us as researchers and developers with an understanding of the users' actual needs. The AAL2 Business Support Action that is offered to all AAL project participants has also benefited us a great deal. The workshops and individual business coaching are very practice-oriented and helped optimise our market launch plans. We have only ever seen this combination of practical development and individual advice at AAL. The programme is therefore a good addition to other programmes that award project funding.

AAL PROGRAMME – KEY FIGURES ON SWITZERLAND'S PARTICIPATION

Number of project applications and funded projects with Swiss partners

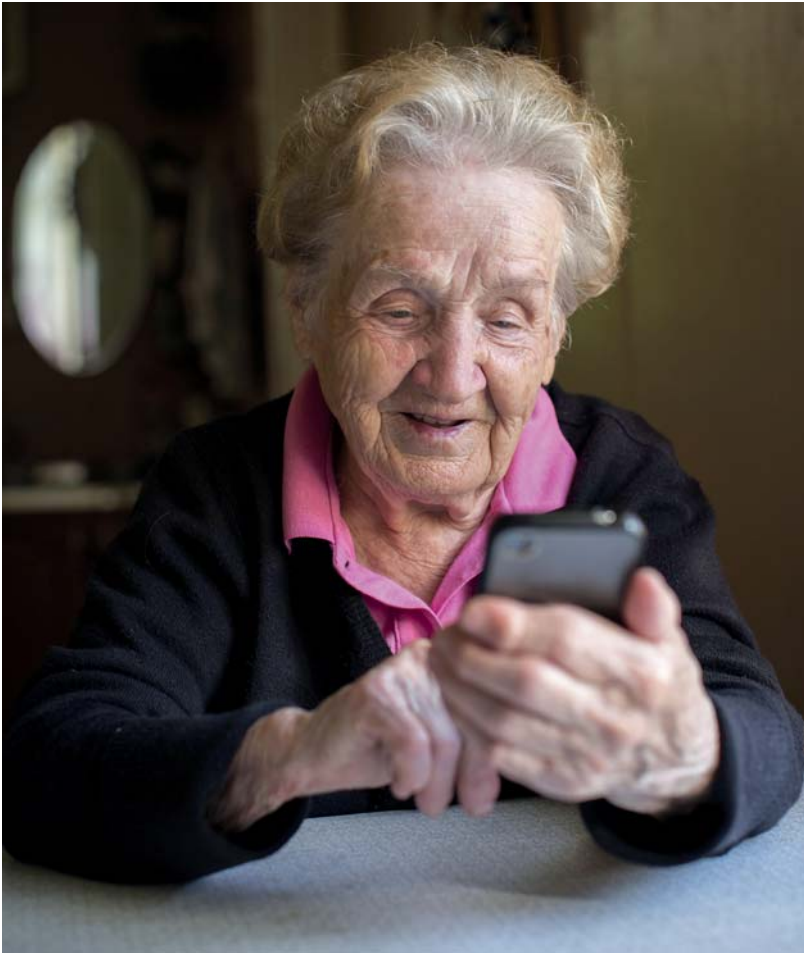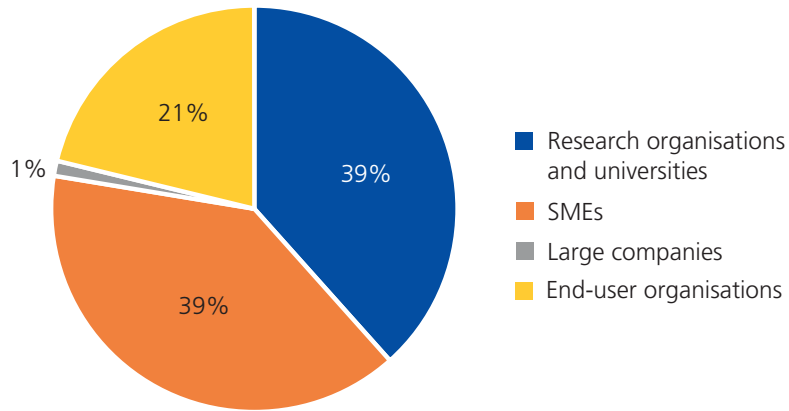■ Number of project applications with Swiss partners
■ Number of funded projects with Swiss partners (success rate in %)

Source: SERI

Financing in Switzerland

Budget in CHF m (2009-2015)	2009	2010	2011	2012	2013	2014	2015	Total
Own funding from project partners	5.7	1.6	7.1	8.8	9.1	6.7	5.0	44.0
EU co-financing	0.0	0.7	3.0	3.7	4.2	3.3	2.3	17.2
National financing	4.4	0.9	3.8	4.7	4.8	3.4	2.6	24.6
Total	10.1	3.2	13.9	17.2	18.1	13.4	9.9	85.8

The average of the own finance share of the project partners in the period from 2009 to 2015 was 51%

Switzerland's ten most frequent AAL partner countries, 2009 – 2015

Country	No. of AAL collaborations
Austria	26
The Netherlands	23
Italy	21
Germany	21
Spain	20
UK	14
Romania	13
Belgium	12
Hungary	7
France	7

Swiss participation by type of organisation, 2009 – 2015

- ■ Research organisations and universities
- ■ SMEs
- ■ Large companies
- ■ End-user organisations

39%
39%
21%
1%

FURTHER OFFERS OF THE AAL PROGRAMME

In addition to project calls, the AAL programme offers a series of support actions. These actions encourage the development of AAL products and services and are not only open to project participants, but are mostly also aimed at a broader target audience.

Cooperation with the regions

The AAL programme works closely with regions in Europe, some of which participate directly in project financing. This cooperation supports the introduction of AAL solutions in the regions and on site.

AAL2Business

AAL2Business helps businesses and end-user organisations in AAL projects to develop their business model and make their AAL solution ready for the market. To achieve this it offers modules tailored to various project phases, such as:
• Counselling in putting together a project consortium
• «Business coaching» and methodology workshops to shape projects to the market for AAL products and services
• Preparing project partners for presentations of their projects to investors

Hackathons

Programmers and developers can take part in hackathons where creative AAL solutions are generated. These one or two-day development events lead to the development of AAL-relevant software.

AAL Challenge Prize

The AAL Challenge Prize is awarded in a competitive procedure to AAL solutions which are particularly innovative and quick to implement. The prize of EUR 50,000 is awarded at the AAL Forum.

Studies

On the website of the AAL programme there are theme-specific studies, for example, on involving end-users in the development of AAL solutions: www.aal-europe.eu.

AAL Forum

The AAL Forum (2016 in St. Gallen) is the largest annual event for age-appropriate technologies in Europe and a network platform for anyone active or interested in AAL. In addition to specialist events the latest AAL product developments are also presented. www.aalforum.eu

AAL Forum 2015 in Ghent, Belgium