

STOCKHOLM, Sweden, February 28, 2014 /PRNewswire/ --

Towards the end of last year studies were conducted in the Netherlands and Sweden as part of the international Iron Arm project, which is an element of the European Commission's SILVER project (Supporting Independent LiVing for the Elderly through Robotics). These studies aimed to clarify how elderly people with and without functional disabilities affecting hands or arms felt about using aids in everyday life. The studies revealed that people are willing to use an aid for the upper extremity when this will support them during the performance of ADL activities (Activities of Daily Living) and thereby achieve a greater degree of independence in everyday life. The main criteria emphasised regarding aids within the 'wearable technologies' category within med tech are the scope for using the aid throughout the day and the aid making daily tasks around the home, such as getting dressed, cooking, personal hygiene, etc., easier in a smart yet simple way. A subsequent user group meeting at Roessingh Research and Development (Enschede, the Netherlands) involving elderly people with a functional disability, researchers and occupational therapists confirmed the results of the study surveys.

User demands for reliability regarding function and design

There is generally also strong user demand for absolute reliability as regards function and safety - a requirement that appeared partly to overshadow preferences concerning appearance and an attractive design.

"Our regular contact with users and our focus group meetings give us a valuable insight into the needs and requirements associated with personal aids. The user perspective is vital when it comes to developing aids because this ensures a good end result. For that reason we always involve users in our projects, and Iron Arm is no exception," says Tomas Ward, CEO of Bioservo Technologies. "A good many robotics-based products are not designed and produced for use in ADL situations, but have often been developed with a specific aim or purpose in mind. It must be possible to use Iron Arm generally," continues Tomas. "There are currently no user-centric and easily available products similar to the one we are planning."

Healthcare-related wearable technologies means that the products must be wearable and must

provide support and scope for active living. Within the Iron Arm project there are also close links to the care provider, who will be able to follow the user's progress and thus encourage the user to engage in additional activities. A number of those consulted during the user group meeting think that the ability of the care provider to follow up on progress and provide motivation offers an increased sense of safety and security.

More about aids for the elderly based on health robotics technology

The most important aim of aids based on health robotics is to make independent living easier. Many people suffer from reduced arm and hand functions as they grow older, owing to either reduced muscle mass or the consequences of illness.

There are currently a number of specialist aids in this field available on the market, but these are often only suitable for one particular application and therefore have little impact on overall ADL tasks.

Existing robot-based products for more general applications have a significant impact on ADL, both in terms of independence and cost savings. Studies have shown that more than 40 % of ADL tasks can be performed if this type of product is used.

About [Bioservo Technologies AB](#)

Bioservo Technologies has been developing unique muscle strengthening equipment based on the patented SEM™ (Soft Extra Muscles) technology since 2006. Our first product, SEM™Glove, was developed at KTH Royal Institute of Technology in collaboration with neurological experts from Karolinska Hospital. The SEM™Glove is CE-marked and registered with the Swedish Medical Products Agency as a class 1 medical device.

Our mission is to use modern robot technology to create innovative products that strengthen the body's functions and power. The unique and patented SEM™ technology has a wide scope of use and can be applied in different areas of the body where empowered muscle strength is needed.

About [Roessingh Research and Development \(RRD\)](#)

Roessingh Research and Development (RRD), the largest Dutch scientific research centre for rehabilitation technology, is an independent R&D organization linked to the Roessingh rehabilitation centre in Enschede, the Netherlands. RRD is internationally recognized as a centre of excellence in the fields of

[rehabilitation technology](#)

and

[telemedicine](#)

. RRD is closely affiliated with the

[Roessingh rehabilitation centre](#)

and collaborates extensively with companies across a wide range of health-related technologies. The combination of rehabilitation treatment, scientific research and business activities is unique in the Netherlands.

About [Iron Arm](#)

Iron Arm is an EU funded project to develop a light and ergonomic soft robotics device that supports and strengthens both hand and arm during independent execution of activities of daily living (ADL). The project is a collaboration between [Bioservo Technologies](#) and [Roessingh Research and Development](#)

. It is one out of seven projects that have been selected in phase 1 of the European SILVER pre-commercial procurement for research and development of robotic applications to assist elderly living.

About [SILVER](#)

SILVER (Supporting Independent LiVing for the Elderly through Robotics) is a development project funded by the European Commission under the Seventh Framework Programme for research and technological development (FP7).

The SILVER project searches for new technologies to assist elderly people in their everyday lives. By the use of robotics or other related technologies, the elderly can continue independent living at home even if they have physical or cognitive disabilities.

Informed Elderly Consumers Make Demands of New Aid Technology

Written by Australian Business

The new technologies and solutions are sought by using a Pre-Commercial Procurement (PCP) process. In Europe, the PCP has so far been an under-utilized tool for promoting innovation. One of the aims of this project is to demonstrate the effectiveness of this approach to address societal and governmental needs. <http://www.silverpcp.eu/>

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