One generation in particular should be excited about a new project launched at the University of Wales, Newport, at the end of April. The New Dynamics of Ageing research project will look at ways of improving the clothing options available to older people, many of whom are still mobile and active.

Kitting out the "silver surfer"

The New Dynamics of Ageing (NDA) programme will explore practical elements such as fit and cut as well as technological elements that could help to monitor older wearers' health or location. It will also take into account the 'feel-good factor' associated with the clothes people wear.

The target group

The project is aimed at active people aged 60 to 75. Present at the launch, deputy presiding officer, National Assembly of Wales, Rosemary Butler, explained there were plenty of benefits for over 60s in Wales including improved health services and housing, free prescriptions, winter heating allowances and free swimming. However, she believes the apparel sector could do be doing more for this age group, which she herself falls into.

Ms Butler explains that people who fall into this age group were at the "cutting edge of design" during their younger years and describes how special it made them feel to wear the latest fashion items. "So if you can give us back the thrill of wearing clothes, specifically designed for the life we lead now that we are older, then you will be hailed the saviours of 'silver surfers'," she says.

Principal investigator and leader of the project, Jane McCann, also fits into the target age group. "We want to be out and about, we want to be mobile," she says, adding that the number of over 60s is growing. "We want it to be fun," she continues. "We've had design all our lives, why should we now go into old people's clothes?" Ms McCann explains that during the target group's lifetime there have been huge strides in terms of technology, for example in space suit and stretch fabric technology. She believes a new "industrial revolution" is ready to take place within the clothing sector.



People aged 60-75 are often ignored when it comes to fashionable clothing and wearable technology.

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Project aim

The aim of the project is to help these people look their best as well as helping them live healthier lives. It aims to find out what people of this age group really want to wear, and what benefits they hope to gain from the clothes they wear. According to Ms McCann, it will be essential to highlight the numerous options available to the target group, as it is often impossible for people to pinpoint what they need if they are unaware of what is out there. In order to do this, those working on the project will need to work closely with potential end-users.

Director of the NDA programme, Professor Alan Walker, says the programme will need to identify the key elements driving ageing and the influences shaping them. Most of these factors are behavioural, according to Professor Walker. "Of course you have to find new knowledge but the main point is to translate this research into evidence for improving the quality of later life," he says.

Ms McCann believes the target age group is one that is almost entirely ignored when it comes to fashionable clothing and wearable technology, and the project seeks to rectify this. "Fashion designers usually think you're a bit over the hill if you're over 35," she says. "The aim is to enhance the independence and autonomy of people aged 60-75." In order to do this, she emphasises the importance of working closely with people from within this demographic as well as exploring the possibilities offered by the various disciplines linked to the project.

One really important aspect of the project is that it combines knowledge from interrelated disciplines and organisations. "Jane and her team [at the Smart Clothes and Wearable Technology Research Centre in Newport] will work closely to collaborate with co-investigators from the University of Westminster, the University of Salford, the University of Ulster, the London College of Fashion and the University of Brighton," says Professor Walker. These bodies will be supported by an advisory group comprising industrial partners and trade networks.

"The project will combine skills and experience across a range of disciplines to provide a holistic view of what ageing means for society and for individuals by answering questions about the forces driving ageing and what is shaping these changes such as technology, medicine, culture and demographics," he says. However, while these groups will work together to explore the available options, individuals from the target age bracket will also make an invaluable contribution. Ms McCann says: "Many products are pushed onto the market without any demand from the user. This project is user-led."



Jane McCann, principal investigator and leader of the project, with Rosemary Butler and Professor Alan Walker who also spoke at the launch of the New Dynamics of Ageing project.

University of Wales, Newport

Technological advances

Ms Butler highlights the technological benefits the project may be able to offer, for example monitoring of heartbeat, temperature and activity levels, as well as innovations in stretch, lightweight insulation and moisture management. "The idea of incorporating these innovations into well designed garments is nothing short of revolutionary," she says.

However, Ms McCann makes it clear that throwing in technological elements without giving it proper thought will prove ineffective. "How much of what is in our wardrobes do we actually wear?" she asks. "How much technology do we have that we don't fully use? We need to find out ways of acknowledging the design needs of the user." Those involved in the project must bear certain criteria in mind. "We've got to find out what's actually wanted and introduce people to what's available," she says.

She adds that technology is also often introduced without any thought for aesthetic appeal. "Wearable technology has been around but not really in a workable format," she says. "It's not what most of us want." She uses medical devices as one example where this is often the case. "They are usually fairly hideous," she comments.

Ms McCann says: "The link between the technology and the user will be key. Do we understand it, can we use it?" She believes introducing wearable electronics and encouraging older people to live active lives could reduce the impact on the healthcare system. However, providing information that explains the technology will also be key, as well as finding a "shared language" with which to communicate this.

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Stealing from sports

Ms McCann explains that the project initially aimed to avoid the links to sport but the response from target users was that they were interested in sport, predominantly walking, and the project organisers have responded to this. "An awful lot of people want to do sport but can't find suitable clothing to do it in," says Ms McCann. "Some of the older people are more active than the young ones." She believes it may be possible to use technology similar to that already within the sports sphere, for example devices used for mountain biking and functional tops with sensors to monitor heart rate.

Furthermore, innovations that are already working in the sports sector can be adapted to everyday- or active-wear for older people. Some examples include coatings and laminates, fleece and stretch fabrics. Laser cut zip openings can help make garments lightweight and compact. "It's about taking the attributes of sportswear but bringing it into everyday clothing," says Ms McCann.

Sports layering, which has its origins in clothing for the military, could also be deployed here, introducing base layers, mid layers and outer layers, for example. According to Ms McCann, personal protection elements, such as Dow Corning protection which hardens on impact, could also be incorporated, and could help prevent injuries among more vulnerable people. Other innovations include softshell protection (often used for extreme sports) and garments that offer thermal regulation and moisture management. New bonding and seaming methods, for example those found in intimate apparel, could also be adopted and adapted.

Essential elements

Nevertheless, the key aspects the project must get right include sizing, cut and shape of the garment. This is likely to involve the use of sizing booths to get an idea of measurements. "We'll be using lots of hands-on methods in the process," Ms McCann relates. "The key is fit and shape." She explains this is all about designing in the round, not just using the front view. Adopting body mapping will be important, as will using varied structures in different areas of the body to fulfil different objectives. Fastenings must also be easier to use, she says.

Other important elements to consider are weight, cost and washability. In order to come up with products that fit the necessary requirements, certain questions must be asked, for example how the body changes with age and how long the activity for which it is designed is likely to last. "We need clothing that is functional for particular conditions and end-uses," says Ms McCann. It must also be commercially viable.



The project aims to adapt existing technologies so they are appropriate for its target age group.

Ultimately, the project is trying to "bring what's out there and redesign it for this age group," she says. There seem to be a lot of useful ideas, such as seam-free technology—which is not always appropriate for older people in its present form—and insulation layers—which can be really useful but often look a bit bland—that could be tweaked to offer more insightful products.

However, getting the product right is not the only consideration. Researchers and designers must also think about ways of making it available to the customer, for example on the high street or via the internet. This sort of information should come from the behavioural studies that are to take place. "The cross-disciplinary approach is essential," says Ms McCann. Another important concern is end-of-life and recycling, which she says could be a whole project in itself. "As designers we should be looking at this right from the start," she says.

Exciting prospects

The project has already attracted £800,000 ($1.3m) in research money for the three-year programme. According to Professor Walker, the fact the project is to run is "no mean feat" in itself as 300 applications were received for 11 major projects and 24 smaller ones. "To land such a major project is a great accolade for Jane and for the university. It's a unique programme," he says. "This programme will make a very significant contribution to design of later life, to reflect the ageing of modern society."

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