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GRaCE-AGE achievements from 2017

The second year of the three-year GRaCE-AGE research programme consolidated the underpinning technologies and processes required to deliver the final functionality. Specific achievements include:

Population language packs that specify how to link the GRaCE knowledge base and interface to different languages and ensure any changes can be propagated across all languages.

Upgraded GRaCE and GRaCE-AGE software with new online help and manuals. This includes new GRaCE versions for veterans of the armed forces and assessing people's suitability to appear on reality television shows such as Big Brother as well as technical and functional advances in the existing versions.

Business and commercialisation plans that will be firmed up next year prior to spinning GRaCE out as a new company.

A Health informatics and care in the community module has been upgraded and delivered for a second time as part of the ATHENS (Advanced Technology Higher Education Network/SOCRATES) programme.

Multiple conferences and journal papers publicising the work we are doing for older adults.

Award winning Nuffield student project that is one of only 6 selected for national recognition.

GRaCE to be officially launched in 2018

Back in 2002, the New and Emerging Applications of Technology (NEAT) programme funded Dr Buckingham to develop a mental-health risk screening tool. This led to the Galatean Risk Screening Tool, GRiST, which is where GRaCE originates.

GRiST is a computer program containing mental-health risk and safety expertise that is now being used 24 hours a day by NHS services, private hospitals, charities, and members of the public. More recently, it became clear that GRiST could provide a valuable resource for members of the public by giving them immediate access to the inbuilt knowledge and advice of its 3,000 mental-health practitioners. This led to myGRaCE, the self-assessment version of GRiST.



myGRaCE is designed to detect problems at an early stage and connect people to timely support before the issues exacerbate. It is integral to the goal of creating the "canopy of care" that links people at home to their care network. The extended remit and functionality means GRiST is no longer a screening tool and led to its new name, GRaCE: the Galatean Risk and Care Environment. The new name, branding, and integrated functionality will be formally launched in April, 2018.

The **demand for GRaCE** has now outstripped the ability of Aston University, its current host, to supply the marketing, sales, and other infrastructure that will maximise its adoption. So we will be spinning out GRaCE into its own company. This is one of the objectives of our GRaCE-AGE project that the EU is funding through its EIT Health Knowledge Innovation Community.

GRaCE-AGE: GRaCE for older adults in the community



GRaCE-AGE is web-based software based on GRiST that helps older adults assess their own mental health, safety and wellbeing at home, in collaboration with friends, family, carers, and clinicians. In addition to manual data input, sensors will directly supply data to GRaCE-AGE to enable autonomous monitoring of mental-health and well-being. It facilitates shared decision making and co-creation of health to provide a "canopy of care" that can continuously monitor and support older adults within their care network.

EIT Health thumbs-up for 2017 achievements

On September 26th, the EIT Health officers approved progress on the GRaCE-AGE project. They advised us that the technology is ready for commercialisation and that we should focus on business plans for 2018. This is firmly on our agenda with a spin-out company planned for late summer or early autumn. *See the panel on the left for a summary of the main achievements.* [Back to Contents](#)

Plans for 2018

GRaCE will be **deployed to the market** in 2018 as Software as a Service (SaaS) for any organisations that need to conduct risk and safety assessments. **Commercialisation activities** include the integration of GRaCE technology with patient record companies and a licencing agreement for the resulting specialist functionality offered to customers using the electronic health records.

BeWell+
innovations

BeWell Innovation's current disease management system used by 3,000 patients who suffer from chronic pain. The plan is to build a market segment that can reach over 10 million patients across the European Union (EU) (3% of the EU population suffer from these pathologies).

Education and training will continue with the ATHENS module for universities across Europe. Continu-

ous professional development training will be supplied to practitioners using GRaCE-AGE as and when required. Specialist training modules will be developed for carers in the community, specifically to help them use technology as part of the care. These modules will not require previous educational or clinical qualifications.

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Sensors and GRaCE will work in harmony to provide a holistic, integrated, and continuous monitoring service for older adults. Wearable and environmental sensors will stream information to GRaCE that will be interpreted by the decision support software in conjunction with manual assessments to detect and manage health and well-being issues in real time. This will keep people connected to their social and care network to ensure they are not left isolated and at risk if things go wrong.

Mobile and offline versions of GRaCE will provide access to it from any devices wherever people may be.

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Technical highlights from 2017



1. Carenotes patient record system able to launch GRaCE.
2. New XML specification for reports increases flexibility of outputs.
3. Added security against brute-force password attacks.
4. Voice interaction prototype for myGRaCE.
5. Deleted assessments kept for governance purposes.
6. New reset functionality for GRaCE answers.
7. Multiple language support.
8. Smoother access to and exit from myGRaCE assessments.
9. New and more flexible assessments for myGRaCE with better focus on particular issues of concern.
10. Ability to localise actions and interventions so that they can be made specific to a particular person.
11. Mind maps more specific to particular assessment types.
12. Automatic saving of answers after every fifth one.
13. Facility to create separate management of clinical services or subgroups within a single organisation.
14. Implement functionality for dynamic risk screening where the next question is based on what is most relevant given previous answers.
15. Full integration of BeWell sensor data with GRaCE-AGE assessments.

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GRaCE-AGE partners

1. *West Midlands Academic Health Science Network*, which includes Aston University, Worcester Health and Care NHS Trust, and Coventry and Warwickshire Partnership NHS Trust. WMAHSN is the lead organisation, is responsible for developing the software, and will manage the UK pilots.
2. *University of Leuven* is researching new sensors and contributing to the GRaCE-AGE interface design as well as being responsible for the Belgian pilots.
3. *BeWell Innovations* has expertise in diagnostic testing and tele-monitoring as well as providing software platforms that share information between providers and patients, as is the intention of GRaCE-AGE.
4. *Maastricht Instruments* has a more hardware orientation, with expertise in helping researchers design and deliver their ideas within products that can be commercialised.
5. *ExtraCare* is a charity running residential villages for older adults in the community. It has suitable pilot sites and will help develop and deliver training.
6. *Evolyst* is a software development company specialising in healthcare apps. It will provide advice and technical help, especially for the evolving mobile GRaCE-AGE versions.
7. *Galassify* is a small, new company that will use its experience with end users and the current GRiST system to develop the requirements and support the pilots for GRaCE-AGE.

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