

# Homes for Smart Ageing Universal Design Challenge



























Rebuilding Ireland: rebuildingireland.ie

Department of Housing, Planning and Local Government: housing.gov.ie

Centre for Excellence in Universal Design: universaldesign.ie

National Disability Authority: nda.ie

Homes for Smart Ageing Universal Design Challenge





## Introducing the Story of the Universal Design Challenge

The Homes for Smart Ageing Universal Design Challenge (HSAUDC) 2017 was a call for ideas to improve the quality of life for older people in Ireland. Based on a Universal Design approach, the ideas would help create communities and homes purpose-built for lifetime living. By promoting ideas that demonstrate innovation in design, the HSAUDC hoped not only to improve the quality of life for older persons, but ultimately for everyone.

This initiative, led by the Department of Housing, Planning and Local Government, was launched on 31 January 2017. The aim of the Universal Design Challenge was to stimulate the design and construction industries to be innovative in designing and delivering housing solutions for older people and to implement Irish Government initiatives under the Rebuilding Ireland and Smart Ageing Action Plans. Government, public bodies, professional representative bodies, and industry representatives collaborated in the planning and operation of the Universal Design Challenge.

The design, construction, engineering and entrepreneurial communities rose to the challenge, with over sixty high-quality entries received from across Ireland and abroad. The entries were spread broadly across the areas of smart technologies in housing, the adaptation of existing homes to meet the needs of older people, and designs for lifetime communities.





The HSUADC competition has helped inspire our thinking in Dublin City Council, introducing novel approaches to housing older people and strengthening communities. ??

- Ali Grehan, Dublin City Architect, PIVOT Dublin





The iRUMM Team with their families

On 3 April 2017, five commended entries were selected. Each received a €10,000 award to fund the development of their ideas, and to help build evidence of the use of the Principles of Universal Design. The five commended entries competed in the Round 2 finals to take the €50,000 top prize, with the overall winner announced at an awards ceremony in Dublin Castle in June 2017.

The Centre for Excellence in Universal Design (CEUD), which is part of the National Disability Authority, coordinated the design and delivery of HSAUDC 2017. The Challenge's aim was to encourage, develop and launch design ideas that would have a positive and lasting economic and social effect on Ireland's housing industry.

"The Universal Design Challenge has demonstrated that by looking at home and community design from a Universal Design approach, innovative solutions can be found through diverse stakeholder collaboration that enable people of all ages, sizes, abilities, and disabilities to live and thrive in their own homes and communities.

This is not the end of the process, but rather the beginning. Improvements to be made in the design and construction of housing will come from new ideas and innovations, alongside efforts to maximise efficiencies in current models and practices. Through HSAUDC 2017, it's clear that the design ideas are out there, the stakeholders want to engage, and people are eager to see the solutions" said Dr Gerald Craddock, CEUD Chief Officer.



### **Foreword**



#### Foreword by Mr Damien English, T.D Minister for Housing and Urban Development

The ageing of our population represents one of the most significant demographic and societal developments that Ireland faces in the years ahead, with the number of people over the age of 65 expected to reach 1.4 million by 2041.

Across this same period, the number over the age of 80 is set to quadruple, from 128,000 in 2011 to some 480,000. The implications for public policy in areas such as housing, health and urban and rural planning are considerable. The Government and I have made it our number one priority to resolve the housing and homelessness crisis and under "Rebuilding Ireland" we have set out a broadly based and comprehensive set of actions to do just that. However, we cannot implement this plan without the collaboration and assistance of our partners in industry, our NGOs and the wider public sector.

Members of the HSAUDC Steering Group with Minister Damien English, T.D

Rebuilding Ireland is, I believe, an excellent starting point to resolve these problems. Our commitment of €5.8 billion will go a long way to providing much needed social housing, while the €266 million infrastructure fund should unlock the potential of key sites to deliver thousands of homes for the market.

In September 2016, at the National Ploughing Championships, I announced that I had provided €100,000 in prize money to support a Design Challenge. The aim of the Homes for Smart Ageing Universal Design Challenge was to stimulate and encourage the design and construction industries to be innovative in designing and delivering housing solutions for older people in the context of Action 2.19 of Rebuilding Ireland.

The Homes for Smart Ageing Universal Design Challenge focused on three distinct areas:

- smart technologies in housing for older people
- adaptation of existing houses to meet the needs of older people
- lifetime communities.

With over sixty high-quality entries received from across Ireland and abroad, the standard of the entries was incredibly high, and shows the range of the talent and innovative thinking out there. I had the pleasure of viewing many of these entries at the Awards Ceremony in June 2017 and I was heartened at the response to the call for ideas and fresh thinking.

It is the talented innovators who entered the Homes for Smart Ageing Universal Design Challenge that have made it the success story that it is.



Dr Ger Craddock, Chief Officer of the Centre for Excellence in Universal Design at the National Disability Authority, Mr Damien English, T.D, Minister for Housing and Urban Development, Ms. Mary Hurley, Assistant Secretary at the Department of Housing, Planning and Local Government and Mr John Wickham, Chair of the HSAUDC Steering Group

Government policy is to support older people to live with dignity and independence in their own homes and communities for as long as possible. As with many of the themes within Rebuilding Ireland, addressing the needs of older people requires continued cross-departmental and interagency co-operation and collaboration.

The Homes for Smart Ageing Universal Design Challenge is a small but key element of the Rebuilding Ireland solution and with the help of our partners in industry we have delivered it.

Returning to a normally functioning housing and construction sector is critically important in order to support economic growth, social progress and environmental sustainability, which will benefit all of our citizens irrespective of age, size or disability.

While the Government is acting, the challenge does not stop there. It is vital that, as the actions to facilitate house building are implemented, local authorities, approved housing bodies, voluntary bodies, builders and developers proactively respond to the housing supply challenge.

I urge everyone involved in its implementation and those of you involved in the design and smart technology industries, to use your networks, contacts and organisations to promote and highlight the solutions proposed by the design challenge in order to begin conversations between as many talented innovators as possible. Returning to a normally functioning housing and construction sector is critically important in order to support economic growth.





Dr Ger Craddock, CEUD Chief Officer, Mr Damien English, T.D and John Wickham, Chair of HSAUDC Steering Group at the launch of the HSAUDC Ireland has always looked to the future and beyond its own horizon—I hope HSAUDC has opened up new opportunities to the community at large and I look forward to seeing the many excellent entries outlined in this publication incorporated as solutions for the future delivery of good quality housing to those who need it.

Finally, I wish to thank everyone involved in the Homes for Smart Ageing Universal Design Challenge and in particular the Design Challenge entrants, many of whom are referenced in this excellent publication. It is the talented innovators who entered the Homes for Smart Ageing Universal Design Challenge that have made it the success story that it is.

— Mr Damien English, T.D. Minister for Housing and Urban Development



Helen Guinan, Chairperson, National Disablity Authority (NDA)

I am delighted that the NDA, and in particular its Centre for Excellence in Universal Design, had the opportunity to work in partnership with the Department of Housing, Planning and Local Government on the Homes for Smart Ageing Universal Design Challenge 2017 project.

I would also like to commend the design community and all those who took part in the challenge. It was especially encouraging to see how the project was delivered through collaboration with other key stakeholders, including the Royal Institute of the Architects of Ireland, Construction Industry Federation Enterprise Ireland and Dublin City Council.

Dr Aideen Hartney, Head of Policy, Research and Public Affairs, National Disability Authority (NDA), Siobhan Barron, NDA Director & Helen Guinan, NDA Chairperson at the HSAUDC award ceremony, Dublin Castle The Homes for Smart Ageing Universal Design Challenge was conceived as a part of the Action Plan for Housing and Homelessness, Rebuilding Ireland initiative and the Programme for Smart Ageing Action Plan. The project enabled the identification of a range of practical design solutions having regard to the design of the home, the application of smart technology and the lived community in which a person resides.

We were especially delighted that the challenge enabled a focus on, and understanding of, Universal Design in practice. Universal Design is basically good design that benefits everyone, because it is about how a building, product, service and ICT are designed so that they can be easily accessed, understood and used by everyone in society, regardless of their age, size, ability or disability. We therefore believe that the Universal Design approach and its principles are key to housing solutions from planning, location, design, access and help us to consider the people who may be living in those homes. It recognises the diversity of the population and changing needs that may arise across the lifecycle by factoring these into the design from the start.

Our ageing population is growing and it is through innovative schemes such as this that an overarching philosophy will begin to emerge about long-term thinking in construction and community development.

The reality is that we need to think differently in terms of housing now and for the future. Our ageing population is growing and it is through innovative schemes such as this that an overarching philosophy will begin to emerge about long-term thinking in construction and community development. Adopting a universal design approach makes good sense, as otherwise, we will face expensive 'retrofit' solutions down the road. We can all benefit from universal design, including future generations.

Rebuilding Ireland can lead the way in tackling housing design challenges in new and innovative ways. I know the Smart Ageing Universal Design Challenge 2017 has invigorated those from the design community who participated, and it is through encouraging the positive opportunities and economic advantages within the wider sector that we will engender solutions.

I would like to commend the Department for producing this book as a legacy to the challenge, but also as a means of sharing the learning and promoting further innovations. I hope it inspires you, the reader, to see challenges and their solutions in a different light.

Rebuilding
Ireland can lead
the way in tackling
housing design
challenges in new
and innovative
ways.







Guests & officials at HSAUDC Award Event, Dublin Castle



## **Rebuilding Ireland**

Rebuilding Ireland is an action-driven plan that will see an increase in the delivery of homes nationwide. Committed to tackling Ireland's housing shortage by accelerating supply, the plan is ambitious and imaginative in its reach, and radical in its approach.

It will address the needs of homeless people and families in emergency accommodation, accelerate the provision of social housing, deliver more housing, utilise vacant homes and improve the rental sector. As a significant priority for the Irish Government, this innovative and future-facing plan ranges across financing measures, better use of existing homes, new construction and rental sector improvements, while refining effective methods for delivering on its stated ambitions.

#### The Five Pillars of Rebuilding Ireland

The Action Plan for Housing and Homelessness includes a comprehensive Five Pillar approach, the foundations upon which the Rebuilding Ireland plan will be built.

Backed by funding of €6 billion, Rebuilding Ireland is designed to:

- significantly increase the supply of social housing by 50,000
- increase the overall supply of new homes to 25,000 per annum by 2021
- service all tenure types (social, private and rental)
- tackle homelessness comprehensively.





#### Pillar 1 – Address homelessness

Provide early solutions to address the unacceptable level of families in emergency accommodation; deliver inter-agency supports for people who are currently homeless, with a particular emphasis on minimising the incidence of rough sleeping; and enhance State supports to keep people in their own homes.

#### Pillar 2 – Accelerate social housing

Increase the level and speed of delivery of social housing and other State-supported housing.

#### Pillar 3 – Build more homes

Increase the output of private housing to meet demand at affordable prices.

#### Pillar 4 – Improve the rental sector

Address the obstacles to greater private rented sector delivery to improve the supply of units at affordable rents.

#### Pillar 5 – Utilise existing housing

Ensure that existing housing stock is used to the maximum degree possible — focusing on measures to use vacant stock to renew urban and rural areas.

Many of these actions are inter-related and inter-dependent. In outlining the actions, this Action Plan contains key targets and deadlines for delivery by a number of Government Departments, local authorities and other bodies which will be subject to regular Cabinet Committee review.







## The Homes for Smart Ageing Universal Design Challenge (HSAUDC) and the Centre for Excellence in Universal Design (CEUD)

The Centre for Excellence in Universal Design (CEUD) at the National Disability Authority (NDA) is dedicated to enabling the design of environments that can be accessed, understood and used, regardless of age, size and ability. It's also committed to enabling Irish people to participate in a society that takes account of human difference and to interact with their environment to the best of their ability. It was established by the NDA in January 2007 under the Disability Act 2005.

#### What is Universal Design?

According to Irish legislation (Disability Act 2005), "Universal Design refers to the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability." In other words, it is about designing an environment (any building, product, service or ICT) that meets the needs of all people who wish to use it. Simply put, Universal Design (UD) is good design.



CEUD promotes Universal Design in Ireland through a whole-systems approach by facilitating diverse stakeholder participation across a number of sectors (including Government, industry, education and the general public). A key element of the stakeholder participation is about keeping the focus on a specific context or application; as with the Design Challenge it's about applying Universal Design to improve homes in Ireland.

The Centre advises Government in the design, standards and education sectors through evidence, based on design-led research and extensive resources, knowledge and expertise it has developed and through its links with national and international collaborators. Universal Design, as illustrated in the pyramid image, is about continuous improvement in mainstream designs as well as assistive designs that can work to enable all people to better participate and be included in their communities. Providing inclusive settings for people with disabilities is one of the foundations of the United Nations Convention on the Rights of People with Disabilities (UNCRPD). It recognises a Universal Design approach as an effective process for delivering on the promise of an inclusive society for all.

The Universal Design Pyramid illustrates how people interact with designs. The wide base at the bottom shows how people can independently use mainstream designs. It progresses to show where Smart Technologies and Assistive products are interlinked. Finally to the top demonstrating how some people can participate with the support of Personal Assistance.



### Universal Design Pyramid

Personal assistance

**Assistive Products** 

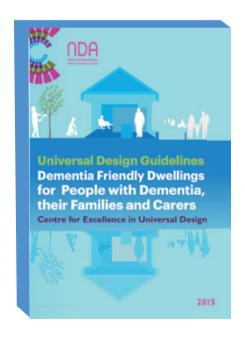
**Smart Technologies** 

**Mainstream Designs** 

CEUD focuses on developing Universal Design champions, trainings, guidance, toolkits, standards, quality assurance that in turn informs codes of practice, regulation, and finally policy. Providing inclusive settings for people with disabilities is one of the foundations of the United Nations Convention on the Rights of People with Disabilities (UNCRPD). It recognises a Universal Design approach as an effective process for delivering on the promise of an inclusive society for all.

#### CEUD guidance document:

"Universal Design Guidelines for Homes in Ireland" (universaldesign.ie/Built-Environment/Housing/)





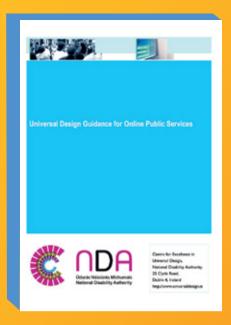


CEUD's companion guidance document, 'Universal Design Guidance Dementia Friendly Dwellings for People Living with Dementia, their Families and Carers'. Find out more online: universaldesign.ie/Built-Environment/Housing



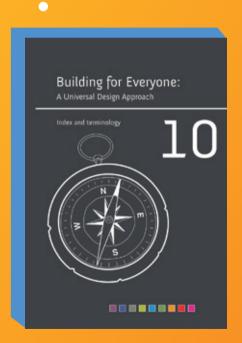






A CEUD key publication "Customer Communications Toolkit for the Public Service: A Universal Design Approach" informs the design of customer communication, and includes verbal, written and digital guidelines. Find out more: universaldesign.ie/Products-Services/Customer-Communications-Toolkit-for-the-Public-Service-A-Universal-Design-Approach/

"Building for Everyone: A Universal Design Approach" is a document that provides provides information on best practice for designing buildings and spaces so that they can be accessed by all, is available to download: universaldesign.ie/Built-Environment/Building-for-Everyone/



## **Smart Ageing**

**Programme of Actions for Smart Ageing** 

Smart Ageing is a broad concept that has been defined as 'using technology and innovation in both the public and private sectors to create products, services, solutions and systems that improve the quality of life for people aged 50 and over'.

Building on previous work (including the Inter-Departmental Technopolis report, led by the Department of an Taoiseach, the "Mapping of Smart Ageing Activity in Ireland and an Assessment of the Potential Smart Ageing Opportunity Areas"), the Action Plan for Jobs 2016 included a commitment to "map out and implement a programme of actions and proposed timelines" on Smart Ageing (Action 30).

This programme focuses on the areas of activity with the greatest potential economic opportunity for Ireland, with a particular focus on supporting enterprise, functional food, connected health, assisted living, adaptable housing and tourism.



The standard of the entries was incredibly high, and shows the talent and innovative thinking out there. We need to take these ideas and help develop them through the next stage of the challenge process by giving real financial investment and expert advice. At the end of the day, this is about achieving real, lasting results that will benefit us all.





## Design brief and HSAUDC 2017 process

Adaptable and smart homes will be the future in the developed world with several advantages from saving energy to creating homes suitable for a lifetime. The Homes for Smart Ageing Universal Design Challenge (HSAUDC) was an open call for ideas that demonstrated innovation in the design and delivery of solutions for adaptable and smart homes. The challenge offered up to €100,000 in prizes.

The overarching objective of the HSAUDC was to improve the quality of life for older persons in Ireland in the context of Action 2.19 of the Action Plan for Housing and Homelessness and the Programme of Actions for Smart Ageing. In this regard, the HSAUDC invited entries from anyone with a novel and inventive idea that can be further presented as a solution—that is feasible, cost-effective and has the potential for mainstreaming into the future in support of Smart Ageing solutions in the three distinct areas of:

- smart technologies in housing for older people
- adaptation of existing houses to meet the needs of older people
- life-time communities.

Five entries were commended for progression to Round 2. These commended ideas were awarded €10,000 each and offered guidance on improving their solutions. In preparation for Round 2, commended entrants were required to develop their ideas further.

Such development could involve market research, testing, trialling and prototyping, for example, to help build proof that UD principles had been considered and that the idea was feasible and cost-effective, with potential for mainstreaming. Each Round 2 entrant was required to make an in-person presentation to the judging panel, who would score ideas according to Round 2 evaluation criteria. The overall winner was announced at an awards ceremony in Dublin Castle, June 2017, and awarded a prize of €50,000.

**HSAUDC** is an initiative of **Rebuilding Ireland and** the Centre for Excellence in Universal Design to demonstrate innovation in the design and delivery of solution for adaptable and smart homes that help to improve the quality of life for older persons in Ireland.

#### January-March

HSAUDC, along with Minister for Housing and Urban Development Damien English, launches the design brief in Dublin's Custom House, with a call for entries and deadline of 12 March.

**January** 

**February** 





The HSAUDC Judging Panel and colleagues at the award ceremony with Mr Damien English, T.D, Minister for Housing and Urban Development

The RIAI was delighted to be involved in the HSAUDC competition and very pleased with the large number of responses from architects and designers throughout the country.

The submissions received and the winning schemes in particular demonstrated that innovative thinking by designers can make a significant contribution in delivering new housing solutions for the country in general and for older people in particular. We look forward to seeing many of these ideas realised in the near future.



Qualifying entries were evaluated by a judging panel against the Round 1 evaluation criteria that included:

- 1. How well and credibly the entrant explains that the idea can improve the quality of life for older persons, including:
  - what problem the idea is solving
  - how the idea is novel and inventive
  - what expected impact the idea will have and the vision for its success
- 2. How well the idea is clearly described in relation to:
  - alignment, with at least four of the seven principles of Universal Design
  - feasibility, cost-effectiveness and potential for mainstreaming of the idea
- 3. How well the idea is visually summarised on an A1 poster.
- 4. How well the plan to further develop the idea is clearly described.
- 5. Why you are the right person / team to make the plan happen.

Five commended entries were advanced and evaluated on the Round 2 criteria that included:

- How well the commended entrant's solutions demonstrates that it aligns with at least four of the seven principles of Universal Design and provides strong proof that their solution is feasible, cost-effective, and has the potential for mainstreaming.
- 2. How well and credibly the commended entrant presents their solution to the judging panel and demonstrates that they have the right skills and attitude to deliver on the solution.

The Construction Industry Federation (CIF) was pleased to have taken part in this very worthwhile project. It is competitions such as the Homes for Smart Ageing Universal Design Challenge that help to bring forward ideas which can be developed into improving the lives and living conditions of our older citizens.

The Homes for Smart Aging Universal Design Challenge encouraged architectural design companies to explore possible technology partnerships with Irish companies active in construction products, materials, and international services. Special emphasis was on the application of technologies with which Ireland is now internationally synonymous, such as sensor systems, remote monitoring/communications, data analytics, engineering design and artificial intelligence. We are confident that these innovation partnerships, along with Enterprise Ireland support, will deliver novel/inventive assisted-living solutions for older persons in both Ireland and internationally.



# Winner of the Homes for Smart Ageing Universal Design Challenge



#### Judges' comment:

The Abhaile Project is an innovative solution aligned with a multi-faceted Universal Design approach and is based on a clear business model.



## The Abhaile Project

#### **Team members:**

Michelle Moore, Founder
Dermot Bannon, Architect
Ciaran Ferrie, Architect
Olivia Golden, BSc (Arch Tech)

By developing an innovative new solution to help address the housing needs of an ageing population, The Abhaile Project hopes to carve much needed new one-bedroomed rental capacity from existing housing stock in mature urban areas, while taking a Universal Design approach.

The most creative solutions are often built on simple foundations. When designer Michelle Moore founded The Abhaile Project in 2016, she was seeking a practical answer to a serious two-fold problem: the needs of Ireland's ageing population, balanced against the backdrop of a severe housing shortage. One year later, Michelle and her team (architects Dermot Bannon, Ciaran Ferrie and Olivia Golden, BSc) would see the national spotlight shining firmly on The Abhaile Project, as the winner of HSAUDC 2017.

A well-developed solution with potential to improve quality of life for older persons. ??



The Abhaile Project supports homeowners to reconfigure their two-storey house: future-proofing the garden level by creating an independent living area suitable for the older homeowners (eliminating the need to use the stairs; and creating an affordable, single occupancy, one-bedroomed rental unit upstairs. This would allow the homeowner to live securely and independently downstairs, while promoting interaction with the person living upstairs, thereby reducing isolation.

The Abhaile Project is looking at this issue through a different lens, with a view to providing a new alternative to older homeowners. Instead of suggesting that older homeowners move out of their homes into custom built schemes, The Abhaile Project promotes an efficient way to use our existing housing stock.

The Homes for Smart Ageing Universal Design Challenge (HSAUDC) Trophy



#### Judges' comment:

The Abhaile Project addresses a pressing and urgent need to increase availability of accommodation in existing communities, thereby increasing density in urban and suburban spaces.

#### Judges' comment:

The Abhaile Project was presented by a very unified team that dealt very well with the design of Smart Ageing adaptation to existing dwellings.







The design level of the entries for the Homes for Smart Ageing Universal Design Challenge were very high and shows the quality of designers in Ireland. It also indicates the value of good home design and the importance of providing design solutions to allow older people the choice to live in their own homes and communities.

—Neil Murphy MRIAI, Senior Built Environment Advisor, CEUD





## **Cairdeas**

Judges' comment:

A great example of taking Universal Design to the urban scale.



A Universal Design strategy for the Irish town, Cairdeas provides support for older people in their homes using modern technologies.

#### Team members:

Daryl Mulvihill, Architect
Billy Mulvihill, Co-founder
of Amicitia Project
Heather Griffin, Information
Designer and Animator

The home is linked to a social hub in the centre of the town. The project operates around a community development platform which strengthens local networks and promotes micro-enterprises to build resilient lifetime communities.

Changing demographics, derelict sites, closed shopfronts, car-dominated public spaces, poor pedestrian and cycle connectivity. The problems facing the rural town in Ireland are manifold. With 42% of those aged 65 and older living in rural areas, social isolation and loneliness are prevalent due to outward migration and the pace of technological change leaving generations behind. This increasingly isolated ageing population are confronted with the challenge of finding adequate care in later life.

Modern technologies can improve health and wellbeing while providing safety and security in and around the home. Mobile systems encourage activity outside the home and also improve links to the wider community. A social hub provides a space for participatory initiatives to take place, with proven innovations such as men's sheds and community gardens giving people of all ages the opportunity to spend time together.

The Cairdeas model connects rural hinterland and town with the needs of the elderly, existing volunteer networks and sustainable community development projects. This satisfies both the smart technologies in housing for older people and the lifetime communities aspects of the brief.

Using technology and the principles of Universal Design, Cairdeas' solution looks to prevent social isolation and loneliness for older people.

### **iRUMM**

#### Judges' comment:

# iRUMM would have a great impact in keeping people in their own homes at relatively low cost.

#### **Team members:**

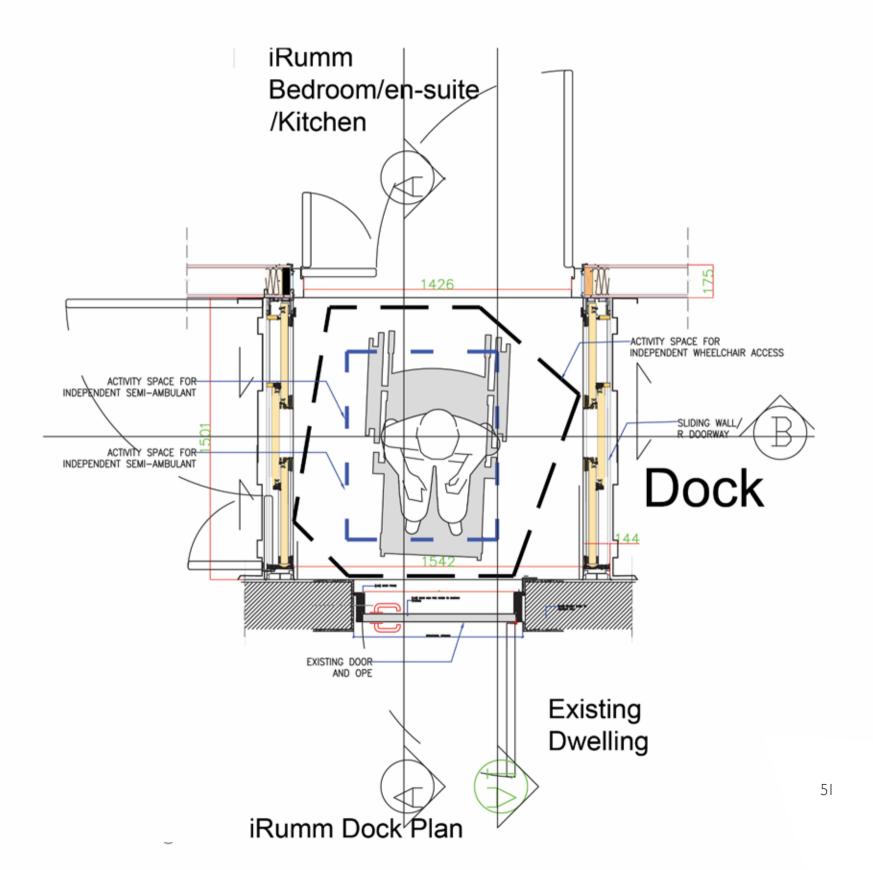
Aiden O' Donovan, Senior Architectural Technologist Albert Hamilton, CARD Group



iRUMM aims to provide suitable, sustainable and user-centred accommodation for older people when returning to their own homes after hospital or respite care. The design was conceived from constructive discontent with the level, choice and quality of products available for the elderly to return to live in their homes after respite care from a medical institution.

iRUMM aims to upgrade this quality significantly through using standardised primary room units for the most critical and important rooms in a person's house. Independent studies have shown that the vast majority of people wish to live and be cared for in their own homes and often the only choices are a new home, care homes or converting their existing homes to facilitate their physical needs.

These universal designed mobile rooms, fully constructed and equipped for each client's needs, will help solve the problem of choice, anxiety, time, bed-blocking in health institutions and accommodation costs.



# **Multi-Generational Adaptable Homes**

Judges' comment:

These concepts can be incorporated into future building regulations, making them standard concepts in construction.





#### Team members:

Thomas Flynn

Veronica O'Boyle

Micheal Gaffney

Westmeath Capital Housing
Design Team
Paul Hogan (Team Leader)
Patrick Henderson
(Project Architect)
Eoghan Lynch
Leo Noone
Helena Heffernan
Mark Kerrigan

The Multi-Generational Adaptable Homes concept allows for a number of small but significant changes in the specification for a new home design that will enable residents to alter, extend or subdivide their home in order to meet future needs.

By building in adaptability at the construction stage, the cost of change is minimised. The proposed new housing typology allows for various configurations that allow the dwelling to adapt, not just in one lifetime but over several as housing needs change. The concept supports the principle of integrated yet independent living.

For as little as an additional 3% of build cost the home can be future-proofed for conversion, a measure that would otherwise cost up to 40% of the initial build cost.

The concept behind a multi-generational home is simple. It incorporates a number of small changes in the specification for a new home which will cater for adaptation, enabling residents to alter, extend or subdivide their home in order to meet their future needs.

The solution enables homeowners to downsize without having to move out, which allows for parents to assist their children in realising their first home while also providing space for independent living. There is a mutually beneficial relationship in having an integrated community in which people of all ages make a contribution to society.

# **UrbanAge-Housing/Urbanism Synergies for Smart Ageing**

Judges' comment:

Strong convergence shown between age friendly, universal design and sustainability. 99



#### **Team members:**

Tom Grey, TrinityHaus in
Trinity College Dublin
Dimitra Xidous, TrinityHaus in
Trinity College Dublin
Prof Mark Dyer, TrinityHaus in
Trinity College Dublin
Margarita Solon, McAuley Place,
Naas, County Kildare
Prof. Des O'Neill, Consultant
Geriatrician and Professor of
Medical Gerontology
Dick Gleeson, former Head of
Planning at Dublin City Council.

Urban Age Team members,
Tom Grey MRIAI, Dimitra
Xidous, Margarita Solon and
John Wickham, Department
of Housing, with Minister
Damien English, T.D.



UrbanAge emphasises the synergy between age-friendly homes, Universal Design and sustainable urbanism by proposing a decision support tool to maximise these synergies and match housing needs, housing models and urban sites.

Age-friendly housing has emerged, providing options across the spectrum of support services, ranging from independent living with minimum support, to very sheltered housing with maximum support. Many advocate proximity to services, such as walkability, inter-generationality and participation.

At the same time, many Irish urban centres require regeneration, greater social, economic and demographic diversity, the provision of community spaces and services and more active citizens. UrbanAge believes there is an opportunity to capitalise on the synergies between age-friendly housing and sustainable urbanism, by using Universal Design to locate and design developments to meet residents' needs, while creating catalysts within the locality.

The design solution addresses the confusing array of housing models, deficient age-relevant site information, and a lack of processes delivering integrated solutions.

# Judging panel



#### Dr Gerald Craddock

Chief Officer, Centre for Excellence in Universal Design (CEUD)

#### **James Hubbard**

Senior Design Advisor (CEUD) - Chair of the Judging Panel

#### **Neil Murphy MRIAI**

Senior Built Environment Advisor (CEUD) - HSAUDC Project Manager

#### **Matt Gallagher**

Construction Industry Federation (CIF)

#### **Ali Grehan MRIAI**

Dublin City Architect, Dublin City Council

#### **Dearbhla McClean**

Senior Executive Architect at Dublin City Council

#### John Wickham

Department of Housing, Planning & Local Government (DHPLG) and Chair of the HSAUDC Steering Group

#### Joan MacMahon MRIAI

Department of Housing, Planning & Local Government (DHPLG)

#### **Nason Fallon**

Department of Housing, Planning & Local Government (DHPLG)

#### Sean Mahon MRIAI

Royal Institute of the Architects of Ireland (RIAI)

#### **Dr. Robert Geraghty**

Enterprise Ireland



#### John Wickham

Chair of HSAUDC Steering Group, Senior Adviser Building Standards, Department of Housing, Planning and Local Government

#### **Nason Fallon**

Housing Advisers & Building Standards | Department of Housing, Planning, and Local Government

#### Siobhán Nic Thighearnáin

Assistant Principal Officer, Housing Market Policy & Land Management | Department of Housing, Planning, and Local Government

#### **Dr Gerald Craddock**

HSAUDC Organisation Chair | Chief Officer, Centre for Excellence in Universal Design at the National Disability Authority

#### **James Hubbard**

HSAUDC Judging Panel Chair | Senior Design Advisor, Products and Services, Centre for Excellence in Universal Design at the National Disability Authority

#### Neil Murphy MRIAI – HSAUDC Project

Manager | Senior Built Environment Advisor, Centre for Excellence in Universal Design at the National Disability Authority



#### **Appendix**

# Principles of Universal Design

#### What is Universal Design?

Universal Design is the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability.

An environment (or any building, product, or service in that environment) should be designed to meet the needs of all people who wish to use it. This is not a special requirement, for the benefit of only a minority of the population. It is a fundamental condition of good design. If an environment is accessible, usable, convenient and a pleasure to use, everyone benefits.

By considering the diverse needs and abilities of all throughout the design process, universal design creates products, services and environments that meet peoples' needs. Simply put, universal design is good design.



## The Seven Principles

The Seven Principles of Universal Design were developed in 1997 by a working group of architects, product designers, engineers and environmental design researchers, led by the late Ronald Mace in the North Carolina State University (NCSU). The purpose of the principles is to guide the design of environments, products and communications. According to the Center for Universal Design in NCSU, the principles "may be applied to evaluate existing designs, guide the design process and educate both designers and consumers about the characteristics of more usable products and environments."

Principle 1: Equitable use

**Principle 2:** Flexibility in use

Principle 3: Simple and intuitive use Principle 4: Perceptible information

Principle 5: Tolerance for error Principle 6: Low Physical effort

**Principle 7:** Size and space for approach and use





















