

 HOME OF  
2030

# INNOVATION DIRECTORY



## Innovation Directory

The Innovation Challenge was an opportunity for innovators to participate in the Home of 2030 project and secure support for further development of their innovations. It was open to businesses with systems or products which would address one or more of the following four themes:

- **Inclusive Living:** Innovations which allow people to continue living in their homes as their needs change (for example: maintaining accessibility for occupants with reduced mobility and/ or cognitive impairment, providing support for social connections, linking with home care technologies) or assist multi-generational living.
- **Smart and Digital Technologies:** Usable and useful digital information exchange solutions to support end users and housing owners to manage and operate their asset effectively. These should be interoperable with typical planned maintenance, care support and asset performance monitoring systems.
- **Building Performance (low environmental impact and/or low lifelong carbon impact):** Innovations which improve the whole life performance of homes. These could either be solutions to reduce the environmental impact of the home in use (for example by reducing space heating requirements or water use), reduce the whole life carbon impact (through design, adaptability, flexibility or ease of maintenance of the whole home) or which respond to challenges of climate change (for example by improving resilience to overheating).
- **Scalability:** Innovations which support an overall ambition to reduce the typical new build cost by up to 20%. Innovations in this category could include process innovation to reduce time and cost of build without compromising construction quality.

This directory of innovations comprises the eligible businesses applying to the call, with a ready to market innovation (TRL7 and above), which address the challenge aims and which demonstrate a high level of innovation. The directory is being provided to design and delivery teams participating in the Home of 2030 design competition.

**Winning entries in each theme have been awarded a prize of £10,000.**

For innovations which are not yet market ready (Technology Readiness Level 3-6), but which match the challenge criteria, Innovation Vouchers of up to £5,000 will be awarded to the best entries in each theme for further development of their solutions.

## The Winners

Inclusive Living:

### K Sockets by Kemuri



K Sockets are smart power sockets fitted with sensors for motion, power used, temperature and humidity. The main use case is alerting risk to older people living independently. Advanced predictive analytics means that they can be used for controlling domestic demand side response tariffs in the future.

[www.kemuri.co.uk](http://www.kemuri.co.uk)

Building Performance:

### Zero Bill's Home Ltd in conjunction with ZEDpower



A low cost, zero carbon building designed to be modern and contemporary; built from locally sourced, traditional materials, combined to create a high performance, low environmental impact construction system. The system combines an energy efficient timber frame structure with an integrated solar PV roof.

[www.zed-life.com](http://www.zed-life.com)

Smart and Digital Technologies:

## The Hybrid Home™ by geo



The Hybrid Home, powered by geo’s energy management system, automatically balances grid and consumer energy needs, learning, predicting and optimising home energy systems. Combined with any flexible load such as solar, battery storage, an EV charger or smart heating system, geo’s Hybrid Home balances the needs of the grid whilst managing the household’s overall energy consumption and carbon footprint.

[www.geotogether.com](http://www.geotogether.com)

Scalability:

## Gapotape



Make insulation great again – We all know that insulation is under performing and at times failing. By continuing to ignore the issue, the problem won’t go away. Gapotape is here to help! When Gapotape is installed, it expands and pushes off the board, filling all the micro-spaces between the board and the rafter/stud/block/metal. Gapotape aims to improve the thermal performance of the insulation by x5, allowing for 0% loss.

[www.gapogroup.com](http://www.gapogroup.com)

# The Directory

Please note that descriptions have been supplied by the companies themselves and any claims of performance have not been independently verified. Inclusion in this list is not a recommendation by the Home of 2030 project or its partners. They are presented in alphabetical order.

Innovation	Company	Website / Email	Short Description	Themes
ASTEctherm Infrared Low Energy Ceiling Heating	ASTEctherm International	<a href="http://www.astectherm.com">www.astectherm.com</a> <a href="mailto:hello@astectherm.com">hello@astectherm.com</a>	ASTEctherm is a modern, invisible, energy efficient, low surface temperature infrared radiant heating system. The 600mm wide, paper-thin heating material operates off 24-36V and is embedded in the plaster skim of ceilings and wall. The heating surface is calculated to cover between 40% & 50% of ceiling surface area, minimising hot and cold spots to provide even heat across the living space. Typical installations require between 45 & 55 watts/m <sup>2</sup> which represents an estimated 60% reduction in running costs when compared to conventional electric heating solutions. Future designs, with improved energy efficiency, will reduce system requirements.	Building Performance
Custom-Splitting	PFT Planning	<a href="mailto:pause.forthought@gmail.com">pause.forthought@gmail.com</a>	Custom-splitting is a response to the climate and ecological emergency; a way of creating a systemic change in the way the stock of about 28m existing dwellings are adapted to the housing needs of the 27m (and growing) households. Subdividing existing property enables down-sizing in place to maintain existing community links but custom-splitting also relies on the close collaboration of the two (or more) households involved. This can be via sharing skills and knowhow as well as financial arrangements (e.g. renting or rent-to-buy).	Scalability Inclusive Living
Durisol Woodcrete ICF	Durisol UK	<a href="http://www.durisoluk.com">www.durisoluk.com</a> <a href="mailto:enquiries@durisoluk.com">enquiries@durisoluk.com</a>	Durisol woodcrete insulated concrete formwork (ICF) is a simple and sustainable alternative to cavity masonry, brick and block, block and timber-frame construction. The Durisol wall system consists of simple interlocking wall form units that are made from the unique Durisol material, comprised of only natural materials. Durisol units are thermally resistant, non-combustible, durable and sound absorbing.	Building Performance
eBrik	eBrik	<a href="http://ebrik-cam.com">ebrik-cam.com</a> c/o Home of 2030 <a href="mailto:enquiries@homeof2030.com">enquiries@homeof2030.com</a>	An innovative construction monitoring and communications system. eBrik aims to provide transparency and greater communication between all stakeholders involved in the building of new homes, off-plan homebuyers or residents in estate regeneration projects. eBrik provides their users access to cutting-edge technology by combining time-lapse videos depicting the external construction progress of buildings, with 360-degree images of the interior construction phases.	Smart and Digital Technologies

Innovation	Company	Website / Email	Short Description	Themes
Eco Building GRP	Eastern Eco Homes	<a href="http://www.easternecohomes.co.uk">www.easternecohomes.co.uk</a> c/o Home of 2030 <a href="mailto:enquiries@homeof2030.com">enquiries@homeof2030.com</a>	An innovative triple layer construction system using fibreglass composite technology that can achieve the Passivhaus standard, for maximum building performance. Incorporating a range of natural aggregates to produce monocoque structures, the system eliminates many traditional build issues.	Building Performance
eLanspur	eLansys	<a href="http://elansys.co">elansys.co</a> c/o Home of 2030 <a href="mailto:enquiries@homeof2030.com">enquiries@homeof2030.com</a>	eLanspur offers low cost integrated internal occupancy and environmental monitoring with energy use optimisation in a standard size wall switch unit, requiring no specialist skill for installation. eLanspur combines all the intelligence expected from a building or energy management system into a single device, with additional advanced functions including environmental monitoring, embedded AI and automation, providing unparalleled intelligent infrastructure and smart buildings.	Smart and Digital Technologies Building Performance Inclusive Living
ELe Intelligent Built Environment	Extreme Low Energy Ltd	<a href="http://extremelowenergy.com">extremelowenergy.com</a> c/o Home of 2030 <a href="mailto:enquiries@homeof2030.com">enquiries@homeof2030.com</a>	A plug&play DC microgrid application for the newbuild and refurbishment housing and commercial sectors. Provides an innovative, disruptive, integrated whole-building alternative electrical supply, monitoring and control solution which reduces construction and building maintenance costs, simplifies the installation process, offers enhanced safety measures as well as enabling a more comfortable and healthier living environment for the occupiers.	Smart and Digital Technologies Building Performance
Energy efficiency and smart home services	Voltaware Services	<a href="http://voltaware.com">voltaware.com</a> <a href="mailto:francois@voltaware.com">francois@voltaware.com</a>	Energy efficiency and smart home services, delivering cutting-edge, real-time energy consumption information. Voltaware unlocks a combination of energy insights and alerts down to the appliance level to help make homes greener, safer and more efficient.	Smart and Digital Technologies Building Performance
EvoFrame	Legend Aspect	<a href="http://evoframe.com">evoframe.com</a> <a href="mailto:admin@legendaspect.com">admin@legendaspect.com</a>	Designed for the future of living, an EvoFrame house provides not only a well-engineered safety cell to cope with all the rigors of life, it also opens free-space living for future needs. EvoFrame is a modular designed, self-supporting, structurally strong timber frame building solution. It is a process of supplying factory-built houses to site without size restrictions, able to be transported on standard flatbed trucks and trailers without 'abnormal' or 'wide load' restrictions. A finished EvoFrame house is indistinguishable from a traditionally built house.	Scalability Building Performance
Factory Build Domestic Homes	Magna Housing	<a href="http://www.magna.org.uk">www.magna.org.uk</a> c/o Home of 2030 <a href="mailto:enquiries@homeof2030.com">enquiries@homeof2030.com</a>	A multitude of factory built housing solutions, aiming to significantly improve procurement and delivery. Magna Housing provides a modular solution with consistent quality via the LHC offsite framework. The factory currently produces 200 homes a year and will increase this to 1,000 homes a year for the local area.	Scalability

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Flexihomes	Innovare Systems	<a href="http://www.innovaresystems.co.uk">www.innovaresystems.co.uk</a> <a href="mailto:Silke.Trimborn@osborne.co.uk">Silke.Trimborn@osborne.co.uk</a>	A dwelling module that can be used to produce detached, semi-detached or terrace houses. The prefabricated module has been designed to provide maximum flexibility in terms of access and daylight provision, allowing almost any geometry; by being able to offer a variety of 1, 2, 3 story blocks, a unique architectural language can be achieved despite the modular system approach. The proposed systemised housing solution has been designed to not only provide maximum flexibility externally, but also internally i.e. being able to split the house into two flats, allowing two generations to live under one roof, addressing the issue of helping younger people to get onto the property ladder whilst allowing the older generation to downscale and have someone to live in-house to assist.	Scalability Inclusive Living
Gapotape	Gapogroup	<a href="http://www.Gapogroup.com">www.Gapogroup.com</a> <a href="mailto:info@gapogroup.com">info@gapogroup.com</a>	Make insulation great again – We all know that insulation is under performing and at times failing, but continuing to ignore the issue won't make the problem go away. Gapotape solves a widely-acknowledged insulation installation problem within the construction industry. Until now rigid insulation boards have been impossible to install between rafters, studs and joists without air gaps, as even the most meticulous installations suffer from inevitable shrinkage, warping and movement of timber elements. This means that the 'as built' U value of rigid insulation is much less than its 'as specified' U value.	Building Performance
GBuilder	Group Builder	<a href="http://gbuilder.com">gbuilder.com</a> c/o Home of 2030 <a href="mailto:enquiries@homeof2030.com">enquiries@homeof2030.com</a>	GBuilder digitises the homebuyer customer journey and the related internal processes. It's an all-in-one software enabling project stakeholders to collaborate in material options and home configurations, visualisations and snagging. The software brings together DWG/IFC(BIM) plans, 3D and Virtual Reality models, custom websites and mobile app interfaces to all stakeholders; the buyer or tenant, the developer's sales team and project management, the contractor and the whole construction site team.	Smart and Digital Technologies
Halcyan Water Conditioners	Halcyan	<a href="http://halcyanwater.com">halcyanwater.com</a> <a href="mailto:commercial@halcyanwater.com">commercial@halcyanwater.com</a>	Limescale exists across 60% of the UK. Critically it wastes significant amounts of energy in every home's hot water system. Every 3mm limescale on heating elements demands 21-30% additional energy every heating cycle. Plus limescale shortens the lifespan of boilers and whitegoods, wasting embodied carbon and increasing maintenance costs for households. But the minerals that create limescale, are healthy for us. Halcyan Water Conditioners are the most sustainable solution for the prevention, and removal, of limescale. A proven technology, small and easy to fit, Halcyan's require no salts or chemicals, need no power and have zero maintenance. Domestic units enjoy a 30-year guarantee.	Building Performance

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High performance building envelope	HAUS Technologies	<a href="http://haus-technologies.com">haus-technologies.com</a> c/o Home of 2030 <a href="mailto:enquiries@homeof2030.com">enquiries@homeof2030.com</a>	An energy-efficient building envelope with improved productivity and lower cost. It combines the advantages of off-site manufacturing - the factory-made panel elements that include the insulation and the interior wall and ceiling linings - with the on-site completion of the exterior sheathing (and reinforced concrete structure) to create a waterproof, hurricane proof and wildfire proof building envelope, which is indistinguishable from traditionally built houses.	Scalability Building Performance
The Hybrid Home™	geo	<a href="http://geotogether.com">geotogether.com</a> <a href="mailto:sales@geotogether.com">sales@geotogether.com</a> .	The Hybrid Home, powered by geo's energy management system, automatically balances grid and consumer energy needs, learning, predicting and optimising home energy systems. Combined with any flexible load such as solar, battery storage, an EV charger or smart heating system, geo's Hybrid Home balances the needs of the grid whilst managing the household's overall energy consumption and carbon footprint – without them having to think about it.	Smart and Digital Technologies Building Performance Scalability
I-House System	H+H UK & Roofspace Solutions	<a href="http://hhcelcon.co.uk">hhcelcon.co.uk</a> <a href="mailto:steven.knight@hhcelcon.co.uk">steven.knight@hhcelcon.co.uk</a>	The I-House system incorporates storey-height aircrete Celcon Elements, used to form the inner leaf of external walls, separating walls and internal partitions to deliver a structure which is fully wrapped in insulation and ready for follow-on trades. The key advantage is the speed of build, where the elements are used as part of a complete housebuilding package, with Roofspace prefabricated timber floors and roofing systems. Roofspace Solutions provide the installation supply and fit package. A watertight shell of a standard house design is complete on-site in one week.	Scalability Building Performance
K Sockets	Kemuri	<a href="http://kemuri.co.uk">kemuri.co.uk</a> <a href="mailto:hello@kemuri.co.uk">hello@kemuri.co.uk</a>	K Sockets are smart power sockets fitted with sensors for motion (PIR), power used, temperature and humidity. They can be used to alert risks to older people living independently.	Inclusive Living Smart and Digital Technologies
Powervault 3	Powervault	<a href="http://powervault.co.uk">powervault.co.uk</a> <a href="mailto:hello@powervault.co.uk">hello@powervault.co.uk</a>	Designed for the modern smart home, Powervault is a smart battery system which is modular in design and compatible with all solar PV systems. Powervault 3 is very simple and quick to install as it is an all-in-one system, meaning it contains batteries, an inverter/charger, a Battery Management System, an Energy Management System and various control boards.	Smart and Digital Technologies Building Performance
Quantum Home	Enerza Solutions	<a href="http://enerza.com">enerza.com</a> <a href="mailto:smi@enerza.com">smi@enerza.com</a>	Quantum is a smart energy solution based on a smart home hub and hardware interfaces that enable it to manage utility consumption within a home. By collecting regular meter readings from smart meters to measure heat, electricity, cooling and water consumption, it establishes the energy profile of an apartment or house.	Smart and digital solutions Building performance Inclusive living



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Reach Homes	Reach Homes	<a href="http://reachhomes.org">reachhomes.org</a> c/o Home of 2030 <a href="mailto:enquiries@homeof2030.com">enquiries@homeof2030.com</a>	Reach Homes CIC is a non-profit housebuilder constructing the most sustainable house possible for the lowest cost from 60% recycled materials in beautiful mixed-tenure communities on regenerated brownfield sites. Reach Homes CIC will also re-invest our surplus income to the benefit of those communities. Powered by renewables, our homes are packed with green tech and are models for the way we should be building - for people, not for profit.	Scalability Building Performance
Recoup Pipe HEX	Recoup Energy Solutions	<a href="http://recoupwwhrs.co.uk">recoupwwhrs.co.uk</a> <a href="mailto:ellis@recoupwwhrs.co.uk">ellis@recoupwwhrs.co.uk</a>	A high efficiency, DHW demand reduction measure suitable for new-build houses, hotels and student accommodation. The Pipe+ HEX is a cost-effective wastewater heat recovery system that is maintenance free, with a 60-year serviceable lifetime. WWHRS is a renewable technology and is SAP and SBEM-listed.	Building Performance
Robotic application of underfloor insulation	Q-Bot	<a href="http://q-bot.co">q-bot.co</a> <a href="mailto:info@q-bot.co">info@q-bot.co</a>	Q-Bot is working with social housing providers to install underfloor insulation using a unique robotic solution across the UK. Q-Bot uses a robot to access the void via an access hatch or air vent and insulate the underside of suspended floors.	Smart and Digital Technologies Building Performance
TaHoma DIN-Rail Smart Home	Somfy	<a href="http://www.somfy.co.uk">www.somfy.co.uk</a> <a href="mailto:steven.montgomery@somfy.com">steven.montgomery@somfy.com</a>	TaHoma DIN-Rail is a hub and 'home control centre' – a single open solution to monitor and control connected home devices via the app on a computer or smartphone. Its modularity and openness to other brands allows the housebuilder / operator / occupier to create a Smart Home that fits their specific requirements. For example, a home focused on greater energy efficiency, well-being, or security. Installed in the electrical panel, it equips the home with the 'infrastructure' to provide a better living environment from day one and create more adaptable homes for the future, for example as occupiers age and their requirements change.	Smart and Digital Technologies Building performance
Tiko Home Energy Management System	Tiko Energy Solutions, an ENGIE Company	<a href="http://tiko.energy">tiko.energy</a> <a href="mailto:damien.kelly@engie.com">damien.kelly@engie.com</a>	Tiko is a smart energy management platform enabling homes and communities to become zero carbon, whilst providing occupants with enhanced comfort, control and peace of mind. The Tiko platform provides energy management services for homes and landlords, as well as community energy network management and national grid balancing services. The platform is connected to over 15,000 home devices across 4 countries including heat pumps, solar PV, storage and EV's. Tiko enables low cost, zero carbon homes and communities.	Smart and Digital Technologies Building Performance

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Ventmiser CMSM	West Energy Saving Technologies	<a href="http://westenergy.co.uk">westenergy.co.uk</a> c/o Home of 2030 <a href="mailto:enquiries@homeof2030.com">enquiries@homeof2030.com</a>	A patented, eco-friendly controller specially designed to save energy and reduce carbon emissions. Ventmiser CMSM is a temperature and/or current sensing, demand control device, which activates an extract fan when either a cooker, bath or shower is being used. Ventmiser can also be used to boost the speed of a central ventilation system MEV or MVHR, when cooking, showering or bathing is taking place.	Smart and Digital Technologies Building Performance
Wondrwall	Wondrwall	<a href="http://wondrwall.co.uk">wondrwall.co.uk</a> <a href="mailto:hello@wondrwall.co.uk">hello@wondrwall.co.uk</a>	Wondrwall is a technology company dedicated to changing the way we live and how we use energy. Combining intelligent AI powered home automation, clean energy production and super-efficient heating systems, the solution helps homes save money, time and the environment.	Smart and Digital Technologies Building Performance
Wudl Sustainable Homes	Wudl	<a href="http://www.wudl.co.uk">www.wudl.co.uk</a> c/o Home of 2030 <a href="mailto:enquiries@homeof2030.com">enquiries@homeof2030.com</a>	Flexible, adaptable and modular timber frame buildings that can be customised. The main element of the building system is comprised of prefabricated engineered timber panels. The solution includes airtight yet breathable, high performing walls and roofs, insulated with both sheep's wool and wood fibre.	Scalability, Inclusive Living Building Performance
ZED Power	ZED Power	<a href="http://www.zed-life.com">www.zed-life.com</a> <a href="mailto:bill@zed-life.com">bill@zed-life.com</a>	A cost-efficient renewable energy system which uses Building Integrated PV roofing and vertical rainscreen cladding to generate solar electricity that can be stored directly in wall mounted modular exchangeable batteries. The system is capable of powering each room in any new and existing building, whilst proving a secure and effective rainscreen cladding system.	Building Performance
ZED Module	ZED Power	<a href="http://www.zed-life.com">www.zed-life.com</a> <a href="mailto:bill@zed-life.com">bill@zed-life.com</a>	ZED module is a new, flexible, housing concept based on purpose-built shared homes for multiple occupancies, designed to offer the best of communal living whilst at the same time creating high quality, safe private bedrooms and meeting national affordable homes space standards. With a higher density townhouse model utilising efficient build systems, ZED module proposes a model offering rents that young people on low incomes can afford whilst at the same time minimising the running costs of the properties. The ZED modules are designed to stack vertically in multiple configurations and create permanent housing solutions with carefully planned public realm that incorporates urban solar farms and electric personal mobility.	Building Performance Scalability Inclusive Living
ZED Rental Cabin	ZED Power	<a href="http://www.zed-life.com">www.zed-life.com</a> <a href="mailto:bill@zed-life.com">bill@zed-life.com</a>	ZEDcabin is a volumetric, prefabricated, fast built, off-grid capable development solution that can provide housing, HMO's, apartments, retail and workspace. ZEDcabin is suitable for the many large and small development sites which can stay empty for decades awaiting land assembly, market values, funding, or resolution of design debates.	Scalability Building Performance

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Zero Bill's Home	Zero Bill's Home Ltd in conjunction with ZEDpower	<a href="http://www.zerobillshome.com">www.zerobillshome.com</a> <a href="mailto:bill@zed-life.com">bill@zed-life.com</a>	A low cost, zero carbon building designed to be modern and contemporary, built from locally sourced traditional materials combined to create a high performance / low environmental impact construction system. Capable of meeting Level 6 of the 2016 Code for Sustainable Homes and the highest level of the BRE's Home Quality Mark.	Building Performance