

bre

# Quality and Performance in Construction

**Building**  
responsibly

“

World-class high performing  
supply chains & products  
you can build on

”



*Trusted expertise for the product manufacturing sector*

# BPS 7014 and Certification

An Offsite Construction Assessment Method

Building a better world together



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## Sections

1. BRE Global Ireland
2. Why do we need the BPS?
3. Stakeholders
4. How is this different?
5. Certification





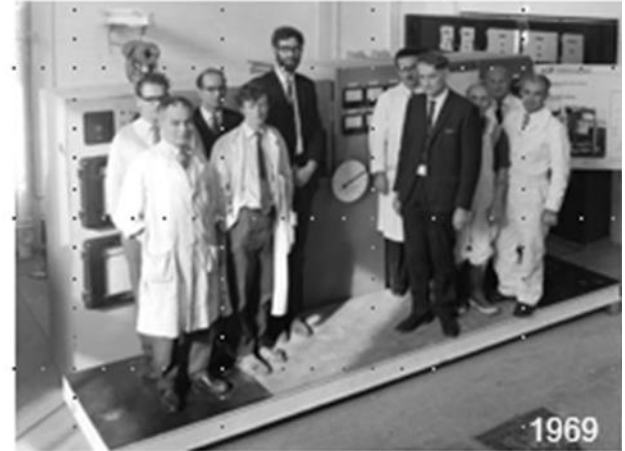
# BRE Global Ireland



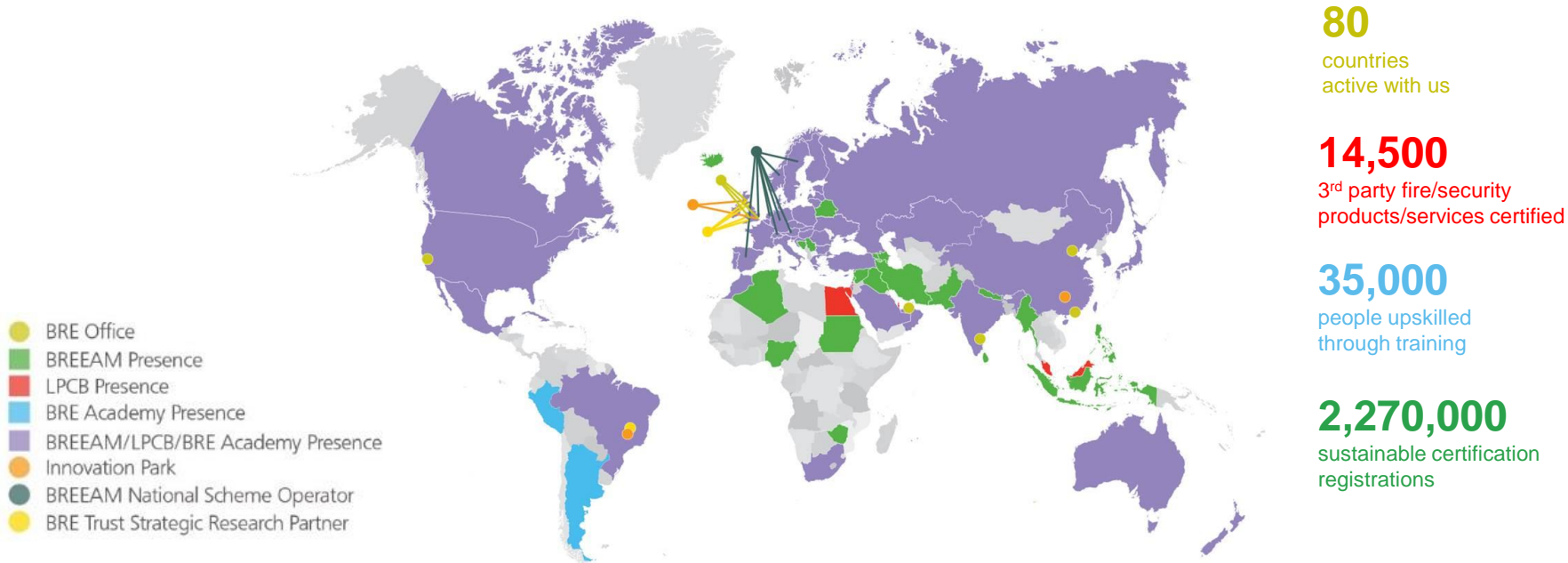
“ “ We are an independent, multi-disciplinary, building **science** organisation with a mission to improve **buildings** and **infrastructure** through research and knowledge generation, and their application.



- Founded in 1921 The Building Research Establishment (BRE) was a Government Laboratory for over 70 years before privatised in 1997
- We celebrate our centenary in 2021



# Where we are in the world









**BRE Global Ireland**

CE, Pi, Wheel marking; existing and new

**Planning local test facilities**

Fire, structural

**BRE Group activity**

Academy, BIM, ISO, BREEAM etc

**Innovation Park**

Strategic partnerships; single or network of hubs

<https://www.youtube.com/watch?v=dacmkSYPAv8>



## **BRE Global Ireland**

- Accredited and Notified Body in Republic of Ireland for
- (MED) Marine Equipment Directive
- (CPR) Construction Product Regulation as (NB) Notified Body and (TAB) Technical Assessment Body
- (PED) Pressure Equipment Directive
- Applied for (INAB) Irish National Accreditation Board Accreditation to (TPED) Transport Pressure Equipment Directive and will seek NB status



**BRE Global Ireland scope of accreditation:**

<https://www.inab.ie/Directory-of-Accredited-Bodies/Certification-Bodies/Product-Certification/BRE-Global-Assurance-Ireland-Ltd-.html>



- "CitA are delighted to announce this important learning partnership with the BRE. We have long recognised the brand of BRE as a leader in digital training in our sector. Connecting and leveraging BREs existing learning tools and framework can only help the Irish construction industry with its transition to digital now and into the future."
- Dr. Alan Hore





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# Why do we need the BPS?



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- “equates to approximately 886,000 homes being needed by 2021”

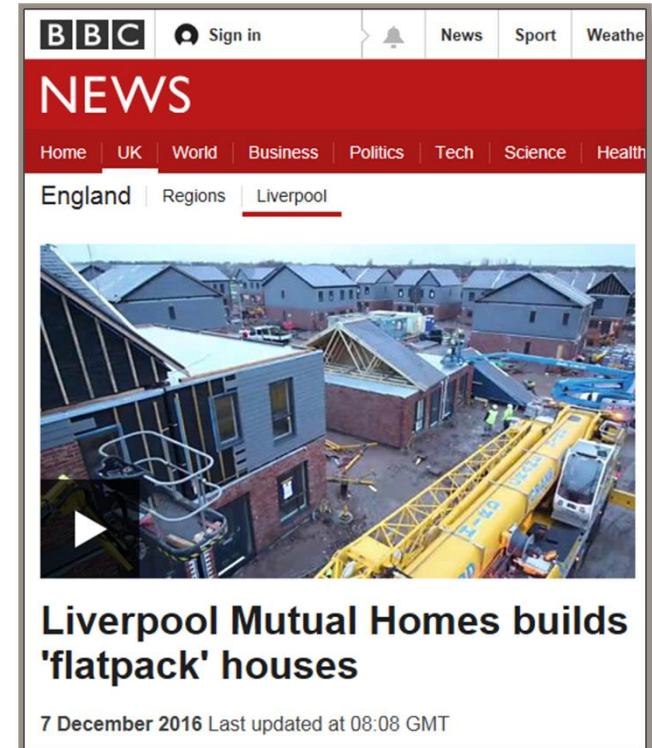
## **Advanced Manufacturing of Homes, Buildings and Infrastructure (AMHBI)**

The project aims to deliver 10,000 new homes per annum and better quality buildings and infrastructure through an advanced manufacturing facility, developing the latest in offsite and manufacturing technology whilst integrating innovative solutions from across the supply chain and creating new, high skilled jobs.



“It’s very much going back to the days of cheap, bog-standard council housing – it’s a regressive step.”

**Flat-pack Wolverhampton council homes being flown in from Dublin**







To provide a route to certification for offsite systems for use in the construction of residential buildings. The key objectives:

- encourage **new methods of construction** and **advanced manufacturing techniques** whilst maintaining **acceptable levels of safety and durability**
- create **confidence** in the use of offsite methods in residential construction
- demonstrate **compliance** with relevant building regulations and national building codes, as well as **enhancing characteristics** where appropriate
- identify the **comfort** and **wellbeing** benefits to the householder



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# Stakeholders



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# Who is involved in the process?





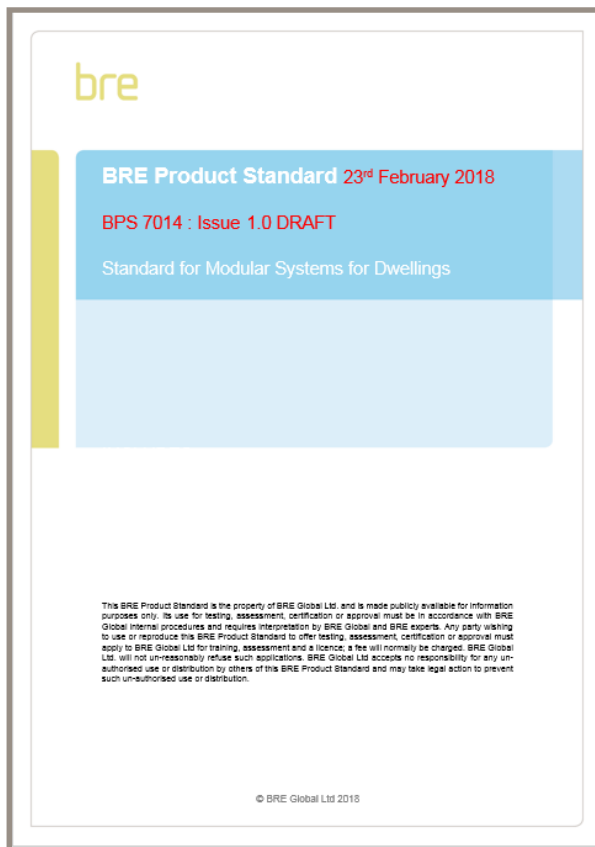


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**Why is this different to  
anything else that's already  
out there?**



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The standard contains requirements around the 7 Basic Works Requirements of the Construction Products Regulation:

1. Mechanical resistance and stability
2. Safety in case of fire
3. Hygiene, health and environment
4. Safety in use
5. Protection against noise
6. Energy economy and heat retention
7. Sustainable use of natural resources



- Demonstrating compliance with UK Building Regulations
- 3-dimensional tests [racking, fire, acoustics]
- In-process checks and assessment
- Tag & Track, BIM
- “Comfort” aspects to the user and aspects of BRE’s latest BREEAM related tool: the Home Quality Mark [HQM]
- Stakeholders including manufacturers, warranty providers, mortgage lenders, insurers, building control
- Publication date: *to be confirmed*



# Design and material types



Additionally, BPS 7014 Certification incorporates BIM logging of projects:

- Registering details of the systems or components used
- Addressing comfort of occupants in the home setting

Will provide accessible, long term record to:

- Support effective maintenance
- Inform life cycle refurbishment at the end of a product's life cycle
- Inform actions in the event of an unexpected impact on the building



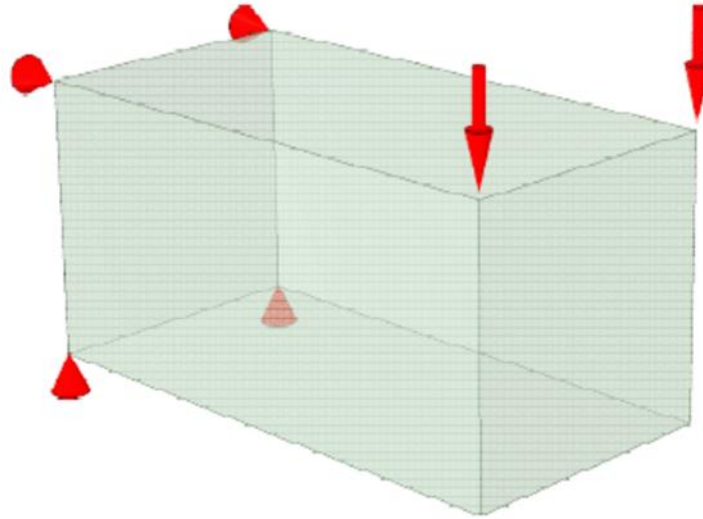


## STRUCTURAL TESTS

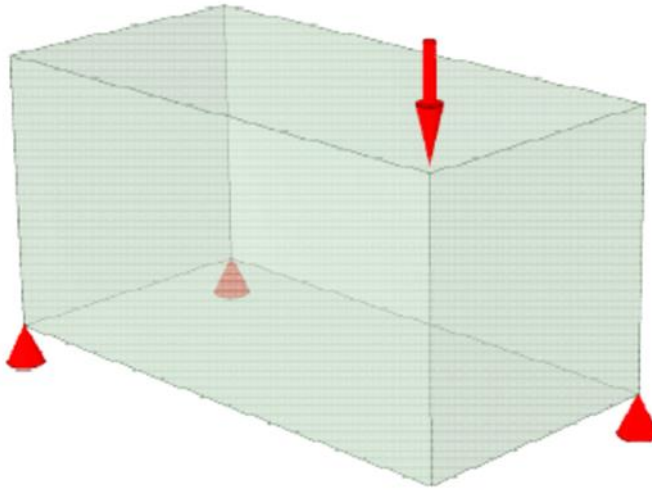


## STRUCTURAL TESTS

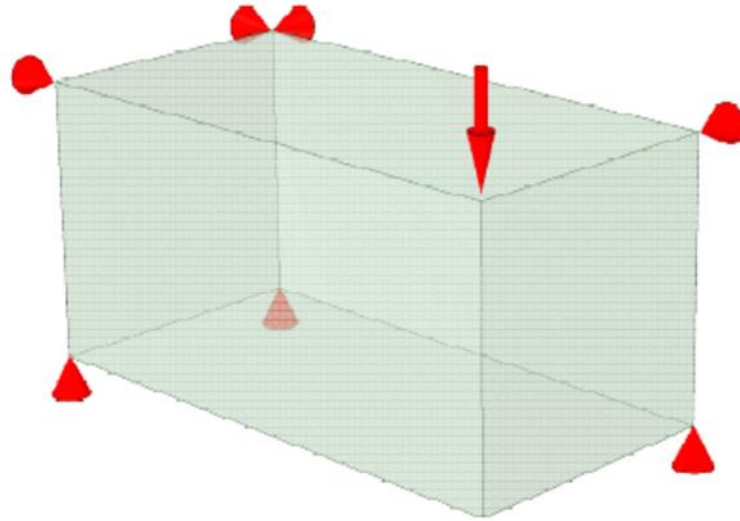
**Cantilever** loads



## STRUCTURAL TESTS



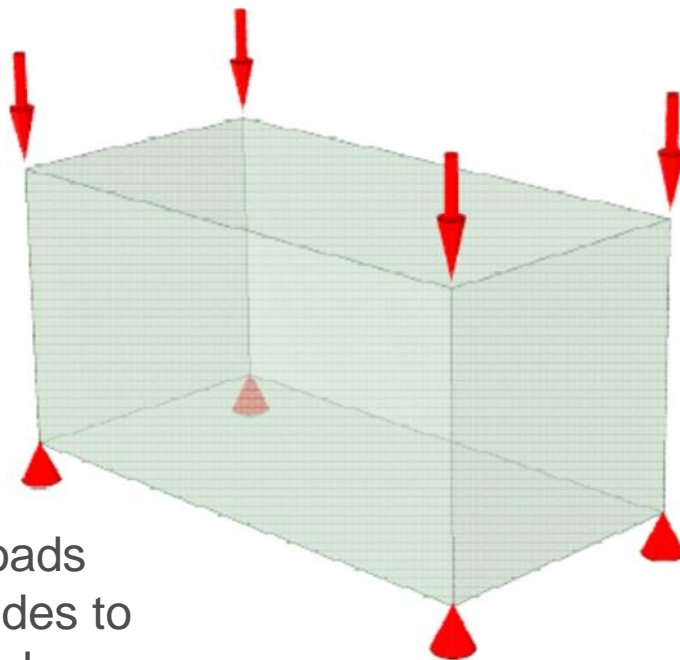
**Settlement - unrestrained**



**Settlement - restrained**



## STRUCTURAL TESTS



**Vertical** load – point loads through connection nodes to simulate storeys from above



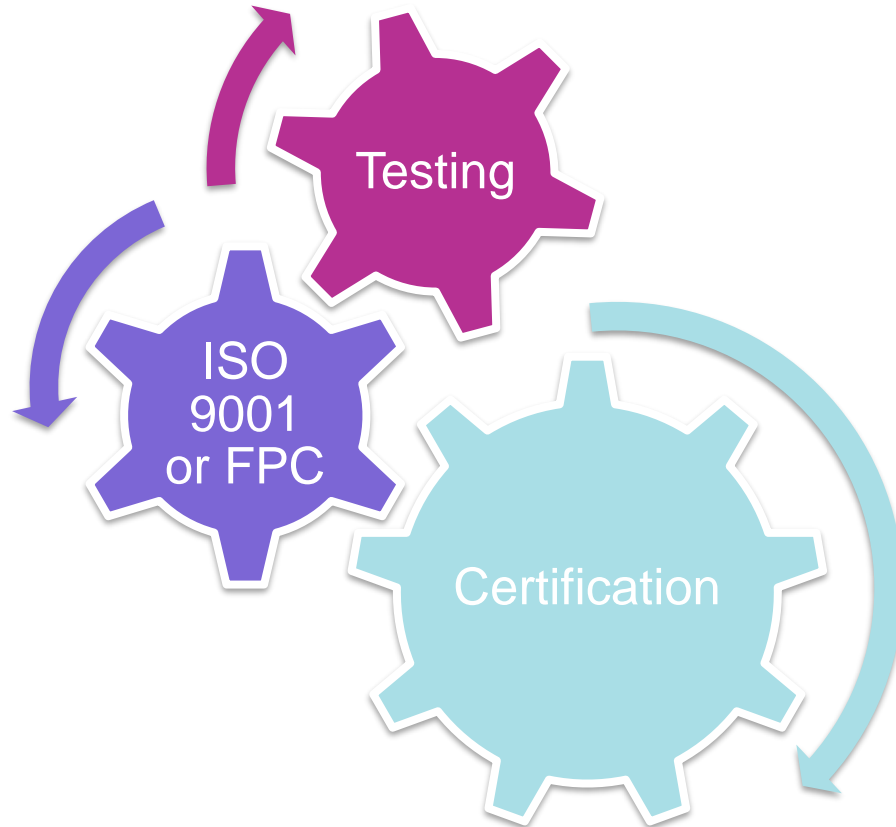
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# Certification



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# Construction Products Certification





## Modular construction systems – BPS 7014

- **Initial testing**
- Initial **Factory Production Control** assessment
- On-going **audit testing**
- On-going **surveillance of FPC**
- BRE Global **online listing**



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**Certificate of Approval**  
Certificate Number: 001/15

Issue: 1

**Company**

Address 1  
Address 2  
Address 3  
Address 4

authorised to use the BRE Global Certification Mark in association with the product(s) listed in this certificate and appendix having complied with the requirements of the standard(s) detailed below.

**Products**

Product 1  
Product 2  
Product 3

**Standard**

BPS 7014 Issue 1.0: *Standard for Modular Systems for Dwellings*

For full details see Appendix

This certificate and appendix is maintained and held in force through regular surveillance activities.

*Signature here*  
\_\_\_\_\_  
Signed for BRE Global Ltd. Mr D Gall 23 February 2018  
Associate Director Valid for issue



This certificate and appendix remains the property of BRE Global Ltd and is issued subject to terms and conditions. For details visit [www.bre.co.uk/bre-certification](http://www.bre.co.uk/bre-certification)  
To check the validity of this certificate please visit [www.certcheck.bre.co.uk/certcheck](http://www.certcheck.bre.co.uk/certcheck) or contact us.  
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- “**Continual**” assessment of products at factory



## Buildoffsite Property Assurance Scheme

- A **durability and maintenance assessment**. ISO 15686 [60 years]
- A **process accreditation**; evaluates and facilitates the adoption of best practice by manufacturers and constructors in key performance areas
- A **web enabled database** comprising details of assessed building methodologies, registered sites and registered/warranted properties
- BPS 7014 and BOPAS exist 'in harmony' to each other
- Aspects achieved through BOPAS [durability] useable towards BPS 7014





**CONSTRUCTION  
INNOVATION HUB**

Transforming  
Construction  
Alliance

**TRANSFORMING  
PERFORMANCE AND  
PRODUCTIVITY IN THE  
CONSTRUCTION  
INDUSTRY**



The logo for the Centre for Digital Built Britain (CDBB) features the lowercase letters 'cdbb' in a bold, blue, sans-serif font. A thin red horizontal line with three dots is positioned below the letters.

Centre for Digital Built Britain

The logo for the Manufacturing Technology Centre (MTC) features the lowercase letters 'mtc' in a bold, teal, sans-serif font. A thin white horizontal line with three dots is positioned below the letters.

Manufacturing  
Technology Centre

The logo for Building Research Establishment (BRE) features the lowercase letters 'bre' in a bold, lime green, sans-serif font.

- Partnership between the Department of Business, Energy & Industrial Strategy and the University of Cambridge to deliver a smart digital economy for infrastructure and construction
- Developing innovative manufacturing technologies and processes in partnership with industry, academia and other institutions
- International, multi-disciplinary, building science organisation

- Its **mission** is to be a catalyst for transforming the UK construction sector through manufacturing technologies and digital ways of working that are trusted and secure – boosting productivity, exports and asset performance to benefit society
- will **change** the way buildings and infrastructure are designed, manufactured, integrated and connected within our built environment

[transformingconstruction.org.uk](https://transformingconstruction.org.uk)





# Thank you

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