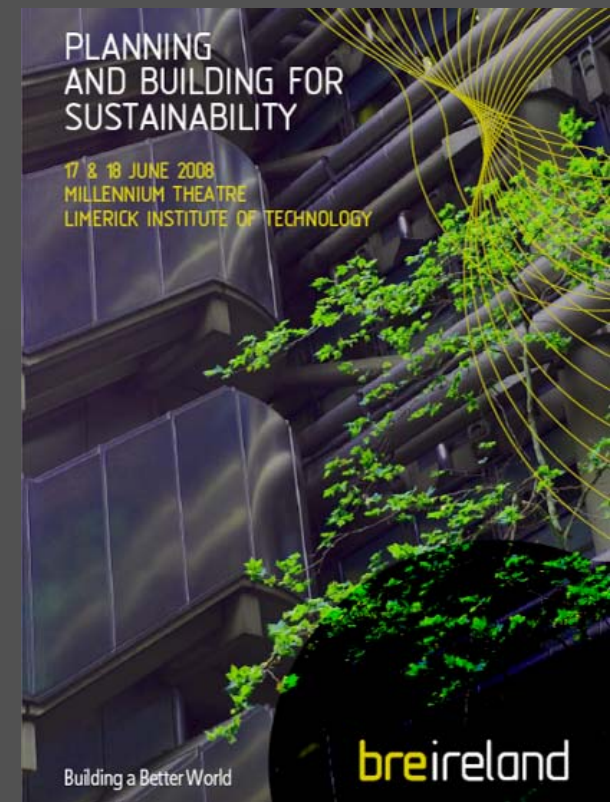


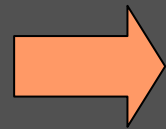
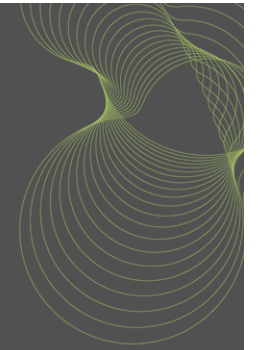
bre ireland

Rethinking:
Innovation In Construction in Ireland

Dr. Colm V. Cryan
Director BRE Ireland

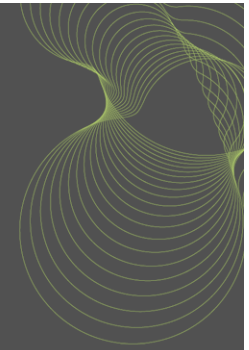


Overview



Innovation Challenge

- Constriction Hierarchy
- BRE Ireland Innovation Park
- What will it Deliver
- Status



Why Rethink Irish Construction

- Slow Down in Activity
- Urban Expansion (New Build)
- Build Quality
- Improve Services (Schools, Hospitals...)
- Regenerate Communities
- Refurbish Existing Building Stock
- Manage Resources (Energy, Water, Ecology, Waste...)

Demographic & Resource trends are predicted to continue

Drivers for Innovation



Politicians



Communities



Industry



Scientists



Environmental Groups

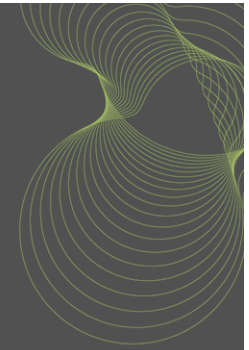
What does Innovative Construction look like

- Holistic planning (community down)
 - Connectivity
 - Design Improvement
 - Layout and functionality
- Material choice and application
 - Reuse and Recycled materials
 - Resource management
- Integration and assembly
 - Uniformity and Skill-need for assembly
 - System integration
- Performance
 - Health and wellbeing
 - Whole life cost assessment
 - Long life time

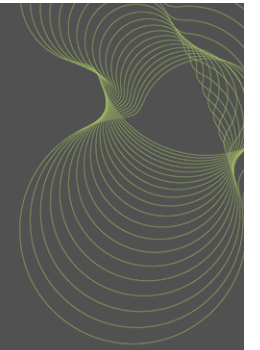


R&D spending must increase and will pay off in the end

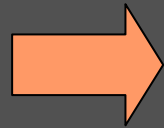
System Thinking



Overview



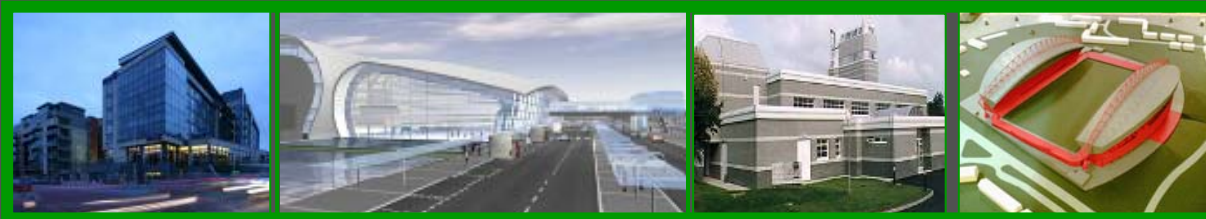
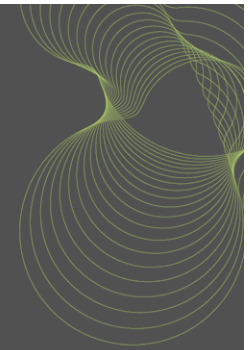
- Innovation Challenge



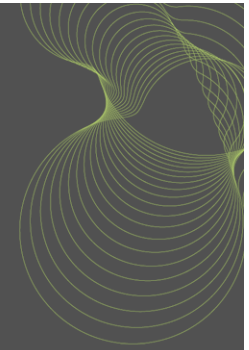
Hierarchy

- BRE Ireland Innovation Park
- What will it Deliver
- Status

System Hierarchy



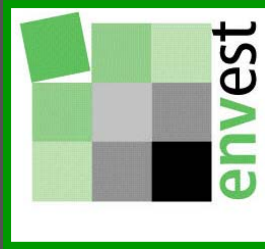
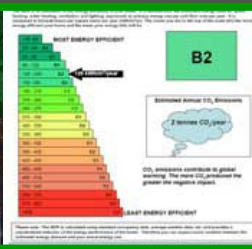
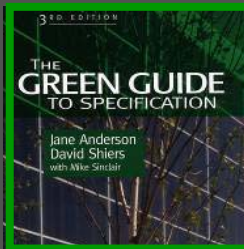
System Assessment



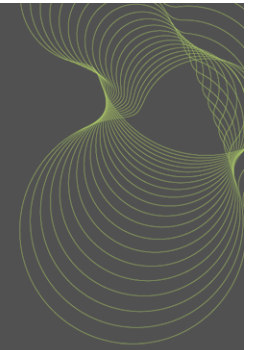
breeam:retail
breeam:bespoke
breeam:schools



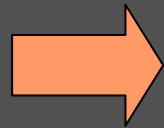
breeam:healthcare
breeam:industrial
breeam:ecohomesXB



Overview



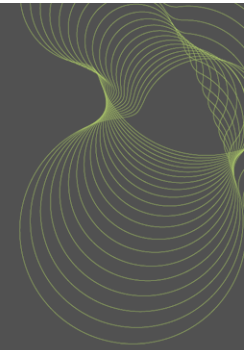
- Innovation Challenge
- Constriction Hierarchy



BRE Ireland Innovation Park

- What will it Deliver
- Status

BRE Ireland Innovation Park



- Community of exemplar buildings connected by a **GreenPrint**
- Built or refurbished in the context of Irish **codes for sustainability**
- Evaluation and demonstration of Innovative designs and construction techniques
- Showcasing latest in materials methods and technology

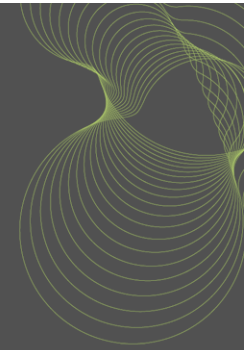
A Forum for Discussion and Demonstrating



- Centre of Excellence
- Full-scale real-life buildings
- Planned in the context of BREEAM & CfSH
- Open to visitors
 - Industry leaders
 - Decision makers
 - Public
- Showcase
 - Innovative Methods of Construction
 - Different innovative & emerging technologies

This is not a Sustainable Housing Development

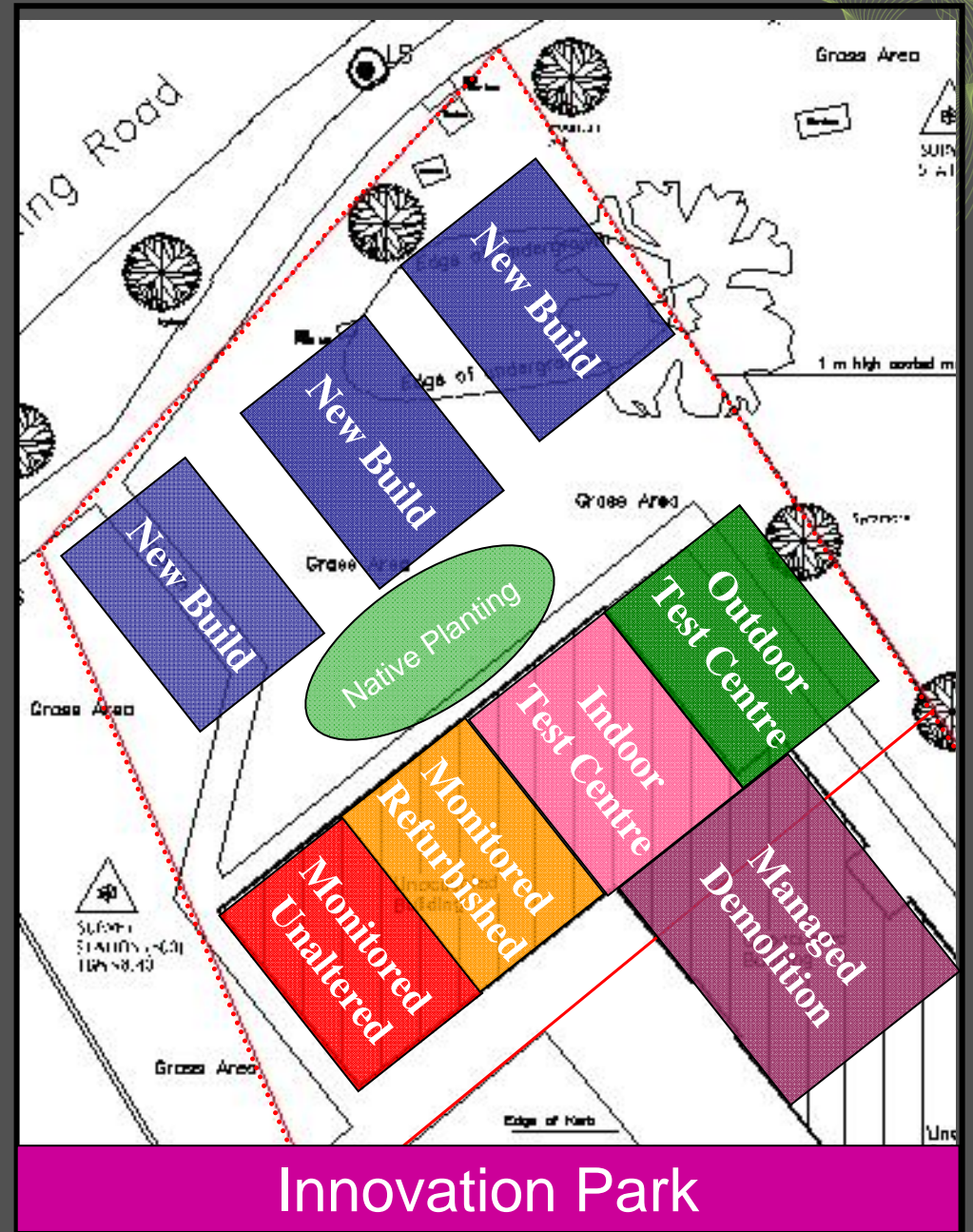
Build on Existing BRE Learning



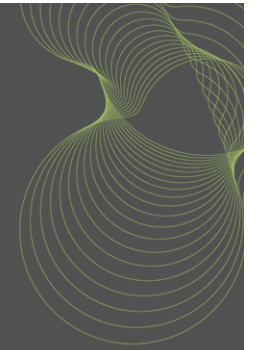
Connected to Scottish and English Innovation Parks

Location & Build Concept

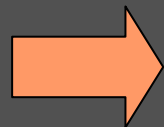
- Site:
 - Limerick Institute of Technology
 - Approximately 1 acre
- New Build and Refurbishment
- Managed Demolition
- Technology Demonstrations
- Leverage Campus Facilities:
 - Conference Centre
 - Training Centre
 - Catering
 - Parking



Overview



- Innovation Challenge
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What will it Deliver

- Status

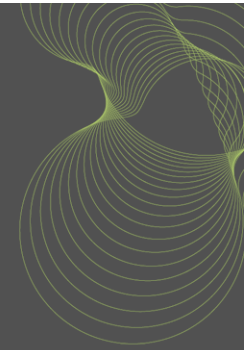
Community: GreenPrint



- New and Refurbished Buildings
- Mixed use
 - Office, housing, education
- Recycled materials
- Resource management
 - Community energy
 - Water runoff
 - Native planting
- Broadband Connectivity

Integrated into Campus

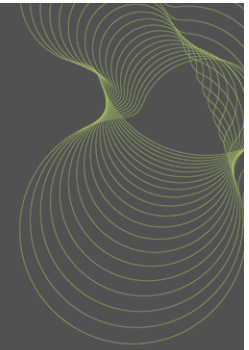
Buildings: Non Domestic



- Construction Method
- Exemplar Performance
- Optimum Resource Usage
 - Management
 - Energy
 - Water
 - Materials
 - Biodiversity and land use
 - Waste
 - Health and Wellbeing

Buildings in Use

Refurbishment



- Determine what can be achieved
- Evaluate different schemes
- Evaluate Assessment Methods

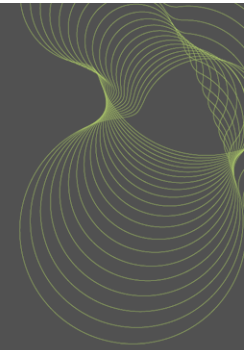


Material System Testing



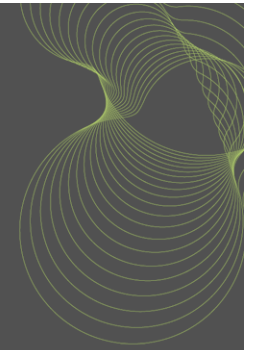
- On-Site and Application Testing
- Performance Evaluation
- System Modelling
- Servicing
- Benefit Cost Analysis
- Whole Life Cost

Micro-Renewable Testing



- Installation Training
- System Integration
- Performance Modelling
- Servicing
- Application Testing
- Cost Benefit Analysis

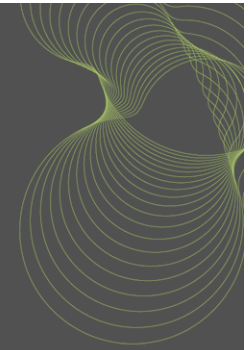
Management, Health & Well Being



- Active versus Passive
- Social Impact Evaluation
- Lifetime Analysis
- Servicing
- Control systems



Bio Diversity and Waste Management



- Biodiversity
 - Native Planting
 - Energy Planting
 - Increased Biodiversity
 - Health and Wellbeing
 - Research for future



- Waste Management
 - Managed Demolition
 - Resource Trading
 - Stock Evaluation

What will native mean

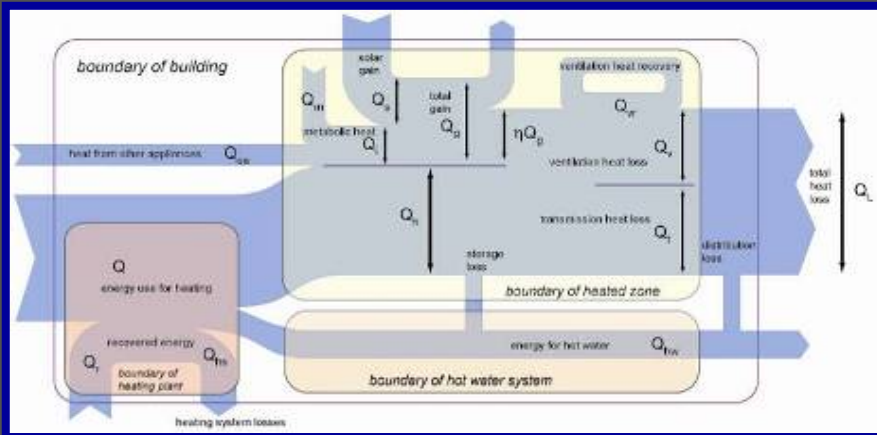
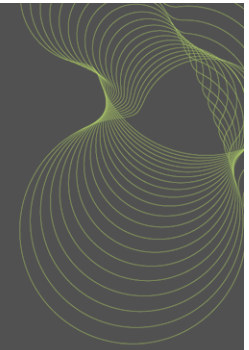
Education, Training Certification

- Improved work site practices
 - Buildings are more complex and specialist
 - Excellence in finish / detail
- System Integration
- Assessor Training
- Program Management
- Servicing

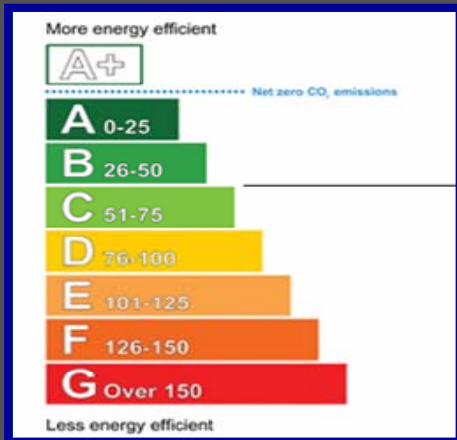


Innovation must be compatible with native skill base

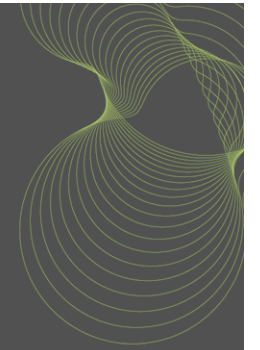
Model Development and Evaluation



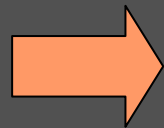
- Grow research in resource models
- Evaluate accuracy of existing models
- Identify and fill model gaps



Overview

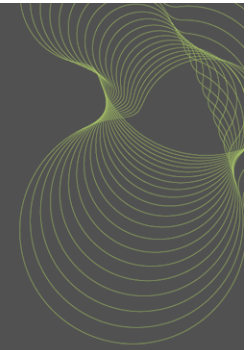


- Innovation Challenge
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Status

Status



- Finalizing Site Plans
 - Model in Place
 - Staff in Place
- Working with Partners
 - Construction Companies
 - Services
 - Seek Additional Partners
- Developing Irish Codes for Sustainability
 - Irish Prisons Service
 - BRE Trust
- Driving Awareness

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Thank You

