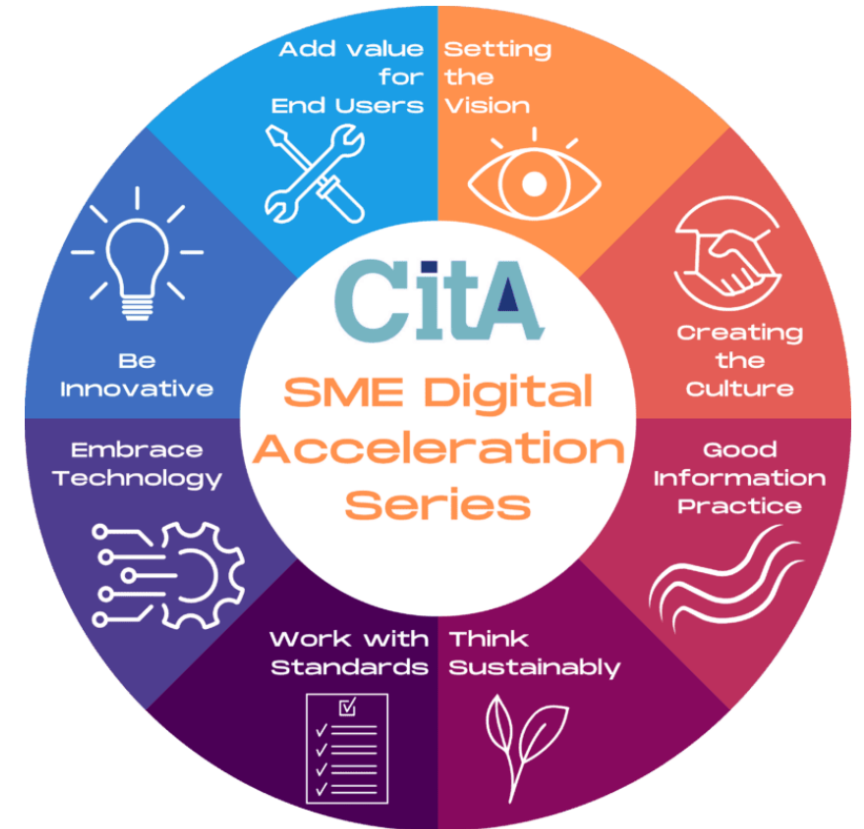


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Setting the Vision: Creating a shared vision for a digitally mature Irish construction industry

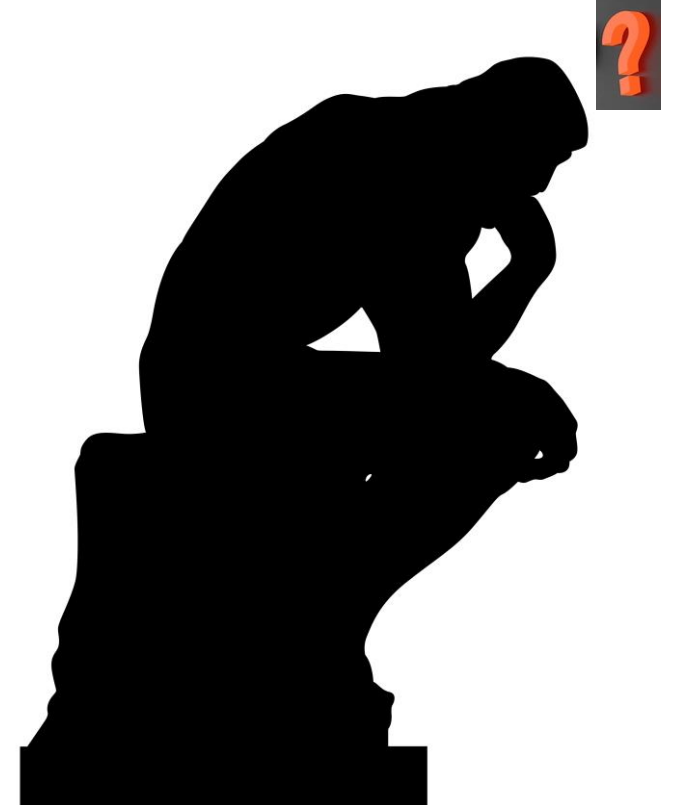
How DASBE can assist construction SMEs to upskill in the digital sphere



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Challenges

1. Rapid Changes across the sector
 - Planning, Building Regulations, Climate action
 - Digitisation
2. Industry Demands
 - Fast Development, Accessible, Blended/On-line, Transversal Skills, Smart,
3. Fragmentation (HE, FE, Private)
4. Speed to market
 - Programme development timelines
 - QA Procedures
5. Lack of drivers & right time to upskill or reskill



<https://www.freeimages.com/photo/rodin-thinker-silhouette-1237828>

Skills – Gaps and needs

Employment, Social Affairs & Inclusion

 **BUILD UP** The European Portal For Energy Efficiency In Buildings

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
The Eurc
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(ESCO)

Working

Helping |
develop
through

Build Up Home

 The Commission is in the process of updating some of the content on this website in light of the withdrawal of the United Kingdom. As it does not yet reflect the withdrawal of the United Kingdom, it is unintentional and will be addressed.

Airtightness of Buildings and Ductwork



Energy efficient buildings and in particular near zero energy buildings require a specific attention to building airtightness. For more information, visit also www.tightvent.eu.

Build Value, co-benefits and Building envelope externalities



This Topic includes all content relevant to the Themes "Build Value, co-benefits and externalities" and "Technical - economic - politic approach for supporting building stock..."



This Topic includes all content relevant to the Theme "building envelope (walls, windows,...)"

SOLAS
learning works

 National Skills Council



This Topic includes all content relevant to the Themes "building operation, monitoring, energy management", and "Controls, energy management systems".

Calculation, simulation



This Topic includes all content relevant to the Theme "calculation, simulation"

Campaigning and awareness raising



This Topic includes all content relevant to the Theme "campaigning and awareness raising"

Certification schemes



In the Community Certification we share knowledge, initiate discussions, raise questions and search for new solutions for the certification of buildings

Construction skills for tomorrow's energy efficient buildings



This Topic includes all content relevant to the Theme

Monitoring Ireland's Skills Supply 2022

September 2020

Building Future Skills
The Demand for Skills in Ireland's Built Environment Sector to 2030



November 2021

Skills for Zero Carbon
The Demand for Renewable Energy, Residential Retrofit and Electric Vehicle Deployment Skills to 2030



May 2022

AI Skills
A Preliminary Assessment of the Skills Needed for the Deployment, Management and Regulation of Artificial Intelligence

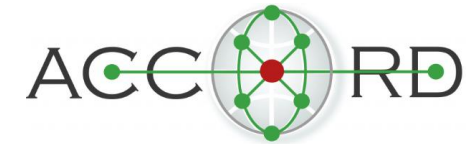


CiTA: Digital Acceleration Series

Research & Development



humantech





Welcome to DASBE:

Digital Academy for the
Sustainable Built Environment

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Overall Aim



DASBE seeks to create a National Digital Platform to upskill and reskill the Construction Industry, [SMEs, Professionals, Workers, Manufacturers and Building Providers]

Objectives

- To develop a National Digital platform will host accredited On-line and Blended Learning programmes in different fields.
- Rapidly Design, Develop and Deploy (D3) short programmes to respond to market needs in response to technology, policy and industry needs
- Expand the DASBE Consortium by 2024, thus ensuring sustainability of the initiative.
- Signpost to other training networks across Ireland.

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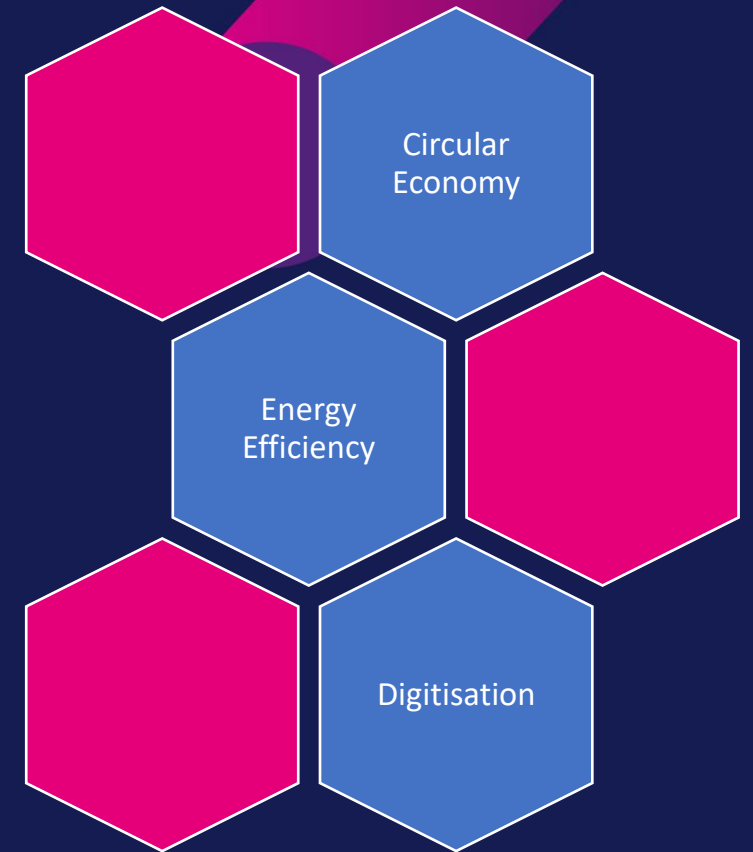


Bringing it all Together



A Hub for provision of upskilling, capacity building and education in the building sector on green construction, circular economy and digital skills

- Low energy buildings to Virtual Reality
- Rapid Design, Development and Deployment
- On-line, blended and face to face approaches
- Set up an easily accessible and usable DASBE Digital Platform
- Digital Platform enabling access to Micro Credentials through to Major Awards
- Connecting R & D with Education and Training
- Connecting Industry demand with Local Provision



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Digital platform

D3 - Rapid Response to Industry Needs

Collaborate with Industry and Education

VR/AR and Digital Tools



Flexible Programme Development

Blended

Major

On-Line

Minor

F2F

SPA

DASBE Platform (DASBE.ie)

Signposting

Hosting

Informing

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Digital Academy Sustainable Built Env

A hub for upskilling, capacity building and education in the

EXPLORE PROGRAMMES



ENERGY EFFICIENCY

The residential sector accounts for 25% of all energy used in Ireland. New buildings must meet an nZEB standard by 2020.

SEARCH PROGRAMMES



CIRCULAR ECONOMY

The EU's transition to a circular economy will reduce pressure on natural resources and will create sustainable growth and jobs.

SEARCH PROGRAMMES

Explore Programmes

PROGRAMME CATEGORY TYPE

Digital Skills

NFQ LEVEL

0 - 9

PROGRAMME TYPE

- Academic
- Accredited
- Industry
- Non-accredited
- Short Courses

PROVIDER

Choose Provider

DIGITAL SKILLS



TUS Technological University of the Shannon

CERTIFICATE IN SCAN TO BIM

FIND OUT MORE

DIGITAL SKILLS



Atlantic Technological University

CERTIFICATE IN ENGINEERING IN BUILDING INFORMATION MODELLING

FIND OUT MORE

ENERGY EFFICIENCY



Atlantic Technological University

POSTGRADUATE DIPLOMA IN SCIENCE IN BUILT ENVIRONMENT REGULATION

FIND OUT MORE

DIGITAL SKILLS



DIGITAL SKILLS



WELCOME TO THE PLATFORM

DASBE

Login To Your Account

Don't have an account? Contact DASBE

Username or Email Address

Password

Remember Me

LOG IN

Lost your password?

ACTIONABLE TRAINING
Lorem ipsum dolor sit amet, consectetur adipiscing elit.

EXPERT INSTRUCTION
Lorem ipsum dolor sit amet, consectetur adipiscing elit.

What's impacting the Industry now?

1. Building information Modelling: BIM involves 2D and 3D modelling of structures and infrastructure **and Building information Management** provide **collaborative** documents and **real-time** management (tracking tasks and materials). On-site connectivity: Many companies seek the ability to use BIM, workflow or other relevant software on a construction site.

Digital twin experts and BIM coordinators are well sort after, and evidence of skills gap.

2. Drone Imaging and 3D Scanning: AR and VR imaging, and using drones and Lidar 3D scanning to capture footage, has become more commonplace. BIM specialists may also **specialise in imaging**, or companies can recruit dedicated digital-imaging professionals.

Drone operators and imaging technology can work in many different disciplines and much needed into the construction area.



What's impacting the Industry now?

3. AR or VR functions: Augmented and Virtual Reality technology are transformative technologies for **planning construction projects**. Some BIM software supports AR and VR, or dedicated visualisation software can be used to **render immersive 3D structures**, or give clients the ability to “walk through a virtual structure to anticipate and potentially resolve any issues before construction even starts

In DASBE – designing and developing **VR educational tools** to support construction programmes. Its not always possible to get the correct detail using scan to BIM - detect defects and finding cause, installing PV and heat pumps, VR visual quizzes and creating **Virtual living labs**, as students cant always go onto a working site. (H&S, accessibility etc)

Microsoft HoloLens and Spectacles by Snapchat are two examples of AR already available on the market. The Meta Quest is the leading consumer VR system.



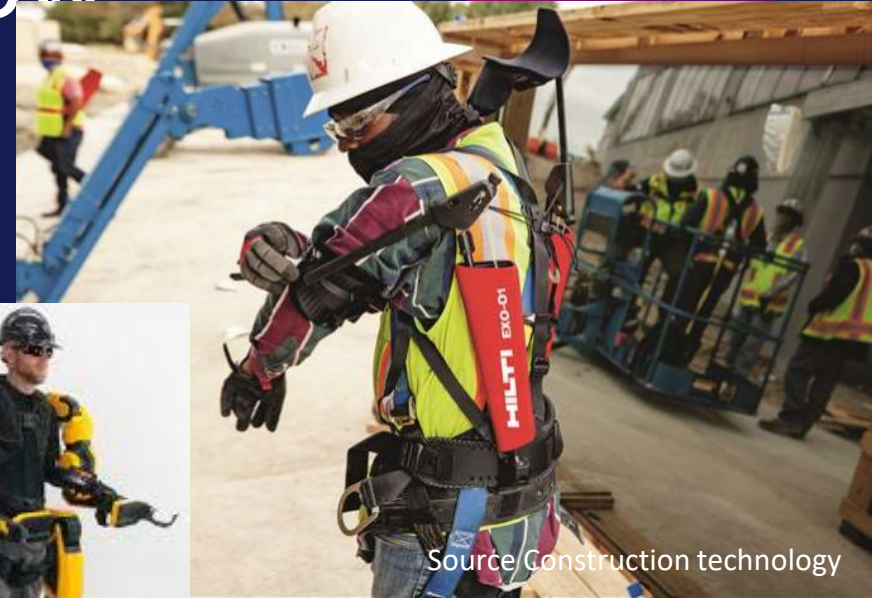
What's impacting the Industry now?

4. **Automation and Robotics:** Automated tasks are set up with minimal direct human input. **Robotic process automation** controls software with bots, while robotics systems manipulate physical materials, but needs human control and specialism.

Wearables or Exoskeletons such as hard hats with tracking sensors, smart boots and watches, glasses that open windows to augmented reality. Exoskeletons can relieve user stress and make construction sites safer and more efficient for workers and supervisors.

How does the technology work? Site workers or visitors wear **smart badges or helmet geo-tags** called tokens, which send data about the wearers' time, location, and movement to anchors that are mounted strategically around the site and sent back to a cloud database.

Robotics are used for H&S work and wearables on site ensures less accidents on site.



Source Construction technology



What's impacting the Industry now?

5. Prefabrication: The ability to plan a building in sections and then orchestrate the assembly of these sections has a long history, but is growing in popularity.

Modular construction experts can now choose from a wide range of jobs.

6. 3D Printing: A technology started with prototyping and producing small components is now being used in large-scale construction. Huge opportunity to use recycled waste products - sustainability.

3D printing is likely to shift most construction labour towards technical specialisation, rather than physical labour.



So What's available in DASBE? - 2023



- Building Information Modelling with Revit Architecture (L6)
- Building Information Modelling with Revit MEP (L6)
- Certificate in Construction Surveying & Data Processing (L6)
- Higher Diploma in BIM for Civil Engineering & Construction (L8)
- Certificate in Construction in Lean Construction Scheduling and Control (L6)
- Postgraduate Diploma in BIM and Digital Leadership (L9)
- Certificate in Heat Pump Installation, Commissioning, Maintenance and Servicing (L6)

DIGITAL SKILLS

A strong digital economy powered by Europeans with digital skills is vital for innovation, growth, and jobs.

SEARCH PROGRAMMES



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So What's available in DASBE? - 2023



- Certificate in Community Energy Development (L6)
- Bachelor of Science in Science in Sustainable Construction (L7)
- Higher Diploma in Residential Energy Retrofit Management (L8)**
- Certificate in Residential Energy Retrofit Fabric (L8)
- Certificate in Residential Energy Retrofit Systems (L8)
- Certificate in Residential Energy Retrofit Management (L8)
- Post Graduate Diploma in Science in Built Environment Regulation (L9)**
- Certificate in Built Environment Regulation (L9)
- Certificate in Fire Safety (L9)
- Certificate in Energy Conservation and Environmental Services (L9)
- Certificate in Energy Renovation of Traditional Building (L8)**

 ENERGY EFFICIENCY	 CIRCULAR ECONOMY
<p>The residential sector accounts for 25% of all energy used in Ireland. New buildings must meet an nZEB standard by 2020.</p>	<p>The EU's transition to a circular economy will reduce pressure on natural resources and will create sustainable growth and jobs.</p>
SEARCH PROGRAMMES	SEARCH PROGRAMMES

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So What's New in DASBE? – Starting soon

Certificate in Post-Survey Data Processing (L8)

Certificate in Construction Surveying & Data Processing (L6)

Certificate in Digital Surveying Techniques (L8)

Higher Diploma in Engineering in Virtual Design and Construction (L8)

-Certificate in Scan to BIM (L8)

-Certificate in Engineering in Construction Data Capture and Analytics (L8)

-Certificate in 3D Laser Scan Technology (L8)

Certificate in Green Procurement in Construction (L7)

Certificate in Drones for construction (L6)

Certificate in Residential Retrofit Site Coordination -Clerk of works (L6)

Certificate in Virtual Design and Visualisation (L9)

Collaborating now with Industry

Micro-award in Residential Retrofit Digital Management (L6)

Certificate in the Life Cycle of Buildings (L7)

Certificate in the Digital Building Permits and Passports (L7)



Contact me if you
need to know more

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Conclusion



- Challenge is immense to reskill, upskill and train
- Already stretched construction sector – which means employers have a challenge in recruiting/retaining/releasing staff
- Innovative tools
 - Digital/on-line training
 - Micro Credentials and Badges
 - Alternative delivery modes with digital, practical and virtual tools
- We also need to support upskilling of educators/trainers
- We also need industry to contact us and we can work with you on new programmes.

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Thank you for Listening

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