TETRA TECH

ATU

SYMETRI
PART OF ADDNODE GROUP

Digital Infrastructure Design

Advancing Global Skills for the Future of Infrastructure

WorldSkills

Ollscoil Teicneolaíochta an Atlantaigh

Atlantic Technological University

Department of
Building and Civil Engineering

ATU Overview

- Offers 600+ programmes
- 9 Campuses - West and North-West of Ireland
- Over 30,400 learners
- Architectural Technology student numbers up 51% since 2023



What is WorldSkills?

The Olympics of Vocational Skills.

Global hub for skills excellence, bringing together young professionals, educators, and industry leaders from over 80 member countries to compete in technical disciplines.





WorldSkills Ireland

Major event in RDS - WorldSkills Ireland – Silver Medal

64 official skill competitions WorldSkills – Ireland competes in a number of these

New skills added - Unmanned Aerial Systems, Intelligent Security Technology, Software Testing & Digital Media, Rail Vehicle Technology





2022 development Partners





Vendor

Supported by **Symetri** (Ray O'Mahony) & **Autodesk** (Philipp Mueller), providing industry-leading Civil 3D software and tools.

SYMETRI

AUTODESK

Industry

Guided by **Tetra Tech** (Mark Costello), ensuring real-world relevance and modern design practices.

TETRA TECH

Academia

Developed by **ATU** (Wayne Gibbons, Gerard Nicholson, Tommy Coyne) to align with educational standards.

ATU

Background & Our Journey

The Past

Recognition of the growing need for digital engineering competencies on infrastructural projects.

2022

Competition was developed through industry-academia collaboration.

2026

4th competition was successfully held in Ireland. WorldSkills Ireland RDS

2026

Promoting the competition to the international stage at WorldSkills Shanghai.

Why the need for this competition?

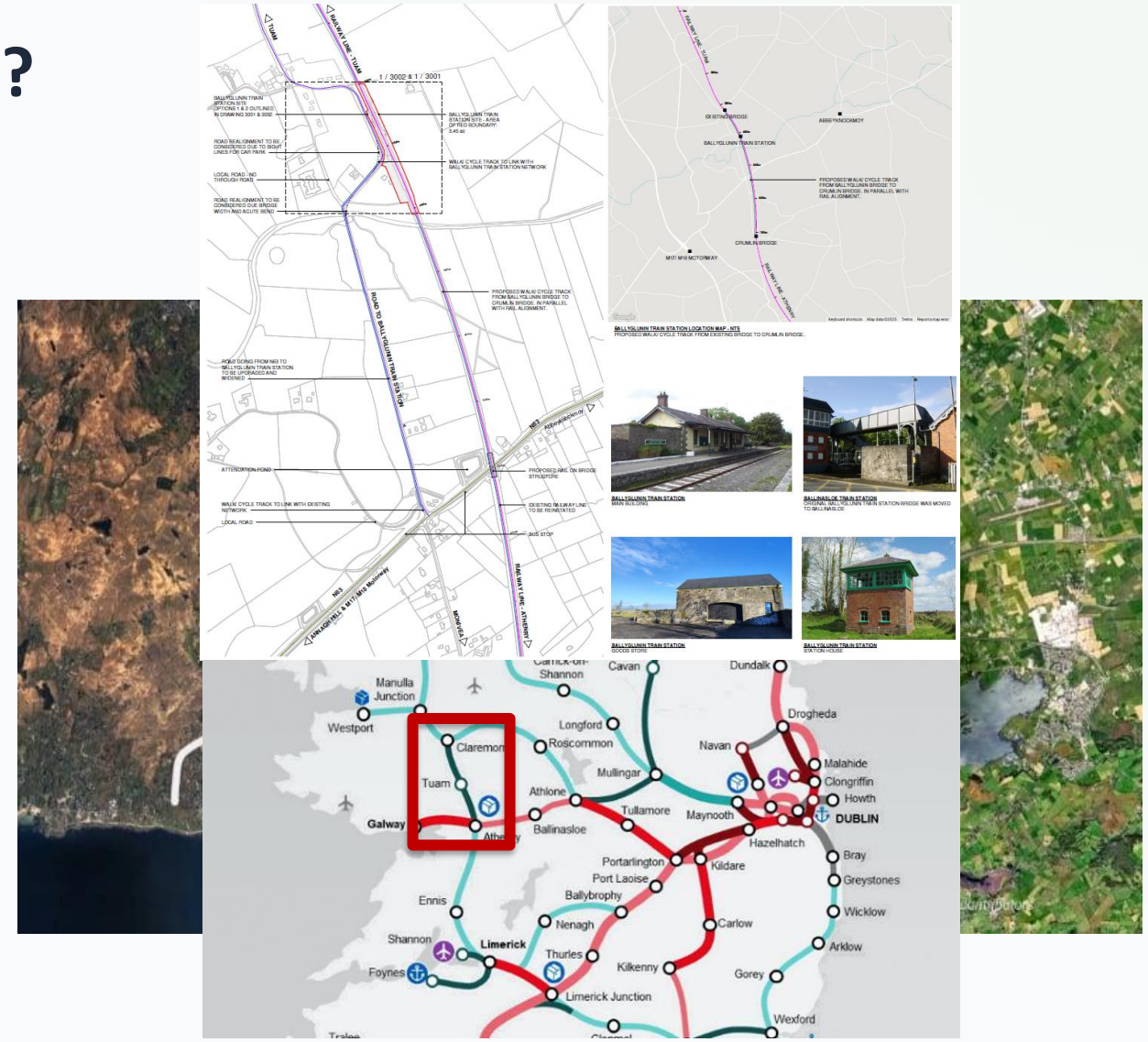
Expected to rise from 7 to 10 billion people globally by 2050.

This unprecedented population boom means we have to build more in the next three decades than we have in the last century.

estimates often citing that between 200,000 and 400,000 people are added to urban areas every single day through migration and birth rates.

There is a massive shortfall between the infrastructure the world needs and what governments can afford to build.

Governments worldwide are introducing digital mandates



Western Rail Corridor

Why the need for this competition?



Digital Infrastructure Design

Linear Construction



Digital Construction

Vertical Construction

The Global Infrastructure Challenge

- Road and Rail Design - design complex linear transportation infrastructure networks
- Materials and Volumes - Participants calculate and manage exact material quantities, extracting precise data directly from the digital model.
- Drainage - Competitors engineer integrated utility and drainage systems.
- CDE – ISO 19650: Competitors must strictly apply international standards (ISO 19650) within a Common Data Environment (CDE).
- Clash Detection: Participants federate models from multiple disciplines to perform hard and soft clash inspections.



The Opportunity

2026 - WorldSkills Shanghai



2027 - EuroSkills Düsseldorf



2028 - WorldSkills Japan

We are inviting counties to adopt the DID competition.

6 counties in total are required for this to be brought to the next stage

Questions?

Thank you for your attention and support.

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