XR in VET

ENHANCING DIGITAL INNOVATION (WEB 4.0) AND ATTRACTIVENESS OF VET THROUGH EXTENDED REALITY (VR/AR) TRAINING FOR BETTER SKILLS-MATCH

A3.3 Creating the Job-Portrait For VR Simulations key jobs needs

ELECTRICAL ELECTRONICS /IT TECHNICIAN
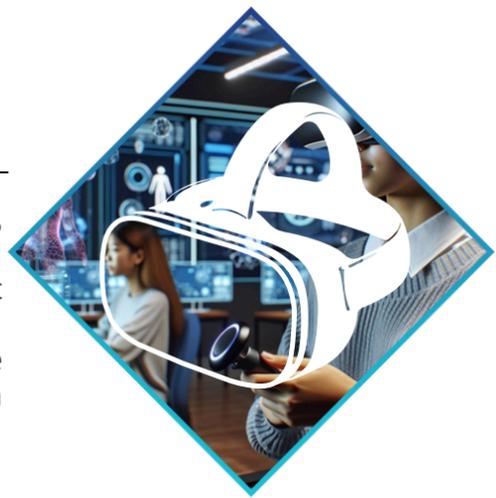
Country: Belgium

CORE SKILLS

- Install, configure, and maintain electrical and electronic systems, automation equipment, and IT or network infrastructures .
- Identify and analyze faults, interpret complex schematics, perform preventive maintenance, and ensure full compliance with safety and energy-efficiency regulations.
- Operate diagnostic and simulation tools, manage digital documentation, and apply electrical safety and cybersecurity procedures in both training and workplace settings.
- Combine electrical, digital, and IT expertise to support smart industry, IoT connectivity, renewable energy systems, and sustainable technological solutions.

HOW XR ENHANCES TRAINING

Training Scenario	XR Benefit
• Immersive practice in electrical and electronic systems • Installation and maintenance of automation systems and smart devices • Cybersecurity and IT infrastructure simulations	• Safe repetition of high-risk tasks, without real hardware exposure • Enhanced visualization of circuit logic and network connections • Realistic scenarios to practice threat detection and system recovery

COUNTRY-SPECIFIC

- **Challenges:** Belgium faces a growing demand for skilled technicians in energy transition, automation, and digital industries. However, regional disparities and limited integration of immersive technologies in VET slow the pace of modernization. Access to advanced equipment in schools can also be uneven.
- **Training Availability:** VET programs are strong and industry-oriented, especially through dual-learning systems and centres de compétence / Syntra campuses, yet XR remains in pilot phases. Collaboration between education, industry, and technology providers is essential for scaling.
- **Needs:** Integrate XR-based training for automation, renewable energy systems, and industrial IoT. Upskill trainers in digital pedagogy and immersive technologies. Strengthen industry–education partnerships for developing realistic, competency-based XR content.

CAREER PATHWAY

Progression: Trainee Technician → Qualified Technician → Senior Technician / Field Service Specialist → Systems Engineer / Network Administrator / Electrical Supervisor (with further study or certifications) → IT Manager

TRAINING

- **Training Mode:** Blended learning (theory online + VR modules/simulations + hands-on lab or industry placement)
- **VET Providers:** Public VET Institutes (e.g., TAFEs), Technology and trade training centres, Industry employers (e.g., electrical firms, IT companies, electronics manufacturers), Regional skills and training hubs