



# Transforming Vocational Education with Virtual Reality

The VRinVET project aims to revolutionize vocational education and training (VET) by integrating Virtual Reality technology across Albania, Algeria, and Azerbaijan. Through innovative pedagogical approaches and cutting-edge digital tools, we're building capacity for 21st-century education

Presented by CAPPINNO 15 October 2025



Funded by  
the European Union

# Project Vision and Objectives



## General Objective

Create institutional and personal capacity for innovative pedagogical and teaching methods based on digital technologies, empowering VET educators and students.

## Target Impact

Train 60 VET teachers and reach 600 students across three countries, establishing sustainable VR labs and digital training programs.

## Innovation Focus

Introduce VR technology to VET systems, developing open-source training materials and fostering public-private partnerships.

NEVŞEHİR  
HACI BEKTAŞ VELİ  
ÜNİVERSİTESİ

Ara, bul.



**AKPA**  
Agjencia Kombëtare e Punësimit dhe Aftësive



**CAPPINNO**  
CAPPADOCIA INNOVATION INSTITUTE

# The Challenge: VET in Partner Countries

## Current Barriers

- Limited professional development opportunities for VET teachers
- Outdated curricula and insufficient equipment
- Skills mismatch with labor market demands
- Low participation rates, especially among women
- Weak public-private sector partnerships

## Digital Transformation Gap

Partner countries face significant challenges in adapting to rapid technological change. VET systems lack the digital infrastructure, teacher competencies, and innovative approaches needed to prepare students for modern workplaces.

Our project addresses these gaps through targeted capacity building and technology integration.



# Why Virtual Reality?



## Immersive Learning

VR creates engaging, hands-on experiences that improve knowledge retention and student motivation. Learners can practice procedures safely before real-world application.



## Overcoming Resource Limitations

VR provides access to equipment and scenarios that may be unavailable physically, addressing the critical shortage of modern training materials in partner countries.



## 21st Century Skills

VR enhances analytical thinking, problem-solving, communication, and collaboration skills—competencies highly valued by employers but often lacking in graduates.

# Project Approach: Building Capacity Step by Step

## Research & Assessment

Comprehensive analysis of current VET systems, digital readiness of teachers, and curriculum adaptability to VR technologies across all partner countries.

## Curriculum Development

Design and create tailored VR training programs for teachers, focusing on practical skills for integrating technology into traditional VET curricula.

## Teacher Training

Deliver intensive face-to-face and online training to 60 VET teachers, equipping them with skills to create VR content and technology-enhanced learning environments.

## Student Implementation

Support teachers in organizing pilot VR classrooms for 600 students, with ongoing mentoring and quality assurance throughout the process.

## Sustainability & Scale



Establish VR labs, digitalize training materials as open educational resources, and build lasting public-private partnerships for continued impact.

# Work Package 1: Project Management Excellence

## Ensuring Quality & Timeliness

Nevşehir Hacı Bektaş Veli University coordinates comprehensive project management, including:

- Kick-off meeting to align all partners
- Project Management Platform for transparent collaboration
- Bi-annual progress meetings for monitoring
- Quality assurance framework with templates and guidelines
- Risk management and mitigation strategies
- Financial oversight and reporting

## Key Deliverables

**Quality Plans:** Comprehensive frameworks ensuring excellence

**Progress Reports:** Regular monitoring and evaluation documentation

**Sustainability Strategy:** Long-term impact planning



# Work Package 2: Research Foundation

1

## Current Situation Analysis

Survey 150 VET teachers and administrators across partner countries to assess digital competencies, training needs, and institutional readiness for VR integration.

2

## Curriculum Adaptability Study

Systematic literature review and desk research examining how VET curricula and equipment can be adapted to incorporate VR systems effectively.

3

## Learning Achievement Assessment

Pre- and post-training evaluations measuring progress of both teachers (60) and students (600) in VR technology adoption and learning outcomes.



# Digital Readiness: Understanding the Baseline

Before implementing VR technology, we must understand where partner institutions currently stand. Our comprehensive assessment examines:



## Teacher Competencies

Current digital skills, pedagogical approaches, and readiness to adopt new technologies in teaching practice.



## Infrastructure Capacity

Available equipment, internet connectivity, physical spaces, and technical support systems.



## Institutional Support

Management commitment, policy frameworks, and resources allocated for innovation and professional development.



## Student Preparedness

Baseline technology access, digital literacy levels, and learning preferences of VET students.



# Work Package 3: Training Program Development

## Curriculum Design

Atılım University leads development of a comprehensive VR training program tailored to VET contexts. The curriculum focuses on:

- Understanding VR technologies and educational applications
- Creating technology-enhanced learning environments
- Designing and developing VR educational materials
- Integrating VR into existing VET curricula
- Evaluating effectiveness and student learning outcomes

## Training Delivery

**Format:** 3 days face-to-face + 2 days online

**Participants:** 20 teachers per country (60 total)

**Locations:** Baku, Tirana, Oum El Bouaghi

**Approach:** Hands-on, practical training with minimal theory, maximum application



## Digitalization: Open Educational Resources

1

### Content Creation

Transform face-to-face training into comprehensive digital modules with videos, animations, and interactive elements.

2

### Platform Selection

Choose appropriate MOOC platforms ensuring accessibility and alignment with Erasmus+ priorities.

3

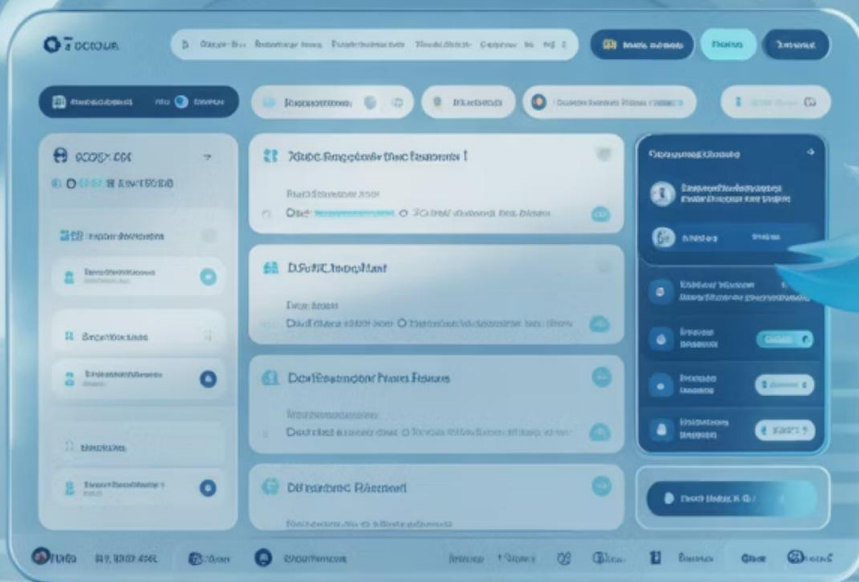
### Quality Assurance

Build assessment tools, quizzes, and progress tracking to ensure effective learning outcomes.

4

### Open Access

Publish freely available training materials, expanding reach beyond project participants.



**Pilot Implementation: 600 Students**

Following teacher training, we support educators in delivering VR-enhanced lessons to their students. This critical phase includes:

|                                                                                                                   |                                                                                           |
|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| 01                                                                                                                | 02                                                                                        |
| <b>Content Preparation Support</b>                                                                                | <b>Pilot Classroom Organization</b>                                                       |
| Online mentoring sessions helping teachers design VR materials specific to their subject areas and student needs. | Guidance on logistics, equipment setup, and classroom management for VR-enhanced lessons. |
| 03                                                                                                                | 04                                                                                        |
| <b>Ongoing Consultation</b>                                                                                       | <b>Impact Evaluation</b>                                                                  |
| Regular check-ins and troubleshooting support throughout the implementation period.                               | Assessment of student learning outcomes, engagement levels, and technology effectiveness. |



## VR Labs: Infrastructure for Innovation

### Equipment

Each partner institution receives:

- 20 VR cardboard headsets
- Compatible software licenses
- Technical setup support
- Maintenance guidelines

### Sustainability Impact

VR labs serve as permanent resources for institutions, enabling continued innovation beyond the project lifespan. Labs provide:

- Hands-on learning spaces for students
- Experimentation opportunities for teachers
- Demonstration facilities for stakeholders
- Platforms for future VR content development



# Work Package 4: Bridging VET and Industry

Skills mismatch between VET graduates and labor market needs is a critical challenge across partner countries. We address this through structured dialogue:

|                                                                                                                                                                              |                                                                                                                                                |                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Workshop Series</b><br>18 workshops (6 per country) bringing together employers, VET providers, and policymakers to discuss skills needs and collaboration opportunities. | <b>Needs Assessment</b><br>Systematic documentation of private sector requirements, emerging skill demands, and gaps in current VET provision. | <b>Partnership Building</b><br>Establish sustainable communication channels and cooperation frameworks between education and business sectors. |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|



# Private Sector Engagement Strategy

1

## Stakeholder Mapping

Identify key businesses, industry associations, and sectoral organizations in each country relevant to VET specializations.

2

## Structured Dialogue

Facilitate workshops where employers articulate skill requirements and VET providers present capabilities and constraints.

3

## Collaborative Solutions

Co-develop recommendations for curriculum updates, work-based learning opportunities, and equipment modernization.

4

## Ongoing Partnership

Establish mechanisms for continued cooperation beyond project completion, including advisory boards and internship programs.



# Work Package 5: Dissemination & Visibility



## Digital Platform

Comprehensive project website and active social media presence across Instagram, Twitter, Facebook, LinkedIn, and YouTube with weekly content updates.



## Multimedia Content

Animated project video, 11 partner vodcasts, 20 digital posters, and 30 promotional leaflets for comprehensive visibility.



## E-Bulletins

Quarterly newsletters (12 total) featuring partner articles, project updates, VET innovations, and stakeholder interviews distributed to wide networks.



## International Seminars

Three online conferences with multilingual interpretation, connecting 300+ participants globally to discuss VET innovation and digital transformation.



## VET Info Days

Annual public events in each country (9 total) showcasing VR technology, featuring keynote speakers, and promoting VET to youth and families.



# Communication Strategy: Reaching Stakeholders

## Target Audiences

- VET teachers and trainers
- Students and youth (NEETs)
- Educational policymakers
- Private sector employers
- Civil society organizations
- International VET community

## Key Messages

- VET as pathway to employment
- Technology enhancing education quality
- Innovation in teaching methods
- Public-private collaboration benefits
- Gender equality in VET
- Sustainable skill development

## Channels & Tools

- Project website and blog
- Social media campaigns
- Press releases and media outreach
- Conference presentations
- Academic publications
- EU project platforms



## VET Info Days: Celebrating Innovation

Annual flagship events in each partner country bring VET to life for communities. These full-day celebrations include:



### Keynote Presentations

Expert speakers on VET trends, technology in education, and labor market evolution.



### VR Demonstrations

Hands-on opportunities for visitors to experience VR learning firsthand.



### Employer Exhibitions

Private sector stands showcasing career opportunities and skill requirements.



### Networking Sessions

Structured opportunities for students, educators, and employers to connect.

# International Seminars: Global Knowledge Exchange

## Human Resource Development

Strategies for building skilled workforces through effective VET systems and continuous professional development.

## Institutional Capacity

Strengthening VET provider capabilities for quality, innovation, and labor market responsiveness.



## Teacher CPD

Best practices in continuing professional development for VET educators and trainers.

## Public-Private Partnerships

Models for successful collaboration between education providers and industry for skills matching.

## Digitalization in VET

Innovative approaches to integrating technology, including AI and VR, into vocational education.

Partnership: Strength in Diversity

Our consortium brings together 11 organizations across 6 countries, combining complementary expertise:



**Universities**  
Academic excellence in research, curriculum development, and teacher training from Turkey, Albania, Algeria, and Azerbaijan.



**VET Schools**  
Frontline experience in vocational education delivery and understanding of student needs and challenges.



**Civil Society**  
Expertise in youth empowerment, social inclusion, and community mobilization from Albanian and Polish partners.



**Public Agencies**  
Policy perspective and systemic oversight from Albania's National Agency for Employment and Skills.



## Lead Partner: Nevşehir Hacı Bektaş Veli University

NEVU coordinates the project with extensive experience in international cooperation and VET innovation. Key strengths include:

- 9 vocational colleges serving diverse sectors
- Erasmus Charter for Higher Education 2021-2027
- 75 international university partnerships
- Track record in Erasmus+ capacity building projects
- Cappadocia Technopark for innovation support
- Strong commitment to digital transformation

### Project Leadership

**Prof. Dr. Mustafa Hilmi Çolakoğlu** brings unique expertise as former Deputy Undersecretary of Turkey's Ministry of National Education, responsible for VET and IT directorates. His combination of academic excellence and policy experience ensures effective project coordination and stakeholder engagement.





# Technical Expertise: Atılım University

## SimLab Excellence

Atılım's Simulation Laboratory is equipped with cutting-edge VR technology and actively researches immersive learning environments. The team has developed VR applications for medical training and engineering education.

## Curriculum Development

Led by Prof. Dr. Nergiz Çağıltay, the team specializes in instructional technology, e-learning, and engineering education. They bring proven methodologies for integrating technology into curricula.

## Training Delivery

Experienced in international project implementation and teacher training, Atılım ensures high-quality, practical training that translates directly to classroom application.



# Research Leadership: Institute of Entrepreneurship Development

## Digital Innovation Hub

iED is a certified Center of Excellence in European entrepreneurship and registered Digital Innovation Hub. Their expertise spans:

- Education and e-learning platform development
- Digital transformation consulting
- Research methodology and data analysis
- EU project management (200+ projects)
- Network facilitation across 27 organizations

## Research Coordination

iED leads Work Package 2, bringing systematic approaches to needs assessment, curriculum analysis, and impact evaluation. Their extensive networks ensure wide dissemination of research findings to relevant stakeholders across Europe and beyond.



# Country Focus: Albania

18.2%

VET Enrollment

Only 18.2% of upper secondary students in vocational education, with just 16.1% being women—highlighting need for attractiveness improvements.

1,531

VET Teachers

Limited teaching staff lacking systematic competence assessment and professional development opportunities.

76

Business Partners

Gjergj Canco school cooperates with 76 businesses, demonstrating potential for expanded public-private partnerships.

Albania's VET system faces challenges including outdated equipment, insufficient teacher training, and weak links to labor market. Our project addresses these through technology integration, teacher CPD, and strengthened employer engagement.





# Country Focus: Algeria

## VET Landscape

Algeria's VET system serves a population where 68.2% have low education levels. Key challenges include:

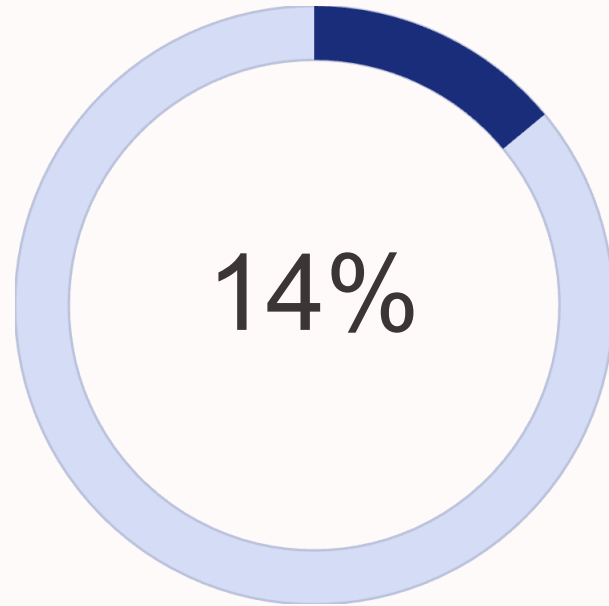
- Skills mismatch causing high youth unemployment
- Limited CPD for trainers and educators
- Outdated equipment and resources
- Weak labor market information systems
- Low participation in adult training (32% of managers provide training)

## Strategic Priorities

Government initiatives focus on improving VET quality through the 2010-2014 development program and education reform.

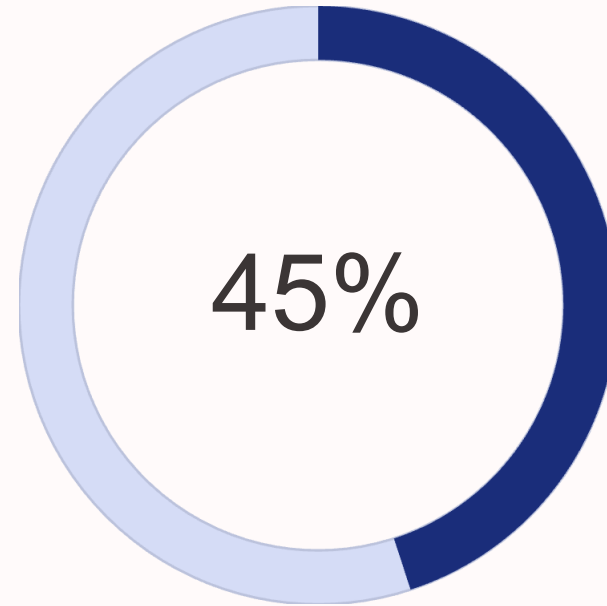
Our project aligns with national priorities by enhancing teacher competencies, modernizing teaching methods, and strengthening industry connections.

# Country Focus: Azerbaijan



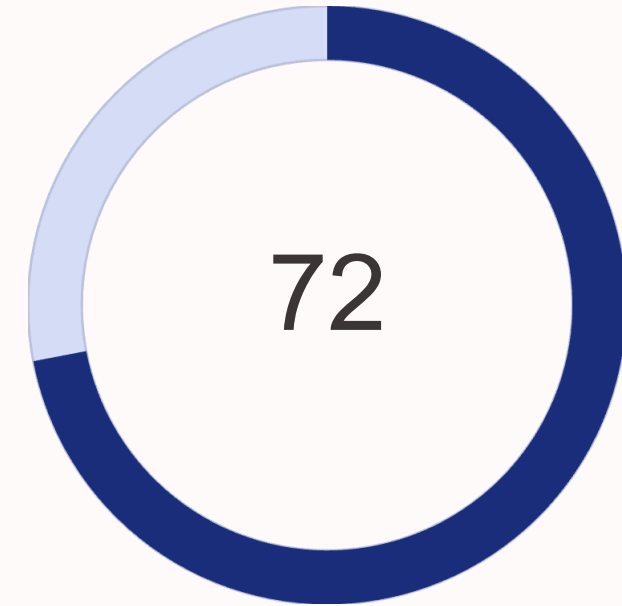
VET Participation

Only 14% of secondary students enrolled in VET (2015-2019), with particularly low female participation at 8%.



Skills Mismatch

Over 45% of employed youth face qualifications mismatch, while 45% of EU businesses rate skilled worker availability as unsatisfactory.



VET Institutions

Number of VET institutions declined from 114 (2014) to 72 (2021), reflecting quality and relevance challenges.

Azerbaijan's Strategic Roadmap for VET 2016-2025 prioritizes modernization, but implementation faces obstacles including outdated curricula, limited teacher training, and insufficient work-based learning opportunities.



# Addressing Gender Inequality in VET

Gender disparities in VET participation and labor markets are significant across partner countries. Our project actively promotes equality through:

1

## Targeted Recruitment

50% of training participants (teachers and students) will be women, ensuring equal access to capacity building opportunities.[aa](#)

2

## Role Modeling

Highlighting successful women in VET and technology fields through Info Days and promotional materials.

3

## Inclusive Content

Training materials and VR content designed to appeal to diverse learners and challenge stereotypes.

4

## Awareness Raising

Dissemination activities emphasizing VET as viable career path for women and girls.

# Environmental Sustainability: Green Skills

## Digital = Green

Digitalization of training materials reduces paper consumption and travel requirements, contributing to environmental sustainability.

Open educational resources eliminate need for physical textbook production and distribution.

## Green Transition Skills

Partner countries' key economic sectors (energy in Albania, natural gas in Azerbaijan, petroleum in Algeria) require green skills for sustainable development.

VR technology enables training in renewable energy systems, energy efficiency, and sustainable practices without resource-intensive physical infrastructure. Our project contributes to EU Green Deal objectives by enhancing digital and green competencies simultaneously.



# Quality Assurance Framework

01

## Quality Planning

Comprehensive quality plan developed in Month 1, defining standards, templates, review processes, and responsibilities for all outputs.

03

## Peer Review

Two-round review process for all deliverables, with feedback from quality team and partner organizations before finalization.

02

## Continuous Monitoring

Regular progress tracking against indicators, timelines, and budget allocations through bi-annual meetings and internal reporting.

04

## Evaluation & Learning

Systematic assessment of activities and outcomes, with lessons learned feeding into continuous improvement throughout project lifecycle.



# Expected Impact: Transforming VET

## Enhanced Teacher Capacity

60 VET teachers gain digital competencies, pedagogical skills, and confidence to innovate in their teaching practice, creating multiplier effect across institutions.

## Improved Student Outcomes

600 students experience engaging, technology-enhanced learning, developing both technical skills and 21st-century competencies valued by employers.

## Institutional Modernization

VET providers enhance quality, innovation capacity, and labor market relevance through infrastructure improvements and new partnerships.

## Stronger Industry Links

Sustainable public-private partnerships address skills mismatches and create pathways for work-based learning and graduate employment.

## Policy Influence

Research findings inform national VET strategies, CPD frameworks, and digital transformation policies in partner countries.



# Sustainability: Beyond Project Completion

## Embedded Resources

- **VR Labs:** Permanent infrastructure for continued innovation
- **Open Training Materials:** Freely accessible on MOOCs and EU platforms
- **Trained Educators:** 60 teachers as change agents in their institutions
- **Digital Platform:** Ongoing hub for networking and knowledge sharing

## Continued Activities

- **Annual Info Days:** Partners committed to organizing beyond project
- **Private Sector Workshops:** Established dialogue mechanisms continue
- **International Seminars:** Yearly events with rotating themes
- **Network Membership:** Connections to EU VET platforms maintained

Sustainability is built into project design through capacity building, infrastructure investment, and stakeholder engagement that creates lasting value beyond funding period.



# Timeline: 36-Month Journey



# Alignment with EU Priorities

## Digital Education Action Plan

Directly supports both priorities: fostering high-performing digital education ecosystem and enhancing digital skills for transformation.

## European Skills Agenda

Contributes to strengthening sustainable competitiveness, ensuring social fairness, and building resilience through VET modernization.

## DigCompEdu Framework

Training program structured around EU Framework for Digital Competence of Educators, ensuring alignment with European standards.

## VET Excellence

Advances Council Recommendation on VET for sustainable competitiveness, social fairness, and resilience.

## Gender Equality

Promotes equal opportunities in VET and technology fields, addressing gender gaps in partner countries.

## Green Transition

Supports European Green Deal through digital skills development and sustainable education practices.

# Risk Management: Proactive Approach

## Identified Risks

1. **Partner underperformance:** Close monitoring, regular communication, early intervention
2. **Budget deviations:** Six-monthly financial reporting, advisory support
3. **Low training attendance:** Leveraging partner networks, flexible scheduling
4. **Weak private sector engagement:** Utilizing existing business connections, demonstrating value

## Mitigation Strategies

Coordinator maintains continuous contact with partners, providing guidance and support as needed rather than waiting for formal meetings.

Project Management Platform enables real-time visibility of progress and challenges, allowing rapid response.

Quality assurance processes identify issues early, with corrective actions implemented promptly.

# Join the VET Revolution

## Together, We Transform Education

VRinVET represents more than a project—it's a movement toward innovative, inclusive, and effective vocational education. By integrating cutting-edge technology with proven pedagogical approaches, we're building capacity that will benefit generations of learners.

Our partnership demonstrates the power of international cooperation, bringing together diverse expertise to address shared challenges. Through research, training, infrastructure development, and stakeholder engagement, we're creating sustainable change in VET systems.

**The future of vocational education is immersive, digital, and collaborative. Join us in making it a reality.**

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