


UNIVERSITAT POLITÈCNICA
DE CATALUNYA
BARCELONATECH



VIRTUAL AND AUGMENTED REALITY

RESEARCH, DEVELOPMENT & INNOVATION AT THE UNIVERSITAT POLITÈCNICA DE CATALUNYA (UPC)

The Universitat Politècnica de Catalunya (UPC) specializes in the areas of architecture, science and engineering. One of our areas of expertise includes technologies for virtual and augmented reality.

As a result of the UPC's recognized research track record in its areas of specialization, we can offer a wide range of services:

- R&D technology transfer projects
- Consortium for national and H2020 projects
- Patents
- Technology assessment
- Specialized facilities

The UPC is the leading university in Spain in volume of research and technology transfer to companies, and has become one of the major hubs of knowledge in Southern Europe.

HEALTHCARE

- Training
- Clinical psychology
- Surgery
- Rehabilitation
- Serious games



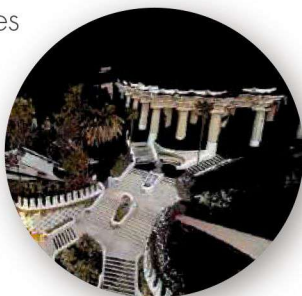
URBAN SPACES

- Urban modelling
- Policies of urban management
- Social dynamics norms in public spaces
- Simulation of urban transformation
- Construction
- Consultancy



HERITAGE BUILDINGS

- Refurbishment and restoration
- Documentation
- Heritage routes



ARCHEOLOGICAL ELEMENTS

- Inventory
- Catalogues
- Reconstructions



INDUSTRY 4.0

- Design of industrial plants
- Optimization of products and processes
- Maintenance and monitoring of plants
- Training of operations and staff
- Incident management in plant and/or processes

DEVELOPMENT OF VIDEO GAMES AND APPS

- Leisure and entertainment
- Transmedia
- Marketing and publicity
- Gaming

CONSTRUCTION

URBAN PLANNING

HEALTH

HERITAGE

TECHNOLOGICAL CAPABILITIES

- Virtual and augmented reality and immersive interaction
- Data visualization
- Crowds and virtual human animation
- Geometry processing and procedural modelling
- Real-time rendering
- Creation of augmented reality applications
- High-precision recording of georeferenced virtual objects in the real world
- Optical systems for virtual reality, augmented reality and mixed reality
- Usability of applications and video games
- Modelling and animation in 2D and 3D with a high level of realism



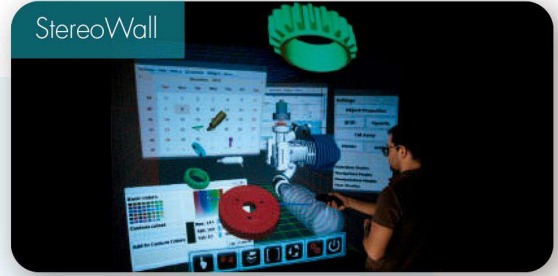
EMERGENCIES

TOURISM

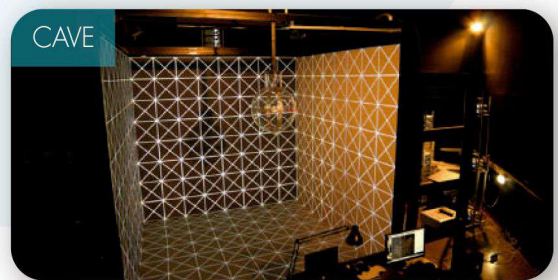
EDUCATION

TRAINING

EQUIPMENT AND FACILITIES



- Cave Automatic Virtual Environment (CAVE)
- StereoWall
- High-speed 3D scanner with extra-long range
- Human-computer interaction laboratory (includes eye tracking)
- 225m² audiovisual set with audiovisual equipment
- Audio recording studio
- CGI, video and colour management laboratory



MOBILITY

SPORTS

VIDEO GAMES

INDUSTRY 4.0



TECHNOLOGY CENTER

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