

Versie 2022.01

# Applied Creative Software Technologies meet our community

*We invite you to meet our community and discover our success story!*

**BRABANT**  
**IS BRIGHT**

In Brabant, creative software technologies are used in real-life situations by major international companies.

Creative software technologies are developed in Brabant, with Gate2, BUAS and the Eindhoven University of Technology acting as hotspots where creative software technologies (such as: VR/AR applications) are explored and tested.

In addition, the Brabant region is home to the BUAS which is one of the best-ranked international institutes for the videogame industry in the world.

**BRABANT  
IS BRIGHT**

# Applied Creative Software Technologies in Brabant

## HISTORY

Brabant is known for the development and adoption of emerging technologies. The Brabant region is a trend-setting centre of industrial innovation and technology. Its successful economic development is not only based on technology, but has been carefully supplemented and merged with activities linked to social innovation, sustainability, sports, culture and creative design, considered indispensable for economic competitiveness. In addition to that, Brabant is home to one of the best gaming education programs in the world, home to most of the largest and most advanced hardware companies and last but not least the home of pioneers and disruptors.

It's no surprise that Brabant plays a key role in the development and adoption of Creative Software Technologies that emerged in the entertainment sector, and find purposes in the real world.

Concepts like serious gaming, mixed-, virtual-, extended-, augmented reality, gamification, and others are everywhere in the region these days. Most of these technologies find their way in the following sectors:



HEALTH



INDUSTRY



MOBILITY

**ASML**

**MANUS**

 **perspective**

**IBM**

**SIEMENS**

**ENVERSED**  
STUDIOS

**PHILIPS**

  
**abstraction**

 **msi**

  
gamehouse

**intel**

**PWXR**

 **STITCH HEADS**  
ENTERTAINMENT

**VRCC**

# Why Brabant excels in Applied Creative Software Technologies?

## TALENT IT, TOP ENGINEERING AND GAMING KNOWLEDGE



Eindhoven is known as the city of Design with famous institutes like the EAISI, BUAS and the Dutch Design Academy and offers the biggest pool of IT talents in the Netherlands. The region is even home to the best gaming education in the World.

## HIGHLY-DEVELOPED CLUSTERS AND CAMPUSES



What sets Brabant apart are the various **innovation clusters and field labs** around specific themes. These public-private testing grounds are hotspots for co-creation and speed up innovation.

## ADAPTIVE COLLABORATIVE CULTURE



**The people** in Brabant have an adaptive and collaborative culture. People are used to change and are working in an international environment. People often act as early adopters of new technologies, such as VR glasses and drones.

## BRABANT IS THE IT & DATA R&D HOTSPOT IN THE NETHERLANDS



Most IT & data science innovations in the Netherlands emerge from Brabant. More than 40% of all Dutch Extended Reality patents come from Brabant. In addition, Brabant is seen as the European hotspot for Simulation / 3d systems technologies.

**BRABANT  
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# Our Ecosystem

## World Class Research

*Within a radius of 150 km around Brabant, there are 27 universities in three countries: a total of 605,340 students, 255,680 of which in the field of nature, health or technology. These are the leading research institutes for IT & Data Science technologies.*



Breda



Tilburg



Den Bosch



Eindhoven



### WORLD CLASS RESEARCH

1. **BUAS** is one of the best game design schools worldwide. The BUAS focuses on digitally enhanced realities (DER), new forms of human interaction in environments designed with games blended with Big Data, geo-data, simulations, robotics, and AI.
2. **University of Technology (Eindhoven)** is a research university specializing in engineering science & technology. The university has two dedicated focus groups for both creative programming and emerging technologies. The university is also home to its own Game/Play Lab.
3. **JADS (Den Bosch)** offers data science bachelor and master programs, PDEng education, professional education and help organizations shape their future with Data technologies.
4. **Tilburg University** is a research university specializing in the social and behavioral sciences, economics, law, business sciences, theology and humanities. Especially, human-technology interaction, social sciences, and legal and ethical aspects.
5. **Fontys University of applied sciences** is a university of applied sciences that actively contributes to accelerate the digital transformation of the region. focus areas are: Humanity & Software, VR and Gaming.

**BRABANT  
IS BRIGHT**

# Our Ecosystem

## World Class Research

*Brabant accounts for almost 10,500 IT & Data Science companies and 12.1% of all jobs of the total sector in the Netherlands. These are the leading companies in the field of Smart Health and Artificial Intelligence.*



### DISRUPTIVE COMPANIES

1. **ENVERSEED STUDIOS** is a creative production studio and frontrunner in the field of virtual reality and other immersive media. From 3D visualizations and interactive training applications to large-scale multiplayer Virtual Reality games.
2. **Prespective**: is specialised in developing simulation platforms that enables high-tech companies to easily and accurately setup a Digital Twin of their system. Developed in the Unity game-engine.
3. **VRee**: has developed a platform independent full body multiplayer VR platform. The VRee Platform makes it easy to build interactive multiplayer VR applications such as but not limited to: Virtual Training, Serious Gaming, Digital Prototyping, and Location-based XR Entertainment.
4. **Manus** develops high-end finger tracking gloves for Motion Capture and VR. Manus offers the world's leading Data Gloves for Mocap & VR applications.
5. **PWXR** is an award winning VR/AR studio that specializes in Active Esports games and applications.
6. **Stitch Heads Entertainment** is an indie game development studio. Working on our first title, Kabounce.
7. **Abstraction Games**: is renowned for taking on technically demanding projects and providing support teams for AAA publishers. Abstraction has delivered 200+ SKU's across 60 games over the last 14 years
8. **GameHouse** is a game developer focussed on mostly time management games, but we are expanding into other genres as well.



### BUAS facts and figures

IT GRADUATES 2020

165

NEW IT STUDENTS 2020

188



### The Princeton Review 2021

BUAS is on the list of best game design schools worldwide.

# Key University

## Breda University of Applied Sciences (BUAS)

Main focus areas of the University is Game & Media developments.

BUAS is one of the best game design schools worldwide. The Games research program at the BUAS focuses on **digitally enhanced realities (DER)**, new forms of human interaction in environments designed with games blended with Big Data, geo-data, simulations, robotics, and AI.



### KEY OPINION LEADER

#### Mata Haggis-Burridge

Mata is an award-winning game designer, Professor at BUAS, owner of the narrative and game design consultancy Copper Stone Sea, part of the Game City Breda organization and writer with over twenty years experience of both AAA and indie development, including 'Burnout Paradise', 'Aliens Versus Predator' (2010), 'Resident Evil Resistance', and in collaboration with Techland's narrative team on mission writing/design for 'Dying Light 2'.



### THE MAIN IT BUAS DISCIPLINES

- Game technology & Creative media
- AI & Big Data



### OTHER IT RESEARCH FOCUS AREAS

- Tourism
- Logistics
- Leisure and event
- Built environment
- Facility
- Hotel



### THE CRADLE LAB

The BUAS is home to its own research lab: The CRADLE lab, where the next generation of games and digital media products and services are designed and created.



### CRADLE lab

"THE RESEACH TEAM WORKS CLOSELY WITH THE INTERNATIONAL 'TRIPLE A' VIDEO GAME INDUSTRY."

### Games Research

GAMES ARE PART AND PARCEL OF OUR LIVES. THEY SHAPE INTERESTING NEW GAME CULTURES, SUCH AS IN E-SPORTS. THE GAME INDUSTRIES BRING ABOUT MANY INNOVATIONS. GAME TECHNOLOGY CAN ALSO BE USED FOR NON-ENTERTAINMENT PURPOSES SUCH AS FOR GAME-BASED LEARNING, URBAN PLANNING OR MEDICAL SYSTEMS.

# Key Research Institute at BUAS

## CRADLE lab

The lab where the next generation of games and digital media products and services are designed and created.



### ENTERTAINMENT GAMES

Focusses on **game cultures and the design and creation of video games**. Within this broad field there is focus on issues relating to:

- diversity,
- storytelling,
- interface,
- design/feedback, and
- puzzle design (using 'escape rooms' as a thematic entry point).

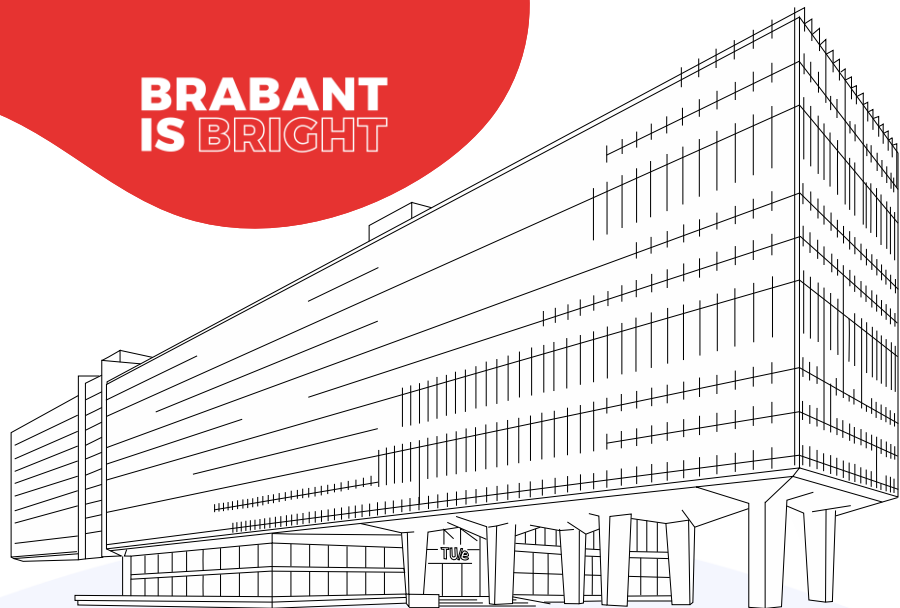


### SERIOUS GAMES

Focusses on how games can be used to improve the **performance of organizations and systems**. Application areas:

- spatial planning,
- logistics,
- sustainability & ecological systems,
- tourism,
- entrepreneurship, management, leadership an change.

**BRABANT  
IS BRIGHT**



### Eindhoven University of Technology in numbers

SCIENTIFIC PUBLICATIONS

**3,000**

PHD-AWARDS

**140**

PATENTS EVERY YEAR

**40**

IT GRADUATES 2020

**499**

NEW IT STUDENTS 2020

**840**

BACHELOR COLLEGE WITH  
15 DIFFERENT MAJORS

MASTER PROGRAMS IN THE FIELDS OF:

- ARTIFICIAL INTELLIGENCE
- ENGINEERING & HEALTH
- HUMANS & TECHNOLOGY
- SMART CITIES
- SMART MOBILITY
- SUSTAINABLE ENERGY
- DATA SCIENCE
- ROBOTICS
- HIGH TECH SYSTEMS
- INTEGRATED PHOTONICS

# Key University

## Technical University of Eindhoven

The Technical University of Eindhoven (TU/e) is a research-driven university of international standing specializing in engineering science & technology.

The university is highly specialized in the development of software solutions. The university has several departments that focus on the creation of emerging software technologies. In addition to that, the university is strong in bridging the gap between emerging technologies and people's everyday life: how to deal with uncertainties that come naturally with new and still evolving technologies, and how to translate them into meaningful products, systems and services that seamlessly blend into everyday life.

### Relevant labs:



#### GAME/PLAY LAB

The Game/Play Lab is a laboratory for testing state-of-the-art gaming systems, testing and evaluating games and game controllers designed in the department and observing and analyzing gamer behavior and experience.



#### VIRTUAL REALITY LAB

In the Virtual Reality Lab people can become fully immersed in virtual worlds. On the one hand, this allows the TU/e to study behavior in the virtual worlds. On the other hand the lab enables the TU/e to precisely track peoples' behavior.



#### DIGITAL TWIN LAB

The Digital Twin lab supports experiments in the area of digital twins, in its three areas of application of high-tech systems, health, and mobility. This typically involves modelling real-world situations and creating data interfaces between the real-world context and model.

# Key University

## Fontys ICT Innovation Lab

In the Fontys ICT InnovationLab, students, lecturers, researchers and business professionals work together on applied research and the development of tomorrow's ICT solutions.

### Specialization ICT & Game Design and Technology

The specialization ICT & Game Design and Technology distinguishes itself by combining ICT-knowledge with creativity and design. Students work with state-of-the-art developing platforms (like PC's, Tablets and SmartPhones) and they will work with the newest interface technology like Oculus Rift, Leap Motion, Brain Computing interfaces. They use these instruments to develop games in a multi-disciplinary team for real commissioning parties.



#### FOCUS TECHNOLOGIES

- AI & Big Data,
- Interaction Design,
- Embedded Software,
- Virtual & Augmented Reality,
- Game Design,
- Cyber Security,
- Blockchain etc.



#### FOCUS

- Mobile Games
- New Technologies

## Co-creation and cooperation

### Fontys: Sharing Platform for Applied Research Cooperation (SPARC)

SPARC is a network of leading organizations from various branches, who put broad knowledge creation and sharing within the ICT domain high on their respective agendas.

They've been working with Fontys School of ICT for a while as investors and partners. This takes place within the Fontys ICT Innovationlab, where education and research come together to learn, research and work on ICT-innovations. In this hybrid learning environment, SPARC members, as Partners in Innovation, play a big part by bringing practical research questions from their business into an educational setting.



#### SPARC MEMBERS AND 'SHIRT SPONSORS' OF ICT RESEARCH IN 2021

- Ministerie van Defensie
- Pharma partners
- Here
- Vion
- Atos
- PSV
- Simac
- Ctouch
- Additive Industries

## Mindlabs – “Where minds, media & technology meet”

MindLabs is a partnership in which four knowledge institutions, authorities and a growing number of business partners, social institutions and startups participate.

**Focus:** strengthen the development of technologies that interact with human behaviour by connecting knowledge and the application of interactive technology with entrepreneurship.



### FOCUS

- Virtual, mixed & augmented reality
- Natural language and data processing
- Robotics & avatars
- Serious games & learning



### STRATEGIC THEMES

- Smart media
- Smart health
- Smart services
- Smart logistics
- Smart maintenance
- Smart leisure





# Key R&D facility

## 5G Hub

The 5G hub acts as a **Research and development facility**. The 5G also acts as a "**technology community**" where companies come together to experience and be inspired by the recent innovations.



### FOCUS TECHNOLOGIES

- 5G
- Artificial intelligence
- Virtual reality
- Augmented reality
- Blockchain
- Photonics



### FOCUS AREAS

- Future of health
- Future of business
- Future of sustainability
- Future of entertainment



### ACTIVITIES

- Develop
- Test
- Demonstrate (inspire)
- Network



### POWERED BY

- Vodafone
- Ericsson

# Showcase

## Breda Game City



### INTRODUCTION

Breda Game City is a non-profit organization that focuses on elevating the Breda video games industry and creating a professional, healthy & creative environment.



### WHAT GAME CITY BREDA PROVIDES

#### Community

Create a sense of community and affordable (co-)working spaces, professional and social infrastructure, places to be/learn/work, living labs, meetings/events and networking opportunities in an informal and inclusive local ecosystem.

#### Tailored Support

Game city breda assist established and starting companies in the video game industry by all means possible to contribute to success and growth.



**Breda  
Game  
City**

*“Breda Game City was founded in 2020 by a team of experts that were connected by our mutual awareness of untapped game development potential in the city of Breda.”*

# Showcase

## Enversed VR



### THE STUDIO

Enversed Studios is a creative production studio and frontrunner in the field of virtual reality and other immersive media. From 3D visualizations and interactive training applications to large-scale multiplayer Virtual Reality games.



### THE CENTER: EUROPE'S BIGGEST VIRTUAL REALITY CENTER

Enversed is one of the biggest Virtual Reality centers in Europe. It's situated in Eindhoven's Strijp-S area. Covering a surface area of three thousand square metres.

The centre features unique VR games, escape rooms and separate areas intended specifically to facilitate team building, workshops and corporate training. The Enversed production team caters the recreational as well as the corporate market.



### EXAMPLE CLIENTS ENVERSED

NS, Politie, Sioux, Philips, Heijmans, Alpheios, Rexroth, MSI, KPN, VUE and Bavaria.



# Showcase

## Fieldlab Via Appia

The objective of the VIA APPIA field lab is to use AI and VR/AR within a maintenance and service context.

Focus is on combining the strengths, knowledge, and experiences of project participants. Jointly analyzing where the best opportunities lie and determining how the implementation of AI and VR/AR can lead to valuable industrial applications.



### EXAMPLE COMPANIES IN THE FIELDLAB

- ABB
- ASML
- Canon
- Festo
- Compumatica
- AEVO
- KPN
- IMS
- ROC Tilburg
- Avans Hogeschool
- Tilburg University
- Ortec



# Showcase

## Flying Forward



### ABOUT FLYING FORWARD

Flying Forward 2020 is a three-year project exploring the application of urban air mobility. The aim of the project is to develop governance models, regulations and digital infrastructure to support future drone operations over urban areas.

During the duration of the project, experimental flights will be conducted at five living labs, including the High Tech Campus Eindhoven.

Five use cases will be tested there. With a focus on:

- **security**, where drones will be used to monitor premises and assist security personnel.
- **inspecting buildings** by drones, which will scan buildings to assess their condition.
- **last-mile delivery of goods** such as meals, packages and Automated External Defibrillators (AEDs) to remote areas of campus.

