

BRIGHT BRABANT

A satellite night view of Europe, showing city lights and borders. A red dot is placed in Belgium, with a thin white line extending upwards to the horizon. The background is a deep blue space with stars and the Earth's horizon curve.

**Beyond boundaries, Brabant's
solutions to global challenges**

OUR CHALLENGE

Working towards smarter lives

The entire society is dealing with data and digitalization, which makes society smarter and is being deployed in every sector. It enhances the innovation capacity of organizations and is becoming increasingly critical for Brabant's competitiveness. How can we organize ourselves more intelligently to ensure that all sectors can benefit from the opportunities that data and digitalization provide?

Enversed Studios. Pioneering Dutch company specialising in immersive technologies and the metaverse.



IT & DATA SCIENCE

The region of Brabant embraced the legacy of High Tech innovation and used it as a foundation to build the #1 innovative region for IT in the Netherlands. One of the region’s essential resources is its 79,000 highly educated IT professionals, with 45,720 directly working in IT.

IT & Data Science has been a powerful driver of global development over the last sixty years. The vast proliferation of data, the dissemination of knowledge, and the management and interpretation thereof sparked a revolution in how the world works. Brabant region played a significant role in that development as it was home to one of the key global players: High Tech multinational Philips – an innovative R&D-driven organization with a track record of novel technologies. For example, in 1979, Philips research, in collaboration with Sony, launched the highly successful Compact Disc. Originally a portable medium for music, it evolved into low-cost optical storage products such as DVD and Blu-Ray technologies, which revolutionized data recording, access, and storage, effectively laying the groundwork for Industry 4.0.

People power

Building on this rich heritage, the region embraced the legacy of High Tech innovation and used it as a foundation to build the #1 innovative region for IT & Data Science in the Netherlands. One of the region’s essential resources is its 79,000 highly educated IT & Data Science professionals, with more than 45,000 directly working in IT. In addition, the region boasts a high degree of specialization with the largest number of patent applications in various IT & Data Science technologies, such as 3D systems, smart industrial technologies, smart medical applications, and smart agriculture. The region also boasts a strong concentration of businesses operating in the areas of digital entertainment software, AI, immersive tech, IoT, and embedded software.

Ensuring enough talent in the pipeline at the region’s

numerous knowledge institutes is a high priority. A key focus in the coming years is the fusion of disciplines in software and hardware to apply knowledge to the processes and factories of the future, such as the integration of AI in the complex manufacturing segment. AI is crucial to complex manufacturing as it contributes not only to more efficient production processes, cost-reduction, and improved quality, but it can also provide maintenance insights and help identify problems in production. By implementing technologies such as machine learning and computer vision, companies can monitor and analyze production in real time and adjust and optimize processes accordingly.

One of the region’s essential resources is its 79,000 highly educated IT & Data Science professionals, with more than 45,000 directly working in IT.

Focused initiatives

The presence of so many well-educated specialists and a rich pool of talent is no accident. Compared to other regions in the Netherlands, Brabant focuses on specialized training and education programs in often specific IT & Data Science disciplines. As a result, a considerable talent pool exists within disciplines such as embedded software/systems, robotics programming, automation software, simulation software, low code level programming, assembly language programming, real-time operating systems software, Ada Programming, and SAP Software. Backing this up, the region’s universities focus on specific, related domains, including:

Why Brabant excels in IT & Data

High Tech innovation legacy

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Highly educated IT workforce

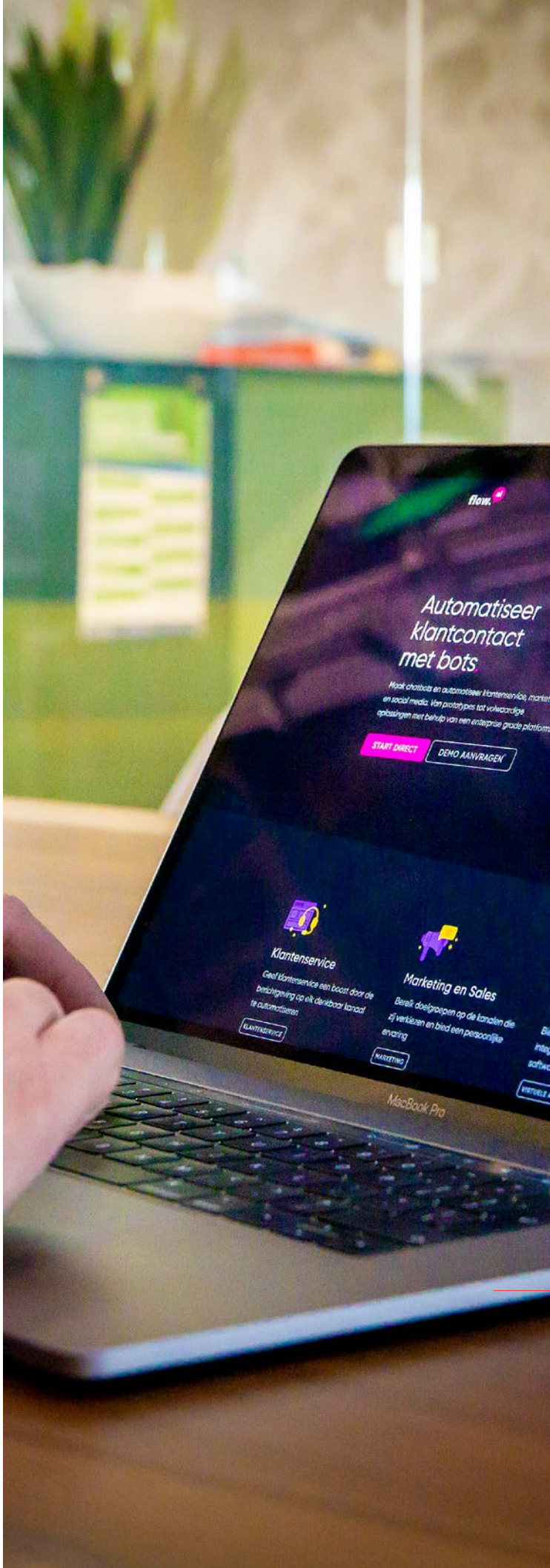
One of the region’s essential resources is its 79,000 highly educated IT professionals, with 42,360 directly working in IT.

Dynamic innovation hubs

Presence of High Tech Campus Eindhoven and the Brainport Industries Campus.

Relevant knowledge institutions

Relevant knowledge institutions in the region, including JADS, Eindhoven Artificial Intelligence Systems Institute and the AI Innovation Hub.



Flow.ai. The leading visual bot platform to design and create AI chatbots for Facebook, WhatsApp and Web. Build integrated solutions to automate customer interactions.

Facts & figures

11,390

companies

12.6%

(45,720) of the total IT jobs in the Netherlands

54%

of all Dutch patents in the Netherlands originate from Brabant

Highest number

of IT graduates in the Netherlands

€7.83 billion

production value IT

54.7%

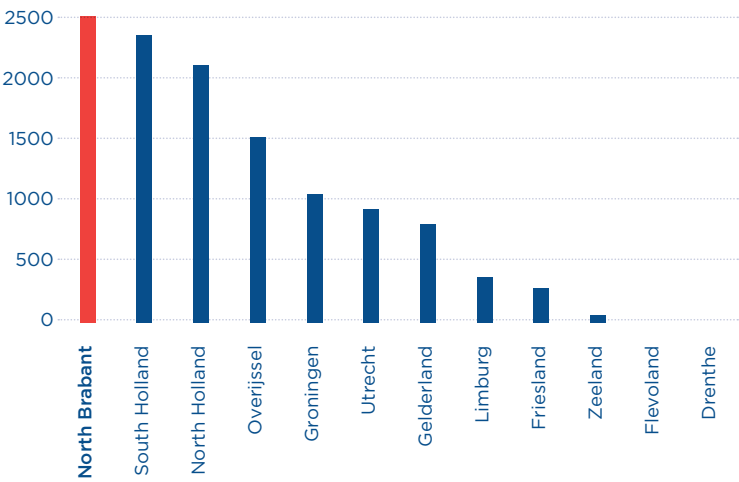
growth of foreign companies in Brabant between 2016 – 2023

Recent foreign investments in Brabant



IT talent

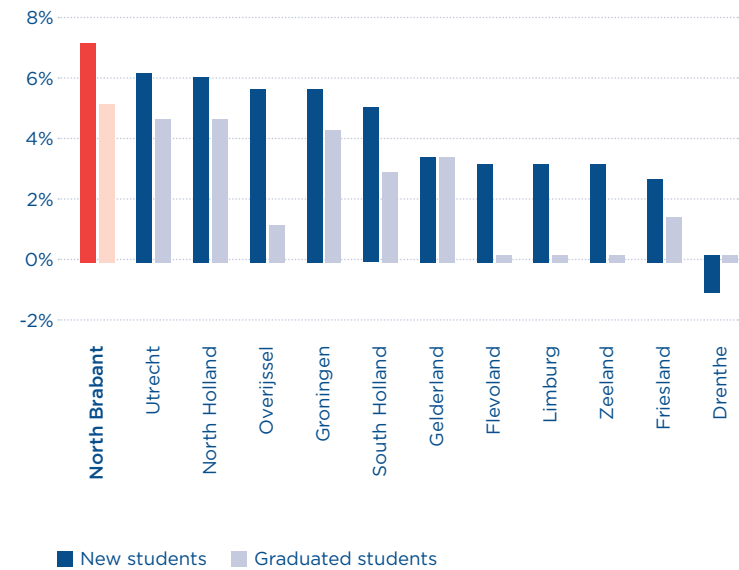
Highly educated IT talent
In the Netherlands



IT students
In Brabant (2020)



Growth of IT talent
In the Netherlands (average growth from 2007)



- artificial intelligence
- data science
- embedded systems/software
- smart manufacturing
- computer science - Systems and Control
- immersive technologies (VR/AR/MR/Digital Twins/etc.)
- cybersecurity
- wireless technology
- game technologies

There are also many regional initiatives linking that talent with entrepreneurs. A prime example is SPARC at the Fontys Innovation Lab, which is geared towards initiating and expediting IT-related innovations. Members of SPARC introduce research proposals for approval which are then applied in an educational context as applied research.

The region’s robust High Tech Systems and Materials (HTSM) sector is another critical and fundamental factor in the concentration of IT & Data Science talent. There are examples of smart collaborations between knowledge institutions, such as Jheronimus Academy of Data Science (JADS), a joint initiative of the University of Eindhoven (TU/e), and Tilburg University, where the education programs focus purely on Data Science. Furthermore, many of the region’s institutes offer courses specific to the IT & Data Science domain.

Software transition

Brabant’s rich industrial legacy behind its robust HTSM sector also drives development in the IT sector. Over a 125-year period, a fully integrated High Tech supply chain has evolved, generating a close-knit network of knowledge institutes, highly specialized OEMs, High Tech suppliers, and partners. Historically, High Tech hardware and software development always went hand in hand. Now, however, many industrial processes are transitioning into the software domain, and so IT & Data Science is a critical element in this progress. A prime illustration is ASML, originally a spin-off from Philips, which develops and operates the most complex machine in the world for fabricating the silicon chips embedded in everything from smartphones to satellites. ASML’s super-complex machines are of

considerable global political-economic importance. ASML ranks among the leading companies in the Netherlands that employ the highest numbers of IT professionals.

Dynamic hubs

As a result of this shift in focus, the world-renowned High Tech Campus Eindhoven (HTCE) is also adapting its strategy to look beyond hardware to software-related solutions. The AI Innovation Center is just one of the hubs that it has established for the wide-ranging industrialization of AI across multiple sectors, working with collaborators such as ASML, Philips Healthcare, Brainport Eindhoven, and NXP. Also, in Breda, the Creative Applied Technology hub, centered around the world-class Breda University of Applied Sciences (BUAS), is driving advances in Gaming and Robotics. Its CRADLE lab focuses on broad-ranging applications from entertainment to serious games and game-based learning, urban planning, or medical systems. Immersive technologies is also a focus area in the region, and the Mindlabs fieldlab in Tilburg is one of the key hubs. A combined initiative of Fontys University of Applied Sciences, ROC Tilburg, Tilburg University, Province of Noord-Brabant, Municipality of Tilburg, and the Persgroep (currently DPG Media),

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5 most promising IT & Data start-ups in Brabant

With over 1,500 startups, Brabant has truly become a startup province with a strong focus on technology. The Brabant40 is an initiative of several Brabant-based organizations in the startup ecosystem, including BOM, The Gate, Braventure, Rewin, and Brainport. It is a list and an award for the most promising startups in a year. The following startups made the top 40 in IT & Data innovations.



ARGALEO



FruitPunch AI



Mithra



neople



PTTRNS.ai

Mindlab aims to strengthen the development of technologies that interface with human behavior, such as human-centered AI. Mindlab’s ambition is to solve societal challenges by harnessing the potential of these advanced technologies.

Open innovation

The concept and strong belief in open innovation that drove the global success of Philips and permeates throughout the region is continued today with the High Tech Campus Eindhoven (HTCE). In addition, numerous fieldlabs are spread throughout the region and focused on specific themes. These public-private testing grounds are hotspots for co-creation and advancing innovation.

Within the Brainport Industries Campus (BIC), where more than 35 companies, 2,000 high-level staff, and 1,500 students come together in a state-of-the-art working and learning environment, the Factory of the Future Fieldlab is a prime example. The next generation of professionals in the High Tech manufacturing segment are trained here, and companies innovate and manufacture together, sharing high-quality facilities such as cleanrooms, flexible production areas, and other advanced facilities. The aim of this fieldlab is to jointly develop faster and smarter production processes and share (innovation) facilities, leading to lower cost, higher quality, and more rapid time-to-market for innovative products.

For other major IT & Data Science players in the region, such as IBM, and SAP, the combined draw of ecosystem, geographical location, and concentration of High Tech businesses is a powerful argument for locating in Brabant. In addition, many IT & Data Science hardware businesses also locate in the region due to its excellent logistics infrastructure and services; accordingly, numerous hardware companies such as Sony, Samsung, Acer, HP, LG, Dell, Logitech, and Fujifilm have established European Distribution Centers in Brabant.

Future growth

The region also has a rich support network focused



SHOWCASE

Dimenco

With roots dating back to Royal Philips Electronics, Dimenco is a leader in crafting immersive 3D experiences without requiring wearables. The Veldhoven-based company’s pioneering spatial visualisation technology seamlessly merges hardware, software, and innovation to redefine interactions with displays. Its advanced Simulated Reality (SR) technology eliminates the need for special glasses to engage with immersive 3D content. From realms spanning business to entertainment, Dimenco’s innovation is reshaping industries, delivering visually pleasing displays with depth and resolution.

In a strategic move, Dimenco was recently acquired by Menlo Park-based Leia Inc, a prominent provider of 3D display hardware and content services. This partnership aims to further accelerate the mainstream adoption of immersive 3D experiences across various platforms and devices. The combination of Dimenco’s expertise and Leia’s capabilities removes technological boundaries, presenting users with a unified, cross-platform solution rooted in a shared industry standard. Dimenco’s acquisition by Leia Inc is a testament to their joint mission to bridge the gap between virtual and reality, revolutionising content interaction in ways previously only imaginable.

SHOWCASE

Enversed Studios

Enversed Studios is a pioneering Dutch company specialising in immersive technologies and the metaverse. With a strong focus on VR and AR, Enversed Studios creates immersive experiences that demonstrate what can be achieved with technology.

The company's work ranges from developing engaging VR games and simulations to crafting interactive AR applications. Enversed Studios is at the forefront of exploring the potential of the metaverse, creating virtual worlds that allow users to connect, interact, and collaborate in shared digital spaces. The company leverages immersive technologies to develop virtual training simulations and visualisations for industries such as manufacturing, healthcare, and engineering. By employing VR and AR, Enversed Studios enables companies to provide realistic and interactive training environments, facilitating skills development, safety protocols, and complex procedures.

on stimulating growth in the IT & Data Science sector, of which the High Tech Software Cluster is a good example. This is a national network located at the Brainport Industries Campus (BIC), where producers of software solutions for the HTSM sector are coupled with hardware manufacturers. There is a strong support structure to help companies develop and digitize their businesses across several sectors. Critical aspects of the region's future growth also lie in the digital transformation of businesses which will help boost the industries and help them to become more efficient and sustainable. Logically, this is coupled with an increased demand for cybersecurity to protect businesses from external threats. Taking all this into consideration, it is safe to say that Industry 4.0 is thriving in Brabant. ●

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Scan the QR-code for more information and facts & figures about IT & Data Science in Brabant.



