



Regional Vision on International Talent



Introduction

In a time of rapid development, the increasing shortage of technicians is a much-discussed topic. Demographic developments, the global 'battle for talent', the (geo)political situation, and the road to strategic autonomy make the subject increasingly complex.

Zooming in on the Brainport region, several challenges are added, such as the housing shortage, accessibility, ever-increasing internationalisation and its impact on education and society.

The region needs to scale up to grow. Looking at talent, one of the solutions to the labour market shortage is to attract and retain international talent. International talent plays a crucial role in our economy, prosperity, and strategic autonomy, especially for regions like Brainport Eindhoven that want to stay ahead in key technologies. The need for a thoughtful vision on internationalisation and migration should form the basis for future policy. It is also essential to address bottlenecks and continue to invest in preconditions such as housing, education, care, and mobility.

This vision focuses on the dynamics surrounding international talent in the Brainport region. It highlights the impact of the increasing labour market globalisation and strategies to deal with this. An in-depth exploration of global trends provides insight into the region's challenges and opportunities. The vision acts as a guide to understanding the crucial role of international talent and seeks to develop effective strategies for attracting and retaining them.

It is important to stress that managing these challenges will take work and collaboration. It requires an ongoing investment from all stakeholders to make full use of the opportunities offered by international talent, especially in the face of declining support and increasing political discussions around migration.

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1. Introduction

1.1 Rationale

Brainport Eindhoven is a world-class, innovative, top-technology region where the high-tech manufacturing industry goes hand in hand with design and entrepreneurship. Close cooperation and open innovation are characteristics that distinguish the Brainport Eindhoven region. By cleverly anticipating global changes and entering into new connections, Brainport Eindhoven comes up with solutions to tomorrow's societal challenges. The region finds itself on an international playing field where Europe wants to become less dependent on other continents. As Brainport Eindhoven, we must therefore invest in maintaining and strengthening our international competitive position.

R&D spending in the Brainport region amounts to €3 billion per year, more than the urban regions of Amsterdam, Rotterdam and Utrecht combined. The manufacturing industry in the Brainport region accounts for 11.3% of the Dutch gross value added, providing the highest added value in the Netherlands. The region also attracts a lot of talent; almost 20% of Dutch R&D talent works in the Brainport region. For Dutch exports, all this adds up to a lot; 36% of the nation's high-tech exports come from the Brainport economy. Due to widely branched networks and supply chains, the Brainport economy also positively affects other knowledge and innovation regions (interaction.) (Source: Province of North Brabant & Brainport Eindhoven (2021) Brainport Strategic Agenda.)

The Brainport region generates money for the Netherlands and provides technologies that contribute to solutions for major societal challenges in the fields of energy, food, safety, mobility, and health. We can rightly conclude that the Brainport region not only represents a 'regional economy' but is a powerful engine of the entire Dutch economy, with enormous growth potential. The ambitions and goals formulated in the Brainport Strategic Agenda are, therefore, aimed at capitalizing on the opportunities already there to benefit the Netherlands and Europe as a whole.

At the same time, things are squeaking and creaking considerably in the region. The region is growing even faster than expected. The growth of technical companies and ASML, in particular, is leading to a substantial increase in the number of jobs in industry at all levels. About 52,700 additional jobs are expected to be filled in Tech and IT in the Brainport region by 2032. Getting started with these growth projections requires a broad view. For example, the region can only consolidate its growth figures if there is sufficient housing, the region is easily accessible, there is room for additional housing and scaling up of new innovative companies, and there is sufficient talent available.

Over the past few months, Brainport Development has been working with the region and the national government on a regional agenda, Scaling Talent, the region's Human Capital Agenda, where they propose five measures to address labour market issues in engineering and IT. See these measures in the figure below.

Attracting and retaining international talent is an important part of this agenda, including in measures 2 and 5:

- Measure 2. Increase the number of students in engineering programs, including international students.
- Measure 5. Attract international talent and increase the stay rate.



Figure 1: The five measures of the Regional Human Capital Agenda 'Talent Scale Jump' (Brainport Development, 2023).

In Brainport Eindhoven, great strides have been made over the past 15 years to reach, attract, integrate and retain international talent. However, the world has, in the meantime, changed politically and geopolitically, and the coronavirus pandemic has had a major impact on it. In addition, demographic developments such as de-greening and ageing are putting even more pressure on the labour market in the Netherlands and abroad. A revised approach is needed to attract and retain the necessary international talent for the region. As a starting point of this approach, there is a need for a supported regional vision and corresponding ambition regarding the contribution of international talent to the labour market in the Brainport region.

1.2 Scope and process

Scope of the international talent target group

This vision focuses on international engineering and IT talent (professionals and students) at mbo, hbo and wo levels. This talent is actively attracted and, therefore, also wanted to be retained. Labour migrants are people who have settled in the Netherlands with 'work' as a motive. The group of labour migrants consists of knowledge workers and other labour migrants. Border workers who live abroad but work in the Brainport region are also included in this vision. Migrants with a study motive are referred to as international students in this vision. Status holders fall outside the scope of this vision because they have a motive different from work, namely, applying for asylum. However, this group can greatly benefit our tight labour market. We do include spouses (or income-dependent partners) because their arrival is necessary for attracting international talent. Offering an attractive labour market for spouses can be an extra incentive in choosing whether or not to come to Brainport Eindhoven for work and then to stay.

See the glossary on page 30 for all terms and definitions. As described in the introduction, this vision focuses on measures 2 (Increase the number of students in engineering programs) and 5 (Attract international talent and increase the stay rate) of the Regional Agenda Scaling Talent.

Process for a supported regional vision

To develop a supported regional vision, it is essential to include all stakeholders' different views, interests, responsibilities and roles in the Brainport ecosystem. Therefore, we interviewed various key figures within the four stakeholder groups (government, education, private parties and internationals).

- **Governments:** Metropolitan Region Eindhoven (MRE), Province of North Brabant, Holland Expat Center South (HECS) and the four Campus municipalities (Eindhoven, Veldhoven, Helmond, Best), both at the official and administrative level.
- **Knowledge institutions:** Summa College (mbo), Avans (hbo), Fontys (hbo), TU/e (wo) and TiU (wo).
- **Private parties:** several key employers related to international talent in the region: ASML, TNO, DAF, Sioux Technologies, NXP, Schunk Xycarb Technology, SMART Photonics, Bosch and NTS Group. Intermediaries were also involved (Brunel and TMC). We approached the intermediaries as a separate stakeholder group within the employers. The insights from SMEs draw on previously conducted research.
- **Internationals:** we surveyed a group of internationals of different backgrounds, nationalities, and ages.

Recently, Markteffect was commissioned by the PSV partnership to conduct a survey among region residents about the brand's reputation and the developments in Brainport Eindhoven, among other things. Figure 2 shows that people are increasingly concerned about the housing shortage in the region and that too much English is spoken in the region. The present vision does not include the region's residents as stakeholders. Therefore, one of the recommendations will also be to include them when drafting the implementation agenda.

Statements about Brainport Eindhoven

Interestingly, 72% do not plan to leave the Brainport region in the next 10 years. Nevertheless, two-thirds are concerned about the housing shortage and road congestion.

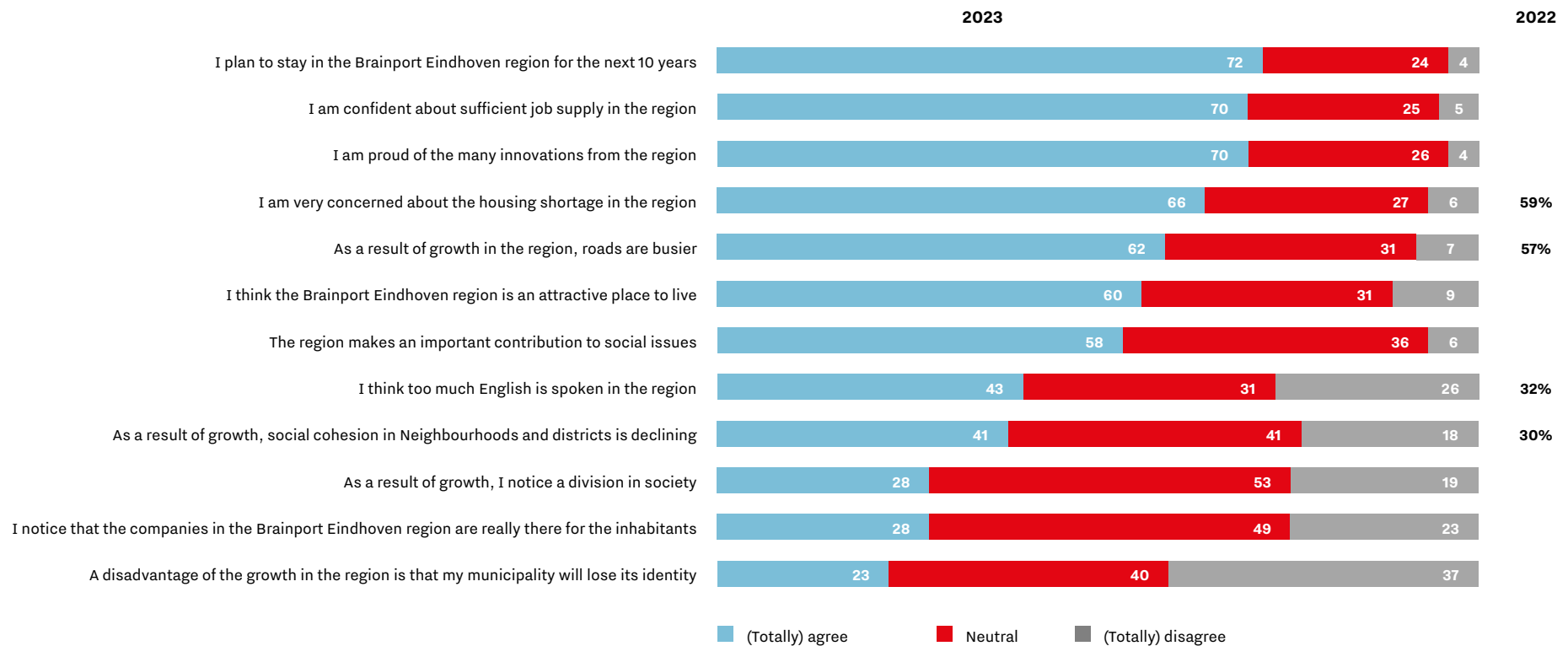


Figure 2: An overview of some statements from the research on reputation and developments in Brainport Eindhoven (Markteffect, 2023.)

1.3 Context and (global) trends

In recent years, migration has gained considerable ground in the Netherlands. The migration balance, which reflects the difference between immigration and emigration, is now consistently above 100,000 people yearly.¹ At this rate, the Dutch population is growing by as much as 1 million people per decade solely thanks to migration. Migration has thus become the leading driver of population growth. Previously, this growth was mainly driven by natural increase (the difference between births and deaths), but today, natural increase is actually showing a downward trend. Over the next 50 years, the annual death rate will typically exceed the annual birth rate², leading to strong ageing and de-growth.

Labour migration as a driving force for the future

Labour migration is not a new phenomenon in the Netherlands, but it increasingly impacts our society. It not only determines the population of the Netherlands but also who we are and our culture. It also affects the demand for housing, public facilities, and education. This demand, in turn, is closely related to the age level of immigrant workers. Future policies will increasingly have to take into account a changing society, especially considering that labour migration is a driving force for the future of the Netherlands³.

At present, the Netherlands generally lacks a coherent vision of the future of migration and appropriate government policy, which makes the future uncertain. A new cabinet is expected to develop new policies to combat large-scale labour migration because of the consequences of labour migration for various aspects of the Netherlands described above. The question is, to what extent will tight sectors, such as engineering and IT, be exempt from this?

Although labour migration is said to be a driving force for the future of the Netherlands, currently, more than 90% of employers in the Netherlands do not use immigrant workers. Employers are missing opportunities because of this. Migrant workers may, in fact, help alleviate labour market tightness in the short term.

Still, many employers do not see it as an immediate solution due to limitations such as language barriers or the nonrecognition of diplomas and certificates. This applies, for example, to the work in education. It also exerts additional pressure in a general sense on health care, social security, education and the housing market.

The negative perception of immigrant workers in society also plays a role⁴.

The image: "they are taking our jobs and homes and not learning the language" paints a limited picture of reality. In reality, they are talents committed to the region and perform labour in demand. Let's use these talents more optimally, especially at a time of a tight labour market. To create positive perceptions, support from residents in the region is crucial. We must work together with all stakeholders within the ecosystem to ensure that there is no displacement. If there are insufficient houses, schools and other facilities, displacement and thus resistance will occur. In addition, migration is often wrongly associated with asylum-only migration. See the glossary on page 30 for an explanation of the different types of migration and definitions. Currently, 80-90% of immigration consists of migration related to work and study⁵.

Ageing population as a demographic time bomb

As mentioned earlier in the introduction, the labour market is in a prolonged state of tension. Both nationally and within Brainport Eindhoven, the demand for labour is only expected to increase in the coming years. The ageing population will reach its peak around 2040. If no steps are taken, the economy in Brainport Eindhoven will end up in a downward spiral. This will have major consequences for the necessary transitions we need to make as the Netherlands and the dependence therein on technology originating in the Brainport Eindhoven region. Moreover, it is likely that companies will no longer want to be in the region or even leave.

¹ CBS (2023) Population in 2022 grew almost twice as fast as a year earlier.

² NIDI & CBS (2021) Population 2050 in focus.

³ Thinking (2023). Migration as a motor. How the Netherlands can use migration as a driving force.

⁴ ABU (2021). Migrant workers of great importance to the Netherlands.

⁵ SEO Economic Research (2022). Labor migration in 2030.

Attracting and retaining international talent is a crucial solution for the labour market and the affordability of a rapidly ageing welfare state. At the same time, there are questions about physical feasibility and the level of support in society. These two realities coexist⁶. But "every talent counts", especially if they are already housed in the Brainport region and do not require housing. Targeting and retaining talent for the tight sectors plays an important role in addressing the labour market imbalance and strengthening the competitiveness of the private sector. To achieve this, it is essential that Brainport Eindhoven attracts and retains the right composition of talent⁷.

“ Retention is the new attraction ”

- Expert in talent attraction and retention

Global trends

Attracting and retaining international talent is constantly changing. Some key global trends in this area include⁸:

- **Increasing competition for international talent:** Many countries know the importance of (international) talent for the economy and broad prosperity, so there is intense competition worldwide to attract (highly qualified) professionals, leading to more innovative policies and programs. An increasing number of regions or countries are also developing their own Human Capital Agendas to develop targeted strategies for international talent, such as tax breaks for knowledge workers (in the Netherlands, the 30% rule.)
- **Attractive home, work, and living environments are required:** Due to increasing competition in the international labour market, the importance of a regional value proposition is increasing. Regions must consider their uniqueness or *unique selling points*. The coronavirus pandemic has changed workers' desires about where they live. They have generally come to value their surroundings more. This makes developing a *Regional Value Proposition* even more important. To do this well, we must engage with internationals and understand what drives them to come to the region and why they want to stay here. Regions and companies need to have an increasingly focused degree on a "soft landing" to improve the likelihood of international talent staying.

- **Remote working and globalisation of labour:** technological advances and digitalisation allow more and more jobs to be done remotely. This opens the doors for international talent to work anywhere in the world. Employers can now draw from a broader and more diverse pool of candidates. The coronavirus pandemic accelerated the possibility of remote working, and many companies have adopted hybrid or full remote working policies.
- **More flexible migration policies of certain countries:** several (neighbouring) countries have adapted their migration policies to facilitate the attraction of international talent. This includes special visas, residence permits for international talent, and flexible rules for family members coming with them.
- **Increased focus on diversity and inclusion:** countries and companies increasingly emphasise the importance of diversity and inclusion. This means attracting international talent and ensuring an inclusive living and working environment where people from different backgrounds and perspectives are valued.

Position of the International Talent vision in national and regional contexts

The present vision aligns well with European, national and regional (policy) agendas. As described in the reason, this vision is partly based on the regional agenda "Scale jumped talent," which Brainport Development has worked on together with the region and the state to address labour market issues in engineering and IT.

Because of the urgency of the continuing labour market tightness, the cabinet has developed the Green and Digital Jobs Action Plan in addition to the generic labour market policy⁹. This plan contains measures to address the labour shortage in sectors with important jobs for the climate and digital transition. The shortage of talent in engineering and IT is part of this. The present vision fits well with the plans of the national government. At a European level, the vision aligns with the European Chip Regulation, where the European Union wants to address the shortages of semiconductors and strengthen Europe's technological leadership. The 'Chips Act' opens the door for investments of over 15 billion euros in European chip manufacturers and other companies within the complex semiconductor industry. The Brainport Eindhoven region, with the presence of a strong player like ASML, plays an important role in this chip regulation, but in doing so, it is making a big call on (international) talent¹⁰.

⁶ Thinking (2023). Migration as a motor. How the Netherlands can use migration as a driving force.

⁷ Thinking (2023). Migration as a motor. How the Netherlands can use migration as a driving force.

⁸ The first three trends emerged in the interview with Morten King-Grubert of Future Place Leadership.

⁹ Parliamentary letter Green and Digital Jobs Action Plan (2022). House of Representatives, session 2021-2022, 29 544, no. 1120.

¹⁰ European Commission (2023). https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/european-chips-act_en.

1.4 Reading guide

The second chapter focuses on analysing international talent in the Brainport Eindhoven region. This chapter first analyses the regional labour market, target groups, and lessons learned around international talent in the Brainport Eindhoven region. The third chapter outlines the discussions with stakeholders. First, a discussion about the added value of international talent according to the different stakeholder groups. Then, the identification of bottlenecks and challenges. The chapter concludes with a SWOT analysis, which acts as a summary of the chapter. The fourth chapter is the Regional Vision on International Talent, which, based on five pillars, explains how the stakeholders want to give direction to the formulated ambitions. It also outlines the future dream image: the dot on the horizon. The fifth and concluding chapter discusses regional cooperation and the roles/responsibilities of the various stakeholders in the ecosystem. This final chapter concludes with an initial outline of the implementation program.



2. Analysis of Brainport Eindhoven's international talent

This chapter first provides an analysis of the regional labour market, an analysis of the target groups and outlines lessons learned in the approach around international talent in the Brainport region.

2.1 Analysis of the labour market

Brainport Eindhoven is known worldwide for its technological innovation and expertise in micro and nanoelectronics, AI, integrated photonics, and advanced manufacturing within high-tech sectors such as energy, healthcare, mobility, safety, and food. These technological innovations attract international tech talent. The Brainport region consists of 21 municipalities with Eindhoven at its core and has five innovation campuses (Automotive Campus, BIC, High Tech Campus, Strijp, TU/e), each with its own specialization.

Traditionally, entrepreneurship and cooperation have been in the DNA of the Brainport Eindhoven region. The Philips brothers' choice to build their first factory in Eindhoven eventually led to the Brainport region we know today. Since the start of Eindhoven in 1914, Philips had already attracted talent from other regions, making the region an 'expert' in migration. A huge number of new companies have emerged from Philips, including ASML. The Philips DNA - the will to work together and to feel social responsibility - is still strongly present. Philips also made an important contribution to the creation of the TU/e and Fontys.

“ Brainport Eindhoven has Europe's best investment climate after London and Helsinki. ” - Financial Times

Today, Brainport Eindhoven has developed into a powerful innovation ecosystem with a strong cluster of knowledge-intensive manufacturing industry, incubators, accelerators and networking opportunities characterized by low-volume, high-complexity production. The region has renowned educational and research institutions offering technical training at various levels, ensuring a steady flow of high-quality graduates. Moreover, the region's concentration of technology companies and startups provides unique opportunities for professional growth, knowledge sharing and collaboration. In the Brainport region, there are approximately 10,000 job openings in engineering and IT daily. About a quarter of the workforce in engineering and IT will retire by 2032. For the Brainport region, this leads to the following task until 2032, in numbers of jobs¹¹:




	 Expansion Demand	 Replacement Demand	 Statement to 2032
Vocational education and training (mbo)	+24.355	+8.510	+32.865
Higher professional education (hbo)	+14.173	+4.995	+19.168
Research-oriented education (wo)	+14.173	+4.995	+19.168
Total	+52.700	+18.500	+71.200

Table 1: Task in Brainport Eindhoven on the labour market until 2032, in number of jobs

¹¹ Sources: CBS, LISA, Technology Pact Monitor, ROA/SEO

The current level of graduates from technology courses¹² is insufficient to fill the replacement and expansion demand. On average, 28% of the students go on to further education¹³, and only one-third¹⁴ of the graduates choose a job in the Tech and IT sector in the Brainport region. If we do nothing, and the number of graduates remains the same over the next ten years, only +17,500 vacancies in the Tech and IT sector will be filled from regular education. This leaves an open task of over +50,000 jobs until 2032. See table below.

A qualitative mismatch compounds the extent of these shortages. Technological developments are rapid, and social transitions, such as digitalization and the energy and climate transition, require different knowledge and skills in all professions and sectors.

This task is enormous but essential if the region is to make a lasting contribution to national earning power and necessary transitions.




	 Statement to 2032	 Graduate students in the region	 Remaining task until 2032
Vocational education and training (mbo)	30,137	30,137	30,137
Higher professional education (hbo)	+19.168	-4.850	+14.318
Research-oriented education (wo)	+19.168	-7.090	+12.078
Total	+71.200	-17.500	+53.700

Table 2: Task in Brainport Eindhoven on the labour market until 2032, in number of jobs, minus inflow from education.

2.2 Analysis of internationals target groups

There are 180,840 internationals living in the province of North Brabant in 2021, and 147,745 internationals working in the province of North Brabant. Among these employed internationals are 32,130 knowledge workers, and 115,615 are other labour migrants. The table shows that more than half of the number of knowledge workers are employed in the Brainport region. Of the 115,615 other labour migrants, only about 32,000 (28%) work in the Brainport region. From this, we can conclude that the demand is mainly for highly skilled labour migrants or knowledge workers. For the definitions of the different target groups of internationals, see the glossary on page 30. See Table 3 for a complete overview of the numbers per target group of internationals¹⁵.

Target group internationals	Number in PNB	Number in Brainport region
Knowledge workers (working)	32.130	18.000
Other migrant workers (working)	115.615	32.000
International students	11.345	5.000
Status holders (are outside the scope)	14.595	3.815
Income-dependent partners	22.060	9.000
Children	38.790	15.600
Total	234.535	67.815

Table 3: Numbers of internationals in the province of North Brabant and the Brainport region (2021).

¹² Engineering courses include construction.

¹³ Technology Pact Monitor, via <https://www.Techniekpact.nl/monitor-Techniekpact/monitor/kenmerken-van-the-Technical-labor-market#graph82>. The weighted average for education levels high, low and medium for the Southeastern part of the country is 33.21%: Graduates with a Technical educational background performing a Technical occupation within a Technical company.

¹⁴ Technology Pact Monitor, via <https://www.Techniekpact.nl/monitor-Techniekpact/monitor/kenmerken-van-the-Technical-labor-market#graph82>.

¹⁵ Decisio (2023). Monitor internationals 2010 - 2021.

Knowledge Workers

More than half of knowledge workers are employed in the Brainport region (56%). In other regions, this is between 10-20%. The annual growth of the number of knowledge workers in the Brainport region is, on average, 3 to 5%; this is higher than the national average of 3.9%. Of the knowledge workers entering North Brabant in 2014, 56% have been economically active for more than 5 years, which is a longer stay than the national average (49%). The number of knowledge workers in the Brainport region grew strongly between 2010 and 2021 by 8.9% per year. In absolute numbers, it concerns 14,775 registered residents. Brabant-wide, this annual average increase is 6.2%. In the Brainport region, almost half (48%) of all knowledge workers work in the (metal-electro) industry¹⁶.

Other migrant workers

More than 30,000 registered other labour migrants work in the Brainport region. The growth of other labour migrants in 2010-2021 is, on average, 5.7% across Brabant. The growth is similar to West-North-Brabant and lower than in the Northeast-North-Brabant region. The number of other labour migrants living in the Brainport region gradually increased, with an annual average growth of 10%. This growth is higher than the national average (6%). For the Brainport region, 19,725 resident labour migrants are registered. However, this is expected to be an underestimate because the residential address of a labour migrant is not known.

These numbers are only based on the number of registered labour migrants. In the Brainport region, most of the remaining labour migrants work in temporary employment agencies and secondments in the metal electro industry.¹⁷

International students

Most of the population of international students in North Brabant lives in the Brainport region. Since 2010, the number has grown significantly from over 2,000 to over 5,045 in 2021, an average annual growth of 8%. Of the over 5,000 international students, 9 out of 10 live in the municipality of Eindhoven. The majority of international students pursue technical studies. Therefore, more than two-thirds of internationally employed graduates in the region have completed a technical study. Graduates from technical studies also stay proportionately longer in the Netherlands. Of all research-oriented graduates who completed a technical study, 40% stay in the Netherlands five years after graduation. International students who graduate from TU/e stay even longer compared to the national average living and working in the Netherlands (52%)¹⁸. The Fontys ICT program already has a stay rate of 75%. There still needs to be one uniform method to calculate the stay rate¹⁹.

Income-dependent partners

Almost half of the income-dependent partners (spouses) living in North Brabant live in the Brainport region, 40% of the 22,060, or 8,860 spouses. The Brainport region has a 4% annual growth in spouses. The majority of income-dependent partners stay longer than 5 years.²⁰

¹⁶ Decisio (2023). Monitor internationals 2010 - 2021.

¹⁷ Decisio (2023). Monitor internationals 2010 - 2021.

¹⁸ Nuffic (2022). Research: Higher education important supply route for knowledge workers.

¹⁹ Brainport Development (2023). Scaling Talent.

²⁰ Decisio (2023). Monitor internationals 2010 - 2021.

Children of internationals

In 2021, 15,640 children of internationals lived in the Brainport region. Most of the children are children of knowledge workers (7,385). Furthermore, there are 5,925 children of migrant workers and 2,255 children of status holders. The 4-12 age group is the largest with 8,035 children. The youngest age group (0-3 years) contains 4,460 children, and the oldest age group (13-17 years) is the smallest at 2,760 children.

Data on target groups in 2021

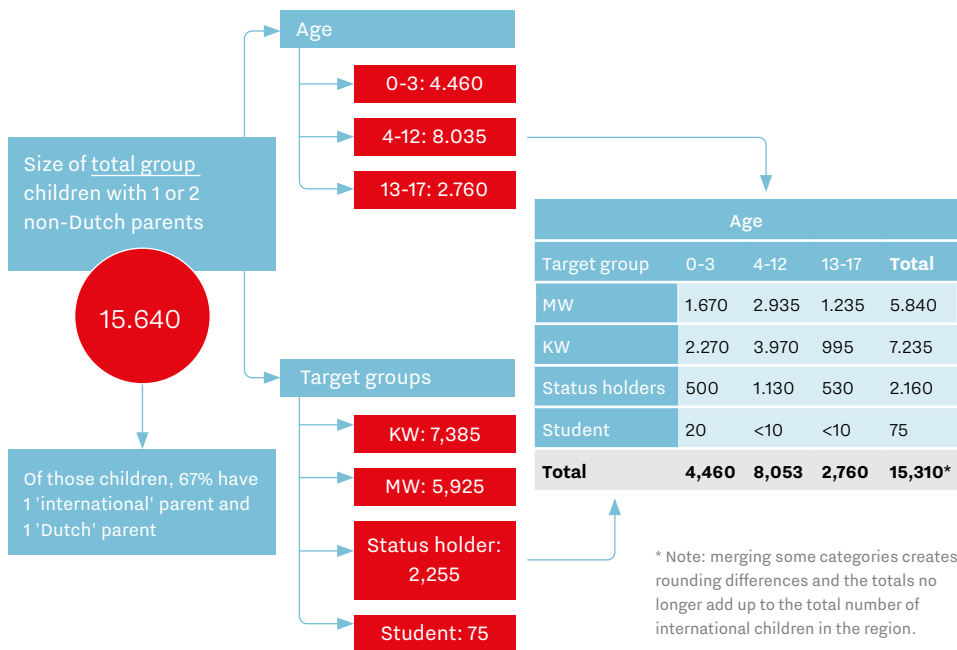


Figure 3: Data on target groups of international talent in 2021 (Decisio, 2023).

International talent forecast up to 2032

Decisio (2023) researched the increase of internationals in the Brainport region, including assumptions and forecast scenarios and implications for primary and secondary education through 2032. The number of international workers in 2015 was 26,200 (7%). In 2021, there were 48,535 (11%), so these figures show a clear increase (see table below). According to the forecast, the number of international workers in the region continues to grow, partly due to the growing demand for specialized knowledge and skills. The trend-policy-free - scenario shows potential growth of up to 17.5%.²¹

Target group internationals	2015	2021
Workplaces	393.400	436.500
International employees	26.220	48.535
Share of internationals	7%	11%

²¹ Decisio (2023). The increase of internationals in the Brainport region, including assumptions and projections by scenarios and implications for primary and secondary education up to and including 2032.

2.3 Lessons learned about international talent

The above analysis shows that compared to other North Brabant regions, the most knowledge workers reside in Brainport Eindhoven. Brainport Development and Holland Expat Center South also have over 15 years of experience actively attracting and retaining international talent for the technical sector. Cooperation with the business community, knowledge institutes, and the government has always been crucial in this regard. The Brainport International Community program, with three substantive lines *coming to*, *settling in*, and *living in (2008)*, forms the basis for the regional approach to international talent.

The Brainport region has experienced tremendous development over the past 15 years, and the strategy for attracting and retaining international talent has changed. However, the demand for talent is scarcer than ever, and demographic trends show that attracting international talent remains necessary to fill specific vacancies in engineering and IT. In the present vision, we include the lessons learned in recent years about attracting and retaining international talent in the approach towards the future. From the Talent Attraction Program (TAP, successor of Brainport International Community) to the Brabant International Students project (BIS) and Internationalisation Education (IO), we take the experience, results and yields below with us towards the future.

Lessons Learned Talent Attraction Program (TAP).

Several lessons and best practices have emerged from the Talent Attraction Program:

- Combining all English-language engineering and IT vacancies on the job portal of the international Brainport Eindhoven website for international talent. This involves talent where the demand is greatest rather than the level of education. Therefore, the educational level has also been abandoned as a criterion for displaying vacancies on the job portal.
- Region branding campaigns to attract international talent through the international Brainport Eindhoven website. The trend here is that proportionally more is used for online than live campaigns. This is because online campaigns work very well to reach the target group and are more specific. Nevertheless, Brainport Eindhoven remains 'the Home of Pioneers' with human and groundbreaking brand values. The human aspect, and therefore live campaigns, are important for promoting and representing 'the brand' Brainport Eindhoven and for reaching and attracting international talent.
- Strengthening the regional network of HR professionals through thematic meetings and newsletters. The focus here is mainly on employers who already employ or want to start recruiting international talent. Companies not (yet) ready for this will be informed about the various possibilities, including international talent, through Brainport Development's broad 'SME approach'.

In addition, Brainport Development has an International Talent Scan for entrepreneurs in the high-tech manufacturing industry and IT (SMEs) to support them in attracting and retaining international talent.

Lessons Learned Brabant International Students (BIS).

The Brabant International Students program has provided much knowledge and experience in recent years in attracting and retaining international students. Experience shows that recruiting international students is a task for the educational institutions themselves. For support, Brainport Development must have a 'Brainport Eindhoven branding toolkit' available, which educational institutions can use in their recruitment and branding. Brainport Development can support the carrying out of relevant research, such as a talent journey. In addition, Brainport Development can take on a facilitating and connecting role with educational institutions and employers to guide international students towards the labour market. Good monitoring, setting up and optimizing a good alumni policy at educational institutions is essential. Language and integration play a major role for the target group with regard to finding a job and building a future in the region.

Lessons Learned Internationalisation Education (IO).

The Internationalisation Education program also has a lot going for it. All children in the Brainport region have to deal with internationalisation: in the classroom, in the neighbourhood and later when they start working. To prepare for this, the Brainport region has been actively working on internationalisation in childcare, primary education, secondary education, and vocational education since 2016. With funds from the Regio Deal, investments have been made starting in 2018 to promote the expertise of all teachers at the aforementioned educational levels. Over 60% of the schools in the region are participating. The region has a regional vision of internationalisation of education, which is acted upon by government and educational institutions. Investments are made in schools with relatively large numbers of children of internationals. Investments are aimed at cooperation between schools so that education in the region can be equipped for the diversity of children in education. The education administrators and Brainport Development are taking the first steps towards establishing governance to enhance cooperation further.

Lessons learned from the Living In program

The Holland Expat Center South, in collaboration with municipalities, IND, the Province of North Brabant and Brainport Development, works to support international talent, their partners and employers. For example, with Huis naar Werk, in collaboration with the Expat Spouses Initiative and the Living In program of HECS, the program 'Talent 100' was launched to tutor and connect travelling partners with employers. The Living In program gave a number of lessons learned:

- Work with various international audiences: We constantly encourage stakeholders to work with internationals to shape their internationalisation strategy.
- Family- and region-focused onboarding: We look beyond employer onboarding. We focus on creating a sense of coming home and exploring what it takes to do this.
- Find the early adopters: We identify the pioneers and work together to make the necessary changes, not only in work but also in communities and leisure.
- Commit to spouses: We consider international partners valuable talent and focus on leveraging local international skills, which has numerous benefits.
- Tech and IT employers play an essential role: Tech companies can make a difference for international talent by managing expectations, especially in the pre-boarding phase (before internationals arrive in the region). Work within companies with ambassadors.

Moreover, the Brainport region has a long-established international community that can help new international talents integrate and adapt culturally. Recent years have taught that attracting and retaining international talent must play a major role in the regional approach.



3. Conversation with Brainport Eindhoven stakeholders

This chapter discusses the added value of international talent and the bottlenecks/challenges around international talent for the Brainport region according to the different stakeholder groups. The overview is set out in a SWOT analysis at the end of the chapter.

3.1 Added value of international talent according to stakeholders

International talent is of crucial value to Brainport Eindhoven. The two focus groups with regional engineering and IT companies clearly show that they cannot realize their ambitions without international talent and thus maintain their competitive position. Attracting international talent can contribute in various ways to the region's labour market, economy, prosperity, sustainability and innovative strength.

Why the Brainport region needs international talent

- There is a growing shortage of good staff, especially in engineering and IT. The labour market is under structural stress. International talent can fill the shortages and ease the tension in the labour market.
- International competitiveness in the world. Sufficient international talent is essential for the region to make a lasting contribution to regional and national earning power and the necessary transitions in the fields of energy, health, safety, food and mobility. If this weakens, the Brainport region will lose its competitive position and earning power in the future.
- The presence of (international) talent is important in attracting and retaining (international) companies in the knowledge economy. These companies contribute significantly to employment and investment in research and development (R&D) and are essential to the startup/scale-up ecosystem.

Stronger efforts will need to be made on these issues in the coming years through increased regional cooperation.

Additional benefits of international talent for the Brainport region

- Remain an attractive tech hotspot, which can attract and retain (international) companies and (international) talent because of its position.
- Access to international markets: With the growth of the knowledge economy and globalization, new international markets and sectors are emerging. International talent can strengthen companies with specific knowledge of the foreign market and an international network and bring more dynamism and creativity to business processes.
- Spouses are a huge talent potential for SMEs and tight professions (also in healthcare, education, and childcare.)
- Diversity and inclusiveness: international and diverse teams have many benefits. They increase creativity, innovation and create a positive image for a company.
- International talent creates additional spending and jobs.
- International talent strengthens regional education.

International talent strengthens regional education

Several stakeholders - especially from the education sector - mention that international talent can strengthen regional education. Diversity of nationalities in classrooms promotes educational achievement, intercultural competencies, the building of valuable networks and knowledge enrichment. This fits seamlessly with the Brainport region's ambitions to educate children in primary and secondary education to train global citizens. Likewise, there are also economic benefits international students bring to the region. However, international talent in education also poses challenges, prompting political efforts to regulate the intake of international students. This is further discussed in Chapter 2.3, Bottlenecks/Challenges.

Benefits of international talent for educational quality

According to research by CPB (2019), international talent can make a positive contribution to Dutch mbo, hbo and wo education in the following ways:

- International classroom environments promote learning.
- Developing intercultural skills, networks, and knowledge leads to increased productivity.
- Creating international networks lays the foundation for improved international trade relations.
- Strengthening the knowledge economy by sharing specific knowledge from different countries.
- Acquiring intercultural skills enables students to adapt to diverse environments, enabling them to see different perspectives and develop a broader point of view. This increases the likelihood of innovative breakthroughs. Moreover, studying with international students increases Dutch students' chances of pursuing international careers.

Economic benefits of international students

International students contribute to the economy. In the UK, every 9 EU students and every 11 non-EU students generate a net economic impact of £1 million for the UK economy during their studies. With the 40% increase in international students between 2018/19 and 2021/22, the net economic impact has increased by 33%, helping compensate the UK's education for losing domestic students (Source: London Economics, 2023). In the Netherlands, international students who come here to study also bring in more than it costs the national budget. This applies to hbo and wo and to students from both EEA and non-EEA countries.

The current influx of international students will eventually generate around €1.5 billion for the Dutch treasury. Most of this will come from non-European students, as they cost the state less during and after their studies, while they are more likely to continue living and working in the Netherlands (Source: CPB, 2019.)

3.2 Bottlenecks/challenges in attracting and retaining international talent

Attracting and retaining international talent has several challenges. The most frequently mentioned bottlenecks are:

- Housing issues.
- Political environment and sensitivity around international talent.
- Pressure on social services.
- Lack of cultural awareness.
- Social relevance of international competencies and an inclusive mindset.
- Higher Education Internationalisation Bill.

“ A few years ago, we were the smartest region in the world; I miss that boldness now. A clear profile: this is the place to be. ” - Business

Housing issues

The housing issue in the Brainport region is, according to most stakeholders, the biggest bottleneck in attracting and retaining international talent. It is an important factor in the choice of international workers to settle in the region. This also applies to the retention of international talent. If insufficient affordable and suitable housing is available, international workers decide to live and work elsewhere. This bottleneck causes a loss of knowledge and experience crucial for the region's further development. At the same time, the arrival of internationals in the region may also displace current residents, which is why community support is essential.

The shortage of housing leads to scarcity, which drives up prices. Several stakeholders mentioned that the region's increasing cost of living and housing is causing problems for international students and young professionals. This negatively affects the attractiveness of the region for international talent. A logical consequence is that companies must offer higher salaries and other working conditions to attract and retain international workers.

According to the recent provincial forecast for population growth and housing needs, the population of North Brabant will increase from 2,563,000 in 2020 to nearly 2,842,000 in 2050. This implies a projected growth of nearly 280,000 people over the next 30 years. Together with an ageing population and increasing individualization, this results in a significant increase in the number of households and, thus, the need for housing. It is estimated that about 1,360,000 housing units will be needed to meet this need by 2050, nearly 100,000 more than previous estimates from 2017. By 2035, the available housing stock is projected to grow by nearly 160,000 housing units, including 120,000 in the next 10 years, meaning that about 12,000 homes per year will need to be added to the stock through 2030 to accommodate the expected growth in the number of households and address shortages.

For the Brainport region, this means building at least 62,000 housing units through 2030. There is also a focus on housing construction and accessibility in the broader region, including student housing. For example, a significant expansion in student housing is necessary to implement the Scale Talent initiatives. This means at least 10,000 additional housing units before 2030, on top of the current shortfall of 1,500 units (Source: forecasts of the province of North Brabant and Brainport Strategic Agenda.)

The housing bottleneck should be viewed from a broad perspective. To grow as a region, governments must act to combat the displacement of both national and international residents in the housing market, for example, by focusing more on building additional housing. In addition, the region will have to choose which industries and sectors to focus on. For example, the region does not want to accommodate large distribution centres because they do not actively contribute to our knowledge economy and the societal challenges we face. Making maximum use of the labour market potential of current residents can also reduce the demand for labour migrants and, thus, the additional pressure on the housing market. This ties in with the ambition from the Brainport Strategic Agenda for 2030 that there will be sufficient available housing to accommodate the growth of the region (in a climate-friendly manner) while maintaining broad prosperity for all residents. It is important to continue to work together on solutions and instruments to realize housing within the region and beyond in surrounding cities and towns.

Political environment and sensitivity around international talent

Attracting international talent is politically sensitive because it touches on a wide range of issues, including economics, culture, identity, polarization in society and political rhetoric. Political decision-making in this area must balance promoting broad prosperity, economic activity and innovation with addressing the concerns and interests of local people. Developing effective migration policies and visa arrangements for international talent is also complicated and requires political agreement. Work visa and residence permit procedures are complex and time-consuming for employers and talent. A new administration will likely develop new policies on restrictions on labour and knowledge migration and will want to limit the internationalisation of higher education. To what extent this will affect the technical sector and Brainport Eindhoven is still unknown. However, English-language education in engineering courses is expected to remain possible. We will work on lobbying in the Brainport region to promote the interests of the regional stakeholders. This will be discussed later in this vision statement.

A number of government stakeholders mentioned that the present vision should look wider than Brainport Eindhoven. We must find a balance between the growth and shrinkage of regions and ensure that other areas also benefit from the success of Brainport Eindhoven. Especially in the context of the housing issue, it is crucial to also look at shrinkage regions in the vicinity of the Brainport region, considering educational housing and livability. Regional governments have an important role to play in this regard, which will be discussed in more detail in the final chapter.

Pressure on social services

Pressure on social services such as health care, child care, and (language) education and special education also emerges as a bottleneck. Also, with regard to these facilities, as with housing, displacement of Dutch and international residents must be prevented. One must continually strive for a balance between the level of amenities and a working labour market.

To reduce pressure on facilities, it is also necessary to look from a broad perspective and work together regionally to find innovative solutions. This involves cooperation with geographically adjacent regions and similar regions around the country. In addition, other critical sectors such as healthcare, education, construction and childcare also need a well-trained workforce. Although these sectors are beyond the scope of this vision, it is important to approach and address the bottlenecks and challenges from a broad perspective.

“ A culture change is needed in which everyone must participate. ” - educational institution

Lack of cultural awareness

The theme of attracting and retaining international talent raises questions of national identity and cultural/social cohesion. Several stakeholders mention that integration between the Dutch and international talent in the region needs to catch up among governments, employers, educators, and residents. According to a number of stakeholders in society and within government organisations, educational institutions, and companies, a culture change is needed to bring national students/ coworkers and internationals closer together. Particularly in the SME sector, there still needs to be more commitment to this. Added to this is the fact that the working language of many (SME) employers in the region is Dutch, which forms a barrier to international talent. Actively providing language education and facilitating language exchanges can help overcome the language barrier. Internationalisation of education can be promoted, among other things, by focusing on multilingualism, cultural awareness and international cooperation skills.²²

Social relevance of international competencies and an inclusive mindset

The importance of an inclusive mindset and associated competencies in society is stressed by various stakeholders. According to the stakeholders, the Brainport ecosystem should focus more on this. An inclusive mindset is about understanding and empathising with people from other cultures, taking cultural differences into account, and learning to interact and communicate better with people from other cultures.

In 2022, Nuffic conducted a literature review on internationally competent citizens' social benefits or impact. International competencies provide a person with orientation, knowledge and skills that enable them to communicate, collaborate and reflect in various international contexts at home and abroad. International competencies benefit social participation, the labour market, European citizenship and an inclusive mindset. The impact of international competencies on the labour market is about being better prepared to work in the international (local) labour market, being able to function in multicultural teams and being better able to cooperate and plan. The importance of these competencies, particularly an inclusive mindset, is underlined several times in our interviews and focus groups with various stakeholders (Source: Nuffic, 2022). Even within organisations, inclusiveness and diversity in terms of gender, culture, and ethnicity create great benefits, for example, in terms of profitability and performance. Moreover, research shows that companies with diverse leadership teams have 19% higher innovation revenues (Source: Boston Consultancy Group, 2018.)

Higher education internationalisation bill

The plans from the national government to regulate the intake of international students within higher education are named as bottlenecks by several stakeholders. Nevertheless, the various stakeholders also see the challenges posed by the strong growth in the number of international students²³ in Dutch higher education, including a shortage of student housing and overcrowded lecture halls.

The *Internationalisation in Balance bill* - further explained in the text block on page 20 - aims to limit the intake of international students. Suppose there is no exception for engineering programs. In that case, this bill will have a major impact on the realization of ambitions as formulated in the Talent Scale Jump (increasing the influx of students into technical studies). The prognosis is that a large part of the increase in the number of students in technical studies will be international. It is, therefore, crucial to make further administrative agreements on this between universities of applied sciences, universities and the state. Stakeholders, therefore, value joint lobbying on this topic.

²² Brainport (2016) We are the future. Internationalisation of education in Brainport.

²³ Currently, 40 percent of first-year college and university students (42,000 students) are not from the Netherlands (CBS, 2022).

Stakeholders also feel that proper information (before they arrive here) to international students about housing options in the region is necessary. The housing shortage among international students in Brainport Eindhoven is high. Municipalities are therefore focusing on building houses for students, temporary housing (short stay) in vacation homes and building their own campus.

The Balanced Internationalisation Bill seeks central coordination of internationalisation within universities and higher education colleges. Educational institutions are urged to preserve and strengthen the Dutch language. An improved command of the Dutch language increases opportunities in the labour market and contributes to a greater chance that international students will want and be able to stay in the Netherlands after their studies. In addition, institutions are expected to adopt Dutch as the language of administration in principle and to be bilingual when appropriate. Additional opportunities will also be created to apply 'numerus fixus,' especially to degree programs offered in other languages. These new measures will also allow for customization, such as considering strategic sectors with a high demand for talented professionals and institutions in border areas. Guidance and job coaching of international students to the regional labour market can also be improved so that they can find suitable jobs in the region quickly. More efforts are being made to make further administrative agreements with universities and higher education colleges, which will contribute to more effective control and management of the number of international students coming to the Netherlands (Source: Ministry of OCW, 2023).

Tailoring for growth sectors (such as engineering and IT) and regional differences

In general, the interviews suggest that there should be opportunities for customization, especially for courses that focus on engineering and IT. This view is widely supported by the various stakeholder groups, not just the knowledge institutions. Moreover, the diversity within the higher education system should be considered when designing these policy instruments. The specific needs of different regions should be recognized. Universities and colleges near the German and Belgian borders, for example, have different dynamics in terms of internationalisation. The goal is to tailor educational offerings that meet the region's needs seamlessly.

Promote mastery of the Dutch language

Promoting the Dutch language is also widely supported by governments, educational institutions, businesses and even the internationals. The Higher Education Internationalisation Bill seeks to ensure that colleges and universities encourage proficiency in the Dutch language among all their students, including international students. Stakeholders agree that improved proficiency in Dutch increases job market opportunities and increases the likelihood that international students will want and be able to stay in the Netherlands after their studies.

Dutch language proficiency requirements for mbo diploma

A major bottleneck in the mbo (vocational education and training) is the strict requirement around proficiency in the Dutch language to graduate, making it more difficult for mbo institutions to attract international students. This is, therefore, a huge challenge for mbo institutions in the Brainport region, which want to attract international students to their engineering and IT programs or offer a place to the children of internationals. This bottleneck is why there has been a lobbying campaign for the 'Reversal Scheme' for years, which allows students at mbo level 4 to complete the Dutch language exam at one level lower (2F) than normally required (3F), on condition that the student achieves a higher level of English or German (B1/B2) in return.²⁴ The regional mbo argues that an exception should be made for students in the direction of shortage professions (engineering and IT). This is intended to contribute to the internationalisation of the mbo and make it more accessible to students for whom the Dutch language is relatively new.

²⁴ mbo Council (2022). <https://taalenrekenenmbo.nl/nieuws/omkeerregeling-wederom-uitgesteld/>.

Specific bottlenecks from the four stakeholder groups

There are nuance differences among the four stakeholder groups in which emphasis is placed on the key bottlenecks and challenges. Below, each stakeholder group outlines what are seen as key bottlenecks and challenges in attracting and retaining international talent. The most frequently mentioned bottlenecks and challenges from the perspective of the four stakeholder groups are shown in the table below:

Governments	Education
<ul style="list-style-type: none"> • Housing • Cultural embedding • Social cohesion • Pressure on facilities • Political environment and sensitivity 	<ul style="list-style-type: none"> • Housing students • Language Education • Integration of Dutch and international students • Intercultural awareness • Regulation of internationalisation of higher education
Companies	Internationals
<ul style="list-style-type: none"> • Intercultural awareness • Leadership development • Talent retention • Involving spouses • Visa process • Visibility and reputation of Brainport Eindhoven 	<ul style="list-style-type: none"> • Intercultural awareness/cultural transformation/new cultural mindset • Health care (no general practitioners available) • Integration between internationals and locals • Lack of events/seminars on skills (job applications/CVs etc.) • More transparency and explanation of costs, tax, health care, home buying/renting • Hub for families/communities/networks

Table 5: Specific bottlenecks from the four stakeholder groups around attracting and retaining international talent.

3.3 SWOT- analysis

The Brainport ecosystem forms the basis for the SWOT analysis below. This refers to the interplay of all stakeholders within Brainport Eindhoven who are involved in attracting and retaining international talent.

Strengths	Weaknesses
<ul style="list-style-type: none"> • The Brainport region is known worldwide for its technological innovation and expertise in the hi-tech manufacturing industry, which is attractive for international tech talent. • The region has renowned educational and research institutions that provide technical training at various levels, ensuring a constant flow of qualified graduates. • The region's concentration of technology companies and startups offers unique opportunities for professional growth, knowledge sharing and collaboration. • The region has an established international community, and some new international talents can help with integration and cultural modification. • A well-developed ecosystem that includes the High Tech Campus, incubators, accelerators, and networking opportunities. • Brainport Development, as a development measure society, has been active for 15 years with programs to strengthen the Brainport region, including the areas of attracting and retaining international talent and the internationalisation of education. • Holland Expat Center South works in cooperation with municipalities, the IND, provinces and Brainport Development to support international talent, their partners, and employers. • Very high proficiency of the English language among the Dutch population. 	<ul style="list-style-type: none"> • The Brainport region does not have a clear and powerful international Regional Value Proposition (RVP), making the distinctive position to live and work in the region unclear compared to other hotspots in the world for talent. • Few regional employers have a concrete strategy for attracting, onboarding and retaining international talent. SMEs in the Brainport region specifically are not working on it. • The international mindset in government, business, education and residents must catch up. • Work visa and residence permit procedures are complex and time-consuming for employers and the talent itself. • The region's cost of living and housing are high, especially for students and young professionals. • Cultural integration and mastery of the Dutch language among international students and migrant workers remain behind. • Insufficient intercultural awareness among executives and teams. • Need for guidance and job coaching for international students in the regional labour market.

Opportunities	Threats
<ul style="list-style-type: none"> • All stakeholders recognise the urgency and need for international talent with specific profiles. • The region has the qualities and characteristics to compete with other international tech hotspots. It can better communicate this internationally through a clear and strong RVP, which educational institutions and employers can also implement in their Value Proposition. • Actively providing language teaching and facilitating language exchanges can help overcome the language barrier. • Internationals can reduce current and future labour market shortages. • Spouses can be better utilised as potential talent for shortage occupations (healthcare, education, childcare). • Focus more on the well-being of internationals to increase stay. • Optimise alumni policy within education to increase the stay rate in collaboration with employers for a better connection to the labour market. • The 'Omkeerregeling'²⁵ for Vocational education and training (mbo), whereby students may complete the examination component for the mbo level 4 of the Dutch language exam one level lower (2F) than regularly required. • Onboarding programmes at employers. • More diversity in teams (on gender and origin). • Meeting place(s) in the region for internationals and locals. 	<ul style="list-style-type: none"> • International competition from other technology hotspots is increasing due to labour market scarcity worldwide. • Housing problems worsen: until 2030, the housing stock in Brainport Eindhoven will have to increase by 62,000. • Increasing pressure on social services such as education and childcare leads to social problems. • The political environment and perception surrounding international talent are changing rapidly. • The intended restriction on international students from the government. • If international talent does not find sufficient opportunities and growth paths in the region, they leave for other regions. In today's tight labour market, where workers are on the move, companies will have to follow the talent. • When innovation cannot occur sufficiently due to talent scarcity, the Netherlands and Europe become more dependent on China and the US, for example. • Brainport Development: The Talent Attraction Program and the International Students project have expired, and follow-up is still unclear (including funding.)

Table 6: SWOT analysis.

²⁵ The 'Reversal Scheme' in mbo, whereby at mbo level 4 the exam component Dutch language may be completed at one level lower (2F) than regularly required: this is intended to contribute to the internationalisation of mbo and to make mbo more accessible to students for whom the Dutch language is relatively new.



4. Regional Vision on International Talent

This chapter describes the Regional Vision on International Talent. Based on five pillars, it explains how the stakeholders want to give direction to the formulated ambitions. It also outlines the future dream image: the dot on the horizon.

4.1 Vision and strategy

We are currently in a tight global, European, national and regional labour market. We are working to maintain and strengthen our position as a region and country relative to other competing countries in this battle for talent.

This Regional Vision on International Talent builds on the regional agenda for the Talent Scale Jump, part of the strategic agenda of Brainport Eindhoven. As previously described, this involves measure 2 (Increasing the number of students in engineering programs) and measure 5 (Attracting international talent and increasing the stay rate) from the 'Talent Scale Jump'. We formulated five pillars in this vision based on the interviews we conducted with key figures from the four stakeholder groups. The specific efforts for each pillar will be elaborated in the implementation program yet to be developed.

Targeted attraction and retention of migrant workers (mbo-wo)

Attracting international talent is increasingly about retention at the same time. In order to cope with the tight labour market in engineering and IT in the coming years, attracting and retaining international talent is one of the actions that must be continued through the expansion and strengthening of Brainport Eindhoven's international brand.

Well-trained international talent can solve part of the labour shortage in the region. Efforts are being made to attract international talent with unique technical and IT skills - as if it were precision surgery - and a cultural spirit that fits with the region and the Netherlands. The latter means we provide international talent with a clear and realistic picture of housing, healthcare, childcare, education, etc., before coming to the region. This increases the likelihood that they will also stay longer. The invaluable contribution migrant workers make to innovation for our region's necessary transitions and broad prosperity is recognized and emphasized. If we do not take steps to attract and retain international talent, the Brainport region will face a demographic time bomb and will most likely end up in a downward spiral.

Maximising the talent potential of spouses

We are committed to maximising the talent potential of spouses. Of course, we also see other international target groups whose potential should be maximised, such as status holders and seasonal workers. These fall under measure 1 of the Talent Scale Jump. Brainport Development, together with (HECS), Huis naar Werk and the two labour market regions, is committed to maximising spouses' talent potential. International employees' partners (spouses) represent a talent pool that, with proper career guidance, can be employed in tight sectors such as healthcare, education or childcare. The advantages are that they are allowed to work and already live somewhere in the region. If spouses no longer depend on their partners for income, they are also less vulnerable to society. In addition, spouses who actively participate in the labour market positively affect the stay rate of migrant workers (pillar above). Important here is an obligation for spouses to make an effort to master the Dutch language (Social Dutch A2/B1) to increase integration in the regional society and the stay rate.

Increasing the stay rate of international students

International students can contribute to the Dutch economy with their unique knowledge, especially after graduation. To retain this group as much as possible, it is important to increase international students' stay rate. Almost a quarter of international students are still working in the Netherlands five years after graduation. Graduates from technical studies stay comparatively longer in the Netherlands. Of all wo graduates who pursued technical studies, 40% still reside in the Netherlands five years after graduation. International students who graduate from TU/e remain more than twice as likely to live and work in the Netherlands compared to the national average (52% versus 25%).²⁶ Efforts are being made to increase this stay rate further to 65%. The Fontys ICT program already has a stay rate of 75%. Differentiation between the various levels is essential: mbo, hbo bachelor, wo bachelor, and wo master have different courses. Many international bachelor students choose to continue their studies. Naturally, we would like this to continue in the Netherlands. To retain international students for the regional labour market, we want to increase the stay rate among those who complete their studies. Follow-up research and monitoring are needed to make a good comparison between levels and sectors and to know what is needed to increase the stay rate. This should be done at all educational institutions through the same methodology to allow comparison.

²⁶ Nuffic (2022). Research: Higher education important supply route for knowledge workers.

An inclusive society

The Brainport region strives for a diverse and inclusive society that values and brings together different perspectives so that residents of all backgrounds feel welcome and supported. Important here is to include residents, municipalities, education, and businesses in the importance of international talent for the region, now and in the future. This also applies to politics: the concerns and social consequences must be addressed and acknowledged, as well as the necessary follow-up steps. What we ask from national residents is understanding. From international residents and employees, we ask for an effort to integrate in terms of language (A2/B1 level: social Dutch) and culture (e.g. cycling). We strive for an inclusive society with various initiatives such as language classes in education, neighbourhood projects, the use of internationals already settled here, and the creation of mixed student housing and networking events.

Facilities and labour market in balance

We must continue to seek a balance between a working labour market and appropriate facilities for the proper functioning of the Brainport ecosystem. In this, a balance must always be sought between long-term objectives and short-term changes that may occur. There has to be a continuous calculation to monitor this balance. To do so, the monitoring must be done in collaboration with the wider region across borders. Brainport Development stimulates the broad view of the region in cooperation with the MRE and the province of North Brabant. By bringing parties together at the consultation tables in the region, we want to strengthen and reduce pressure on facilities. Housing options, accessibility within the region and educational venues are key bottlenecks being jointly addressed. These bottlenecks apply not only to international students and staff but also to the entire local population. Displacement must be prevented by effective/innovative (government) interventions, such as building sufficient housing (e.g., also in shrinkage areas) and carefully selecting industries and sectors that are good for the region's economic development. In addition, other critical sectors such as healthcare, education, housing and childcare also need a well-trained workforce. Although these sectors are beyond the scope of this vision, it is important to approach the bottlenecks and challenges from a broader perspective. In particular, primary and secondary education (po and vo) and childcare are facing a more significant influx of international children than expected based on regular population growth. A working labour market with the right facilities is crucial to the proper functioning of the Brainport ecosystem.

4.2 Need and dream image - dot on the horizon

The Netherlands faces great challenges in terms of societal challenges. Consider the necessary transitions in the fields of energy, safety, mobility, food and health. In Brainport Eindhoven, the technologies needed for solutions are being developed. As a result, the Brainport region makes an important contribution to the earning capacity of the Netherlands. The demand for talent is increasing, also due to an ageing population toward the future. We cannot find a solution for this demand in regional and national talent only. Therefore, in the Brainport region, we are working on high-quality and complex technology, which is highly specialized work. These are particularly focused on innovations that address societal challenges, such as energy and climate transition. These specialists are scarce, which is why these professionals must also be sought abroad. The diversity that this entails also increases the power of innovation - *diversity drives innovation*. This contributes to strengthening our economic position and the broad prosperity of the region.

As Brainport region, we jointly - government, education and industry - turn 'all the knobs at once' for the benefit of the themes around talent, both qualitatively and quantitatively, from intake to lateral entry, from technology promotion to retraining and lifelong development. This has included attracting and retaining international engineering and IT talent for over 15 years. This theme has long been Brainport Development's responsibility and is implemented with employers, government, educational institutions and the internationals themselves. Attracting and retaining international students and migrant workers will also be a priority in the coming years, given the expected increase in tightness, remain a critical "knob" for all of us to turn. Solutions can be divided into short-term, medium-term and long-term, making the region agile and allowing us to respond to current opportunities and future demand for talent. All with the goal of a higher influx and retention of talent for our labour market: a labour market in balance.

Brainport Development promotes the Brainport region, together with and for regional employers in the engineering and IT sectors. We also offer support to employers in targeting, attracting and retaining international talent, with the aim of making them more capable of doing so themselves. Moreover, we are committed to spouse and family support and internationalisation of regional education so that every child becomes a world citizen and that children with a non-Dutch background also find their place in the Dutch educational system (from daycare to university). Our inclusive and welcoming environment, combined with a strong support system thanks to the Holland Expat Center South, makes Brainport Eindhoven the preferred international choice for international talent looking for a challenging study and career with global impact.

5. Collaboration and initial implementation programme

The fifth chapter discusses regional cooperation and the roles/responsibilities of the various stakeholders in the ecosystem. This final chapter concludes with an initial outline of the implementation program.

5.1 Collaboration and roles

In general, the stakeholders consider the role purity of the different stakeholder groups to be of great importance. Besides the stakeholder groups, government, education, private parties and the internationals themselves, it is also important to include the (Dutch) citizens who live and work in the Brainport region.

Governments

Most local governments do not have their own vision/policy on international talent but find it logical that the policy is regional. Policy on the target group of migrant workers - as part of international talent - is mentioned by a number of governments as a policy to be developed further. Housing and ensuring an inclusive society are often mentioned as important roles of the municipalities.

In the five North Brabant labour market regions, agreements have been made as a result of the Brabant Integral Approach to Labor Migration²⁷. The role of government is seen in facilitating an attractive living environment in the region. The province of North Brabant has invested heavily in attracting and retaining international talent. For this, it cooperated with PACT Brabant, a platform for Brabant labour market experts on behalf of labour market innovation. In the past period, the emphasis has been more on retention. Since February 2023, the province of North Brabant has been building a broad-based network of Brabant Migration Information Points on behalf of the state²⁸. We are exploring which activities can be taken up jointly from the new administrative agreement of the province of North Brabant.

The Holland Expat Center South plays a major role in offering various services to help international talent settle in the province of North Brabant. Likewise, they help companies with the formalities surrounding attracting international talent. The NL-Flanders Border Information Point (BIP), funded by the state, province and Eindhoven municipality, is another important body. Many companies, including ASML, VDL, and DAF, employ Belgians. This public facility is helpful for both frontier workers and companies.

With regard to inclusiveness and cultural embedding of international talent in the region, there is a role for governments. Governments also offer assistance with language learning through "buddies" and "language tables" at libraries. This could be coupled with facilitating meeting places for international and local residents. The MRE can play a role at the consultation tables and communicate a unified narrative from all 21 municipalities in the Brainport region about the importance of Brainport Eindhoven, the cooperation and integration of residents and internationals to achieve an inclusive society.

Educational institutions

The role of education lies in delivering enough students for the labour market. Given demographic trends, the proportion of international students will have to increase. Here, education must match the business community's demand, increasing the likelihood that international students will enter the regional labour market after completing their studies. In addition, an important role is reserved for educational institutions in the context of internationalisation, the development of a learning line from secondary school to university, and the guidance and assistance of migrant workers and spouses already living in the region through in-service training in the direction of shortage sectors. Also, a role for education is making language education accessible to international talent in cooperation with companies. Towards international students, education can play a role in connecting them to the labour market, for example, through career events together with employers. Likewise, a good alumni policy is of added value for increasing the stay rate.

²⁷ [Brabant approach to labor migration.](#)

²⁸ <https://www.brabant.nl/>: Multiple physical counters and mobile teams for all of North Brabant from which the basic offer is provided: multilingual information and advice on living, working and living in North Brabant and the Netherlands; a hotline for abuse in relation to wages/work, housing and care and welfare; registration in RNI or BRP and providing BSN (possibly supplemented by requesting and activating DigiD).

Educational institutions are constantly looking for ways to increase the pool of engineering and IT students and want to develop new policies accordingly. Examples include:

- The transition to gamma education: trans-disciplinary, the connection between social science and technology, including social technology. Lots of potential for international students.
- Lobby for the "Reversal Scheme" so that students in engineering and IT can complete mbo-4 in Dutch at a lower level and still get a diploma.

“ Business is now on the ball on attracting and retaining international talent. An overarching approach is necessary for structured cooperation on this topic. ” - government

Private parties

The role of the employers in the Brainport region is to take joint responsibility for the current bottlenecks in attracting and retaining international talent (housing, language, family, etc.). Also, employers are essential in onboarding talent so that they feel comfortable in their work and the Brainport region. The guiding function of large companies in the region is recognized, with cooperation to retain international talent being very important.

Internationals

An important stakeholder group is the internationals themselves. Internationals have a role to play within the Brainport region in the (international) community. As Brainport ambassadors, they can share experiences and practical information and offer support in building a professional and social network. They can help other internationals integrate into the region and local society.

Brainport Development

Brainport Development is the connector between government, education and the business community. The Holland Expat Center South is an essential cooperation partner regarding international talent. Brainport Development is responsible for the visibility and profiling of Brainport Eindhoven nationally and internationally. The organisation plays a vital role in lobbying the national government. We collect important bottlenecks from the region and discuss them with the various ministries. Here, the Brainport profile should be linked to the themes and strategic agendas that are currently at the top of the mind of the State. Examples are:

- The Action Plan for green and digital jobs,
- Top sector policies,
- Retained strategic autonomy (such as the Chip Act) and the geopolitical situation.

Without specific talent, we cannot play a role in this as a region.

Moreover, Brainport Development is the focal point for researching, monitoring and sharing data in the region. Brainport Development is also assigned to attracting international talent through branding the region and working to retain international talent through, among other things, a better connection to the labour market. Brainport Development is also an important stakeholder in the region that can communicate the importance of international talent and societal integration.

“ The facilitating and connecting role of Brainport Development is very valuable and essential. ” - educational institution

5.2 Initial outline for implementation programme

Attracting and retaining specific international talent requires a clear vision and ambitions for the future. As the Brainport region, we jointly - government, education and industry - turn all the knobs simultaneously for the benefit of the themes around talent. Each has their own role and responsibility. The perspective of all residents and internationals is also continuously included in this. Here, diversity, inclusiveness and maximizing the contribution of all students and professionals to the economic development and innovation of the region is essential.






Targeted attraction and retention of migrant workers (mbo-wo)	Maximizing talent potential of spouses	Increase stay rate of international students	An inclusive society	Facilities and labour market in balance
 <p>Continue to invest in branding the region as an attractive hotspot. Customization in actively attracting specific profiles. Cooperation with businesses on retention.</p>	 <p>Intensify cooperation with HECS and BMIP for the benefit of spouses.</p>	 <p>Invest in connection between international students and business while studying.</p>	 <p>Organize and connect initiatives to bring Dutch and international residents closer together.</p>	 <p>Alignment and lobbying in the broad region, for a balance between a working labour market and appropriate facilities, for the proper functioning of the Brainport ecosystem.</p>

Figure 3: Overview of pillars of outline stimulus for implementation programme for international talent in Brainport.

As described in Chapter 4, the specific efforts for each pillar will be detailed in the implementation program yet to be developed. We are turning all the knobs at once. This means tackling all the five pillars simultaneously, each at its own pace. We are building on what has been gained in experience and lessons learned over the past 15 years. The pillars below outline the ambitions and activities for each pillar for the coming period. The regional and international trends are monitored annually to adjust and be adaptive. Given the current political climate, the topic of internationalisation is subject to change.

Deployment by pillar

Targeted attraction and retention of migrant workers (mbo-wo)

Ambition: attract and retain migrant workers, focusing on specific components, with the goal of filling open vacancies. Labour demand is not linear, so we will continue to monitor and adjust for expected labour demand. We focus on regions of the world where the right talent is available.

Activities in the implementation program: a simultaneous focus on attraction and retention, as the two are increasingly intertwined. Commitment to branding, the further development of the regional value proposition, follow-up research on the location factors by the target group of international talent and programs on onboarding, language, culture and labour market connection.

Maximizing talent potential of spouses

Ambition: the ambition is to maximize the talent potential of spouses. Currently, the goal is to guide 100 spouses towards the labour market. HECS, BMIP, and the regional work centres must collaborate strongly to increase this number.

Activities in the implementation program: a focus on expanding spouse and family support, including mentoring a minimum of 500 spouses per year.



Increase stay rate of international students

Ambition: the ambition is to increase the stay rate by approximately 10% on average. Increasing the stay rate of international students after graduation is important because they can add a lot of value to the Dutch labour market, economy and innovation. Increasing the stay rate can also help control the influx of new international talent and reduce the pressure on facilities. However, the stay rate is difficult to calculate.

Activities in the implementation program: aimed at conducting follow-up studies on stay rates as part of a strong alumni policy within educational institutions. To paint a thorough picture, all stakeholders should carry out a 0-measurement using the same methodology. Subsequently, ambitions can be formulated for different levels (mbo, hbo bachelor, wo bachelor and wo master.)



Facilities and labour market in balance

Ambition: the ambition is to keep the labour market and the level of facilities in balance, including a commitment to (student) housing, childcare, education, care, mobility and accessibility.

Activities in the implementation program: alignment and lobbying, where monitoring and data are necessary to identify and under-build needs for the benefit of the labour market in balance with appropriate facilities and a functioning ecosystem.



An inclusive society

Ambition: to bring international and national residents closer together. All stakeholders contribute to promoting an inclusive working and living environment where different backgrounds and perspectives are valued. Diversity also enhances the power of innovation - diversity drives innovation. This contributes to strengthening our economic position and the broad prosperity of the region.

Activities in the implementation program: aimed at Dutch and international residents. What we ask from national residents is understanding, and from international residents, we ask for an effort to integrate in terms of language (Social Dutch A2/B1 level) and culture (e.g. cycling). Everyone is responsible for what takes place within public/public spaces (restaurants, supermarkets, neighbourhoods, etc.) We are committed to ongoing activities such as language classes, neighbourhood projects and networking events. Governments, educational institutions, and businesses are working together to embed international talent in the region inclusively and culturally.



Recommendations

1. The roles and responsibilities of the various stakeholders are defined in this vision. Role clarity is considered important by multiple stakeholders. The expressed commitment and support are a starting point in the implementation program yet to be drawn up.
2. In the context of branding, we need to elaborate on the Regional Value Proposition (RVP) further, making clear the distinctive position to live and work in the region compared to other hotspots worldwide. Further, elaborate on which aspects/factors are needed to optimize the RVP for the target groups of international talent. Continue to invest in branding and conduct follow-up research into the location factors for each target group of international talent. Also, involve the internationals themselves.
3. Invest in the continuation of programs within Brainport Development aimed at attracting and retaining international talent in collaboration with the relevant stakeholders in the ecosystem. Customization is important here: employees at mbo, hbo and wo levels with the specific knowledge and skills needed in the Brainport region.
4. Place even more emphasis on retention as it increasingly merges with attraction. Work with the business community on guidance and programs on onboarding, language, culture and labour market connection. The Holland Expat Center South, regional work centres and the Brabant Migration and Information Point (BMIP) further encourage this.
5. Collaborate more closely on lobbying to attract and retain international talent. Several companies in the region have indicated their desire to cooperate on this activity. Facilitate this collaboration from Brainport Development so that you can interact as one voice with the province, the national government, and lobbyists. Also, specifically involve the MRE in this.
6. Organize stronger collaboration on the topic of talent intelligence. Leveraging accurate data is crucial for the targeted attraction and retention of international talent. Several companies in the region have indicated their desire to cooperate in this activity. Facilitate this collaboration from Brainport Development as well.
7. Devote a program line with specific activities to diversity and inclusion. Target national and international residents through initiatives such as language classes in education, neighbourhood projects, involvement of internationals already settled in the region, mixed student housing, meeting places and networking events.

Glossary

Here, we adhere to CBS' classification of migration.²⁹

Migrant Workers

Individuals who have settled in the Netherlands with "work" as their motive.

Migrant workers are divided into four groups in CBS research:

- knowledge migrants from outside the EU
- knowledge migrants from the EU
- other migrant workers from outside the EU
- other migrant workers from the EU

A labour migrant is someone who comes to the Netherlands for employment. European (labour) migrants can come to the Netherlands under the Schengen Treaties (free movement of persons) without a permit. If someone outside the EEA wants to work in the Netherlands, the employer must apply for a residence permit.

Asylum migrants (beyond the scope of this vision)

An asylum seeker is someone who applies for protection in another country. Only some people who apply for asylum are also entitled to international protection. If they do, then such a person is called a refugee. In the Netherlands, this is determined by the IND. After this asylum procedure, a refugee is assigned a permit. From that moment on, they are status holders. In principle, this residence document is valid for five years but is often extended. Status holders are entitled to family reunification for the first three months after obtaining their permit. Family members who come to the Netherlands this way are called repeat travellers. They also receive an asylum permit.

Family migrants

Family migration refers mainly to co-migrating and post-migrating family members. There is another category: family formation. This concerns the settlement of a person who comes here to marry or form a partnership with a Dutch resident with whom this person has never lived before. However, this is a relatively small group. We choose to recategorize family migrants according to their travel motives. The remainder are family migrants who come here purely for family reasons. An example: a German spouse migrates with a Dutch woman who has worked in Germany for several years and is now migrating back. The spouse does not come for work, study, or asylum. If this person finds work within two months of arrival, however, this person is categorized as a labour migrant.

Cross-border workers

Persons living in Belgium or Germany and working in North Brabant. They have to deal with complicated laws and regulations.

International talent (own delineation focused on Brainport Eindhoven)

In this vision, international talent is defined as international talent in tech and IT. mbo, college and wo levels. Professionals and students. This refers to the talent that we actively attract.

International students

Study migrants are commonly referred to as international students. In colloquial language, this is often abbreviated to internationals.

Knowledge migrants/knowledge workers

Knowledge migrants are international workers whose income is at least required to qualify for the knowledge migrant scheme.

Status holders (are beyond the scope of this vision)

Asylum seekers whose applications have been granted and have (legal) residence status.

²⁹ CBS (2022) CBS introduces new classification of population by origin.

Appendix 1: Good examples

Good examples of countries and regions that are doing well/much engaged in attracting and retaining talent according to different stakeholders:

- **Silicon Saxony, Germany:** the largest high-tech network in Saxony, one of the largest ICT clusters in Germany and the largest microelectronics cluster in Europe (qualitatively and strategically a good example.)
- **Grenoble, France:** one of Europe's leading research, technology and innovation centres. It houses many international companies (qualitatively, a good example.)
- **Estonia (Tallinn):** ranks first in unicorns per capita in Europe. Huge IT sector and technology start-up hub (qualitatively and strategically a good example.)
- **Leuven, Belgium:** has been named the European Capital of Innovation in 2020 for its use of innovation to improve the lives of its inhabitants. Many companies specializing in modern information management, communication technologies, and biotechnology are located in Leuven because of KULeuven. There is also a research centre called IMEC that focuses on digital technology and nanoelectronics (qualitatively, a good example).
- **Aarhus, Denmark:** a compact geographical area in which strong knowledge and innovation hubs have been developed. These hubs are in the Food, Care, Clean Tech, ICT and Creative Industries, focusing on film, fashion, design and architecture (qualitatively a good example.)
- **Helsinki-Uusimaa, Finland:** especially praised for its creativity, thanks to investment in research and development, patents and the number of people employed in the ICT sector (qualitatively a good example.)
- **Greater Copenhagen Region:** eastern Denmark, Skåne, and Halland in southern Sweden. It is the largest metropolis in Scandinavia and a global centre for growth, sustainable solutions and innovation. It has a sustainable lifestyle that involves more than just the climate (qualitatively, quantitatively and strategically a good example.)
- **South Lake Union, USA:** upcoming tech hub, which has quickly become one of the most sought-after locations to live in Seattle (Washington), focuses on Life Sciences, Biotech, Aerospace, and fintech (quantitatively and strategically a good example.)
- **Hyderabad, India:** Hyderabad is home to the largest campuses of tech giants outside the US, like Google, Facebook, Microsoft, Amazon, and Apple. In Hyderabad, business takes place in the Financial District, HITECH City, the suburb of Madhapur, Kokapet SEZ (Neopolis) and Salarpuria Sattva Knowledge City (quantitatively a good example).

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