



# HARNESSING TALENT IN EUROPE'S REGIONS



## **Pillar 1 – Talent Booster Mechanism: Technical Assistance Implementation Report**

**Łódzkie, Poland**



# HARNESSING TALENT IN EUROPE'S REGIONS



## **Pillar 1 – Talent Booster Mechanism: Technical Assistance**

### **Detailed survey results**

## Main objectives, methodology and description of the population surveyed

In order to gain a more in-depth understanding of the motivations behind young people's decisions to stay or leave the Łódzkie Region, an online survey (CAWI) was conducted between 28 October and 26 November 2024 among students from five selected universities in the region. Participants were selected from the University of Łódź, the Technical University of Łódź, the Medical University of Łódź, the Piotrków Trybunalski Academy and the Stefan Batory Academy of Applied Sciences in Skierniewice. The survey was open to all students, with the exception of those participating in the Erasmus+ programme.

The survey was distributed and promoted by the universities, which sent out invitations to participate, published information about the survey on social media and put up information posters. Thanks to their active support, it was possible to reach a wide range of students, which made it possible to collect diverse responses and ensure that the results were representative.

The survey return rate was approximately 4%, which resulted in **1,818 complete surveys being received**. To gain insights from the open-ended survey responses, we have employed Large Language Model<sup>1</sup> (LLM) to perform an 1) automated content-analysis and a 2) classification exercise. As a first step, all open-ended survey responses were gathered and provided to the LLM with a goal of identifying the most common themes. To ensure reliability, this step was performed ten times and only the themes that appeared across all ten requests were selected. In this way, we have avoided model hallucinations and/or unexpected variability in its answers. Once the key themes were identified, the model was asked to categorize each open-ended response to one of the key themes<sup>2</sup>. This allowed us to quickly query the open-ended responses, complement the survey data with qualitative information, and to enrich prior descriptive statistics.

As illustrated in the table below (Tab.1), the structure of the responses followed the distribution of the population, thereby ensuring the collection of representative data from each university. The University of Łódź provided the most responses, with 795 questionnaires constituting the largest percentage of the total sample. The next university from which a significant number of responses were received was the Technical University of Łódź (495 responses), followed by the Medical University of Łódź, which provided 379 questionnaires. The Stefan Batory Academy of Applied Sciences in Skierniewice and the Piotrków Trybunalski Academy provided 87 and 62 responses respectively. This reflects the smaller number of students at these universities compared to the others.

Table 1. Structure of the responses

University	Population (thousand)*	Sample	Structure of population	Structure of sample
University of Lodz	23.2	795	52%	44%
Lodz University of Technology	10.3	495	23%	27%
Medical University of Lodz	9.3	379	21%	21%
Academy in Piotrkow Trybunalski	0.8	62	2%	3%
Stefan Batory Academy of Applied Sciences	0.9	87	2%	5%
<b>Total</b>	<b>44.6</b>	<b>1818</b>	<b>100%</b>	<b>100%</b>

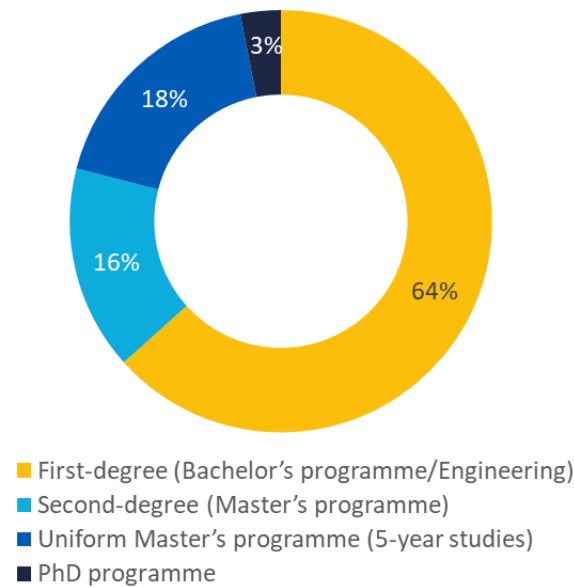
\*Source: Central Statistical Office. Status on 31 December 2023.

<sup>1</sup> We have used gpt-4o-mini which has multilingual capacities, including the understanding of Polish.

<sup>2</sup> Some responses contained more than one theme, in this case an extra variable was added that flagged responses with multiple themes.

The largest group of respondents were first-degree students, i.e. bachelor's degree and engineering students, who accounted for nearly two-thirds of the survey participants (64%). Smaller proportions of respondents were those studying for a single master's degree (18%) and for a second degree (16%). The smallest number of respondents came from doctoral schools, which numbered around 50, representing 3% of the total survey sample.

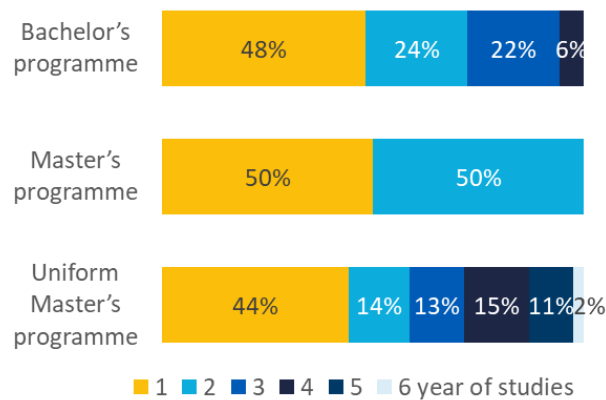
Figure 1. Level of studies



Source: CAWI student survey, n=1818.

Based on the graph below showing the distribution of students by year of study (Graph 2), there is a clear dominance of 1st year students at each level of study. In particular, in the case of first-degree studies (Bachelor's studies), the vast majority were first year students. In the case of second-degree (Master's) studies, the distribution is more equal, with half of the students being 1st year students and the other half being 2nd year students, representing 50% in each group.

Figure 2. Year of studies

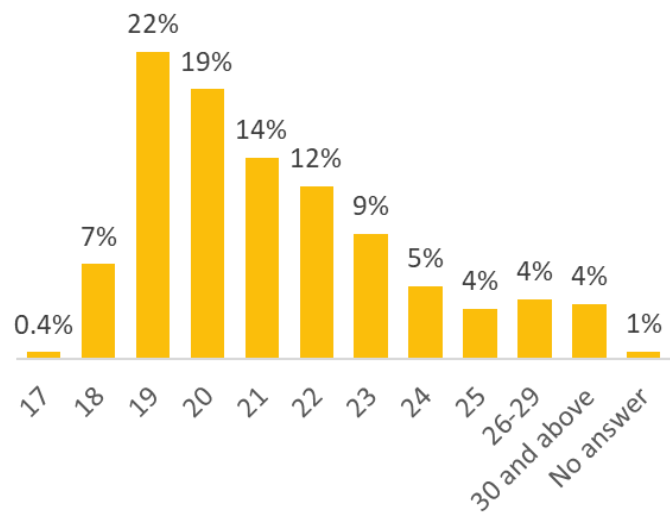


Source: CAWI student survey, n=1818.

The age structure of the study population aligns with the distribution of participants by year of study. The largest group of respondents was in the 19-22 age range, constituting 67% of the survey participants. Consequently, the

majority of the students participating in the survey are those commencing or in the first years of their academic education.

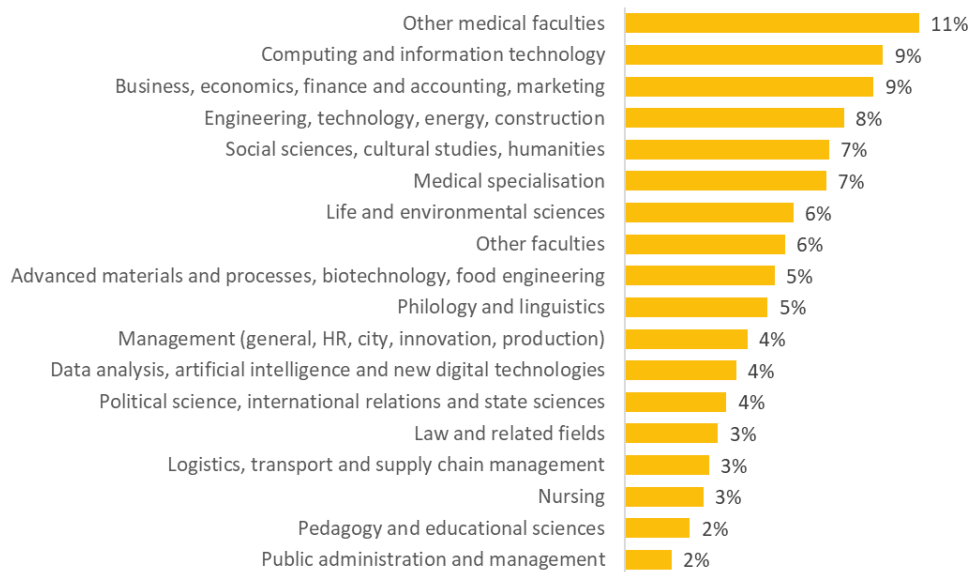
Figure 3. Age of respondents



Source: CAWI student survey, n=1818.

In total, respondents studied 176 different specialisations. The analysis distinguished 18 groups of faculties, which allowed for a more precise presentation of the results. The largest proportion of participants were medical students (11%). Further groups of majors that were of high interest were computer science and information technology and majors related to business, economics, finance, accounting and marketing, which were each represented by 9% of the respondents. There was also a high proportion of those studying majors related to engineering, technology, energy and construction, which comprised 8% of all respondents.

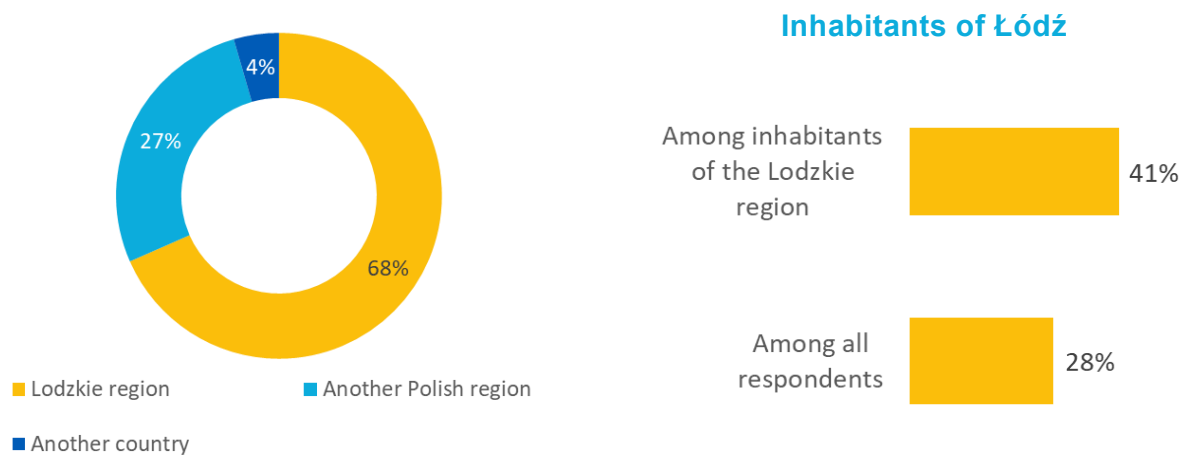
Figure 4. Respondents' faculties



Source: CAWI student survey, n=1818.

Regarding the geographical background of the students prior to their university enrolment, the survey revealed that the majority hailed from the Łódzkie Region, constituting approximately 68% of the respondents. A significant proportion, amounting to 27%, were drawn from other Polish regions, while a mere 4% of the survey participants resided in foreign countries. Within the Łódzkie Region, the largest group were residents of Łódź itself, accounting for 41% of the respondents. Conversely, within the overall research sample, Łódź residents constituted 28% of all survey participants, indicating that slightly less than one third of respondents resided in the City of Łódź.

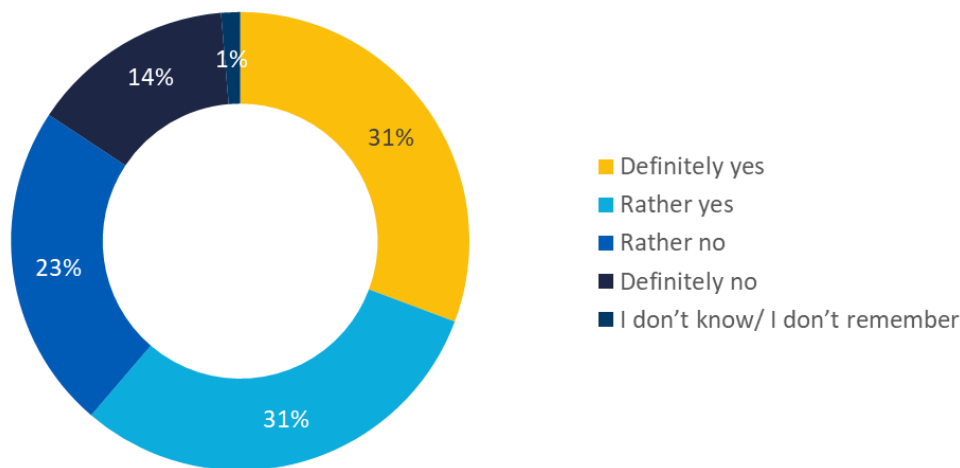
Figure 5. Place of residence before studies, including residents of Łódź



Source: CAWI student survey, n=1818.

The majority of respondents, 62%, had considered studying in another region, while around 37% said they had not considered this option.

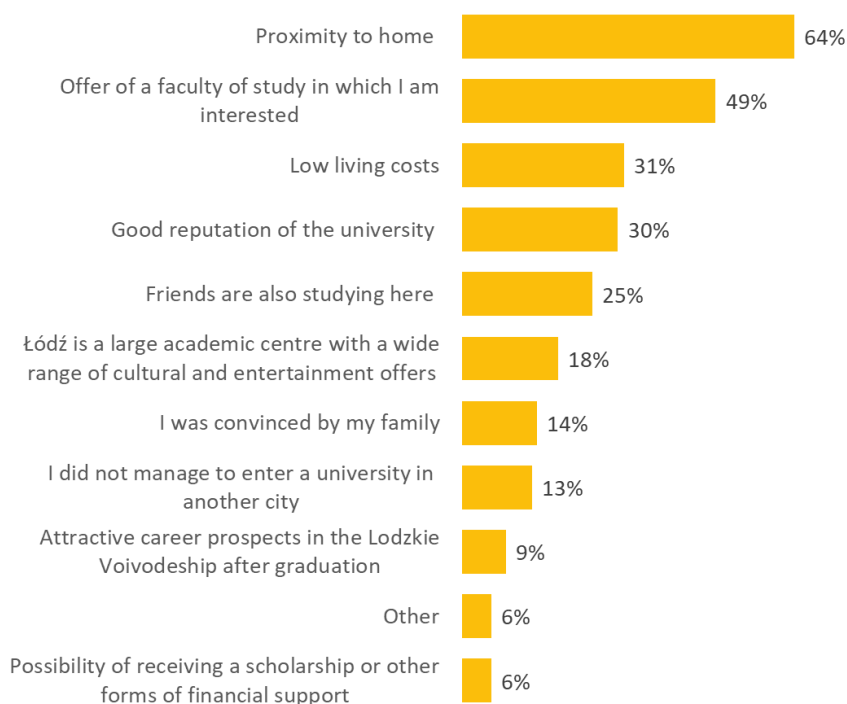
Figure 6. Have you considered studying anywhere other than the Lodz region?



Source: CAWI student survey, n=1818.

As shown in the chart below (Figure 7), the main factors that influenced the decision to study in Łódzkie Region were: proximity of the place of residence (64%), the offer of an interesting faculty of study (49%), as well as low living costs (31%) and the reputation of the university (30%). On the other hand, the least important factors were attractive career prospects after graduation (9%) and the possibility of obtaining a scholarship or other forms of financial support (6%).

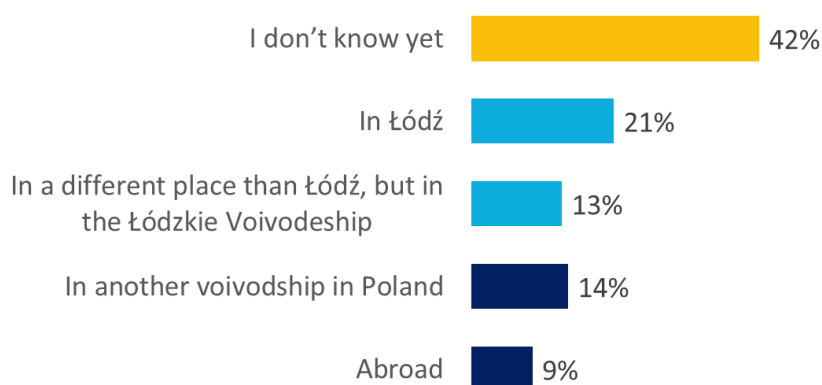
Figure 7. Factors determining the choice of study in the Łódzkie Region



Source: CAWI student survey, n=1818.

It is interesting to note that almost half of the respondents (42%) have not yet decided on their post-graduation living arrangements. Of these, 34% intend to stay in the Łódzkie Region, of which 21% plan to settle in Łódź. Approximately one quarter of respondents (23%) declared their intention to live elsewhere, 14% in another Polish region and 9% abroad.

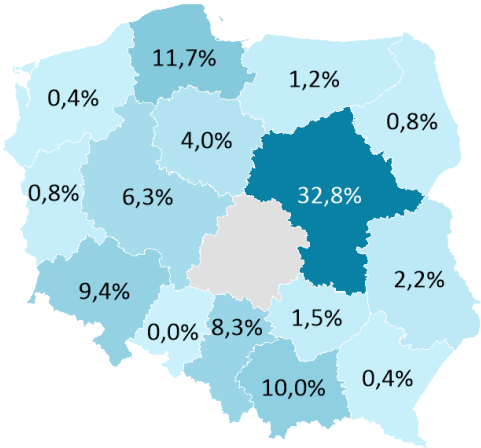
Figure 8. Post-graduation living plans: where do you plan to live/reside after graduation?



Source: CAWI student survey, n=1818.

In the context of other regions in Poland considered as potential migration destinations, the Mazowieckie region was dominant, selected by 32.8% of respondents as their planned place of residence after graduation. This was followed by Pomorskie (11.7%), Małopolskie (10%), Dolnośląskie (9.4%), Śląskie (8.3%) and Wielkopolskie (6.3%) regions.

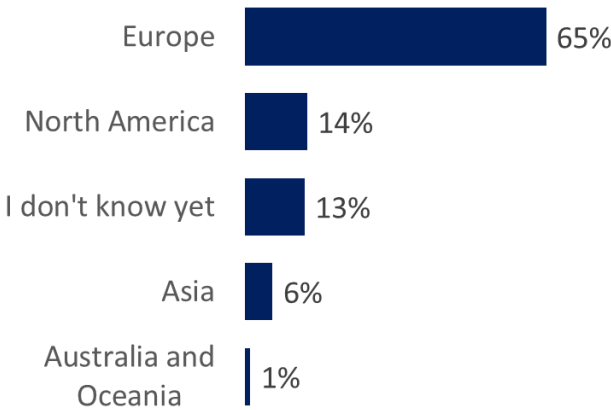
Figure 9. Where do you plan to live/reside after graduation? Distribution of regions



Source: CAWI student survey, n=1818.

For respondents planning to move to another country, the majority (65%) intend to remain in Europe.

Figure 10. Where do you plan to live/reside after graduation? Going abroad



Source: CAWI student survey, n=1818.

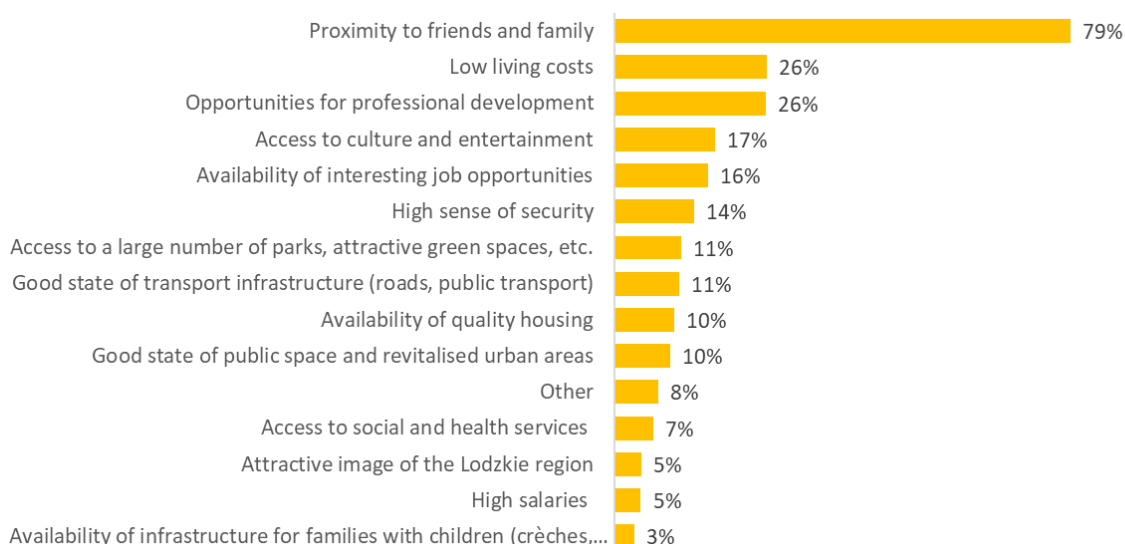


## Selected results of the survey

The survey results among students in the Łódzkie Region shed light on the multifaceted motivations shaping their future migration plans. Respondents fell into three main groups: those planning to stay in the region, those planning to leave, and those undecided.

For students intending to remain in the Łódzkie Region, proximity to family and friends was the most influential factor (79%), underlining the significance of strong social ties. Other significant considerations included the low cost of living (26%) and career opportunities (26%), although these were cited less frequently.

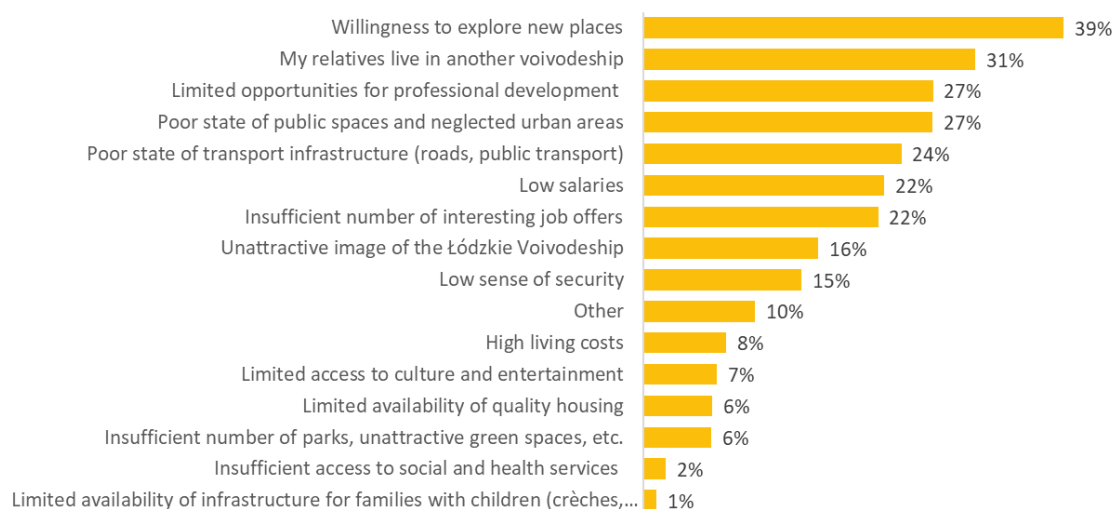
Figure 11. Factors influencing the decision to reside/ live the Łódzkie Region after graduation



Source: CAWI student survey, n=629.

Those intending to leave the region most frequently cited the desire to explore new places (39%) and the geographical proximity of relatives residing in other regions (31%) as the primary motivations behind their decision. Nevertheless, such personal factors – stemming from family set up or the personal need to discover new places – are beyond the scope of public policy influence. Conversely, three key domains emerged among the factors that respondents highlighted with equal frequency, and which can be influenced by the appropriate actions of regional and local authorities: the labour market and the availability of quality employment (27%), the quality of public spaces (27%) and transport infrastructure (24%), and the image of the region (16%). The latter factor was also raised in the responses to the open questions, especially in connection with issues related to transport infrastructure.

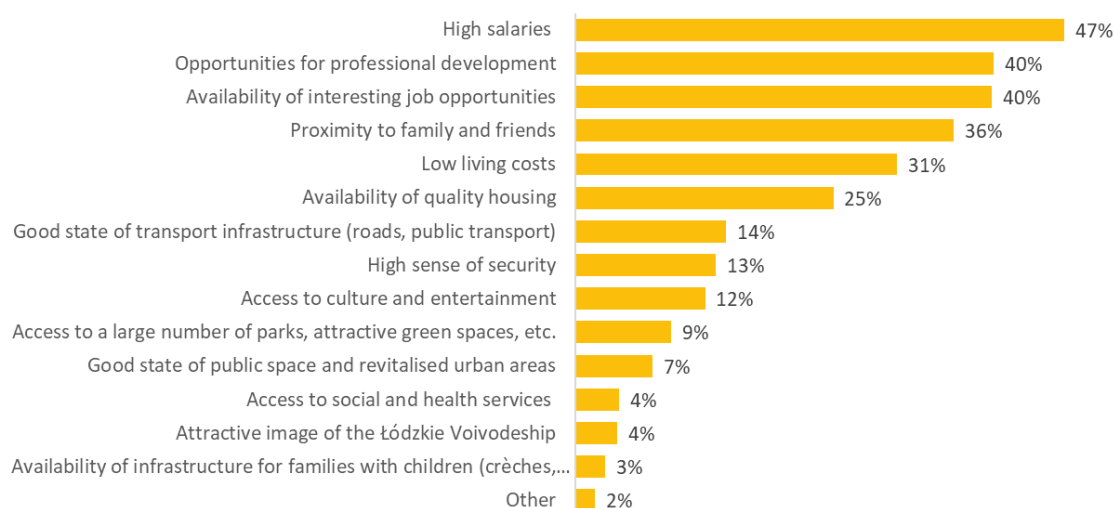
Figure 12. Factors influencing the decision to leave the Łódzkie Region after graduation



Source: CAWI student survey, n=415.

As the survey findings demonstrate, the key group for intervention purposes may in fact be identified amongst the undecided. This group constituted 42% of the total and highlighted employment-linked factors that could motivate them to stay in the region, namely high salaries (47%), career opportunities for professional development (40%) and interesting job offers (40%). This is particularly interesting when compared to the other two groups of respondents, who cited familial proximity as a key concern. A notable finding is that for this group, the low cost of living (31%) was more frequently indicated as a factor in the decision to remain in the region, and access to quality housing (25%) was also highly valued by students.

Figure 13. Factors influencing the decision to stay in the Łódzkie Region after studies among the undecided

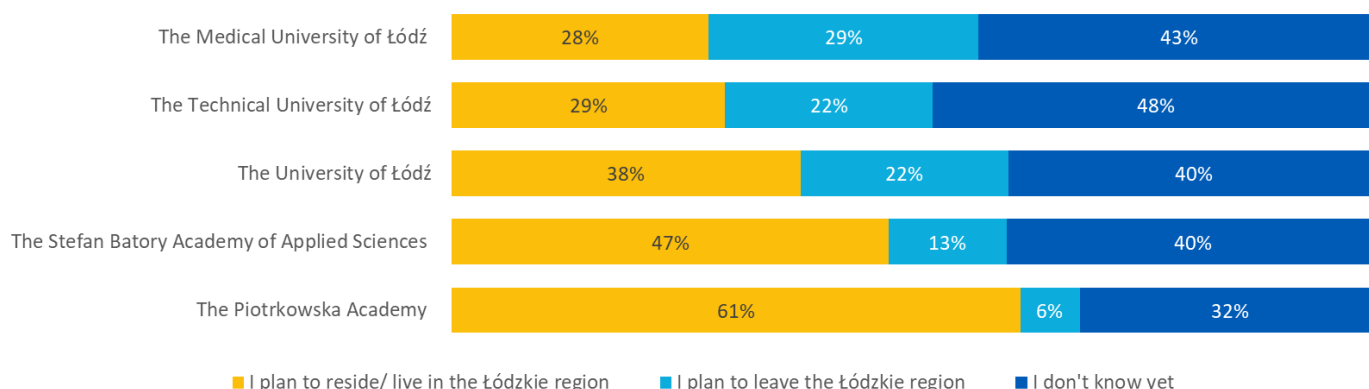


Source: CAWI student survey, n=774.

The analysis revealed differences in migration plans depending on the type of university and faculty of study. The Medical University of Łódź appears to be the most prone to outflow of future graduates, with only 28% of surveyed students planning to stay in the region. The motivations of students at the Technical University were similarly shaped, although in the case of this university, the proportion of undecided students was slightly higher. The University of Łódź, on the other hand, saw a lower proportion of respondents intending to leave the region, with a

slightly higher percentage of undecided respondents. Notably, the Piotrkowska Academy emerged as the most regionally loyal institution, with over 60% of respondents expressing a commitment to staying within the region. A similar percentage of respondents from the Stefan Batory Academy of Applied Sciences expressed a desire to remain in the region.

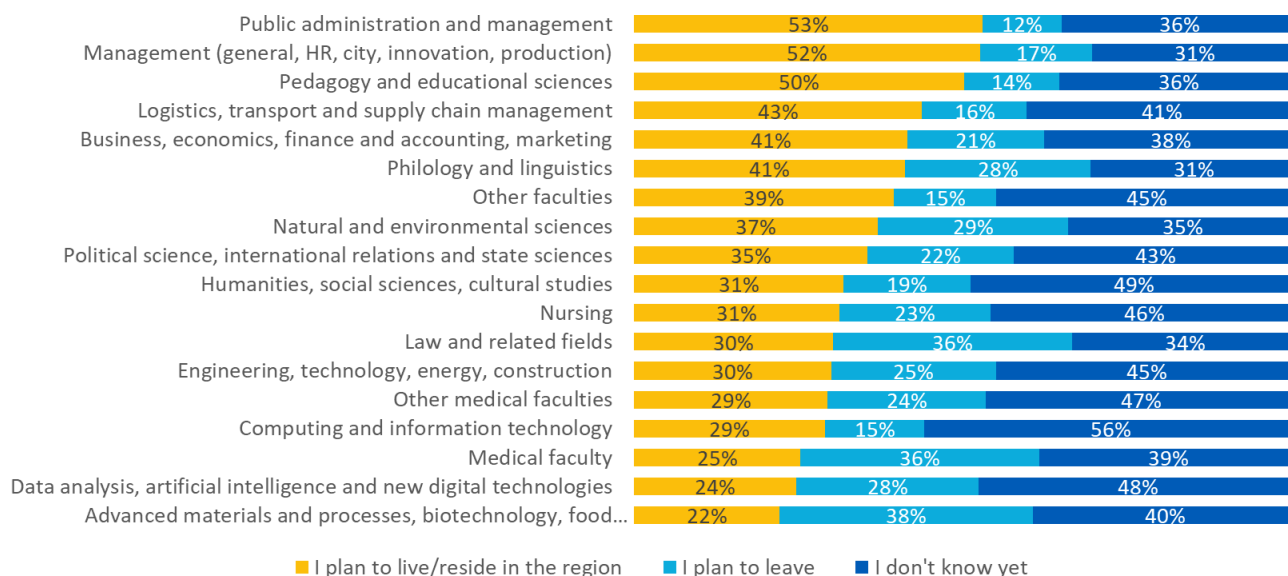
Figure 14. Respondents' post-graduation plans by university



Source: CAWI student survey, n=1818.

Analysing the responses by specialisation of study, the lowest percentage of students planning to stay in the region was observed among those studying innovative engineering and technology subjects such as advanced materials and processes, biotechnology, food engineering (22%), as well as data analysis, AI and new digital technologies (24%). Students of medical faculties are also inclined to leave the region (36%). In contrast, students of public administration (53%), management (52%), pedagogy (50%) or logistics (43%), declared the greatest willingness to stay. This variation reflects the specifics of the labour markets, as well as the perceived career opportunities in the region.

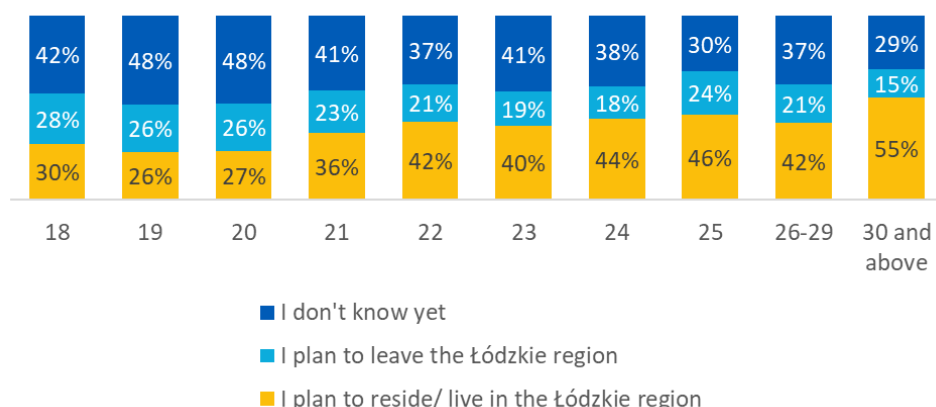
Figure 15. Respondents' post-graduation plans by the faculty of study



Source: CAWI student survey, n=1818.

A further key factor that greatly influenced plans for place of residence was found to be the age of the respondents. Among the younger age groups, less than 30% of respondents expressed a desire to remain in the region, while the propensity to stay increased with age.

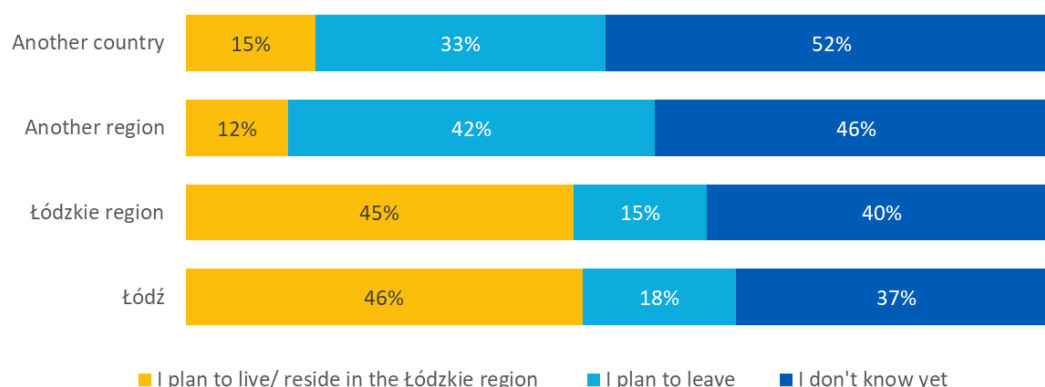
Figure 16. Respondents' post-graduation plans by age



Source: CAWI student survey, n=1818.

The previous place of residence was also found to be equally important in terms of the decision to stay in the region. A mere 15% of respondents who had previously resided in another country expressed an intention to stay in Łódzkie, a figure that dropped even further, to 10%, among those who had previously lived in another region before commencing their studies. Conversely, when analysing the responses of students hailing from the Łódzkie Region or the City of Łódź itself, a significantly higher intention to remain in the region was observed (45%).

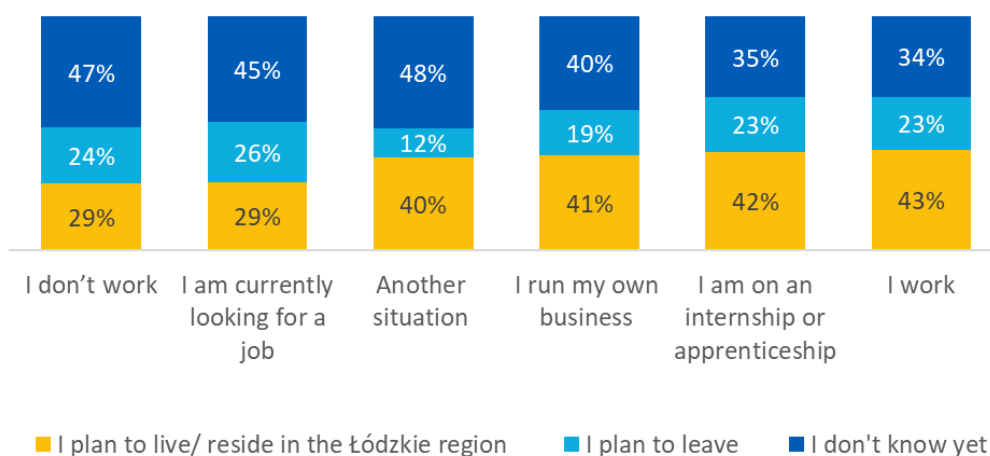
Figure 17. Respondents' post-graduation plans by the previous place of residence



Source: CAWI student survey, n=1818.

In addition, the present occupational status of students was identified as a key factor influencing their intentions to remain in the region. Students engaged in employment, internships, or self-employment were found to be more likely to express a desire to stay, suggesting that initial work experiences can effectively anchor students to their place of study.

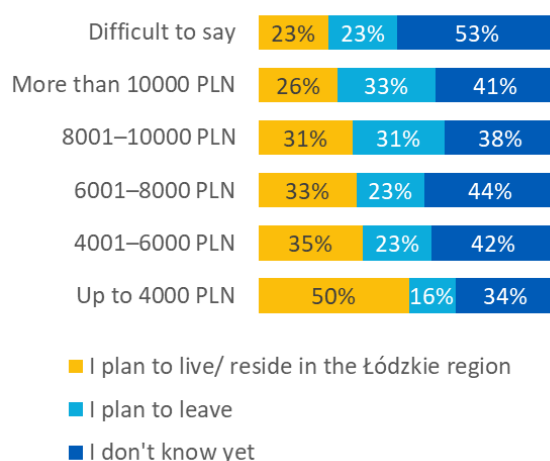
Figure 18. Respondents' post-graduation plans by their current professional situation



Source: CAWI student survey, n=1818.

There is also a demonstrable correlation between students' post-graduation plans and their financial expectations. It is an observable phenomenon that students whose financial expectations align closely with the national minimum wage are more likely to remain in the region. Nevertheless, as financial expectations rise, the willingness to remain diminishes. It is notable that students aspiring to earn over PLN 10,000 per month are more inclined to consider relocation.

Figure 19. Respondents' post-graduation plans by their salary expectations

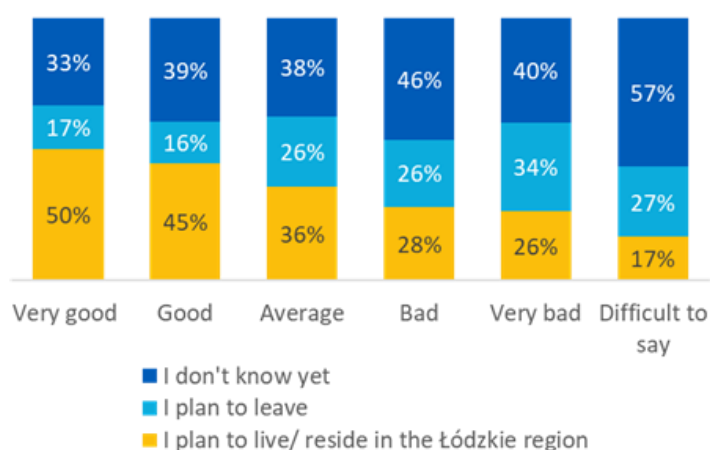


Source: CAWI student survey, n=1818.

This trend aligns with earlier findings, where engineering and technology students — whose skills are highly valued in the job market — expressed a stronger intention to leave. It may be hypothesised that higher financial aspirations among these graduates could drive migration to regions offering better salaries and employment opportunities if their expectations are unmet.

Furthermore, students' perceptions of their chances of finding a job in their field underscore the importance of labor market factors. Those with a positive outlook on employment prospects in their profession are more likely to remain in the Łódzkie Region.

Figure 20. Respondents' post-graduation plans depending on their assessment of the possibility of finding a job in their profession in the Łódzkie Region

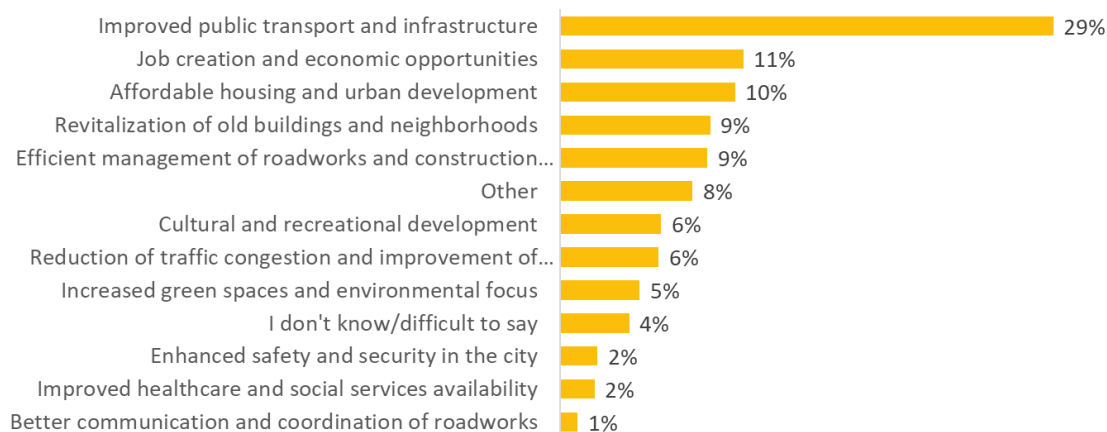


Source: CAWI student survey, n=1818.

One noteworthy aspect of the survey concerned the open-ended questions about potential factors that might make the Łódzkie Region more attractive to live in. The most frequently identified need was for enhancements to public transportation and road infrastructure, along with the creation of new employment opportunities. Other notable requests included the revitalisation of urban areas, more effective management of infrastructural

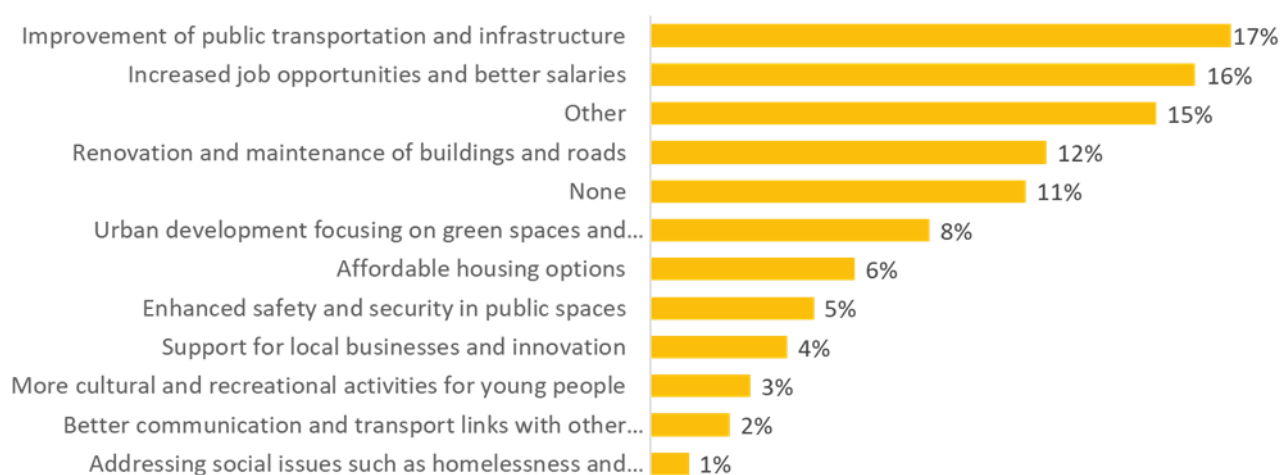
investments and the provision of affordable housing. Specific concerns regarding transport were also highlighted, including lengthy renovations, inadequate and inconsistent public transportation, and a lack of timely information regarding schedule changes. These issues were identified as significant barriers to daily life by students. In addition, approximately 11% of respondents indicated that no amount of action would be sufficient to convince them to remain in the region.

*Figure 21. Potential changes in the Łódzkie Region that could make it a more attractive place to live - respondents planning to stay and those undecided*



Source: CAWI student survey, n=779.

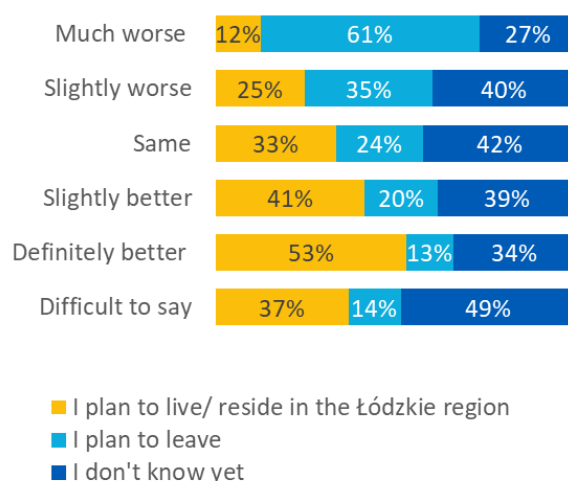
*Figure 22. Potential changes in the Łódzkie Region that could make it a more attractive place to live - respondents planning to leave*



Source: CAWI student survey, n=259.

An important factor influencing students' decisions to stay or leave the Łódzkie Region was their subjective assessment of its quality of life, with those perceiving it as low being significantly more likely to express intentions to leave.

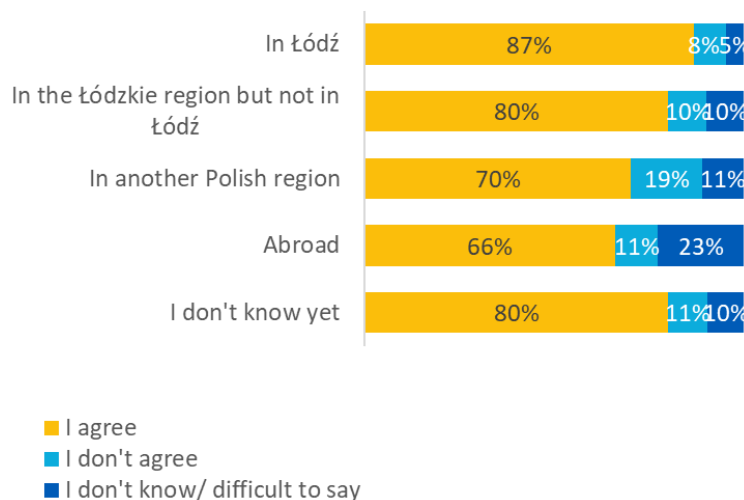
Figure 23. Assessment of the quality of life in the Łódzkie Region in comparison to other Polish regions



Source: CAWI student survey, n=1818.

Additionally, perceptions of Łódź itself emerged as a critical issue. While students acknowledged numerous positive changes in the city, they also highlighted persistent stereotypes as a major barrier to establishing a favourable image of both the city and the wider region. Individual interviews conducted during the survey pilot stage further revealed that these negative perceptions, particularly among individuals from outside the region, often fail to align with the actual improvements observed in Łódź.

Figure 24. Agree with the statement that Łódź has undergone many positive changes in recent years and the planned place of residence after graduation



Source: CAWI student survey, n=1818.

In order to conduct an in-depth analysis of the factors influencing students' decisions to stay in Łódzkie Region after their studies, a statistical model based on logistic regression analysis was developed. This method made it possible to estimate the extent to which certain characteristics or opinions of the respondents increased or decreased the likelihood of deciding to stay in the region. The analysis included the above-mentioned variables related to the respondents' demographic profile, employment situation and perceptions of living conditions and career opportunities in the Łódzkie Region.



The results show that the strongest factor encouraging students to stay in the Łódzkie Region is previous residence in the region. Individuals who lived in the region before studies are almost six times more likely to stay than those from other regions or countries. A key influence here is proximity to family or friends, which 79% of respondents who plan to stay in the region after graduation cite as important. The likelihood of staying also increases with age, rising by around 9% for each additional year of life. Employment status is another key factor. Students who already have a job or internship are about 33% more likely to stay in the region. Conversely, a negative perception of local job prospects and the belief that living conditions in Łódzkie Region are worse than in other areas reduce the likelihood of remaining in the region by around 45%.

The probability of staying in the region is also significantly lower for students of Łódź University of Technology and Medical University of Łódź. Compared to other institutions, students from these universities are about 50% and 35% less likely to say that they intend to continue living in the region.

In summary, the analysis clearly shows that, apart from originating from the region, the main factors that bind students to Łódzkie Region are active employment or a positive assessment of job opportunities. Another important factor in the decision to stay is the perception of the quality of life. According to the study, factors that discourage students from staying in the region include the poor state of public spaces, neglected urban areas and the inadequate state of transport infrastructure.