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**ORADEA **
IT INDUSTRY REPORT
2022

in collaboration with



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WHY ORADEA IS THE FIRST&FINAL CHOICE FOR TECH-SAVVY PEOPLE

ORADEA - IT BUSINESS ORIGINS



“It took a voice, a lot of motivation, and then a strong community that made us believe that the path we started years ago began to bear fruit!”
- Alin Mercheș

Time has taught the world meaningful things about Romania that have helped put the country on the map of business investments.

Surely you’ve heard of Bucharest or Cluj, but the true future of IT lies in the northwest part of this beautiful country. Not so long ago, this stubborn city called Oradea dreamed of aprogressing and evolving rapidly. Oradea’s impressive architecture has always been compared to Barcelona, Helsinki, Riga, Brussels, and Prague.

Oradea was hailed as Romania’s safest city during the pandemic, raising the bar and attracting tourists worldwide. Slowly (but surely), Oradea’s reputation was improving.

Over the last five years, Oradea has become a center of urban development, with regional and international influence: the kind of tech-savvy city anybody wants to live in.



Who is OTH? - „By hard-working people for hard-working people”

Hence, OTH (Oradea Tech Hub) was born, due to the market's need for a balance in the IT sector. The hub designed a tech community that focuses on collaboration, not competition.

The main objective of our ecosystem is to ensure a balance between personal and professional lives.



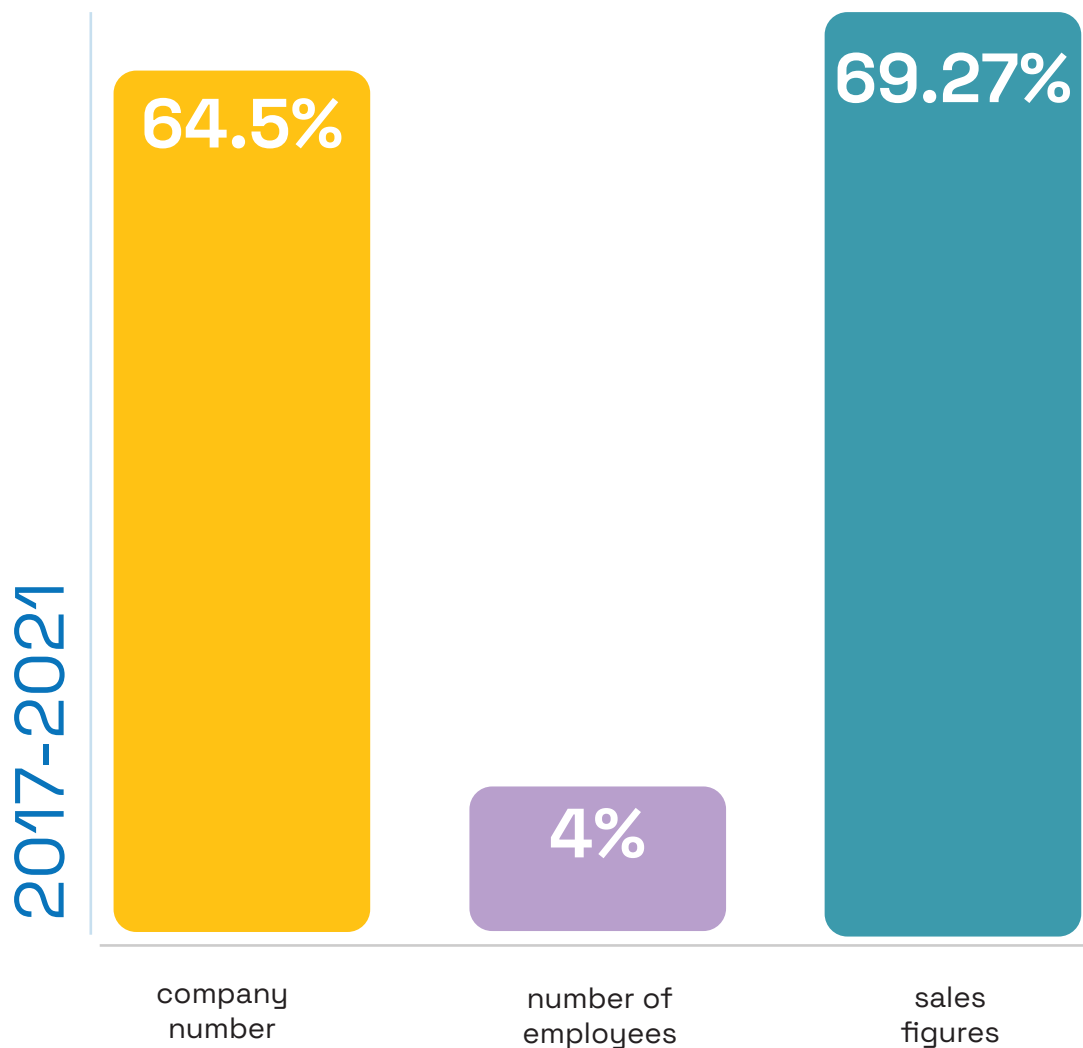
”OTH is the only tech ecosystem focused on the wellbeing of its members”

We focus on impact, on actions that carry the potential to transform. We are not just a community, we are a tribe of people that are just enthusiastically bold.

We like to make sure enthusiastic and tech-savvy people have the right environment to grow, to develop professionally and when the time comes, to put their knowledge in the service of the community.

OTH and especially its community have been instrumental in promoting the bright side of the city's potential, increasing the number of employees, specialists, and technology companies.

OTH has grown considerably over the years owing to webinars, hackathons, tech events, and a variety of interests that helped build the community.



Oradea IT companies, employees and sales growth between 2017 and 2021

All our efforts pay off and we need all support to make Oradea the first choice for tech companies and individuals to grow healthy.

International investors began to show interest in Oradea's power. Especially prevalent in the tech sector. Innovation and technology were the focus of all local community efforts. Following this, an ecosystem emerged that included:

- 425 active companies of which 206 have more than 2 employees
- more than 1900 employees



- at least 22 startups of which we know about, with activities in 21 industries and clients in dozens of countries;
- 11 million combined new users;
- more than \$10 million has been invested in local companies.



This momentum prompted a few Oradea enterprises to approach the municipality with a strategy to enhance the local IT sector, promote innovation and startups, and retain IT and entrepreneurial expertise.

Thought leadership from Alin Mercheș

President of Oradea Tech Hub



A healthy and functional Tech ecosystem is being developed by more and more “stakeholders” with a desire to change things.

We knew that we had to focus our ideas, energy, and efforts on the IT community and that we were responsible for setting an example for those wanting to join.

Five to six years ago, the local tech community was very small and uncoordinated, but today I’m glad to see it consolidated and expanding as the statistics confirm, more and more people feel part of a growing cohesive ecosystem, and we become a force in the direction of development of the city.

The next few years will be dedicated to increasing the number of specialists in Oradea. The goal is to reach 5,000 IT specialists within 4-6 years. Our goal is to become a city where specialists can carry out their work with ease, especially if you are tech passionate.

In spite of their passion for technology and this industry, many of our students have to choose another city to study, in due to our limited academic opportunities in this field. But they are living a lie.



As long as Oradea keeps becoming a tech-savvy city, we will work towards keeping our passionate students in “the city of every tech possibility in Romania”.

This is the future of Oradea. This is our target. This is what we want to change and offer.

It takes a “helping hand” for every computer “geek” to become a proud IT specialist raised and educated in Oradea, the first choice of any investor out there.”



SO WHY GROW THE OTH COMMUNITY?

OTH is the only technology hub dedicated to local community development in the context of market globalization technology labor market.

OTH is concerned with developing an ecosystem that promotes the creation of a work-life balance for employees in IT and beyond, with the goal of becoming a hub of interest for the entire **creative tech sector**.

We aim to transfer know-how and results to the local community through its work, in order to make it more attractive to the national and international tech sector, thus creating more opportunities, jobs, and building credibility on Oradea's real potential.

Rather than being just a collection of people united by an idea, we are a living group of ideas that grow, develop, and transform for the good of ourselves and others.

We are the place where ideas come to life and turn into impact.

So join us for a better future!



SO WHY JOIN OUR SIDE?

There are currently more than 400 companies that chose to build a future in our city.

OTH is the only technology hub that is focused on building a community of professionals and then turning it into a driver for the local economy.

For the past 5 years, national and international investors discovered the potential in Oradea's smart strategy to create an ecosystem that ensures a bright future through technology.

We at OTH are interested in helping develop the new trend where small towns compete with big cities as technological hubs, offering more than just similar opportunities, but a better quality of life as well.

So join us for a better future in Tech!



TECH COMPANIES IN ORADEA

PROFILE

The IT business landscape in Oradea is dominated by local companies (70%) that are rather young (61.9% in our sample are less than 10 years old) and predominantly working on custom software development (60%). Over 50% of the IT companies in Oradea in our sample record yearly revenues ranging from 100.000 to 1.000.000 euros (26.2%) and above 1.000.000 euros (26.2%). The dominant technologies used by IT companies in Oradea are JavaScript, PHP, and TypeScript, while the main frameworks used are React.js and AngularJS. Like in many other technical industries these companies are dominated by male employees.

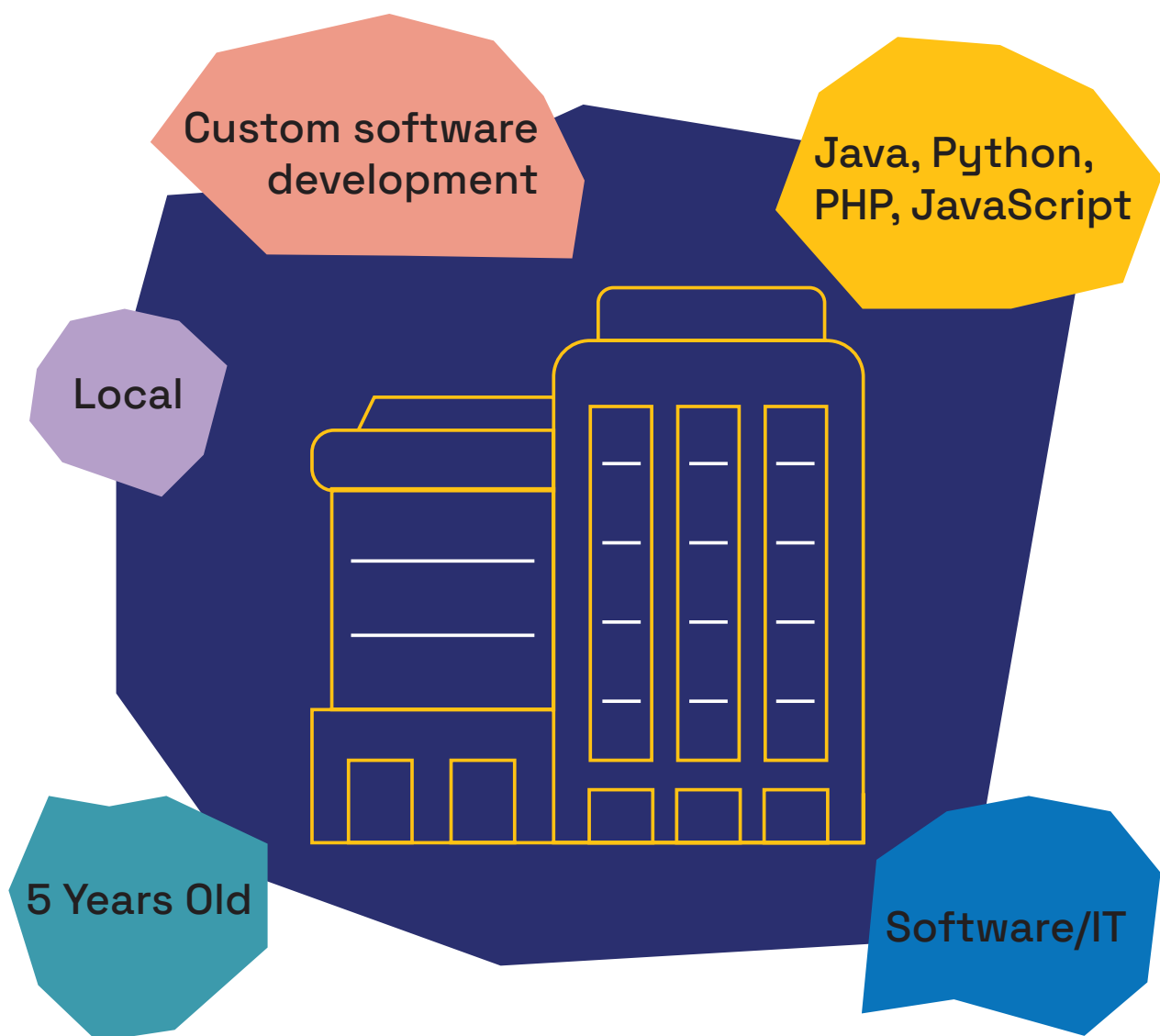


Fig 1. The general profile of IT companies in Oradea in our sample

TECH COMPANIES IN ORADEA

PROFILE

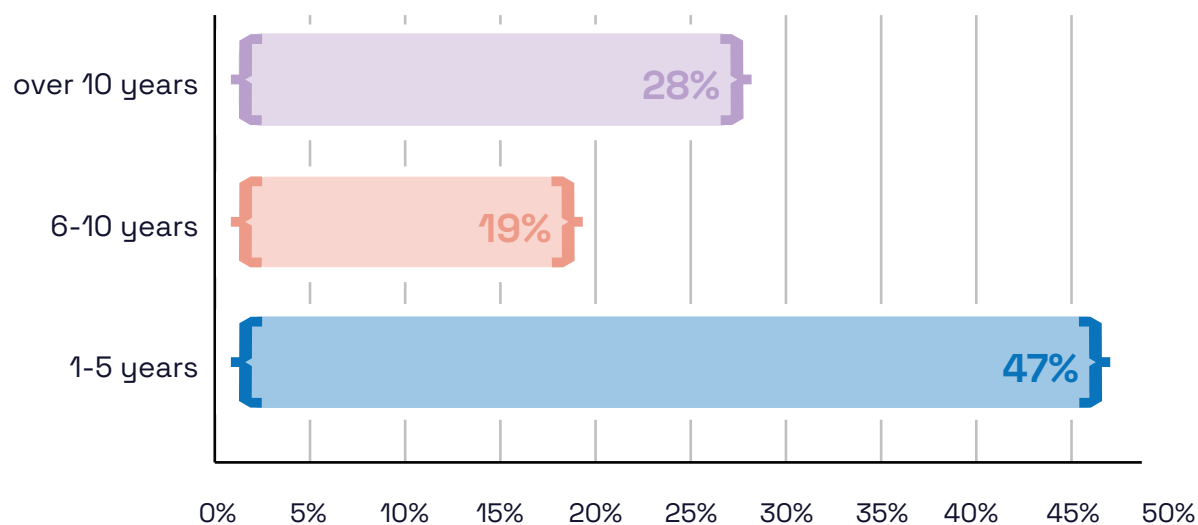


Fig 2. The age of the company in our sample

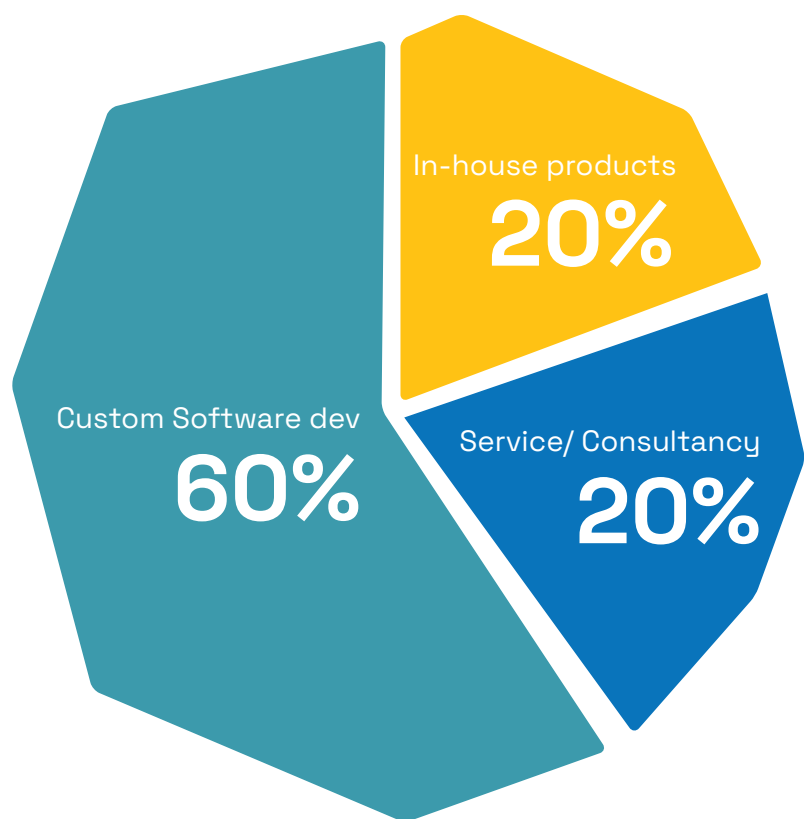


Fig 3. The category of product/ services provided by companies in our sample

TECH COMPANIES IN ORADEA

PROFILE

The dominant type of IT companies in our sample that operate locally within Oradea's technological ecosystem include companies across categories (custom software development, in-house products, consultancy/services, and start-ups). This data indicates a grassroots approach in the development of the IT sector in Oradea, which is a sustain-able way to grow a healthy ecosystem.

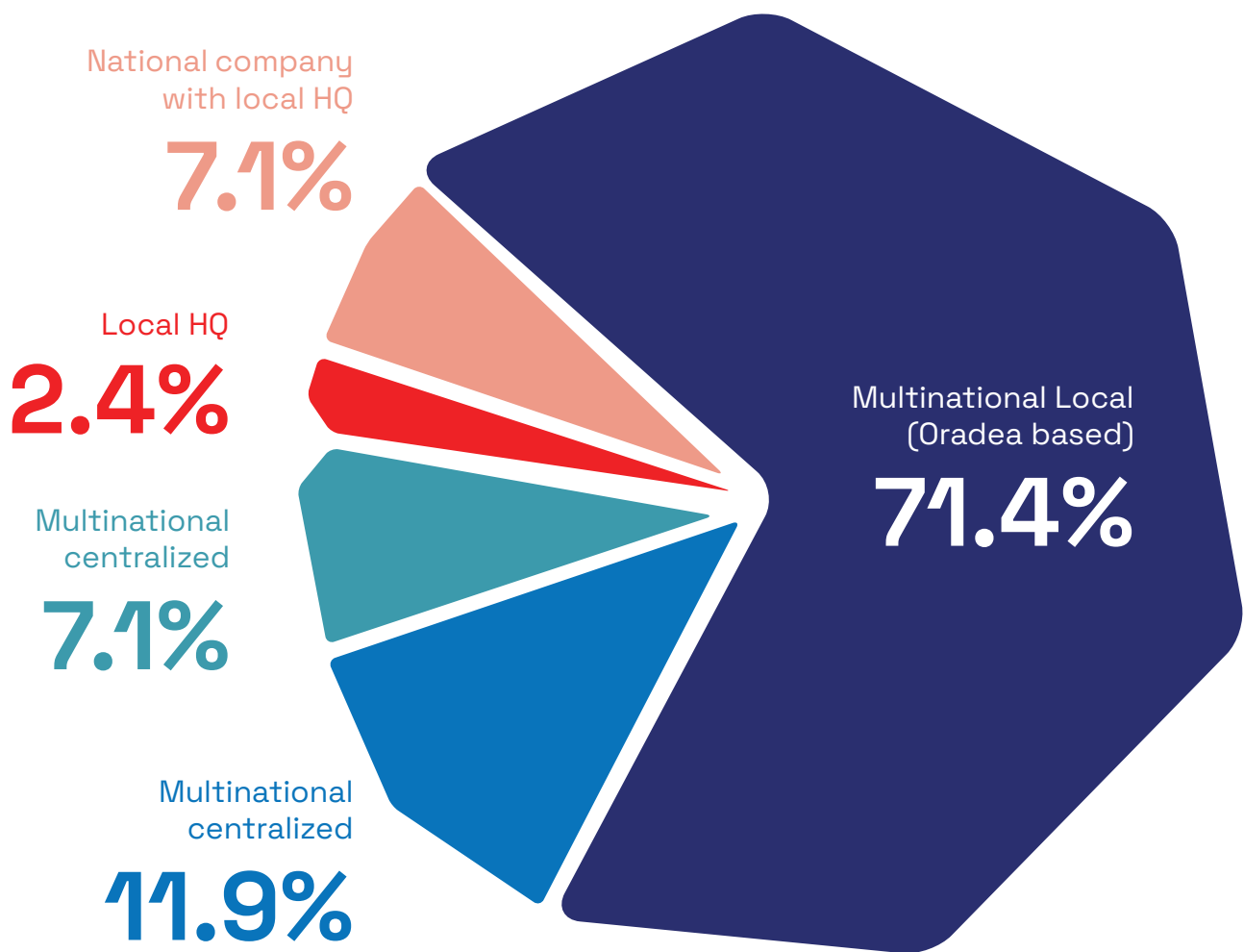


Fig 4. The location of companies in our sample

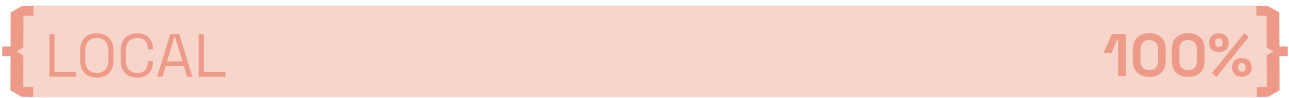
TECH COMPANIES IN ORADEA

PROFILE

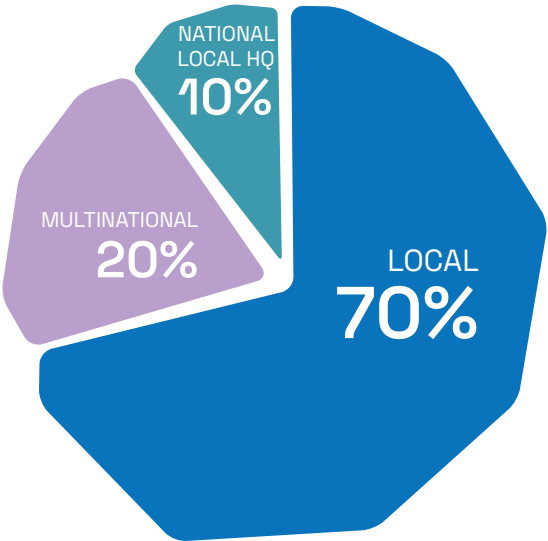
A grassroots development is critical because it provides space for the community to address local issues and to find mutually-beneficial solutions. Nevertheless, there is no denying the role that non-local companies play in improving the general competitiveness, dynamics, and attractiveness of local businesses. As a result, there is a need for intentional efforts with the goal of luring non-local technology-based companies into Oradea's existing ecosystem.

The local administration and providers of technology education must take the lead in this effort to make Oradea an appealing location for outsider tech companies. This effort can take the form of favorable policies, infrastructures and spaces such as a technology park, public-private partnerships, research funding, talent pipeline development, high-quality education, specialized education curriculum, and so forth.

IN-HOUSEE PRODUCTS



CONSULTING/SERVICES



CUSTOM SOFTWARE DEVELOPMENT

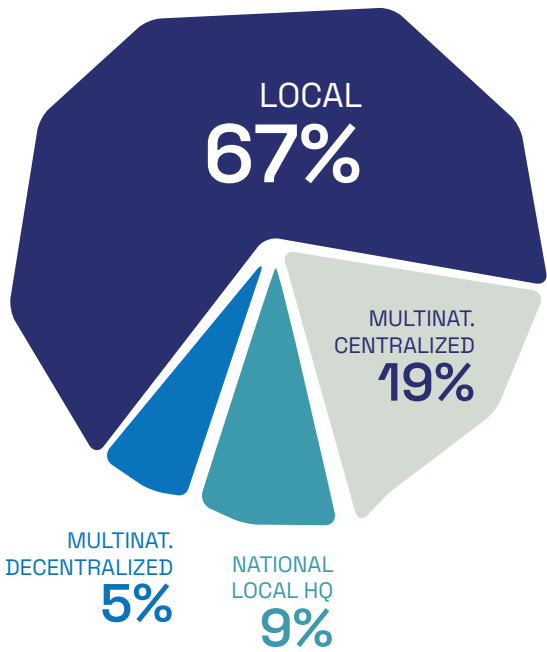


Fig 5. Location of companies according to their expertise

TECH COMPANIES IN ORADEA

REVENUE

Although 47.6% of the companies in our sample generate annual revenues of less than 100.000 euros, it is important to note that 52.4% are above said threshold, with 26,2% of companies being over the 1.000.000 euros threshold.

A closer look into the data shows that the category of companies that are 2-5 years old is the most dynamic of all three revenue brackets, holding an important 18% (2nd place) in the revenue category of “above 1.000.0000 euros”.

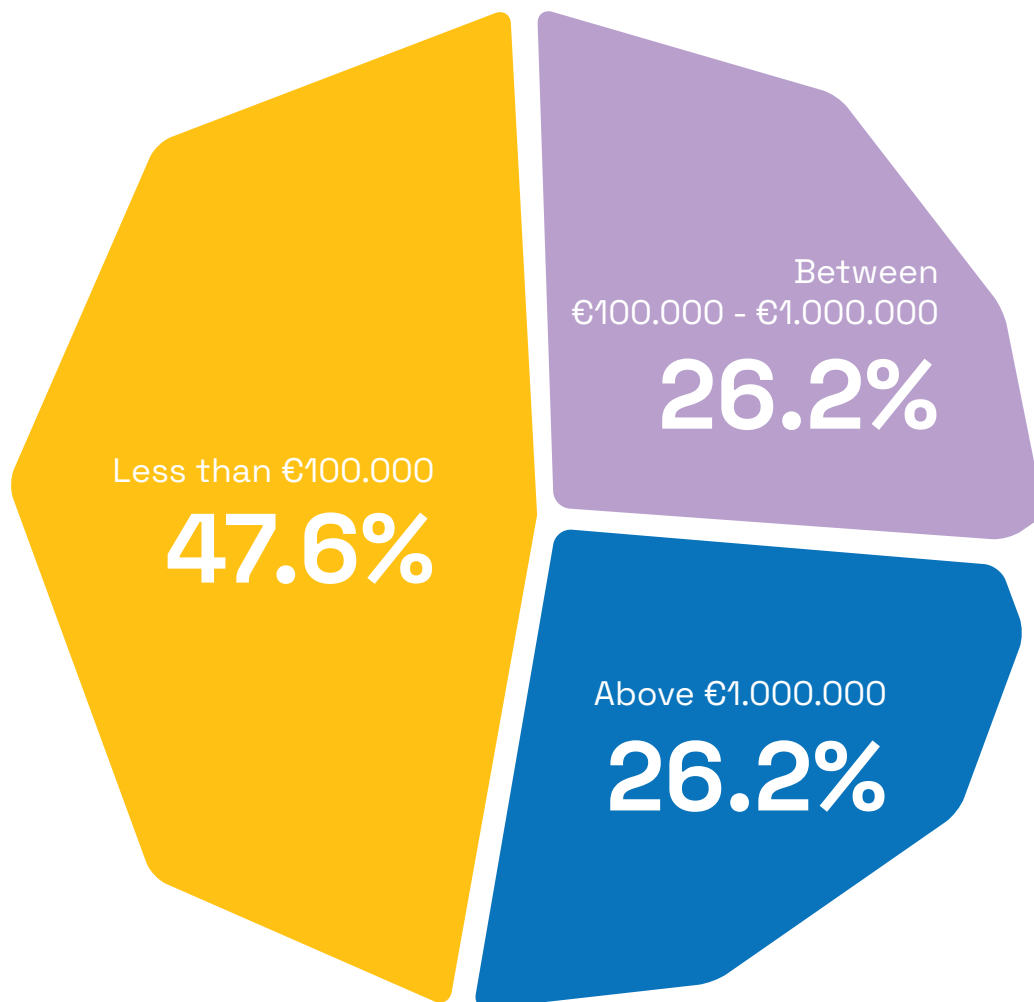


Fig 6. Annual revenue of companies in our sample

TECH COMPANIES IN ORADEA

REVENUE

Our data indicates a correlation between the age of the companies in the sample and their revenue, in that revenue increases with age. Therefore, very young companies (up to 2 years) record lower levels of revenue, while more established companies (10- 15 years) take up a large space (45%) of the higher revenue category. This trend indicates an expected and normal steady development of companies as time passes since they expand their capabilities and grow their customer base. These insights are also highlighted by the fact that smaller and younger local companies, when asked about their main challenges, stated “lack of customers” as a problem more frequently than larger, more mature companies did.

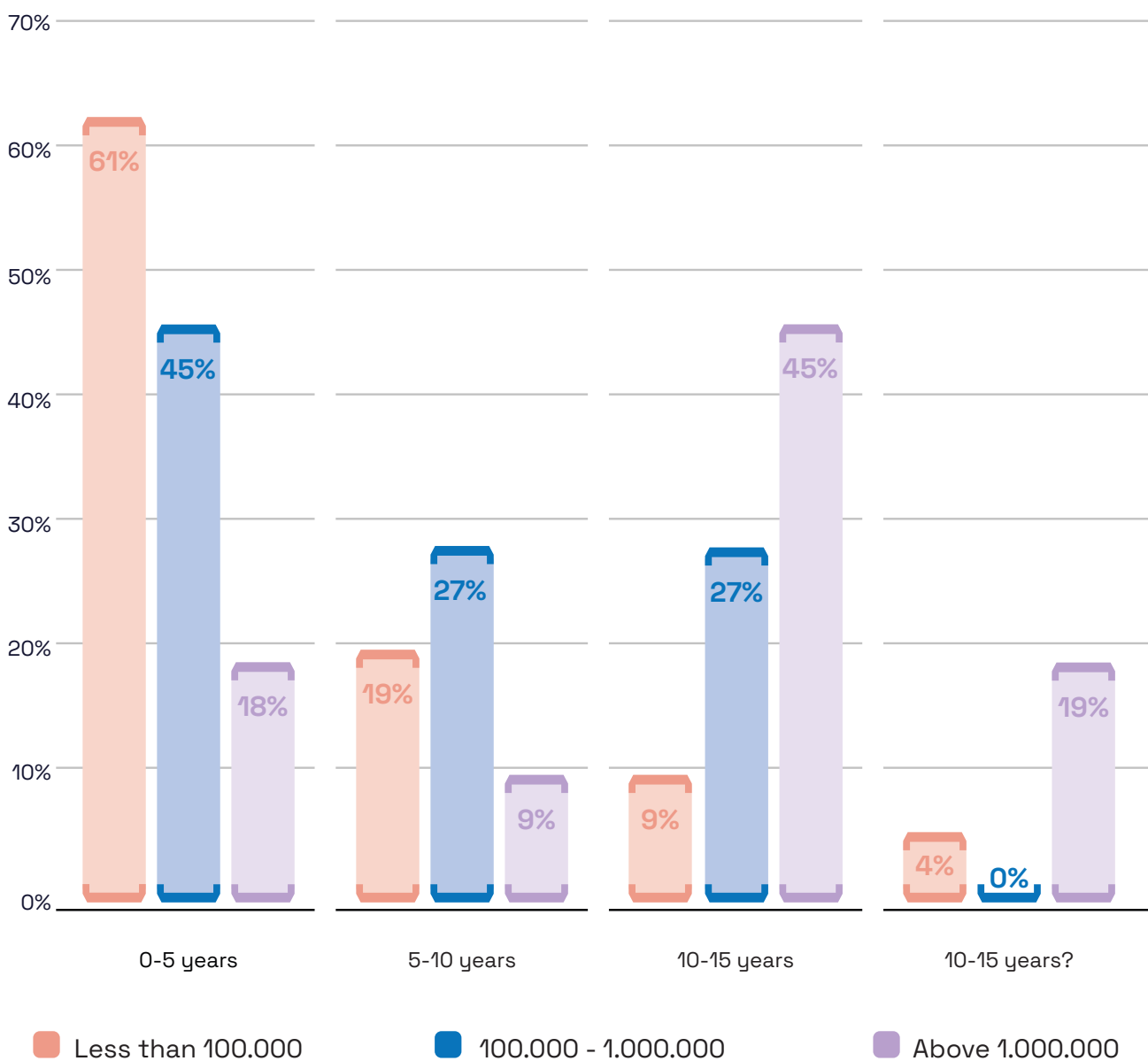


Fig 7. Annual revenue by company age

TECH COMPANIES IN ORADEA

TECHNOLOGIES AND FRAMEWORKS USED

The local IT companies are keeping up with modern technology and are using the most popular programming languages in the field at the moment. JavaScript is the third most used programming language in the world, with C# being the fourth and PHP being the sixth. Similarly, JavaScript is the most used programming language amongst the companies in Oradea, followed by HTML5 and SQL, which are baseline prerequisites in programming, and the fourth place being Python, a language used mostly for machine learning and artificial intelligence.

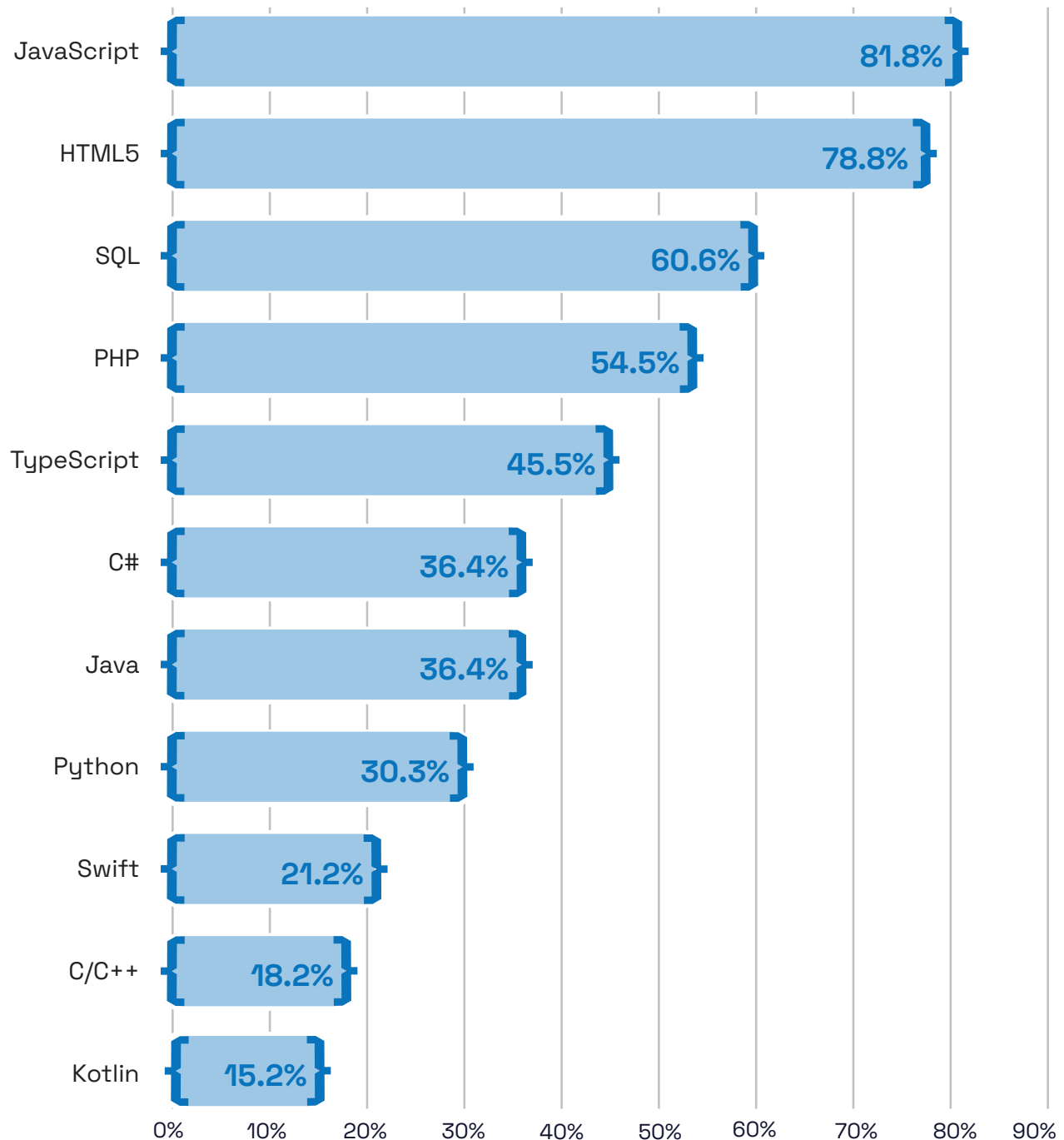


Fig 8. Programming languages used by companies in our sample

TECH COMPANIES IN ORADEA

TECHNOLOGIES AND FRAMEWORKS USED

In order to better understand the challenges, opportunities, and potential of Oradea's IT sector, we looked more closely at the technologies and frameworks used by companies sorted by their characteristics.

The top 5 **programming languages** used by IT companies in our sample by category are as follows:

Table 1

STARTUPS

JavaScript	83%
HTML5	66%
Python	50%
TypeScript	33%
PHP	33%

CUSTOM SOFTWARE DEVELOPMENT

SQL	71%
HTML5	71%
JavaScript	71%
PHP	52%
C#	47%

SERVICES / CONSULTANCY

PHP	20%
HTML5	20%
JavaScript	20%
C#	20%
TypeScript	10%

IN-HOUSE PRODUCTS

HTML5	83%
JavaScript	83%
SQL	50%
PHP	20%
TypeScript	10%

Our data indicates that custom software development companies in Oradea, which are the most numerous, specialize in JavaScript and PHP, while the startups in our sample supplementary work predominantly with Python and TypeScript.

TECH COMPANIES IN ORADEA

TECHNOLOGIES AND FRAMEWORKS USED

Evidently, the frameworks used by companies in the local ecosystem reflect the trends within the IT industry. The most popular frameworks worldwide are also the most used ones in Oradea, React.js, and AngularJS, both being popular frameworks for web development. The IT companies in the area are also adopting new and innovative frameworks that are forecasted to become runner-up for the most used framework, such as Flutter and React Native, which are used for app development.

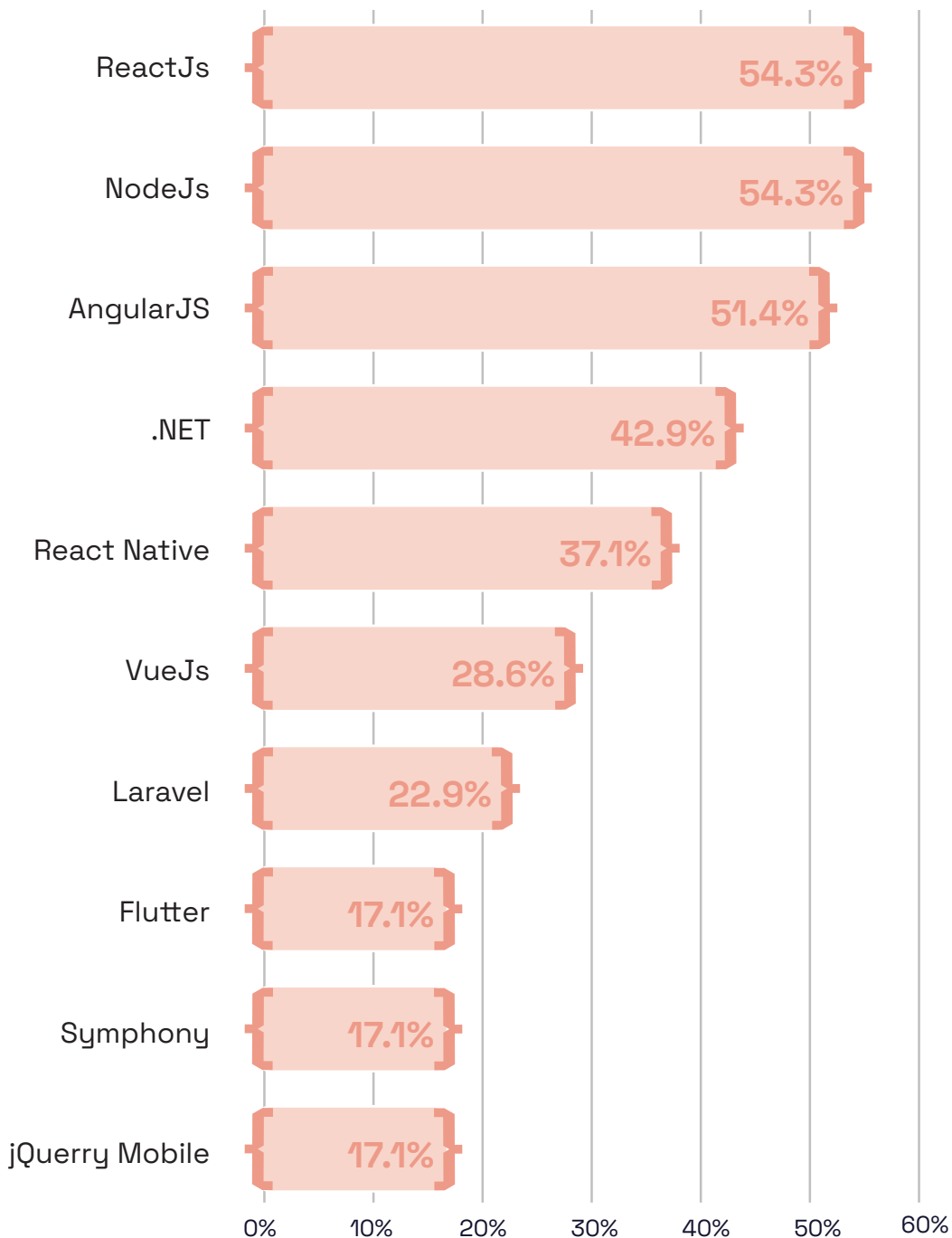


Fig 9. Frameworks used by companies in our sample

TECH COMPANIES IN ORADEA

TECHNOLOGIES AND FRAMEWORKS USED

The top 5 frameworks used by IT companies in our sample by category are as follows:

Table 2

STARTUPS		CUSTOM SOFTWARE DEVELOPMENT	
React Js	66%	Angular Js	61%
Node Js	50%	.NET	57%
.NET	33%	React Js	52%
Angular Js	33%	Node Js	52%
Vue Js	33%	React Native	38%
SERVICES / CONSULTANCY		IN-HOUSE PRODUCTS	
Laravel	20%	Node Js	66%
.NET	10%	Angular Js	50%
Ionic	10%	React Js	50%
Vue Js	10%	React Native	50%
React Js	10%	jQuery Mobile	16%

TECH COMPANIES IN ORADEA

TALENT

The IT landscape in Oradea is dominated by “boutique” type technology companies, meaning that they are smaller in size in terms of number of employees.

In our sample, 60 % of the surveyed companies employ up to 10 people. Nevertheless, the IT business environment in Oradea also features larger companies with over 50 employees (17,5%).

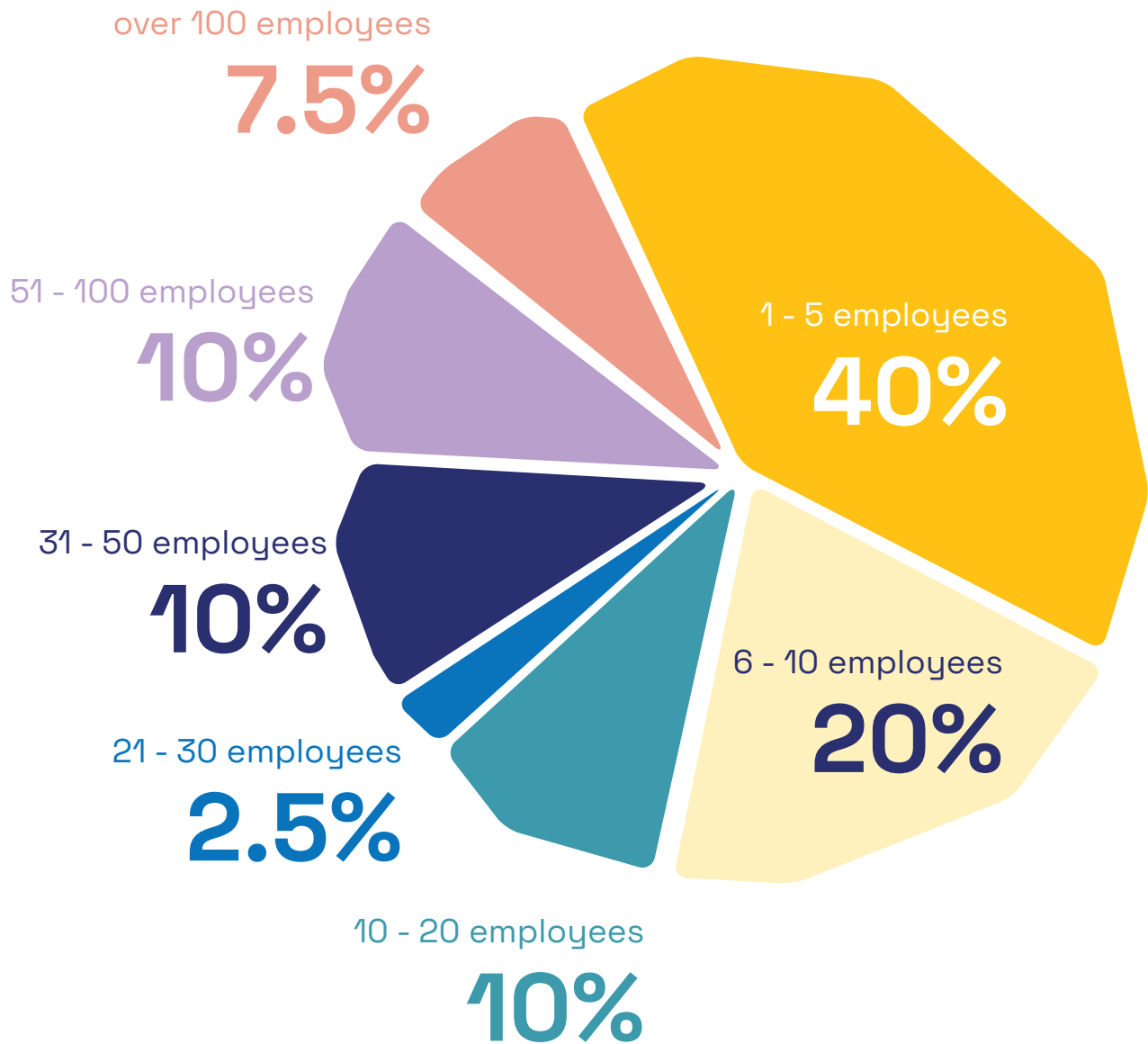


Fig 10. Percentage of female employees in diferent categories of IT companies

TECH COMPANIES IN ORADEA

TALENT

As is also the case in other highly technological sectors, the IT industry is still male-dominated, and it is therefore unsurprising that the majority of the employees in the IT companies in Oradea are men. However, the gender gap is not hopelessly large, given that the employee gender ratio is 1 female to 2 male employees across the spectrum of companies in our sample. Furthermore, our dataset shows that female IT professionals are present in all sizes of companies, small (1-5 employees) and large (over 50 employees), in a similar proportion.

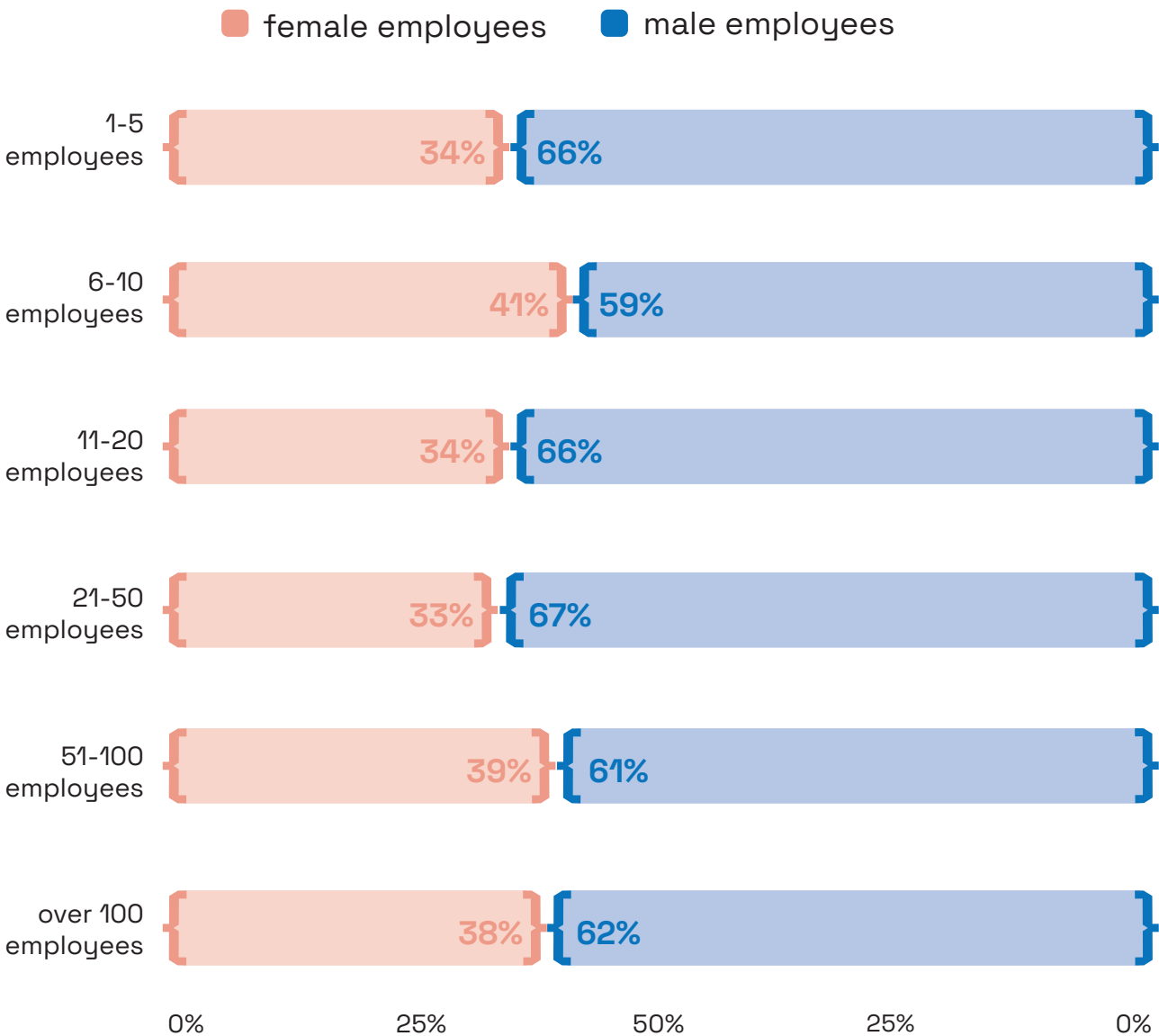


Fig 11. Distribution of employees by gender

TECH COMPANIES IN ORADEA

TALENT

Moreover, it seems that female employees are more present in service/consulting IT companies and startups compared to companies that do custom software development or in-house IT products.

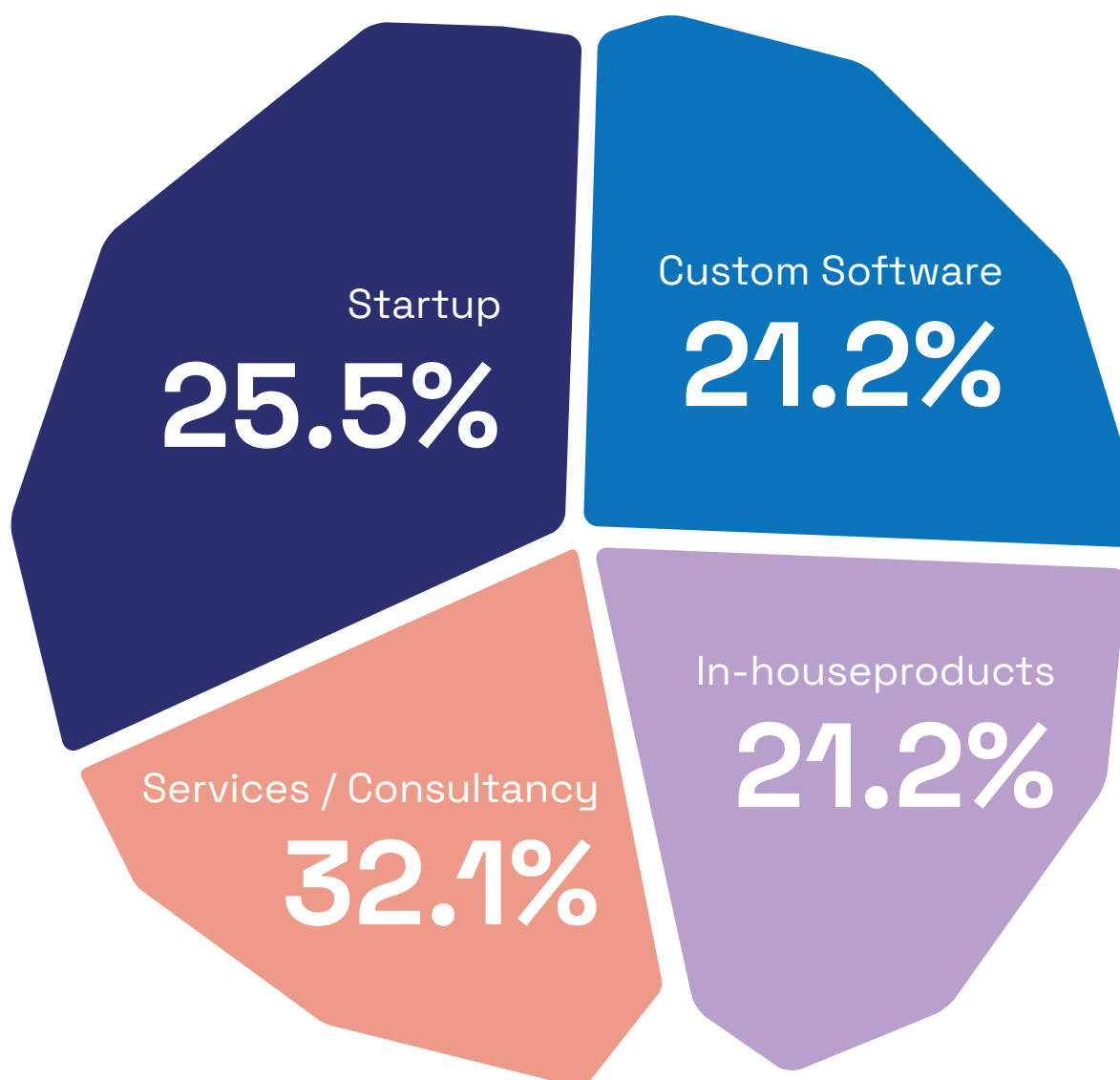


Fig 12. Percentage of female employees in diferent categories of companies

TECH COMPANIES IN ORADEA

TALENT

When it comes to retaining talent, IT companies in Oradea are facing a typical employee turnover, with more than 40% of the representatives in our sample stating that their employees stay with the company for up to 5 years. In order to retain their talent, IT companies in our sample offer employees a mix of benefits with remote work, flexible schedule, and training being the most desirable aspects in this offer. These benefits align with the preferences stated by the IT employees in our research, which seek compensation packages, growth and development opportunities, and a caring environment in the companies they work for.

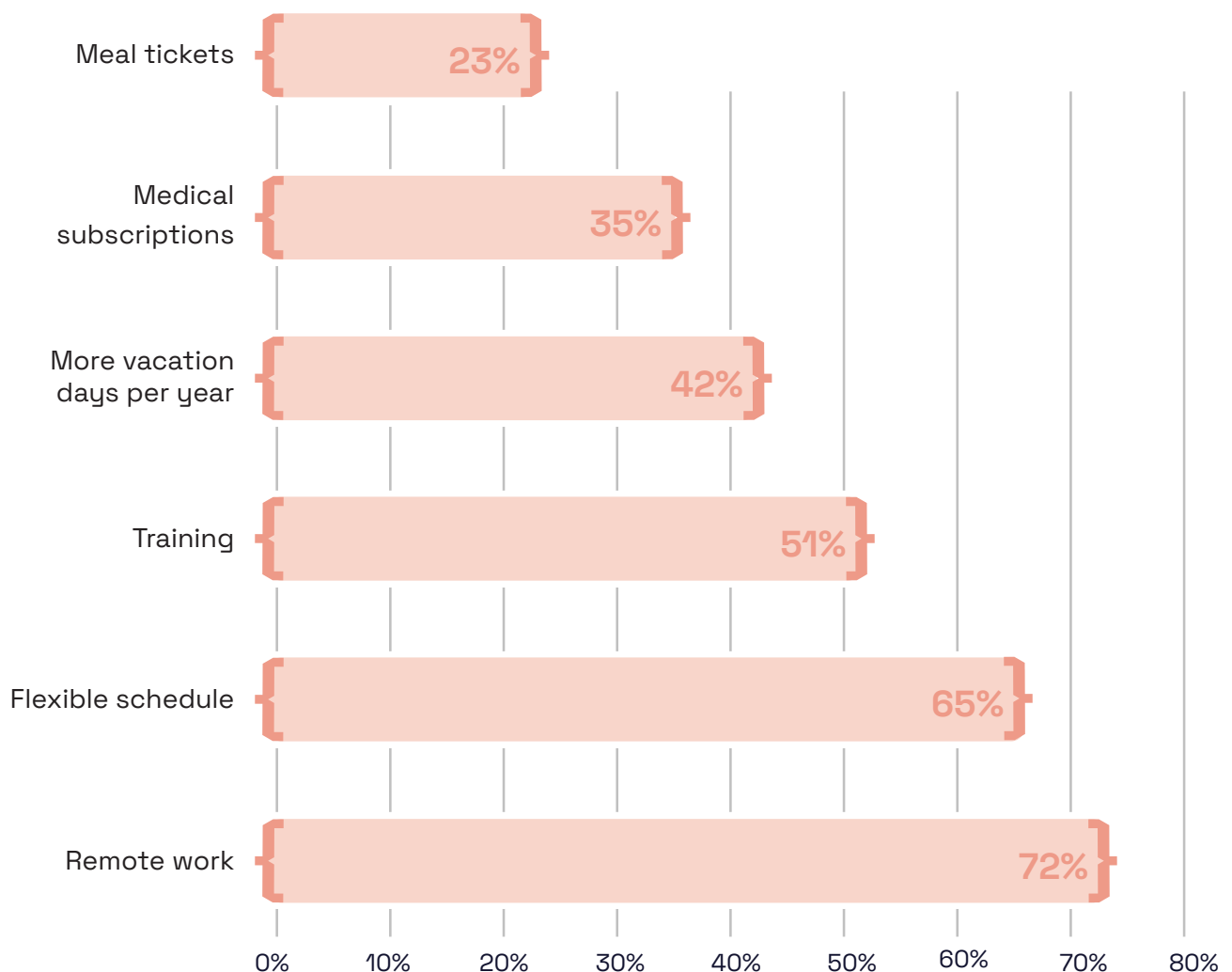


Fig 13. Benefits offered to employees by companies

TECH COMPANIES IN ORADEA

TALENT

In order to acquire their talent, IT companies in Oradea (in our sample) resort to an array of methods, but mostly rely on recommendations from existing employees and hiring platforms such as eJobs.

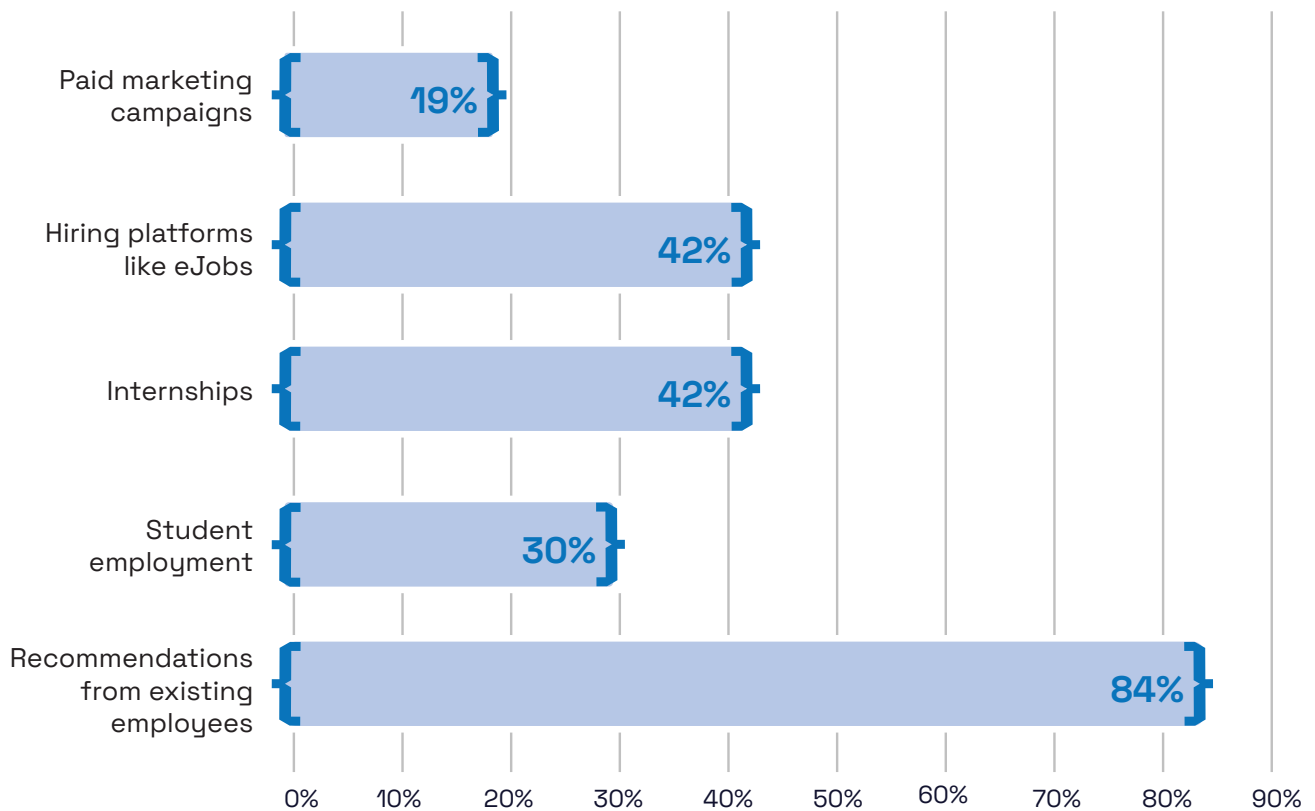


Fig 14. Recruitment methods used by IT companies in our sample

TECH COMPANIES IN ORADEA

TALENT

It seems that internships play a more prominent role in recruiting talent in the case of national or multinational IT companies than in the case of local ones.



Also, our data shows that smaller companies (up to 10 employees) rely on recommendations from existing employees more than larger companies, which prefer to use specialized hiring platforms or internships.

Unfortunately, student employment through partnerships with universities does not play a major role in the companies' strategy for acquiring talent. This may be explained by the fact that the local ecosystem and community still need a catalyst to bridge the gap between industry and education while intentionally facilitating collaboration between the two worlds.

Nevertheless, internships play an important role in the efforts of IT companies to acquire new talent, which is a step in the right direction regarding this collaboration, albeit at an informal level. It is important to note, in the context of this data, that the educational component is the factor that is the most frequently rated as a problem in the local

ecosystem.

This problematic dimension of IT education in Oradea is also emphasized by the responses of the leaders in local IT companies, which indicate that an important challenge they are facing in the growth of their organizations is "juniors with no expertise".

Despite local educational institutions being expected to improve themselves and their services in order to produce higher quality graduates to supply Oradea's IT sector's talent pipeline with, we would argue that this is only possible through a joint effort of all members of the local ecosystem (companies, universities, and local administrations).

TECH COMPANIES IN ORADEA

TALENT

Local (Oradea based)

Recommendations from existing employees	83%
Hiring platforms like eJobs	30%
Internships	30%
Student employment - partnership with universities	26%
Paid marketing campaigns	13%

National company with local headquarter

Internships	100%
Recommendations from existing employees	100%
Student employment - partnership with universities	66%
Ad in the newspaper/local press	33%
Hiring platforms like eJobs	33%

Tabel 3. Recruiting methods used by different categories of IT companies

TECH COMPANIES IN ORADEA

TALENT

Multinational Decentralized

Hiring platforms like eJobs	75%
Internships	75%
Recommendations from existing employees	75%
Student employment - partnership with universities	50%
Linkedin	25%

Multinational Centralized

Hiring platforms like eJobs	80%
Recommendations from existing employees	80%
Internships	60%
Paid marketing campaigns	20%
Student employment - partnership with universities	20%

Tab 4. Recruiting methods used by different categories of IT companies

TECH COMPANIES IN ORADEA

CHALLENGES FACED BY IT COMPANIES IN ORADEA

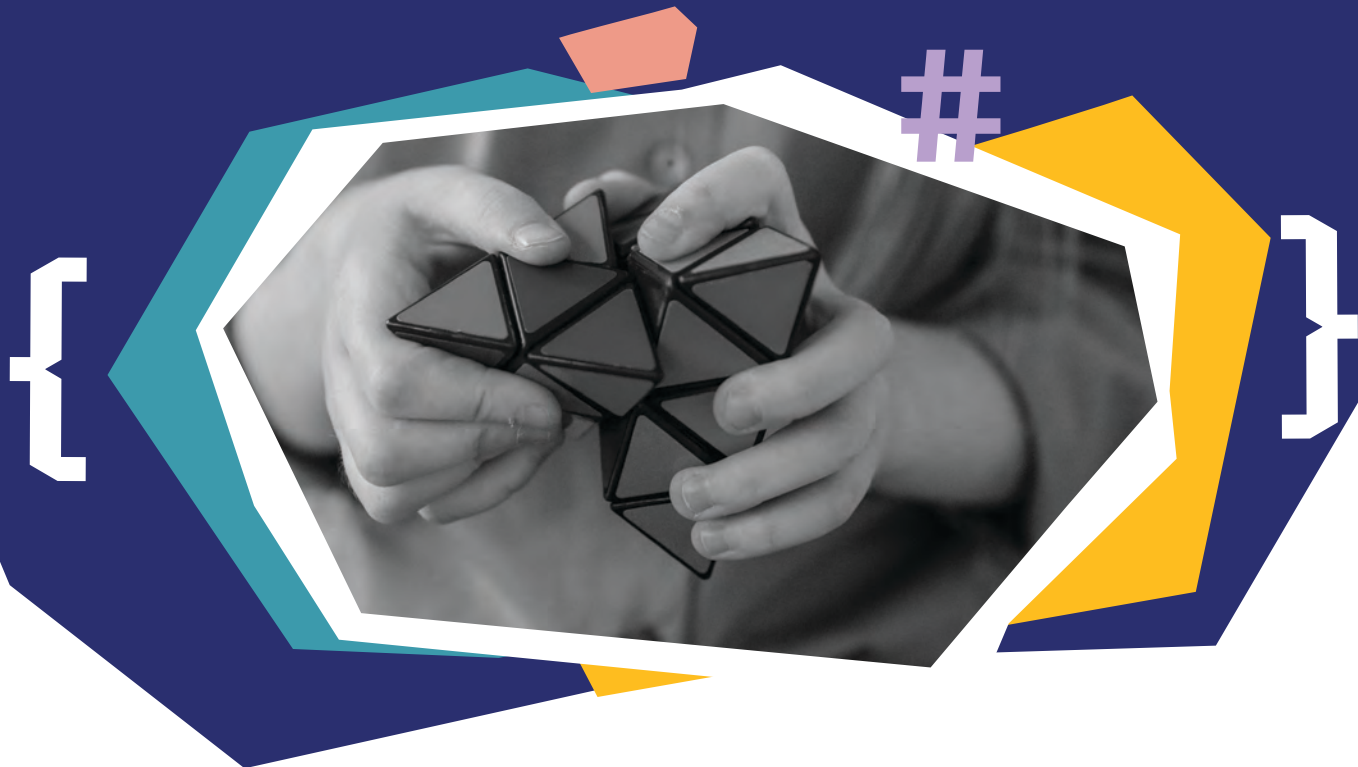
A problem across sectors is related a general shortage of staff. All companies, whether they are small, local, national, or multinational, are confronted with this issue. Not having access to a well-supplied pool of professionals is detrimental to the development and prosperousness of an organization and an ecosystem. This is especially true in sectors that are reliant on specialized knowledge, such as the IT sector. The nature of this issue has to do with the number of IT professionals available on the market and produced yearly by local educational providers (be it formal or informal education). This issue needs to be addressed through the formulation and implementation of strategies that will attract young talent to Oradea and retain maturing talent within the local ecosystem. Rather than just being a stepping stone in the career development of IT professionals, Oradea needs to be positioned as a destination for successful careers in IT. To be viable, this strategic positioning requires the concerted effort of all stakeholders in the local technology ecosystem.

A closer look at the challenges that the IT companies in our sample are faced with reveals that certain problems are specific to certain developmental stages of compaines and are even unique to certain organizational models (e.g. local, national, multinational).



TECH COMPANIES IN ORADEA

CHALLENGES FACED BY IT COMPANIES IN ORADEA



Our dataset indicates that small, young and local companies which are up to 5 years old and employ up to 10 people are more likely to face challenges related to the acquisition of customers and limited marketing capabilities that could help them attract more business. In our sample, this category of companies is exclusively in the business of custom software development, and only half of them reported having a sales department, which could explain their customer acquisition challenge. **This problematic situation could provide an opportunity for the local ecosystem actors to step in and create a specialized sales and business development service/division, which could be shared by businesses in.**

As the size and scope of companies in our sample grow, specifically to the level of national and multinational with local presence, the challenges they face diversify and manifest themselves around organizational and managerial aspects.

These more established (older than 5 years) and larger (more than 20 employees) companies feel the effects of the lack of expertise among available junior IT professionals that graduate formal education within the talent pipeline more strongly. This issue is more detrimental to these companies because it represents a drawback in their development potential.

This problem should also represent an opportunity for the major partners in the local technological ecosystem to step in and formulate practical solutions that will solve it. Educational providers should work closely with these IT companies to develop a standard of knowledge quality that.

TECH COMPANIES IN ORADEA

CHALLENGES FACED BY IT COMPANIES IN ORADEA



Fig 15. Problems by company type



TECH COMPANIES IN ORADEA

PERSPECTIVES ON FUTURE TECHNOLOGIES

When thinking in perspective, IT companies in our sample believe that the future belongs to machine learning, business intelligence, and the internet of things. The viewpoint of companies' representatives is in alignment with that of IT professionals in our sample, who also consider these technologies to be of great importance in their career in the future. Unlike the perspective of the employees, IT companies seem to put more emphasis on the direction of business intelligence, while IT professionals seem to believe that cybersecurity will play a more significant role in the evolution of their career.

Although many of our sample's IT companies believe that the future belongs to business intelligence, it should be noted that 67% of these companies do not currently have a BI department.

Nonetheless, the current technologies and frameworks being used by companies in our sample (ex. Python) indicate that they are well positioned to expand into the area of machine learning.

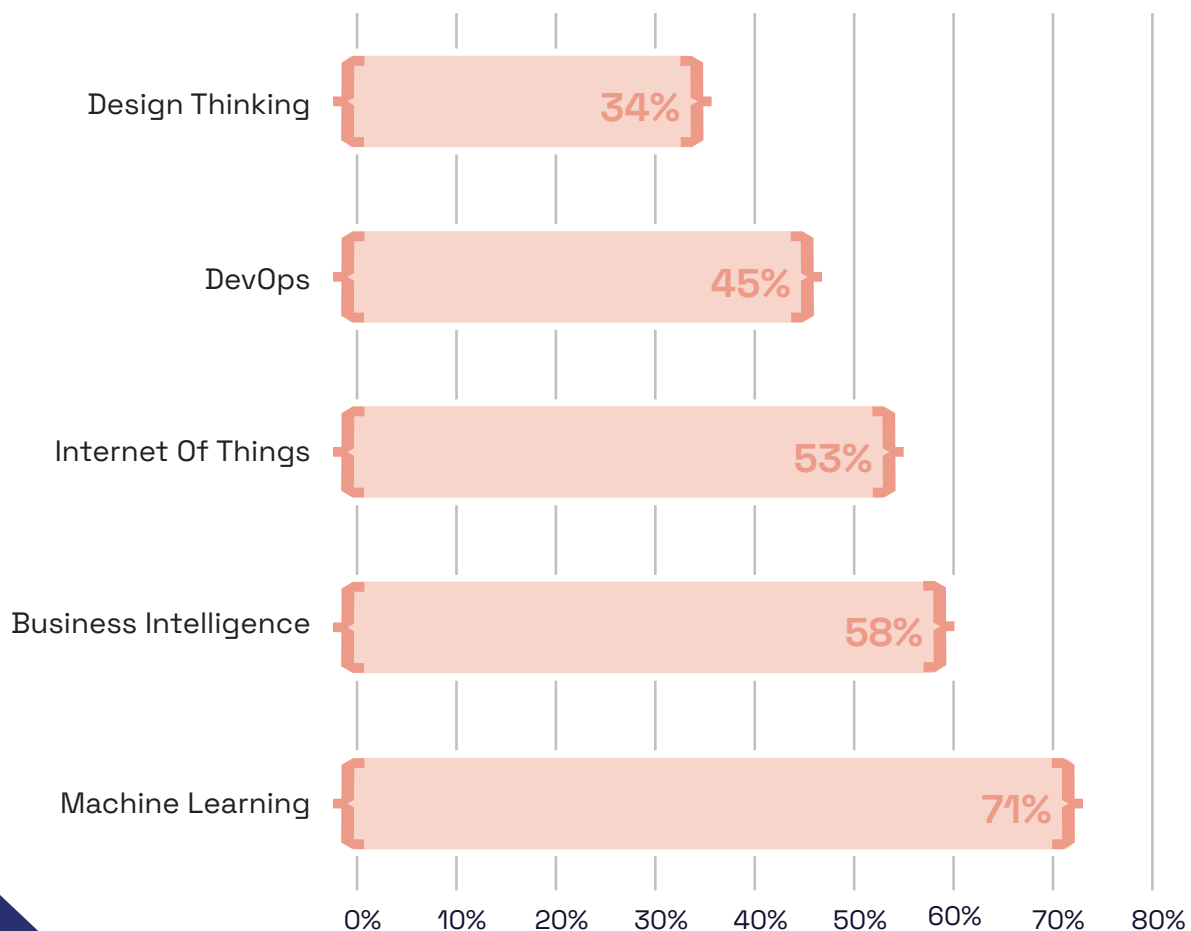


Fig 16. Perspective of companies regarding future technologies

IT PROFESSIONALS IN ORADEA

GENERAL PROFILE

Our data set consisting of IT professionals in Oradea is dominated by developers with high levels of experience (senior and mid) with formal education in the field of their expertise and who work on a full-time contract basis. The IT workforce in Oradea is vibrant, consisting mainly of individuals between the ages of the 23-34 that are proficient in English. As is commonly the case across other fields and around the world, Oradea's IT sector is males-dominated, however, females are becoming increasingly better represented in the profession, which is a sign of increasing diversity in the sector.

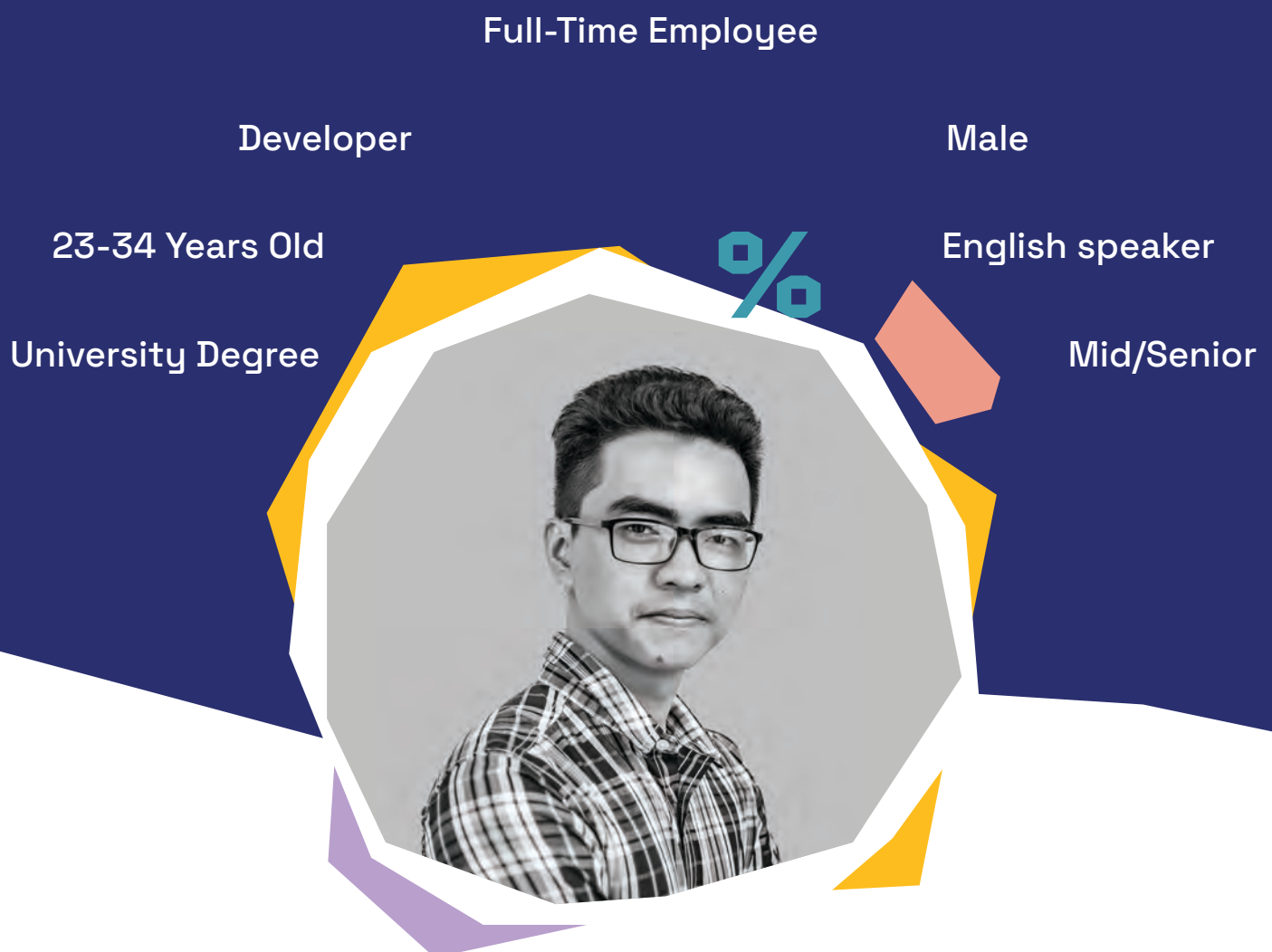


Fig 1. The general profile of IT professionals in Oradea in our data set

IT PROFESSIONALS IN ORADEA

SPECIALIZATION

Although our data indicates that the information technology (IT) profession in Oradea is dominated by developers, the skill and expertise pool is actually much broader and includes a significant number of quality assurance (QA) specialists, project managers, and user experience/user interface (UX/UI) designers as well. Although not dominant in terms of numbers, Oradea's IT talent pool also features business intelligence specialists (BIs) and DevOps professionals, mainly in the mid and senior level of expertise, and also data scientists, but in lower numbers.

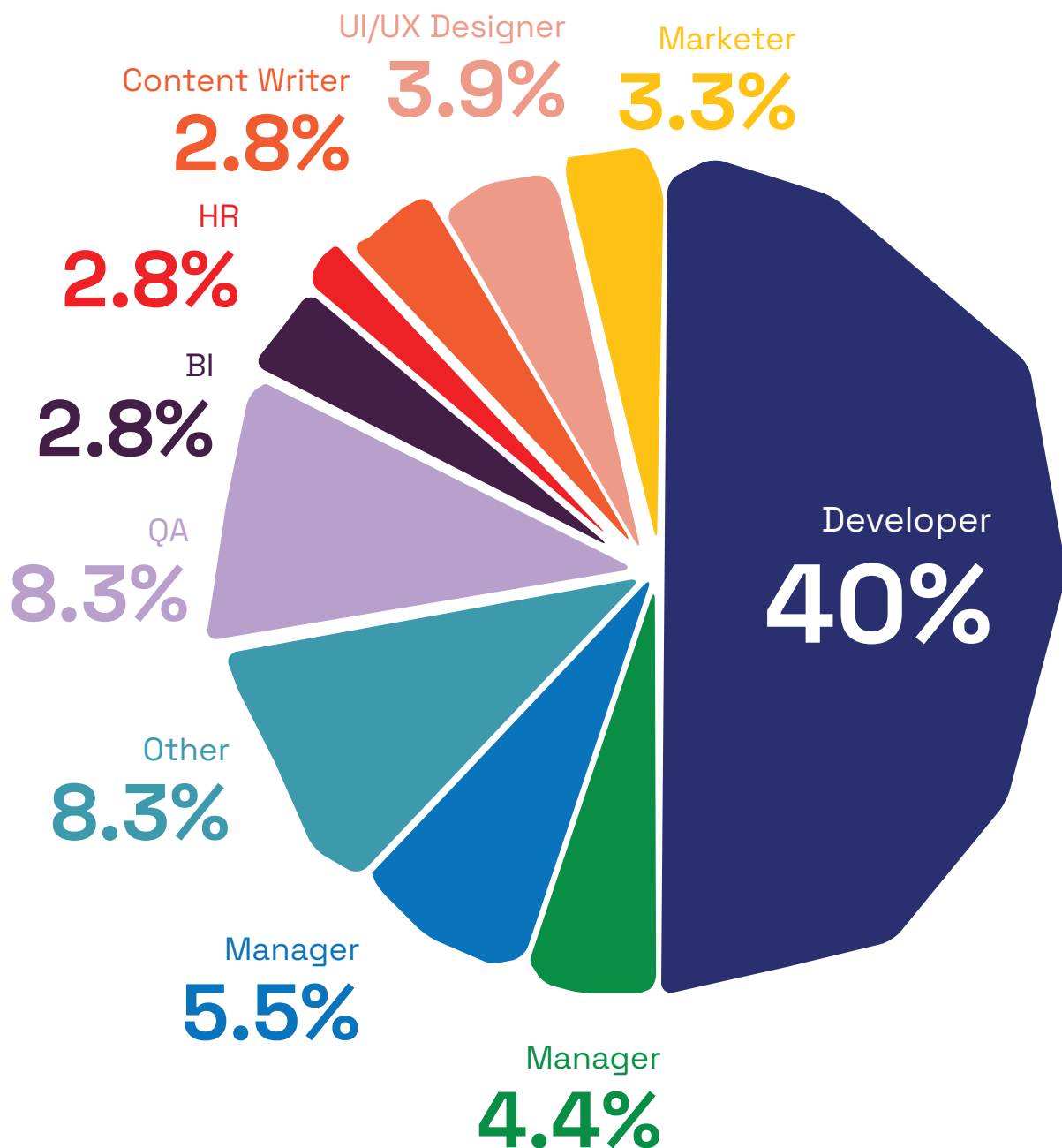


Fig 1. Type of contract by specialization among IT professionals sample in Oradea

IT PROFESSIONALS IN ORADEA

SPECIALIZATION

Our data indicates that professionals who specialize in marketing, content writing, and graphic design and who generally operate within the more creative segments of the IT sector are more likely to work in freelancing and solopreneurship capacities.

On the other hand, it is clear that an overwhelming percentage of IT employees specializing in fields such as data science, business intelligence, and DevOps are working on a full-time contract basis. Furthermore, it appears that architects are more inclined to start their own businesses.

		TYPE OF CONTRACT			
		FREELANCER	FULL-TIME EMPLOYEE	PART-TIME EMPLOYEE	SOLOPRENEUR
SPECIALIZATION	BI	20%	80%		
	CONTENT WRITER	40%	40%	20%	
	DATA SCIENTIST		100%		
	DEVOPS		100%		
	DEVELOPER	13%	81%	1%	5%
	GRAPHIC DESIGNER	33%	33%		33%
	MARKETER	33%	50%		17%
	PROJECT MANAGEN	10%	80%		10%
	QA		100%		
	UI/UX DESIGNER		100%		

Tabel 1. Type of contract by specialization among IT professionals sample in Oradea

IT PROFESSIONALS IN ORADEA

EXPERIENCE

When it comes to experience and type of expertise, Oradea’s IT talent pool offers a well-balanced mix of professionals with considerable experience in management and project management, marketing, UI/UX design, business intelligence, and DevOps. The data indicates a strong correlation between seniority and entrepreneurship initiative, implying that IT professionals with higher levels of experience are more willing to venture on their own, either through freelancing, solopreneurship, or even their own business with their own employees.

One of the most prominent and notable aspects of the IT talent pool in Oradea is the fact that seniority is the dominant experience level among IT professionals. Given that high rates of seniority across a wide range of specializations can indicate maturity and ensures increased opportunity and capability for more complex projects across the entire sector, this is a desirable characteristic (for any labour system).

In terms of experience (junior, mid, senior, architect), there is a well-balanced distribution among the developer specialization, which ensures a healthy pipeline within Oradea’s IT ecosystem among this particular field. Another well-balanced distribution of talent experience is recorded amongst project managers, QA specialists, and UX/UI designers.

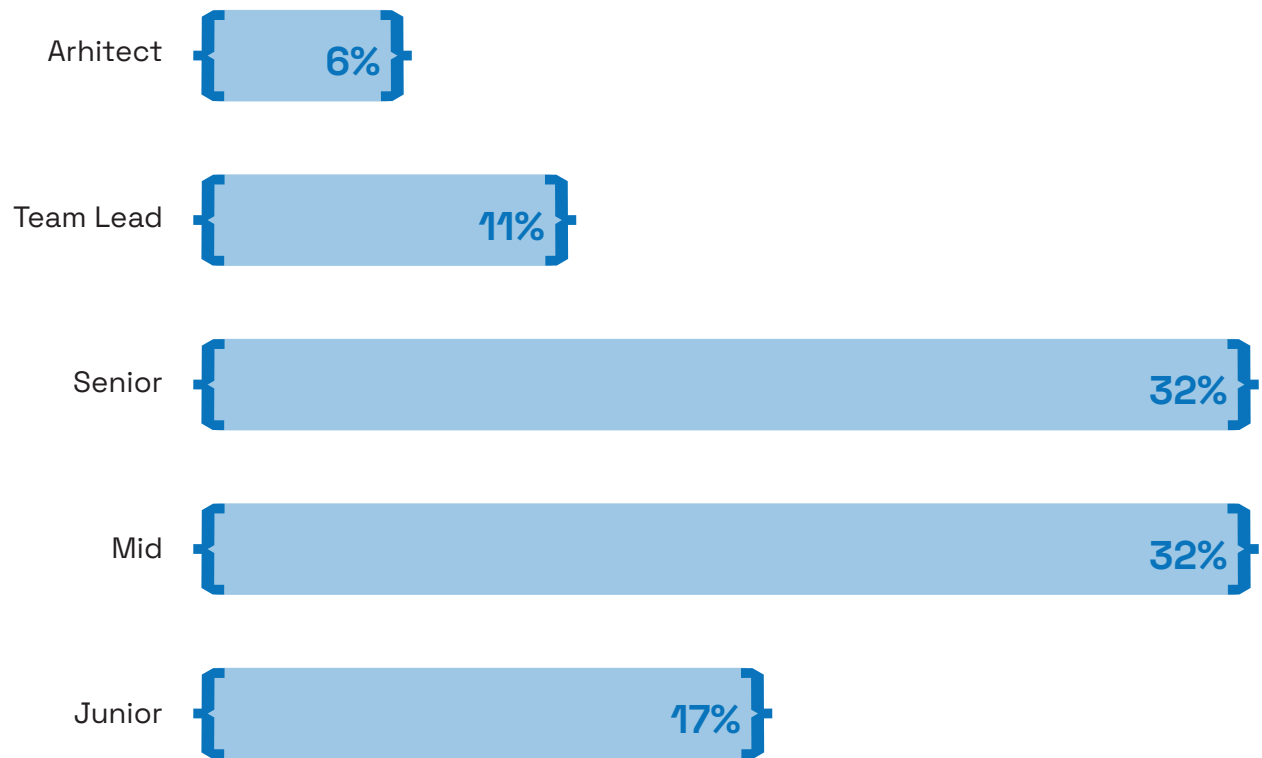


Fig 3. Experience level of IT professionals sample in Oradea

IT PROFESSIONALS IN ORADEA

EXPERIENCE

Our data indicates that professionals who specialize in marketing, content writing, and graphic design and who generally operate within the more creative segments of the IT sector are more likely to work in freelancing and solopreneurship capacities.

On the other hand, it is clear that an overwhelming percentage of IT employees specializing in fields such as data science, business intelligence, and DevOps are working on a full-time contract basis. Furthermore, it appears that architects are more inclined to start their own businesses.

		TYPE OF CONTRACT				
		FREELANCER	FULL-TIME EMPLOYEE	PART-TIME EMPLOYEE	SOLOPRENEUR	ARCHITECT
SPECIALIZATION	BI		60%	40%		
	CONTENT WRITER		60%	20%	20%	
	DATA SCIENTIST	50%	50%			
	DEVOPS		50%	50%		
	DEVELOPER	3%	32%	29%	10%	6%
	GRAPHIC DESIGNER	33%	33%	33%		
	PROJECT MANAGEN		30%	50%	20%	
	QA	27%	40%	20%	13%	
	UI/UX DESIGNER	14%	29%	43%	14%	

Tabel 2. Experience levels among IT specializations in Oradea sample

IT PROFESSIONALS IN ORADEA

EXPERIENCE

Unsurprisingly, male IT professionals within Oradea’s technology sector display higher levels of experience than their female counterparts. Experience distribution among female and male IT professionals in Oradea’s technology sector is predictable, with men displaying higher levels of experience. Nevertheless, it is important to note that women are better represented in junior and mid-level experience compared to men which means that we can expect to see an increase in the number of women in senior positions, in the following years in Oradea, as they move up the career ladder.

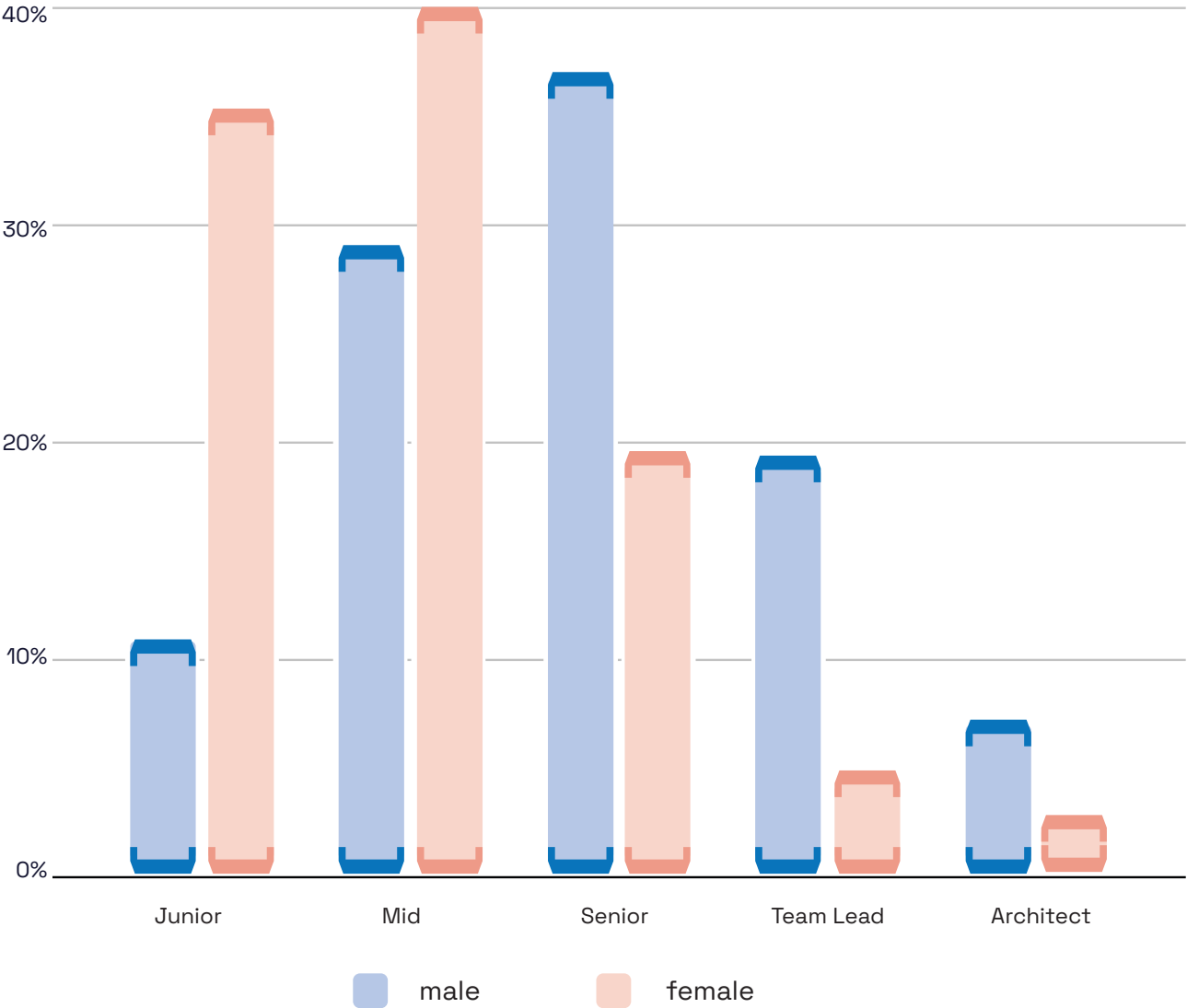


Fig 4. Experience levels among women and men IT professionals in Oradea sample

IT PROFESSIONALS IN ORADEA

SALARY AND BENEFITS

When it comes to salary levels for IT professionals in Oradea our data is in line with other research undertaken at the national level shows that the monthly NET salary is situated between 3500 and 4000 lei. Compared to the national average, which is situated at 6.191, Oradea is situated in the top half ranking of other countries. Even though the NET salary in Oradea is smaller than the one in Cluj or Timișoara the cost of living in Oradea is lower than in these competing countries.

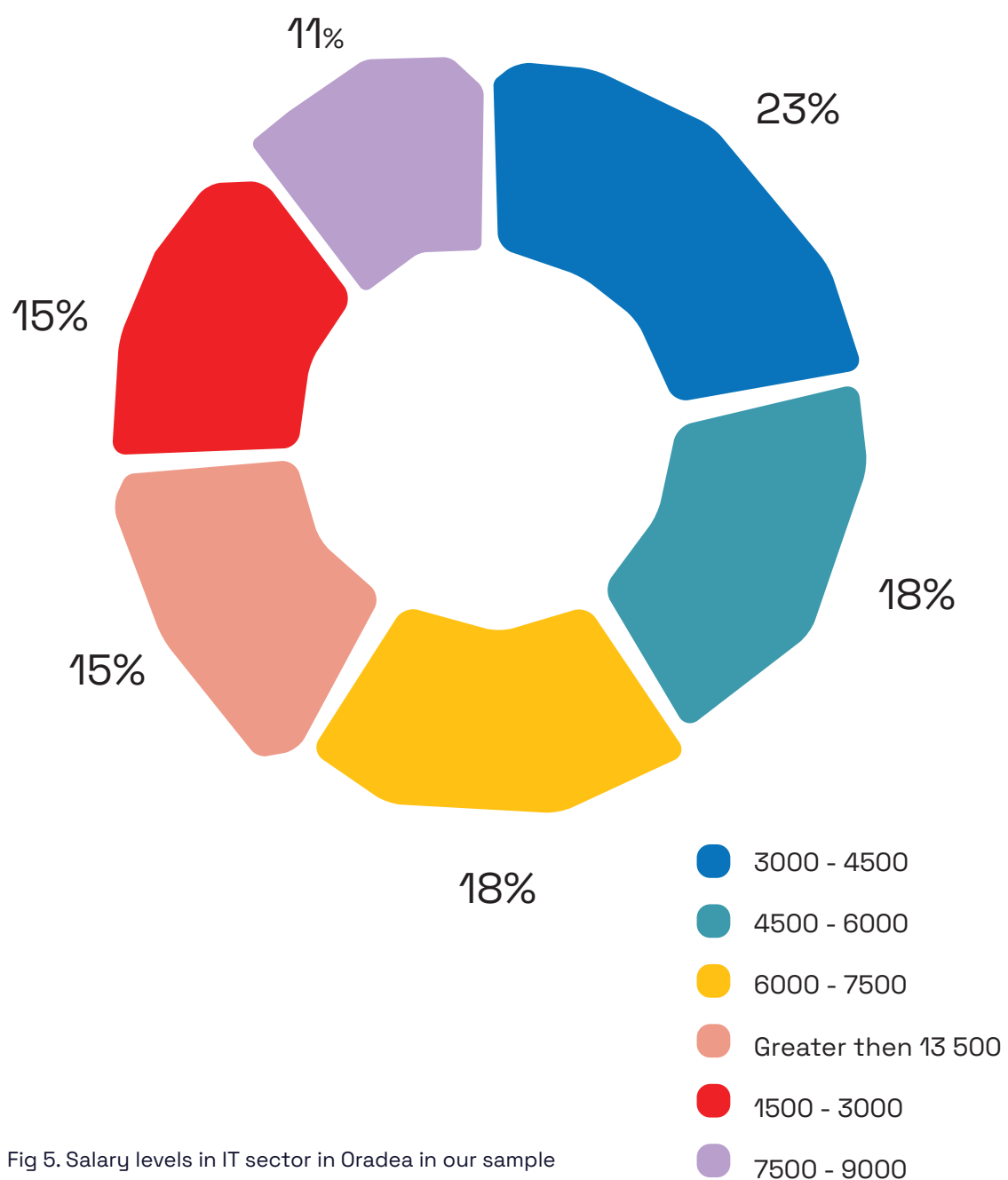


Fig 5. Salary levels in IT sector in Oradea in our sample

IT PROFESSIONALS IN ORADEA

SALARY AND BENEFITS

The cost of living in Oradea for the average individual excluding rent is around 2122 lei per month, while the cost for a family of four excluding rent is 7363 lei/month. Grocery and food costs occupy 35.6% of Oradea's total cost of living while rent takes up 16.4%. Comparatively, the cost of living in Cluj Napoca for a single person is 2352lei/month. In Oradea, the cost of rent for a one-bedroom apartment in the City Center is 1172 lei/month, while one a one-bedroom apartment outside of Center is 780 lei/month.

The rent prices in Oradea are 45,94% lower than in Cluj-Napoca and 30,53% lower than in Timisoara, but 22,53% higher than in Arad.

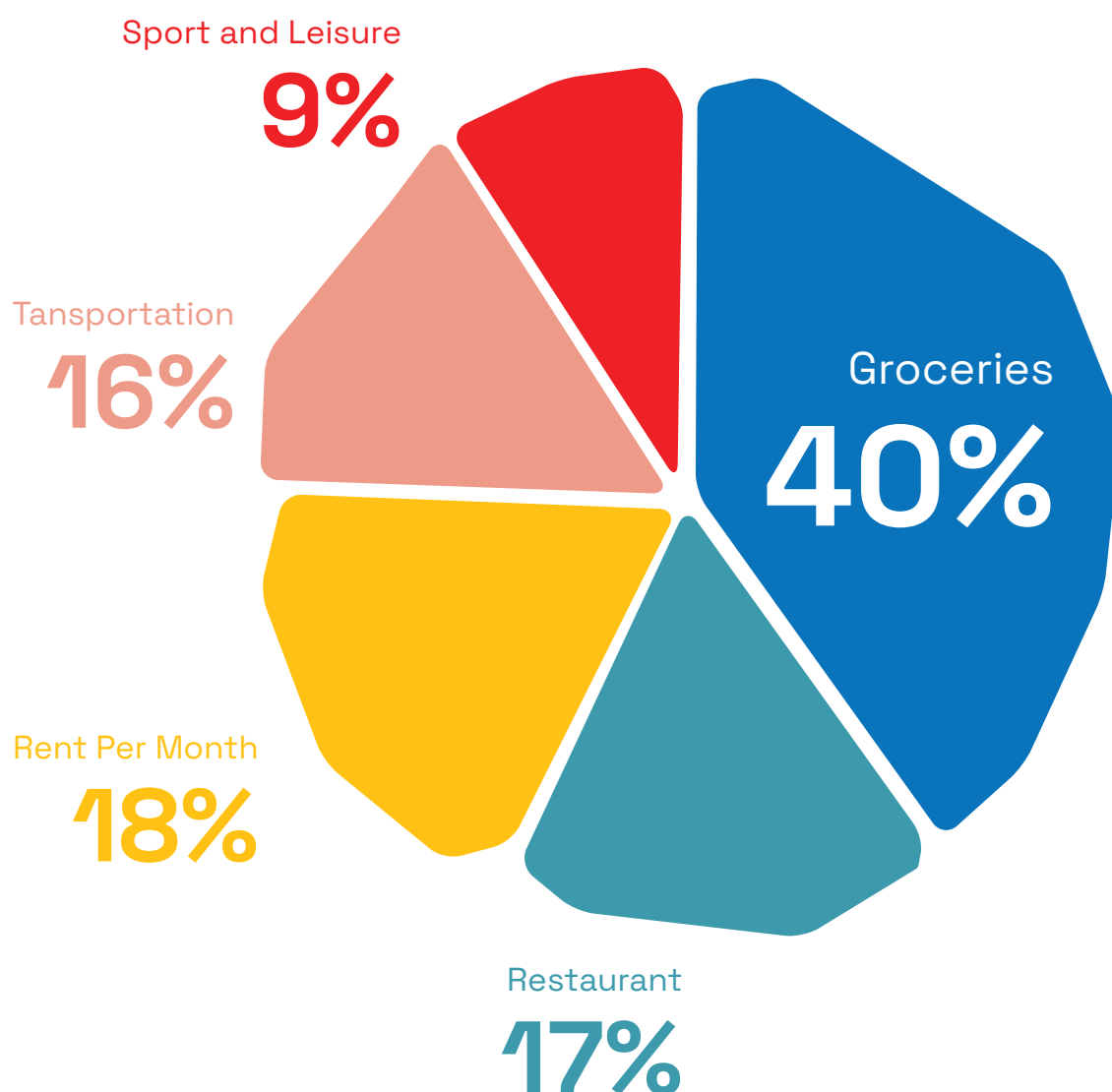


Fig 6. Cost of living in Oradea distributed by category of expenses
<https://www.numbeo.com/cost-of-living/in/Oradea>

IT PROFESSIONALS IN ORADEA

SALARY AND BENEFITS

Oradea can take pride in having a high quality of life as it scores very well on multiple dimensions of this measure, such as safety index and traffic/commute time. This score for quality of life positions Oradea higher than Cluj-Napoca, Arad, and Timișoara, which are the three most relevant cities neighbouring Oradea.

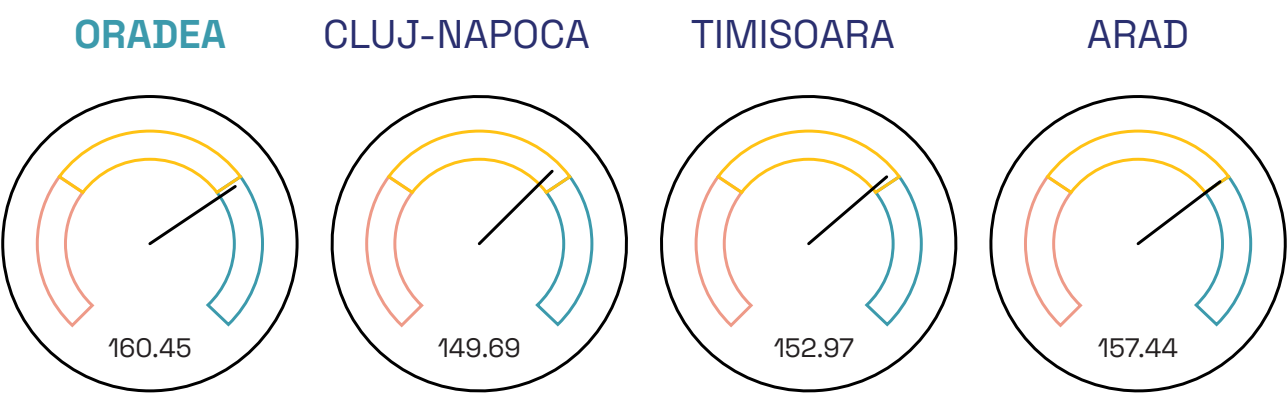


Figure 7. Quality of life comparison (source Numbeo)

PURCHASING POWER INDEX	46.80	Low
SAFETY INDEX	80.46	Very High
HEALTH CARE INDEX	55.72	Moderate
COST OF LIVING INDEX	33.38	Very Low
PROPERTY PRICE TO INCOME RATIO	9.55	Moderate
TRAFFIC COMMUTE TIME INDEX	21.29	Very Low
POLLUTION INDEX	36.70	Low
f QUALITY OF LIFE INDEX	160.28	Very High

Table 3. Quality of life index for Oradea (source Numbeo)

IT PROFESSIONALS IN ORADEA

SALARY AND BENEFITS



Ranging from 1500 lei to over 13500 lei, the monthly NET earnings of IT professionals in Oradea varies considerably. This can be explained by major factors like experience, specialization, and gender.

The monthly salary of an architect in Oradea is predominantly more than 13000 lei while, unsurprisingly, a junior level professional earns somewhere between 1500 - 4000 lei per month. Mid-level experience IT people can earn between 3000 - 7500 lei in monthly salary in Oradea.

In terms of job type, the data in our sample shows that BI specialists can earn a monthly salary between 4500-7500 lei, DevOps between 9000 - 13000 lei, and QA professionals between 3000 - 6000 lei.

Monthly, female IT professionals are earning salaries mainly in the 3000-4500 range, while most men in our data earn between 6000-7500 lei or more monthly. This discrepancy can be explained by the fact that most IT female professionals have developer roles with mid to junior level of experience while men occupy more senior roles.

When comparing the average ages of the groups, the fact that female IT professionals in Oradea are generally younger than their male counterparts needs to be considered. 49% of female IT professionals in our data set are in the 18-27 age group while 56% of the men are in the 28-40 age group.

IT PROFESSIONALS IN ORADEA

SALARY AND BENEFITS

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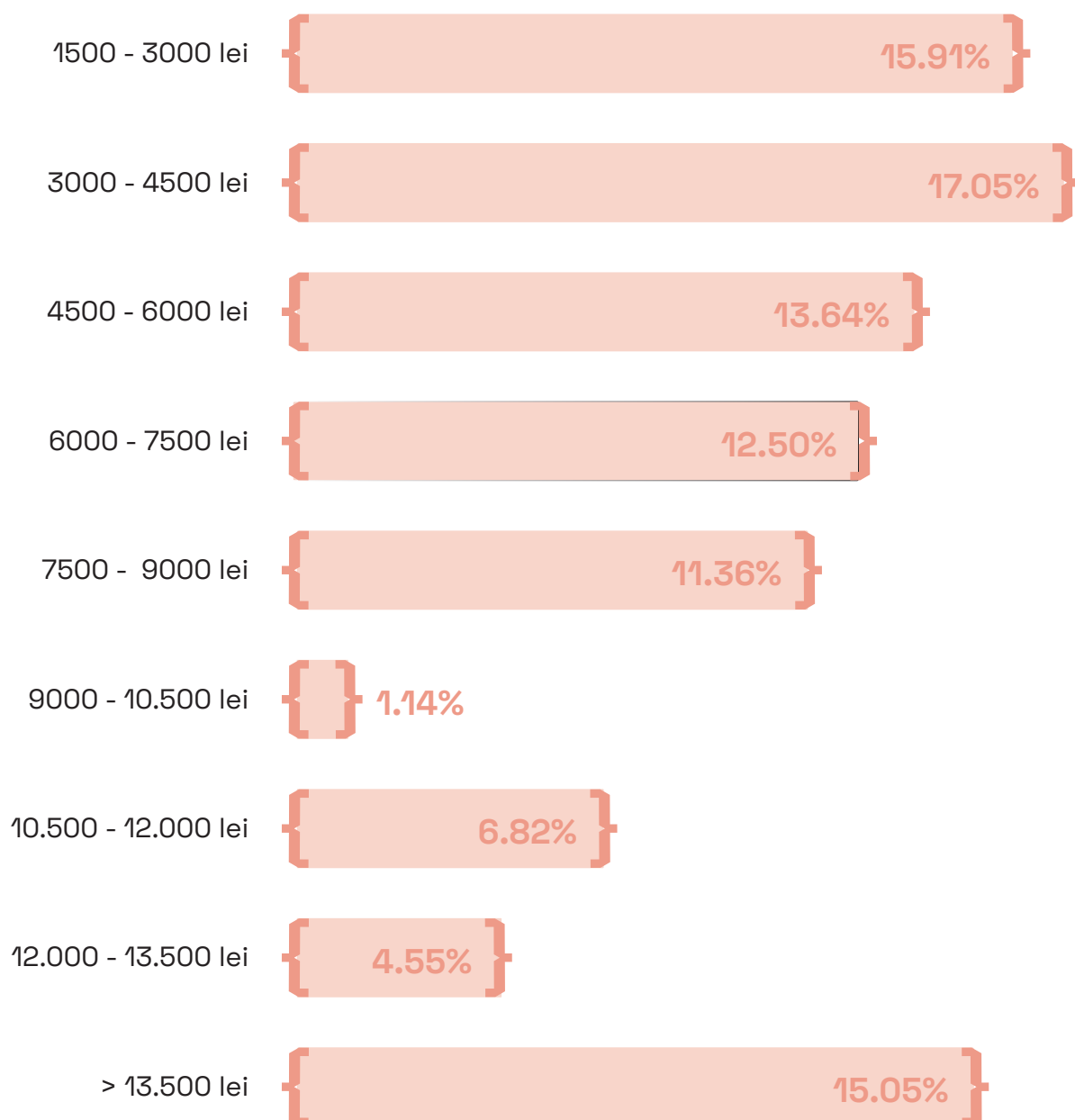


Fig 8. Salary levels for Developers in Oradea

IT PROFESSIONALS IN ORADEA

SALARY AND BENEFITS

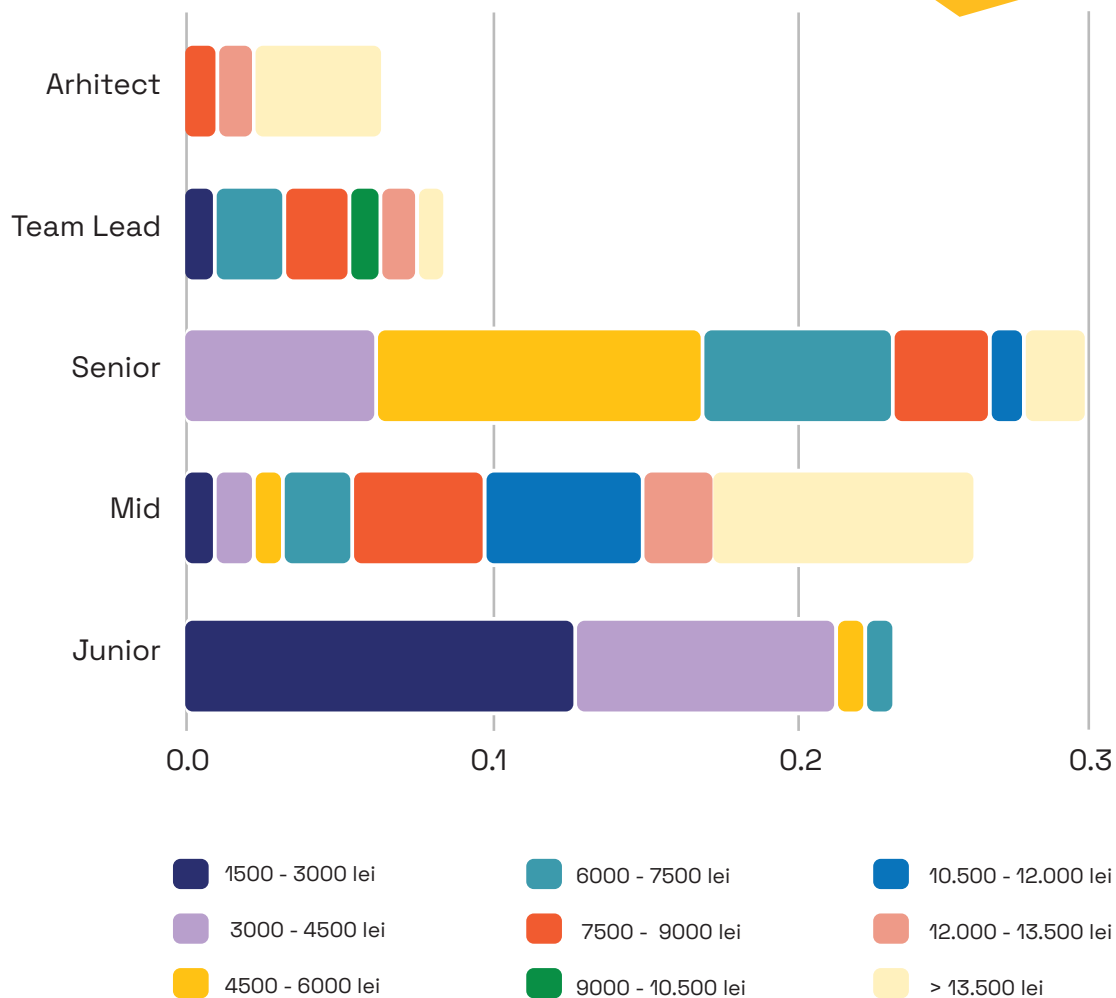


Fig 9. Salary levels for Developers by experience in Oradea

IT PROFESSIONALS IN ORADEA

SALARY AND BENEFITS

Salary is not the only benefit sought after by the potential future employees within the IT ecosystem in Oradea. Although the compensation package plays a significant role, there are other very important aspects that these IT professionals deem important when looking for a job.

The top 5 benefits sought after by IT professionals in Oradea in our sample are ranked respectively as follows: compensation package, the level of care the company shows for its employees, growth opportunities, technologies used by the company, and the possibility to work remotely

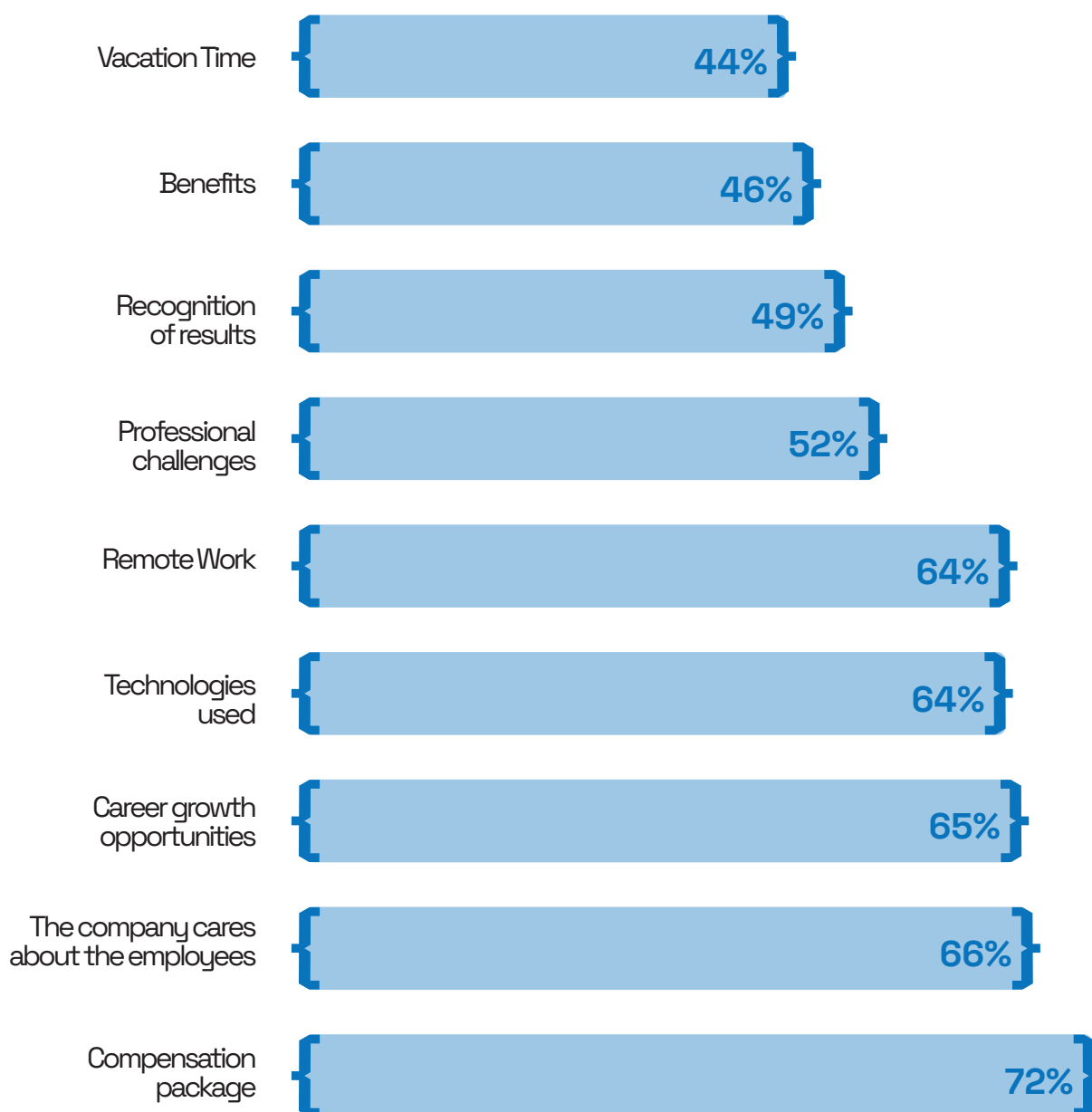


Fig 10. Benefits sought by IT professionals in Oradea

IT PROFESSIONALS IN ORADEA

SALARY AND BENEFITS

Based on the data, these preferences vary depending on the gender of the IT professionals (see figure 8). While men stated that the compensation package is the most important aspect for them when looking for a job, women were found to be more interested in career growth opportunities, training, and recognition for their results.

While remote work is very important for male IT professionals, this aspect does not even reach the top 5 most sought-after benefits in the case of women.

Companies caring about their employees is a benefit that both genders feel very strongly about. This aspect is the second most important factor for IT professionals seeking a job, regardless of gender. Additionally, the team that they are part of is another aspect that plays a similar role both in the case of women and men.

Tabel 4. Benefits sought after by IT professionals sample in Oradea - Female/Male comparison

DESIRED BENEFITS	FEMALE	MALE	DESIRED BENEFITS
Career growth opportunities	83.7%	72.9%	Compensation package
The company cares about the employees 81.4%	81.4%	60.9%	The company cares about the employees
Trainings	72.1%	60.2%	Remote work
Recognition of results	69.8%	58.6%	Career growth opportunities
Team	69.8%	54.9%	Team
Compensation package	69.8%	51.9%	Technologies used
Professional challenges	58.1%	48.9%	Professional challenges
Benefits	55.8%	42.1%	Benefits
Vacation time	53.5%	41.4%	Recognition of results
Remote work	44.2%	40.6%	Vacation time

IT PROFESSIONALS IN ORADEA

SALARY AND BENEFITS

DESIRED BENEFITS	FEMALE	MALE	DESIRED BENEFITS
Management team	34.9%	36.1%	Management team
Technologies used	30.2%	31.6%	Trainings
Equity	23.3%	26.3%	Equity
Remote work	9.3%	19.5%	Technologies used
Technologies used	9.3%	6.8%	Remote work
Team	4.7%	0.8%	Equity
Equity	2.3%	0%	Promotion opportunities
Professional challenges	2.3%	0%	Management team
Recognition of results	2.3%	0%	Professional challenges
Promotion opportunities	0%	0%	Recognition of results
Management team	0%	0%	Salary package
Salary package	0%	0%	Team

IT PROFESSIONALS IN ORADEA

SALARY AND BENEFITS

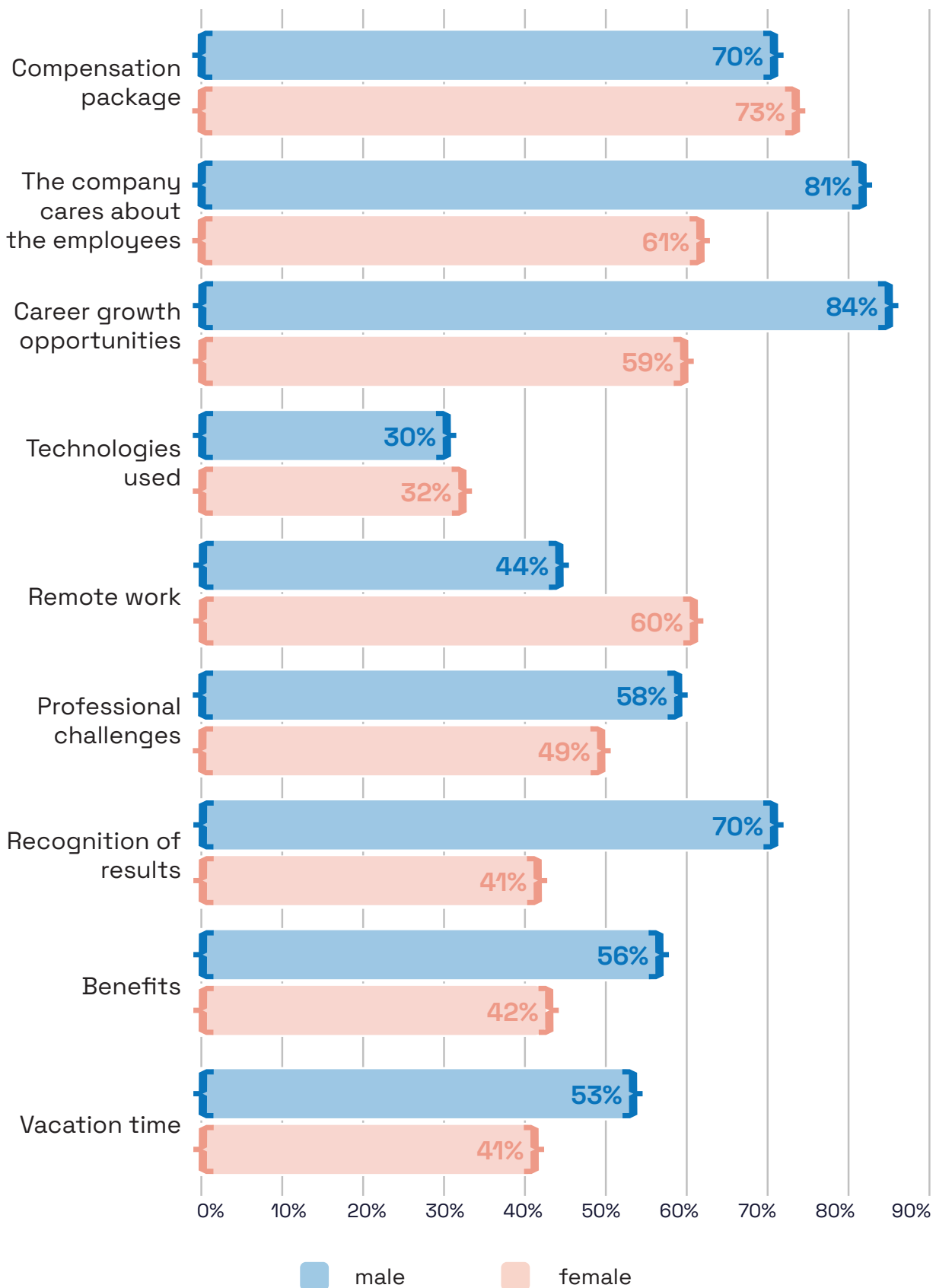


Fig 11. Benefits sought after by IT professionals sample in Oradea - Female/Male comparison

IT PROFESSIONALS IN ORADEA

PERSPECTIVES OF IT PROFESSIONALS REGARDING ORADEA IT ECOSYSTEM

SATISFACTION LEVELS WITH JOB OFFERS IN ORADEA

The satisfaction level of IT professionals with job offers in Oradea reflects a predictable and normal distribution across the satisfaction spectrum with all three levels of this scale -satisfaction, dissatisfaction, and middle ground - scoring significant percentages in our sample of respondents. Overall, the professionals in our dataset are satisfied with the jobs that Oradea has to offer, with more than 38% of our study participants expressing a good and high level of satisfaction in regards to this aspect. It is important to note that another significant percentage (36%) of IT professionals in our sample are neutral about their local job offers.

While these results are generally a good indication that job offers in Oradea are attractive to and suitable for professionals in the IT sector, the levels of dissatisfaction and neutrality indicate that improvements need to be made in order to increase the appeal of the city's job offers.

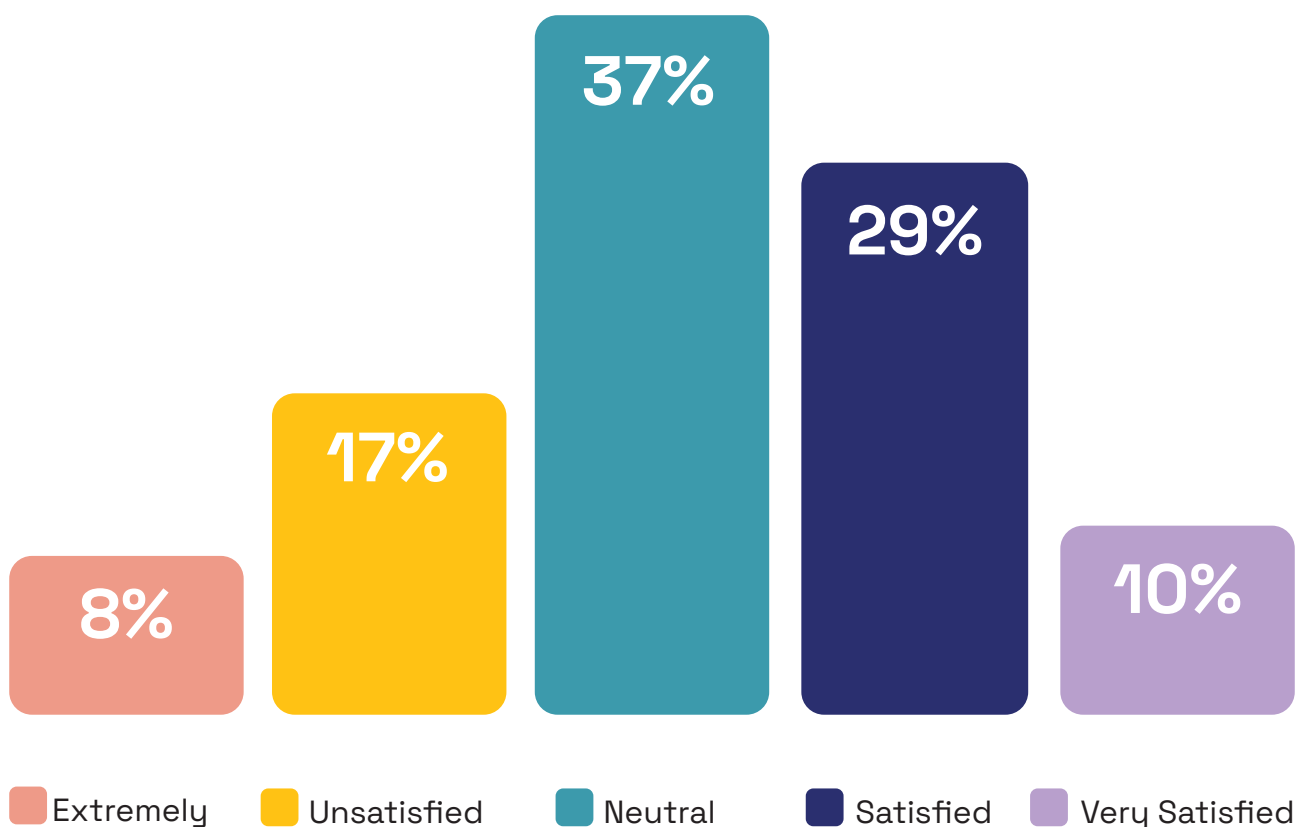


Fig 12. Level of satisfaction with job offer in Oradea

IT PROFESSIONALS IN ORADEA

SATISFACTION LEVELS WITH JOB OFFERS IN ORADEA



The highest levels of satisfaction in our sample are recorded among technical leads, juniors, and architects, while lower scores were reported by our sample's senior and mid-experience IT professionals. These findings could indicate that Oradea's IT sector is more attractive for people at the beginning of their career, but that the level of satisfaction decreases as their experience in the work field increases. The high level of satisfaction among Architects in our sample can be explained by the fact that most of these IT professionals work as freelancers or soloentrepreneurs, which means they have higher control over the job they perform.

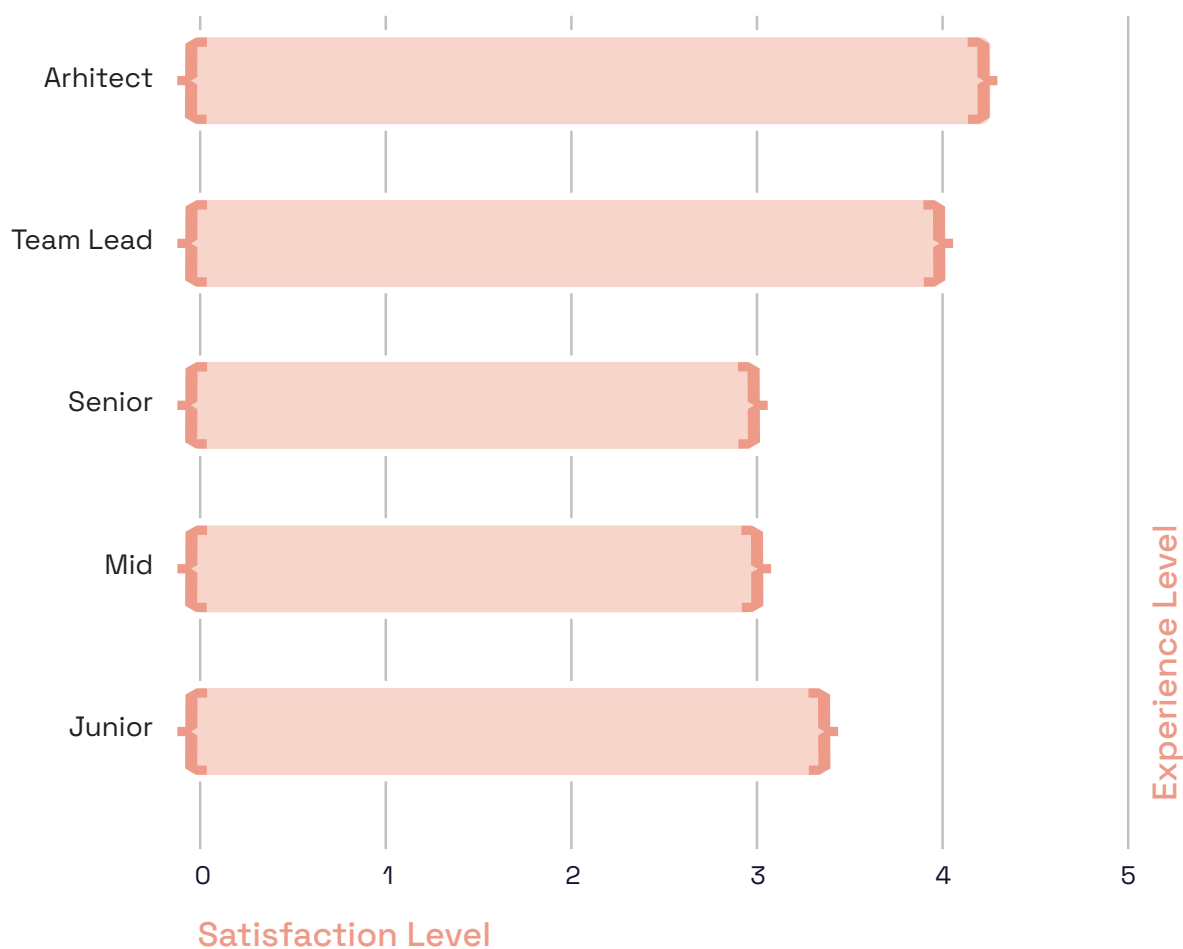


Fig 13. Level of satisfaction sample with job offer in Oradea

IT PROFESSIONALS IN ORADEA

PARTICIPATION IN EVENTS

The level of participation in online/offline events organized in Oradea around different areas of technology our data set indicates a predominant trend of lack of engagement with this type of community activities, 59% of our respondents rarely or never participate in such experiences. It is important to note that this data was collected in the midst of the pandemic after a year of lockdown, during which all in-person events were canceled and there was a complete shift to online for all activities. This disruption in the overall environment and the need for adjustments that came with it can explain the rather low levels of participation in events.

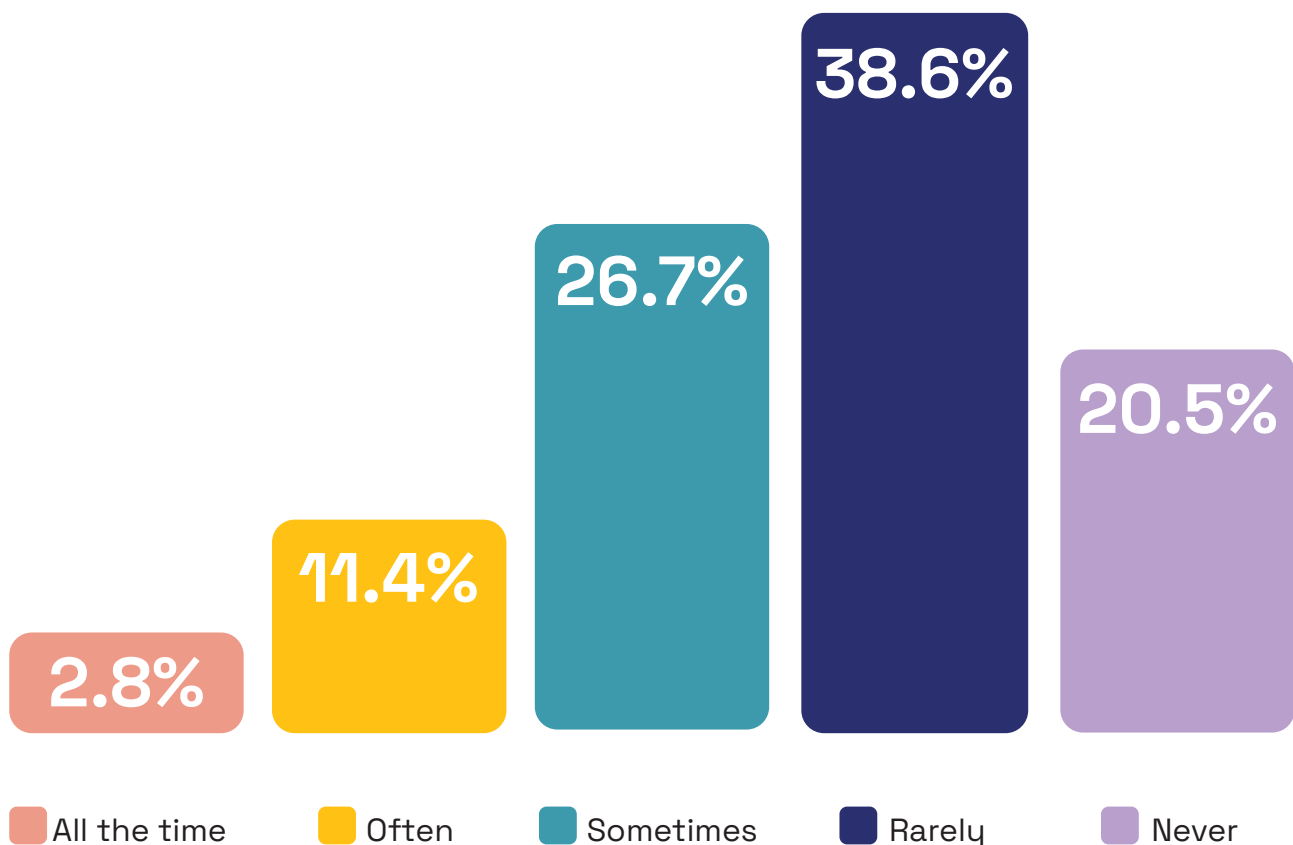


Fig 14. The overall frequency of participation in events

IT PROFESSIONALS IN ORADEA

LEVEL OF CONNECTION TO THE ECOSYSTEM

Given the general feeling of social disconnection felt by people across the globe as a result of of the restrictions imposed due to the pandemic, perhaps it is unsurprising that our data also indicates low levels of feelings of connectedness among IT professionals with the tech ecosystem in Oradea. Over half of our respondents feel just a slight or no connection to the local environment. Albeit, this undesirable result can be explained by the current global context. It is important to drill down on this issue to uncover the factors that lie at the heart of this reality and formulate solutions to improve the situation.

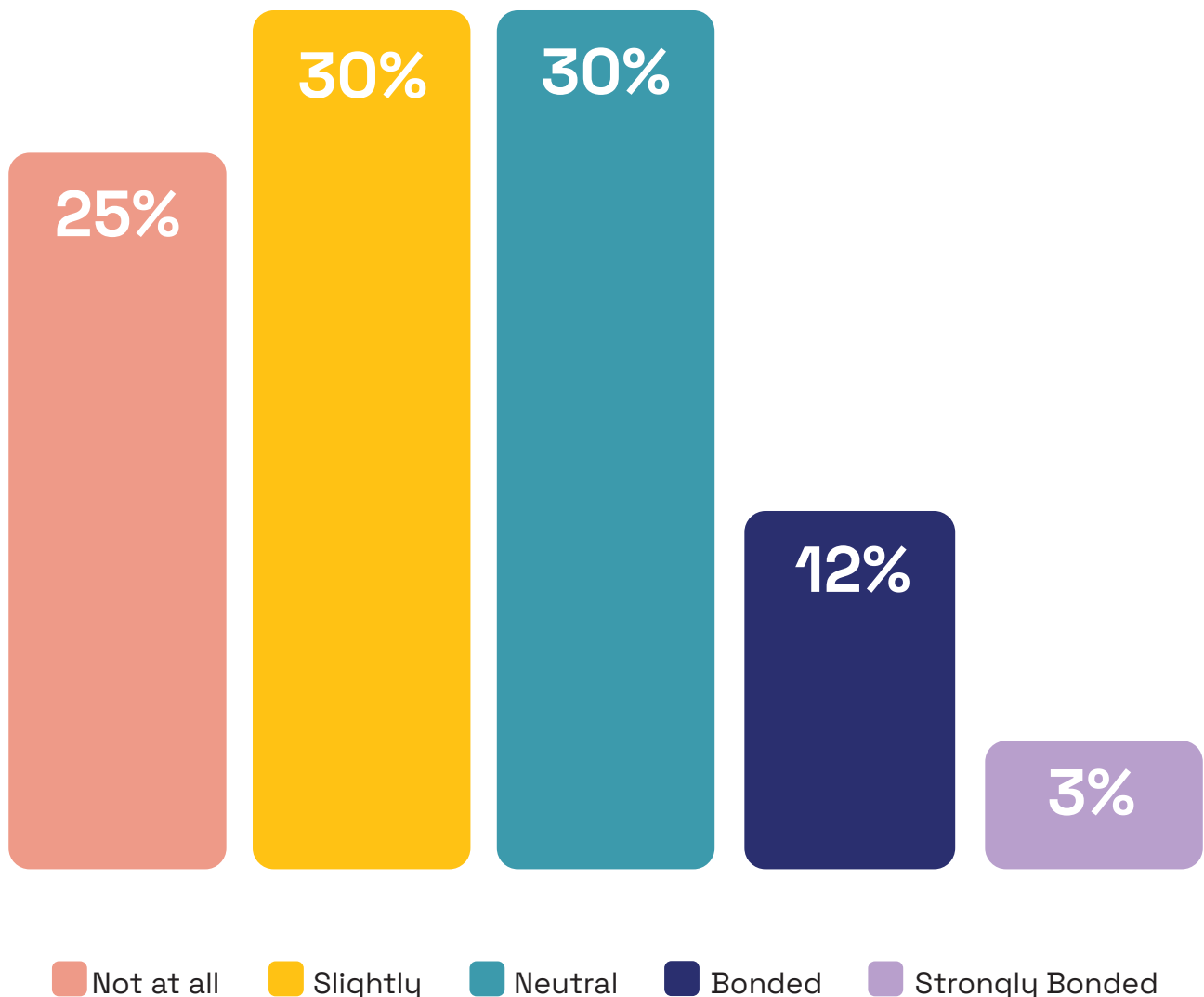


Fig 15. Level of connection with the ecosystem

IT PROFESSIONALS IN ORADEA

LEVEL OF CONNECTION TO THE ECOSYSTEM



As was the case earlier, Junior IT people in our sample lead in terms of feeling connected to the ecosystem, followed by Architects and IT professionals with senior experience. Apparently feel the lowest level of connection with professionals in the local ecosystem.

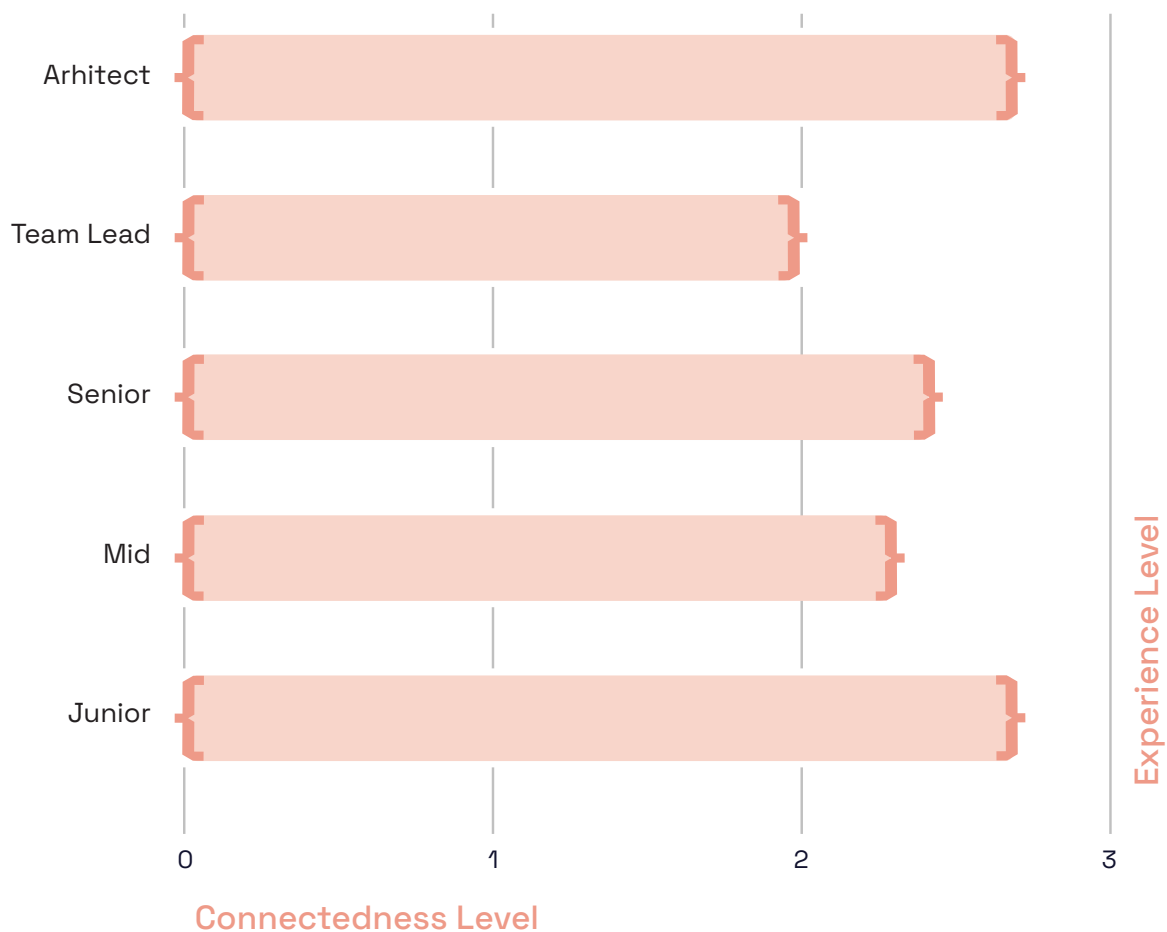


Fig 16. Level of connection with the local ecosystem by experience

IT PROFESSIONALS IN ORADEA

LEVEL OF CONNECTION TO THE ECOSYSTEM

Given the general feeling of social disconnection felt by people across the globe as a result of of the restrictions imposed due to the pandemic, perhaps it is unsurprising that our data also indicates low levels of feelings of connectedness among IT professionals with the tech ecosystem in Oradea. Over half of our respondents feel just a slight or no connection to the local environment. Albeit, this undesirable result can be explained by the current global context. It is important to drill down on this issue to uncover the factors that lie at the heart of this reality and formulate solutions to improve the situation.

1. **EDUCATIONAL OFFER** - THE QUALITY OF TECHNOLOGICAL EDUCATION OFFERED BY THE EDUCATIONAL ESTABLISHMENTS IN ORADEA
2. **SALARIES AND BENEFITS** - THE LEVEL OF SALARIES AND OTHER BENEFITS OFFERED BY IT COMPANIES
3. **BUSINESS ENVIRONMENT** - THE GENERAL COMPETITIVENESS AND ATTRACTIVITY OF THE COMPANIES
4. **JOB OPPORTUNITIES AND OFFER** - THE LEVEL AND QUALITY OF JOB OPENINGS IN ORADEA'S IT SECTOR
5. **TRAINING** - PERSONAL DEVELOPMENT AND LEARNING OPPORTUNITIES
6. **TECHNICAL EVENTS** - THE FREQUENCY AND QUALITY OF EVENTS THAT ARE SPECIFIC TO IT SECTOR
7. **NETWORKING** - OPPORTUNITIES FOR INTERACTION AND COLLABORATION AMONG DIFFERENT STAKEHOLDERS IN THE ECOSYSTEM
8. **TALENT PIPELINE MANAGEMENT** - ACTIONS TAKEN TOWARDS STUDENTS IN IT FIELD
9. **COMMUNITY** - OPPORTUNITIES FOR EXTRA ACTIVITIES



Fig 17. Problems in the local IT ecosystem as viewed by local IT professionals

IT PROFESSIONALS IN ORADEA

PROBLEMS WITH THE ECOSYSTEM

The problems identified by IT professionals in our sample are predominantly in the area of education (33,6% of all responses), especially in relation to the quality of courses and the preparedness of students as a consequence of low-quality education.

The respondents also see the prestige of the local university as being a problem, specifically when it is compared with the universities in other cities such as Cluj and Timisoara.

Respondents indicated that the local university should improve itself, potentially by:

- upholding higher standards;
- connecting to the immediate and relevant needs of the sector;
- teaching updated technologies, and;
- preparing students for real life.

Many sample participants also share the view that the local IT community itself is a problematic area. It is seen as less vibrant than they would expect it to be and also has fewer events that they would prefer to be offered. In regards to events organized by the local community, our respondents expect to see not only tech events but also cultural and leisure events dedicated to the people in this field.

They also perceive a lack of initiative and openness within the local community.

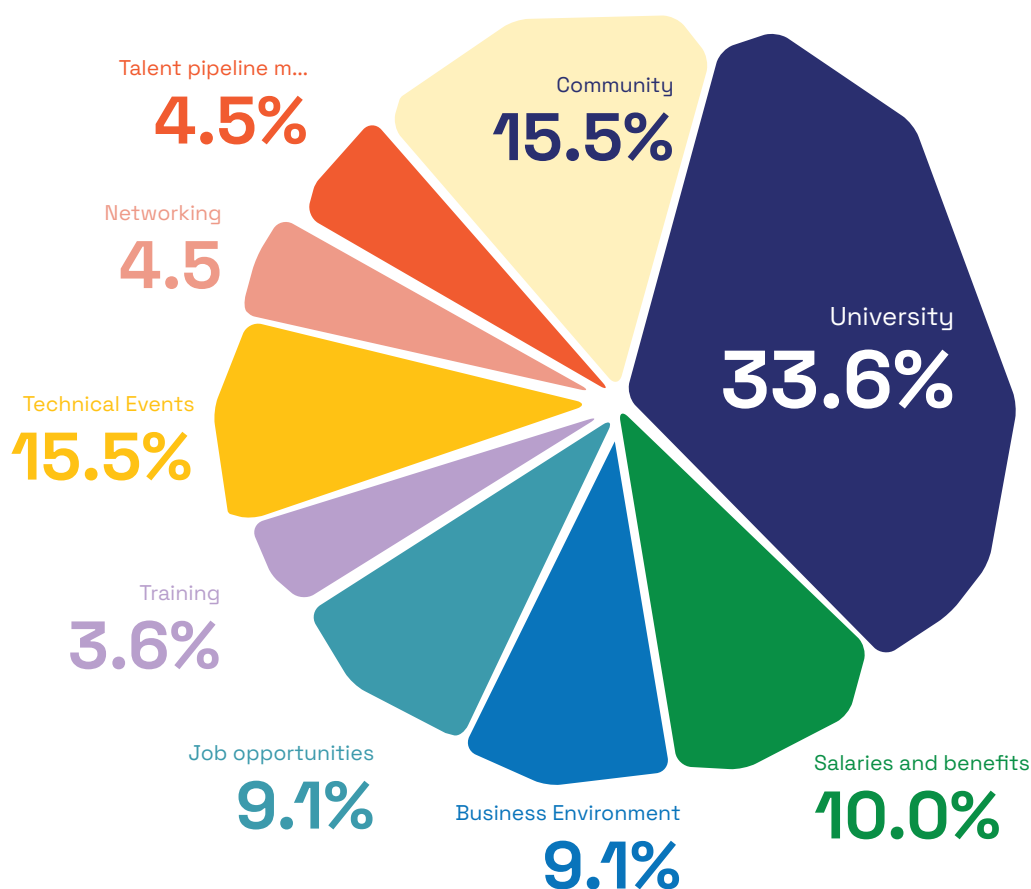


Fig 18. The categories of perceived problems in the ecosystem

IT PROFESSIONALS IN ORADEA

PROBLEMS WITH THE ECOSYSTEM



Low salaries and benefits is another area where the IT professionals sampled in this research have observed and admitted problems. In fact, 10% of all mentioned problems belong to this category. This aspect is deemed problematic, especially when compared to the situation in other Romanian cities with stronger IT hubs, but can also be explained by the relatively low number of IT companies in Oradea.

Lack of or a low number of events that are technical in nature have also been frequently mentioned in the list of problems submitted by participants in this study. Our respondents view a general lack of events such as bootcamps, hackathons, programming contests, clubs, and even a dedicated tech conference as problematic.

Moreover, 9.1% of respondents perceive the overall IT business environment in Oradea to be small, stagnant, and not challenging enough for them. They want to see IT companies in Oradea attract big projects that involve modern technologies and would also enjoy seeing other companies join the local community so that the overall competitiveness of the environment grows.

IT PROFESSIONALS IN ORADEA

PERSPECTIVE ON THE FUTURE

SKILLS VIEWED AS IMPORTANT FOR FUTURE

Personal development is crucial in general, but especially so in the technology sector where change happens tends to occur quickly and the evolution of technology itself dramatically alters the type of work that is performed in this industry.

Therefore, IT professionals are very mindful of the importance of remaining up to date by improving their skills and knowledge, expanding their horizons, and constantly learning new things. When asked about the skills and technologies they considered to be important for the next 10 years, an overwhelming number of the sampled IT professionals selected machine learning as the dominant option (86,5%). Also important in their view are the internet of things and cybersecurity. Business intelligence and blockchain are also on their radar of technologies that are important for the future. Based on our sample respondents' choices, the directions in which the industry and the profession will evolve towards are artificial intelligence, virtual reality, and security.

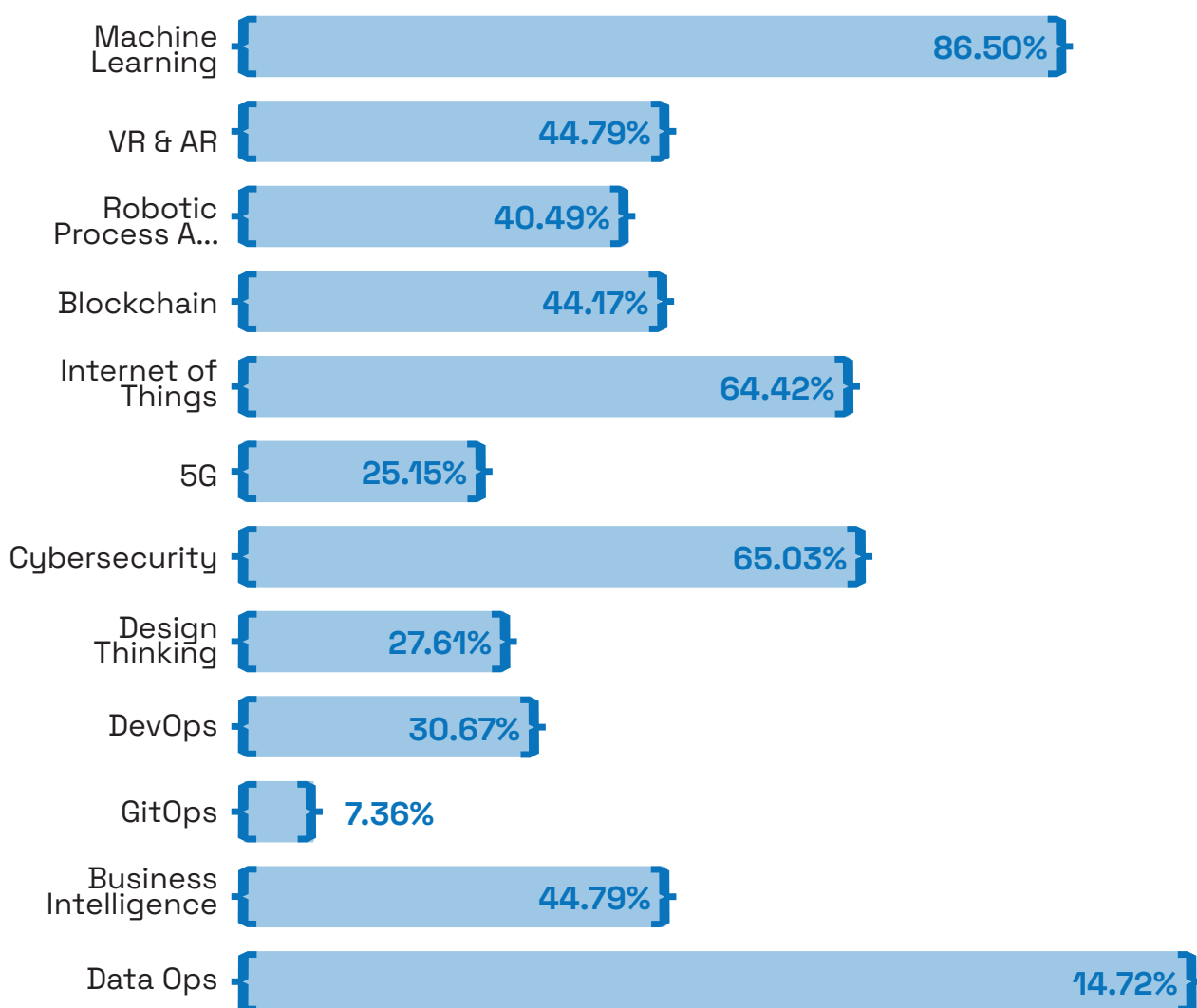


Fig 19. Programming languages used by companies in our sample

IT PROFESSIONALS IN ORADEA PREFERRED TYPE OF COMPANY



The most attractive type of companies for Oradea-based IT professionals in the future are custom software development companies, companies that work on an established product, and consultancy or service companies.

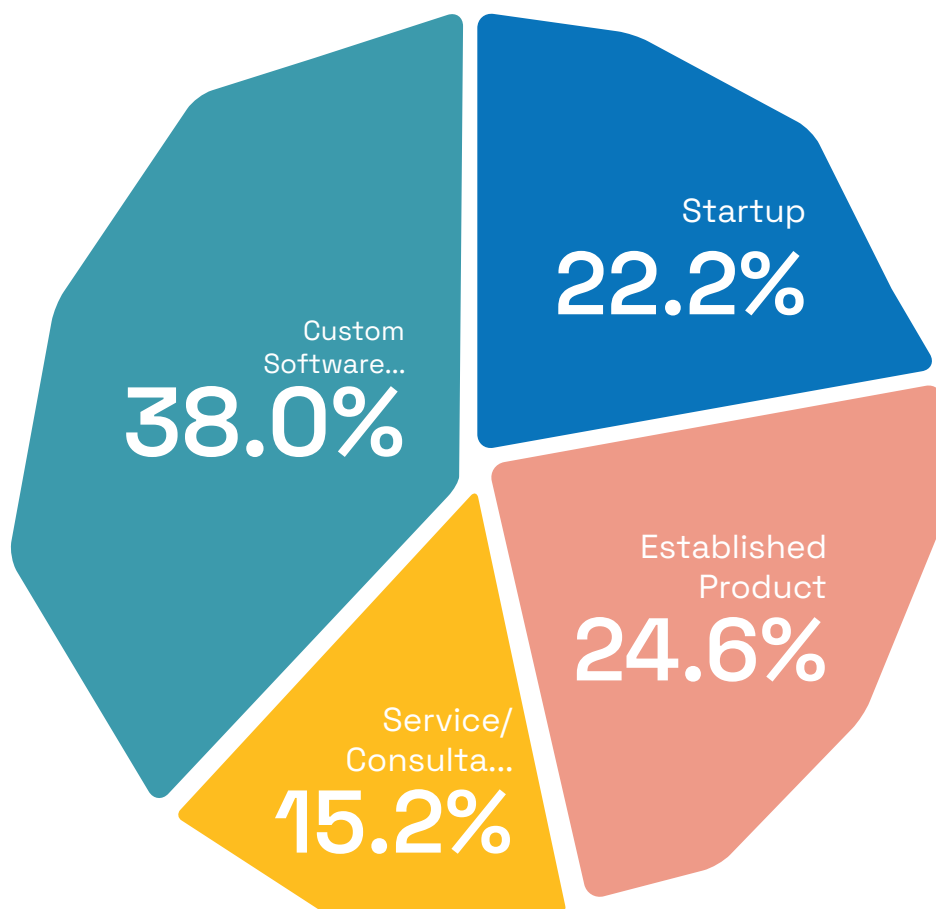


Figure 20. Preferred type of company to work in the future

TECH COMPANIES IN ORADEA

PREFERRED TYPE OF COMPANY



The comparison between women and men in our sample of IT professionals indicates important differences regarding the type of company they would prefer to work for in the future.

The data suggests that women are more interested than men in working at companies that are focused on custom software development and in-service/consultancy, while men display more interest in startups and established product companies compared to women.

This is an important aspect companies should take into consideration when recruiting employees.

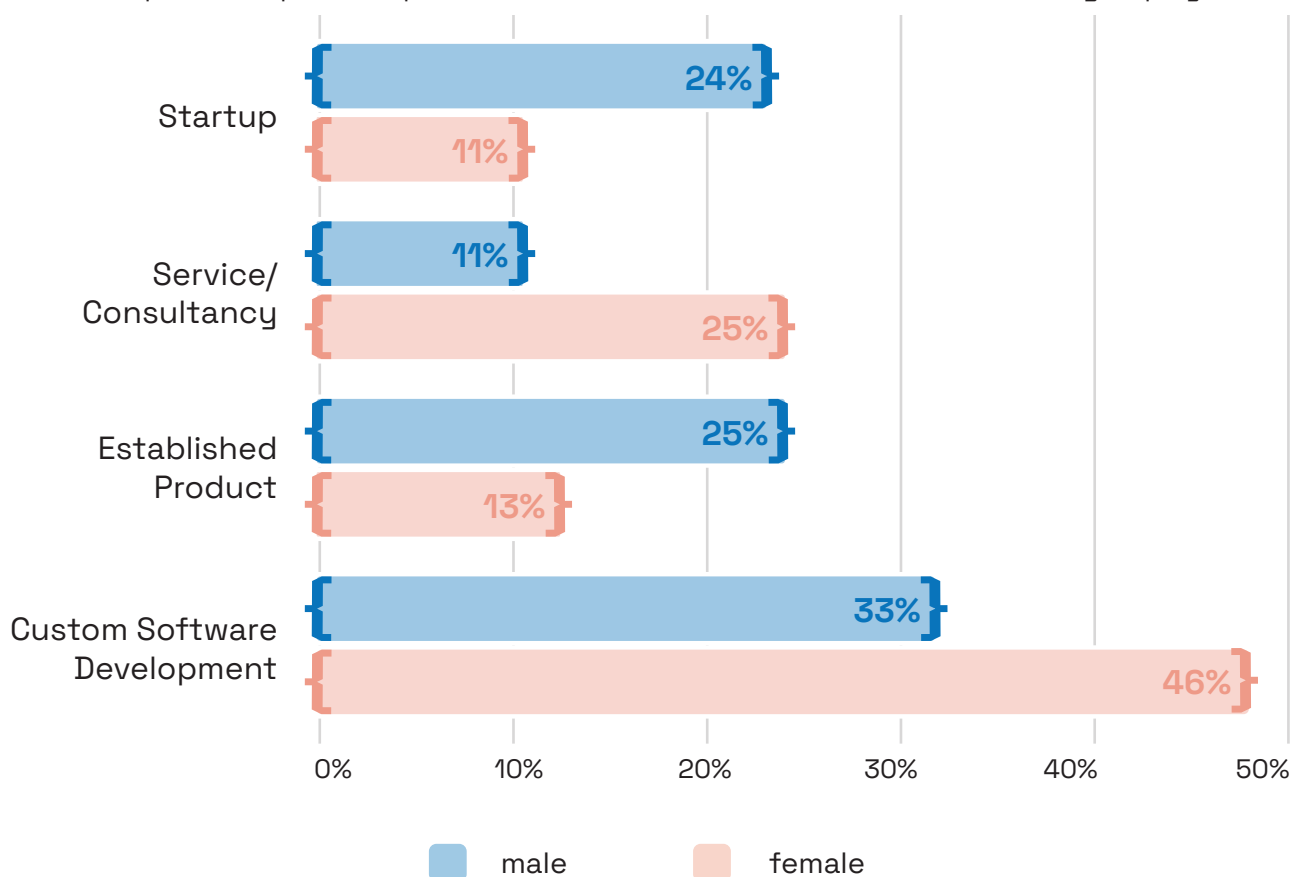


Fig 21. Preferred type of company to work in the future comparison between women and men

IT PROFESSIONALS IN ORADEA

TYPE OF TRAINING TO BE RECEIVED FROM COMPANY



The IT professionals in Oradea that participated in our survey indicated a high interest in receiving company-offered training when asked. Notably, they are interested in receiving training in order to develop their soft skills. In this category, the IT professionals in the sample refer to topics such as communication, negotiation, leadership, people management, emotional intelligence, team, and organizational management.



Figure 22. Variety of training topics preferred

IT PROFESSIONALS IN ORADEA

TYPE OF TRAINING TO BE RECEIVED FROM COMPANY

With regards to technical training, IT professionals in our research are mainly interested in machine learning (AI) topics, software craftsmanship, and DevOps. Within these categories, respondents also mentioned specific topics including OOP, Python, cloud computing, AWS-related subjects, and container orchestration.

Moreover, IT professionals in more senior positions, alongside their strong interest in technical topics, are also interested in leadership, coaching, communication, and people management, likely due to the managerial responsibilities they carry thanks to the position they occupy in the organization.

Junior respondents display a vivid interest in cloud computing, cybersecurity, and machine learning, which is probably due to the fact that they are at the beginning of their career and want to make sure they are in a more specific position and well prepared for the future. However, juniors also expressed interest in a variety of business-related topics such as communication with clients (especially difficult ones), negotiation, and networking.

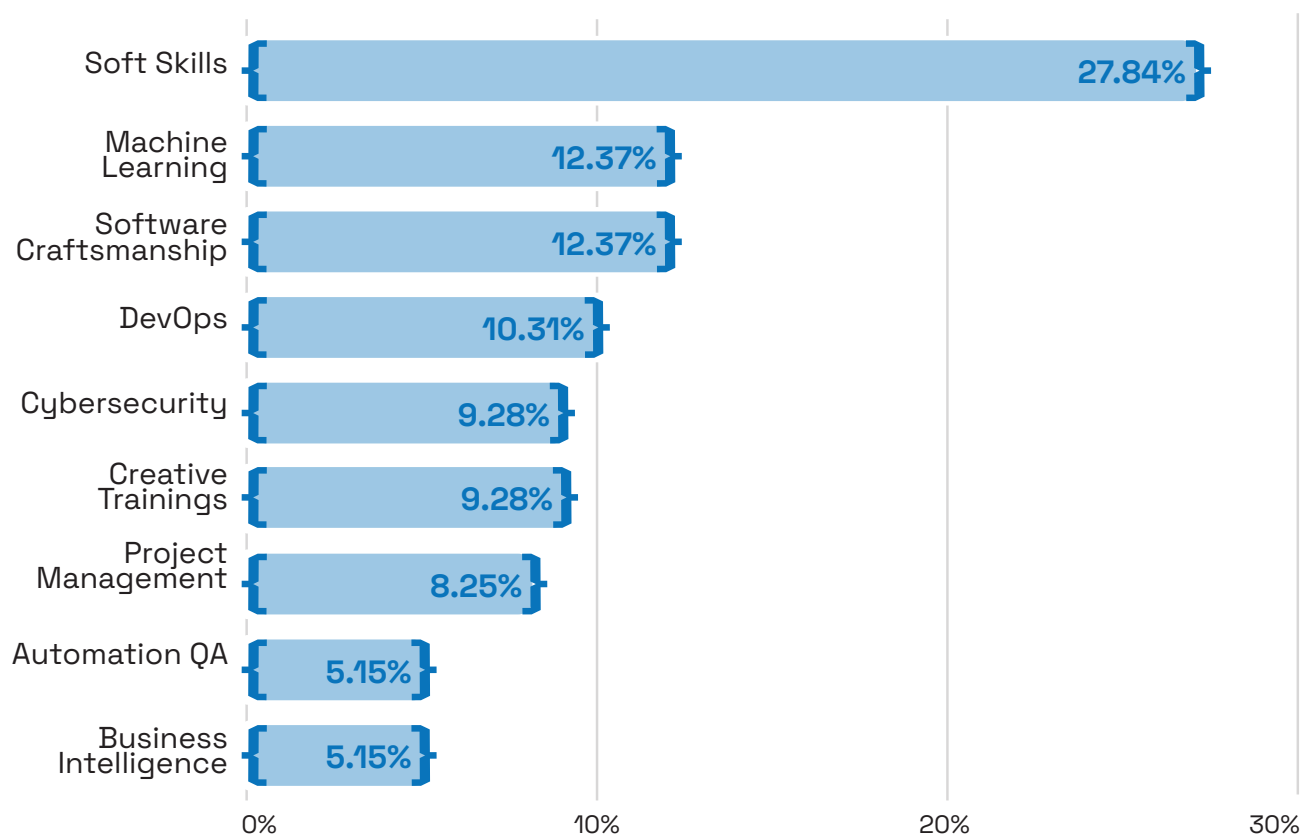


Figure 23. Directions of training preferred

ORADEA IT INDUSTRY REPORT

RESEARCH METHODOLOGY

The results presented in this report are based on primary data collected from professionals in the IT sector in Oradea. The data collection process was carried out using Google Forms between 20/07/2021 and 13/09/2021. During this period, 182 individuals working in the IT sector, (approximately 7% of local IT professionals) in Oradea offered their input by responding to the online questionnaire comprising 17 questions. The data collected was analyzed using descriptive statistics and variable correlation.

During the same time frame we conducted a data collection effort among IT companies in Oradea, in order to find out more about their activities, challenges and perspectives. 42 IT companies in Oradea responded to our solicitation to complete the questionnaire which was disseminated using Google Forms. The responses for this section in our research project were provided by the representatives of the participating companies.

PARTICIPATING COMPANIES

SOFTWARE/IT

EXPERT24.RO

DIGEPLAN

DIGITAL EMPATHY

SEPAIT

GYMACCES

OCTAVIC

BNG

QUBIZ

OPTIOFFER

CREATOPY
(FORMERLY BANNERSNACK)

ACCESA

SONRISA

ZUCCHETTI

TECH STACK APPS

REBELDOT

MOBIVERSAL

VARADINET WEB

DEVELOPMENT

GREEN DESIGNS

WEB DEDICATED

SUPRAVIRTUAL

CARTLOOP

LIFTUP SOLUTIONS

CONFDESK

ELEVEN DIGITS/TAPTASTY

TRACKNAMIC

BIZCUIT APPS

INSIGHT FEATURES

FLIPSNACK

247GRAD LABS

LATERAL

PAYMO

SECURITY

HELION

INFORMATION SECURITY

ABCTS

MARKETING & PR

EPICADS

KOOLT COMMUNICATIONS

ADVERTISING

COCKTAIL ADVERTISING

Branding

BLACKBOARD

DATA SCIENCE

BRILLIO

MEDICAL

BLOODCHALLENGE

ROBOTICS

AXOSUITS

DIGITAL PRODUCT DESIGN

DURRAN DIGITAL

EDITORIAL TEAM



NAOMI PENTIE
Content Strategist



DAVID ACHIM
Consultant



SILVIA FOTEA
Academic Researcher



DANIEL OANTA
Writer



NICOLE SACACIU
Writer



ROLAND SZABO
Data Analyst



LISS TELESCU
Text Reviewer



IASMINA GHEORGHE
Writer



DIANA MURG
Graphic Designer



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An abstract graphic featuring a central dark blue shape with a white arrow pointing right. This shape is surrounded by overlapping layers of white, light purple, and light orange. Two large teal brackets are positioned on the left and right sides of the central shape. The entire graphic is set against a solid yellow background.

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