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Lviv IT Cluster together with sociological agency “Fama” carried out an extensive and unique research of local IT market - Lviv IT Research. Among the advantages of the report are accuracy and representativeness of the results and utilization of complementary data collection methods. The purpose of the project is to analyze in detail the IT market of Lviv, its volume and potential.

IT Research presents detailed structure of the local IT market. We managed to achieve this result due to interviews with directors of IT companies and the multistage sampling with high representativeness (maximum error is no more than 5%). It was tailored to explore in details and to understand who is an average IT specialist of Lviv and to draw a comprehensive “picture” of the market. We were not guided by the principle - “questionnaries are completed only by employees of large companies”. Middle and micro companies were also involved in this research.

One more peculiarity of the project is the fact that among the experts were not only chiefs of IT companies with different business experience (depending on company size, business model, origin of primary capital). We also cooperated with specialists from related sectors: investment consulting, business education, IT business, management, macroeconomics, business solutions developers, human resources management.

Having interviewed 400 IT professionals we collected information about the image of an average IT worker of Lviv, things he/she saves money for, his/her salary and even interests. IT Research includes information on sales territories, market volume and its possible potential. This research provides precise, analytical, and, most significant, the extensive picture of Lviv’s IT market.

Opening remarks
Lviv IT Research Project is highly representative and unique analytical investigation of the IT market in Lviv

- 192 Lviv IT companies analyzed in the project
- 71 IT companies provided their data for the research
- 41 Directors of IT companies have been surveyed
- 20 expert interviews conducted
- 400 IT-specialists interviewed according to a representative sample. The maximum sampling error is 4.8%
- 56 Requests for public information directed at specialized agencies
- 460+ hours spent on data analysis
Lviv IT Cluster is a community of leading information technology companies, which together with universities and local authorities improve and develop IT in the city and the county.

We unite:

+7000 IT-professionals
35 companies
45% of them are from abroad

Lviv IT Cluster – the leading IT community of Ukraine!
Join us!

*every second IT professional in Lviv is Cluster member

itcluster.lviv.ua
we provide quality information

YOU take effective decisions

famalviv.com.ua
Structure of Lviv IT market
Sales geography

- Ukraine: 2%
- Ireland: 35%
- USA: 50%
- Canada: 8%
- Israel: 5%
- S.Korea: Taiwan
- Japan: China
- Singapore: Hong Kong
- United Arab Emirates

Structure of Lviv IT market
A lot of outsourcing companies are in such a position that they do not have certain focus market, and thus, if a customer from any country comes to them, I do not think that their origin will be a primary factor for making a decision whether to work with them or not. Currently the target market for Lviv IT companies is 58% North America and 35% Europe. Countries of Scandinavia actively provide workload as well as Great Britain, some comes from Germany – since IT is developed enough there as well. We used to work with France. In Lviv some work with Israel, nowadays there appears to be much more cooperation between certain product companies. And this is obvious: they [Israel IT] have state support and active venture capitalists, start-ups, IT technologies and they need human resources which they lack locally. I think it can be a good next step for Lviv. Asian market is represented but these are mainly the groups of well-known large industrial giants: Taiwan, China, Korea.

Least of all companies outsource to local markets, and maybe most of all - in the USA, this is actually a cultural peculiarity, since it makes no difference to the USA with whom to work, as long as it is profitable. There are certain companies that are focused on European markets. Nobody works with France, or maybe just a little and here we have two reasons – culture and because France had large colonies like South and Central Africa whereto it now outsources the work. German IT services clients are more likely to work with German IT companies. They want to work with people who are of one cultural group with them. In Ukraine and Lviv there are also some companies that work only with Israel. It is a very advanced country in terms of IT, but with very peculiar culture. You are to have a manager, who knows and understands Israeli culture.
“Of course, companies can have different specifications and specialization, but main sales markets in general are Western Europe, the UK, the USA. In general, Nordic region is especially active, since there is quite high quality of life level, high wages and generally insufficient number of talented people to answer the demand. Canada is big as well, although, as a rule, there is a rare opportunity for cooperation with Canadian companies oriented at solely Canadian market; in most cases these are global companies, which can be from Canada. Almost nobody works with France because of the particularity that it principally outsources to Romania due to language similarities. Currently no one works with Italy and Spain. Some do work with Germany, but a lot of German projects are outsourced to Poland – for them it is closer and with less risk. Recently Great Britain has been on the rise in terms of number of orders and customers. Other active countries are from Asia, Middle Eastern region. Nowadays I see increase in the number of orders, for example, for game projects from Arab Emirates, this is an interesting new trend.”

“Lviv IT companies work with the countries that are most open to work with an outsourcing business model. Today such country is America, it is the center of IT technologies progress. In Europe there are many countries with evolved IT, such as the UK, Scandinavia region, Germany and Benelux. These states have highly evolved information technology sector, but they are not as open as the US and significantly smaller, though with a certain share in Ukraine’s outsourcing. With regard to France and Spain, they are even less represented. Very few Lviv companies work with "Middle Eastern tigers". Although now there is much talk of cooperation with Israel, very few companies are actually working with them as Israel has limited market volume.”
The number of Lviv IT-companies

- 192 IT Companies in Lviv
- 388* Registered legal entities
- 35* Member Companies in the Lviv IT Cluster
- 6519* Employees in member companies

Structure of Lviv IT market:

- 88.4% Outsourcing
- 3.2% Outstaffing
- 8.4% Product companies

- 4 Big: 400+ employees
- 16 Middle: 150-300 employees
- 99 Small: 10-110 employees
- 73 Micro: 3-7 employees

* - data last specified on September 24, 2015

* - source Central Department for Statistics in Lviv Region
“Outsourcing, outstaffing business uses the model of permanent scalability in respect of staff numbers: you grow only if you grow in quantity. Meanwhile, product companies can grow qualitatively; but very few of them are successful. In any case, for owners, directors and top managers there always arises the question of scalability. And this is very hard because competition for qualified human resources is very strong in Lviv. To grow when you have 5 people working from a garage is one thing. To double it it is relatively easy by adding 5 more people and finding one more customer. Then it is a little bit harder to grow up to 20 people, since there arises the need to work in a consistent manner. To grow to 50 people becomes even harder, but comparatively straightforward, because you just take on several additional projects. It is difficult to reach 100, from 100 to 200 - it is very hard, because it requires changes of the mentality of owners, directors, change of structure, change of processes, procedures and so on. In other words bureaucracy comes into picture, the office must work in quite a different way, sales must work quite differently as well. And to sustain such a growth is very difficult. So this magic number of 100 people is very critical.”

“Lviv is a fertile ground to develop product business. If only our businessmen or engineers with entrepreneurship sense went to Silicon Valley to those in need of development centers and offer them partnership. 100 new companies would emerge here tomorrow and there are no obstacles is in their way really. A lot of people feel cozy at work, somebody has a mini-team doing outsourcing. Some people work happily as engineers or project managers at a company and do not want to take a risk because they have family, loans and permanent expenses, thus they do not wish to leave everything, to race off, to go and start own business. However, I see no restrictions for doing this and the legislation as well as other restrictive factors are only lame excuses. IT professionals from Lviv can find partners, who would gladly cooperate with a proper development center for a reasonable amount of money.”
“Lviv IT companies primarily work with the parts of the world that are more open minded about outsourcing. Lviv product companies have 10% of the market. The city is rich in IT talents and is not rich in IT businessmen. Products can be created by those, who know the market. The market is America, and probably those who live in America know American market better, and those who live in Ukraine know Ukrainian market better, and it is much smaller in comparison with the American cousin. Perhaps there are a lot of Ukrainian businessmen who have their own product companies in America. But they do not say they are Ukrainian, as they have already gone abroad and registered the company there. In other words, product companies appear mostly where there is the market, outsourcing companies appear where there are IT professional.”

“Outsourcing – is a complicated business model, but its realization is easier than starting your own startup or creating a new product. Secondly – we have a lot of technical skills and few people, who can do business, who understand both technical side of the matter and entrepreneurial. And thirdly, we, as opposed to Western countries, do not have the “cult of entrepreneurship”. While in the West it is great to be an entrepreneur, our people have not realized that it is great yet. A large part of society still means “trader” or something else by entrepreneur. That is why it is not popular – it is considered better to work as an employee, to be paid a salary, to minimize risks – it is tolerated in the society, it is normal.”
"In fact the present structure of business-models in Lviv and Ukraine has historical background. As a rule, business arises in certain areas, clusters, with favorable conditions: capable human resources, entrepreneurs who are ready to realize it, and third thing – the market. Absence of domestic market conditioned the situation when, in their majority, outsourcing companies rose here. This also provided unexpected benefit: thousands of people who work in the industry acquired real knowledge of the way things work in the West, and companies, working with foreign customers, adopted business processes, learnt to develop their some of their own. If local market is absent or incomplete but human capital is there – people go and look for these markets some place else. Lviv for a long period of time had a large industrial zone, and, accordingly, engineering potential. Parents used to sent their children to learn technical skills and it led to the situation when we have a large pool of engineering talent, that became a good basis for outsourcing.”
SoftServe is a leading technology solutions company specializing in software development and consultancy services. Since 1993 we’ve been partnering with organizations from start-ups to large enterprises to help them accelerate growth and innovation, transform operational efficiency, and deliver new products to market.

To achieve this we’ve built a strong team of 4,000 brightest, most inquiring minds in the industry. Our experience stretches from Big Data/Analytics, Cloud, Security and UX Design to the Internet of Things, Digital Health and Digital Transformation, we have offices across the globe and development centers across Eastern Europe.
Specifications of Lviv IT market
Lviv IT Industry turnover in 2015 according to the information from the experts and the poll of directors of Lviv based IT companies

$280 M — $300 M

2.7% Lviv GRP
1.3% Lviv Region GRP
Local taxes

$12,403 M*

Tax deductions from Lviv IT industry to local budgets in 2015

$746,39 M*

Planned Lviv Region budget revenues for 2015

$784,67 M*

Planned Lviv Region budget expenditures for 2015

$180,64 M

Planned Lviv budget revenues for 2015

* - Source: Expert opinion, poll results within Lviv IT Research project, requests for public information to Main Department of State Tax Office in Lviv Region by NACE and analytical modeling

$186,05 M

Planned Lviv budget expenditures for 2015

* - Source: Financial Policy Department of the Lviv City Council

* - Source: Department of Financial of the Lviv Region Administration
“Apart from tax deductions, we can look at another effect - IT industry professionals spend a lot of money. About 200-300 million dollars come and circulate in the city budget: because programmers buy food, have to entertain themselves, do purchases, go in sports club. They buy real estate, investments into office centers for them are more popular than ever. They go shopping to malls.”

“I must say that SW developers save little money. This is because they buy apartments, cars, they live in today. Let’s say that they put away 20% of income. Then we can calculate how much the industry indirectly feeds into the market in addition to taxes. At present, in my opinion this is city-forming industry which fills Lviv with money.”

“There is an important aspect that IT specialists are buying food, cars, houses and apartments. Then they pay taxes to pension fund. If you want to buy an apartment, you should pay 1.5% of duty. If you decided to exchange 100 dollars to hryvnias, you should pay 1% currency exchange tax. The more IT-specialists there are in Lviv, the more money remain in this region.”
Specifications of Lviv IT market

Market behaviour

<table>
<thead>
<tr>
<th>Year</th>
<th>Minimum Value</th>
<th>Maximum Value</th>
</tr>
</thead>
<tbody>
<tr>
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<td>$96 M</td>
<td>$103 M</td>
</tr>
<tr>
<td>2011</td>
<td>$120 M</td>
<td>$128.5 M</td>
</tr>
<tr>
<td>2012</td>
<td>$156 M</td>
<td>$167 M</td>
</tr>
<tr>
<td>2013</td>
<td>$203 M</td>
<td>$217 M</td>
</tr>
<tr>
<td>2014</td>
<td>$243.5 M</td>
<td>$261 M</td>
</tr>
<tr>
<td>2015</td>
<td>$280 M</td>
<td>$300 M</td>
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“It is worth mentioning that dynamics of growth of Lviv IT industry had been very positive reaching almost 30% increase per annum by the end of 2013. However after well-known events which substantially influenced economic condition of the country, growth rates decreased considerably. At present, situation is improving but it is still not possible to perlicate previous dynamics, with the growth level holding at 10-15% for the last year. On the other hand, if you speak about IT-market of Lviv, we can trace considerable increase of number of IT-companies in the city, many of which have transferred their offices from eastern Ukraine to Lviv.”

“The market has grown for the past 5 years 2,5 times. Companies and accordingly the market became more structured. They got more experience and are growing from being the so-called “domestic” to being bigger. Ukraine has good reputation, our SW engineers are held in high regard and they are in high demand. Another positive feature is that IT-cluster has definitely contributed a lot in order to allow companies to cooperate and think in what way to increase “the common pie”. Today companies invested more in human capital but competition for professionals has increased as well. And it becomes prestigious – to be IT-specialist.”
“In last couple of years Lviv turned into powerful IT-business centre. Now along with the smell of coffee you can feel the presence of high technologies. They created here IT Cluster, Startup Depot, Betaplace and opened the iHUB. Arguably the biggest IT conference is held here – Lviv IT Arena. From time to time you can hear gossiping about opening of the development centre by a major IT giant in Lviv region. Meanwhile, Lviv based IT-companies with their remote-controlled tanks and iWatch softwear that controls Tesla set the pace in many domains of Ukrainian high-tech industry. Lviv undoubtedly gives an impression of the city which supports IT. It is a safe haven for IT business.”

“What happened in 2009 was unprecedented for Lviv and for Ukraine - when Strategy of competitiveness for the city has been adopted which determined IT as a priority industry. That is when Lviv IT Cluster has been created. Mainly, this was a decision of local businessmen, municipal authorities to join and promote the IT-market together. Lviv has set as its goal to grow from 5 thousand IT-specialists to 15 in next 5 years. Which it did. Very few cities in Ukraine set such ambitious goals. So there is the first advantage of Lviv, its dynamics. Afterwards IT-business started to work together with the city to rally as many people as possible to their cause. Having identified key obstacles to the industry such as quality and quantity of human capital they started looking for solutions. All the pieces came together – education, promotion and marketing. As a result - everybody looks to Lviv. There is a little bit of negative tendency for the image of Ukraine in general, but positive one for competitiveness for its parts; that is why cities always compete with each other. Accordingly, companies started relocating and opening their offices here; even if they’ve had this in their mid-term plans, the notorious events accelerated their plans.”
Tendencies and development prospects of Lviv IT market

You can see the following trends in Lviv IT-market:

- The growth remains positive but has slowed down as a result of situation in the country.
- The export market is growing but domestic demand remains low.
- The number of IT-professionals’ relocating abroad gradually reduces.
- The increase of work force pull due to relocations from the East of Ukraine.
- Companies call Krakiv as city-competitor for Lviv.
- Rising prices and expenses for maintenance and operation of offices.
- The number of junior level specialists on the market is increasing (especially QA-specialists mainly due to the increase number of specialized schools and clases because this profession is characterized as being the easiest way to get in IT).
- “Staff scarcity” remains one of the problems of IT companies.
- The salaries are growing more slowly than in previous years.
- The minimal salary reduced on the “entrance” level for candidates for IT related vacancies (mainly owing to “switchers” –candidates coming from other industries).
Tendencies and development prospects of Lviv IT market

- Some IT-companies had difficulties with keeping existing clients
- IT-companies are reviewing and adapting their development strategies including re-orientation, searching new markets
- The demand for “niche” specialists (the ones having specific knowledge)
- Some companies open offices abroad
- Big market players diversify and transform business models with the aim of creating more added value
- Invigorated IT education, popularization of specialized business-education
- More active work of IT-companies by means of career-guidance for of college applicants
- IT-companies invest in education (UCU has opened the Department of Computer Science)
- The participation in tenders on the product development for the city (for example electronic ticket)
- Volunteering activity of individuals and whole companies
- Initiatives for quality of life improvement in the city, the realization of Smart city concept
- The market of start-ups and supporting infrastructure is evolving
IT Arena – one of the biggest and most anticipated IT-events of Ukraine

Be in touch with latest IT trends! See you at Arena Lviv Stadium in the fall of 2016!

IT Arena is:
+100 HOURS OF ENGAGING SPEECHES
+110 OUTSTANDING SPEAKERS

LVIV IT ARENA – TRENDSETTING IT IN UKRAINE

+1400 MEMBERS FROM UKRAINE AND THE WORLD IN 2015

*Lviv IT Arena 2015 - the best event of the year according to DOU!
Concerning existing trends, this industry will continue to grow further, it is possible that there will be joined projects with local authorities, companies will continue investing in the education because staff scarcity is still there – growth rates outpace the natural development of those professionals who can become available on the market. Also it is a positive thing that there are plans to build a technopark as well as appearance of new innovative projects and specialized locations accommodating them.

Some market risks remain but small companies enter Lviv’s market, local IT-offices are growing and I think the trend will continue. But if the IT-environment will carry on evolving as it does world giants are bound to come in coming years. I don’t think that they will be paying more, the level of salaries will be competitive. Business volume will grow. But when big companies come it will signify that the environment is good here. It will boost cooperation between our companies and internationals. Currently state reforms are the focus mainly tax initiatives. As it is Lviv IT-companies keep the situation under control and keep on growing by 10-15% each year.
“I don’t think that big players will enter the market now but some small movements can happen. Maybe even certain M&A agreements will take place. It should be noted that the education market will expand and improve (cooperation with universities, training of specialists, re-qualification), including business-education because companies now understand that their business is growing not only due to quantitative indexes (number of specialists) but also due to qualitative; they grow through innovation, new business models. Without critical mass of business-oriented personnel success would be difficult to achieve.”

Sophia Opatska
CEO of LvBS at Ukrainian Catholic University, personnel management specialist
Median salary in IT citywide

$1500

Median salary in Lviv’s IT business

$150

Minimum average monthly salary

$4500

Maximum average monthly salary

968*

Big Macs can buy an average IT specialist on his monthly salary

* - Big Mac Index for Ukraine is $1.5
## Current problems, IT companies in Lviv face and possible ways of their settlement

### Industry specific issues
- Low competitiveness in comparison with western companies
- Loss of competitiveness positions on the world market
- Underdevelopment of domestic IT-market
- Migration of IT-companies from the east of Ukraine, increase of competition for human resources
- Headhunting
- Insufficient number of IT-events, venture funds
- Lack of office-space

### Human Capital
- Qualified IT-specialists who do not educate themselves further
- Fierce competition on IT market: the demand exceeds supply
- Runoff of highly qualified staff abroad
- Lack of workers with medium qualification level
- Low level of English of IT-specialists
- Lack of qualified managers who organize IT events
- Insufficient number of qualified speakers for events
- Unstable emotional and mental state of specialists due to relocation or its prospect
- Low level of education and preparation of IT specialists

### Finances and economic situation in the country
- Fluctuation of currency exchange rate
- Problems and uncertainty with salaries
- Rent of apartment in foreign currency for workers of IT industry
- Popular stereotype about high salaries in IT

### Nationwide problems
- Military conflict in the east of Ukraine
- Inertia of bureaucracy: resistance to reforms
- Slow implementation of changes to tax law
- Bureaucracy with taxes
- Concern because of change of legislation
- Problems with functioning of airports and “closed sky” for international air travel
- Visa system
Potential problems IT companies in Lviv can face within the nearest year

Nationwide problems
- Lack of positive changes
- Political instability
- Slow development of country’s economy
- Rotating power cuts
- Instability of banks
- Imbalance in currency exchange rates
- Mobilization of IT staff in the following waves of draft
- Technical default of country’s economy
- Possibility of activation of offshore accounts
- Escalation of conflict in the east of the country

Municipal level
- “Closed sky” for Lviv airport (lack of low costs)
- City fails to account for the internal migration of the staff of unrelated specializations
- Traffic problems within the city (due to increased number of cars)
- Insufficient level of the city’s infrastructure development
- Lack of top-level office spaces

IT sphere
- Low level of short-term IT-education (courses)
- Customer outflow
- Loss of business by big companies
- Lack of staff
- Problem of accommodation for IT-professionals from other cities (rental market)
- Migration of IT-specialists abroad

“To mitigate the effect of potential problems it is necessary to utilize thorough business planning and clear understanding of the possible risks. In Lviv IT companies can also coordinate their actions and share their experiences about measures applied to ensure business continuity.”

Andrew Gankevich
Human capital assets: current and potential
Number of IT specialists in Lviv

13513 to 15155
IT specialists in Lviv

7567 to 8487
Software engineers

3188 to 4830
Freelancers and IT professionals in other industries of Lviv

20 IT professionals per 1000 citizens
60 IT professionals per 1000 working population in Lviv

2% Of resident population in Lviv
2.3% IT families constitute Lviv population structure
6% Of all working Lviv population
Growth capacity

IT graduates in 2013-2014 academic year

- 4106 Annual IT graduates
- 551 I-II accreditation level
- 3555 III-IV levels of accreditation
- 1687 (B.Sc.)
- 879 specialist’s
- 989 master’s

IT students in 2014-2015 academic year

- 12232 Students of IT specialties are currently studying
- 5528 Will be IT ready till the end of 2015 (students of 4-6th year of education)

*source - Higher education institutions of Lviv
IT House is a place created by IT guys for IT guys

IT House means:

- modern housing out of quality materials
- relaxation zones (balconies, roof-terrace, playground)
- bicycle and auto parking under 24 hour security
- the latest energy-saving technologies

Become part of a unique project!
Live among like-minded people!

* Each participant of Lviv IT Cluster can buy an apartment in IT House
Social profile of IT specialist in Lviv
Social profile of IT specialist in Lviv

Profile overview

Lviv IT professional

- **Salary**: $1500
- **Average age**: 26 years
- **Total experience in IT**: 4 years
- **Years spent using current technology**: 3 years
- **Years since started working for current company**: 2 years
- **Specialties and exact science**: 48.3%
- **Software engineer**: 56.0%
- **Tries his strength with own IT startup**: 18.7%
- **For the most part he avoids freelance jobs**: 62.8%
- **At the moment he is satisfied with his job**: 52.5%
On average, Lviv IT professional has changed 2 jobs

Would he have enough money to be able to stop working he more often than not would still be working where he currently

About his job the most he appreciates

- 37,4% ability to gain technical experience
- 18,4% have business trips abroad

Lviv IT guy is a team player

- 79,3%
- 38,8%
- 32,9%
he sometimes works overtime keep the work-life balance

While looking for the new company he would primarily focus on 3 factors:

- 26,5% high salary
- 18,8% interesting projects and tasks
- 12,3% good team
The knowledge necessary to work in IT business
Lviv IT specialist acquired by himself:

- 32.1% by reading specialized literature
- 22.6% completing online courses
- 72.6% he also does not stop learning
- 50.9% But for the most part he does not possess the certificates proving his level of proficiency
- 99.6% he speaks English
- 56% constantly uses it for work
- 86.4% he does not attend hackathons
- 72.5% instead he visits topical conferences and community meetings
- 17.6% he would like to master Java
- 13.8% he would like to master Python
- 11.2% he would like to master JavaScript
Social and demographic features

Age

- 18-24  31.1%
- 25-30  49.1%
- 31-35  13.7%
- 36-40  5.0%
- 41-45  1.1%

26 years Median age

Education

- 7.2%  Secondary technical education
- 8.4%  Undergraduate degree (bachelor’s – computer and exact sciences)
- 4.9%  Undergraduate uncompleted nonrelated higher education (bachelor)
- 20.3% Complete higher nonrelated (master’s/ specialist’s)
- 8.6%  Two higher educations
- 1.9%  Postgraduate, PhD
- 0.5%  MBA-level

Complete higher education (master’s/ specialist’s – computer and exact sciences)
Social and demographic features

Marital status
- 37.3% Single
- 38.3% Married
- 13.7% In relationship
- 8.4% Live together
- 2.4% Divorced

Children
- 25.4% Yes
- 74.6% No
- 54.3% Mostly 1 child
- 3.1% Maximum of 3

Accommodation
- 48.6% Rents
- 22.8% Lives with parents
- 26.9% Lives separately, in his own flat
- 1.7% Owns a house
Employments details

What is your position in the company?

- **56.0%** Software engineer
- **13.4%** Manual QA
- **4.8%** Automation QA
- **1.7%** Business analyst, requirements manager
- **3.4%** System administrator
- **0.8%** Database administrator
- **2.9%** UI-UX specialist
- **7.2%** Team lead
- **2.3%** Tech lead
- **4.1%** Project manager
- **1.2%** Solution architect
- **2.2%** Human resources manager

Skill level

- **45.5%** Middle

What is the type of your salary?

- **52.4%** Monthly salary, without perks and bonuses
- **26.4%** Monthly salary with perks and bonuses
- **19.8%** I am paid by hour
- **1.4%** Other
Employmenents details

How often do you have your salary reviewed?
- 49.0% Once in 6 month
- 40.3% Once per year
- 10.7% Other

Are you satisfied with your job?
- 32.2% Satisfied
- 20.3% Absolutely satisfied
- 22.7% Yes and no
- 18.3% Rather no
- 6.4% Absolutely dissatisfied

On average the IT professional has changed his job twice with the maximum being 10 times. And his total experience in IT is 25 years.

His overall experience in IT is 4 years with last 2 being employed by the current company.
How many jobs have you changed in your career?

- 1 job: 15.2%
- 2 jobs: 14.1%
- 3 jobs: 31.0%
- 4 jobs: 25.0%
- 5 jobs: 8.7%
- 6 jobs: 3.3%
- 7 jobs: 1.7%
- 8 jobs: 0.1%
- 9 jobs: 0.1%
- 10 jobs: 0.6%
- 11 jobs: 0.2%

If you quit your job, what would you do?

- 22.5% I would continue working within my specialty but in another company in Lviv
- 3.1% I would continue working within my specialty but in another company in any Ukrainian city
- 17.1% I would continue working within my specialty but in another company abroad
- 12.2% I would become a freelance worker
- 8.7% I would start self-education within other specialty
- 17.3% I would enjoy my time: amusement, travelling, sport
- 19.2% I would not change anything

Side projects

- 62.8% No
- 15.9% Freelance
- 18.7% Own startup/project in IT
- 2.6% Own startup/project not in IT

If you had enough money to stop working, would you quit your job?

- 13.2% For sure I would
- 20.2% Difficult to answer
- 34.0% Sooner no
- 14.5% No, I wouldn’t
### Aspect of the job that Lviv IT specialist cherish the most

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Aspect</th>
</tr>
</thead>
<tbody>
<tr>
<td>99.2%</td>
<td>Good salary and working conditions</td>
</tr>
<tr>
<td>97.1%</td>
<td>Interesting and diverse job / projects</td>
</tr>
<tr>
<td>96.7%</td>
<td>Career prospects</td>
</tr>
<tr>
<td>93.8%</td>
<td>Secure job</td>
</tr>
<tr>
<td>91.5%</td>
<td>Good relations with fellow colleagues</td>
</tr>
<tr>
<td>69.1%</td>
<td>Contribution to the life of other people and society in general</td>
</tr>
<tr>
<td>62.4%</td>
<td>Working with people</td>
</tr>
<tr>
<td>53.5%</td>
<td>Being your own boss</td>
</tr>
<tr>
<td>50.2%</td>
<td>Prestigious job that is appreciated by others</td>
</tr>
<tr>
<td>42.9%</td>
<td>The power to make decisions</td>
</tr>
</tbody>
</table>

### Most important factors for job hunting (if you were looking for a job now)

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>26.5%</td>
<td>Good salary</td>
</tr>
<tr>
<td>18.8%</td>
<td>Interesting projects and tasks</td>
</tr>
<tr>
<td>12.3%</td>
<td>Good team and pleasant working environment</td>
</tr>
<tr>
<td>8.5%</td>
<td>Possibility for self-development</td>
</tr>
<tr>
<td>8.1%</td>
<td>Career prospects</td>
</tr>
<tr>
<td>7.5%</td>
<td>Possibility to fulfill your potential</td>
</tr>
<tr>
<td>5.5%</td>
<td>Working hours</td>
</tr>
<tr>
<td>4.6%</td>
<td>Good working conditions</td>
</tr>
<tr>
<td>2.4%</td>
<td>Office location</td>
</tr>
<tr>
<td>2.2%</td>
<td>Managerial style</td>
</tr>
<tr>
<td>1.2%</td>
<td>Social package</td>
</tr>
<tr>
<td>1.1%</td>
<td>Way of work (Outsourcing, outstaffing, product-oriented)</td>
</tr>
<tr>
<td>0.7%</td>
<td>The image and prestige of the company in the public eye</td>
</tr>
<tr>
<td>0.6%</td>
<td>Size of the company (huge, tiny, average)</td>
</tr>
</tbody>
</table>
IT Expert – technical education modernization project at Lviv Universities

Our Experts have the opportunity to:

- share their experience
- inspire the new generation
- cooperate with teachers
- take part in a huge project
- change the education system
- develop IT environment

IT Expert is:

2 UNIVERSITIES
30 UPDATED DISCIPLINES
50 TEACHERS AND EXPERTS
700 STUDENTS EACH YEAR

Become IT Expert!
Change education with Cluster!

itcluster.lviv.ua
The prospects that specialists cherish the most in their job

37.4%  Technical experience accumulation
18.4%  Possibility of business trips abroad
14.0%  Possibility to become a manager
13.4%  Getting enough experience to start your own company
 8.0%  Possibility to immigrate in the future
 6.5%  Possibility to go abroad permanently
 2.3%  Other

What role would you rather play at work?

79.3%  Team member

How often do you work overtime?

38.8%  Sometimes

Can you say about yourself that you keep work/life balance?

48.0%  Yes, I do
35.3%  Rather yes
10.6%  Yes and no
 2.8%  Rather no
 1.2%  No I don’t
 2.1%  Difficult to answer

10.0%  That is me
29.0%  I do mostly
32.9%  Yes and no
19.1%  Rarely
 3.3%  Never manage to
 5.6%  Difficult to say

Do you care about business needs of a customer / their project while working for them?

48.0%  Yes, I do
35.3%  Rather yes
10.6%  Yes and no
 2.8%  Rather no
 1.2%  No I don’t
 2.1%  Difficult to answer

5.2%  All the time
22.0%  Often
26.2%  Rarely
 7.8%  Never

Do you care about business needs of a customer / their project while working for them?
Skills & knowledge

Indicate please where did you acquire necessary skills to do your job in IT?

- 32.1% Self-education – specialized literature, etc.
- 22.6% Self-education – online lessons
- 22.1% At university
- 12.4% Internship at IT company
- 8.5% Taking paid lessons/courses
- 2.3% Other

Are you studying additionally now (classes at your company, specialized courses, online-courses, foreign language learning with a tutor, etc)?

- 72.6% Yes
- 27.4% No

Do you have any specialized certificates which confirm your competence level?

- 21.2% Yes, in the technology I work in
- 23.2% Yes, I have a certificate after taking some training, master class, etc
- 1.1% Yes, I am a scrum master
- 3.7% Other (sales)
- 50.9% I have no certificates

How often do you use a foreign language (communication, reading, writing)…

- All the time: 56.0%
- Often: 18.4%
- Sometimes: 14.3%
- Rarely: 6.3%
- Never: 5.0%

In everyday life:

- All the time: 10.0%
- Often: 18.2%
- Sometimes: 34.4%
- Rarely: 26.9%
- Never: 10.5%

Foreign language competence

- 99.6% English
- 22.2% Polish
- 13.9% German
- 3.4% French
SPEAK ONE GLOBAL BUSINESS LANGUAGE WITH YOUR CLIENTS UNDERSTAND THEIR BUSINESS NEEDS AND SUCCEED WITH THEM

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Ask our Academic Program Director Anastasiya Markuts how you can benefit from this program:
amarkuts@lvbs.com.ua
067 215 4848 (viber)
anastasiya.markuts (skype)

deadline for application – February 1, 2016
first module – February 24-27, 2016
program end – June 2017
study tour to Israel tentative dates (part of the program) – March 13-19, 2016
program format – 4 days each month
Upgrade yourself

What programming language are you interested in mastering?

<table>
<thead>
<tr>
<th>Language</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Java</td>
<td>17.6%</td>
</tr>
<tr>
<td>Python</td>
<td>13.8%</td>
</tr>
<tr>
<td>JavaScript</td>
<td>11.2%</td>
</tr>
<tr>
<td>Node.js</td>
<td>8.4%</td>
</tr>
<tr>
<td>C++</td>
<td>6.9%</td>
</tr>
<tr>
<td>Angular JS</td>
<td>6.3%</td>
</tr>
<tr>
<td>Objective-C</td>
<td>6.3%</td>
</tr>
<tr>
<td>Ruby</td>
<td>17.6%</td>
</tr>
<tr>
<td>C#</td>
<td>4.6%</td>
</tr>
<tr>
<td>SQL</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

Do you use source control in your main and/or additional work?

- 62.5% Yes
- 37.5% No

Do you code in opensource?

- 13.0% Yes
- 87.0% No

On average 8.5 hours per week (mode - 2 hours per week; minimum of 1)
Why do Lviv IT-specialists attend conferences and community meetings?

- Experience sharing
  “To find out about new trends, meet new people, talk about testing on their projects, get to know their experience”
- Possibility to acquire knowledge about new technologies, methodologies and IT-trends
  “Because it is interesting and educational. At the meetings and conferences you can always learn something new that will help you improve your skills, and sometimes it can help one to set a goal at a certain point in life”
- New connections
- That is interesting
- Progress and self-improvement
- Networking
- Possibility for carrier growth

Why don’t they attend conferences and community meetings?

- Lack of time
- No possibility
- No desire
- Events are not interesting
- No financial possibility
- One needs some time to rest
- Language barrier
- No one to go with
- All the information is available on the internet
- There were no interesting meetings
- The company does not send us to such events
- No information concerning such events is available
- Busy working
- No specialized Requirements Analysis/Business Analysis events

Upgrade yourself

72.5% Yes
27.5% No

Do you attend community meetings and topical conferences?

Social profile of IT specialist in Lviv
Why do Lviv IT professionals take part in hackatons?

- That’s interesting
- The possibility of progress and improvement
  “It helps to understand your weak sides and advantages and it helps you to develop new skills quickly and sufficiently”
- New experience
- New connections
- Interested in extreme programming
- Possibility to show your skills and abilities
- New challenges
- Practicing new skills
- Possibility to generate original ideas and put them into practice
  “I enjoy it, I like when ideas generated by me have a chance to be realized”
- Communication with community
- Sharing ideas and experience
- Possibility to recruit new people
- To expand my imagination
- My university urges us to participate
- Possibility to keep up with new developments
- Розвиток здібностей
- Skills development
- Familiarization with new ideas
First city-wide loyalty program aimed at IT business allowing to get discounts for:

- flights
- bank services
- insurance
- food & drinks in coffee-shops, restaurants, pubs
- club tickets
- co-working space rent
- entertainment
- medical exams and treatment
- merchandize
- conference tickets

Lviv IT Club – is the largest and most powerful IT community of the city!

IT Club it is:

6000+ 160+

MEMBERS VENUES THAT PROVIDE 5 TO 100% DISCOUNTS

Join the club!
Feel the loyalty of Lviv!

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# Means of commuting

Mostly walk (45.8%), by buses (27.0%), with car (23.0%).

Getting to work in average takes 26 minutes (min 2 minutes, max 1.5 hours)

Which kinds of transport do you usually use while moving around the city?

**Bicycle**
- 6.3% Everyday or practically everyday
- 7.3% Once a week or several times a week
- 11.5% Once a month or several times a month
- 14.0% Several times a year
- 61.0% Do not use at all

**Car**
- 23.0% Everyday or practically everyday
- 9.7% Once a week or several times a week
- 4.8% Once a month or several times a month
- 3.7% Several times a year
- 58.8% Do not use at all

**Motorcycle**
- 1.0% Everyday or practically everyday
- 0.7% Once a week or several times a week
- 1.1% Once a month or several times a month
- 0.3% Several times a year
- 96.8% Do not use at all

**Taxi**
- 2.1% Everyday or practically everyday
- 8.8% Once a week or several times a week
- 36.9% Once a month or several times a month
- 40.2% Several times a year
- 12.0% Do not use at all
### Means of commuting

Mostly walk (45.8%), by buses (27.0%), with car (23.0%)
Getting to work in average takes 26 minutes (min 2 minutes, max 1.5 hours)

**Which kinds of transport do you usually use while moving around the city?**

<table>
<thead>
<tr>
<th>Transport</th>
<th>Everyday or practically everyday</th>
<th>Once a week or several times a week</th>
<th>Once a month month or several times a month</th>
<th>Several times a year</th>
<th>Do not use at all</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bus</strong></td>
<td>27.0%</td>
<td>24.3%</td>
<td>24.4%</td>
<td>15.8%</td>
<td>8.4%</td>
</tr>
<tr>
<td><strong>Trolleybus</strong></td>
<td>3.1%</td>
<td>7.7%</td>
<td>20.8%</td>
<td>37.7%</td>
<td>30.7%</td>
</tr>
<tr>
<td><strong>Tram</strong></td>
<td>7.2%</td>
<td>14.5%</td>
<td>26.0%</td>
<td>29.7%</td>
<td>22.7%</td>
</tr>
<tr>
<td><strong>I walk</strong></td>
<td>45.8%</td>
<td>21.3%</td>
<td>18.9%</td>
<td>9.1%</td>
<td>5.0%</td>
</tr>
</tbody>
</table>
IT Future – educational initiative of Cluster with the goal to inspire high-school students to choose their future in IT!

By joining the project you can:

- share your experience in IT
- inspire pupils to learn
- develop IT environment

Inspire the young generation! Join the IT Future project!

2835 MINUTES OF ENGAGING LECTURES
63 SCHOOLS
+5000 INSPIRED AND KNOWLEDGEABLE STUDENTS

itcluster.lviv.ua
Social profile of IT specialist in Lviv

**Nutrition**

Lviv IT pros drink 3384L of coffee per day!

Laive IT specialists drink coffee on average 1.5 times a day (among those who drink coffee – they constitute 70%). They drink coffee from 1 to 9 times a day. An average portion is 155 ml at one time, predominantly they drink 200 ml. The minimum portion is 20 ml, the maximum one is 500 ml.

Do you drink other energizers except for coffee?

- No 95.5%
- Yes 4.5%

Lviv IT professionals eat at:

- 46.5% Public catering (restaurants, cafes)
- 35.7% Cook in advance and take food with them
- 3.1% Buy products in a shop
- 2.0% Eat fast food (snacks, burgers etc.)
- 1.0% Prepare sandwiches and take them to work
- 0.8% Have a meal at home
- 10.9% Other (catering in the office, combination of above mentioned options)

On average 19.3% of income is spent on nutrition

(at home, at workplace, at public catering):

from 3% to 75%

(mode 10%)
Expenses and savings

On average of income goes for army support

3% mode 5%  

Do you save/put away money?

Yes 87,1%

- No 12,9%

What do you save the money for?

46,4% Apartment  
9,4% Car/Bike  
1,7% Wedding  
17,3% Trip  
12,9% Save for a rainy day  
12,4% Other**

What type of car would you prefer?

- Gasoline engine 11,4%  
- Diesel engine 13,5%  
- Hybrid engine 18,9%  
- Electro car 48,1%  
- None 8,1%

How often do you travel?

<table>
<thead>
<tr>
<th>Inside the country</th>
<th>Abroad, except for business trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once a year</td>
<td>16,5%</td>
</tr>
<tr>
<td>Twice a year</td>
<td>22,2%</td>
</tr>
<tr>
<td>Three times a year</td>
<td>17,4%</td>
</tr>
<tr>
<td>Every quarter</td>
<td>32,6%</td>
</tr>
<tr>
<td>Other*</td>
<td>11,3%</td>
</tr>
<tr>
<td></td>
<td>41,4%</td>
</tr>
<tr>
<td></td>
<td>17,1%</td>
</tr>
<tr>
<td></td>
<td>5,4%</td>
</tr>
<tr>
<td></td>
<td>6,9%</td>
</tr>
<tr>
<td></td>
<td>29,2%</td>
</tr>
</tbody>
</table>

Every third IT specialist has never been abroad

On average 19,2% of income goes for entertainment; from 1% to 50% (mode 10%)

* - more often, rarer, never
** - (starting a business, repair my place, household equipment, combination of mentioned options)
Training and leisure

Do you have pets?

Yes 39.8%
No 60.2%

Pets of Lviv IT pros

66.6% Cat/cats
26.6% Dog/dogs
9.0% Fish
6.6% Parrot
3.0% Chinchilla
1.8% Tortoise/tortoises
1.8% Rat/rats
1.8% Guinea pig
1.2% Rabbit
1.2% Hamster/hamsters
1.2% Slugs/snails

:) “Bacteria”
Training and leisure

Are you into sports?

- 35.3% Yes, I exercise regularly
- 37.7% Yes, I do sometimes
- 19.6% I do, but very rarely
- 7.3% Not at all

A sound mind in a sound body

Mountain sports
- Mountaineering
- Rock climbing
- Skiing
- Snowboarding
- Alpinism

Water sports
- Water aerobics
- Diving
- Swimming

Outdoor sports
- Skating
- Roller-skating
- Parkour
- Tracking
- Strolling
- Cycling, rock-cycling

Athletics
- Weightlifting
- Track-and-field athletics
- Body-building
- Powerlifting
- Street workout
- Kettlebell lifting

Gym workouts
- Running
- Speed walking
- Muscle-building exercises and cardio
- Morning exercises
- CrossFit

Martial Arts
- Mixed Martial Arts
- Kung fu
- Combat Hopak (Traditional Ukrainian Martial Arts)
- Kickboxing
- Thai Boxing
- Boxing
THE FIRST PROFESSIONAL CLASS «A» BUSINESS CENTER IN LVIV CITY
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www.optima-plaza.com.ua
Leisure of Lviv IT pros

Education and development
- Own startup development
- Sideprojects
- Writing a thesis
- Programming
- Improving the mastery of foreign languages
- Mapping
- Attending public lectures
- Education/self-improvement
- Taking online courses
- Tutoring
- Participation in conferences

Social activity
- Hang-out with friends
- Spending time with family and children
- Scouting
- Going out with significant other
- Communication, meeting new people
- Public work
- Online communication

Culture and art
- Watching movies
- Reading books
- Taking part in KVK “The Club of the Funny and Inventive People”
- Taking dancing lessons
- Listening to music
- Playing music
- Embroidery
- Visiting concerts, exhibitions
- Taking part in photo sessions
- Painting
- Acting in theater
- Taking photos
- Visiting museums, theaters
Entertainment
- Playing table games
- Watching TV series
- Playing intelectual games
- Shopping
- Going out (cafes, restaurants, pubs, etc)
- Playing computer games
- Surfing the Internet
- Spending time on my hobby

Outdoor activities
- Holidays in the mountains
- Strolls
- Relaxation in the countryside
- Travelling
- Outings, picnics, BBQ
- Active holidays
- Eco tourism
- Gardening
- Fishing

Sport
- Travelling / cycling
- Doing sport
- Playing football
- Gym workouts
- Fitness
- Dancing
- Swimming
- Games
- Skateboarding, snowboarding, roller-skating, skiing, longboarding
- Auto racing
- Motorcycle racing

Other
- Having rest at home
- Sleeping
- Simply having rest doing nothing
- House chores
- Repair works
Values of IT specialists

One of the elaborate methods to study human values is a Shalom H. Schwartz theory. Original shortened values questioner proposes 21 characteristics that describe people with different values. Each of 6 "portraits" is to be rated according to a 6-point grading scale ranging from "Absolutely different from me" to "Very similar to me".

According to Schwartz on the basis of ratings of the 21 characteristics, one can single out which of 10 universal values are prevailing: Power, Achievement, Hedonism, Stimulation, Self-Direction, Universalism, Benevolence, Conformity, Tradition, and Security.
Materialist/post-materialist values according to Ronald Inglehart

<table>
<thead>
<tr>
<th>Materialists</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>25.7%</td>
<td>39.1%</td>
<td>35.4%</td>
<td>45.8%</td>
<td>32.8%</td>
<td>0.5%</td>
</tr>
<tr>
<td>30.5%</td>
<td>32.8%</td>
<td>22.9%</td>
<td>32.8%</td>
<td>22.9%</td>
<td>22.9%</td>
</tr>
<tr>
<td>25.7%</td>
<td>27.6%</td>
<td>22.7%</td>
<td>27.6%</td>
<td>27.6%</td>
<td>13.4%</td>
</tr>
<tr>
<td>10.0%</td>
<td>10.0%</td>
<td>9.9%</td>
<td>10.0%</td>
<td>7.1%</td>
<td>13.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Post-materialists</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.7%</td>
</tr>
<tr>
<td>9.9%</td>
</tr>
<tr>
<td>7.1%</td>
</tr>
<tr>
<td>0.7%</td>
</tr>
<tr>
<td>1.5%</td>
</tr>
<tr>
<td>0.3%</td>
</tr>
<tr>
<td>0.5%</td>
</tr>
</tbody>
</table>
square 1646 m²
open space or free planning
HVAC system
50 parking spaces

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Assessment of Lviv IT industry: potential threats, impact factors, opportunities
Assessment of current condition of the industry in Lviv

Assessment of IT industry’s current situation in Lviv by CEOs

- 61.5% Rather favorable
- 23.1% Absolutely favorable
- 15.4% Both favorable and not

How did the situation on Lviv IT market change in comparison to last year?

- 30.8% Situation has improved
- 69.2% Situation hasn’t changed

Evaluation was performed on a 5-point scale: 1 - totally non-favorable, 2 - rather unfavorable, 3 - both favorable and not, 4 - rather favorable, 5 - astoundingly favorable.

Evaluation was performed on a 3-point scale: 1 - the situation deteriorated, 2 - the situation did not change, 3 - the situation improved.
“The rise in competition for resources is noticeable, because of the growing number of IT companies in Lviv and because a lot of people switch to work in IT from other industries. Nowadays the IT industry in Lviv is actively growing due to following factors: 1) Living expenses in Lviv are much lower than in Kyiv, Kharkiv, Odessa; 2) salary level is similar to Kyiv, Odesa and Kharkiv; 3) the region is politically stable; 4) better ecological situation, active development of cultural and social segments.”

Andriy Hankevych
Chief Global Strategist & Supervisory Board Member at Lviv IT Cluster

“...When we look from the perspective of supporting the education, understanding of the importance of the IT industry, local authorities support and political claims, it is all there and it creates favorable conditions. If we examine the experience of interaction with regulatory authorities, the situation is somewhere in the middle. City is engaged in promoting IT industry both at the level of separate companies and via the Cluster.”

Andrew Pavliv
CEO & Co-Founder at N-iX, Lviv IT Cluster Chairman
Assessment of prospects of the industry for the nearest year

Given the current situation of the IT industry in Lviv, assess, please, its perspectives for the coming year.

- 84.6% Situation will improve
- 7.7% Situation will improve greatly
- 7.7% Situation will not change

IT market in Lviv has already passed the main phase of ‘turbulence’, when during one year a great part of IT companies or individual specialists from temporary occupied territories of Ukraine moved to Lviv; also appeared local offices of IT companies from other regions of Ukraine. Experts note that by the end of the year M&A contracts may be signed, however “big fish” is not going to appear on the Lviv market (such as IBM about which rumors are spread periodically). For example, recently Ericsson bought Polish company Ericpol that has one of its office in Lviv as well.

Generally optimistic assessment of Lviv IT companies’ managers concerning perspectives of the sphere for the coming year should be noted. Their investment plans serve as additional indicator: 83.3% of Lviv IT managers plan to invest or reinvest in order to expand company’s activity (from $10 K to $100 K); source of investments – company’s funds (88.9%) and foreign investment (11.1%).

Besides, managers and experts notice that revision of the tax burden on IT sphere upwards may cause specialists as well as companies to relocate, or start utilizing “shady” business methods.
Impact factors on IT industry in Lviv

Ukrainian and global trends
- Global economy development
- Fluctuations in the development of global outsourcing
- High level of salaries on the market of IT industry
- Competitiveness of salaries on the Ukrainian and world market

Geopolitical situation in Ukraine
- The continuation and escalation of the military conflict in eastern Ukraine
- Mass mobilization, including IT sphere workers
- The unstable political situation in Ukraine
- Possibility of new revolutions
- Potential EU integration

Government control and work of regulators
- Corruption
- Tax reform in general
- Raising taxes without taking into account the specifics of the IT industry
- (De)regulation of IT industry
- Intellectual Property Protection
- Government initiatives
- Transparent business rules

Economy and Finance
- Economic instability in the country
- NBU policy
- Exchange rates
- Decreasing capitalization of companies and investor interests
- Investment risks
City and infrastructure

- The interaction between the municipal authorities and IT companies
- Decisions made on the local level, which meet the needs of IT sphere
- Infrastructure development
- Construction of high-class office buildings
- Smooth access to the Internet and electricity
- “Open sky”
- House for programmers and creation of an IT district

Human resources

- Demographic situation (dependence on local and state trends)
- Correlation between quality and number of IT specialists
- Giving preference to Indian market by American clients (issue of labor value)
- Insufficient level of English for devolution of more authority
- Availability of soft skills for better and more productive interaction with the client’s team
- Presence of “professional hangout”, community

“Inner cuisine”

- Raising the attractiveness level of the profession increases the number of people wishing to switch their profession
- Overheated market
- Competition for job creation
- Necessity of examples of large Ukrainian companies’ success for eco-system improvement
- Necessity of Ukrainian and Lviv IT guys’ success on the world market
- Cooperation with IT companies from other countries (experience exchange)
- Professional meetings, visits by famous speakers and experts

Education

- Quality of training and education of specialists in IT sphere
- University autonomy in choosing specialities and the number of students for available specialities
- Availability of highly-qualified teachers
- Training of workers by IT companies with a guaranted employment for both sides
- Creativity teaching an development of business-oriented thinking (through meetings with entrepreneurs, for example)
Assessment of competitiveness of Lviv offices

Competitiveness of Lviv IT companies: evaluation by Directors

<table>
<thead>
<tr>
<th></th>
<th>Very low</th>
<th>Rather low</th>
<th>yes and no equally</th>
<th>Rather high</th>
<th>Very high</th>
<th>The average assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>At world market in general</td>
<td>9,8%</td>
<td>12,2%</td>
<td>56,1%</td>
<td>22,0%</td>
<td></td>
<td>3,9</td>
</tr>
<tr>
<td>At Ukrainian market</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4,3</td>
</tr>
<tr>
<td>At European market</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4,0</td>
</tr>
<tr>
<td>At Asian market</td>
<td>19,5%</td>
<td>9,8%</td>
<td>31,7%</td>
<td>19,5%</td>
<td></td>
<td>3,2</td>
</tr>
<tr>
<td>At the USA market</td>
<td>12,2%</td>
<td>12,2%</td>
<td>26,8%</td>
<td>48,8%</td>
<td></td>
<td>4,1</td>
</tr>
</tbody>
</table>
Demand for services of Lviv IT companies in Ukrainian market

Please, assess the demand on the services of your company in Ukraine

Reasons for low assessment of the demand on IT services at the domestic market:

- Small market, the probability of customers’ bankruptcies
- The cost of services is in foreign currency (unstable exchange rate)
- Ukrainian market stands still because of the economic situation
- Low solvency of the Ukrainian companies, doubts about timeliness and completeness of payment
- Actual subsidiaries (or local offices) of multinational corporations can pay for IT solutions, however, in such cases they already have some solutions developed by the headquarters
- There is virtual demand, but the real one is absent
- Lack of understanding of the value of the services and solutions by local companies
- Distorted ideas of potential clients about pricing
- IT companies distrust state contracts, which caused checkups in the past
- Production business model is more suitable for work with the domestic market
“In other countries the IT market works because there is a structure for state procurement of IT services, that constantly produces demand so the state invests into it. It is a competitive market as well, the development of other local businesses, which also need these services or some other products. We don’t have domestic market, it is now being established. I hope that in future the state will invest money in IT industry transparently and honestly, rather than in the way it used to do – by means of “rollback” (when business in secret had to return a part of the money). If this is to happen and work permanently – we will have colossal opportunities opened for local service providers, who can design really good software. Let’s say that there is demand, but we should remember that Lviv is a city of small and medium business. Respectively it is complicated to build here big companies specializing in IT services for domestic market. But it will be established, market matures, maybe this process is a little bit slow, but it is happening.”

Stepan Veselovskyi
Lviv IT Cluster, Executive Director
Lviv and Ukraine as a business environment

Please, assess a business environment as of 2015

- Very good
- Rather good
- Rather bad
- Very bad

* - Rating was done according to a 5-point scale, with 1 - very bad, 2 - rather bad, 3 - yes and no equally, 4 - rather good, 5 - very good

How easy will it be to run business?

- The situation will become better
- The situation won’t change
- The situation will become worse

Assessment of Lviv IT industry: potential threats, impact factors, opportunities
“Ukraine’s IT-market receives good signals from the government, the parliament and the president. The whole range of regulatory acts has been enacted to improve Ukrainian business environment. We witness a partial political will for changes. The industry itself has also adjusted to new Ukrainian and world conditions and is now restoring its growth. In general, the changes that have been taking place during the last year helped Lviv to become more noticeable player in the IT-market not only in Ukraine but within Eastern Europe too. To the economic factors I refer substantial rapprochement with the EU countries and the USA which includes the liberalization of the visa requirements, new international treaties concerning trade, close collaboration in the areas of technology and technical regulations and additional international investments. Obviously, that first of all, we are looking forward to the signing of the Association Agreement between Ukraine and the EU that includes a Deep and Comprehensive Free Trade Area. Some countries, international organizations and global companies provided Ukraine with a substantial support. Also among important factors is hryvnia devaluation that makes Ukraine more attractive for foreigners who want to start their business here.”

“Lviv has an image of a safe city. I know that the local authorities cooperate closely with specialized associations. For example, it was the city that provided the plot of land on which the IT House will be built. Actually, the most important thing for business is that city continues to develop steadily and confidently. Those bicycle lanes and bicycle parking’s are good for IT since IT people like this stuff.”

Andriy Hankevych  
Chief Global Strategist & Supervisory Board Member at Lviv IT Cluster

Andriy Tabachyn  
CEO at Nravo
“Lviv has quite a favorable location for business. For sure, there are some peculiarities but every city has them. If we take all these factors into account – our geographical position and our infrastructure – they are important and favorable. There are some things that have to be improved in order for it to become even better. There is always something one should strive for. However, everything is relative. If we have Ukraine as a background, then our results are quite good.”

Volodymyr Semenyshyn
SoftServe Delivery Director, PhD in Economics, business trainer
What IT solutions does the city need?

According to the experts in order to provide efficient functioning and solve current problems with the improvement of quality of life it is necessary to introduce modern technologies and IT-solutions in Lviv (then in other Ukrainian cities). These are:

- E-voting or at least improvement of the existing electoral procedures
- Implementing Smart city concept
- E-government and electronic document management
- Optimization of personal passport issuance procedure
- Simplified purchase and sale of land and real estate
- Electronic registration (school, kindergarten, hospital) aiming at avoiding queues and decreasing levels of corruption
- Optimization of work of the State Fiscal Service
- Introduction of a transparent tendering
- Optimization of educational process at Higher Educational Institutions (for prospect college students as well as actual students)
- Green energy solutions
- Traffic system and introduction of electronic ticketing
- Single system of housing and community amenities services, e-record of meter readings and online utility bill payment.
- Localised power cut-offs due to non-payment of bills and its immediate reconnection after payment
"Looking at the experience of our IT Cluster I see a real prospect of developing IT-solutions by big companies on a non-commercial basis. In fact, we are implementing proactive strategy that aims at creating as comfortable environment for life and business in Lviv and Ukraine as possible. Our most important projects in this area are dealing with e-government and enhancing Ukraine’s defense capability."

Andriy Hankevych
Chief Global Strategist & Supervisory Board Member at Lviv IT Cluster

"Area of housing and community amenities. There is a certain progress in the area. Our company, for example, designed a web site where one can record meter readings. A single system of housing and community amenities services when a person can pay all utility bills using online payment systems. Perhaps, this project is not widely publicized yet but the solution already exists."

Vasyl Malchyk
Lawyer at SoftServe
“E-government is a wonderful thing. Here we have an example of our partners from Baltic countries: in Latvia if you want to sell your car, you go to a special machine – similar to a top-up machine – and ask it to cancel your vehicle’s registration. Thus, you don’t have to go to the traffic police unit and wait in long queues there. We have to follow the positive example of our neighbors and put it into practice in Lviv and other cities.”

Volodymyr Chyrva  
Co-founder and Development Director at Sigma Software & Supervisory Board Member at Lviv IT Cluster

“In Lviv Business School we had a program “Smart city: the innovative project for cities” that was dealing with developing solutions for Lviv Department of Watersupply, for transport, tourism sectors, police and e-government in Lviv having previously checked the present condition. It’s a great pleasure that the team included representatives from Lviv City Institute and Economic Department of the City Council. It proves that there are initiatives and the demand for changes. That is why, they will take place.”

Sophia Opatska  
CEO of LvBS at Ukrainian Catholic University, personnel management specialist
DELIVERING PREMIUM QUALITY IT SOLUTIONS TO THE CUSTOMERS IN MANY AREAS:

- E-BUSINESS
- AUTOMOTIVE
- CONSTRUCTION / REAL ESTATE
- AVIATION / TRANSPORTATION
- GAMING / E-LEARNING
- TELECOM
- ENERGY
- ADVERTISING / MEDIA

sigma.software info@sigma.software
City in brief: contextual understanding
Labour market in Lviv

According to Main Statistics Department in Lviv region, the average salary in Lviv in late 2014 was 3195.32 hryvnia [1] and 3633 in January-August 2015 comparing to $1350 in IT sector as suggested by the results of the poll of Lviv’s IT specialists.

* Source: Main Statistical Department in Lviv region
Labour market in Lviv

The average monthly number of regular full-time employees in Lviv in 2014 was 251,100 people (33.4% of all local population and 52.9% of employable citizens in Lviv). In the first half of 2015 this number decreased to 247,918. In 2015, 5,671 registered citizens were granted the status of unemployed.

* Source: Main Statistical Department in Lviv region
Gross Regional Product of Lviv city and Lviv region in 2014

Lviv
- Gross regional product (GRP) including purchasing-power parity: 8,067,522 M

Lviv region
- Expert review of GRP including shadow market share (about 40%) and purchasing-power parity: 16,112,456 M
- GRP per capita: 15,049 K
- Total: 22,557,439 M

*Source: The calculation of GRP due to MI "City Institute" method*
Budget of Lviv city and Lviv region

**general and special funds**

- The revenue of Lviv budget (uah, M)
- The revenue of Lviv budget ($, M)
- The revenue of Lviv region budget (uah, M)
- The revenue of Lviv region budget ($, M)

* - Source: Financial Policy Department of the Lviv City Council and Department of Finance Lviv Regional State Administration
Amount of foreign investment

Annual amount of foreign direct investments (FDI) as of January 1 (with increasing amount), thousand USD

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Information and Telecommunications</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>202440.6</td>
<td>318.5</td>
</tr>
<tr>
<td>2009</td>
<td>179686.4</td>
<td>259.2</td>
</tr>
<tr>
<td>2010</td>
<td>96484.1</td>
<td>254.7</td>
</tr>
<tr>
<td>2011</td>
<td>78351.6</td>
<td>128.1</td>
</tr>
<tr>
<td>2012</td>
<td>288121.9</td>
<td>271.0</td>
</tr>
<tr>
<td>2013</td>
<td>19564.0</td>
<td>789.0</td>
</tr>
<tr>
<td>2014</td>
<td>30928.2</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Inflow of foreign direct investments (FDI) during the year, thousand USD

* - Source: Department of Statistics in the Lviv Region
Demographic forecast from MI "City Institute"

Age and sex structure of the population in Lviv as of January 1, 2015

Source: Information was given by MI "City Institute". The forecast was done using the methodology developed within the International Technical Assistance Project "Building Capacity in Evidence-Based Economic Development Planning in Ukrainian Oblasts and Municipalities" (EBED project).
Demographic forecast from MI "City Institute"

Demographic forecast for Lviv population by 2020

Age distribution in 2015 and 2020

The younger working age (15 years)

working age (16-60 years)

Olders (61 and older)
The research of values and priorities among citizens of Lviv was conducted according to the method of Shalom H. Schwartz. Schwartz Portrait Value Questionnaire in the original shortened form suggests 21 items that describe people with different human values. Every respondent had to measure each of these "portraits" according to the 6-item scale, from "Not like me at all" to "Very much like me". Schwartz differentiated between ten types of universal values: Power, Achievement, Hedonism, Stimulation, Independence, Universalism, Benevolence, Conformity, Tradition, Security.

Comparison of Lviv citizens' and Lviv IT specialists' values

Source: Poll by sociological agency "Fama" held in May 2015. The sample - 400 respondents, the maximum margin of error does not exceed 4.8%.
## IT infrastructure in Lviv

### Higher Technical Colleges (I-II accreditation level)

<table>
<thead>
<tr>
<th>College Name</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical College of Lviv Polytechnic National University</td>
<td>techcol.lviv.ua</td>
</tr>
<tr>
<td>Lviv Polygraphic College of Ukrainian Academy of Printing</td>
<td>lpkuad.com</td>
</tr>
<tr>
<td>Lviv Interregional High Vocational School of Transport and Construction</td>
<td>mypuatb-web.sharepoint.com</td>
</tr>
<tr>
<td>Information and Computing Technologies College</td>
<td>ptonmc.lviv.ua</td>
</tr>
<tr>
<td>Lviv Higher Vocational School № 20</td>
<td>vpu20.liviv.ua</td>
</tr>
<tr>
<td>Lviv College of State University of Telecommunications</td>
<td>lclut.com.ua</td>
</tr>
<tr>
<td>Lviv Department of Kyiv National University of Culture and Arts</td>
<td>lfknukim.info</td>
</tr>
<tr>
<td>Technology College of Lviv Polytechnic National University</td>
<td>tc.liviv.ua</td>
</tr>
<tr>
<td>Lviv State College of Food Processing Industry</td>
<td>ldkhp.com.ua</td>
</tr>
<tr>
<td>Lviv College of Natural Sciences of Ivan Franko National University</td>
<td>natcol.franko.liviv.ua</td>
</tr>
</tbody>
</table>
City in brief: contextual understanding

Higher Educational Establishments (III-IV accreditation level)

Banking University Lviv Institute
lbi.wubn.net

National Forestry and Wood Technology University of Ukraine
nltu.org.ua

Lviv State University of Life Safety
ldubgd.edu.ua

Ukrainian Academy of Printing
uad.lviv.ua

Lviv Academy of Commerce
lac.lviv.ua

Lviv Ivan Franko National University
lnu.edu.ua

National University Lviv Polytechnic
lp.edu.ua
# Specialized educational opportunities in IT

<table>
<thead>
<tr>
<th>Institution</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>SoftServe IT Academy</td>
<td>softserve.ua</td>
</tr>
<tr>
<td>Eleks University</td>
<td>academy.eleks.com</td>
</tr>
<tr>
<td>EPAM Systems</td>
<td>epam.com</td>
</tr>
<tr>
<td>GlobalLogic Base Camp Lviv</td>
<td>globallogic.com.ua</td>
</tr>
<tr>
<td>LITS</td>
<td>lits.com.ua</td>
</tr>
<tr>
<td>STEP Computer Academy</td>
<td>itstep.org/ua</td>
</tr>
<tr>
<td>MS in Technology Management</td>
<td>lvbs.com.ua</td>
</tr>
<tr>
<td>Quality Assurance Group</td>
<td>qagroup.com.ua</td>
</tr>
<tr>
<td>Computer Education &amp; Training Centre LOGOS</td>
<td>lgs.lviv.ua</td>
</tr>
<tr>
<td>Quality Assurance School SQA</td>
<td>sqa.lviv.ua</td>
</tr>
<tr>
<td>CyberBionic Systematics</td>
<td>edu.cbsystematics.com</td>
</tr>
</tbody>
</table>

City in brief: contextual understanding
Coworking in Lviv

- Startup Depot
  startupdepot.lviv.ua
- coMMuna
  communa.net.ua
- GODO
  godocoworking.com
- Betaplace
  betaplace.com.ua
- Comein
  comein.lviv.ua
- Coworking centre Pixel
  pixel.lviv.ua
- iHubLviv
  lviv.ihub.com.ua
- OK Factory
  okfactory.eu
MODULARITY
1
- Individual apartments planning;
- External ventilated façade with ceramic-granite panels;
- Included into the facility price bathroom arranging and equipping.

INDIVIDUALITY
2
- Lobby Room as the relax zone for the landlords, and the meeting space for the visitors;
- Children Educational Center;
- 1st floor + personal green land property;
- 7th floor + individual open air terrace;

SECURITY
3
- Facility’s Territory spread IP cameras with options for remote access and monitoring;
- Facility’s Territory is equipped with individual card-reading devices;
- Underground parking lots, storage premises for bicycles and baby carriage;
- Facility free of gas supply.

INNOVATIONS
4
- Dual water supplying sources per each apartment: centralized water supply (VODOKANAL) and Artesian water delivery service;
- Alternative renewable energy systems: electrode boilers, heat accumulator with recovery, solar panels, solar collector(s), three-modes electrometer (0.4 night rate)

+38 067 370 444 1 Developer
Facebook.com/NVKgroup
nvkgroup@ukr.net

LVIV, BUJKA str. 4
Seven-storied residential complex

ONLY FOR IT SECTOR
Lviv IT Cluster

Lviv IT Cluster is a community of leading information technology companies, which together with universities and local authorities improve and develop IT in the city. We took a lead to conduct systematic changes in the business environment of the city and the country.
Vision

We see Lviv as a European city that Ukrainian and international companies from the information technologies sphere select for their effective development of business.

Lviv is a city with the highest quality of education in Ukraine, the city of comfortable life, professional growth opportunities, city of new technologies development and progressive ideas realization.

Mission

The main goal of Lviv IT Cluster is to accomplish projects which help to develop IT industry and to support image of Lviv as a city with favorable conditions for business, careers and life.

Cluster works in main areas: promotion, education (human capital), infrastructure (quality of life), business support and development.

We also explore new promising areas related to future technologies and international cooperation.
What we do

We implement projects that help to develop the IT industry and promote the image of the city as the city with favorable business development conditions, career development and life conditions is the most important task for the Cluster team.

Our projects aim at socially important industries – education, law, infrastructure, promotion.

We also learn new perspective areas related to future technologies and international cooperation.

Our projects:

- Arena
- IT Club
- House
- Expert
- Research
- Future
<table>
<thead>
<tr>
<th>Company</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AltexSoft</td>
<td>is a boutique software R&amp;D company providing full-cycle custom engineering services, Data Science services and IT consulting. It operates in 4 locations - the US Sales HQ office in San Diego, California and 3 R&amp;D Centers in Ukraine, namely Kharkiv, Kremenchug, and Lviv. The company has 8-year experience engineering on Web, Desktop, Mobile and Cloud platforms. AltexSoft expertise extends to a number of industries including Finance, Health Care, eCommerce &amp; Retail, Media, Marketing, Travel, Transportation. The company leverages state-of-the-art technologies making best use of Machine Learning, Predictive Analytics &amp; Big Data Analytics. Since 2007, AltexSoft team has launched more than 150 successful products. <a href="http://altexsoft.com">altexsoft.com</a></td>
</tr>
<tr>
<td>ArivoSolutions</td>
<td>is a company that specializes in software development. The company focuses on partnership with clients, in order to facilitate their growth. When you encounter a short age of skilled resources in the local market to implement a new or existing project, company can assist you in the form of developers organization. <a href="http://arivosolutions.com">arivosolutions.com</a></td>
</tr>
<tr>
<td>b-next</td>
<td>is a specialist provider of proven multi-venue, multi-asset class, Capital Markets Surveillance and Compliance software solutions to meet regulatory mandates, manage risk and drive trading efficiencies. The b-next Capital Markets Compliance (CMC) solution is a single integrated compliance platform for detection of Market Abuse, Insider Trading, Conflicts of Interest, Derivatives/OTC Monitoring, Best Execution reporting and monitoring of trading activity. <a href="http://b-next.com">b-next.com</a></td>
</tr>
</tbody>
</table>
Conscensia is a Danish company with wide-ranging experience and interest in outsourcing. Company helps its customers with software development through the Nearshore Development Centers. In the Development Center (Lviv), more than 155 software professionals work on our more than 20 customers. Company specializes in flexible contracts and focus on development within JAVA, .NET and SAS Business Intelligence. Conscensia is focused on the integration with our customers to have a smooth development process based on SCRUM which means we are task oriented with high level of communication.

conscensia.com

Cypress is a world leader in USB controllers, which enhance connectivity and performance in a wide range of consumer and industrial products. Cypress is also the world leader in SRAM and nonvolatile RAM memories. Cypress delivers high-performance, mixed-signal, programmable solutions that provide customers with rapid time-to-market and exceptional system value.

cypress.com

DataArt - an American outsourcing company, which develops software. Among the Data Art clients you can find technology companies and investment funds, representatives of the mobile technology market, online travel, mass media, medicine, and Internet project.

dataart.ua
<table>
<thead>
<tr>
<th>Company</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DevCom</td>
<td>DevCom is a Software Development Company with highly qualified personnel and strong experience in software products creation. Company’s primary objective is to provide customers with qualitative software consulting and outsourcing services. DevCom deals with custom software development for IT vendors in the USA, Europe and have strong experience both in software technologies and the software development processes and organization. The field of DevCom’s activity covers many areas of Information Technology and we pay a great deal of attention to the enrichment and enhancement of our employees’ qualifications. devcom.com</td>
</tr>
<tr>
<td>ELEKS</td>
<td>ELEKS is a global organization that provides end-to-end, offshore, software product development. Since 1991, our innovative and award-winning solutions to include Data Science, Mobility and Wearables as well as Digital solutions have significantly contributed to the success of our customers, including Fortune 500® companies, and are recognized as a valuable part of international best practices. ELEKS is a strategic partner with the proven ability to address our customers’ most pressing needs. Our delivery organization, consisting of approximately 900 professionals in Eastern Europe, is strengthened by a local presence in the U.S., Europe and the UK. eleks.com</td>
</tr>
<tr>
<td>EPAM</td>
<td>EPAM Systems is an IT company with over 22 years’ experience. The company is a developer of software products with its headquarters located in the United States. The company is also engaged in software testing and its support. EPAM works with the integration of applications based on products SAP, Oracle, IBM та Microsoft. The company offers solutions in four key areas: Digital Engagement, Intelligent Enterprise, Business Transformation and Advanced Engineering. Among its clients are giants such as PayPal, SEPHORA, Expedia, Oracle, Coca-Cola, UBS and others. epam.com</td>
</tr>
<tr>
<td>Company</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>FFW</td>
<td>brings together five agencies (Blink Reaction, Propeople, Bysted, Chainbizz, and Geekpolis) with a 15-year record of delivering complex digital solutions. Company has more than 400 digital consultants, designers, and technologists working all around the world. FFW is a part of Intellecta, a communications group listed on the NASDAQ OMX Stockholm and comprised of 10 leading consulting and agency brands. FFW, a leading Acquia partner worldwide, is an exclusive member of the Large Scale Drupal group and has more than 250 Drupal specialists and 50 Acquia certified developers on staff. In 2015, FFW was the recipient of the Acquia Partner Site of the Year award in two categories for our work with the National Audubon Society and Worldview Stanford. <a href="http://ffwagency.com">ffwagency.com</a></td>
</tr>
<tr>
<td>Forbytes</td>
<td>is a software development company focused on enhancing business processes with modern technologies. Our main principles are: Service, Excellence &amp; Dignity. Company works to improve their clients’ sales via the internet and through physical stores. FFW Client dedicated teams work with their respective clients to deliver, maintain and continuously improve their B2B and B2C e-commerce solutions. <a href="http://forbytes.com">forbytes.com</a></td>
</tr>
<tr>
<td>FreezePro Software</td>
<td>is a custom software development company mostly oriented on providing outsourcing services, headquartered in Lviv, Ukraine. It was established by enterprising professionals with a strong IT background. FreezePro Software offers wide range of custom software development and IT consulting services. Company Mission is to be a reliable and responsible IT services provider, provide cost effective and timely solutions as well as meet customer expectation through continuous process improvement. <a href="http://freezeprosoftware.com">freezeprosoftware.com</a></td>
</tr>
<tr>
<td>Company</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Global IT Development AS</td>
<td>is a small, but rapidly growing Norwegian IT company established in beautiful Bergen, Norway. Company has a total of 23 young and active employees at our offices in Bergen and Lviv. Global IT’s goal and vision is to be an international and innovative IT company focusing on software development and web design. Global IT also seeks to stand out from the traditional web consultancies, offering an innovative and creative perspective on projects. <a href="http://globalit.no">globalit.no</a></td>
</tr>
<tr>
<td>Global Logic</td>
<td>is a full-lifecycle product development services leader that combines deep domain expertise and cross-industry experience to connect makers with markets worldwide. Results of their research and development help their customers manage their future. Company builds partnerships with market leaders who want to make unique products and are open to new ideas. <a href="http://globallogic.com.ua">globallogic.com.ua</a></td>
</tr>
<tr>
<td>Grid Dynamics</td>
<td>is a leading provider of open, scalable next-generation technology solutions in the areas of eCommerce, BigData and Cloud technologies. Company is building omnichannel platforms, search and personalization solutions and CI/CD processes. Grid Dynamics possess solid expertise in building complicated commercial solutions, and take active part in the open source community. Using the best technology practices company helps their clients to create cutting-edge solutions for their businesses. <a href="http://griddynamics.com">griddynamics.com</a></td>
</tr>
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</table>
InternetDevels Drupal Development Company has 8 years of experience in providing web development services for clients across the globe. Over 100 skilled experts with a big passion for their profession are able to handle tasks of any complexity. Company’s services include Drupal and Symfony website development, module development, UX and UI design, QA testing, SEO, website support, hosting and much more. InternetDevels are active members of the Drupal community, organizers and sponsors of domestic and international Drupal events.

internetdevels.com

Limelight Networks Inc., (NASDAQ: LLNW), a global leader in digital content delivery, empowers customers to better engage online audiences by enabling them to securely manage and globally deliver digital content, on any device. The company’s award winning Limelight Orchestrate™ platform includes an integrated suite of content delivery technology and services that helps organizations secure digital content, deliver exceptional multi-screen experiences, improve brand awareness, drive revenue, and enhance customer relationships — all while reducing costs.

limelight.com

Lohika company provides premium software engineering services to leading technology companies. Our customers usually range from startup to high growth and VC backed companies, which drives a culture of acceleration and innovation. We are sure that team extension is the only engagement model which works best.

lohika.com
<table>
<thead>
<tr>
<th>Company</th>
<th>Description</th>
<th>Lviv IT Cluster members</th>
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</table>
| **N-iX**     | Founded in 2002, N-iX is a custom software development company with a team of over 300 professionals and headquarter in Lviv. N-iX provides Dedicated Development Team / Own Development Center service for independent software vendors and technology companies from Europe and North America combining solid business domain experience, technical expertise, profound knowledge of latest industry trends and quality-driven delivery model to offer innovative solutions.  
[website](n-i-x.com/company) | ![Lviv IT Cluster](image) |
| **Nravo**    | Nravo – the largest independent studio – creator of mobile games in Ukraine. The company creates exciting games, which are played by millions of people around the world. Games are available on AppStore, GooglePlay, Amazon, WAP and social networks.  
[website](nravo.com) | ![Lviv IT Cluster](image) |
| **Ostware Services** | Ostware Services - a company that has eight years of productive cooperation with the leading market of network technologies players, including the list of Top-5 in the networks. The company has literally unique in the Ukrainian market expertise in its field, due to a narrow specialization and high-tech projects.  
[website](ostware-services.com) | ![Lviv IT Cluster](image) |
| **Perfectial** | Perfectial has been a business-oriented software engineering firm committed to helping businesses kickstart, develop, and succeed. With expertise in a range of business domains, Perfectial has implemented ideas that allowed businesses, from startups to mid-sized and large companies, to scale and evolve with the latest technologies. Perfectial’s competence in working with modern platforms and frameworks allows customers to benefit from efficient development practices aimed at providing superior services to both local and international businesses.  
[website](perfectial.com) | ![Lviv IT Cluster](image) |
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<th>remit.se</th>
<th>ua.sigma.software</th>
<th>siteimage.com.ua</th>
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<td>Qub Studio</td>
<td>company engaged in graphic and web design. The company is located in Lviv. Among provided Qub Studio services you can find web site and mobile applications, logos, branding, UX / UI creation and more.</td>
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<td>REMIT</td>
<td>a Swedish outstaffing and outsourcing company, which develops software and is focused on cooperation with European and American customers and partners. Company has high-tech projects developing experience, particularly in the banking sector (including online payments), email security and web and document management systems.</td>
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<td>remit.se</td>
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<tr>
<td>Sigma Software</td>
<td>provides top-quality IT services to customers in many areas. The company’s major business areas are software products development and support, custom software development including mobile development, and IT consulting. Company’s offices are located in Kharkiv, Odesa, Kyiv, Lviv, Warsaw, New York, and San Jose. The Sigma Software big team unites more than 550 IT specialists.</td>
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<tr>
<td>Site Image</td>
<td>online agency that offers flexible design and technology approach in building respect for online stores and services. The main directions of the company are creating websites and online stores, online marketing, development of effective technologies for online marketing.</td>
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**SoftServe** — is Ukraine’s largest IT company specializing in software development and consultancy services. Company has built a 4,000 strong team of the brightest, most enquiring minds in the industry, and forms close, collaborative relationships with their clients so they can really understand their needs and deliver intuitive software that exceeds their expectations. SoftServe experience stretches from Cloud, Security and UX Design to Big Analytics and the Internet of Things.

[softserveinc.com](http://softserveinc.com)

**Synergy Way** — it an outsourcing company focused on the development and support of Enterprise systems. Also it is engaged in the implementation of Web, Mobile and desktop projects.

[synergy-way.com](http://synergy-way.com)

**VISCO** — is a Norwegian-Ukrainian company whose main areas of activity are such advanced field as 3D visualization and 3D outsourcing. VISCO team has more than 50 employees – highly qualified industry experts, aimed at the development and outcome. Working as a coordinated team of specialists VISCO implement interesting and spectacular project

[visco.no](http://visco.no)
Waverley Software - IT company founded in 1992 with headquarters in Silicon Valley - Palo Alto, California, and offices in Chicago, Florence, Vietnam and Ukraine. The company specializes in mobile application development and web solutions. For over twenty years Waverley Software has been establishing a strong reputation as a company that provides exceptional quality software for demanding clients. Waverley Software works enthusiastically with startups as well as with the already well-known, recognized brands.

Vakoms has been operating in the IT market since 2010. Company has more than two and a half hundred of successfully completed projects under its belt; among them - mobile applications and services, websites, databases, and cloud solutions. Company's clients range from promising startups to big market players based in the USA, Israel, the UK, Switzerland, the Netherlands and other European countries as well as Canada, Hong Kong and Australia. Vakoms' developments are represented in the following business domains: E-Commerce, business intelligence, Big Data, sport, health and medicine, smart house, multimedia, games, travel and leisure.

Technika dlia biznesu helps its client's business development, introducing the most advanced information technologies, using the experience and professionalism of their certified specialists. For 15 years, company has managed to form a team of highly skilled professionals, most of whom received certificates of world leaders in production: Intel, Microsoft, Adobe, Hewlett-Packard, Cisco, APC, RIT, Molex, Siemens, Samsung, Toshiba, Canon, Asus etc. This makes possible the development and implementation of the most complex business projects.
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<td>malkosua.com</td>
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<td>Cyber Entertainment Soft Solution (CESS)</td>
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* Source: Web research
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<td>Ericpol</td>
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Technical information about Lviv IT Research

The issue has been prepared by Lviv IT Cluster on the basis of selected data obtained from the results of sociological research by Fama Sociological Agency.
Technical information about Lviv IT Research

## Research methodology

### Experts' interviews

Semiformal research interview with predefined and agreed questions. An average duration of each interview was 60 minutes. The dictaphone recording of the conversation was made and fully transcribed.

### Lviv IT specialists survey

Data collection method - Google form online questionnaire. Proportional stratified multistage sampling was used together with non-related quota method on the last stage. IT specialists’ position and its seniority level represented the quotas. At the same time companies’ size and business model worked as stages.

**Sampling error with confidence probability of 0,954**
- does not exceed 4.8 % in figures close to 50%
- does not exceed 4.2 % in figures close to 25% or 75%
- does not exceed 2.9 % in figures close to 10% or 90%
- does not exceed 2.1 % in figures close to 5% or 95%
- does not exceed 1.1 % in figures close to 1% or 99%

Sample size: 400 people

### IT CEOs’ survey

Data collection method was face to face interviews using formal survey questionnaire.

**Quantity**

20 interviews

**Experts’ interviews**

41 interviews

**IT CEOs’ survey**

56 official requests were formed

### Additional statistics data

- State Fiscal Service of Ukraine in Lviv region
- Lviv Universities of I-IV accreditation level
- The calculation of GRP using the method of MI "City Institute"
- Financial Policy Department of Lviv City Council
- Main Statistical Office in Lviv region
- Information requests to the representatives of educational IT infrastructure
Expert opinions and consultations

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SoftServe Delivery Director, PhD in Economics, business trainer

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  Vice President at Limelight Networks

- **Sophia Opatska**  
  CEO of LvBS at Ukrainian Catholic University, personnel management specialist

- **Dmytro Symovonyk**  
  Head of “Citadel Capital” company

- **Andrew Pavliv**  
  CEO & Co-Founder at N-iX, Lviv IT Cluster Chairman

- **Dmytro Kosaryev**  
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