IT Industry & Education in Wroclaw
WROCLAW - A FAVOURABLE CLIMATE FOR IT
Wroclaw – the leading IT technology hub in Poland

According to our estimate the size of the IT sector in Wroclaw amounts:

+ 200 companies
+ 20,000 professionals

BPO/SSC/ITO companies are the largest contributors in terms of employment

- IT Centres: 9,500
- SSC: 8,700
- BPO: 6,400
- R&D: 5,600

Business Services Sector in Poland 2016. Gaining Momentum – PAIIZ

Over 80% of the R&D aggregation are IT companies
Dynamic IT ecosystem of foreign and Polish players

Major foreign investments in the IT sector in Wroclaw in subsequent years

Before 2005: Capgemini, Siemens, Volvo IT, Diehl Controls, Hicron, Objectivity, Transition Technologies

2006: Credit Suisse, Opera Software, CSS Corp, Gigaset, QAD, Tieto

2007: IBM, Nokia Siemens Networks, Espotel, Microsoft

2009: Atos, Minetrronics, Mphasis

2011: Acturis, Birlasoft, Redknee, Unic, Viessman

2013: Dolby, Imagination Technologies, Infusion, Luxoft, Unit4

2014: Ciklum, DataArt, EY, Global Logic, Ocado, Quality Taskforce, Red Embedded, Ryanair Labs, UBS, 3M, Gorilla Group, SoftServe

2015: Accenture, Axiom SL, Epipq Systems, Global Logic, Infor

2016: Ten Square Games, ToopLoox, Droids On Roids, Brand24, PiLab, Monterail, Mirumee, Appformation

Selected IT companies, which were created or launched major operations in Wroclaw

2001-2010: SMT Software, Hicron, PGS Software, REC Global, Fingo, Sente, Techland, LiveChat

After 2011: Ten Square Games, ToopLoox, Droids On Roids, Brand24, PiLab, Monterail, Mirumee, Appformation
Selected IT companies in Wroclaw

- **Large companies (250+)**
  Atos, IBM, Nokia, Capgemini, Objectivity, Unit4, Global Logic, Luxoft, Sii, SMT Software, Hicron, Tieto.

- **Medium companies (50-250)**

- **Other IT companies**

- **Companies from other sectors with significant IT activity, located in Wroclaw**
  3M, AB, BZ WBK / Santander, Catlin XL, Credit Agricole, Credit Suisse, Eurobank, Europejski Fundusz Leasingowy, EY, Getin Noble Bank, Impel, Kaufland, KRD Economic Information Bureau, Kruk, Netia, PPG, Qiagen, Synexus, TelForce One, UBS, Ultimo, Volvo IT.
Leading academic center in Poland

WROCLAW

124,440 students in total

9 universities educating students in Wrocław for the needs of IT companies

32,328 graduates

34,831 students of exact sciences (technology, industry)

Computer science students: 7,819

Students in related fields: 6,668

Computer science graduates: 1,224

Graduates in related fields: 1,300
FROM THE PERSPECTIVE OF COMPANIES. RESEARCH RESULTS IT
Wroclaw’s IT companies - who are they, what do they do?

31% foreign companies

62% companies of Polish origin

7% organization with above 1000 employees

15% organization with above 500 employees

More than 50% medium size organization (50-499 employees)

Business profile (%)

- Software – manufacturer: 69%
- Services / Implementation / IT Consulting: 44%
- Software – sales: 33%
- R&D: 24%
- Hardware – manufacturer: 13%
- Distributor / VAD (value added...): 7%
- Integrator / Vendor: 7%
- Hardware – sales: 7%
- Shared Service Centre: 4%

45 participants of the research
Profile of the sought candidate - the desirable specialist competencies

The most desirable specialist competencies (%)

- Programming: 93%
- Project management: 82%
- Analytics: 71%
- Testing: 71%
- Databases: 60%
- Security: 38%
- Administration: 33%
- Modelling: 29%
- Virtualisation: 27%
- Signal processing: 11%

The desired programming languages (%)

- Java: 73%
- Java Script: 58%
- SQL: 56%
- .NET: 47%
- PHP: 42%
- C++: 42%
- C#: 40%
- Python: 31%
- Visual Studio: 20%
- Ruby on Rails: 16%
- C: 11%

The most desirable certifications of software manufacturers (%)

- Microsoft: 36%
- Oracle: 29%
- Vmware: 24%
- Cisco (CCNA etc.): 20%
- Linux: 20%
- SAP: 16%
- IBM: 11%
- Red Hat: 11%
### Profile of the sought candidate

#### The desired certifications in administration/security (%)

<table>
<thead>
<tr>
<th>Certification</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITIL/IT SM</td>
<td>24</td>
</tr>
<tr>
<td>CCNA (Cisco Certified Network Administrator)</td>
<td>16</td>
</tr>
<tr>
<td>MCSA (Microsoft Certified Solutions Associate)</td>
<td>11</td>
</tr>
<tr>
<td>CISM (Certified Information Security Manager)</td>
<td>11</td>
</tr>
<tr>
<td>RHCA (Redhat Certified Administrator)</td>
<td>11</td>
</tr>
<tr>
<td>CISSP (Certified Information Systems Security Professional)</td>
<td>9</td>
</tr>
<tr>
<td>we do not require certification</td>
<td>64</td>
</tr>
<tr>
<td>no data</td>
<td>2</td>
</tr>
</tbody>
</table>

#### The desired certifications in project management (%)

<table>
<thead>
<tr>
<th>Certification</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agile Project Management</td>
<td>49</td>
</tr>
<tr>
<td>Scrum (e.g. SMC – Scrum master certified)</td>
<td>49</td>
</tr>
<tr>
<td>PMI/PMP (Project Management Professional)</td>
<td>42</td>
</tr>
<tr>
<td>Prince 2</td>
<td>29</td>
</tr>
<tr>
<td>ITIL</td>
<td>2</td>
</tr>
<tr>
<td>we do not require certification</td>
<td>44</td>
</tr>
</tbody>
</table>
Profile of the sought candidate
- modelling/ analysing/ testing

The desired certifications in the field of modelling / analysis / testing (%)

- ISTQB (International Software Testing Qualifications Board) 42
- UML 20
- IIBA (e.g. CCBA – Certification of Competency in Business Analysis) 13
- we do not require certification 51
Profile of the sought candidate – foreign languages

The expected level of knowledge of foreign languages (%)

<table>
<thead>
<tr>
<th>Language</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>97%</td>
</tr>
<tr>
<td>German</td>
<td>50%</td>
</tr>
<tr>
<td>French</td>
<td>19%</td>
</tr>
<tr>
<td>Spanish</td>
<td>13%</td>
</tr>
<tr>
<td>Italian</td>
<td>9%</td>
</tr>
<tr>
<td>Russian</td>
<td>9%</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>We do not require the knowledge of foreign languages</td>
</tr>
</tbody>
</table>

78% EMPLOYERS REQUIRE KNOWLEDGE OF THE ENGLISH AT THE ADVANCED LEVEL (B2 OR C1)

Other expected competences

- sales
- action oriented on quantifiable effects
- programming experience
- statistical planning
- basics of higher mathematics
- basic understanding of the mobile market
- business analysis with knowledge of investment banking
- soft skills (communication skills, flexibility, ability to work in a group)
The level of attractiveness of the offer

The type of contract offered to employees by IT companies

- 91% of companies offer a contract of employment
- 64% offer the possibility of running a sole proprietorship
- 51% of companies offer work-for-hire agreements
- 49% of companies offer contracts for specific task

Infrastructure (PLN)

Average salary for the entire sample
Average salary (min–max)

- Junior specialist (<3 years exp.): 4,675 PLN (2,200–3,000 PLN)
- Specialist (>3 years exp.): 6,525 PLN (3,000–4,200 PLN)
- Manager (Team Leader, First Line Manager): 9,925 PLN (4,200–6,600 PLN)
- Director (Middle / High Level Manager): 13,500 PLN (12,867–19,000 PLN)
### Benefit and additional elements shaping the work environment

**Non-wage benefits offered most often (%)**

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-financing the study of a foreign language</td>
<td>81</td>
</tr>
<tr>
<td>Sports activities, including e.g. a gym pass</td>
<td>78</td>
</tr>
<tr>
<td>Medical package</td>
<td>75</td>
</tr>
<tr>
<td>Mobile phone</td>
<td>53</td>
</tr>
<tr>
<td>Life insurance</td>
<td>44</td>
</tr>
<tr>
<td>Co-financing of participation in cultural events (theatre, cinema, concerts)</td>
<td>31</td>
</tr>
<tr>
<td>Co-financing of meals</td>
<td>28</td>
</tr>
<tr>
<td>Company car</td>
<td>19</td>
</tr>
<tr>
<td>Tourist trips</td>
<td>19</td>
</tr>
<tr>
<td>Additional health insurance (other than the medical package)</td>
<td>9</td>
</tr>
<tr>
<td>Reimbursement for travel to work</td>
<td>6</td>
</tr>
<tr>
<td>Purchase of shares on preferential terms</td>
<td>3</td>
</tr>
<tr>
<td>Retirement fund</td>
<td>3</td>
</tr>
<tr>
<td>No data</td>
<td>6</td>
</tr>
</tbody>
</table>

**Additional elements shaping the work environment (%)**

<table>
<thead>
<tr>
<th>Element</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexible working time</td>
<td>91</td>
</tr>
<tr>
<td>Possibility of remote working</td>
<td>84</td>
</tr>
<tr>
<td>Technological training</td>
<td>78</td>
</tr>
<tr>
<td>Participation in conferences</td>
<td>73</td>
</tr>
<tr>
<td>Soft skills training</td>
<td>62</td>
</tr>
<tr>
<td>Co-financing of exams for professional certificates</td>
<td>60</td>
</tr>
<tr>
<td>BYOD policy</td>
<td>40</td>
</tr>
<tr>
<td>Work-life balance / well-being policy</td>
<td>36</td>
</tr>
<tr>
<td>Assistance in relocating</td>
<td>36</td>
</tr>
<tr>
<td>Co-financing of postgraduate studies, MBA</td>
<td>22</td>
</tr>
<tr>
<td>Internships abroad</td>
<td>7</td>
</tr>
<tr>
<td>No data</td>
<td>7</td>
</tr>
</tbody>
</table>
Previous recruitment experiences

Top 5 of the easiest and the most difficult positions to fill

The easiest positions to fill
- Nearly half of employers close the recruitment process within a maximum of 4 weeks.
  1. Tester
  2. Help desk
  3. Programmer
  4. Webmaster/business analyst
  5. Webdeveloper

The most difficult positions to fill
- For nearly 70% of employers, the recruitment process lasts more than 6 weeks.
  1. Programmer
  2. IT systems/database designer/architect
  3. Business analyst
  4. ERP/SAP/CRM consultant
  5. Webdeveloper

The most frequently used sources of candidates (%)

- Employee referrals: 93%
- General recruitment websites: 82%
- Social media: Facebook, LinkedIn, Goldenline: 76%
- “Career” tab on the company website: 76%
- Industry recruitment websites: 76%
- Recruitment agencies: 53%

The most frequently used methods of recruitment (%)

- Recruitment interviews: 93%
- Recruitment tests: 78%
- Work samples: 47%
- Assessment Centre: 13%
- Video recruitment: 2%
Actions undertaken on the field of Employer Branding

19% OF WROCŁAW IT EMPLOYERS HAVE IDENTIFIED THEIR EMPLOYER VALUE PROPOSITION

Tools used to build the image (%)

<table>
<thead>
<tr>
<th>Tool</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profiles on social media: Facebook, LinkedIn, Goldenline</td>
<td>76</td>
</tr>
<tr>
<td>Cooperation with universities</td>
<td>71</td>
</tr>
<tr>
<td>Participation in industry conferences</td>
<td>64</td>
</tr>
<tr>
<td>Participation in job fairs</td>
<td>62</td>
</tr>
<tr>
<td>Organisation of own conferences</td>
<td>53</td>
</tr>
<tr>
<td>Contests for specialists from the industry</td>
<td>31</td>
</tr>
<tr>
<td>Organisation of open days at the company</td>
<td>31</td>
</tr>
<tr>
<td>Participation in studies and certification programmes, e.g. Top Employers, Great...</td>
<td>24</td>
</tr>
<tr>
<td>Outdoor campaigns</td>
<td>18</td>
</tr>
<tr>
<td>Publication/advertising in industry press</td>
<td>18</td>
</tr>
<tr>
<td>Publication/advertising in student press</td>
<td>16</td>
</tr>
<tr>
<td>Ambassador programme</td>
<td>16</td>
</tr>
<tr>
<td>Other (ABSL Partnership, CSP)</td>
<td>2</td>
</tr>
</tbody>
</table>
Competences of the graduates

Assessment of the level of competence (%)

- Very low
- Low
- Satisfactory
- Good
- Very good

Knowledge of technology / IT skills
- 3 Very low: 10%
- 3 Satisfactory: 36%
- 3 Good: 38%
- 3 Very good: 13%

Knowledge of foreign languages
- 3 Very low: 8%
- 3 Satisfactory: 46%
- 3 Good: 38%
- 3 Very good: 5%

Communication skills
- 3 Satisfactory: 33%
- 3 Good: 38%
- 3 Very good: 28%

Ability to work in a team
- 5 Very low: 26%
- 3 Satisfactory: 46%
- 3 Good: 21%
- 3 Very good: 3%
The demands of Employers to Universities

- Regarding the curriculum, teaching other languages in addition to English, German, French.
- Initiating research, raising funds from national and European sources of financing for the implementation of joint projects, implementation of projects aimed at training future engineers for the needs of employers, joint organisation of different types of classes at universities, cooperation in order to define/consult on educational programmes which take into account the current needs of the labour market, organisation of internships for students, support in the employment of graduates.
- Greater openness to SMEs.
- Each university should have one person for contact with our company in the form of an account manager, so we don’t have to spend time managing relationships with several people per institution. Our employees should be involved in the activities of the Career Office and as lecturers of practical subjects.
- Working with students on specific business cases.
- More in classes/information on application maintenance in the programme. Introduction to business analysis.
- Preparing a dedicated person/team for cooperation with business.
- Sending students to internships.
The Universities’ expectations of Business

- **Increased participation in scientific and research projects, greater involvement in shaping the educational offering through internships/traineeships delivered, support in renewing the laboratory base, cooperation at curriculum level.**

- **Information about new technologies, joint ventures, exchange of experience in the design of information systems, review of curricula.**

- **Clearer formulation of what is required of our graduates.**

- **Involvement in the education process through evaluation of the curriculum – advisory role.**

- **Professional lectures on specific technologies, student internships and traineeships, talking about INNOVATIVE ideas implemented by the business environment that encourage students to improve their knowledge and show what it is worth learning. We like it when companies tell us about some technologies (even not necessarily innovative, but ones we find difficult to talk about because we do not know them).**

- **Intensified cooperation in the R&D area.**

- **Working with students on specific business cases.**

- **Investment in equipment, scholarships for outstanding students, paid internships and traineeships.**

- **Participation in the delivery of classes, taking students for traineeships and internships, hiring graduates, consultation on curriculum, organization of study visits at companies.**

- **As part of a consortium, delivering research and development projects, cooperation in taking people on doctoral studies for (paid) internships, with scopes related to the subject/area of the doctoral dissertations; support for the delivery of subjects, e.g. through sharing (free of charge or at very favourable financial terms - educational versions possible) programs/systems, co-teaching subjects, where the latest innovations in the ICT area can be presented; co-organizing postgraduate courses; recruiting students for placements internships linked to their pursued theses.**
Recommendations for actions to support the development of the IT industry in Wrocław

1. Cooperation with the Universities.

2. Technological education of young people and people from outside the industry.

3. Attracting professionals from outside of Wrocław.

4. Activation of the Wrocław community related to the industry.
RESEARCH PARTNERS

HRK S.A.
HRK is one of the major consulting organizations as regards HR management in Poland. Since 2000 we have been supporting managers in winning employees and effective staff management. We offer projects related to recruitment, research and development of professional potential (including advanced Assessment / Development Centre study), building career paths, employer branding and – under the business name of HRK Payroll Consulting – remuneration management and managing personnel documentation. We carry out projects across the country as well as abroad.
More: www.hrk.pl

ARAW S.A.
Wrocław Agglomeration Development Agency is a city-owned company established for supporting FDI – Foreign Direct Investment in the area of Wrocław. ARAW is responsible for investment promotion, and thus constitutes an interface between the investor and their regional agents: local authorities, real estate owners and representatives, recruitment agencies, special economic zones, supply chain partners, business supporting institutions, etc. ARAW offers continuous support to international investors and domestic companies that are interested in further development and identification with the region and a local community.