IT Sector Monitor Ukraine

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Executive Summary

• IT sector accounts for 3.1% of gross value added (GVA) in 2019, compared to 2.0% in 2015

• Employment in IT sector makes up 2.9% of total employment in UKR (including individual entrepreneurs)

• High, above-average wages make the sector highly attractive for workers, but skilled IT workers are in short supply

• Large IT service exports of USD 2.8 bn in 2020. Overall Ukraine has a limited trade surplus in IT goods and services as goods are mainly imported

• The sector is strongly dominated by IT services, especially programming. IT related retail and manufacturing only account for 15% of the sector

• IT services continue to grow fast and the sector is maturing towards more independent product companies marketing their own products

• Regional distribution: The sector is spread out over the urban areas of Ukraine with strong IT clusters in Lviv, Kharkiv, Dnipro and Kyiv

• Tax revenues from the IT sector are underrepresented compared to economic size due to widespread use of individual entrepreneurs instead of employees
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1. State of digitalisation in Ukraine

- Low IMD digital competitiveness score: Ukraine not yet ready to reap full benefits of digitalisation
- Penetration of mobile phones and broadband internet close to EU peers
- Substantial gap in uptake of e-commerce:
  - 29.5% in UKR
  - 81.2% in GER
  - 64.4% in POL
- Clearly behind Eastern EU peers in usage of big data (proxy for advanced methods in companies)
  - 5.7% in UKR
  - 8.0% in POL/EST
  - 17% in GER

➢ Ukraine behind its peers in digitalisation of economy

**Source:** Datareportal, Ukrstat, Statista, trade.gov, Eurostat, IMD

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2. IT sector definition

• Comprehensive IT sector concept:
  – IT services (e.g. programming)
  – Retail & repair of IT hardware and software
  – IT related manufacturing

• Difference with “ICT sector” concept (often used in statistics)
  – Communications services excluded
  – Manufacturing, retail/repair included

• IT sector in Ukraine makes up 3.1% of gross value added (GVA) in 2019
  – IT services is the largest main component of IT sector
  – Comparison: ICT sector accounts for 5.2% of GVA

➢ Comprehensive concept used here better suited for analysing IT sector
3. Size of the IT sector

**Contribution to gross value added**
- Sector still relatively small, but its share of total GVA increased substantially
  - 2.0% in 2015
  - 3.1% in 2019
- IT sector grows 50% quicker than Ukrainian economy average

**Comparison of ICT sector size**
- Data only allows comparison of ICT sector (incl. Communication, excl. IT-related manufacturing, retail)
- At 5.2% of GVA, ICT sector already bigger than in Germany and Poland

➢ IT already a strength of the Ukrainian economy; will grow further in importance
4. Wages and number of IT specialists

**Employment**
- Employment share of IT sector constantly increasing
  - 2.2% in 2015
  - 2.9% in 2019
- Individual entrepreneurs make up majority of IT workforce
- Tight labour market:
  - IT-sector: Number of vacancies exceeds candidates by 46% (Sep-2021)
  - Total economy: By 4% (Sep-2021)

**Wages**
- Wages above national average:
  - IT sector average monthly wage: USD 737/month (2020)
  - National average: USD 430/month
- Actual wages may be yet higher, according to survey in IT services: USD 2280/month

➢ **Highly attractive sector for employment**
Ukraine is a net exporter of IT services and a net importer of IT goods

**Exports of IT sector:**
- 2020: 5% of total UKR exports, 2% of GDP
- Strong growth of services exports: from USD 1.4 bn 2016 to USD 2.8 bn in 2020
- Exports of IT-goods have declined from ca. USD 0.6 bn (2014) to ca. USD 0.2 bn (2020)
- Share of IT exports in total exports is increasing

**Imports of IT equipment:**
- Imports dominated by goods (hardware)
- 2020: USD 2.0 bn goods imports, USD 0.5 bn services imports
- Slightly increasing share of IT goods in total imports indicates investment in new IT technologies

➢ Service exports are most important
➢ Net IT trade balance positive, despite net imports of IT equipment

Source: Ukrstat
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6. Tax revenues from the IT sector

Revenue contributions of IT in 2018
- Direct taxes (incl. SSC): UAH 16.8 bn
- VAT on domestic sales: UAH 3.4 bn
- Gap between direct tax revenue and GVA shares indicate relative undertaxation
- Share of direct taxes should be roughly comparable to value added share
- Lower share in domestic VAT is due to high export focus of sector

Sectoral revenue performance index
- SRPI: revenue share / GVA share
- Low SRPI of IT services in direct taxes drives sector underperformance
- Retail/repair and manufacturing contribute in or above proportion to government revenues

➢ Underperformance of IT sector in tax revenues exists, but on a moderate level
7. Distribution of activities within the IT sector

Importance of IT services

- Services dominate the Ukrainian IT sector: 85% of IT sector GVA is in services
- Programming makes up most of IT services with 54.3% of total IT sector GVA
- Data processing and IT related consulting are also sizeable parts of the sector
- Smaller service components: Managing computer equipment, web portals, software publishing, other activities

IT retail, repair and manufacturing

- Retail and repair account for 11.2% of GVA
- Manufacturing accounts for 4.1% of GVA
- Largest manufacturing sub-sector: manufacture of computers and peripheral equipment 1.5%

➢ Programming activities account for more than half of IT sector activity
➢ Other service activities (data processing, consulting) are also substantial components of the IT sector
8. Development of activities within the IT sector

**IT Services**
- Focus on IT services increasing
  - Computer programming +144% real GVA growth 2014-2019
  - Data processing +169%
  - IT consulting + 121%

**IT retail and manufacturing**
- Most manufacturing activities in steep decline
- Retail has declined between 2014 and 2019, repair activities increased

➢ Dominance of programming and other services increasing further

*Source: Ukrstat*
9. Company structure of the IT sector

- Micro companies dominate shares of production and employment
- Prevalence of fake self-employment obscures statistics
- 188.9 thsd. total companies
  - 187.5 thsd. are “micro” companies
  - Of these, 178.3 thsd. are private entrepreneurs
- Most companies are de-facto employees of larger companies

Role of medium and large companies probably substantially understated
10. Value chain position in IT services

Companies position in the value chain

- Outsourcing/outstaffing companies provide limited services for third companies
- Product companies develop and market their own products
  ➢ Usually higher value-added intensity

Maturing of Ukrainian IT sector

- Employment data indicates product companies growing in importance
- Outsourcing companies still play the largest role in software services
- Slight decrease in start-ups
  ➢ IT sector is increasingly moving towards product companies, can expect value-added to grow
## 11. Top companies in the IT sector

<table>
<thead>
<tr>
<th>Company</th>
<th>Number of employees in Ukraine</th>
<th>Year of foundation</th>
<th>Country of origin</th>
<th>Location of HQ</th>
<th>Location in Ukraine</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPAM Systems</td>
<td>11,600</td>
<td>1993</td>
<td>USA</td>
<td>Newtown, USA</td>
<td>Kyiv, Kharkiv, Lviv, Dnipro, Vinnytsya</td>
</tr>
<tr>
<td>SoftServe</td>
<td>9,462</td>
<td>1993</td>
<td>Ukraine</td>
<td>Austin, USA</td>
<td>Lviv</td>
</tr>
<tr>
<td>Global Logic Ukraine</td>
<td>6,365</td>
<td>2000</td>
<td>USA</td>
<td>San Francisco, USA</td>
<td>Kyiv, Kharkiv, Lviv, Mykolaiv</td>
</tr>
<tr>
<td>Luxoft Ukraine</td>
<td>3,581</td>
<td>2000</td>
<td>Russia</td>
<td>Tysons, USA</td>
<td>Kyiv, Odesa, Dnipro</td>
</tr>
<tr>
<td>Ciklum</td>
<td>3,006</td>
<td>2002</td>
<td>Ukraine</td>
<td>London, UK</td>
<td>Kyiv, Dnipro, Kharkiv, Vinnitsya, Lviv, Odesa</td>
</tr>
<tr>
<td>NIX</td>
<td>2,748</td>
<td>1994</td>
<td>Ukraine</td>
<td>San Jose, USA</td>
<td>Kyiv, Lviv</td>
</tr>
<tr>
<td>DataArt</td>
<td>2,625</td>
<td>1996</td>
<td>USA</td>
<td>New York, USA</td>
<td>Kyiv, Kharkiv, Lviv, Dnipro, Odesa, Kherson</td>
</tr>
<tr>
<td>Evoplay</td>
<td>2,345</td>
<td>2003</td>
<td>Ukraine</td>
<td>Kent, UK</td>
<td>Kyiv</td>
</tr>
<tr>
<td>Infopulse Ukraine</td>
<td>1,990</td>
<td>1991</td>
<td>Ukraine</td>
<td>Oslo, Norway</td>
<td>Kyiv, Odesa, Kharkiv, Lviv, Vinnytsya, Zhytomyr, Chernihiv</td>
</tr>
</tbody>
</table>

*Sources: Ruslana, DOU.ua*
12. Regional distribution

Regional distribution of employment and IT-clusters

Regional IT employment

- Highest employment share is in Kyiv City with 7%
  - Kyiv City+Oblast have more than 110k in ICT employment
- Followed by Kharkiv, Lviv and Dnipro with ~2% ICT-share of employment

IT clusters

- Organisations of regional IT companies and related institutions
- Clusters help improving IT ecosystem, allow cooperative work on joint interests such as skilled workers
- Most important clusters: Kharkiv, Lviv, Dnipro, Kyiv
  - IT sector well developed in several urban centres across Ukraine
  - Strong clusters indicate strength of sector

Sources: Regional cluster websites, ucluster.org, map is created with Datawrapper, data for 2021

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Lack of skilled workers is a key constraint to IT sector growth in Ukraine and elsewhere.

University education of potential IT workers

- Relatively low share of STEM (science, techn. engineering, maths) graduates
  - Ukraine: 25.3% of all graduates
  - Germany: 35.3%
  - Estonia: 27.7%

Quality of school education

- Education in STEM subjects in Ukraine has generally a good reputation
- Yet, Ukraine scores relatively low on standardised PISA test of 15 year olds
- This might be due to differences in school quality across rural/urban regions etc.

Education in STEM subjects should be further promoted and improved
14. Special regime for IT companies: Diia City

**Background:**
- Diia City is a special regulatory/tax regime for IT-companies in Ukraine
- Eligible companies can benefit from different regulation and tax models

**Purpose and Goals:**
- Purpose: Development of IT sector, attraction of FDI, Concentration of IT-experts
- Goals
  - 450k new jobs in the sector by 2025
  - USD 16.5 bn turnover by 2025
  - 40% to 50% annual turnover growth

**Further initiatives:**
- Diia Digital state: E-government
- Diia Digital education: Digital literacy training

➢ Attractive special regime to help attract more investment in IT
15. Support for IT sector by Ukrainian startup fund

Basic setup:
• Established by Ministry of Finance
• Capital of UAH 440m
• Applications accepted since Dec-2019

Funding and eligibility:
• Non-equity grants for startups in Ukraine for development and business activity support and training
• Eligible activities include:
  • Agrotech, fintech, blockchain
  • AI, AR, VR
  • E-government
  • Healthcare, media, retail services
  • Energy and ecology
• Ca. 200 applications approved so far, amounting to UAH 135 m in grants

➢ Startup fund can help finance crucial early growth phases of IT-startups

Role of the IT-sector in Ukrainian startup environment

Overview of startup fund support

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<th>Phase</th>
<th>Support</th>
<th>Type of support</th>
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<td>Pre-seed stage</td>
<td>USD 25,000</td>
<td>Non-equity grants for business development</td>
</tr>
<tr>
<td>Seed stage</td>
<td>USD 50,000</td>
<td>Non-equity grants for business activities</td>
</tr>
<tr>
<td>Acceleration programme</td>
<td>&lt;USD 10,000</td>
<td>Grants for mentoring/training</td>
</tr>
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</table>

Source: Ukrainian Startup Fund with support by World Bank, company websites

Source: Ukrainian Startup Fund
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About the German Economic Team

Financed by the Federal Ministry for Economic Affairs and Energy, the German Economic Team (GET) advises the governments of Ukraine, Belarus, Moldova, Kosovo, Armenia, Georgia and Uzbekistan on economic policy matters. Berlin Economics has been commissioned with the implementation of the consultancy.

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