NUMBER OF EMPLOYEES IN ICT

The increase in the number of employees in the ICT sector during the period 2019 - 2022 is: 4,990

ANECDOTAL EVIDENCE ...

...WE NEED 5,000 MID LEVEL WEB DEVELOPERS AND SOFTWARE DEVELOPERS.

... There are 1,000 "freelancers" in Kosovo...

THE NUMBER OF EMPLOYEES IN THE THREE SUB-ACTIVITIES WITH THE HIGHEST GROWTH IN ICT

<table>
<thead>
<tr>
<th>Year</th>
<th>Specialized Mediation Activities for Sale</th>
<th>Computer Programming Activities</th>
<th>Call Center Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>564</td>
<td>749</td>
<td>2,591</td>
</tr>
<tr>
<td>2020</td>
<td>748</td>
<td>1,003</td>
<td>2,935</td>
</tr>
<tr>
<td>2021</td>
<td>1,014</td>
<td>1,455</td>
<td>3,464</td>
</tr>
<tr>
<td>2022</td>
<td>1,315</td>
<td>1,832</td>
<td>3,867</td>
</tr>
</tbody>
</table>

THE GROWTH OF EMPLOYEES IN THE THREE SUB-ACTIVITIES WITH THE HIGHEST GROWTH IN ICT 2019-2022

1. Call Centre Activities: 1,276
2. Computer Programming Activities: 1,083
3. Specialized Mediation Activities for Sale: 751

Data Source: Tax Administration of Kosovo
**IMPORT AND EXPORT OF ICT SERVICES**

![Graph showing import and export of ICT services over years]

**IMPORT AND EXPORT OF ICT EQUIPMENT**

![Graph showing import and export of ICT equipment over years]

**TYPE OF EXPORTED IT/ICT SERVICES/PRODUCTS**

![Bar chart showing the percentage of different types of services exported]

**TOP 5 SERVICES / PRODUCTS EXPORTED IN ICT**

1. SOFTWARE DEVELOPMENT
2. DEVELOPMENT OF APPLICATIONS FOR SMART PHONES
3. WEB DEVELOPMENT AND DESIGN
4. DIGITAL MARKETING
5. BUSINESS PROCESS OUTSOURCING (BPO)

*Data Source: Krasniqi (2022)*

Current situation and potential of the information technology (ICT) services sector in Kosovo
ICT WORKFORCE DEMAND
WHAT SKILLS AND/OR QUALIFICATIONS OF EMPLOYEES ARE THE MOST DIFFICULT TO FIND IN KOSOVO?

THE MOST USED PROGRAMMING LANGUAGES BY ICT

Data Source: Krasniqi (2022)
"Current situation and potential of the information technology (ICT) services sector in Kosovo" (Sample of respondents: 72 ICT companies)

Data Source: Open Data Kosovo (2019)
"The Future Workplace" (Sample of respondents: 17 ICT companies)
AVERAGE SALARIES IN THE ICT SECTOR

Data Source: STIKK 2020 "IT Barometer" (Sample of interviewees: 38 IT companies)

PERCENTAGE OF STAFF TURNOVER IN THE ICT SECTOR

61.28% of companies have staff turnover with <10%

32.26% of companies have staff turnover with < 10-25%

6.45% of companies have staff turnover with > 25%
### Number of Training Providers in the ICT Sector and Their Status

<table>
<thead>
<tr>
<th>Providers of Trainings</th>
<th>Nr of providers</th>
<th>Accredited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institution for Vocational Education and Training (IVET)</td>
<td>33</td>
<td>N/A</td>
</tr>
<tr>
<td>Center of Competence</td>
<td>3</td>
<td>N/A</td>
</tr>
<tr>
<td>VTC (Vocational Training Center)</td>
<td>6</td>
<td>No</td>
</tr>
<tr>
<td><strong>Total providers - Public</strong></td>
<td><strong>42</strong></td>
<td></td>
</tr>
<tr>
<td>Institution for Vocational Training (IVT)- Private</td>
<td>29</td>
<td>11</td>
</tr>
</tbody>
</table>

### Training Providers in the ICT Sector by Municipality

![Map showing distribution of training providers](image)

### List of Profiles Provided by Private Providers in the ICT Sector

1. Junior Programmer  
2. Digital Marketing  
3. Administrator of networks and computer systems  
4. Data science  
5. TETE (Tech-knowledge & Techno-logic) Program  
6. Web and mobile application developer  
7. Application developer  
8. Software Development Technician  
9. IT Help Desk  
10. Installation of optical fibers  
11. Video Editing  
12. Leadership Institute of Future Engineers (LIFE)  
13. Web Development  
14. Cyber Security  
15. Design and Video

16. CISCO Networking Academy  
17. Microsoft Courses  
18. Android programming courses  
19. Computer programming courses  
20. Graphic Design  
21. Human Resources  
22. Front end Development  
23. Web and Application Design  
24. Project Management  
25. Graphic and Motion Design  
26. The Blank Collar  
27. Graphic Design and multi-media  
28. Wiring technician  
29. Certified IT auditor  
30. DevOps

Data Source: MESTI 2022. "EMIS" & 29 interviews with training provider companies
LIST OF PROFILES PROVIDED BY PUBLIC PROVIDERS IN THE ICT SECTOR

1- Application developer
2- Information Technology Systems Technician
3- Business Information Technology Technician
4- Interactive Media Design Technician
5- Graphic Design Technician
6- Computing
7- Electronics Technician
8- Mechatronics
9- Telecommunication
10- Computer Control of Cars
11- Production Operator
12- Consumer Electronics
13- Industrial Electronics
14- Wiring technician

NR. OF MODULES BY PRIVATE AND PUBLIC ICT TRAINING PROVIDERS

<table>
<thead>
<tr>
<th>Institution</th>
<th>Nr. of Institutions</th>
<th>Nr. of Profiles</th>
<th>Nr. of Modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Providers</td>
<td>29</td>
<td>30</td>
<td>134</td>
</tr>
<tr>
<td>Public Providers</td>
<td>42</td>
<td>6</td>
<td>125</td>
</tr>
</tbody>
</table>

PROFILES BY NUMBER OF PUBLIC PROVIDERS

SOFTWARE APPLICATION DEVELOPER: 4
TELECOMMUNICATION: 15
INTERACTIVE MEDIA DESIGN TECHNICIAN: 2
IT SYSTEMS TECHNICIAN: 13
WIRING TECHNICIAN: 1
BUSINESS IT TECHNICIAN: 6
GRAPHIC DESIGN TECHNICIAN: 2
PRODUCTION OPERATOR: 14
MECHATRONICS: 5
ELECTRICAL TECHNICIAN: 1
INFORMATION: 3
CONSUMER ELECTRONICS: 5
INDUSTRIAL ELECTRONICS: 3
COMPUTER CONTROL OF CARS: 1

OCCUPATIONAL STANDARDS AND YEAR OF DEVELOPMENT - ICT

<table>
<thead>
<tr>
<th>Occupational Standards</th>
<th>Year</th>
<th>NQF Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator of networks and computer systems</td>
<td>2019</td>
<td>5</td>
</tr>
<tr>
<td>Web and mobile application developer</td>
<td>2019</td>
<td>5</td>
</tr>
<tr>
<td>Junior Programmer</td>
<td>2019</td>
<td>1</td>
</tr>
</tbody>
</table>

Data Source: MESTI/2022, "EMIS" & 29 interviews with training provider companies
NUMBER AND PERCENTAGE OF TRAINING PROVIDERS BY DURATION

The total number (3 years of study) Registered for the first time Graduate

<table>
<thead>
<tr>
<th>Duration</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-36 months</td>
<td>118</td>
</tr>
<tr>
<td>7-12 months</td>
<td>7</td>
</tr>
<tr>
<td>4-6 months</td>
<td>24</td>
</tr>
<tr>
<td>1-3 months</td>
<td>157</td>
</tr>
</tbody>
</table>

Data Sources: MESTI 2022. “EMIS” & 29 interviews with training provider companies

NUMBER OF TRAINEES PUBLIC (IVET)

The number of trainees in the public sector during 2021/2022 1,622

NUMBER OF TRAINEES - PRIVATE

The number of trainees in the private sector during the 10-year period (2012 – 2022.) 39,297
The number was obtained from 18 providers.

The number of trainees in the private sector from institutions established after 2019. 7,118
In total there are 10 providers established after 2019 which we contacted.

NUMBER OF STUDENTS IN UNIVERSITY EDUCATION - ICT SECTOR (ACADEMIC YEAR - 2020/2021)

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>The total number (3 years of study)</td>
<td>7634</td>
</tr>
<tr>
<td>Registered for the first time</td>
<td>2650</td>
</tr>
<tr>
<td>Graduate</td>
<td>490</td>
</tr>
</tbody>
</table>

Data Sources: MESTI 2022. “EMIS” & 29 interviews with training provider companies
## ICT Employment by Sub-activities

<table>
<thead>
<tr>
<th>Activity Description</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cable telecommunication activities</td>
<td>6,018</td>
<td>5,846</td>
<td>6,190</td>
<td>6,389</td>
</tr>
<tr>
<td>2. Wireless telecommunication activities</td>
<td>301</td>
<td>347</td>
<td>326</td>
<td>331</td>
</tr>
<tr>
<td>3. Satellite telecommunication activities</td>
<td>-</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4. Computer programming activities</td>
<td>749</td>
<td>1,003</td>
<td>1,455</td>
<td>1,832</td>
</tr>
<tr>
<td>5. Computer installation management activities</td>
<td>19</td>
<td>16</td>
<td>22</td>
<td>35</td>
</tr>
<tr>
<td>6. Web Portals</td>
<td>319</td>
<td>401</td>
<td>403</td>
<td>356</td>
</tr>
<tr>
<td>7. Other telecommunication activities</td>
<td>293</td>
<td>279</td>
<td>293</td>
<td>310</td>
</tr>
<tr>
<td>8. Computer consulting activities</td>
<td>332</td>
<td>325</td>
<td>424</td>
<td>541</td>
</tr>
<tr>
<td>9. Other information technology and computer service activities</td>
<td>369</td>
<td>528</td>
<td>577</td>
<td>673</td>
</tr>
<tr>
<td>10. Data processing, information hosting and related activities</td>
<td>249</td>
<td>297</td>
<td>356</td>
<td>338</td>
</tr>
<tr>
<td>11. Specialized mediation activities for the sale of special products</td>
<td>564</td>
<td>748</td>
<td>1,014</td>
<td>1,315</td>
</tr>
<tr>
<td>12. Mediation activities for the sale of a variety of goods</td>
<td>748</td>
<td>745</td>
<td>829</td>
<td>896</td>
</tr>
<tr>
<td>13. Public relations and communication activities</td>
<td>226</td>
<td>332</td>
<td>394</td>
<td>490</td>
</tr>
<tr>
<td>14. Market research and measurement of public opinion (surveys)</td>
<td>964</td>
<td>998</td>
<td>1,193</td>
<td>1,328</td>
</tr>
<tr>
<td>15. Call center activities</td>
<td>2,591</td>
<td>2,935</td>
<td>3,464</td>
<td>3,867</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>13,742</td>
<td>14,804</td>
<td>16,942</td>
<td>18,702</td>
</tr>
</tbody>
</table>

Out of a total of 18,702 employed:

- **6,389 Telecommunications (34%)** but there is an increase of only 371 in the last 3 years
- **3,867 Call Centers (20%)** but there is an increase of 1,276 in the last 3 years
- **1,832 Programming (10%)** but there is an increase of 1,083 in the last 3 years