ABOUT

ABOUT COMPTIA

The Computing Technology Industry Association (CompTIA) is the world’s leading information technology (IT) certification and training body. CompTIA is a mission-driven organization committed to unlocking the potential of every student, career changer or professional seeking to begin or advance in a technology career. Each year CompTIA, directly and through its global network of partners, provides millions of learners the tools and confidence to succeed.

CompTIA’s base of certified information technology professionals spans 232 countries worldwide.

CompTIA sets the standard for preparing entry-level candidates through expert-level professionals to succeed at all stages of their career in technology. Through CompTIA’s philanthropic arm, CompTIA Spark develops innovative on-ramps and career pathways to expand opportunities to populations that traditionally have been under-represented in the information technology workforce.

CompTIA Technology Career Pathway Roadmap
CompTIA Certifications Job Match
CompTIA Training and Learning
CompTIA Tech Career Academy
CompTIA IT Salary Calculator
CompTIA Member Communities and Councils
CompTIA Academy and Delivery Partner Program

ABOUT COMPTIA’S EUROPEAN TECH HIRING TRENDS

CompTIA’s European Tech Hiring Trends provides an in-depth look at hiring trends across 11 markets. The report is designed as a resource for employers, job candidates, workforce and economic developers, policy-makers, media outlets and more. CompTIA developed the report from analysis of employer job posting data aggregated by Lightcast. See Methodology page for more details. The Q1 2023 report release covers Q4 2022 and some prior period data series.

<table>
<thead>
<tr>
<th>Belgium</th>
<th>Netherlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Czech Republic</td>
<td>Poland</td>
</tr>
<tr>
<td>France</td>
<td>Portugal</td>
</tr>
<tr>
<td>Germany</td>
<td>Romania</td>
</tr>
<tr>
<td>Ireland</td>
<td>Spain</td>
</tr>
<tr>
<td>Italy</td>
<td></td>
</tr>
</tbody>
</table>

Location data maps to the European Union’s regional taxonomy. The Nomenclature of territorial units for statistics, abbreviated NUTS (from the French version Nomenclature des Unités territoriales statistiques) is a geographical nomenclature subdividing the economic territory of the European Union (EU) into regions at three different levels (NUTS 1, 2 and 3 respectively, moving from larger to smaller territorial units). Above NUTS 1, there is the ‘national’ level of the Member States. Most other formatting and labeling in this report aligns to Eurostat standards. See the European Union’s Eurostat for more detail.

To make the data most accessible to readers, CompTIA lists the major city or metro area within the region first; and in some cases the accompanying surrounding region in parenthesis. The data is not always fully representative of the city or metro area, but generally, cities and metro areas have the highest concentration of workers in a region and therefore can reasonably serve as a proxy for the location’s hiring trends.

Job posting data is a good, but imperfect measure of employer hiring activity. There is a duplication factor in the job posting data due to some employers utilizing a multi-location or multi-faceted hiring strategy. For example, a large employer with multiple office locations may deploy job advertisements in various metropolitan areas to target job candidates; data deduplication processes may not perfectly resolve this type of multi-location job postings.

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LEADING JOB ROLE CATEGORIES IN DEMAND

<table>
<thead>
<tr>
<th>Category</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Developers, Programmers and Web</td>
<td>353 293</td>
</tr>
<tr>
<td>Systems Analysts and Cybersecurity²</td>
<td>284 215</td>
</tr>
<tr>
<td>IT Support Specialists and Technicians</td>
<td>113 427</td>
</tr>
<tr>
<td>Network and Systems Admin. and Technicians</td>
<td>113 394</td>
</tr>
</tbody>
</table>

1As noted in the methodology there is a duplication factor in the job posting data due to some employers utilizing a multi-location or multi-faceted hiring strategy.

2In this data set, cybersecurity does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts.

TECH HIRING BY REQUESTED YEARS OF EXPERIENCE

<table>
<thead>
<tr>
<th>Experience</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2 years</td>
<td>35%</td>
</tr>
<tr>
<td>3-10 years</td>
<td>10%</td>
</tr>
<tr>
<td>11+ years</td>
<td>13%</td>
</tr>
<tr>
<td>Not Specified</td>
<td>42%</td>
</tr>
</tbody>
</table>

LEADING INDUSTRY SECTORS FOR TECH HIRING

1. Information and Communication
2. Professional, Scientific and Technical Services
3. Manufacturing
4. Administrative and Support Services
5. Financial and Insurance
6. Public Administration and Defence
7. Accommodation and Food Service

Source: CompTIA analysis of Lightcast job posting data | Significantly lower posting volumes in Germany and Poland account for the largest share of the Q4 aggregate decrease
BELGIUM

EMPLOYER JOB POSTINGS FOR TECH HIRING 2022

Source: CompTIA analysis of Lightcast job posting data

LEADING METRO AREAS (REGIONS) FOR TECH HIRING

<table>
<thead>
<tr>
<th>Metro Area</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brussels (Brussel-Hoofdstad)</td>
<td>5 865</td>
</tr>
<tr>
<td>Antwerp (Antwerpen)</td>
<td>4 654</td>
</tr>
<tr>
<td>Charleroi (Charleroi)</td>
<td>4 476</td>
</tr>
<tr>
<td>Gent (Gent)</td>
<td>3 647</td>
</tr>
<tr>
<td>Ypres (Ypres)</td>
<td>2 293</td>
</tr>
</tbody>
</table>

LEADING JOB ROLE CATEGORIES IN DEMAND

<table>
<thead>
<tr>
<th>Job Role Category</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Developers, Programmers and Web</td>
<td>18 721</td>
</tr>
<tr>
<td>Systems Analysts and Cybersecurity(^2)</td>
<td>11 996</td>
</tr>
<tr>
<td>IT Support Specialists and Technicians</td>
<td>6 682</td>
</tr>
<tr>
<td>Network and Systems Admin. and Technicians</td>
<td>2 616</td>
</tr>
</tbody>
</table>

TECH HIRING BY REQUESTED YEARS OF EXPERIENCE

<table>
<thead>
<tr>
<th>Years of Experience</th>
<th>0-2 years</th>
<th>3-10 years</th>
<th>11+ years</th>
<th>Not Specified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent</td>
<td>37%</td>
<td>18%</td>
<td>8%</td>
<td>36%</td>
</tr>
</tbody>
</table>

LEADING INDUSTRY SECTORS FOR TECH HIRING

1. Professional, Scientific and Technical Services
2. Information and Communication
3. Administrative and Support Services
4. Manufacturing
5. Financial and Insurance
6. Education
7. Construction

\(^1\)As noted in the methodology there is a duplication factor in the job posting data due to some employers utilizing a multi-location or multi-faceted hiring strategy. See Methodology for how regions and metropolitan areas are defined.

\(^2\)In this dataset, cybersecurity does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts.
CZECH REPUBLIC

EMPLOYER JOB POSTINGS FOR TECH HIRING 2022

<table>
<thead>
<tr>
<th>Country</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Czech Republic</td>
<td>300,000</td>
</tr>
<tr>
<td>Belgium</td>
<td>200,000</td>
</tr>
<tr>
<td>Netherlands</td>
<td>100,000</td>
</tr>
</tbody>
</table>

Source: CompTIA analysis of Lightcast job posting data

LEADING METRO AREAS (REGIONS) FOR TECH HIRING Q4 2022

<table>
<thead>
<tr>
<th>Metro Area</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prague (Hlavní město Praha)</td>
<td>5,939</td>
</tr>
<tr>
<td>Brno (Jihomoravský)</td>
<td>2,736</td>
</tr>
<tr>
<td>Ostrava (Moravskoslezský)</td>
<td>1,009</td>
</tr>
<tr>
<td>Prague (Středočeský kraj)</td>
<td>745</td>
</tr>
<tr>
<td>Olomouc (Olomoucký kraj)</td>
<td>650</td>
</tr>
</tbody>
</table>

LEADING JOB ROLE CATEGORIES IN DEMAND Q4 2022

<table>
<thead>
<tr>
<th>Role Category</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Developers, Programmers and Web</td>
<td>6,647</td>
</tr>
<tr>
<td>Systems Analysts and Cybersecurity</td>
<td>3,632</td>
</tr>
<tr>
<td>Network and Systems Admin. and Technicians</td>
<td>2,096</td>
</tr>
<tr>
<td>IT Support Specialists and Technicians</td>
<td>1,960</td>
</tr>
</tbody>
</table>

LEADING INDUSTRY SECTORS FOR TECH HIRING

1. Manufacturing
2. Information and Communication
3. Financial and Insurance
4. Professional, Scientific and Technical Services
5. Administrative and Support Services
6. Other Service Activities
7. Construction

1As noted in the methodology there is a duplication factor in the job posting data due to some employers utilizing a multi-location or multi-faceted hiring strategy. See Methodology for how regions and metropolitan areas are defined.

2In this data set, cybersecurity does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts.
FRANCE

LEADING METRO AREAS (REGIONS) FOR TECH HIRING 2022

<table>
<thead>
<tr>
<th>Metro Area</th>
<th>Job Postings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paris (Paris)</td>
<td>19,720</td>
</tr>
<tr>
<td>Lyon (Rhône)</td>
<td>12,766</td>
</tr>
<tr>
<td>Nanterre (Hauts-de-Seine)</td>
<td>9,822</td>
</tr>
<tr>
<td>Nantes (Loire-Atlantique)</td>
<td>7,946</td>
</tr>
<tr>
<td>Toulouse (Haute-Garonne)</td>
<td>7,774</td>
</tr>
</tbody>
</table>

Source: CompTIA analysis of Lightcast job posting data

LEADING JOB ROLE CATEGORIES IN DEMAND

<table>
<thead>
<tr>
<th>Job Role Category</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Developers, Programmers and Web</td>
<td>72,653</td>
</tr>
<tr>
<td>Systems Analysts and Cybersecurity²</td>
<td>68,938</td>
</tr>
<tr>
<td>IT Support Specialists and Technicians</td>
<td>30,630</td>
</tr>
<tr>
<td>Network and Systems Admin. and Technicians</td>
<td>23,325</td>
</tr>
</tbody>
</table>

LEADING INDUSTRY SECTORS FOR TECH HIRING

1. Administrative and Support Services
2. Information and Communication
3. Professional, Scientific and Technical Services
4. Financial and Insurance
5. Accommodation and Food Service
6. Manufacturing
7. Public Administration and Defence

1 As noted in the methodology there is a duplication factor in the job posting data due to some employers utilizing a multi-location or multi-faceted hiring strategy. See Methodology for how regions and metropolitan areas are defined.

2 In this data set, cybersecurity does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts.
GERMANY

EMPLOYER JOB POSTINGS FOR TECH HIRING 2022

<table>
<thead>
<tr>
<th>Country</th>
<th>Job Postings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>2,250,000</td>
</tr>
<tr>
<td>France</td>
<td>1,500,000</td>
</tr>
<tr>
<td>Poland</td>
<td>750,000</td>
</tr>
</tbody>
</table>

Source: CompTIA analysis of Lightcast job posting data

LEADING METRO AREAS (REGIONS) FOR TECH HIRING

<table>
<thead>
<tr>
<th>Metro Area</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berlin (Berlin)</td>
<td>27,584</td>
</tr>
<tr>
<td>Munich (München, Kreisfreie Stadt)</td>
<td>22,231</td>
</tr>
<tr>
<td>Hamburg (Hamburg)</td>
<td>21,294</td>
</tr>
<tr>
<td>Stuttgart (Stuttgart, Stadtkreis)</td>
<td>14,436</td>
</tr>
<tr>
<td>Cologne (Köln, Kreisfreie Stadt)</td>
<td>9,914</td>
</tr>
</tbody>
</table>

LEADING JOB ROLE CATEGORIES IN DEMAND

<table>
<thead>
<tr>
<th>Job Category</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Developers, Programmers and Web</td>
<td>142,956</td>
</tr>
<tr>
<td>Systems Analysts and Cybersecurity</td>
<td>133,619</td>
</tr>
<tr>
<td>Network and Systems Admin. and Technicians</td>
<td>64,344</td>
</tr>
<tr>
<td>IT Support Specialists and Technicians</td>
<td>49,744</td>
</tr>
</tbody>
</table>

LEADING INDUSTRY SECTORS FOR TECH HIRING

1. Professional, Scientific and Technical Services
2. Information and Communication
3. Manufacturing
4. Administrative and Support Services
5. Public Administration and Defence
6. Wholesale and Retail Trade
7. Other Service Activities

As noted in the methodology there is a duplication factor in the job posting data due to some employers utilizing a multi-location or multi-faceted hiring strategy. See Methodology for how regions and metropolitan areas are defined.

In this data set, cybersecurity does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts.
IRELAND

EMPOWER JOB POSTINGS FOR TECH HIRING 2022

[Bar chart showing job postings for Ireland, Czech Republic, and Belgium]

Source: CompTIA analysis of Lightcast job posting data

LEADING METRO AREAS (REGIONS) FOR TECH HIRING

<table>
<thead>
<tr>
<th>Metro Area</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dublin (Dublin)</td>
<td>11,420</td>
</tr>
<tr>
<td>Galway (West)</td>
<td>280</td>
</tr>
<tr>
<td>Cork (South-West)</td>
<td>236</td>
</tr>
<tr>
<td>Athlone (Midland)</td>
<td>133</td>
</tr>
<tr>
<td>Limerick (Mid-West)</td>
<td>106</td>
</tr>
</tbody>
</table>

LEADING JOB ROLE CATEGORIES IN DEMAND

<table>
<thead>
<tr>
<th>Job Role Category</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Developers, Programmers and Web</td>
<td>8,276</td>
</tr>
<tr>
<td>Systems Analysts and Cybersecurity</td>
<td>5,049</td>
</tr>
<tr>
<td>IT Support Specialists and Technicians</td>
<td>2,365</td>
</tr>
<tr>
<td>Network and Systems Admin. and Technicians</td>
<td>1,457</td>
</tr>
</tbody>
</table>

TECH HIRING BY REQUESTED YEARS OF EXPERIENCE

<table>
<thead>
<tr>
<th>Years of Experience</th>
<th>0-2 years</th>
<th>3-10 years</th>
<th>11+ years</th>
<th>Not Specified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>54%</td>
<td>10%</td>
<td>15%</td>
<td>21%</td>
</tr>
</tbody>
</table>

LEADING INDUSTRY SECTORS FOR TECH HIRING

1. Information and Communication
2. Professional, Scientific and Technical Services
3. Administrative and Support Services
4. Financial and Insurance
5. Manufacturing
6. Human Health and Social Work
7. Other Service Activities

---

1As noted in the methodology there is a duplication factor in the job posting data due to some employers utilizing a multi-location or multi-faceted hiring strategy. See Methodology for how regions and metropolitan areas are defined.

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ITALY

EMPLOYER JOB POSTINGS FOR TECH HIRING 2022

Source: CompTIA analysis of Lightcast job posting data

LEADING METRO AREAS (REGIONS) FOR TECH HIRING

<table>
<thead>
<tr>
<th>Metro Areas</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milan (Milano)</td>
<td>10 080</td>
</tr>
<tr>
<td>Rome (Roma)</td>
<td>4 380</td>
</tr>
<tr>
<td>Turin (Torino)</td>
<td>2 144</td>
</tr>
<tr>
<td>Bologna (Bologna)</td>
<td>1 774</td>
</tr>
<tr>
<td>Naples (Napoli)</td>
<td>1 011</td>
</tr>
</tbody>
</table>

LEADING JOB ROLE CATEGORIES IN DEMAND

<table>
<thead>
<tr>
<th>Job Role Categories</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systems Analysts and Cybersecurity</td>
<td>15 352</td>
</tr>
<tr>
<td>Software Developers, Programmers and Web</td>
<td>12 872</td>
</tr>
<tr>
<td>IT Support Specialists and Technicians</td>
<td>4 670</td>
</tr>
<tr>
<td>Network and Systems Admin. and Technicians</td>
<td>3 939</td>
</tr>
</tbody>
</table>

TECH HIRING BY REQUESTED YEARS OF EXPERIENCE

<table>
<thead>
<tr>
<th>Years of Experience</th>
<th>0-2 years</th>
<th>3-10 years</th>
<th>11+ years</th>
<th>Not Specified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent</td>
<td>30%</td>
<td>12%</td>
<td>24%</td>
<td>34%</td>
</tr>
</tbody>
</table>

LEADING INDUSTRY SECTORS FOR TECH HIRING

1. Professional, Scientific and Technical Services
2. Information and Communication
3. Administrative and Support Services
4. Manufacturing
5. Other Service Activities
6. Financial and Insurance
7. Wholesale and Retail Trade

---

1 As noted in the methodology there is a duplication factor in the job posting data due to some employers utilizing a multi-location or multi-faceted hiring strategy. See Methodology for how regions and metropolitan areas are defined.

2 In this data set, cybersecurity does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts.
NETHERLANDS

EMPLOYER JOB POSTINGS FOR TECH HIRING 2022

LEADING METRO AREAS (REGIONS) FOR TECH HIRING

<table>
<thead>
<tr>
<th>Metro Area</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amsterdam (Groot-Amsterdam)</td>
<td>7 454</td>
</tr>
<tr>
<td>Utrecht (Utrecht)</td>
<td>6 668</td>
</tr>
<tr>
<td>Hertogenbosch (Noord-Brabant)</td>
<td>3 009</td>
</tr>
<tr>
<td>Rotterdam (Groot-Rijnmond)</td>
<td>2 910</td>
</tr>
<tr>
<td>The Hague (Agglomeratie's-Gravenhage)</td>
<td>2 498</td>
</tr>
</tbody>
</table>

Source: CompTIA analysis of Lightcast job posting data

LEADING JOB ROLE CATEGORIES IN DEMAND

<table>
<thead>
<tr>
<th>Job Role Category</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Developers, Programmers and Web</td>
<td>20 201</td>
</tr>
<tr>
<td>Systems Analysts and Cybersecurity²</td>
<td>10 471</td>
</tr>
<tr>
<td>IT Support Specialists and Technicians</td>
<td>6 792</td>
</tr>
<tr>
<td>Network and Systems Admin. and Technicians</td>
<td>6 091</td>
</tr>
</tbody>
</table>

LEADING INDUSTRY SECTORS FOR TECH HIRING

1. Professional, Scientific and Technical Services
2. Information and Communication
3. Administrative and Support Services
4. Manufacturing
5. Education
6. Transportation and Storage
7. Construction

As noted in the methodology there is a duplication factor in the job posting data due to some employers utilizing a multi-location or multi-faceted hiring strategy. See Methodology for how regions and metropolitan areas are defined.

²In this data set, cybersecurity does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts.
POLAND

EMPLOYER JOB POSTINGS FOR TECH HIRING 2022

![Bar chart showing job postings for tech hiring in Poland, Germany, and France.](chart)

Source: CompTIA analysis of Lightcast job posting data

LEADING METRO AREAS (REGIONS) FOR TECH HIRING

<table>
<thead>
<tr>
<th>Metro Area</th>
<th>Jobs Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warsaw (Miasto Warszawa)</td>
<td>9,530</td>
</tr>
<tr>
<td>Krakow (Miasto Kraków)</td>
<td>4,216</td>
</tr>
<tr>
<td>Wroclaw (Miasto Wroclaw)</td>
<td>3,712</td>
</tr>
<tr>
<td>Katowice (Katowicki)</td>
<td>3,421</td>
</tr>
<tr>
<td>Gdansk (Trójmiejski)</td>
<td>3,072</td>
</tr>
</tbody>
</table>

LEADING JOB ROLE CATEGORIES IN DEMAND

<table>
<thead>
<tr>
<th>Job Role</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Developers, Programmers and Web</td>
<td>32,921</td>
</tr>
<tr>
<td>Systems Analysts and Cybersecurity²</td>
<td>12,269</td>
</tr>
<tr>
<td>Network and Systems Admin. and Technicians</td>
<td>3,839</td>
</tr>
<tr>
<td>IT Support Specialists and Technicians</td>
<td>2,284</td>
</tr>
</tbody>
</table>

TECH HIRING BY REQUESTED YEARS OF EXPERIENCE

<table>
<thead>
<tr>
<th>Experience</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2 years</td>
<td>42%</td>
</tr>
<tr>
<td>3-10 years</td>
<td>6%</td>
</tr>
<tr>
<td>11+ years</td>
<td>13%</td>
</tr>
<tr>
<td>Not Specified</td>
<td>39%</td>
</tr>
</tbody>
</table>

LEADING INDUSTRY SECTORS FOR TECH HIRING

1. Information and Communication
2. Administrative and Support Services
3. Professional, Scientific and Technical Services
4. Manufacturing
5. Financial and Insurance
6. Human Health and Social Work
7. Other Service Activities

¹As noted in the methodology, there is a duplication factor in the job posting data due to some employers utilizing a multi-location or multi-faceted hiring strategy. See Methodology for how regions and metropolitan areas are defined.

²In this data set, cybersecurity does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts.
PORTUGAL

EMPLOYER JOB POSTINGS FOR TECH HIRING 2022

Source: CompTIA analysis of Lightcast job posting data

LEADING METRO AREAS (REGIONS) FOR TECH HIRING

<table>
<thead>
<tr>
<th>Metro Area</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lisbon (Metropolitana de Lisboa)</td>
<td>9,134</td>
</tr>
<tr>
<td>Porto (Metropolitana do Porto)</td>
<td>3,998</td>
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<tr>
<td>Leiria (Região de Leiria)</td>
<td>840</td>
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<tr>
<td>Guarda (Beiras e Serra da Estrela)</td>
<td>590</td>
</tr>
<tr>
<td>Tomar (Médio Tejo)</td>
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</table>

LEADING JOB ROLE CATEGORIES IN DEMAND

<table>
<thead>
<tr>
<th>Role Category</th>
<th>Q4 2022</th>
</tr>
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<tbody>
<tr>
<td>Software Developers, Programmers and Web</td>
<td>7,843</td>
</tr>
<tr>
<td>Systems Analysts and Cybersecurity</td>
<td>4,303</td>
</tr>
<tr>
<td>IT Support Specialists and Technicians</td>
<td>2,927</td>
</tr>
<tr>
<td>Network and Systems Admin. and Technicians</td>
<td>1,133</td>
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</table>

TECH HIRING BY REQUESTED YEARS OF EXPERIENCE

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<thead>
<tr>
<th>Years of Experience</th>
<th>0-2 years</th>
<th>3-10 years</th>
<th>11+ years</th>
<th>Not Specified</th>
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<tbody>
<tr>
<td>Percentage</td>
<td>49%</td>
<td>10%</td>
<td>12%</td>
<td>30%</td>
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LEADING INDUSTRY SECTORS FOR TECH HIRING

1. Information and Communication
2. Professional, Scientific and Technical Services
3. Administrative and Support Services
4. Manufacturing
5. Financial and Insurance
6. Other Service Activities
7. Wholesale and Retail Trade

---

1 As noted in the methodology there is a duplication factor in the job posting data due to some employers utilizing a multi-location or multi-faceted hiring strategy. See Methodology for how regions and metropolitan areas are defined.

2 In this data set, cybersecurity does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts.
ROMANIA

EMPLOYER JOB POSTINGS FOR TECH HIRING 2022

Source: CompTIA analysis of Lightcast job posting data

LEADING METRO AREAS (REGIONS) FOR TECH HIRING

<table>
<thead>
<tr>
<th>Region</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bucharest (București)</td>
<td>4,010</td>
</tr>
<tr>
<td>Cluj-Napoca (Cluj)</td>
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<tr>
<td>Alba Iulia (Alba)</td>
<td>1,666</td>
</tr>
<tr>
<td>Iași (Iași)</td>
<td>1,293</td>
</tr>
<tr>
<td>Timișoara (Timiș)</td>
<td>1,219</td>
</tr>
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LEADING JOB ROLE CATEGORIES IN DEMAND

<table>
<thead>
<tr>
<th>Role Category</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Developers, Programmers and Web</td>
<td>10,418</td>
</tr>
<tr>
<td>Systems Analysts and Cybersecurity</td>
<td>3,692</td>
</tr>
<tr>
<td>Network and Systems Admin. and Technicians</td>
<td>1,142</td>
</tr>
<tr>
<td>IT Support Specialists and Technicians</td>
<td>1,123</td>
</tr>
</tbody>
</table>

LEADING INDUSTRY SECTORS FOR TECH HIRING

1. Information and Communication
2. Professional, Scientific and Technical Services
3. Administrative and Support Services
4. Financial and Insurance
5. Manufacturing
6. Human Health and Social Work
7. Wholesale and Retail Trade

1 As noted in the methodology there is a duplication factor in the job posting data due to some employers utilizing a multi-location or multi-faceted hiring strategy. See Methodology for how regions and metropolitan areas are defined.

2 In this data set, cybersecurity does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts.
SPAIN

LEADING METRO AREAS (REGIONS) FOR TECH HIRING

<table>
<thead>
<tr>
<th>Metro Area</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Madrid (Madrid)</td>
<td>18 051</td>
</tr>
<tr>
<td>Barcelona (Barcelona)</td>
<td>11 501</td>
</tr>
<tr>
<td>Málaga (Málaga)</td>
<td>1 161</td>
</tr>
<tr>
<td>Seville (Sevilla)</td>
<td>1 005</td>
</tr>
<tr>
<td>Bilbao (Bizkaia)</td>
<td>867</td>
</tr>
</tbody>
</table>

Source: CompTIA analysis of Lightcast job posting data

LEADING JOB ROLE CATEGORIES IN DEMAND

<table>
<thead>
<tr>
<th>Job Role Category</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Developers, Programmers and Web</td>
<td>19 785</td>
</tr>
<tr>
<td>Systems Analysts and Cybersecurity</td>
<td>14 894</td>
</tr>
<tr>
<td>IT Support Specialists and Technicians</td>
<td>4 250</td>
</tr>
<tr>
<td>Network and Systems Admin. and Technicians</td>
<td>3 412</td>
</tr>
</tbody>
</table>

LEADING INDUSTRY SECTORS FOR TECH HIRING

1. Information and Communication
2. Professional, Scientific and Technical Services
3. Administrative and Support Services
4. Manufacturing
5. Financial and Insurance
6. Other Service Activities
7. Electricity, gas, steam and air conditioning supply

As noted in the methodology there is a duplication factor in the job posting data due to some employers utilizing a multi-location or multi-faceted hiring strategy. See Methodology for how regions and metropolitan areas are defined.

In this data set, cybersecurity does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts.
## APPENDIX I

<table>
<thead>
<tr>
<th>ID</th>
<th>Occupation Category</th>
<th>Job Postings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1330</td>
<td>IT Managers and CIOs</td>
<td>52 286</td>
</tr>
<tr>
<td>2153</td>
<td>Telecommunications Engineers</td>
<td>2 271</td>
</tr>
<tr>
<td>2511</td>
<td>Systems Analysts and Cybersecurity</td>
<td>284 215</td>
</tr>
<tr>
<td>2512</td>
<td>Software Developers</td>
<td>261 568</td>
</tr>
<tr>
<td>2513</td>
<td>Web and Multimedia Developers</td>
<td>51 857</td>
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<tr>
<td>2514</td>
<td>Applications Programmers</td>
<td>20 084</td>
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<tr>
<td>2519</td>
<td>Software and Applications Developers Other</td>
<td>14 867</td>
</tr>
<tr>
<td>2521</td>
<td>Database Designers and Administrators</td>
<td>7 147</td>
</tr>
<tr>
<td>2522</td>
<td>Systems Administrators</td>
<td>78 020</td>
</tr>
<tr>
<td>2523</td>
<td>Network Administrators and Engineers</td>
<td>14 277</td>
</tr>
<tr>
<td>2529</td>
<td>Database and Network Professionals Other</td>
<td>23 968</td>
</tr>
<tr>
<td>3511</td>
<td>IT Operations Technicians</td>
<td>8 819</td>
</tr>
<tr>
<td>3512</td>
<td>IT Support Specialists and Technicians</td>
<td>56 428</td>
</tr>
<tr>
<td>3513</td>
<td>Network and Systems Technicians</td>
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<tr>
<td>3514</td>
<td>Web Technicians</td>
<td>4 917</td>
</tr>
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<td>3521</td>
<td>A/V technicians</td>
<td>12 711</td>
</tr>
<tr>
<td>7422</td>
<td>IT Installers and Servicers</td>
<td>35 469</td>
</tr>
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</table>

**Q4 2022 TOTAL** 950 001

<table>
<thead>
<tr>
<th>Country</th>
<th>Tech Job Postings</th>
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</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>256 337</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>137 302</td>
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<tr>
<td>France</td>
<td>1 047 224</td>
</tr>
<tr>
<td>Germany</td>
<td>2 095 043</td>
</tr>
<tr>
<td>Ireland</td>
<td>116 936</td>
</tr>
<tr>
<td>Italy</td>
<td>217 500</td>
</tr>
<tr>
<td>Netherlands</td>
<td>305 772</td>
</tr>
<tr>
<td>Poland</td>
<td>1 632 780</td>
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<tr>
<td>Portugal</td>
<td>149 380</td>
</tr>
<tr>
<td>Romania</td>
<td>112 056</td>
</tr>
<tr>
<td>Spain</td>
<td>201 056</td>
</tr>
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</table>

**2022 TOTAL** 6 271 527
### APPENDIX II

<table>
<thead>
<tr>
<th>ID</th>
<th>Occupation Category</th>
<th>Belgium</th>
<th>Czech Republic</th>
<th>France</th>
<th>Germany</th>
<th>Ireland</th>
<th>Italy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1330</td>
<td>IT Managers and CIOs</td>
<td>2,144</td>
<td>1,930</td>
<td>18,011</td>
<td>13,191</td>
<td>1,242</td>
<td>1,751</td>
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<tr>
<td>2153</td>
<td>Telecommunications Engineers</td>
<td>186</td>
<td>49</td>
<td>420</td>
<td>248</td>
<td>48</td>
<td>803</td>
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<td>2511</td>
<td>Systems Analysts and Cybersecurity</td>
<td>11,996</td>
<td>3,632</td>
<td>68,938</td>
<td>133,619</td>
<td>5,049</td>
<td>15,352</td>
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<tr>
<td>2512</td>
<td>Software Developers</td>
<td>12,831</td>
<td>4,510</td>
<td>55,701</td>
<td>108,710</td>
<td>6,804</td>
<td>9,333</td>
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<tr>
<td>2513</td>
<td>Web and Multimedia Developers</td>
<td>3,952</td>
<td>773</td>
<td>9,653</td>
<td>14,665</td>
<td>980</td>
<td>1,789</td>
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<tr>
<td>2514</td>
<td>Applications Programmers</td>
<td>1,178</td>
<td>688</td>
<td>2,550</td>
<td>10,528</td>
<td>223</td>
<td>992</td>
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<tr>
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<td>Software and Applications Developers Other</td>
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<td>545</td>
<td>2,516</td>
<td>7,345</td>
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<td>356</td>
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<tr>
<td>2521</td>
<td>Database Designers and Administrators</td>
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<td>147</td>
<td>1,842</td>
<td>2,016</td>
<td>172</td>
<td>144</td>
</tr>
<tr>
<td>2522</td>
<td>Systems Administrators</td>
<td>1,637</td>
<td>1,499</td>
<td>16,419</td>
<td>46,829</td>
<td>710</td>
<td>1,981</td>
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<td>Network Administrators and Engineers</td>
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<td>55</td>
<td>3,905</td>
<td>4,312</td>
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<td>1,069</td>
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<td>5,625</td>
<td>1,715</td>
<td>2,068</td>
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<td>442</td>
<td>699</td>
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<td>3512</td>
<td>IT Support Specialists and Technicians</td>
<td>3,895</td>
<td>1,230</td>
<td>16,027</td>
<td>17,081</td>
<td>1,657</td>
<td>3,215</td>
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<td>Network and Systems Technicians</td>
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<td>542</td>
<td>3,001</td>
<td>13,203</td>
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<td>Web Technicians</td>
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<td>2,233</td>
<td>1,708</td>
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<td>402</td>
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<td>3521</td>
<td>A/V technicians</td>
<td>1,478</td>
<td>119</td>
<td>8,249</td>
<td>723</td>
<td>172</td>
<td>192</td>
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<tr>
<td>7422</td>
<td>IT Installers and Servicers</td>
<td>593</td>
<td>383</td>
<td>852</td>
<td>31,683</td>
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<td><strong>Q4 2022 TOTAL</strong></td>
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<td>44,816</td>
<td>16,769</td>
<td>217,480</td>
<td>411,743</td>
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</table>

<table>
<thead>
<tr>
<th>ID</th>
<th>Occupation Category</th>
<th>Netherlands</th>
<th>Poland</th>
<th>Portugal</th>
<th>Romania</th>
<th>Spain</th>
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</thead>
<tbody>
<tr>
<td>1330</td>
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<td>4,946</td>
<td>928</td>
<td>1,419</td>
<td>4,471</td>
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<td>169</td>
</tr>
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<td>2511</td>
<td>Systems Analysts and Cybersecurity</td>
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<td>1,643</td>
<td>1,462</td>
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</tr>
<tr>
<td>2514</td>
<td>Applications Programmers</td>
<td>1,348</td>
<td>671</td>
<td>453</td>
<td>634</td>
<td>819</td>
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<tr>
<td>2519</td>
<td>Software and Applications Developers Other</td>
<td>878</td>
<td>1,109</td>
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<td>343</td>
<td>469</td>
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<tr>
<td>2521</td>
<td>Database Designers and Administrators</td>
<td>467</td>
<td>1,167</td>
<td>109</td>
<td>133</td>
<td>397</td>
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<tr>
<td>2522</td>
<td>Systems Administrators</td>
<td>2,664</td>
<td>2,933</td>
<td>696</td>
<td>591</td>
<td>2,061</td>
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<td>3511</td>
<td>IT Operations Technicians</td>
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<td>171</td>
<td>143</td>
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<tr>
<td>3512</td>
<td>IT Support Specialists and Technicians</td>
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<td>Network and Systems Technicians</td>
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<td>3521</td>
<td>A/V technicians</td>
<td>1,090</td>
<td>89</td>
<td>154</td>
<td>157</td>
<td>288</td>
</tr>
<tr>
<td>7422</td>
<td>IT Installers and Servicers</td>
<td>616</td>
<td>331</td>
<td>77</td>
<td>112</td>
<td>164</td>
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<tr>
<td><strong>Q4 2022 TOTAL</strong></td>
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<td>48,972</td>
<td>60,532</td>
<td>18,536</td>
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</tr>
</tbody>
</table>
METHODOLOGY

This report was developed by CompTIA using employer job posting data aggregated by Lightcast (https://laborinsight.lightcast.io).

Lightcast aggregates employer job posting data across a range of sources to produce the best possible depiction of hiring activity. As with any data source, however, there are limitations. Employer job posting data is a useful, but an imperfect proxy for job demand. Not every posting translates to a new job; hiring employers may change their plans, post multiple times for the same job, hire internally, try different approaches to find the right candidate and so forth. For example, a large employer with multiple office locations may deploy job advertisements in various metropolitan areas to target job candidates; data deduplication processes may not perfectly resolve this type of multi-location job postings. Also, one ad may be posted for multiple openings. Lightcast data methodologies address many of these potential issues, but there will inevitably be some margin of error.

Additionally, within a time period, there may be situations where a worker is hired, the person is not the right fit and is let go, and a firm starts the process over again. In the aggregate there is a single position, but using job posting data, it may appear there are 2 positions.

CompTIA recommends using job posting data in conjunction with government labour market statistics and other data sources where available to get a more complete picture of workforce dynamics for a given occupation category.

Occupation categories are standardised for consistency and to enable comparisons across markets. The tradeoff is slightly less granularity, especially in certain newer job roles. For example, this data set does not have dedicated categories for cybersecurity, cloud, data scientist, or artificial intelligence. Rather, these positions are combined under broader occupation categories.

Location data maps to the European Union’s regional taxonomy. The Nomenclature of territorial units for statistics, abbreviated NUTS (from the French version Nomenclature des Unités territoriales statistiques) is a geographical nomenclature subdividing the economic territory of the European Union (EU) into regions at three different levels (NUTS 1, 2 and 3 respectively, moving from larger to smaller territorial units). Above NUTS 1, there is the ‘national’ level of the Member States. See the European Union’s Eurostat site for more detail.

To make the data most accessible to readers, CompTIA lists the major city or metro area within the region; and in some cases the accompanying region in parenthesis as noted above. The data does not fully represent the city or metro area, but generally, cities and metro areas have the highest concentration of workers in a region and therefore can reasonably serve as a proxy for the location’s hiring trends.

Please contact the CompTIA Research and Market Intelligence Department at research@comptia.org with any questions.