



executive summary

# global in-demand skills research.



Labor markets around the world have cooled considerably since last year's Global In-demand Skills research took place, yet employers are still facing significant hiring challenges and talent scarcity.

In 2022, hiring trends were booming and demand for tech talent was remarkably strong as a result of exceptional growth in data centers and investments in remote working-related industries.

Since then, however, hiring trends have normalized, and most expect they will stabilize further through a significant part of 2024. But, even with these cyclical declines taking place, talent scarcity persists. Since the challenges of the global talent shortage are structural in nature, you can expect it will continue along with demographic changes, high demand for specialized skills, the rapid adoption of new technologies and a constant outflow of talent from the global labor market. As our latest [Global In-demand Skills research](#) shows, the need for specialized and high-skill talent remains above pre-pandemic levels and historically elevated.

## what are the top 9 global in-demand skill clusters?

Based on absolute data, enterprise employers will continue to see stiff competition for these [9 in-demand skill clusters](#) through most of 2024:

1. AI & automation
2. audit & compliance
3. cloud computing
4. customer service
5. data science & analytics
6. engineering & maintenance
7. finance & accounting
8. marketing, content & advertising
9. software project management & leadership



# understanding skills and human potential.



This list of high-demand skill clusters is based on a long-term perspective of talent scarcity. That's why it's so critical that employers consider the long-term impacts of their current, arguably unsustainable, skills acquisition strategies. Because scarcity continues, more talent leaders are driving the shift to skills-based talent strategies where companies consider the potential of every person, rather than just the experience and learned skills they already possess. In a truly skills-based organization, this thinking extends beyond the hiring process to the whole workforce across career journeys overall.

That's why the latest Global In-demand Skills research — conducted by our Talent Intelligence team, who verified, normalized and analyzed millions of job postings and talent profiles from the most representative sources across 23 markets globally — not only provides insights

on nine major high-demand skill clusters, but the learned core skills, innate sub-skills and key motivations that are important to success in those roles.

Now available as an interactive dashboard, the new research is designed to help you understand talent market dynamics across six dimensions: (1) the skills needed, (2) skills supply, (3) skills demand, (4) compensation, (5) remote and hybrid working trends, and (6) gender diversity.

We encourage you to explore the dashboard to answer questions like, where is cloud talent available in abundance and on budget? Or, will remote working arrangements help us differentiate as we compete for AI skills? And, how much can we expect to budget for critical customer service talent in our defined markets? You can also keep reading to learn key highlights here.



# global talent supply & demand: what's trending?

People who possess the most advanced technical skills — especially within the specialties of data science, AI and cloud — are expected to be highly sought after for the foreseeable future. Their work will also necessitate the need for specialists supporting project management, implementation and adoption of new technologies and workflows.

Of the sub-skills (those acquired through learning) within each cluster, some of the hardest to find are in robotics, ethics and compliance knowledge, audit tools and software, and natural language processing (NLP). In-demand skills that have relatively low talent availability are those in stakeholder communication, control systems related to auditing and quality assurance for auditing and software project management.

Market fluctuation has not affected skill clusters equally. For example, engineering and maintenance talent are experiencing stronger demand relative to other clusters.

At the same time, growth of this talent pool has been particularly slow, especially in the areas of green technology and emerging skills. Demand for content creation skills in emerging technologies is also growing as the digital marketing landscape becomes more competitive in a new era of possibilities.

Demand for customer service skills remains robust despite the prospect of automation from AI advancements. Demand is outpacing supply in some facets of this cluster, depending on the complexity of jobs. Humans are still better at managing personal interactions, building client relationships and leveraging other soft skills than AI and robotics — at least for now.

The need for finance and accounting skills, especially for those with deep experience in the field, accounts for a significant number of roles advertised in our latest research. As these roles see significant changes — affected by digitalization, heightened cybersecurity

concerns and greater decentralization of the function — every organization is seeking more expert knowledge of local regulations and best practices. As a result, the outsourcing of key functions remains very localized, and scarcity of expert talent remains high.



Regardless of economic cycles, competition for the most in-demand skills remains fierce. Whether your business needs AI professionals or customer service specialists, talent scarcity is structural and will not go away in the near future unless you shift the way your organization thinks about skills acquisition and development overall. Now is the time to reconfigure your buy-build-borrow-bot strategy to ensure access to critical talent long-term.



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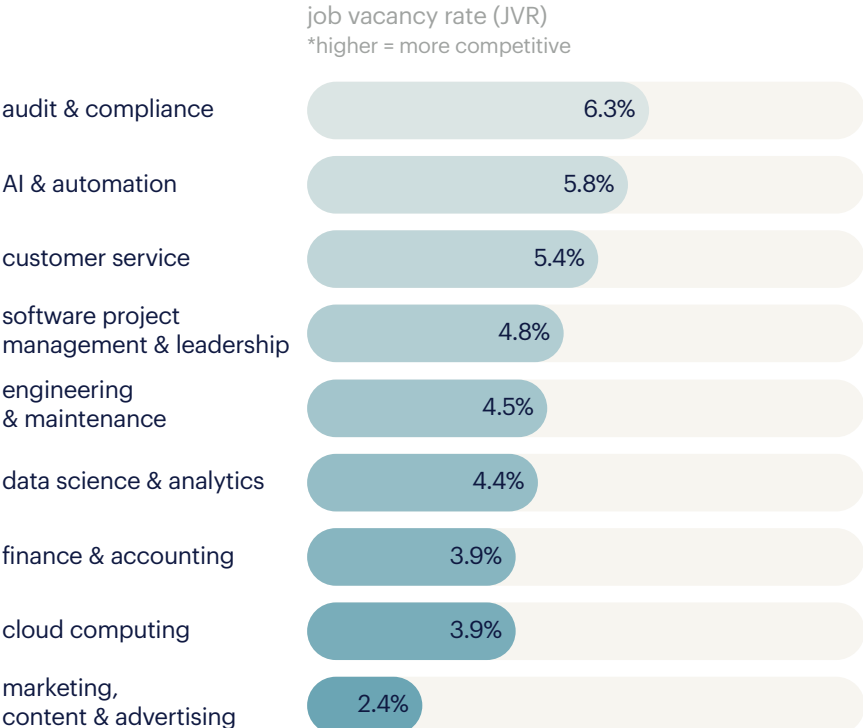
# skill clusters: which are the most competitive?

According to our latest [Global In-demand Skills research](#), across all nine skill clusters, AI and automation roles still account for the lowest number of job postings, but they are among the hardest to fill. This is especially true for highly specialized sub-skills within the cluster, such as robotics, which has a 14% job vacancy rate (JVR), or NLP (11% JVR). This skill cluster is also constantly evolving as individual skills, such as generative AI, experienced over 2,000% growth at the end of 2023, even though the total number of postings remains small.

Software project management accounts for the largest cluster of postings. Despite also having the biggest talent pool, a considerable supply and demand imbalance exists, with a JVR of 4% and more than 1.3 million jobs advertised globally.

Customer service roles also make up a large skill cluster, but the number of sub-skills and variety of jobs is comparatively small. High demand is consistent year over year. With a much lower share of remote opportunities — and skills that are highly applicable across all industries — it remains a challenging skill cluster to recruit for despite not holding relatively niche, high-level skills. Engineering skills are the least scarce among all skill clusters but are still harder to find than most jobs. One of the major challenges within this cluster is the availability of technical competencies in the emerging green economy. Also, within the sub-skill category of technical tools, JVR levels are high in Europe and U.S. markets, ranging from 7% to 13%.

## skill cluster hiring complexity



Companies can rectify skills gaps by providing learning and development programs to their current employees, or partnering with specialty academies to quickly grow their own talent.

Skill-centric workforce planning, along with a stronger focus on innate skills and motivations and targeted learning programs, can help employers resolve talent scarcity issues in the near- to long-term future. Attention to early career recruitment, university cooperation and education programs can also enhance long-term sustainability.



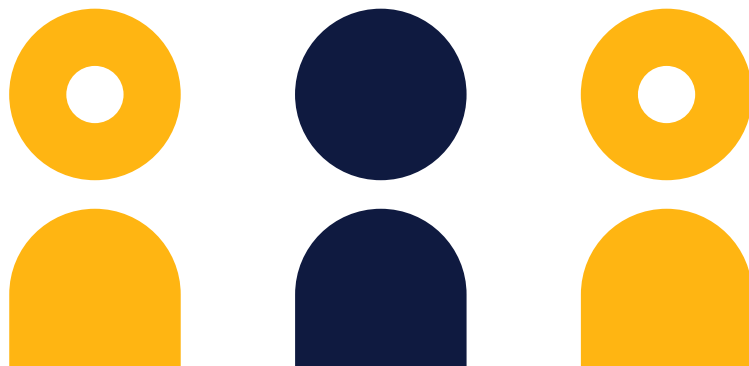
**Mateusz Górecki**  
Talent and Market Intelligence manager  
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# core skills and sub-skills: the market is tight, the competition is fierce.

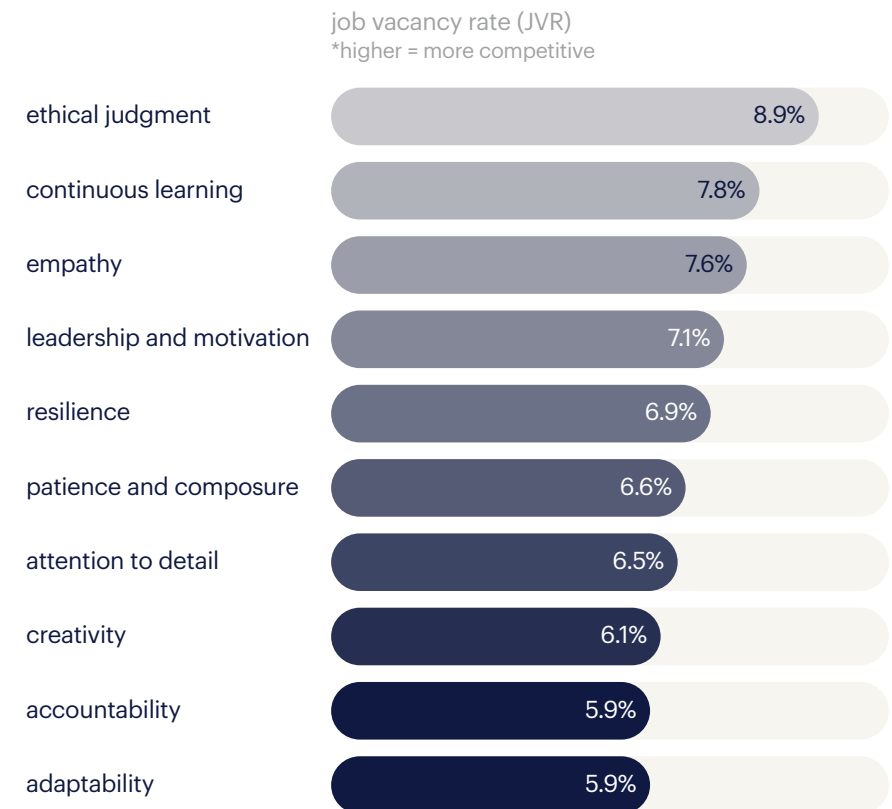
Overall global demand for all talent in 2023 is expected to close out at 65% to 75% of 2022 levels. This is observed across the globe, but a key indicator is the U.S., which accounts for every third vacancy among highly scarce skills. According to the [U.S. Bureau of Labor Statistics](#), nonfarm job growth in October 2023 rose just 150,000, notably lower than the 258,000 averaged over the prior 12 months. Employment has also trended downward since July 2022.

Even so, many skills remain in demand. For instance, there is a major push in terms of core skills requirements across various job advertisements, reaffirming [similar trends observed last year](#). Employers are seeking people who have analytical thinking, accountability and competencies related to task/project ownership skills. Our [Global In-demand Skills research](#) shows that these are still some of the most frequently sought-after abilities across all markets.

It also reveals a significant gap between employees and employers when it comes to continuous learning, ethical judgment and emotional intelligence. On average, those are skills that are hardest to find across all markets; ethical judgment is more than four times harder to find than problem-solving.



## the most competitive core skills (top 10)



One major challenge for many organizations is the availability of experienced high-skill workers. As employers focus on driving productivity following increased layoffs during the past 18 months, and the labor market returns to a more historical equilibrium, the percentage of job postings requiring complex skill sets with extensive experience has significantly increased. Multiple sub-skills within major skill clusters can exacerbate hiring complexity and the JVR. For instance, the JVR for senior AI and automation talent in India is approximately four times higher than it is for the skill cluster overall.

Another concern is the rate of growth for new talent possessing in-demand skills. Historically this has been below 1% annually, which means new jobs requiring such skills are significantly outpacing talent pool growth.



With demand continuing to grow, and competition for these skills still high, employers need to bolster their skilling strategy to achieve a sustainable workforce. By developing existing workers and implementing an effective internal mobility model, employers can significantly supplement their talent acquisition efforts for in-demand skills. Additionally, engagement on a university level, building talent communities and enhancing long-term workforce planning will also be key to ensuring companies have the right skills to achieve their growth ambitions.



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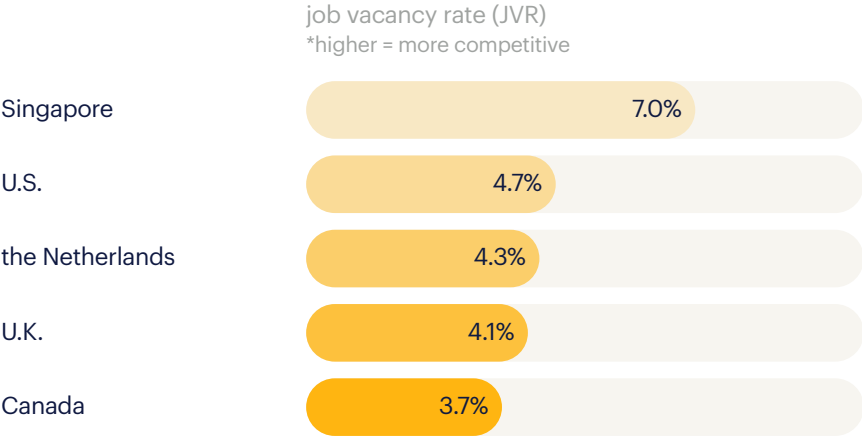
# local market complexity: where is it hardest to hire?

According to our [Global In-demand Skills research](#), the U.S. boasts the largest pool of in-demand skills and is also the second most complex market for hiring such skills. Nearly one-third of the labor force here can be considered active talent who are likely to engage in the recruitment process. One of the benefits of the world's largest economy is its ability to attract highly skilled talent from elsewhere around the world — activities that strengthen the American workforce.

With the world's largest population and a rapidly growing middle class, India has an unparalleled availability of skills and a vast talent pool. As a result, Indian employers face lower hiring complexity and competition in comparison to other large markets. The market's abundance of skilled talent exceeds the majority of other markets, which also makes it an attractive talent pool for other markets to consider.

Despite recent economic setbacks, the U.K. has a tight labor market for in-demand skills. In fact, the number of roles posted here exceeds that of India. Facing demographic challenges and significant demand, the U.K. must continue to rely on immigration and offshoring to meet its workforce needs. Additionally, workers are less likely to switch jobs than those in other markets, which adds to recruitment challenges.

### the most complex hiring markets (top 5)



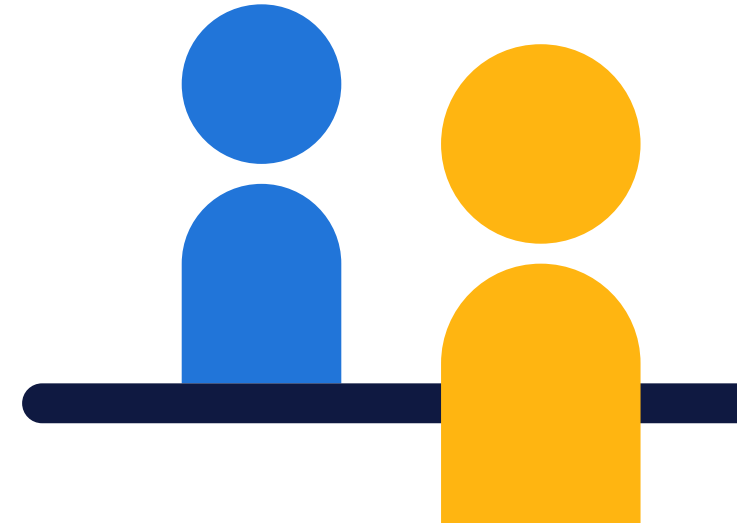
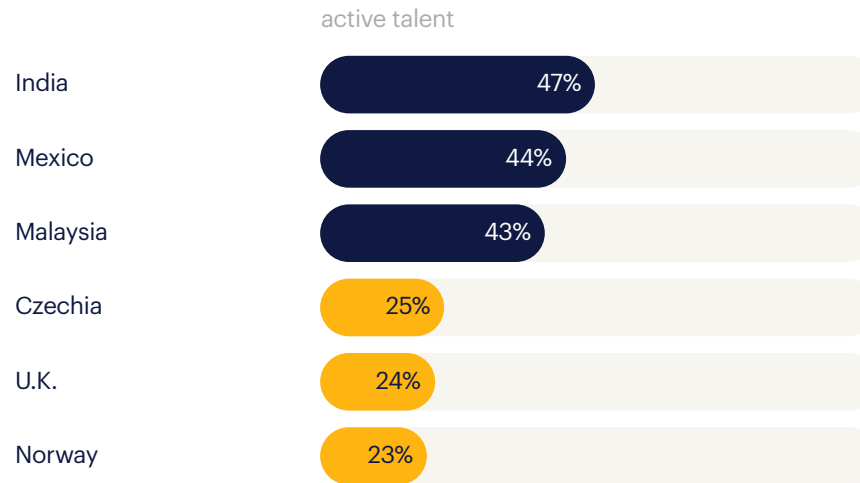


Central European markets (Poland, Romania, Hungary, Portugal and Czechia, which is widely known as the Czech Republic) are popular destinations for shared service centers, and the region boasts some of the tightest markets for these skills. This region, especially Czechia, has accelerated adoption of remote and hybrid work, improving the availability of talent. At the same time, over the past decade, the region has experienced strong demand for more complex, creative and leadership skills.

Nordic markets are generally less competitive than the rest of the global market due to low demand, yet talent scarcity can reach relatively high levels for certain technical skills. Availability of talent in these markets is also low.

In the Asia-Pacific region, Singapore appears to be the tightest market. With high employer demand and low talent availability, the island nation has an average JVR of 8%; the JVR for some software-related sub-skills can reach 19%.

### talent who are actively open to new roles (top and bottom 3)



As employers grapple with access to skills in their home markets, tapping into resources from elsewhere might be one of the most impactful ways to resolve scarcity issues. Whether this means engaging with more offshore providers, independent contractors or gig workers, there are considerable options.

Keep in mind, however, the tightening markets in popular shared service center locations may eventually make these regions less attractive, and regulatory compliance with local labor laws can complicate strategies. In markets where demographics are aging, companies may need to consider how to attract and retain older workers to delay retirements.



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# compensation: has it stabilized?

Global wage inflation pushed compensation levels drastically in 2022, especially for in-demand skills. A year later, however, according to the latest [Global In-demand Skills research](#), we see compensation growth slowing in all but niche areas. In some markets, real decreases in pay ranges have even taken place.

Real wage growth in Q1 of 2023 was negative, and across many markets — especially in Central Europe, with Hungary being most affected — wages have not kept pace with inflation, resulting in loss of purchasing power for many.

We see similar compensation trends as observed last year, with the majority of high-end salaries offered in markets such as Switzerland and the United States.

On average, the most costly skill clusters are AI and automation, data science and analytics, software project management and leadership, and cloud computing. Conversely, the least expensive are customer service and engineering and maintenance. The skill cluster that most commonly pays the highest wages across different markets is AI and automation.

skill clusters ranked from most to least expensive

1. AI & automation
2. data science & analytics
3. software project management & leadership
4. cloud computing
5. audit & compliance
6. finance & accounting
7. marketing, content & advertising
8. engineering & maintenance
9. customer service

When it comes to sub-skills, data science, AI and infrastructure, and machine learning are often the most expensive skills on an individual market basis. Compensation is often influenced by the leading industry in each economy; for instance, sub-skills that are important to the automotive industry, such as computer vision, would affect wage levels for all industries using this particular competency. In the Netherlands, the compensation of those in business services is inflated due to demand for Big Data and financial analytics skills.

Asia-Pacific and Latin American markets are still the most cost efficient, with general skills costing 10% to 20% of leading markets' on average. For high-complexity skills, however, the gap is shrinking. In general, Argentina, India, Mexico and Romania are some of the most cost-efficient markets for in-demand talent.



Labor markets in the U.S. and U.K. continue to be tight year over year and may lead to additional wage inflation for in-demand skills. With increasing globalization, and as Western markets influence local hiring trends, the compensation gap between the most and least expensive markets for niche skills may begin to close at a much quicker pace. Remote working trends may further accelerate this.

One of the challenges employers will need to overcome is continued attrition; while many people are inclined to stay in their jobs in the face of economic uncertainty, the data still shows high levels of talent who are willing to switch jobs. This may be due to global inflation and the growth of job opportunities in other markets. Employers will need to offer competitive compensation and adjust their offers accordingly to win new talent, but will also need to rethink the way they onboard new hires, their internal talent mobility strategies, the people experience they provide throughout career journeys and how their brand plays a role in their success.



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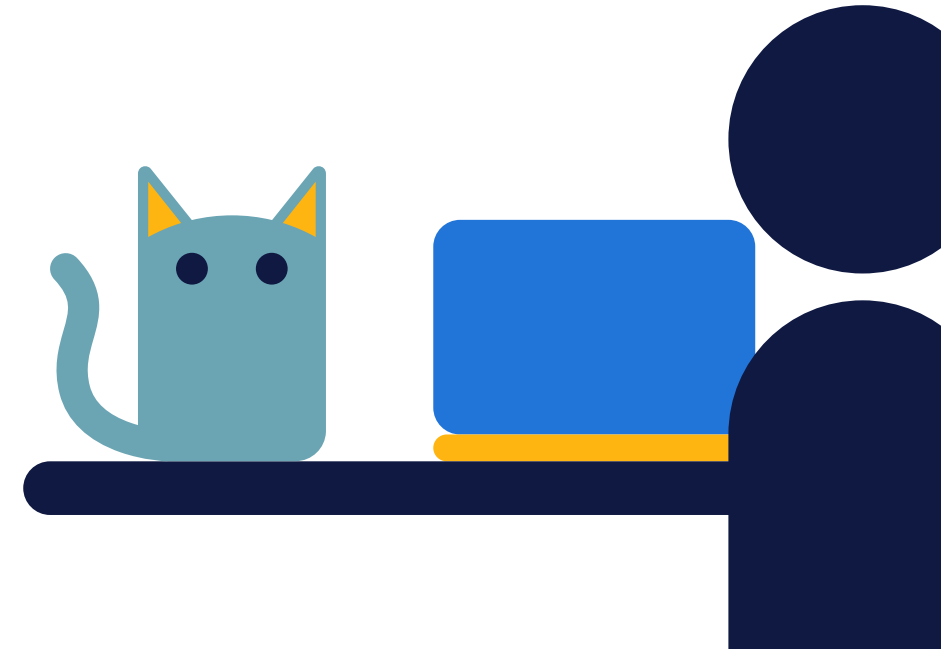


# remote & hybrid working: what are the expectations?

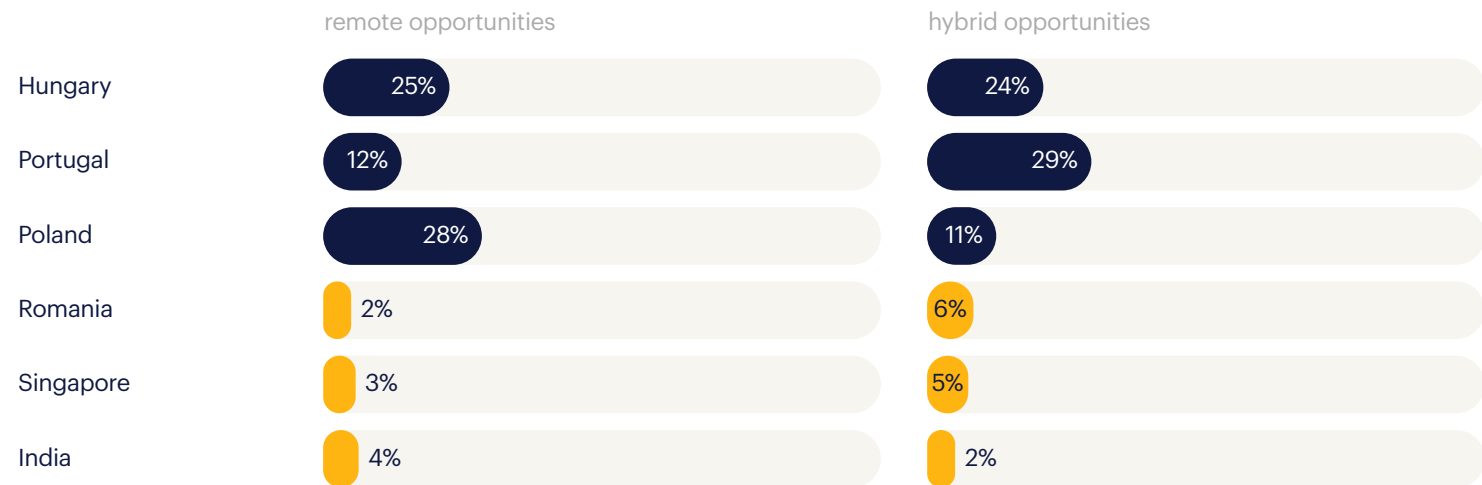
The shift towards remote work persists, despite the efforts of CEOs who want to bring people back into the office. According to the latest [Global In-demand Skills research](#), approximately 1 in 6 in-demand professionals work remotely or in a hybrid arrangement. The percentages are higher for tech talent, but less so for those in finance and compliance.

While there is strong demand for job flexibility — and employers are willing to offer it for many jobs — a gap still exists between what talent wants and what companies are offering. The share of remote jobs available has dropped from 2022, with markets in the APAC region falling to single digits. Conversely, increases were observed across Central European markets.

Overall, the share of talent who prefer remote and hybrid working arrangements is two times the number of postings that offer those options. Markets with the most significant gaps are India (40%), Argentina (39%) and Singapore (37%). Those with the smallest gaps are Hungary, Czechia and Portugal, where the number of roles offering remote/hybrid working occasionally surpasses the number of talent seeking such arrangements.



## employer demand for remote & hybrid roles (top and bottom 3)



In Europe, an average of 23% of in-demand opportunities are advertised as remote or hybrid, while 49% of talent are already working remotely or are open to remote work. In Latin America, the average share of advertised jobs is 18%, while in the APAC region, it's 10%. The global averages for both remote and hybrid opportunities is just under 10% each (20% collectively).

On a skill cluster level, the biggest gap is found within customer service (only 5% of postings offer flexibility, while 35% of talent prefer remote and hybrid arrangements). For engineering and maintenance roles, just 5% of these roles can be performed remotely, and 7% hybrid. The skill cluster where most talent prefer remote/hybrid working arrangements is data science and analytics (more than 57%), while cloud jobs account for the highest percentage of remote/hybrid arrangements advertised (more than 30%).



Sustained remote arrangements suggest a cultural shift that's here to stay. Companies that don't adapt may risk losing talent to more flexible employers. The discrepancy between what employers offer and what talent prefers shows companies are lagging when it comes to changing work dynamics.

Employers need to understand what remote and hybrid working means to their target talent and create policies that meet expectations to prevent additional roadblocks. This means designing onboarding practices, integrating a global workforce and reinforcing company culture with limited face-to-face interaction. Remote work should be viewed as an opportunity to build the workforce of the future rather than a corrosive trend.



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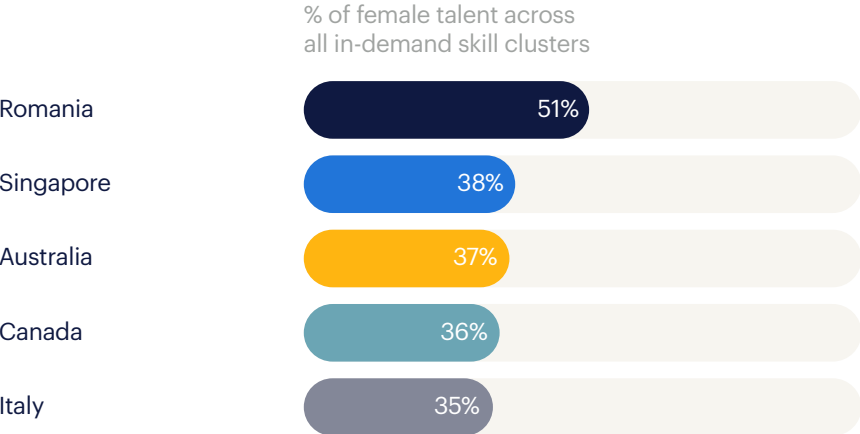
# gender diversity: no really, it's time to close the gap.

Gender diversity practices remain mostly unchanged year over year, according to the latest [Global In-demand Skills research](#); the supply of diverse talent for in-demand skills is growing at less than 1% annually. We are, however, seeing some encouraging trends in some regions, such as APAC.

For example, the share of self-identified female talent with AI and automation skills in markets such as India and Australia is now more than 40%. Comparatively, the average for this skill cluster is 21% female to 79% male. Positive trends are also developing for software project management and leadership talent, where 38% of this segment are female.

A notable theme is gender diversity growth among those working in new technologies, emerging jobs and developing markets. In Malaysia, for instance, a significant share of women possess sub-skills associated with AI and automation. On the contrary, some of the most in-demand clusters across Central Europe, namely audit and compliance, have experienced an inflow of only 12% to 16% female talent this year.

## markets with the highest percentages of female in-demand talent (top 5)



On a sub-skills level, finance (especially investment management) is dominated by male talent in Switzerland. The least gender diverse talent pools for sub-skills are those working in engineering and maintenance, as well as software project management and leadership across Central Europe.

Romania remains the diversity leader across all skill clusters in our latest research, while the least gender diverse in-demand skills talent pool is in Mexico. Of all the skill clusters, the most gender diverse are customer service; finance and accounting; and marketing, content and advertising. The least gender diverse are AI and automation, cloud computing, and data science and analytics.



The underrepresentation of female talent in our in-demand clusters suggests systemic issues in STEM education and workplace cultures that need addressing. The improvement in female representation compared to last year, though positive, hints that changes are gradual and that sustained efforts are needed.

Employers can improve gender diversity for these skill clusters by actively recruiting through university programs to attract women early on in their career development. By incentivizing them to pursue careers in these fields, companies can build their pipeline of female talent. Employers who want to retain more women as they advance in their careers should offer benefits that create greater societal gender equity and consider how their workplace cultures and expectations for career growth impact parents, caretakers and others, regardless of gender.



Tamara van Dijk  
head of Advisory Research  
Randstad Enterprise



# explore the data, find answers.

Building a sustainable workforce that will help your business drive innovation and a competitive edge requires talent intelligence. Understanding the market, talent availability, compensation and how skills map to greater competencies is the first step in building the skills-based organization you need to avoid the highly disruptive hire/fire cycles we've seen in recent years.

This Global In-demand Skills research executive summary provides insights you can use to plan your talent strategy for the year ahead, but our interactive dashboard can help you answer specific questions about the skills your organization needs. So, what are you waiting for? Get the market intelligence you need now.

[visit the dashboard](#)

[request a consultation](#)





## about the in-demand skills research.

The Randstad Enterprise Intelligence team utilized a number of data sources across 23 different markets to compile the list of in-demand skill clusters for our 2023 Global In-demand Skills research. This involved sourcing millions of job postings and worker profiles to obtain important data on supply and demand, remote working trends, gender diversity, compensation and other factors. We examined key skills that drive the majority of all global enterprise job demand, leading to the creation of the top 9 skill clusters.

Data sources vary based on those that are most representative for each market and include verified information (such as census data) and granular data (such as skill level, job advertisement databases, professional networking sites, social media, vertical networks and more). The research and analysis were conducted in the third and fourth quarters of 2023. Additional desk research involved various news and informational sources to provide context and insights relevant to each skill cluster. You can learn more about the methodology on our [interactive dashboard](#).

## about randstad enterprise.

Randstad Enterprise is the leading global talent solutions provider, enabling companies to drive business agility by putting people at the center of their business strategies. As part of Randstad N.V. — the world's largest HR services provider and driven to become the world's most valued "worklife partner" with revenue of € 27.6 billion — we combine unmatched talent insights and innovative technologies with global delivery capabilities.

We are uniquely positioned to support the world's leading enterprises with the inflow, crossflow and outflow of all talent — whether full-time, part-time, temp, freelance or gig. We believe that driving these intentional and inclusive talent-centric strategies will create sustainable business value and support people to unleash their worklife possibilities.

Randstad Enterprise's subject matter experts, thought leaders and delivery professionals continuously build and evolve our integrated talent solutions — talent acquisition, talent management, talent transition — to solve critical talent challenges and enable organizations to deliver on the power of talent marketing, talent intelligence, talent mobility, talent technology optimization, and diversity, equity and inclusion.

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