



Hiring Machine Learning Engineers and Data Scientists

An excerpt from:

Top Countries for Hard-to-Fill Life Sciences Roles
A Safeguard Global Industry Intelligence Report

Introduction

Even when global economic conditions are characterized by uncertainty, the pharmaceutical sector manages to achieve growth.

VALUED AT

\$1,646

BILLION USD
IN 2024

The global pharmaceutical market is projected to reach

\$2,350

BILLION USD

BY 2030, ACCORDING TO GRAND VIEW RESEARCH.¹

But growth can only be achieved if pharmaceutical companies are able to find people with the skills they need. Our recent report, "[Where to Source Pharma Talent in 2026: Top Countries for Hard-to-Fill Life Sciences Roles](#)," gives them a head start.

This excerpt, "[Hiring Machine Learning Engineers and Data Scientists](#)," identifies four countries where pharma companies can find these particular professionals. It also highlights characteristics of each country — such as higher labor costs or a more complicated regulatory regime — that employers should weigh when planning their recruitment strategy.

About this report

"[Top Countries for Hard-to-Fill Life Sciences Roles](#)" is based on information from Intelligent Workforce, Safeguard Global's AI-driven global workforce optimization platform, as well as the actual intelligence of our in-country HR and recruiting experts.

Through Intelligent Workforce, which is currently in the prototype phase, business leaders can get information that helps them determine where to hire and which roles to prioritize.

Safeguard Global's in-country experts offer an extra measure of intelligence — what we refer to as Actual Intelligence — by supplementing the output of our AI-driven platform with their own knowledge and insights. With more than 400 locally based experts on board, Safeguard Global has eyes in nearly every corner of the globe to help organizations expand in compliance with local laws and in line with local customs.

4 countries where data scientists and machine learning engineers can be found

Companies in the life sciences sector are becoming increasingly dependent on data sciences skills. According to a 2025 article published by Georgetown University, the pharmaceutical and biotech sector is among the five industries that are most in need of data scientists.²

In general, data science skills are required for drug discovery and development, clinical trials, real-world evidence, and personalized medicine. They are also needed for supply chain optimization and even market and commercial applications.

Machine learning engineers build, implement, and maintain machine learning and AI systems that solve problems. They can also play a key role in preparing datasets for training and building data pipelines for AI models.

India

- Long known as a reputable source of data professionals and now highlighted for its AI skills, India offers a highly coveted talent pool for the life sciences industry.
- The cost of labor in India is lower compared to labor costs in the US and Europe.
- As an official language of the Indian government, English is spoken by roughly 129 million people in India,³ and fluency rates are highest among its professionals.
- The country's National Education Policy 2020 emphasizes the integration of STEM⁴ concepts in curricula serving students at even the earliest ages. AI and coding skills are highlighted in this initiative.

Safeguard Global Actual Intelligence (Expert Opinion):

India is known worldwide for its academic network of Indian Institutes of Technology (IIT), National Institutes of Technology (NIT), Indian Institutes of Science (IISc), and the Birla Institute of Technology & Science (BITS), which turn out large groups of data scientists each year. The challenge is finding candidates who also understand the pharma and healthcare principles and topics needed to work with clinical trial data or in areas such as patient outcomes and drug safety.

Most of India's data scientists and machine learning engineers reside in the Indian cities of Bangalore, Mumbai, Hyderabad, Pune, and Gurgaon. Given the growing global demand for their skills, these professionals are highly sought after, and hybrid or remote roles are often more attractive to them.

Poland

- This Eastern European country is emerging as a global technology and analytics hub.
- Polish professionals are broadly familiar with the European Union's data privacy laws, which is essential for compliance in this sector, particularly where clinical trials are concerned.
- Poland is recognized for programming skills, especially in Python and SQL, as well as machine learning and cloud computing skills.

Safeguard Global Actual Intelligence (Expert Opinion):

Poland is a leading European hub for data and AI talent, with government-backed initiatives such as the National AI Strategy and the National STEM Education Program. These initiatives emphasize digital literacy, data analytics, and machine learning skills from an early stage.

As a result, Poland's talent pool for data, analytics, and STEM-based roles is strong, and Polish professionals are appreciated for their analytical mindset, precision, and reliability. Additional benefits of hiring in Poland include the high English proficiency of its workers, competitive labor costs, and a local work culture that values accountability, structure, and technical excellence. These benefits and Poland's strong compliance environment make the country an excellent source of talent for data scientist and machine learning engineer roles within the pharma industry.



Canada

- Canada offers a solid pool of data sciences talent for the life sciences sector thanks to AI research networks and top-tier universities that offer an array of STEM programs.
- Canadian professionals are known for having a solid work ethic as well as the soft skills necessary for innovation, such as strong communication and interpersonal skills.
- Data-sharing with the European Union is legally straightforward because of Canada's "adequacy" status under European privacy laws.

Safeguard Global Actual Intelligence (Expert Opinion):

Toronto is a major global leader in AI, and Montreal has the highest concentration of academic researchers in deep learning.⁵ In these two cities and others across Canada, companies can find the expert talent that they need to establish, grow, and commercialize their AI technologies.



Canadian professionals speak English and/or French, and they often prefer flexible schedules, which may benefit employers in time zones outside Canada.

However, when considering roles with organizations in other countries, they opt for those that can offer higher salaries. Prospective employers should also know that the termination costs associated with Canadian employees can be relatively high.



Portugal: A hidden gem

Portugal may not appear on your radar as a source for data scientists and machine learning engineers, but it is definitely worth a look.

- Portugal represents a lower cost base for labor than much of Western Europe.
- The country offers generous tax credits for research and development known as the System of Tax Incentives for Business R&D, or SIFIDE, and this has contributed to the growth of Portugal's supply of pharma talent.
- Rates of English fluency are high in Portugal.

Safeguard Global Actual Intelligence (Expert Opinion):

Since 2017, Portugal's pool of pharmaceutical and biotech talent has grown annually by 2.2%.⁶ This growth is supported by the country's universities, which sent 17% of their graduates to the health industry in 2021.⁷ Technological parks, incubators, and technology interface centers, which help small and medium-sized companies modernize processes and digitalize their business models, have also helped expand Portugal's supply of pharma talent.

Additionally, Portugal ranks 6th worldwide in the Education First "English Proficiency Index," indicating very high proficiency in English language skills.⁸

Organizations that employ Portuguese professionals must be aware of Law 83/2021, which lays out "the duty of absence of contact," or what's known more widely as the right to disconnect. This law prohibits employers from contacting employees outside of their regular working hours.⁹

Safeguard Global Actual Intelligence (Expert Opinion): The countries listed so far in this chapter represent an excellent balance in terms of skills and cost of hiring. However, **Germany** and the **UK** have long been sources of expertise for these roles and should be part of a consideration set.

Germany will benefit from EU plans to invest more than €3 billion EUR on AI through its Horizon Europe program,¹⁰ which effectively doubles its annual expenditure in this field. The country's highly regarded academic institutions produce graduates who are well qualified for careers in pharmaceutical technology and pharmaceutical sciences. These institutions include Heidelberg University, Ludwig Maximilian University of Munich, Freie Universität Berlin, and the University of Bonn, among others.

Germany's talent pool for pharma is also strengthened by the presence of industry giants such as Eli Lilly, Merck, and Bayer. However, the country's labor laws are complicated, and employers need to pay careful attention to compliance matters.

In the **UK**, Google announced a two-year, £5 billion GBP investment in its AI division DeepMind¹¹ to firmly establish London as a global hub for AI research and development. The UK will also benefit from a new data center outside London, which will support the growing demand for AI-powered services. Prospective global employers need to consider the UK's relatively high cost of labor when making any hiring plans.

Endnotes and Additional Sources

Endnotes

- 1 [Grand View Research](#)
- 2 [Georgetown University](#)
- 3 [History of English](#)
- 4 [Smile Foundation](#)
- 5 [Mila](#)
- 6 [Invest in Portugal](#)
- 7 [Invest in Portugal](#)
- 8 [Portuguese Trade & Investment Agency \(AICEP\)](#)
- 9 [Wolters Kluwer](#)
- 10 [European Commission](#)
- 11 [Wired](#)

Additional sources

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- [Global Clinical Trials, LLC](#)
- [GlobalData](#)
- [Information Technology and Innovation Foundation](#)
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