

LIFE SCIENCES REPORT
Engineering

November | 2020

INTRODUCTION



Britain has a very strong and globally recognised research and development sector. Industry chiefs and government recognise that, unless this knowledge translates into products, processes and services we won't reap the full benefit of British research excellence.

As we emerge cautiously from the pandemic, the High Value Manufacturing Catapult, the national group of manufacturing research centres, will play a significant role in stimulating economic recovery.

Before covid-19, HVM Catapult assisted over 4,600 innovation support projects; more than 2,000 improved the productivity, efficiency and profitability of SMEs, ensuring a more globally competitive Britain. Here talented life sciences engineers, the labour market analysed in this Cpl Life Sciences and Vacancysoft report, play a pivotal role.

Opportunity ahead

As we enter 2021, Britain's biopharma and medtech industry finds itself at a critical moment. The scope of advanced therapy medicinal products and more complex medicines offers possibility — and a path to regaining our position as a leader in medicine development and manufacturing.

Opportunity exists in new molecules and associated novel manufacturing technologies. We can improve and re-engineer existing manufacturing processes, developing innovative emerging technologies, tools and techniques to reconfigure and extend the current chemistry of "established" medicines. To enable this, we need to integrate various parallel "game changers" — digitalisation, automation, advanced diagnostics and analytics — into the supply chain.

Preparing our future

The industry also needs to confront emerging threats to engineering within life sciences. The future depends on sufficient numbers of science, technology, engineering and mathematics (STEM) graduates entering the industry. They will discover the next generation of advanced technologies and treatments, shape Britain's pharma and biotech sectors and cement our position on the global stage.

Europe is doing a better job in nurturing the students to fill highly skilled scientific roles. Despite numbers of British STEM students rising 16% in the last decade, they're up 52% across the EU and 63% around the rest of the world. We must sharpen our acts to meet the demand for skills.

Many biopharma companies no longer train graduates or offer the required volume of apprenticeships. Sadly, no magic skills tree exists from which highly talented individuals can fall on our laps. Firmly anchoring corporate social responsibility principles to developing and investing in skills is a positive step that will enable our workforce to move our industry, and Britain, forward.

Yvette Cleland - CEO | Cpl UK

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Sectorial Overview

Recent events led governments to urgently call upon the pharmaceutical industry to innovate a way out of the current pandemic. As this report goes to press, the challenge appears to have been tentatively met.

Scientists and engineers led this charge, and the labour market data up to and including Q3 largely confirms how demand for their skills has increased. Overall professional recruitment volumes recovered and hold steady compared to 2019, with the UK and EU’s largest firms posting over 10,250 vacancies between July and September — 21% higher than Q2 2020.

Vacancies specifically for engineers, however, continued rising through Q2, where they amounted to 911 professional recruitments. In Q3 this increased slightly to 1012 vacancies, a month-on-month climb of 11%. On this trajectory, 2020’s total will surpass last year’s by 17%.

All sectors’ labour markets are recovering well, in particular biotech. Its share of available professional roles within overall engineering vacancies are now at 15.5%, up 6.3 percentage points since 2018.

In 2019 there were 390 professional biotech vacancies, compared to 581 job roles forecast by the end of 2020. This growth mirrors research that shows venture capitalists backed 860 biotech deals up to mid-November, already surpassing last year’s total — and indicating a buoyant sector despite global uncertainty.

Similar optimism emanates from recent forecasting that the CRO market will be worth \$64.4bn globally by 2027. The data reflects this upturn, showing that recruitment in CROs rose from 2.7% in 2018 to 9% this year — driven by rising demand for biopharmaceuticals, an increasing number of clinical trials and rising government support.

With covid-19 opening a global vaccine market worth potentially \$10bn a year, its impact on the pharmaceutical sector has been diverse. The activity of venture capital and private equity investments illustrates this potential growth, the knock on effect of which will be felt positively within the labour market as the industry enters 2021.

All Scientific/Engineering Vacancies in UK/EU vs Engineering

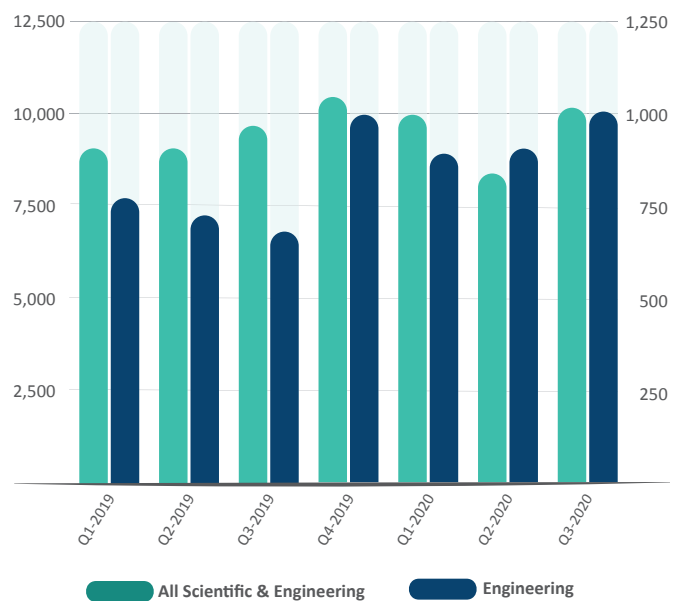


Fig. 01

Engineering Vacancies by % in each Sector

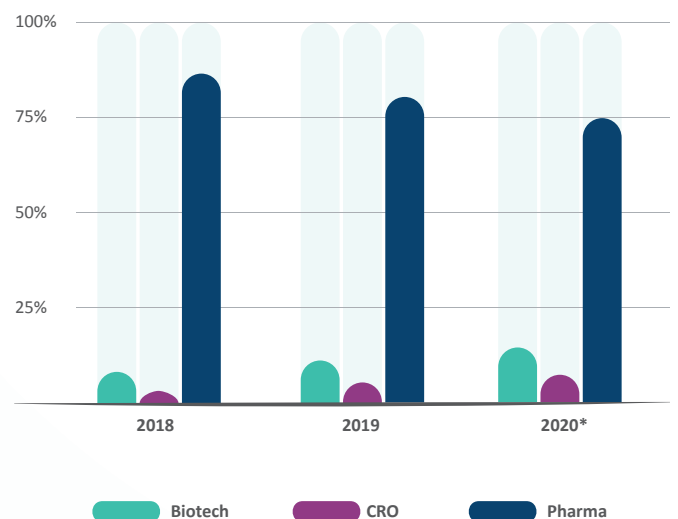


Fig. 02

Engineering Vacancies by % in each Sector

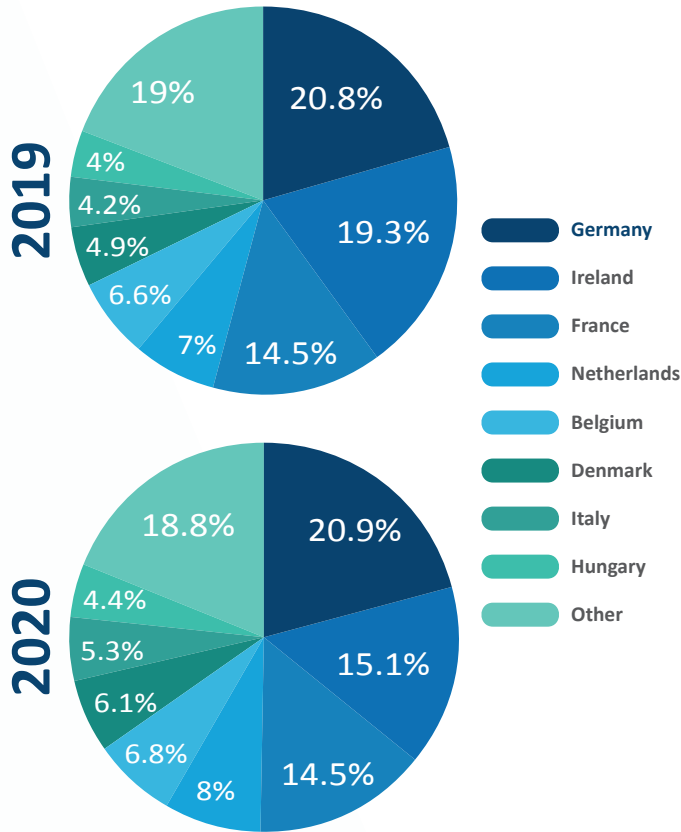


Fig. 03

Engineering Vacancies by % Top 8 Countries

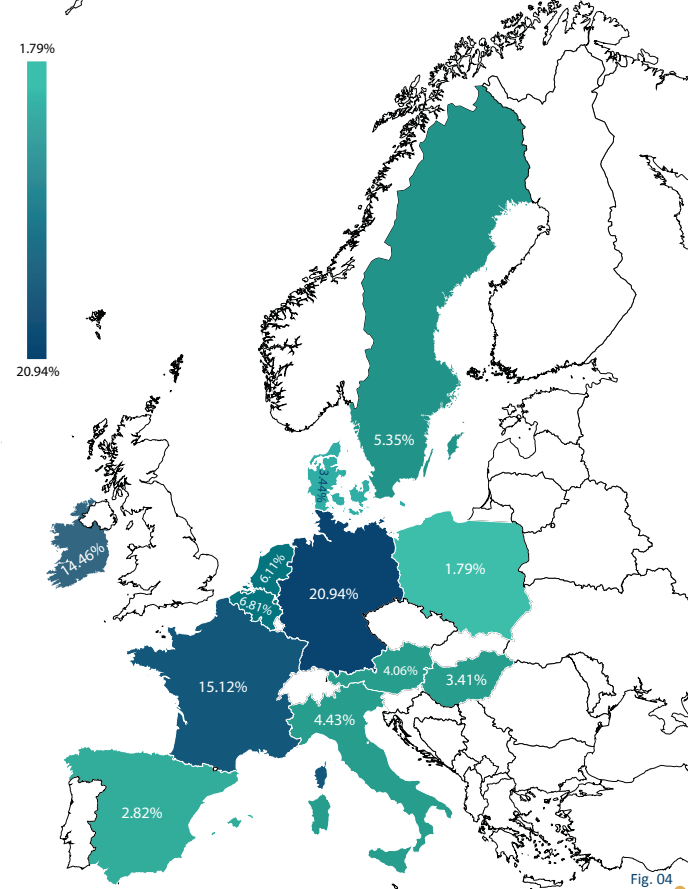


Fig. 04

Germany retains the strongest presence among pharmaceutical engineering, accounting for 21% of all professional vacancies. Indeed, it was Mainz-based biotech firm BioNTech that hit global headlines with its covid-19 vaccine breakthrough, highlighting Germany’s reputation as a world-class pharma hub.

The biggest drop in share was in Ireland, with vacancies down from 19.3% in 2019 to 14.5% this year. Contributing to 20% of its gross domestic product, the country’s thriving pharma sector is a big draw for foreign companies, and a key driver in the government’s Innovation 2020 strategy. A key metric of the strategy is increasing total research and development investment, led by the private sector, to 2.5% of gross national product.

The data showing that total engineering vacancies have dropped 13.2% year-on-year — while recruitment volumes increase across the rest of

the EU — will therefore raise eyebrows. Despite this drop, and an overall workforce decrease due to covid-19, experts say pharma will continue playing a key role in the Irish economy.

In Denmark, home to global diabetes care leader Novo Nordisk, pharmaceutical engineering vacancies experienced the biggest surge, forecast to be up 88% compared to 2019. This boosts the country’s share of this labour market from 5% to 8% year-on-year.

When analysing the data with engineering vacancies as a proportion of all scientific and technical roles, Ireland retains the highest ratio at 17.6% — a nominal dip compared to a year earlier (18%). Sweden saw the biggest rise, with recruitment for engineers up from 10% of its overall pharma market to 16.7% year-on-year.

Despite March's stock market dip, shares in the UK's pharmaceutical sector — which include giants GlaxoSmithKline and AstraZeneca and some 235 smaller independent biotech and pharma firms — have grown strongly, not least because of positive covid-19 vaccine development news.

The data shows that Britain's is the largest pharmaceuticals recruitment market outside the EU, accounting for 47% of all engineering vacancies. However, much like with neighbours France, there have been recent calls for the UK to be less reliant on overseas drug manufacturers — with some urging to stockpile medicines, particularly with the added pressure of Brexit.

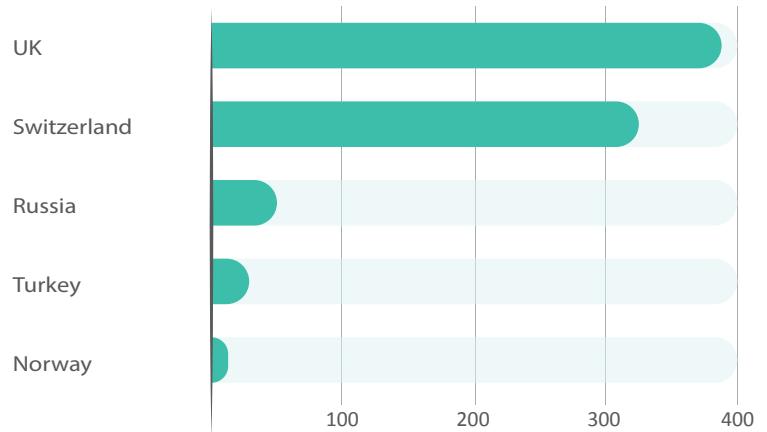
The end of the transition period looks set to usher in a potential raft of new import/export rules and licences and manufacturing and supply-chain requirements. Despite this, vacancy levels in engineering appear healthy, up 18.5% year-on-year, with a slight uplift in the ratio of engineering to all scientific and technical positions (5.1% compared to 4.2% a year earlier).

Next are the Swiss, accounting for 43.7% of engineering roles in the non-EU pharma sector. Volumes of recruitment are up significantly, forecast to finish 2020 some 31% higher than a year previous. This is driven in part by strong 2019 sales and R&D investment figures announced by heavyweights Roche and Novartis earlier this summer.

At 5.1%, Russia's share remains significantly behind in third, a slight contraction from 6.1% a year earlier. Its Sputnik V covid-19 vaccine, announced two days after Pfizer and BioNTech's is reportedly 92% effective — but yet to convince critics as they point to the small sample size.

Indisputable, however, is Russia's intention to be a bigger player in the pharma sector. In 2011, the government launched the Pharma 2020 initiative, building more infrastructure to produce pharmaceuticals and reduce its dependence on drug imports. Next is Pharma 2030, an investment strategy to grow and make the country's pharma industry more competitive, innovative and global.

2019 Top 5 Countries ex EU For Engineering Vacancies



2020 Top 5 Countries ex EU For Engineering Vacancies

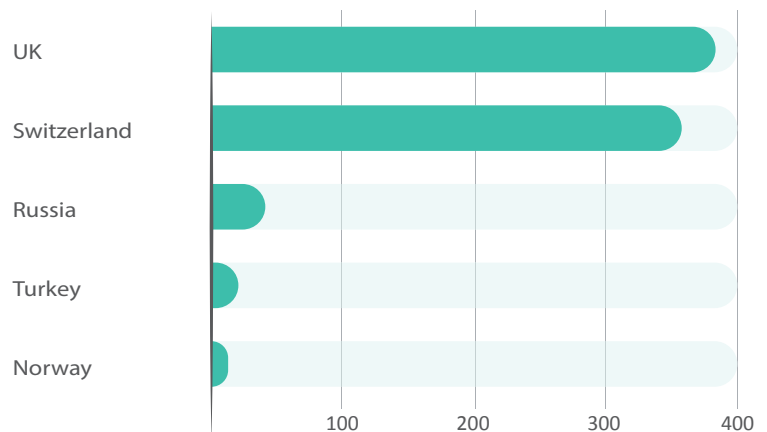


Fig. 04

Ratio of Engineering to all Scientific/Technical roles 2019 v 2020*



Fig. 05

Top 20 Companies

05

A look at the top companies across the sector shows Merck, with 233 available roles projected in 2020, as the largest for engineering vacancies, albeit with volumes down 12% year-on-year. When Belén Garijo takes over as CEO next May, the firm will also have a head start following the introduction of mandatory quotas for women in senior management of listed German companies.

With its subsidiary's recent launch of a combined test for covid-19, influenza and respiratory syncytial virus, Eurofins (the only CRO in the top 20 firms) recorded the biggest year-on-year increase in engineering vacancies. If continuing on its current trajectory, it looks set to finish 2020 with around 223 professional vacancies, up 74% compared to 2019.

Novo Nordisk, which as the world's largest insulin provider capitalised as patients and healthcare providers stockpiled medicine in a volatile market, also saw a significant rise in recruitment for engineers — at 70.5% year-on-year. With Johnson & Johnson acquiring biotech group Momenta earlier this summer for \$6.5bn, vacancies across its European operations were up by 50%.

The only other company in the top 10 to show decreased levels of hiring in Europe is Pfizer, with engineering vacancies set to be down by 15.4%. Abbott, meanwhile — the beneficiary of a recent £120m UK government contract for coronavirus testing products — showed that 34.5% of all its scientific and technical vacancies were for engineering positions. Bayer's engineering vacancy share is also up, to 21.5%.

According to data provider Pitchbook, European pharma and biotech industries had attracted €4.13bn in VC investment year-to-date, up from €3.83bn in all of 2019. As ever, however, Britain's exit from the EU still leaves unresolved questions for the European pharmaceuticals industry. The development of the covid-19 vaccines enables it to exhale, recompose and — with only weeks remaining — refocus on and establish the fine print of the future dynamic.

Company	Sector	2020 Eng vacancies	% of all vacancies	2019 Eng vacancies
Merck	Pharma	233	14.39%	317
Eurofins	CRO	223	9.51%	154
Abbott	Pharma	197	34.50%	220
Roche	Pharma	190	16.90%	181
Bayer	Pharma	150	21.46%	130
Novo Nordisk	Pharma	135	16.28%	95
Johnson & Johnson	Pharma	126	13.02%	101
GSK	Pharma	122	12.13%	98
Pfizer	Pharma	110	19.10%	156
Sanofi	Pharma	108	12.16%	105
Lonza	Pharma	98	16.47%	74
Cytiva	Biotech	94	50.54%	nil
PSC Biotech	Biotech	94	36.58%	68
AstraZeneca	Pharma	86	7.01%	98
Teva	Pharma	82	18.98%	89
Novartis	Pharma	76	7.70%	134
Shire	Pharma	68	17.99%	81
AbbVie	Pharma	40	9.55%	31
QIAGEN	Biotech	39	17.73%	14
Takeda	Pharma	36	9.94%	33



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Our Service Capabilities across all European Countries include:

- Contingency permanent recruitment
- Contract recruitment – freelance and PAYE via Clinical Professionals/Only Medics
- Search and selection permanent recruitment
- Specialist 'project-based' interims via Clinical Professionals/Only Medics
- FSP outsourced teams across Europe
- 2018 European Salary Survey to determine the salary and benefits for each sector of the UK Life Science industry.

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