

# Biopharma blockbusters

Talent is scarce to manufacture the next generation of biopharmaceutical drugs.



# Introduction

Breakthroughs in science and medicine are rapidly expanding the nearly \$200 billion biopharmaceuticals industry with cutting-edge approaches to treat serious diseases such as cancer, rheumatoid arthritis, diabetes, and Crohn's disease. Unlike the chemical compounds of the past, these "biopharma" drugs are synthesized from highly complex organic molecules produced in large-scale biotech manufacturing plants, using complex and exacting processes.

The potential is huge, perhaps as much as 10 percent annual growth over the next five years, according to Korn Ferry interviews and a survey of biopharma executives. They see the industry entering a decade of rapid growth, particularly in Europe and Asia, where new manufacturing capacity is planned. There are challenges to overcome, of course, including developing cost-effective manufacturing processes, navigating regulations, and competing with rivals. But the biggest challenge facing biopharma may be finding sufficient qualified talent to take advantage of all the opportunity. When asked whether their organizations have the right talent in the right quantities to accomplish its goals, a majority of the biopharma executives Korn Ferry surveyed answered "maybe."

Korn Ferry surveyed executives within the biopharma industry to discover how organizations can build talent pipelines as robust as their research pipelines.

## Key Points

- Biopharma companies will need to grow and diversify their talent strategies, expanding recruitment to other pharmaceutical areas and to non-pharma industry sectors, such as food processing, where people have comparable technical and regulatory expertise.
- More emphasis must be placed on talent development, including exposing employees to different aspects of biopharma production earlier in their careers, while not sacrificing the time it takes to build expertise in a particular area.
- To retain valuable talent, biopharma companies must devote time and effort to establishing an employer value proposition, as seen through the eyes of their workforce.

**"Managing growth for the next five to ten years is going to be a challenge."**

- David Clark, Head of Global Technical Operations at AstraZeneca/MedImmune

# The biopharma revolution.

Aspirin, statins, beta blockers. Tried and true, these standards of the pharmaceutical industry belong to a category known as “small molecule.” This technical-sounding label means these drugs are composed of relatively small molecules, which makes their production (usually in tablet or capsule form) a relatively straightforward manufacturing process. Small-molecule quality assurance is confined largely to testing batches of end products for purity and consistency.

Biopharma drugs are something else entirely, with complex structures that earn them the self-explanatory label of “large molecules.” Biopharma drugs include monoclonal antibodies made from immune cells and recombinant products derived from DNA. These products are grown in cells—living organisms whose care and feeding are crucial to both the production process and quality assurance.

Biopharma drugs are projected to grow from 2014 levels of \$163 billion in global revenues to \$445 billion by 2019 (Otto 2014). The broader category of biotech drugs, which includes biopharma drugs and vaccines, is projected to account for more than a quarter of worldwide prescription drugs and over-the-counter pharmaceutical sales by 2019 (Deloitte 2016).

“This will be a period of new facilities coming online, with new biotech products that are quite revolutionary,” said David Clark, head of global technical operations at AstraZeneca/MedImmune. “Oncology, alone, tends to mean a lot of volume for [biopharma].”

## Biggest drivers of change in biopharma.

- Growth of the sector
- New manufacturing technology
- Regulatory requirements

Source: Korn Ferry 2017 survey of biotechnology leaders.

**“The complexity of both manufacturing technologies and regulatory requirements implies a very agile and prone-to-change workforce. Future leaders will need to be change-oriented and able to give sense in an ever-changing environment.”**

- Biopharma manufacturing executive

Figure 1

**Top 8 biopharmaceuticals by revenues.**

Drug	Manufacturer	Disease/Conditions Treated	Revenues (2015)
Humira	AbbVie	rheumatoid arthritis chronic plaque psoriasis Crohn's disease	\$14.0 bln
Rituxan	Roche	non-Hodgkin's lymphoma chronic lymphocytic leukemia	\$7.3 bln
Lantus	Sanofi	diabetes	\$7.1 bln
Avastin	Roche	glioblastoma metastatic colorectal cancer other cancers	\$7.0 bln
Herceptin	Roche	breast cancer	\$6.8 bln
Remicade	Johnson & Johnson	Crohn's disease ulcerative colitis rheumatoid arthritis	\$6.6 bln
Pprevnar	Pfizer	vaccine to prevent pneumococcal pneumonia	\$6.2 bln
Enbrel	Amgen	plaque psoriasis rheumatoid arthritis	\$5.4 bln

Sources: Statista and company information

Sales figures in USD for 2015. List of treated diseases not complete for every drug.

Increasingly, pharmaceutical companies are directing their research and development and production energies to biopharma. The potential for biopharma drugs is for “huge promise and huge demand,” not only for delaying the progression of a disease and prolonging patients’ lives, but also for potentially curing what have long been seen as incurable diseases, said Alain Pralong, senior vice president, head of manufacturing operations for Cell Medica, “The demand for the therapies that work will be significant and huge.”

Adding more excitement to the biopharma revolution is the success rate: As of the end of 2014, more than 1,500 biomolecules were undergoing clinical trials (a required step in regulatory approval). The biopharma success rate has been more than twice that of traditional, small-molecule products: 13 percent of biopharma products

that enter the Phase I trial stage go all the way to product launch. (Otto 2014). But that promise also equates to more pressure on the sector. As successful therapies emerge from clinical trials, the race is on to get them to market. Operational requirements are considerable: the complexity of the biopharma production process, intricacies of quality assurance, and the management of a supply chain for products that must be handled in precise environmental conditions (especially light and temperature).

Technology, alone, will not solve these challenges. The right talent is imperative at all levels, with technical expertise especially in operations and quality assurance. Leaders in the sector must possess both a “technical vision” to drive future production and strong leadership skills to motivate others.

# Biopharma talent demands.

For the biopharma industry, the challenge that may prove the most daunting of all is acquiring talent. In every conversation with biopharma executives, the top challenge mentioned was talent. Further highlighting this concern, the executives surveyed expressed uncertainty about whether their organizations have the right people to drive change currently, or whether they will have that talent over the next five years. (The majority of those surveyed answered “maybe” when asked whether their organizations have talent strategies to meet current and future needs.) This is consistent with the pressures faced more broadly across global manufacturing, wherever technical skills are in high demand. According to the 2016 Global Manufacturing Competitive Index, manufacturers continue to rank talent as being most critical to global manufacturing competitiveness. (Deloitte, 2016).

In biopharma, advanced manufacturing technology requires new ways of thinking and implementing processes. Experienced people with specialized knowledge are highly sought after, as well as those who possess the rare combination of biopharma expertise and creative thinking—with a premium on being innovative. Top of the wish-list for talent is biopharma expertise, the kind of technical know-how in large-molecule production processes that is acquired largely on the job by individuals with advanced degrees in biochemistry and engineering. Although automation of some manufacturing processes may help alleviate the strain of finding enough people for certain roles and functions, the biopharma market for talent remains tight.

## Mission critical competencies for biomanufacturing talent.

1. Builds effective teams
2. Develops talent
3. Encourages innovation from themselves and teams
4. Drives results
5. Optimizes work processes

Rarer still, are those who also possess leadership skills, including building effective teams and developing others. The ideal people possess strong technical skills, but are also able to move beyond day-to-day responsibilities to empower their teams to address problems. The team-leadership aspect is crucial in key roles such as plant operations director. Tibor Nemes, global head of technical operations for Stallergenes Greer, based in the U.K., observed: “I will always take leadership skills over technical expertise at the site lead and even the manufacturing lead level.”

One of the most difficult roles to fill are in quality assurance (QA) because of the complexity and precision of biopharma manufacturing. QA requires certification of the quality and consistency of not only the end products but also the entire production process. Given the complexity of the science and the potential for variability when producing substances from living organisms (e.g., cell cultures), QA professionals shoulder huge responsibilities and are in high demand.



With biopharma drugs “you don’t have the same level of control over your parameters” as with standard pharmaceuticals, said Clive Blatchford, vice president, senior advisor, vaccines quality, for GSK, who is based in Belgium. “You don’t have the same confidence that your systems can be fully controlled, so you’ve got to get the combination of process control, quality assurance, and quality control testing right.”

These individuals are often developed over long careers, starting on the “shop floor” in biopharma manufacturing and rising through the ranks. At the same time, as Korn Ferry has found, many QA professionals prefer to work as contractors, which allows them to demand high fees, but decreases the pool of candidates for permanent positions.

Manufacturing site manager is another biopharma job that’s difficult to fill, not only because of the technical requirements, but also the need for leadership skills to manage large numbers of people in a standalone facility. “Talent for this function remains difficult to find,” said Thibaud Stoll, senior vice president and head of global biotech manufacturing and development for Merck Group, based in Switzerland. “In biomanufacturing, it’s key to

find people who have the right combination of strong leadership skills and technical background.”

The standard talent strategy is to look within the sector, essentially hiring candidates away from other firms. Biopharma firms often look for candidates in other countries, although the challenge is to find people who are willing to relocate.

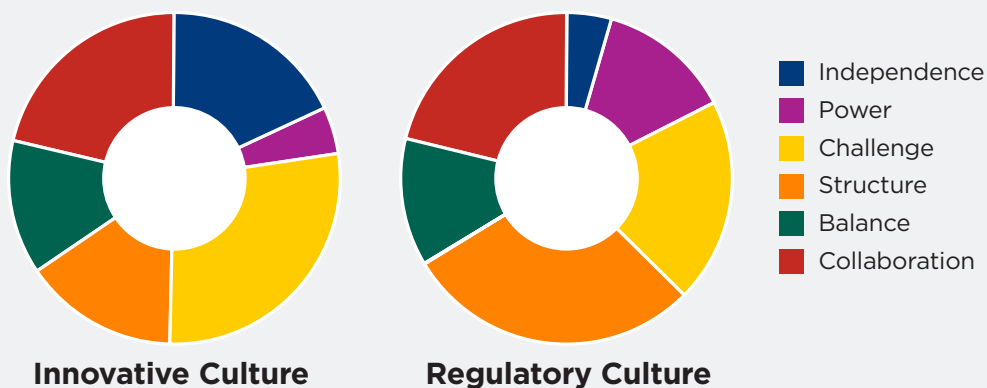
To staff the current and projected rapid growth in biopharma, companies must recruit from outside the sector to find individuals with specific competencies, such as managing a complex supply chain, being innovative thinkers, or the ability to manage rapid product development. As one executive said about over-reliance on recruiting from within the biopharma sector alone, “Something has to shift at some stage.”

As biopharma manufacturers look outside the sector, they need to recruit individuals who can both innovate and manage a complex, highly regulated environment. This means finding “best of both worlds” talent—a rare individual who crosses two categories of highly engaged leaders, as Korn Ferry has found in its research.

Figure 2

### What drives highly engaged leaders?

In a culture that emphasizes innovation, such as a start-up, independence and challenge are the biggest drivers. But in a more controlled environment focused on precision, leaders are more driven by structure and power.



Organizations often overlook the importance of drivers, but understanding these motivators and career goals is essential to maintaining a pipeline of leaders and raising the level of engagement.

Source: Korn Ferry Institute (Orr et al 2014).

# Finding and developing biopharma talent.

Outside biopharma, small-molecule pharmaceuticals is the largest source of talent, although, as mentioned earlier, there are significant differences in technical skills to bridge when bringing people into large-molecule production and quality assurance. Those who work in medical devices have experience dealing in a highly regulated environment.

Biopharma companies also have recruited some individuals successfully from outside the sector (for example, the chemicals industry) with some success. “We have made a number of moves like that, combining [biopharma talent] with engineers or those with a chemist background,” said Ignaz Venetz, global head of programme management for Lonza, a contract pharmaceuticals manufacturer.

Interestingly, production people with brewery experience bring knowledge of fermentation that is analogous to the organic nature of biopharmaceuticals. As the Korn Ferry survey indicated, talent for the biopharma sector also can be found in food processing, where environmental conditions (e.g., light and temperature) must be precise. In addition, consumer goods and automotive leaders bring competencies in dealing with fast growth and innovation. While success in such recruitment depends largely on the individual, deficits in biopharma expertise must be overcome. Although this can be a challenge, given the tight supply of biopharma talent, companies must become more agile and adaptable in finding expertise in other sectors.

Biopharma executives also admit they must rethink their strategies for talent development to increase the pool of internal candidates. They emphasize the need to rotate

## Commonly tapped talent pools outside biopharma.

1. Small-molecule (traditional) pharmaceuticals
2. Chemical industry
3. Medical devices

Source: Korn Ferry 2017 survey of biopharma executives.

people through various jobs to avoid what one executive called “silo growth.” More rounded talent development should expose people to multiple areas and job functions, as well as to experiences that encourage the development of leadership traits and team-building skills.

“It’s always part of the company’s responsibility to bring people into the right position, depending on their skills and competencies,” Lonza’s Venetz said. “When people develop internally, they are ready faster to fill open positions.”

At the same time, cross-training people in different functions cannot come at the expense of developing deep expertise such as in manufacturing or QA, which often takes years. For the company and the individual, this reality makes talent development a balancing act, between the need for specialization in one area and the desirability of cross-training talent.

To bring more people into the sector early in their careers, European biopharma executives see benefits from developing closer ties with leading universities, as is done in the U.S., where firms have connections to such leading institutions as the Massachusetts Institute of Technology (MIT). Pralong of Cell Medica has taken the unusual step of becoming personally involved in both educating and networking with university students. For the past several years he has supervised multiple industrial projects at École Polytechnique Universitaire de Marseille (Polytech Marseille), focusing on in-depth analyses of manufacturing processes for monoclonal antibodies (mAbs), vaccines, and cell therapies from technical and commercial perspectives with small groups of students. Last year, he also began to teach classes in quality, product development, and industrialization of biopharmaceutical manufacturing processes. Over the past several years, Pralong has recruited about three dozen people from Polytech Marseille to the various companies for which he's worked. "One of the options is attracting people who can help you at an early stage, for example as operators, and then go up the line in a few years," he said.

In addition, some are forging ties with universities to tap into the alumni network to gain access to individuals with the desired skill set and a few years of experience. "People with three to five years of post-university experience are like gold in biopharma. They make great candidates," said Nemes, adding that a previous employer successfully placed five such individuals whom he believes are still with that organization. "Given that they have some experience, they have a better idea of what they really want for their careers."



# Culture: the key ingredient for biopharma talent.

Competition for talent has biopharma companies looking internally to examine the desires and demands of their current workforce. This is the first step in understanding and articulating an “employer value proposition”—that is, an employer brand compelling enough to attract talent from elsewhere and to motivate and retain internal talent.

Culture is a critical component of the employer value proposition. For example, when asked in a Korn Ferry study about factors that influence their employment decisions, university graduates in Ireland who secured jobs in that country’s biopharma sector listed “culture and values” as having the most influence in their employment decisions. In fact, culture and values outweighed office locations, perks and benefits, and even available roles in the organization.

Early adopters of this strategy in biopharma seek to articulate a value proposition that is authentic and consistent. Any discrepancy between what the company says and what current employees experience will likely become exposed in online channels, forums, and within networks of industry colleagues. If, for example, companies boast about developing and promoting talent, but social media tells a different story, internal and external talent will be skeptical.

Another benefit for firms is having engaged and motivated employees who are more likely to act as brand ambassadors for their companies as they speak about their own experiences. In addition, a company’s reputation for scientific breakthroughs enhances its appeal in a niche area such as biopharma. Firms that are known for being pioneers and innovators will draw interest from talent looking for these experiences and challenges.

**Pharmaceutical and life sciences companies understand the growing need to stand out in the marketplace to recruit the right talent.**

## Conclusion: A new talent strategy.

As biopharma continues its rapid growth trajectory, the scarcity of necessary talent is accelerating. As new production capacity comes on line in Europe and Asia, and given the strength of the more mature U.S. market, demand for talent is outpacing the supply within the sector.

In addition, talent needs are diversifying. New technological processes, a pipeline of more potential breakthrough drugs, greater regulatory oversight, and cost pressures will require a new mix of skills. Greater emphasis is being placed on innovation and creative thinking, as well as technical expertise. To meet their demands, biopharma companies increasingly are looking outside the sector to recruit talent—such as from food processing, breweries, automotive, and consumer products—to gain specific competencies (e.g., innovation or supply chain management). Those who possess leadership skills and the ability to build and lead teams are also highly prized.

New talent strategies will require more agility on the part of individuals, as well as the companies, to find, develop, and retain the right people who can innovate and manage rapid growth, while also improving efficiency and responding to regulatory oversight.

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- Ignaz Venetz, Global Head of Program Management, Lonza

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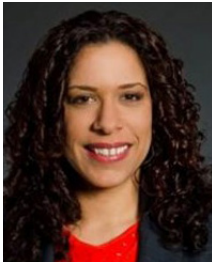
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