
LSX
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LSX C-SUITE
CHALLENGES IN LIFE
SCIENCES SURVEY 2018

LEAD SPONSOR'S COMMENT

John Ratliff, CEO at **Covance, Inc.**

Heraclitus, the Greek philosopher, who said: "change is the only constant in life," must have had a premonition regarding the state of the drug development industry today. Most conspicuous is the accelerating amount of innovation within nimble biopharmaceutical organisations that are now driving nearly three quarters of the active pipeline. Small seems to be the new big – and biotechs are doing it with fresh passion and perseverance to bring new treatments to patients while successfully overcoming their limitations in staff size, resources and funding.

While oncology continues to dominate a significant portion of development amongst biotechs, it's impressive to see the emergence of active development across a broad range of therapeutic areas, including: neurology, cardiovascular and anti-infectives. Not to mention the fearlessness with which biotechs are taking on rare diseases.

What is also radically changing is the number of biotechs transitioning from an "early and exit" strategy to successfully navigating the drug development continuum into later clinical stages. In fact, I found the findings uncovered in this report, which show respondents with almost as many programs in late phases of development as in discovery through early clinical development, inspiring. That's a major growth factor from only five years ago.

What this research also makes clear, aligning with what we're seeing from our clients every day, is that drug development is not a one-size-fits-all activity. Beyond the typical impediments to successful drug development, nimble biotech firms are requiring solutions that address their unique business challenges, particularly in the areas of funding, licensing and partnership.

The good news is that the market continues to sustain venture capitalist funding in the mid-$30bn range per year*. However, challenges still remain around how to identify the right investment partners at the right time and how to effectively show the value of your asset to investors who may not have the scientific knowledge or appetite for risk.

For those with the goal of bringing their drug through IND/CTA submission or first-in-human and finding a pharmaceutical partner to license or co-develop their asset, the challenges are similar – being visible in the right place at the right time and finding a strategic, cultural fit.

Staying focused and managing lean resources also requires the need to partner strategically with early development and clinical research partners – with the lion's share of biotechs doing their drug development alongside a CRO partner. Bringing together the need for cost-effective broad scientific and therapeutic expertise favoured by all drug developers with the distinct needs of a nimble firm – a strong working relationship, reliability and flexibility, among others – is critical.

As biopharmaceutical firms continue to drive innovation and push the boundaries of development, Covance | Chiltern is swiftly moving to accommodate the industry transformation with solutions that are more personalised, flexible and collaborative. I invite you to read the story on page 18, where Peter Sausen discusses our new portfolio of biotech-distinct solutions. For us, it was critical to sponsor this research to uncover the challenges that today's drug development environment presents. We thank all the respondents for their insights – and we look forward to partnering with each of you to bring solutions that help you persevere successfully.

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*Based on data referenced from Life Science Nation.

EDITOR'S COMMENT

In early 2017, LSX, formerly Biotech and Money, published the inaugural *Investor Perception Survey*. This annual survey was launched to gauge the perspectives and preferences of the life sciences investment community, not only to track changing trends, but also to facilitate greater industry understanding of the pinch points and opportunities investors see within the sector.

The *Investor Perception Survey* alone, however, only paints part of the picture. To give voice to the obstacles facing life sciences companies, we have developed the *C-Suite Challenges in Life Sciences Survey*. This examines senior executives' experiences of fundraising and investor interaction, but also looks to benchmark the barriers they encounter through key stages in the product and company development process. From clinical trial challenges to deal-making activities, from attracting and retaining talent to the advance of new technologies, the report provides a snapshot of C-level executives' strategic concerns with the hope of prompting discussion about the action that can be taken to remedy them.

The survey, which includes respondents from a range of sub-sectors, development stages, and countries, was conducted against a backdrop of continued political uncertainty. Brexit negotiations between the UK and European Union are ongoing, with much clarity still required as the clock ticks down to the UK's scheduled exit date of 29 March 2019. Meanwhile, in the US, the Trump administration is bringing its own style to bear on the issue of drug pricing. Given the long-standing pressures upon life sciences companies, it will be interesting to see whether the current climate has a lasting impact upon life sciences leaders' experiences and expectations.

We would like to thank all those who kindly gave their time, expertise, and support to the *1st C-Suite Challenges in Life Sciences Survey*.

Louise Fordham, Editor at **LSX, formerly Biotech and Money**

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Personalized Attention From Start to Finish

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KEY FINDINGS

This survey, which was conducted online in May 2018-July 2018, received a total of 127 responses. To provide additional insight, 10 telephone interviews were conducted with C-level executives in June 2018-July 2018. These executives have experience in both private and public companies across the life sciences sector in Europe and North America, representing companies at varying stages of development. Responses to the online survey were anonymous, and insights from the phone interviews have also been reported anonymously to allow for greater candour.

78%
of respondents view identifying relevant investors with an active investment mandate as one of their top three obstacles to securing financing

62%
of respondents believe that Brexit will have a significant negative impact on attracting investment to the UK

52%
of respondents name cultural fit and strong relationships among the top three most important attributes in a potential partnership

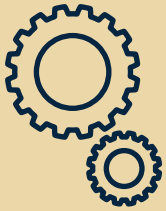
81%
of respondents consider intellectual property protection to be very important to their company

55%
of respondents say that patient recruitment is the biggest clinical trial challenge they face

60%
of respondents report that data protection is a C-suite-level issue at their company

61%
of respondents view establishing a deal structure that works for all parties as one of the three greatest obstacles to securing deals

52%
of respondents expect artificial intelligence and machine learning to have the most far-reaching impact on healthcare



31%
of respondents do not think that the life sciences sector is doing enough to encourage diversity and inclusion

56%
of respondents cite time and resource commitment among their top three concerns when it comes to an IPO or dual listing

RESPONDENTS' PROFILES

Due to rounding, percentages may not add up to 100.

FIGURE 1

Respondents' job title/position

Sample: All respondents (88)

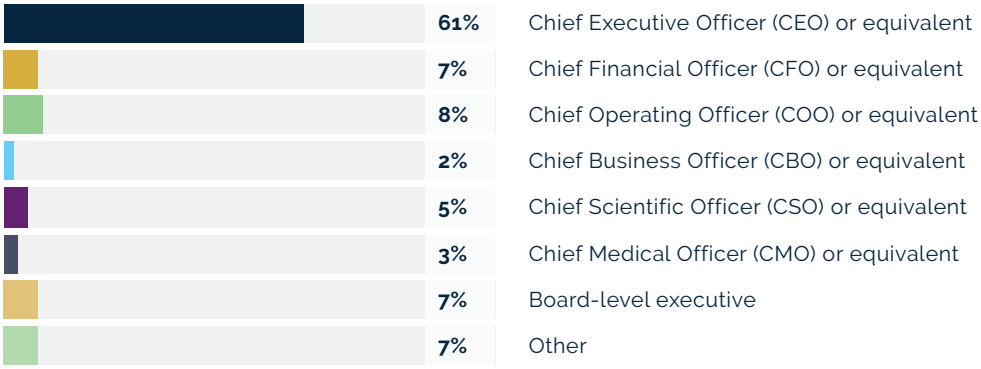


FIGURE 2

The region where respondents are primarily based

Sample: All respondents (88)

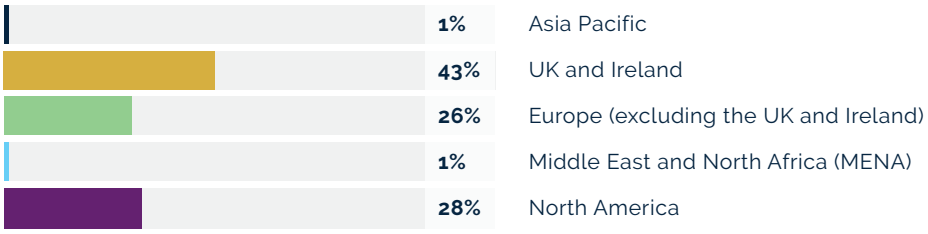


FIGURE 3

The number of people employed by the company respondents work for

Sample: All respondents (88)

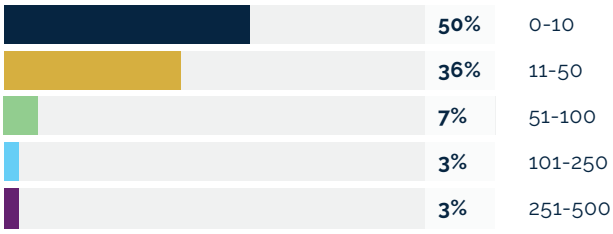


FIGURE 4

The type of company respondents work for

Sample: All respondents (88)

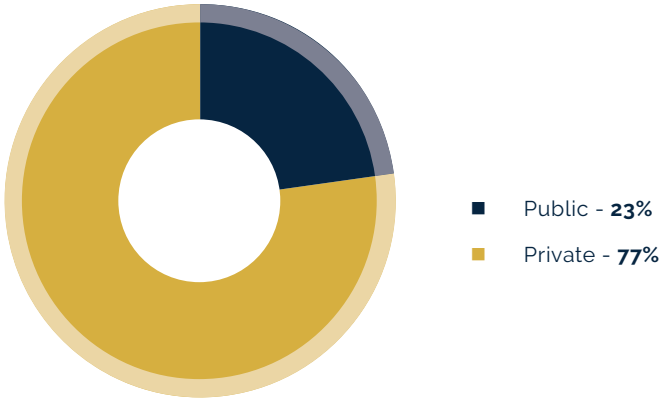


FIGURE 5

The latest financing round completed by respondents' companies

Sample: All respondents (87)

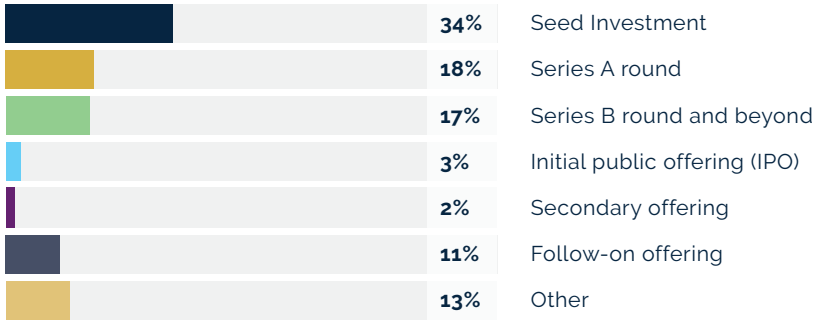


FIGURE 6

The stage of the most advanced product in respondents' companies' portfolios

Sample: Biotech respondents (67)

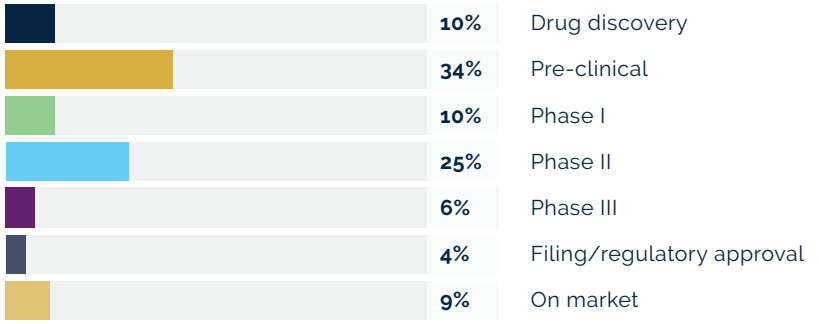


FIGURE 7

The therapeutic focus area(s) at respondents' companies

Sample: Biotech respondents (66)

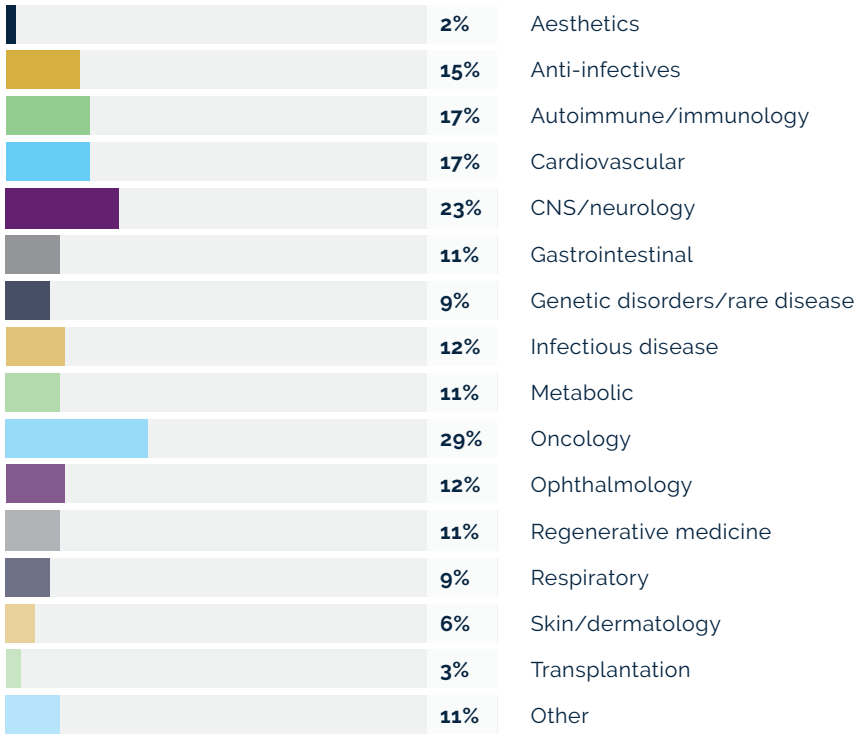
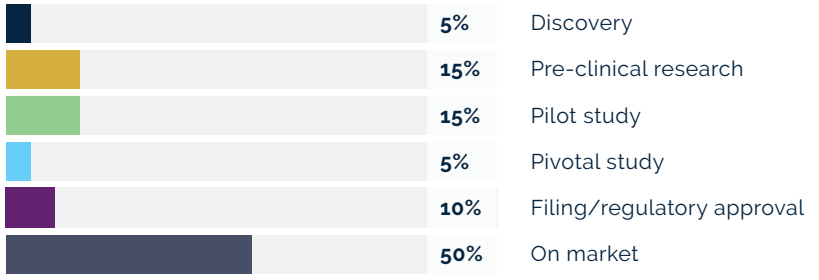


FIGURE 8

The stage of the most advanced product in respondents' companies' portfolios

Sample: Medtech/ medical devices/digital health respondents (20)



INVESTMENT AND IPOS

Challenge remains in finding investors

Identifying investors with an active investment mandate is a significant challenge for life sciences companies, with over three-quarters (78%) of respondents citing it as one of the three biggest obstacles to securing financing. This is compounded by concerns about the volume of potential investors with specialist knowledge of a company's technology or therapeutic area (31%), or whose current investment focus encompasses these areas (21%).

More than one-quarter (28%) of this year's survey respondents, who tend to lead earlier-stage companies, perceive a lack of risk appetite among investors. A sentiment expressed by some of the online survey respondents and telephone interviewees, is that investors are increasingly turning their attention to later-stage products that provide a shorter time to exit, while continuing to look for strong clinical data that lowers investment risk for earlier-stage companies. This causes somewhat of a conundrum for companies that require investment in order to deliver this clinical data and advance to later-stage development. "It becomes a bit of a catch-22 in that you can't progress the regulatory process or get more data unless people invest," stated one CEO interviewee. Alongside this sticking point, interviewees on both sides of the Atlantic also highlighted difficulties in bridging the funding gap between seed rounds and Series A or growth capital. As a UK-based interviewee said: "There is quite good investment at a very early stage - spin-out and seed money - and then for people raising much larger amounts, but it's that in-between stage that's a bit more challenging."

Finding the right investor is no mean feat and neither, the survey suggests, is accessing these investors or successfully communicating a company's investment case to them once meetings are secured. For their part, the investment community also views delivery of the investment case as an area ripe for improvement. According to Biotech and Money/LSX's February 2018 *Investor Perception Survey*, 85% of investor respondents feel that 50% or less of the life sciences management teams they see each year present well to them.

FIGURE 9

Respondents' top three obstacles to securing financing

Sample: All respondents (85)

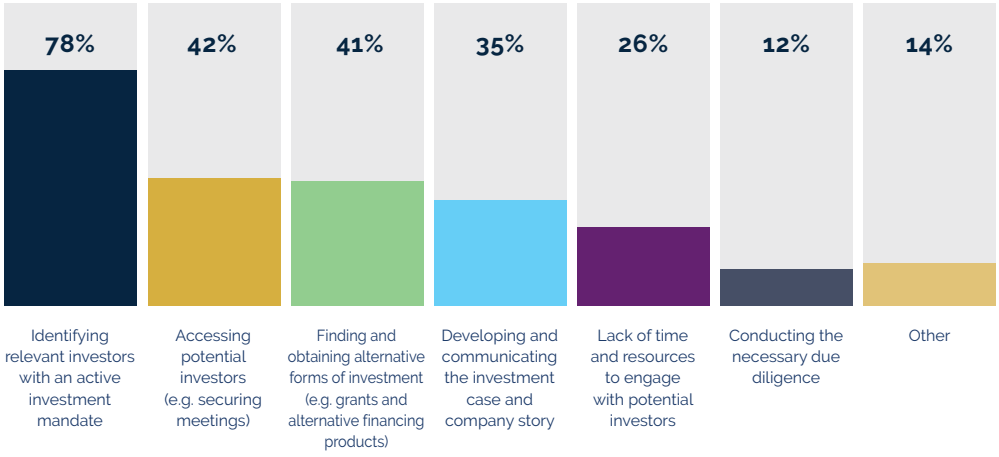


FIGURE 10

What respondents view as the most significant external challenge to accessing capital

Sample: All respondents (87)

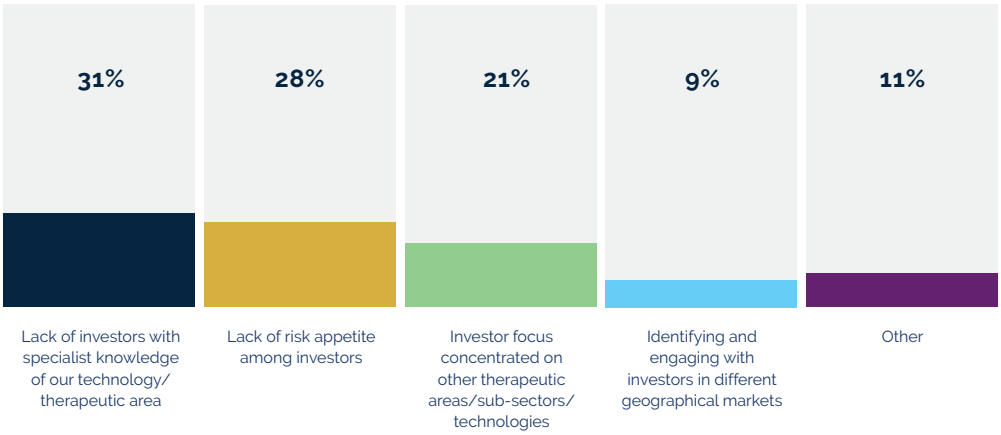
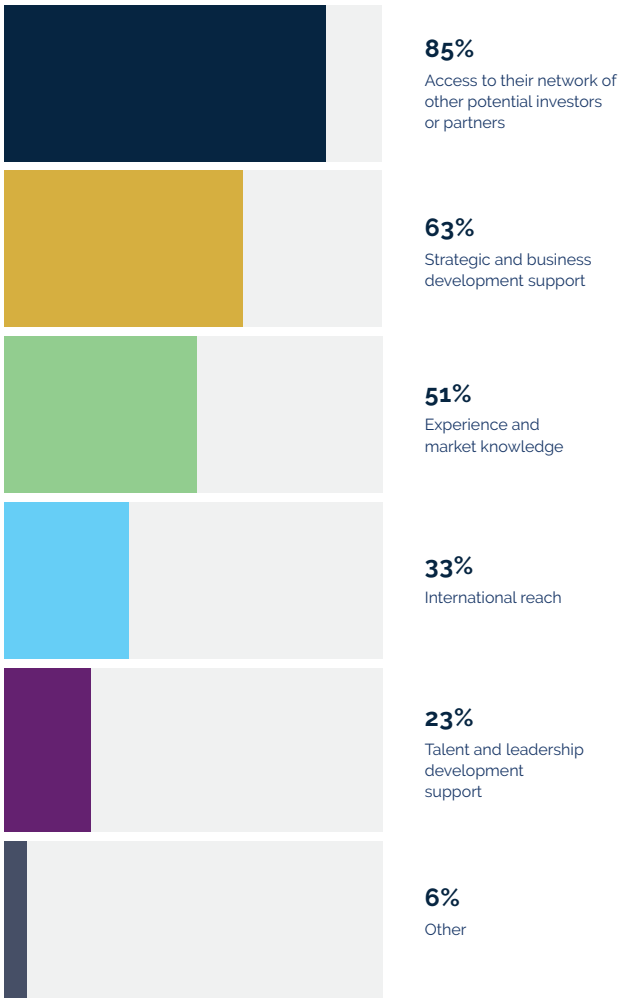


FIGURE 11

Respondents' top three most-valued areas of support from investors, aside from funding

Sample: All respondents (87)



Leveraging investor support

Although it is clearly financing that companies seek from investors as they work to achieve their product and business development goals, there are other areas where experienced investors can add value. Access to investors' networks is seen as beneficial by more than eight in 10 (85%) respondents, followed by strategic and business development support (63%). This might range from bringing an external viewpoint to bear on a company's business proposition, offering service provider or consultant recommendations, to drawing on their networks to identify potential candidates for senior management positions. "Using their contacts and sharing [details of] people that might be worth companies engaging with can be quite valuable," said one senior executive interviewee.

VIEWPOINT

A. Sinclair Dunlop,
Managing Partner at
Epidarex Capital

Access to venture capital and effective fundraising tactics are key to building health science companies on both sides of the Atlantic.

The equity funding gap is a value-creation opportunity driven by the lack of access to sector-specific and early-stage financing. Venture capitalists are critical to the growth trajectory of early-stage life science companies, particularly in the case of first-time entrepreneurs and academic founders. Unfortunately, there remains a shortage of skilled, "company-builder" investors accessible to entrepreneurs commercialising novel science. Effective funding 'eco-systems' can include business angel networks and regional economic development agencies that provide grants, as well as university 'proof of concept' programmes. However, a lack of 'deep-pocketed' funds with the capacity to lead Series A financings can cause early-stage companies, including university spin-outs, to struggle to stay on track and ahead of the competition. A scale-up in the number and size of local, sector-specific funds is needed across markets outside of the major hubs, on both sides of the Atlantic.

A critical success factor in any life science investment is the management team. The sourcing, development and retention of experienced talent has a direct impact on technology development and investor returns. A significant challenge, particularly in under-ventured markets, is a shortage of serial CEOs with a track record of fundraising at scale. This skills gap varies by region due to the 'clustering' that underpins regional imbalance in both the US and UK. Yet, less-ventured markets are often rich with specialist skills and domain expertise, typified by pharmaceutical and biotech veterans.

A start-up team's familiarity with sources of support across the life sciences is critical, particularly non-dilutive (governmental, academic, charitable) funding that may be available prior to raising venture capital at scale. Entrepreneurs should invest the effort necessary to determine the fit, or lack thereof, with specific venture funds. This often requires extensive networking with prospective investors, to better understand a fund's sub-sector interests and life cycle. Sending a 'cold' pitch to a venture fund via its website is unlikely to capture any investor's attention, whereas introductions by a mutual contact are more likely to secure a face-to-face follow-up. New entrepreneurs should also be cognisant of timing, given that most VC teams have limited capacity to simultaneously review a multitude of incoming opportunities. Therefore, a brief introduction of the core technology, often prior to formal fundraising and followed by regular updates, can be more effective in ultimately securing venture investment.

Note: *This is an abridged column. Read the full-length piece on www.lsxleaders.com*

INVESTMENT AND IPOS

FIGURE 12

The fundraising activities that respondents' companies plan to conduct over the next 12 months

Sample: All respondents (85)

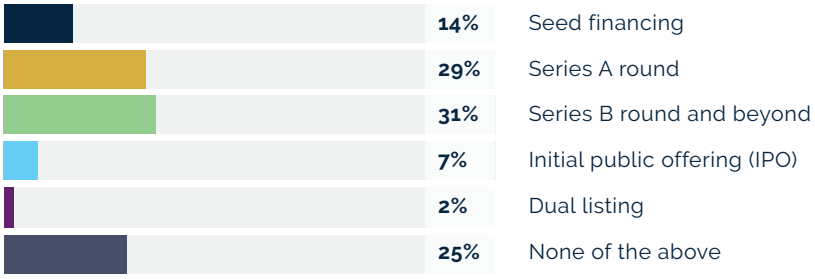


FIGURE 13

Whether listing on a public exchange is a viable objective for respondents' companies

Sample: All respondents (84)

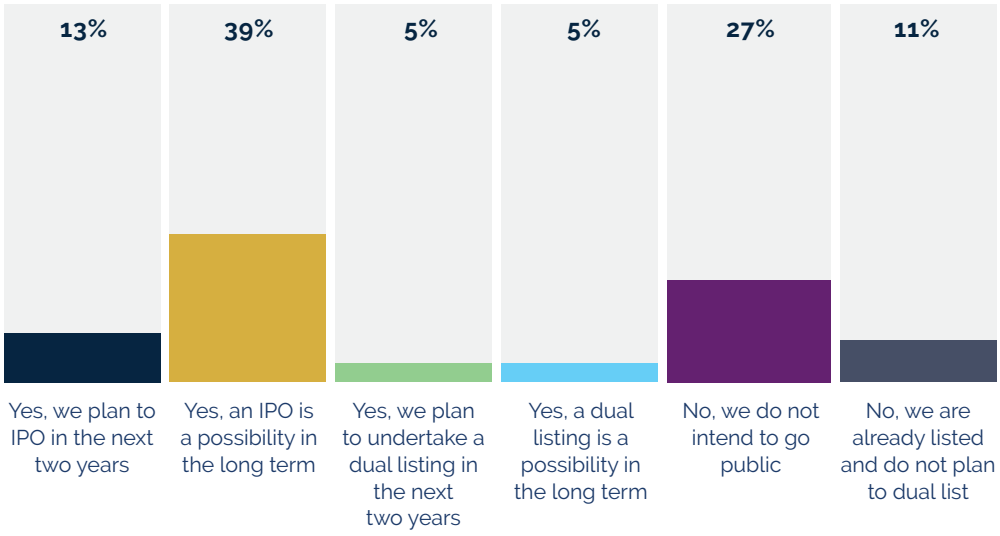


FIGURE 14

Respondents' top three key concerns about an IPO or dual listing

Sample: All respondents (85)

Given that a significant proportion of respondents hail from earlier-stage companies, it is not surprising that Series A rounds (29%) and Series B rounds and beyond (31%) are the most frequently cited fundraising activities that they expect to partake in over the coming 12 months. However, public listings are also in the sightlines of many, with 39% considering an IPO in the long term and 13% within the next two years. A further 5% anticipate dual listing in the next 24 months, and 5% see this as a possibility further down the road.

Among respondents that shared where they plan to go public, the US was a firm favourite. According to PwC's *US Capital Markets Watch*, there were 24 US pharma and life sciences IPOs in 2Q18, raising $2.5 billion, which the report notes is the highest quarterly volume of IPOs in the sector since 4Q14. This buoyancy, together with the depth of the capital pools and relative sector expertise on the US public markets, continues to draw companies stateside. As one biotech interviewee summed up the viewpoint of those looking towards the US: "The expertise and the money are there."

Weighing up the benefits and burdens of going public

Preparing to IPO requires a considerable amount of dedicated time, effort, and resources from the C-suite, such as ensuring they have the right team in place, engaging with investors, and communicating with stakeholders. "It's about being able to run that [listing] process as well as run your business and having plan B and C prepared as well for the inevitable ups and downs in the fundraising process," explained an interviewee at a publicly-listed biotech company. For more than half (56%) of respondents, the time and resource commitment associated with an IPO or dual listing is among their top three concerns, followed closely by regulation, compliance, and reporting requirements (55%). Once public, companies continue to be subject to reporting and regulatory measures, as well as pressures such as share price movement. However, given the proportion of respondents considering an IPO over the longer term, the benefits of going public appear to outweigh the burdens for many.

VIEWPOINT

Lala Gregorek,
Analyst at **Trinity Delta**

Securing external investment is an undisputed priority for senior management. However, a stronger balance sheet and longer cash runway is not the sole objective. Hand in hand with the need for funding is a desire to find the right investors – those with deep pockets, a wide network, and the willingness to roll their sleeves up.

The inaugural *C-Suite Challenges in Life Sciences Survey* highlights a common challenge for small, early-stage, predominantly private companies. They simply don't have the management bandwidth, nor the resources, to address the obstacles to this: identifying relevant investors, getting meetings, and engaging longer term. However, ensuring that efforts dedicated to running the business are balanced with corporate activities is critical, laying important foundations for the future.

The funding environment for life sciences in 2018 is buoyant. While the US remains at the epicentre, with a record 14 healthcare NASDAQ IPOs in June alone, money continues to cross borders. For many of the companies surveyed, public market listing is not a near-term objective; yet, there are merits in being proactive and preparing early to ensure this remains a potential option longer term. The early-stage funding pool is also growing, with three new Europe-based VC funds, totalling just under $1bn, launching in July 2018.

Getting a foot in the right door is a key hurdle. External advisors with deep knowledge of the investor community can play an important role, helping develop a well-thought out investor targeting strategy. This should help overcome management frustrations such as a lack of investor risk appetite or specialist knowledge. Coupling this to a clearly articulated equity story should provide a hook to capture and, equally importantly, maintain investor interest.

Investment decisions are rarely immediate. Effective communication of a simple equity story also provides a benchmark whereby investors can gauge progress, building confidence in management. Investing time and effort in getting this right should reap rewards: well-funded, supportive investors who bring valuable experience and contacts. As the world of life sciences investment is relatively tightknit, securing one such investor can be a significant de-risking event. After which, management may find that investors are like buses: more than one comes along at once.

M&A AND DEAL MAKING

Satisfying deal structure objectives

Survey respondents' deal-making outlook for the year ahead is fairly strong across a variety of deal types. Collectively, licensing agreements are the most-anticipated form of transaction (45% as licensor and 31% as licensee), followed by research alliances and collaborations (52%), co-development deals (43%), and M&A activity (totalling 38%).

Aims and expectations surrounding a deal will vary according to a company's particular requirements and strategy at each point in its development. Despite the variations in deal type and purpose, establishing a deal structure that works for all parties appears to be a commonly-encountered issue (61%). In addition to challenges in structuring the deal to the satisfaction of all, more than one-third (34%) of respondents include agreeing favourable terms among the top three obstacles they face. Interestingly, the Syneos Health™ *2018 Dealmakers' Intentions Study*, which surveyed biopharma executives involved in deal-making activities on the in-licensing and/or out-licensing side of transactions, found that 33% of sellers and 22% of buyers view unreasonable term expectations as the main reason for deal failures.

FIGURE 15

The partnering and deal-making activities that respondents' companies plan to conduct over the next 12 months

Sample: All respondents (86)

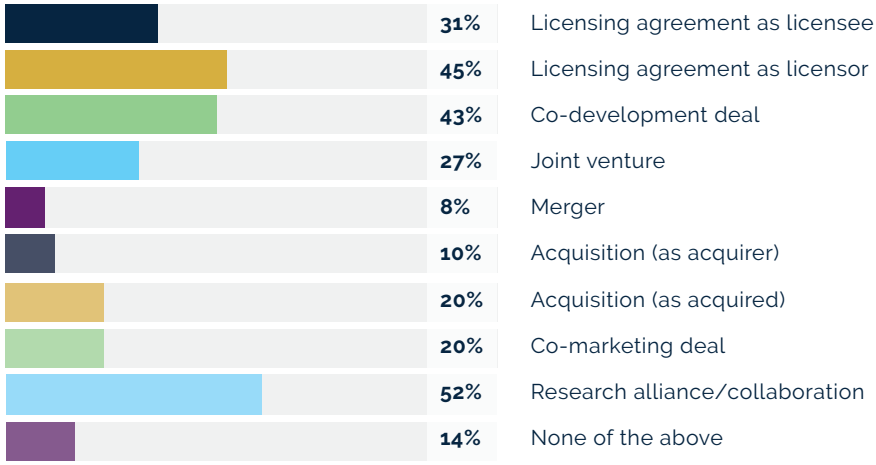
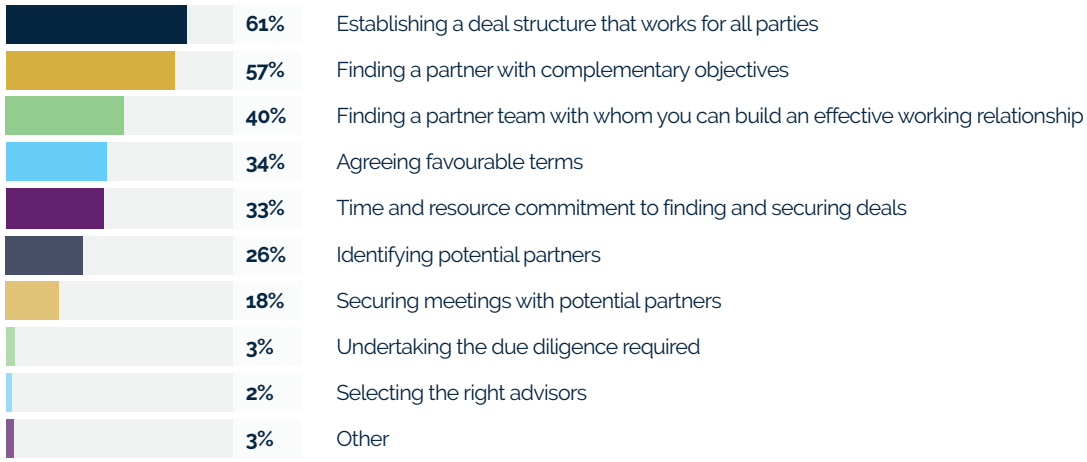


FIGURE 16

What respondents view as the three greatest obstacles to securing partnerships, deals, and agreements

Sample: All respondents (87)



Investing in a planned partnering approach

Before discussions about deal terms even begin, of course, potential partners must be identified. Finding potential partners, and particularly those with complementary objectives, are among the top three barriers cited by 26% and 57% of respondents, respectively. Putting in place an established process to locate and secure partners can help to improve partnering prospects, suggested a senior biotech executive interviewed for the survey. "It's about having a clear plan, but also investing to deliver it," the interviewee stated. This takes time and resources, whether that be engaging external consultants, recruiting in-house experts or simply the time that senior management must commit to building their network and fostering relationships with potential partners. For 33% of respondents, however, this time and resource commitment remains a challenge.

PUTTING IN PLACE AN ESTABLISHED PROCESS TO LOCATE AND SECURE PARTNERS CAN HELP TO IMPROVE PARTNERING PROSPECTS. "IT'S ABOUT HAVING A CLEAR PLAN, BUT ALSO INVESTING TO DELIVER IT," SAID AN INTERVIEWEE.

VIEWPOINT

Dr Jill Ogden,
Principal at
Medius Associates

For the first seven months of this year (to July) our Deal Watch analysis of the top pharma deals by month reveals ~$215bn in aggregate headline values. This compares to ~$135bn worth of deal headlines for the same period in 2017, although the final aggregate headline value for full year 2017 was ~$281bn. So, is 2018 likely to be a bumper year of deal making? Well it's a little early to say but one huge deal can make a big difference to a yearly total!

In our annual review of deals for 2017, we commented on the effects of low interest rates and surging stock markets leading to high valuations of biotech and pharma companies. Certainly, companies including Pfizer, Sanofi and GSK had expressed caution about M&A given the high valuations. However, overall deal values for the first part of 2018 have been buoyed by some significant acquisitions, e.g. Takeda's $62bn acquisition of Shire. Other $bn acquisitions include Sanofi's January spending spree to purchase Baxter spin-out Bioverativ for $11.6bn, quickly followed by its $4.8bn acquisition of Nanobody company Ablynx. Sanofi is not the only pharma in buying mode: recently Novartis acquired gene therapy company AveXis for $8.7bn, Lilly bought immuno-oncology company ARMO Biosciences for $1.6bn, and Janssen/J&J paid $1bn for BeneVir Biopharm bringing an oncolytic virus platform.

Despite this M&A activity, the majority of deals for this year are still those based on licensing, often including collaborative relationships. Licensing deals are done at all development stages. Late-stage licensing deals for the year to date include the $5.8bn collaboration between Eisai and Merck & Co. for the co-development and co-commercialisation of LENVIMA with Merck's KEYTRUDA.

Early-stage licensing and collaboration deals where pharma gain access to new platforms for drug discovery continue to be popular. While these typically multi-programme deals can have high overall headline values in the multi-million or billion-dollar ranges (the "Biodollars"), in reality most of the value is linked to downstream milestones such as late clinical/regulatory events and sales performance. However, such transactions are likely to remain a key driver for biotech-pharma relationships.

M&A AND DEAL MAKING **EXPERT INSIGHT**

Gary Green, Partner at **CMS**

Navigating M&A transactions in life sciences

An acquisition in the life sciences sector raises various issues, some of which are specific to the sector. For example:

- Is the target company the owner of all the intellectual property rights which it claims to possess? The target company's intellectual property rights may infringe third-party rights, or it may be necessary to commence proceedings to prevent third parties breaching the target company's intellectual property rights.
- The principal product of the target may still be in the clinical trial phase and so there is uncertainty as to whether the product will gain final regulatory approval and achieve commercialisation. Many M&A transactions in the life sciences sector include substantial deferred payments such that the seller only receives a proportion of the purchase price on closing. The balance of the purchase price will be calculated by reference to achieving milestones or other performance targets. Negotiation of triggers for the payment of deferred consideration can be complicated.
- Has the target company obtained the necessary regulatory authorisations and is the target company in compliance with them?
- Life sciences products can be subject to product liability claims.
- The target company may be dependent on licence agreements. Will the transaction trigger a change of control provision? Do the licence agreements include any non-compete provisions which could impact on the purchaser's existing products? Are there any milestone or royalty obligations?

A decision will need to be made as to whether the transaction is to be structured as a share or asset sale. Factors in deciding structure include:

- Does the purchaser want to acquire the entire business?
- Are the assets easily transferable?
- Are there liabilities that the purchaser wants to exclude?
- Are there tax and accounting issues which could impact?

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Alternatively, it may be that to achieve their commercial objectives, an acquisition is not the best structure, in which case a joint venture, co-promotion or licensing deal may be more advantageous.

Prior to negotiating the acquisition documentation, Heads of Terms should be agreed which, with the exception of confidentiality and exclusivity provisions (to the extent not previously agreed and documented) are not intended to be legally binding. The Heads of Terms will identify and address key issues including the principal terms and conditions of the transaction. It may be that the Heads of Terms identify issues which result in the transaction not proceeding but at least time and money will have been saved since neither detailed due diligence nor drafting of acquisition documentation should have commenced.

The sale agreement will typically contain extensive warranties covering many different areas including intellectual property rights, regulatory and legal compliance, product liability and product approvals. Who gives the warranties will have to be agreed. Institutional investors, such as venture capitalists, will strongly resist giving warranties, leaving management shareholders in the firing line. They may be backed up by a warranty and indemnity insurance policy taken out by the purchaser, in which case who will bear the cost of the policy. Limitations will need to be agreed in respect of the warranties including financial, materiality, knowledge and duration.

There may be ancillary agreements required relating to manufacture, distribution and supply. The seller and the purchaser may also have to agree to provide support services to each other for a transitional period.

Successful M&A transactions in the life sciences sector require comprehensive due diligence to identify risks as well as an understanding of the relevant legal and regulatory issues. The parties will need to agree on value and on deal structure. It will then be possible to prepare and negotiate appropriate transaction documentation that meet all of their requirements.

SUCCESSFUL M&A TRANSACTIONS IN THE LIFE SCIENCES SECTOR REQUIRE COMPREHENSIVE DUE DILIGENCE TO IDENTIFY RISKS AS WELL AS AN UNDERSTANDING OF THE RELEVANT LEGAL AND REGULATORY ISSUES.

M&A AND DEAL MAKING

Searching for champions and cultural synergies

Strategic alignment is, by some distance, the key attribute that respondents desire in a potential partnership (74%), with strong relationships and a good cultural fit coming in second (52%). Although effective working relationships are considered to be one of the most important attributes in a partner, 40% of respondents include finding partners with whom they can build such a relationship among the top three deal-making obstacles they face. An interviewee with substantial strategic experience in the sector advised that teams who would potentially be working directly together should meet, especially when a collaborative partnership is on the table. "Sometimes the chemistry just does not work. That doesn't mean you necessarily shouldn't do the deal, but you should go into it with your eyes open. There can be some cultural mismatches, which can be managed, but you need to understand them before you go forward," explained the senior executive.

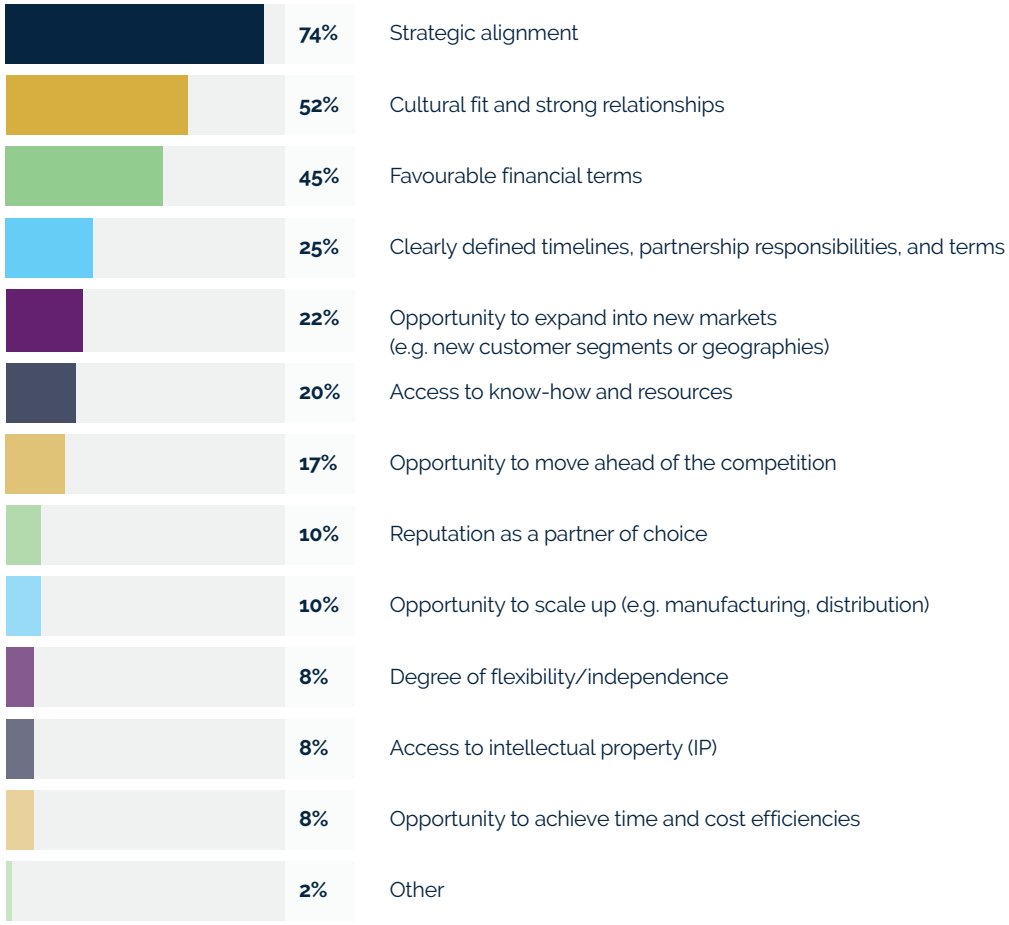
A number of the leaders interviewed for the survey also highlighted the importance of having a project champion within the company they partner with. This individual can be instrumental in driving the project forward, particularly in the face of staff turnover or shifts in a partner company's focus. "Partnerships depend on having an internal champion," stated a US-based interviewee. "The question is: how do you find that internal champion?"

While favourable financial terms are naturally high on respondents' agendas, with 45% naming this as a top three attribute, respondents also value clearly defined timelines, partnership responsibilities, and terms (25%). Setting clear parameters may help to lay the groundwork for a more effective partnership over the long term, facilitating the right conditions for what some of the C-level executive interviewees referred to as "genuine" collaborations or partnerships.

FIGURE 17

What respondents consider to be the three most important attributes in a potential partnership

Sample: All respondents (87)



R&D TO COMMERCIALISATION

FIGURE 18

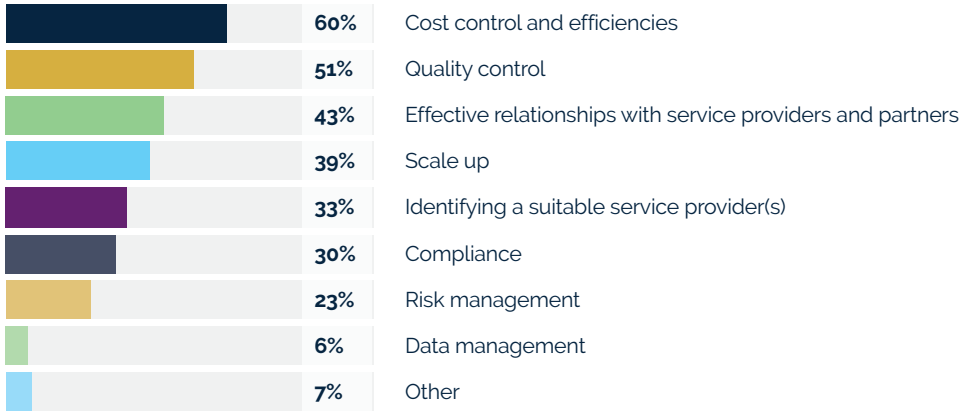
What respondents view as the three biggest clinical trial challenges

Sample: All respondents (85)

FIGURE 19

What respondents view as the three biggest manufacturing challenges

Sample: All respondents (83)



Patient recruitment tops clinical trial challenges

Patient recruitment remains a significant obstacle for senior life sciences executives, with 55% of respondents including this among their top three clinical trial challenges. Difficulties with patient recruitment and retention can have a knock-on effect on clinical trial costs and time to completion, two other key concerns for respondents. Speed is considered one of the top three challenges for 48% of respondents, while 40% cite cost control and efficiency as an issue.

Some companies have moved towards a more patient-centric approach to help improve patient enrolment and retention prospects. *The Patient Engagement Survey Report*, published by SCORR Marketing and Applied Clinical Trials in February 2018, revealed that 67% of pharma and biotech respondents expect patient engagement initiatives to increase substantially in the future. The most important long-term objectives of such engagement measures include determining which outcomes are important to patients (50%) and increasing patients' potential inclusion in future studies (41%).

Given the cost of conducting clinical trials, it is perhaps unsurprising that 39% of C-level life sciences respondents view financing as a challenge. As a US-based interviewee pointed out, patient recruitment can also have implications for investment; if enrolment takes longer than projected, then this could lengthen the time to exit for potential or current investors. "A challenge for clinical trials, before you have any enrolment metrics, is really predicting the enrolment timeline," added the interviewee.

Cost control and efficiencies are also seen as a challenge when it comes to manufacturing (60%), followed by quality control (51%), and establishing effective relationships with service providers and partners (43%).

R&D TO COMMERCIALISATION **EXPERT INSIGHT**

Peter Sausen, PhD, DABT, Vice President, Global Head Early Phase Development Solutions at **Covance, Inc.**

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Since biotech firms also play a large role in development in some of the most challenging areas – oncology, rare diseases, biologics – your program brings additional questions. Should you consider a biomarker or companion diagnostic strategy? How will changing regulations, global approval and fast track designations affect your development timelines? How will you tackle recruitment of very rare patients?

It can seem overwhelming. However, with the right plan and a partner who understands how your needs differ from those of a large pharmaceutical company, you can avoid hurdles such as missed milestones, redundant activities and disparate data. In fact, you no longer have to choose between the personalised engagement of a small CRO and experience, depth and breadth of a larger CRO. You can get personalised attention backed by a world of experience with the hub – a portfolio of drug development solutions designed distinctly for nimble biotech ventures.

Save time and money by beginning with the end in mind

By clearly defining your asset's ultimate destination – through a Target Product Profile - you gain a full understanding of its potential in a competitive market. That enables you to identify new investment opportunities and obtain a correct commercial evaluation for out-licensing or exit strategies.

You may be considering performing an initial study or small series of studies and continuing as more funding is acquired. This study-by-study approach may seem like your only option; however, it can be costly and time-intensive. Without a clear roadmap, you could risk loss of historical knowledge and data, delays between studies or phases, or increased cost and time spent managing non-scientific logistics (e.g. vendor evaluation and contracting, MSAs, etc.)

But, it is possible to overcome these hurdles with a prospective development plan that includes time and cost savings. With Early Phase Development Solutions, you have a cohesive team of experts to guide your strategy from a scientific, regulatory and program management perspective, with an eye toward reaching your specific goals – early exit, co-licensing or taking your drug to market.

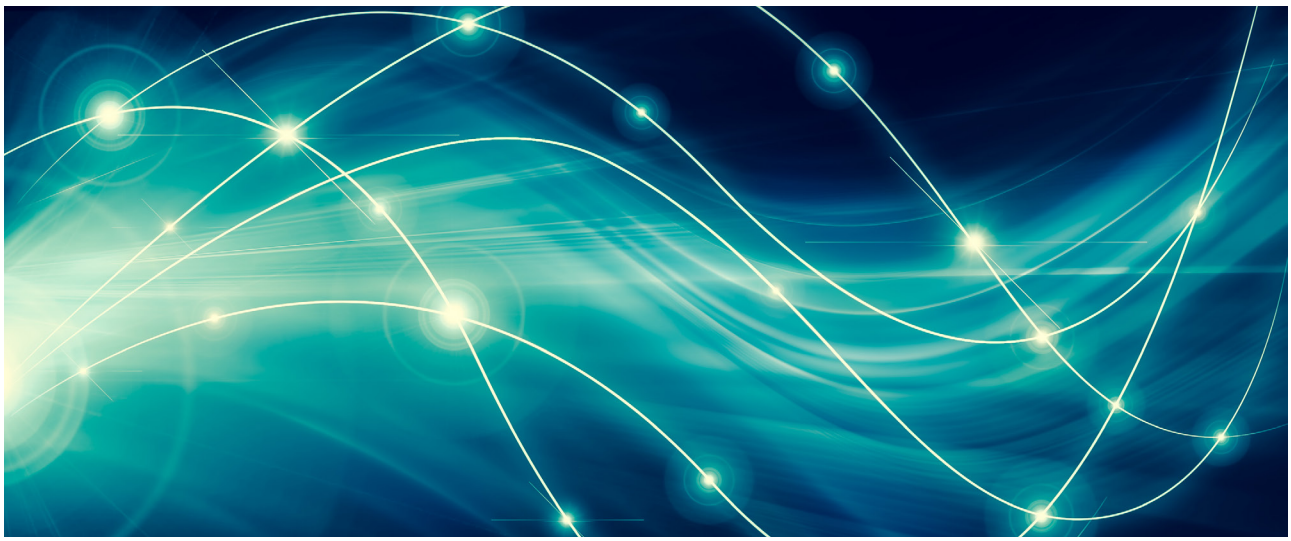

Image © Victoria - stock.adobe.com

If licensing or partnering is your ultimate objective, establish the right connections early with development partners using MarketPlace. It's a novel online platform for matching asset providers with partners seeking promising molecules to fill their pipelines.

Gain efficiency by taking a holistic view of your clinical trial

Today's marketplace is competitive and partners seeking licensing or co-development agreements are requiring more de-risking with regulatory approvals of Phase I or even proof of concept, before considering acquiring novel molecules.

If you're progressing into late stages – especially for the first time – it can feel overwhelming. A comprehensive clinical trial enables you to do more with fewer resources. With a personalised trial experience designed specifically for nimble biotechs that's based on Chiltern's collaborative model – you can progress ahead smoothly. And, with access to a host of complementary drug development solutions such as: Phase I clinical sites, central laboratory testing and regulatory or commercial guidance - your entire trial can be integrated for optimal success.

Accelerate your submission with access to the right data

Your trial depends on the patients who participate. Overcoming common challenges such as identifying high performing investigators, recruitment forecasting, protocol design and optimal location clustering can mean the difference between success and failure for a nimble biotech. To propel ventures like yours, we've uniquely combined LabCorp's database of identified patients who have consented to be contacted for trials with the world's leading investigator performance database for better decision-making and results – to accelerate your recruitment timelines.

Do it all, with access to the hub

Regardless of where you are today and how far you aspire to go in your drug development journey – you'll find options that can help you make the most of your endeavour. The hub offers solutions fit for your unique needs, driven by personalised attention, collaborative engagement and specialised expertise.

> OVERCOMING COMMON CHALLENGES SUCH AS IDENTIFYING HIGH PERFORMING INVESTIGATORS, RECRUITMENT FORECASTING, PROTOCOL DESIGN AND OPTIMAL LOCATION CLUSTERING CAN MEAN THE DIFFERENCE BETWEEN SUCCESS AND FAILURE FOR A NIMBLE BIOTECH.

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Covance® and Chiltern, a Covance company® are the global drug development businesses of LabCorp, the world's leading healthcare diagnostics company. Break through to a new experience. One with open access to a hub of innovative drug development solutions specifically designed for the nimble biotech venture. One that can save you time and money while adding value to your asset. Get streamlined nonclinical studies and move seamlessly into the clinic with comprehensive clinical trials that include central laboratory services, biomarker and companion diagnostics as well as regulatory and commercialization expertise. Accelerate your path forward with an experience Designed Around You®.

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R&D TO COMMERCIALISATION

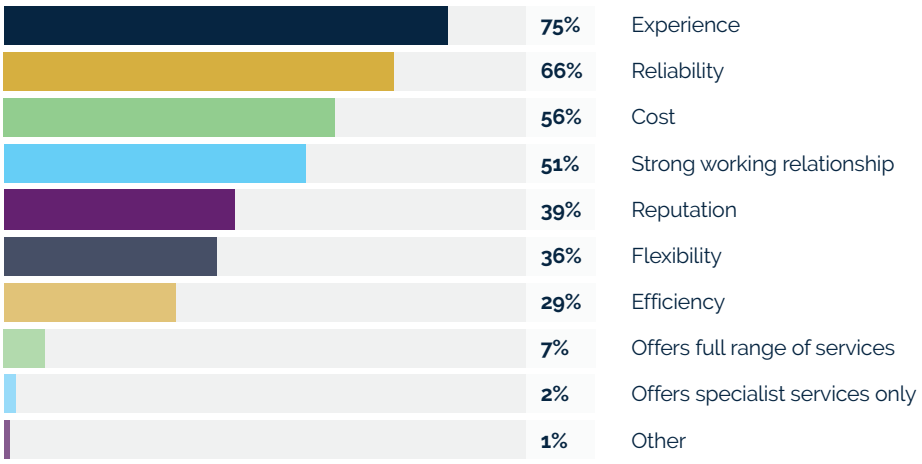
Valuing experience

More than half (51%) of respondents value service providers with whom they have a strong working relationship, and two-thirds (66%) value reliability. Experience is king however; three-quarters (75%) of respondents seek this in the service providers they want to partner with, placing it 19 percentage points above cost considerations (56%).

FIGURE 20

What respondents look for in a service provider (e.g. CRO or CMO)

Sample: All respondents (85)



AI perceived as most promising tech

While a quarter (25%) of respondents believe advances in technology will provide advantages for the R&D process, almost one-third (30%) expect such advances to have the greatest benefit on patient engagement, monitoring, and management. The growth of digital health apps and wearables has enabled patients to become more actively involved in their health, which may explain why one-fifth (21%) of respondents view connected devices as the technology that will have the most far-reaching impact on healthcare.

By some distance, however, life sciences C-suite respondents expect the most significant impact on healthcare to come from artificial intelligence (AI) and machine learning (52%). AI is currently the subject of substantial press and government attention, including its applications in healthcare. AI and data form one of four 'grand challenge' pillars in the UK's Industrial Strategy; using data, AI and innovation to transform the prevention, early diagnosis and treatment of chronic diseases by 2030 was the first 'mission' to be issued through this grand challenge. In France, President Emmanuel Macron announced his vision to make the country a leader in AI in March 2018, with health among the four sectors the new strategy will focus on.

Nevertheless, some have reservations about whether AI is yet at the stage where it can fulfil its full potential, with interviewees citing hurdles such as access to data sets as hampering its effectiveness. As one interviewee stated: "There's a lot of hype, but not much delivery yet."

FIGURE 21

Where respondents believe advances in technology will have the most benefit

Sample: All respondents (87)

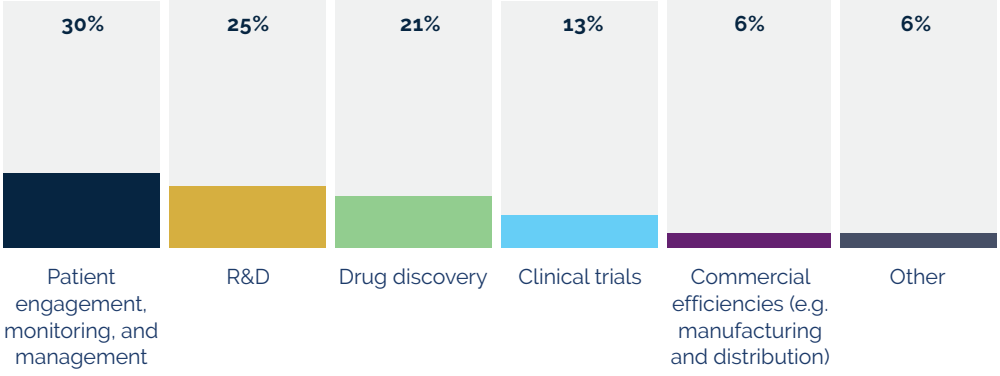


FIGURE 22

The technology respondents believe will have the most far-reaching impact on healthcare

Sample: All respondents (86)

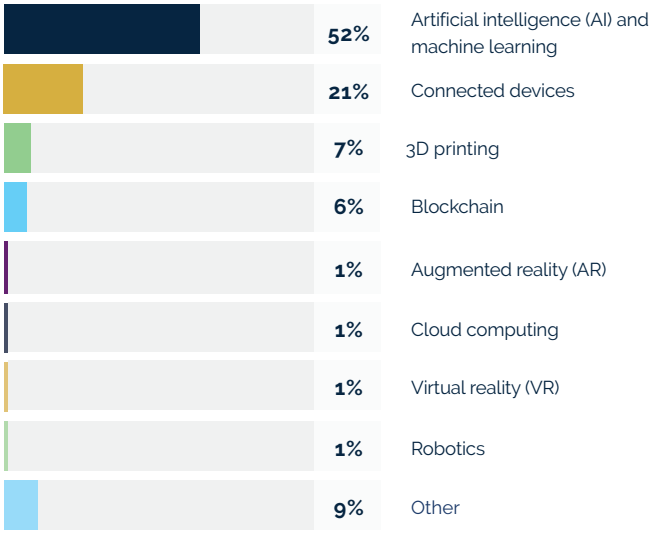
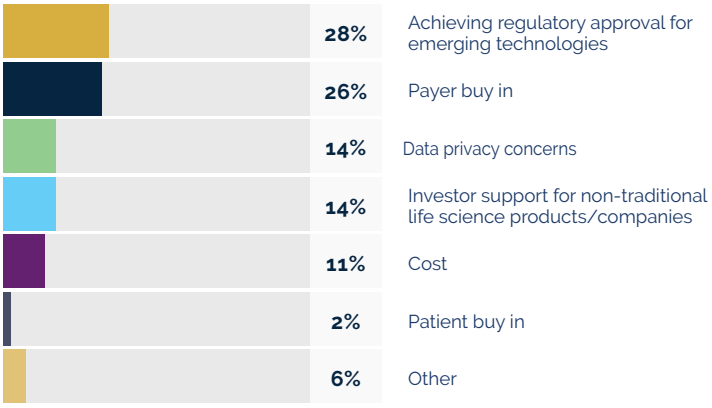


FIGURE 23

What respondents view as the greatest hurdle to the advance of new technologies in healthcare

Sample: All respondents (85)



Reservations around regulatory approval

Although data is a key component in both connected devices and AI applications in healthcare, which places an onus on building patient trust and understanding of data use, only 14% of respondents cite data privacy concerns as the greatest barrier to the advance of new technologies in healthcare. Patient buy in is also seen as a far smaller hurdle than payer buy in, at 2% and 26%, respectively. Yet, not wholly unexpectedly, the largest proportion of respondents view regulatory approval for emerging technologies as the main obstacle to advances (28%).

VIEWPOINT

Panos Constantinides, Associate Professor of Digital Innovation and Academic Director at the **AI Innovation Network, Warwick Business School**

Artificial Intelligence (AI) systems hold great potential in taking on an important role in healthcare research, diagnostics and treatment. AI can be defined *as the development of intelligent systems, capable of taking the best possible action in a given situation*[1]. Intelligent systems involve a (re)combination of human, machine and data resources at different points in the product, service or process delivery path.

AI systems in health vary from virtual assistants, speech recognition technology and chatbots for use in administrative and support tasks to more specialised platforms. For example, AliveCor has developed a mobile heart monitor that uses AI to detect, monitor and manage atrial fibrillation. There are also a number of partnerships between trusts and technology leaders in AI that have generated some successful results, such as the partnership with Moorfields Eye Hospital and Google DeepMind to identify disease with AI-enabled imaging of the back of the eye.

Despite the potential benefits of the aforementioned AI systems, examples of these technologies being implemented and deployed across healthcare organisations are sparse. The problem is that it is up to individual healthcare providers to make the business case for investment in AI systems to their respective boards and even after that is done successfully, going from investment to successful implementation requires extensive organisational changes, training and routinisation of the technology.

Healthcare organisations need to embrace a strategic approach to technological investment and adoption by embedding AI in all their service transformation plans. Such an approach must overcome concerns of both the public and healthcare professionals. Increasing public confidence in the way data is shared both within the NHS and with external organisations is also vital.

In addition, healthcare systems around the world will also need to change their data management practices, ensuring that they are collecting the right type of data in the right format, increasing quality and securely granting access to that data. It is also important for current regulations to be updated to make sure that AI systems implemented in healthcare lead to better and more efficient healthcare systems, while reducing variations in the quality of care and healthcare outcomes.

Note: *This is an abridged column. Read the full-length piece on www.lsxleaders.com*

1. *Constantinides, P., and Fitzmaurice, D. (2018). Artificial Intelligence in Cardiology: Applications, Benefits and Challenges. British Journal of Cardiology 25(3), pp. 1-3.*

IP, REGULATION AND COMPLIANCE

Underestimating data security risks

Questions around data privacy and how personal data is utilised have taken a larger than usual foothold in the public consciousness of late. This can be attributed, in part, to scandals involving the potential misuse of personal data in political campaigns, such as the 2016 UK referendum on European Union (EU) membership and the 2016 US presidential election. Perhaps the most high profile of these data scandals is that involving Cambridge Analytica and its alleged use of harvested Facebook profile data. Cambridge Analytica and parent company, SCL Elections, began insolvency proceedings in May 2018. In July 2018, the UK Information Commissioner's Office (ICO) announced its intention to fine Facebook a maximum £500,000 for two breaches of the Data Protection Act 1998.

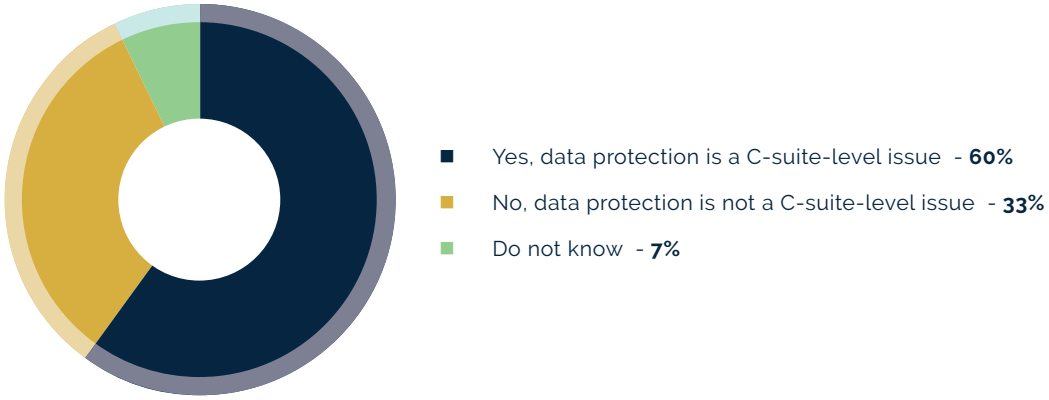
Meanwhile, companies in the EU, and indeed those outside of the EU who handle the data of EU subjects, have had to ensure that they are compliant with the General Data Protection Regulation (GDPR) that came into effect on 25 May 2018. The new regulation imposes stricter requirements around the collection and processing of personal data and strengthens individuals' data privacy rights. Those who fail to comply with the GDPR face fines of up to €20 million or 4% of global annual turnover.

Given the heightened attention around data protection and the more robust regulatory framework, it is somewhat surprising that under two-thirds (60%) of respondents report that data protection is a C-suite-level issue at the companies for which they work. Data is, of course, vital to the life sciences sector, whether that be clinical trial data, commercially-sensitive information about new technologies or product innovations or patient confidence in how healthcare providers and firms developing digital health devices, software and analytics tools utilise and protect their data.

FIGURE 24

The proportion of respondents for whom data protection is a C-suite-level issue at their company

Sample: All respondents (87)



A COMBINATION OF ENFORCEMENT ACTION, FINANCIAL AND REPUTATIONAL DAMAGE COULD AWAIT VICTIMS OF CYBER-CRIME OR THOSE WHO FAIL TO ADEQUATELY COMPLY WITH DATA REGULATIONS.

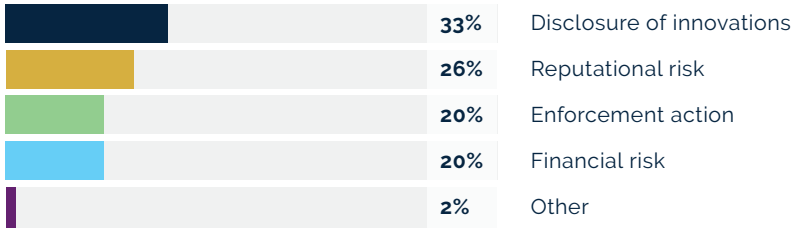
For survey respondents, disclosure of innovations is the most concerning outcome of a possible data breach (33%), followed by reputational risk (26%). Enforcement action and financial risk are not far behind, both at 20%. Companies that experience a data breach are unlikely to face exposure to just one of these potential risks; depending on the extent and nature of the breach, a combination of enforcement action, financial and reputational damage could await victims of cyber-crime or those who fail to adequately comply with data regulations.

It would be remiss to suggest that, as a whole, the industry is not placing data protection high enough on leaders' agendas. Indeed, according to KPMG's 2017 report *Life Sciences Innovation and Cyber Security: Inseparable*, which outlines findings from the 2017 KPMG/Forbes Insights Cyber-Security Survey, 51% of life sciences respondents are investing in cyber-security software and technology solutions and 41% are making improvements to governance measures and policies. However, one would hope to see data protection more firmly on the radar of senior executives come next year's *LSX C-Suite Challenges in Life Sciences Survey*, and a lower proportion than the current 33% of respondents stating that data protection is not a C-Suite-level issue.

FIGURE 25

The potential consequence of a data breach that most concerns respondents

Sample: All respondents (86)



Why IP is key

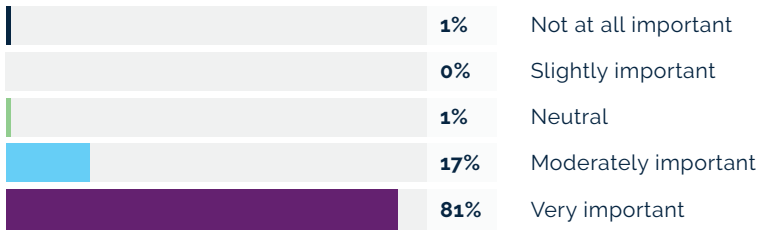
Almost all respondents recognise the importance of intellectual property (IP) protection to their companies: 81% consider it to be very important and 17% consider it be moderately important. Developing an effective IP strategy can play a crucial role in a company's success, particularly as it looks to achieve its financing, partnering, and commercial objectives.

As an interviewee at an early-stage, UK-based company said: "For companies at our stage, having a good external IP team is critically important. One, to be able to file patents as early as you can in the process, [and two], to make them as comprehensive and all-encompassing as you can. When you go looking for investment, the first thing you get asked is: great ideas, have you protected them?" This experience is reinforced by investors who took part in the *Investor Perception Survey 2018*, published by Biotech and Money/LSX in February 2018, who listed strong IP protection as one of the key elements they look for when deciding to invest in a company.

FIGURE 26

How important respondents consider intellectual property (IP) protection to be to their companies

Sample: All respondents (87)



IP, REGULATION AND COMPLIANCE **EXPERT INSIGHT**

Will Arends, Partner at **Marks & Clerk**

C-Suite challenges and how intellectual property can help meet them

The 2018 *C-Suite Challenges in Life Sciences Survey* from Biotech & Money/LSX paints a positive picture of the biotech economy. With 34% of respondents having recently received seed investment, and a further 35% having received series A and B investment – the start-up and SME scene is clearly in rude health.

At the other end of the market too, 16% of respondents reported their most recent financing round as being an IPO or second and follow-on offering.

The growth and investment we are seeing in this sector is being driven by the big health challenges of our time. Almost one-quarter (23%) of respondents, for example, are in the field of neurology and 17% in cardiovascular – with biotech companies looking to meet the challenges associated with an ageing population. Also reflecting contemporary health concerns, 29% of respondents are in the field of oncology.

Even times of growth bring challenges however, in particular around the securing of investment to sustain growth, and the developing of partnerships to help companies enter new markets and deliver innovative joint ventures. While the solutions to these questions are always nuanced, intellectual property (IP) is a crucial piece of the jigsaw when it comes to attracting investors and partners.

Beyond the problem of finding appropriate investors with a mandate to invest, one of the major hurdles identified by 28% of respondents is investors having a lack of risk appetite. A further 31% said that investors are often deterred because they lack specialist knowledge of respondents' therapeutic area.

While good investors will always be detail orientated, technical knowledge will not always be something they have. Having a prospect built upon solid IP foundations however, is an attractive factor in favour of investment, demonstrating as it does a high barrier to market entry for competitors.

IP comes under particular scrutiny when it comes to later stages of investment, such as IPOs and dual listings. Investors at this stage will look at a company's IP position carefully, to see what it says about prospects for future growth and the barriers to market for competitors. With 18% of respondents planning either an IPO or dual listing within the next two years then, and a further 39% saying an IPO is possible in the long term, we see how central IP should be to a business model in the biotech space.

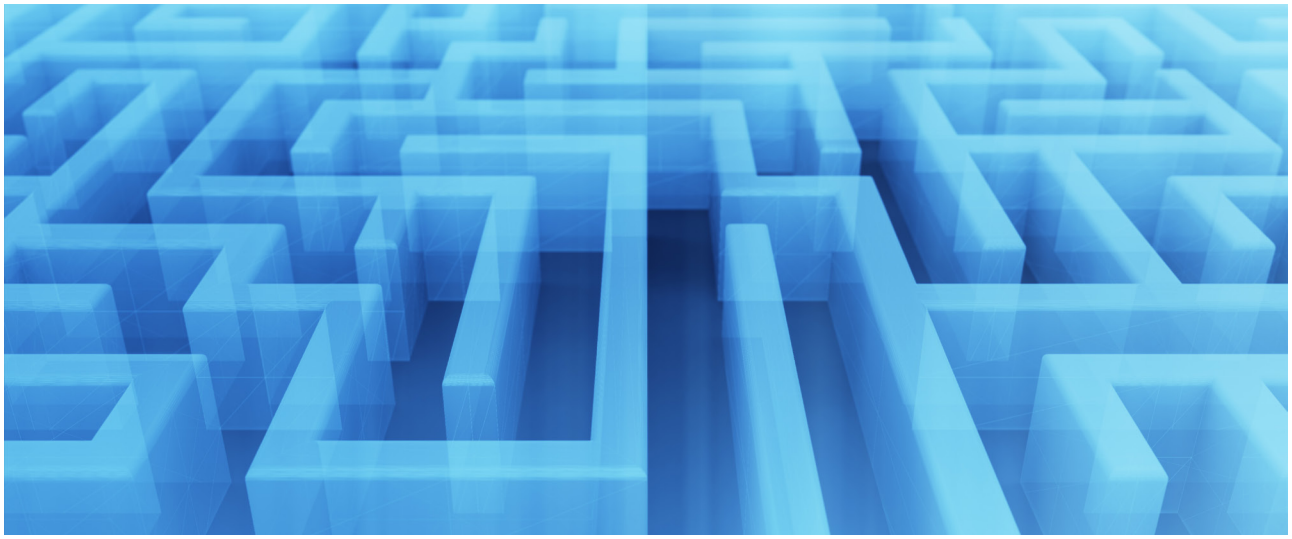


Image © flashmovie - stock.adobe.com

On the collaboration front also, a healthy economy means lots of activity, which again necessitates good IP. An impressive 76% of respondents indicated that they intend to enter licence agreements in the next 12 months with further respondents planning mergers, joint ventures, research collaborations and more. All of this is indicative of a vibrant biotech ecosystem and IP will be crucial in making these collaborations work and maximising the opportunities of bringing products to market.

For those entering a partnership or licensing technology – whether to enter a new market sector or new geographical territory – clearly defined terms of engagement early on can save a great deal of wrangling down the line. Parties should be clear on who will own the IP on any products that result from the agreement, and who owns the IP on products coming into the agreement.

Another significant concern for the biotech community in this year's survey is the impact of new technology. As with other sectors, biotech is being reshaped by emerging technologies that promise new ways of doing things and products that until recently sounded like science fiction. The potential of this technology, and the innovation it is unleashing, is recognised in the survey. One-fifth (21%) of respondents, for example, believe new technology will be beneficial in terms of drug discovery while 30% believe it will facilitate better patient engagement, monitoring and management (my colleague has written on the impact of tech in the medtech sector - *bit.ly/2NPhdtN*, and makes for interesting reading).

In terms of the technologies that respondents believe will have the biggest impact, more than half (52%) answered AI and machine learning. A further 21% believe connected devices will shape the future with 7% answering 3D printing. Again, the challenge for investors is recognised here with 14% saying that investor support for non-traditional life sciences products can be an issue.

Utilising emerging technology in the life sciences will again bring IP to the fore. Whether it's the development of novel AI-empowered health devices or the licensing of 3D printing technology for the creation of skin grafts – clear IP will attract investors and ensure innovation is rewarded.

Reassuringly, 81% of respondents recognise the value of IP and consider it 'very important' in protecting their company. (Possibly, some of the other 19% are relying on brand awareness or trade secrets for their businesses – perhaps not regularly thought of as being types of "IP" in the biotech sector although in fact they are). What is often underestimated, however, is the central role that IP should have in any business strategy. Whether that strategy is focused on expansion into new markets, collaboration, raising further funds or even just consolidating a position in a current market – good IP is the foundation upon which success can be built and an important investment for any business.

WHETHER IT'S THE DEVELOPMENT OF NOVEL AI-EMPOWERED HEALTH DEVICES OR THE LICENSING OF 3D PRINTING TECHNOLOGY FOR THE CREATION OF SKIN GRAFTS – CLEAR IP WILL ATTRACT INVESTORS AND ENSURE INNOVATION IS REWARDED.

Marks & Clerk

Marks & Clerk is one of the UK and Europe's largest Patent and Trade Mark Attorney firms, with offices across eight UK locations and nine international locations covering the EU, Asia and Canada. A global network with more than 800 people worldwide, it advises clients in a full range of sectors and in all aspects of intellectual property – patents, trade marks, designs and copyright. The firm's expert team offer a full spectrum of IP services ranging from filing and prosecution, to litigation and strategy.

In 2017 Marks & Clerk was once again named the UK's top filer of Patent Cooperation Treaty (PCT) applications as well as one of Europe's top three filers. In 2017 the Chartered Institute of Trade Mark Attorneys (CITMA) also named Marks & Clerk the top filer of trade marks in both the UK and the EU with the firm filing nearly 200 more trade marks than its nearest EU rival.

For more information, please visit: www.marks-clerk.com

IP, REGULATION AND COMPLIANCE

Post-Brexit funding fears

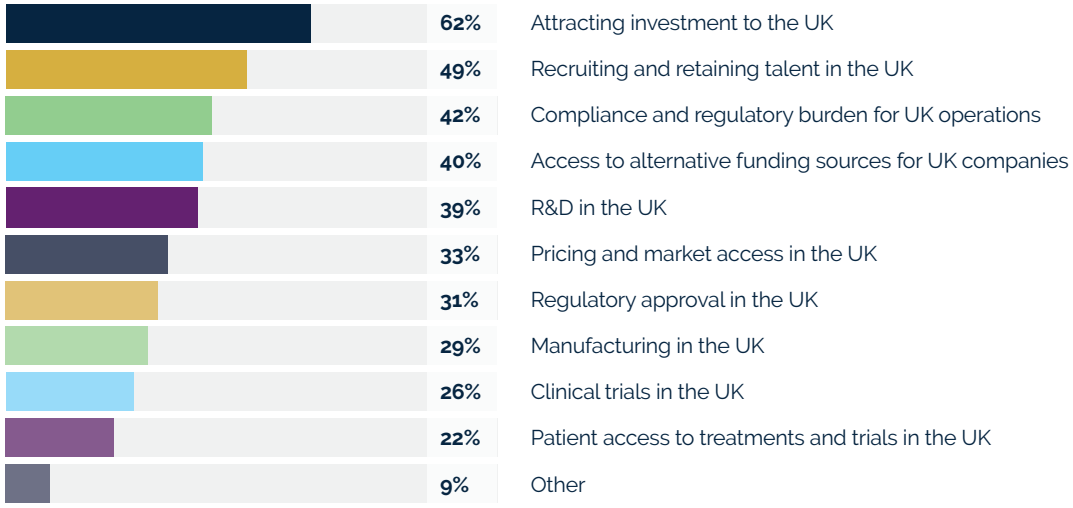
It is now less than a year until the date upon which the UK is scheduled to exit the EU: 29 March 2019. Much can be said about the path to the UK's exit but, as many anticipated, the UK-EU Brexit negotiations have not been smooth sailing thus far and at present there is not much sign of calmer waters ahead. For almost two-thirds (62%) of C-suite life sciences respondents the impact of Brexit on the ability to attract investment to the UK is viewed with particular concern. In the Biotech and Money/ LSX *Investor Perception Survey 2018*, 20% of investor respondents stated that the UK's decision to leave the EU had resulted in them placing a greater focus on investment opportunities outside of the UK.

In the Autumn Statement 2017, UK Chancellor Philip Hammond looked to alleviate investment concerns by pledging to replace European Investment Fund lending if needed and announcing measures to unlock patient capital to spur investment in innovative companies. Yet, financing fears for the sector remain, with 40% of senior life sciences executive respondents citing access to alternative funding sources as an area that they expect to be negatively impacted by Brexit. A UK-based interviewee noted: "Not being able to participate in some of the EU-specific grant funding initiatives will leave a big hole for small companies."

FIGURE 27

The areas upon which respondents believe Brexit will have a significant negative impact

Sample: All respondents (85)



Hopes for alignment

The increased compliance and regulatory burden companies with UK operations may have to face is also a worry for the life sciences C-Suite (42%), and a number of interviewees expressed the need for regulatory alignment to minimise the weight this would place on businesses. In its July 2018 white paper, *The Future Relationship Between the United Kingdom and the European Union*, the UK government confirmed that it would seek to be an active participant of the European Medicines Agency (EMA), which it acknowledged would involve it making a financial contribution but would not afford it voting rights. On 17 July, MPs voted to go further by supporting an amendment to the government's Trade Bill which states that it will be a negotiating objective to implement an international trade agreement that allows the UK to fully participate in the European medicines regulatory network. At the time of writing, the Trade Bill had begun the next stage of its passage through Parliament after being introduced to the House of Lords.

One-quarter (26%) of respondents are concerned about Brexit's impact on clinical trials. The Medicines and Healthcare

Products Regulatory Agency (MHRA) has confirmed that the new EU Clinical Trials Regulation (CTR) will be enforced in the UK during the Brexit implementation period (30 March 2019-31 December 2020) if it is introduced in 2020 as expected. If it is introduced after 2020, then the UK intends to align UK law with the elements of the CTR that are under its control, but this excludes use of a shared, central IT portal and participation in a single assessment model. Access to these elements would be dependent upon the outcome of the Brexit negotiations.

Seeking certainty on post-Brexit arrangements

Around half (49%) of respondents believe Brexit will have a significant negative impact on attracting and retaining talent in the UK. Whether top talent will want or be able to work and live in the UK to the extent they did previously could have implications for the life sciences sector that span from academic research and innovation through to company management teams and employees. As one UK biotech interviewee pointed out: "[The uncertainty] makes people worry, and that's never good for motivation." On the whole, uncertainty was the overriding sentiment among those interviewed for the report, perhaps best summed up by the following remark: "Industry always says that uncertainty is bad for business. Give us certainty, we can manage around it."

In August 2018 the UK government published its first batch of technical notices designed to provide guidance on how to prepare for a no-deal scenario. A number of these relate to the healthcare and life sciences sector, from clinical trials to batch testing medicines. UK Secretary of State for Health and Social Care, Matt Hancock, has also written to pharmaceutical companies and medical device suppliers regarding contingency plans in the event that no deal is reached with the EU. Among other measures, this requests that pharma companies stockpile an additional six weeks' supply of medicines in case imports from the EU are affected.

"INDUSTRY ALWAYS SAYS THAT UNCERTAINTY IS BAD FOR BUSINESS. GIVE US CERTAINTY, WE CAN MANAGE AROUND IT."

VIEWPOINT

Dr Michael Hopkins, Senior Lecturer (SPRU - Science Policy Research Unit) at the **University of Sussex Business School**

One might think that planning for uncertainty is something that biotech firms are well practiced in. After all, biomedical innovation is a highly uncertain business. The stately pace of highly regulated product development processes affords firms time to plan their risk mitigation strategies. Corporate alliances and pipeline diversity can be used to hedge against all-or-nothing outcomes. Yet such old standby strategies have little use with the rapid approach of Brexit. Large pharmaceutical firms are responding with contingency planning for impacts that may never happen – and can afford to do so. However, many smaller companies seem frozen in the headlights of the oncoming Brexit bus. So, what should executives be acting on?

Supply chains look vulnerable already. Pharmaceutical ingredients pass backwards and forwards across the channel during manufacturing processes. Concerns about potential customs holdups, tariffs, and short-term disruption in the worst case 'cliff edge' scenario should be prominent in the eyes of executives in the UK and beyond, particularly those serving vulnerable patients. Even the possibility of changes to the customs status quo exposes UK suppliers to the risk that continental buyers will choose to look closer to home for more certain supplies. UK manufacturers face the same predicament but will often have fewer options. Hiring and retaining skilled staff should also be a real concern for UK firms. Highly-trained EU nationals will be carefully weighing their prospects.

Even very early-stage firms with few staff and no manufacturing should be concerned about the loss of access to valuable European institutions. For example, the European Investment Bank bolsters venture capital investing in the UK sector. Those thinking longer term may be concerned about uncertainty surrounding EU research funding and the associated collaborative opportunities at risk for UK scientists. Undermining of the science base could in turn make the UK a less attractive environment for future corporate inward investment. On a positive note, the uncertainty will be over in March 2019 – not so long to go now.

Michael Hopkins is co-author, with Geoffrey Owen, of 'Science the State and the City: The UK's struggle for success in biotechnology'. 2016. Oxford University Press.

TALENT AND EXECUTIVE STRATEGY

Recruiting in the face of limited resources

More than one-third (38%) of respondents find it difficult to recruit and retain talent and 5% find it very difficult. Filling senior management roles poses the greatest challenge, as reported by almost half (48%) of respondents. Considering that 80% of investor respondents in the Biotech and Money/LSX *Investor Perception Survey 2018*, published in February 2018, state that the strength of the management team is a deciding factor in their investment decisions, failing to attract the right senior leaders can have wider consequences on a company's financing and strategic objectives.

It is worth bearing in mind that a sizeable proportion of respondents to the *LSX C-Suite Challenges in Life Sciences Survey* are from earlier-stage companies, where there may be less capital to offer competitive remuneration packages. Lack of resources is among the top three barriers to attracting talent for 42% of survey respondents. One interviewee with many years of experience across C-suite and board-level positions in the UK and US life sciences sector, suggested that start-ups could overcome this quandary by wrapping an experienced board around the founding team. The board's skills and expertise can support those of management when seeking early-stage investment and, if financing is successfully secured, this will provide more capital to attract experienced individuals to the company's management team.

FIGURE 28

How difficult respondents find it to attract and retain talent

Sample: All respondents (88)

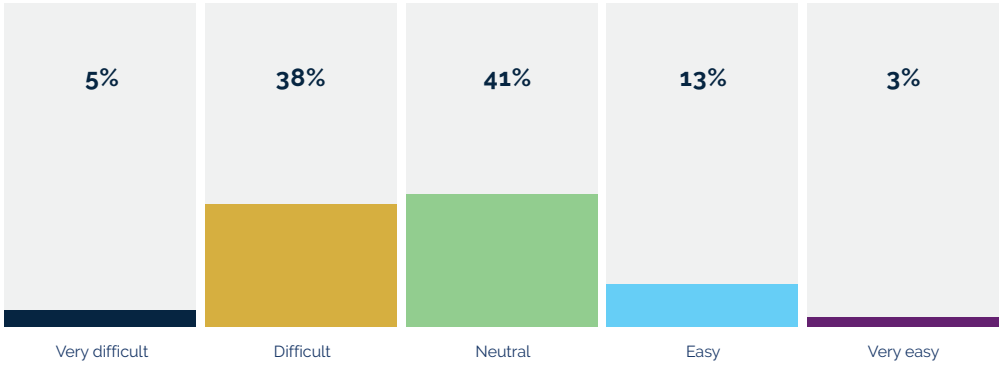


FIGURE 29

The job roles that respondents find it most challenging to recruit for

Sample: All respondents (84)

FIGURE 30

What respondents feel are the three main obstacles to attracting and retaining talent

Sample: All respondents (84)

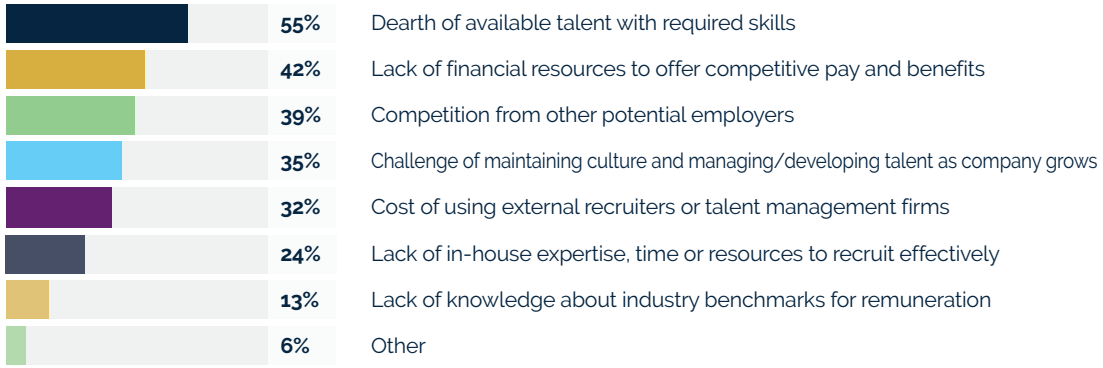


FIGURE 31

The proportion of respondents that believe the life sciences sector is doing enough to encourage diversity and inclusivity

Sample: All respondents (86)

- Yes, the life sciences sector is doing enough - **40%**
- No, the life sciences sector is not doing enough - **31%**
- Do not know - **29%**

Refocusing the spotlight on diversity

Around one-third (31%) of respondents do not feel that the life sciences sector is doing enough to encourage diversity and inclusion, while 29% are unsure. It is somewhat surprising that 40% believe that enough is being done considering some of the recently reported gender pay gap figures for the sector – now a mandatory requirement for UK companies with over 250 staff – and findings from other industry surveys. Research by Epsen Fuller Group, released in April 2017, for example, found that women account for just 13% of C-Suite executives in publicly-held US life sciences companies.

There are a number of steps companies can take to foster an inclusive and diverse workplace culture. These range from policies such as blind recruitment and flexible working through to mentoring schemes, employee network initiatives and visible senior leadership, to name but a few. For companies that are already prioritising diversity and inclusion, there are gains to be had. Liftstream's 2017 *A Public Reality for Women in Biotech Boardrooms* report, based on US companies that had undertaken an IPO in 2012-2015, found that the share price of firms with at least one woman on the board outperformed companies with all-male boards by around 28%. Meanwhile, international, cross-industry research by McKinsey & Company - *Delivering through Diversity*, published in January 2018 - found that companies in the top quartile for ethnic and cultural diversity on executive teams were 33% more likely to have industry-leading profitability.

VIEWPOINT

Yasmin Chandrasekher (right) and **Jessica Swartz** (left), Co-Chairs of **Executive Women In Bio**

The leadership landscape within the life sciences is beginning to change. More and more companies are taking heed of studies that have shown women in the C-suite and boardroom can improve profitability and deal more effectively with risk, respectively. Executive Women In Bio (EWIB), a division of Women In Bio that strives to be a foundational resource for women in executive roles, aims to accelerate greater diversity in life science companies by bolstering the presence of women in the C-suite and the boardroom.

One way EWIB is working toward that goal is through a program called Boardroom Ready. This program was designed to help highly-qualified executive women overcome the catch-22 of needing board experience to get a board position. Leveraging a strong network of industry leaders and sponsors, the 20 women selected for the program each year are provided mentorship and the tools that could help them secure their first board appointment. In addition, the participants attend an intensive board competency-building curriculum held at George Washington University to refine each candidate's understanding of the responsibilities related to serving on both public and private boards. Now in its third year, Boardroom Ready has celebrated 15 appointments of past participants to corporate boards.

The success of this program is built upon a supportive network of people throughout the industry. Men and women who have directorship experience have stepped up to be mentors, to share participants' expertise with those who are looking for new board members, and to encourage the overall community to embrace change within the boardroom. EWIB and the Boardroom Ready program encourage everyone within the life science community to leverage existing networks and act as a resource to women in order to improve the rate at which diversity permeates leadership roles within this growing and innovative industry.

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Further thanks should be given to our Community Partners and Optimum Strategic Communications for helping to distribute the survey to their networks.

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ABOUT US

In 2018, Biotech and Money became LSX – Life Science Executives. At its heart, our company is in the business of connecting senior life science executives with access to the capital, intelligence, innovation, and partners they need to grow their business.

Our new name builds on our long-standing mission to forge a fundamentally better way to facilitate investment, foster partnerships, and build relationships in healthcare, while also better reflecting the community we serve and our role in helping life science executives surmount the challenges they face.

We do this through our world-class conferences and events that break the mould with innovative formats, networking and business development opportunities, as well as through powerful thought leadership and media offerings.

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