

strategy&

MedCity

*Japanese pharma
in Cambridge,
London, Oxford,
and South East
of England*

&

**Collaborating for
success**


pwc

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Foreword



Eliot Forster
Chairman of
MedCity

Life sciences, and pharmaceutical companies in particular, are an important pillar of the U.K. economy. The life sciences sector turns over almost £50 billion per year, employs 175,000 people, and boasts almost 5,000 active companies. Its economic contribution is substantial, but its positive impact goes beyond that, being a source of innovation, skills, and competitive advantage. Hence the support the sector receives from the U.K. government, which has a dedicated minister for life sciences, supported by the government's Office for Life Sciences.

Cambridge, London, Oxford, and the South East of England are the U.K.'s powerhouse for life sciences. All of the world's top 20 pharmaceutical companies have invested in this region, which boasts three of the world's top 10 universities (Oxford, Cambridge, and Imperial), a variety of other top-quality institutions, and a thriving life sciences sector. Japanese pharmaceutical companies already play an integral part — between 2005 and 2014 they were the second-largest contributor to foreign direct investment for life sciences in the region.

MedCity is a London-based collaboration between the Mayor of London and London's three academic health science centres, working with University of Oxford and Cambridge University, to promote and enhance life sciences in the sector. MedCity commissioned this report to find out what is attracting Japanese companies to the Cambridge, London, Oxford, and the greater South East of England, what factors might encourage more to come here, and what action could be taken to make the South East of England an even better option than other locations.

The findings in this report, having been substantiated by interviews with Japanese pharmaceutical companies, identified three key factors: access to an abundance of talent, a good IP & legal framework, and a strong and diverse life sciences ecosystem:

An abundance of talent:

The region offers a rich and diverse talent base, thanks to the strength of its academic institutions and the range of research being undertaken in the sector. So much so, in fact, that Japanese companies have told us that they can access the specialist staff they need locally, without the need to transfer them from Japan, as is necessary elsewhere in Europe. The same applied for more general management and finance employees — London is a great place to find and hire great people, and international talent is always keen to move to the region.

Good IP and legal frameworks:

The region can take full advantage of the U.K.'s strong and stable IP and legal frameworks, which Japanese pharmaceutical companies taking part in this survey identified as the single most important factor for Japanese pharmaceutical businesses. They can invest in R&D here with the confidence that the regulatory system will protect their IP, their patents, and their contracts. There are also attractive new innovations such as the 'Patent Box' tax regime for IP revenues.

A strong and diverse life sciences ecosystem:

The strength and breadth of the industry in the region offers significant possibilities for profitable partnership, whether with the established global players or dynamic startups and spin-offs. The National Health Service (NHS) is another key factor, both as a partner and as a purchaser of goods and services.

As this report shows, these factors have already attracted substantial inward investment from Japan. However the report highlights areas where Japanese companies in the region see possibilities for improvement. These range from a reduction in red tape to establish clinical trials and integration into the NHS, to venture capital to foster incubators of innovation that Japanese companies can later access.

MedCity, its partners, and its stakeholders in the life sciences fields are taking on these challenges. Everyone has a role to play to ensure we achieve maximum benefit for all involved in Japanese investment in the South East of England, and the significant opportunities it presents.

I hope you enjoy reading this report and that it stimulates dialogue as to how the Japanese life sciences community can better collaborate with Cambridge, London, Oxford, and the South East of England.

Current state analysis



Pre-Assessment Unit ↑
Patient Theatre Reception ↑
West London Day Surgery Centre ↑
Central Admissions ↑

Building

Pre-Assessment Unit ↑
Theatre Reception ↑
Surgery ↑
Admissions & HDU ↑
Assessment (MAU) ↑
Ward & Out ↑

U.K. government support for life sciences R&D

Life sciences is an important sector of the U.K. economy, and it is expected to be a major contributor to the country's long-term economic development. A number of government-supported life sciences initiatives have been launched in recent years, including the new Precision Medicine Catapult launched this year in Cambridge, the Cell Therapy Catapult in London, Leukaemia & Lymphoma Research's Trial Acceleration Programme in Birmingham, and the 100,000 Genomes Project run by Genomic England. There are also a number of academic, healthcare, and industry consortia forming across the country, including MedCity, launched in April 2014; the Northern Health Sciences Alliance, launched in May 2014; and 15 academic health science networks and seven academic health science centres.

The U.K. has a strong presence within all three of the industry subsectors: pharmaceutical, medical technology, and biotechnology. According to the Bioscience and Health Technology Database¹, there are nearly 5,000 life sciences companies in the U.K. that develop, produce, and market products and services across these three subsectors. Almost 10% of these are in pharmaceuticals, and all of the global top 20 pharmaceutical companies are active in the U.K., with most of them in the South East of England (SEE). This is evident in cities such as Oxford, where three of the top six European Union-based biotechs have an HQ².

In 2014, Japan initiated more overseas investment projects than any other nation in Asia-Pacific

Japanese pharmaceuticals in the U.K.

Japanese companies are an important investor in the U.K.'s life sciences industry, especially in pharmaceuticals. A recent joint study by MedCity and London & Partners³ found that between 2005 and 2014, Japan was the second-largest⁴ contributor to foreign direct investment (FDI) for the life sciences sector in the Greater South East; projects ranged from sales and marketing, to R&D, to establishing new commercial bases. Of a total 336 FDI projects in the region, 33 were sponsored by Japanese companies (10%). These 33 projects contributed to the creation of 1,504 jobs and £163.7 million in capital expenditure.

Pharmaceuticals was by far the most important subsector for Japanese FDI, accounting for 24 projects (73%) and 1,377 jobs (92%).

The Japanese pharma industry is looking to grow by expanding overseas. In 2014, Japan initiated more overseas investment projects than any other nation in Asia-Pacific, and the £33 billion of capital it invested abroad was second only to China (£42 billion). The Japanese pharmaceutical sector, in particular, has more than enough capacity to make significant overseas investments: R&D spending by Japanese research-based

pharmaceuticals amounts to only 11% of their sales, compared to 17% in the E.U. and 21% in the U.S.⁵ A recent report by Evaluate Ltd shows that 11 of the world's top 50 pharmaceutical R&D investors are based in Japan (22%) yet they account for 12% of R&D spending⁶ (see Figure 1). Generally, Japanese pharmaceutical companies have also accumulated large cash reserves, and are looking for new investment opportunities. By way of example; in 2014 the top 3 global pharma companies held, on average, cash and equivalents worth 13% of revenue — the top 3 Japanese companies held 28% worth of cash and equivalents.⁷

Simultaneously, as international expansion is becoming more attractive for Japanese companies, it's also getting significantly easier. Recent government reforms have

made considerable progress in harmonising Japan's domestic regulations with those in the E.U. and U.S. This is accelerating more investment within the Japanese pharmaceutical sector, both inward and outward, as Japanese companies look for potential acquisitions. Many of these businesses looking overseas for new opportunities are finding them in the U.K. And of the 13 Japanese pharmaceutical companies that have a presence in the U.K., 12 are based in the SEE region (see Appendix B).

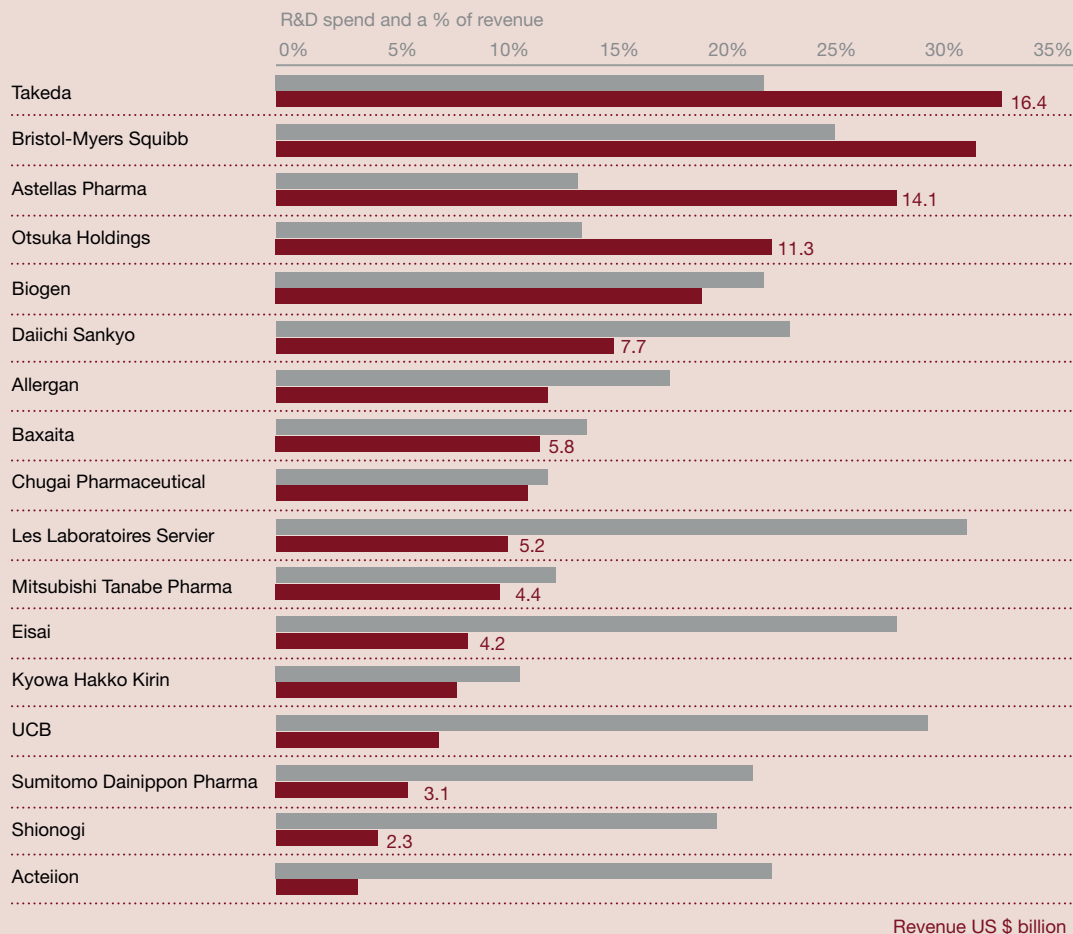
So what is attracting Japanese companies to the South East of England? What factors might encourage more companies to come here, and what action could be taken to make the region a better option than other locations? These are the questions our report addresses.

Figure 1:



Top 10 Japanese pharmaceutical companies by R&D spend and Revenue in 2014, alongside similarly sized non-Japanese pharmaceutical companies

(Japanese companies labelled on revenue axis)





***Our approach to assessing
Japanese pharmaceutical
companies' experience in
the South East of England***

Our aims

This report has been commissioned by MedCity, a London-based collaboration between the Mayor of London and London's three academic health science centres. MedCity promotes the Greater South East region in England (see Figure 2 for the area covered) as a desirable location for life sciences research, development, manufacturing, and commercialization. Strategy&, PwC's strategy consulting team, worked alongside MedCity to:

- Understand the experience of Japanese life sciences companies already doing business in the SEE region
- Identify the strengths and weaknesses of the SEE region as a location for both R&D and headquarters (HQ) functions
- Outline recommendations to improve the attractiveness of the SEE region for Japanese life sciences companies
- Highlight the potential benefits of increased activity to both the SEE region and Japanese life sciences companies



Figure 2:

South East England geographic boundaries, as classified in this report



Our approach

When any company looks to where it should locate facilities, whether headquarters, R&D, or manufacturing, there are three key areas which they consider (see Figure 3):

- Access to talent and scientific base
- Business environment
- Geographic location

Munich, Cologne, Geneva, and the SEE are examples of global pharmaceutical industry hubs, where all three factors coalesce to form hubs of commercial and research activity.

We applied the threefold framework outlined above to assess what SEE offers Japanese life sciences companies now, and what it could offer in the future. We also carried out a consultation exercise, incorporating both face-to-face interviews and an electronic survey, to validate our assessments. Our analysis covered seven of the top 12 Japanese companies, by R&D spend.⁸

il. **Figure 3:**
Key considerations when locating



The experiences of Japanese pharmaceuticals in Cambridge, London, Oxford, and the South East of England



“ Other locations in Europe are strong, but none quite so because SEE has all the universities, institutes, and medical schools.

**Major Japanese pharmaceutical company
CFO**

SEE has strong academic institutions and a wealth of research talent

The major theme that emerged from our consultation and survey was the presence of strong academic institutions and research talent in the SSE. There is a diverse range of academic institutions, such as Cambridge, Oxford, University College London, Imperial College, King’s College London, Institute of Cancer Research London, London School of Hygiene and Tropical Medicine, Anglia Ruskin University, and the University of Surrey, which fall within the SEE

boundaries. These alongside many other institutions help provide pharmaceutical companies with the infrastructure and facilities they need to locate R&D facilities in the region. The institutions and their facilities also have the mutually reinforcing benefits of simultaneously creating and attracting skilled research talent. All this has meant that Japanese companies can recruit local talent rather than import staff from Japan, as is the case in some other European cities.

“ In other European locations we’ve had to recruit Japanese R&D staff — in SEE this isn’t an issue.

**Major Japanese pharmaceutical company
General Manager of R&D**

The intellectual property system proves attractive to Japanese companies

Our survey findings show that Japanese pharmaceutical companies rated the SEE’s intellectual property (IP) system as its strongest attribute. With an average rating above four out of five, the intellectual property system was the outright leader in our survey. IP protection is of utmost importance in pharmaceuticals, especially where R&D is involved — companies need to know that if they are innovative and formulate a novel drug, they are protected. In the U.K., the Intellectual Property

Office (IPO) oversees the implementation of intellectual property regulation, and its ability to regulate and enforce IP security was most valued. This report found the U.K., Switzerland, and the Netherlands are among the most robust IP protection regulators globally. The U.K.’s ‘Patent Box’ initiative has contributed to the SEE becoming a global hub. A ‘Patent Box’ is a tax regime specifically for intellectual property revenues. The scheme reduces the rate of tax on profits made from patents, providing an incentive for innovation.

“ Younger people from overseas like to live in SEE. We can draw on diverse cultural elements unlike anywhere else in Europe.

**Spin-out from a global pharmaceutical company
Founder**

Sound legal system, competitive costs, and the region’s appeal as a relocation destination

Legal framework benefits

The SEE is generally seen as an innovation-friendly environment. This reputation is supported by the U.K.’s legal system, which is highly regarded for its reliability, stability, and straightforwardness. Even respondents who considered the system to be somewhat slow were still content with the predictability of it. Respondents found the enforcement and respect shown towards contracts and patents commendable. Good, flexible employment laws help employees and companies cope with the risks of being laid off and employee departures.

Competitive costs

The U.K. taxation regime is a positive factor: Low corporate tax combined with the favourable treatment of R&D activities proves particularly attractive to Japanese pharmaceutical companies.

In the SEE, labour costs are considered to be below their U.S. equivalents, while outputs are considered to be of equal quality. Despite London’s reputation as an expensive city, our interviewees see the SEE as a good value for their investment. The cost of living was not considered to be a deterrent for Japanese pharma.

A desirable relocation destination

All our interviewees agreed that London is a great place to find, hire, and retain international talent, whether in R&D, management, or finance. Prospective employees are eager to move to and remain in London, making it easy to recruit from anywhere in the world. SEE’s diversity is attractive. Having English as a main language is also an advantage, as are the comprehensive transport links both within the region and across the world, with direct flights to Japan. In fact, London is one of the few European cities from which there are direct flights to Tokyo, which was stated to be a significant advantage.

Other positives

The vast number of organisations in the pharmaceutical industry that are located in the region creates a useful ‘network effect’. The co-location of pharma companies, academic institutions, spin-offs, and startups can provide beneficial collaborative relationships.

For early-stage companies, raising financing does not seem to pose a problem — many thought that London in particular was a good place for startups to look for funds, especially from venture capital companies that are eager to invest in biotech companies. See below for comparisons to some U.S. hubs.

“ The U.K. is very focused on metric research outputs, constraining creativity and serendipity.

**Japanese pharmaceutical company
Head of Business Development and Finance**

“ Working with the NHS could be a lot easier...

**Japanese pharmaceutical company
Business Development and Finance**

Areas that could be improved

Rigid reimbursement and bureaucratic clinical trial policies

Even though the SEE is an innovation-friendly environment, interviewees do have some issues that they believe should be addressed. For example, strict NHS policies can make it hard to conduct clinical trials and to get new medical products approved. The need to demonstrate high cost-effectiveness is also thought to be harder compared to reimbursement requirements in some other regions, such as Scandinavia and Germany. Indeed, some respondents have viewed the SEE and the U.K. overall as hesitant to embrace innovation at times, compared to international alternatives.

Looking more widely, the U.K. is seen as investing less in R&D compared with the U.S. and other countries. Pharmaceuticals and academics alike are concerned that an overemphasis on specific research outputs is making it harder to find the sort of ‘serendipitous’ discoveries that have transformed medicine in the past.

Low availability of finance for midsized pharmaceuticals

Somewhat surprisingly, despite London’s unparalleled position as Europe’s financial centre, our respondents do not consistently view SEE as a good location for medium-sized businesses to access funding. Venture

capital (VC) finance is readily accessible for startups, but midsized companies can struggle to access finance for expansion and are often acquired by larger pharmaceutical companies instead.

Access to VC community in R&D hubs

More generally, our respondents believe VC finance is easier to come by in areas such as the San Francisco Bay Area and Boston and that this in turn fosters innovation. The view of Japanese companies was that VC firms supported innovation by funding technologies to proof of concept, creating more robust assets for them to acquire. In addition, Japanese pharma valued having access to VCs for advice and support with biotech management expertise, which made it easier for Japanese companies to manage their investments in biotech.

The commercial acumen of local talent

Japanese companies benefit greatly from the depth of pharmaceutical talent in SEE, especially research talent. However, some companies mentioned that commercial acumen is also required. Some Japanese pharma companies found this below average in the region; as *Figure 4* shows, Japanese companies rated “commercial talent” as SEE’s eighth most attractive attribute out of 12.

“ Venture finance and access to capital is quite a bit harder than it is in the U.S. in areas of comparable quality.... The disappointment is the lack of money in London to support public companies in the biotech arena. There isn’t the wealth of [financial investor] expertise and interest that there is in the United States.

**Japanese pharmaceutical company
Industry Professional**



Figure 4:
How Japanese pharmaceutical companies rate the region



The shaded area and figure denote the mean rating out of 5. The minimum and maximum ratings are represented by the vertical lines.

*What Japanese pharma
are looking for...*



The Three Bs

When assessing a potential location for R&D facilities or headquarters, Astellas summed up the factors most important to them, in their motto:


The three Bs, along with other Japanese pharmaceuticals' opinions, substantiated our theory that life sciences companies consider three main factors when assessing where to base their facilities: access to talent and the scientific base, the business environment, and the geographic location. In our framework, we broke these down into their constituent elements, and asked Japanese pharmaceuticals to rank these individual components in order of importance when locating

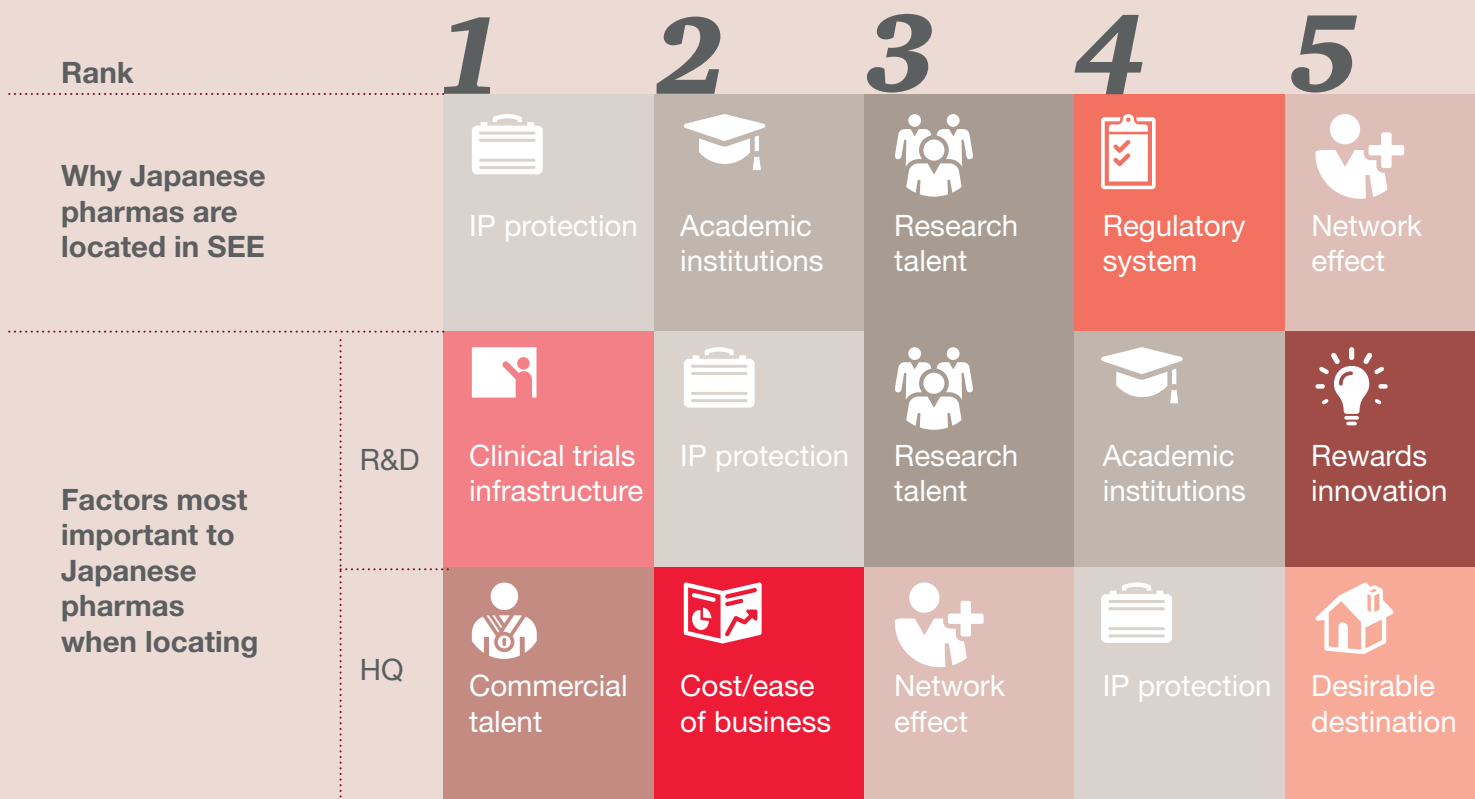
facilities. It is important to note that the constituents have varying importance for companies depending on whether they are setting up an HQ or R&D facilities. Thus, we asked the Japanese pharma companies to rank their importance for R&D and HQ separately.

In *Figure 5*, the first column shows how each element was ranked in order of strength in the SEE. By comparing the SEE's relative strengths to the factors most important to Japanese pharma, we can identify how well suited the SEE is to R&D facilities and headquarters independently.

The Three Bs. The best place, the best talent, and the best science

Figure 5:

 Comparison of the top 3 reasons why Japanese companies located in the South East of England, and what they valued most when choosing R&D and headquarters (HQ) locations



A good clinical trials infrastructure, intellectual property protection, and research talent are vital for R&D facilities

For Japanese companies locating R&D facilities, the most important factors were the clinical trials infrastructure, intellectual property protection, and access to research talent. These are three vital ingredients to a successful R&D facility:

- An infrastructure which facilitates the carrying out of trials with ease is of utmost importance.
- Intellectual property protection allows pharmaceutical companies to be confident that they will benefit fully from any innovation or new drugs they create.
- Having research talent to conduct R&D and being located close to a talent pool brings certain economies with it.

It is reassuring to see that when they considered the three most important factors for locating R&D, Japanese pharma rated SEE as strong. The SEE's best-ranked attribute was its IP system, which is also confirmed as the most important factor in locating R&D. In addition, the third most important factor for Japanese companies locating R&D was also ranked the third most important reason Japanese companies locate in the SEE. It is apparent that SEE satisfies pharma demand for research talent, and alongside its strong IP protection and clinical trial infrastructure, it is a much-lauded destination for Japanese R&D.



When locating headquarters, commercial talent, cost / ease of doing business, and network effect were most important

When locating an HQ, the most important factor for Japanese companies is the commercial talent. As with research talent, having access to a wide pool of local talent makes recruiting and retaining the best staff easier. Japanese companies ranked commercial talent as SEE's eighth most attractive factor (of 12), so there are opportunities to build on in this area. In particular, a relative lack of business knowledge was highlighted amongst pharmaceutical talent.

Second, the cost and ease of doing business influences where Japanese pharma companies locate HQs. The cost and ease of business was ranked as the seventh most attractive feature of the SEE, however, our interviews suggest the SEE is cost competitive, and its placement on the list is more a reflection of the SEEs strength in IP

protection, academic institutions, etc. However, we do know that some of the smaller companies chose to base their HQs closer to their manufacturing facilities in the northern part of England, partly driven by costs and partly driven by where acquisitions were based.

Third, Japanese companies look for any network effects which they could exploit in a prospective location. Our interviewees believe the SEE region has a wealth of pharmaceutical facilities and this was reflected in the survey, where that factor ranked fifth. Having other headquarters and facilities nearby helps bring about beneficial collaborative relationships and spin-outs.

Our recommendations



What issues were identified as potential barriers to further investment?

The key stakeholders we interviewed identified both strategic and operational challenges facing Japanese pharma companies looking to establish activities in the SEE:

- Difficulties in conducting clinical trials within the NHS due to bureaucratic processes
- Rigid reimbursement policies and slow uptake of innovation within the NHS
- Constraints on academic research creativity, due to a strong focus on quantifiable research outputs
- Difficulty in gaining access to capital for mid-sized companies
- Inconsistent commercial acumen of local talent

What could key U.K. stakeholders do to make the SEE more attractive to Japanese pharma?

U.K. Government

Reduce red tape for clinical trial conduct and enable early access and uptake of innovation

Japanese pharmaceuticals think the U.K. government could encourage innovation through softening rigid NHS policies in the conduct of clinical trials and helping them navigate existing paths. Access to new innovations could also be improved through accelerated access schemes and supportive reimbursement schemes as well as through encouraging the NHS to adopt technologies more rapidly. The Accelerated Access Review commissioned by the Department of Health and the Department of Business,

Innovation, and Skills seeks to address these points by identifying what adaptive pathways and innovative pricing and reimbursement schemes could be implemented in the near term. To help Japanese companies navigate existing regulation and policies, NHS-funded bodies such as the Health Research Authority (HRA) and the National Institute of Health Research (NIHR) are well placed. They could additionally provide support for Japanese companies conducting clinical research for the first time in the NHS.

Foster more explorative academic research

The recent focus within U.K. academic institutions has been to drive research that can be commercialised and also to measure academic success via the number of high-impact publications and grants received. Although these drivers are required to make research relevant to the current challenges in the market, the U.K. government, together with research councils and other funders of research and academic institutions, can encourage research that focuses on earlier disease biology and that is more explorative.

Foster an even more vibrant VC community

VCs have proven valuable in fostering innovation by supporting pharma startups; however, Japanese pharmaceuticals found VC access to be limited in comparison with U.S. counterpart R&D hubs. Therefore, this report suggests it could be beneficial if the U.K. government, working together with relevant R&D hubs, consider how to further incentivise VC firms to invest in U.K. biotechs and contribute to the local innovation development that is so valued by Japanese pharma. In addition, for Japanese mid-sized companies in particular, financing was more difficult to access via VCs; it is therefore worth exploring how to encourage investments across the life cycle of companies via a variety of incentives.

U.K. Academic Institutions

Collaborate with pharma to understand commercial needs

U.K. academic institutions could improve local talent's commercial acumen through "sandwich" placements and industrial internships, giving students the broadest possible practical experience. In addition, universities should actively encourage guest lecturers from the industry and foster closer collaborations, both within research and in educating the next generation of business managers.

Potential benefits



Benefits to Japanese pharma of doing business in the SEE region

The SEE already offers Japanese pharma companies a very attractive place to do business compared with other international hubs. It's an appealing, open, and diverse culture, with outstanding scientists and researchers, and some of the best universities in the world. If Japanese pharma were to further invest in the SEE and partner with local organisations such as MedCity and the Catapults, we believe that they could experience further benefits, including:

- Increased revenue from the expanded demand base within the region, particularly if there is no existing presence in the SEE
- The accelerated development of drugs through SEE's R&D facilities and network, driven by the commitment of SEE local stakeholders and the policy initiatives considered by the Office for Life Sciences.
- The creation of an even stronger key opinion leader (KOL) base in SEE, which could influence prescribing and treatment guidelines, taking into account new innovative developments
- The opportunity to gain from organisations such as MedCity and the Catapults in terms of technical, scientific, and networking support and general advice
- Access to 150-plus biotech companies across London, Cambridge, and Oxford; the growing med tech and digital health technology capability in the area; and venture capitalists

If Japanese pharma were to further invest in the SEE and partner with local organisations such as MedCity and the Catapults, we believe that they could experience further benefits

Conclusion

The Greater South East region is the powerhouse for the life sciences industry in the U.K.

It offers substantial attractions to Japanese companies looking to locate overseas, from the quality of its talent and academic institutions, to the robustness of its regulatory framework, to the diversity of the pharmaceutical sector. Add to that an open and positive society, the availability of both specialist and general management talent, and competitive costs, and it's clear the region has a vast number of opportunities to offer.

The challenge is to communicate these benefits more widely to the Japanese life sciences sector, and to ensure action is taken in certain specific areas, to address the relatively minor factors that are currently impeding further inward investment by these businesses. Such steps should be aimed at reducing red tape and increasing support for innovation.

Taken overall, this is a significant opportunity, and one which is well within grasp.

Appendix A



Research-focused Japanese companies' U.K. presence

Based upon publicly available information, accessed September 2015 from company websites.

U.K. presence with R&D in South East of England

Astellas
Chugai
Daiichi Sankyo
Eisai
Kyowa Hakko Kirin
Mitsubishi Tanabe
Ono
Otsuka
Santen
Shionogi
Sosei-Heptares
Takeda

Have no R&D activities in the UK

Meiji
Mochida

Does R&D but not in the South East of England

Chugai
Taisho
Teijin

Methodology

In order to complete our assessment, we conducted 10 interviews with Japanese life sciences companies. Interviews were carried out by PwC Strategy& (U.K.) in London and consultants from PwC Japan, which allowed us to reach companies both with and without a presence in South East England.

Within this group, our primary focus was on Japanese pharmaceutical companies; however, we also approached a wider range of life sciences companies that covered biotech and medical technology providers. Finally, we explored a broad range of potential investment activities, including R&D, sales & marketing, establishing a European HQ, manufacturing, and other business services.

We have consulted with seven of the 12 top Japanese pharma companies by 2014 revenue; six already had a presence in the SEE region. Survey respondents' roles included CEO, CFO, and senior managers. Our interviews covered 61% of the R&D spend of the top 12 Japanese companies.

To be able to quantify our findings, we also released an online survey which was completed by 17 Japanese life sciences companies. The survey was designed to assess the extent of their presence in the region, their experience of operating in the South East across a set of dimensions, and key things considered when setting up in a new location.

Appendix B



Survey results

There were 17 survey respondents in total. Below is a breakdown of their answers.



What activities do you have in the U.K.?

Sales / marketing	11
European HQ	7
Manufacturing	2
Business services	1

Other

Clinical development, Clinical trials, Market access, Merchandise export, Open innovation, Pharmacovigilance, Product development, Regulatory affairs, Research

Additional factors which Japanese companies consider when locating facilities (both R&D and HQ), that came out from our survey



Other Scotland



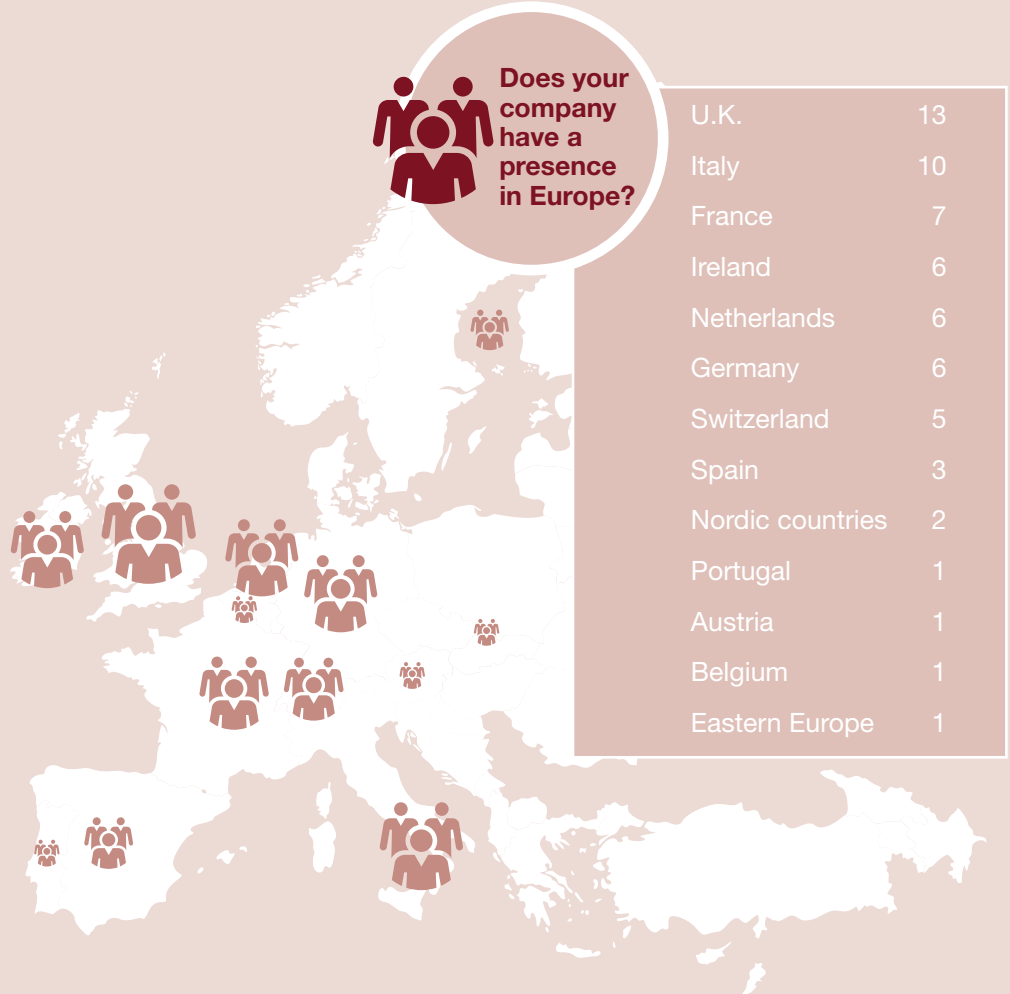
What areas do you focus on in the U.K.?

-  Pharmaceuticals 11
-  Therapeutic areas 2
-  Medical devices 2
-  Healthcare 1
-  Biotechnology 1

Do you have a presence in SEE? If not, do you have a presence in the U.K.?



Examples of the positions which respondents held



CEO
 CFO for E.U. region
 Chairman
 Deputy Director
 Director of corporate planning

Global innovation scout
 Group manager
 Head of global sales
 Head of Supranational Organisations
 Manager of overseas business dept.

Managing executive officer
 Marketing manager
 Production management director
 Quality assurance dept.

Endnotes

¹ The Bioscience and Health Technology Database is funded by the U.K. government, and its role is to collate information on the medical technology, medical biotechnology, industrial biotechnology, and pharmaceutical companies in the U.K.

² Labiotech, 15/09/2015. Immunocore, Oxford Nanopore, and Adaptimmune.

³ ‘Understand the Life Sciences Cluster from an Inward Investment Perspective’, MedCity and L&P 2015’. Study focuses on Jan. 2005 – Dec. 2014.

⁴ Japan was second only to the U.S.A. in their life sciences FDI contribution.

⁵ IFPMA, The Pharmaceutical Industry and Global Health, Facts and Figures 2014.

⁶ 2014 Pharma R&D Ranking, Evaluate Ltd. The Japanese 22% of the top 50 accounted for 12% of the top 50’s spend: US\$13.1 billion. It is worth noting in the last three years (mid 2012 – mid 2015) the yen has depreciated by approximately 35% against the U.S. dollar, suppressing the market size during international comparisons.

⁷ Top 3 global pharmas by 2014 R&D spend; Pfizer, Roche, and Novartis. Top 3 Japanese pharmas by 2014 R&D spend; Takeda, Astellas, and Daiichi Sankyo. Revenue figures collected from Avention on 7/10/2015. R&D figures from Evaluate Ltd. Cash and equivalents figures collected from their respective 2014 annual reports.

⁸ See Appendix A for a detailed outline of our consultation process.

About the authors



Jo Pisani

Jo Pisani is a Partner and leads the Pharma & Life Sciences practice in Strategy& U.K. focusing on strategy across the pharma value chain and particularly new business models and digital.

Jo.Pisani@strategyand.uk.pwc.com



Sarah Haywood

Sarah Haywood is the Chief Operating Officer for Medcity. She has a background in policy and is currently using her strategic thinking skills to develop London and the South East as a recognised centre of excellence for Life Sciences R&D.

sarahhaywood@medcityhq.com



Dr Myrto Lee

Dr Myrto Lee is a Director based in the U.K. and focuses on pharmaceuticals within Strategy& and specifically R&D strategy, government affairs, market access, regulatory and medical.

Myrto.Lee@strategyand.uk.pwc.com



Naoya Takuma

Takuma-san is a partner and leads PwC Japan's Healthcare, Pharma and Life Sciences practice advising some of the top global Japanese pharma on strategy to execution.

Naoya.Takuma@jp.pwc.com



Shunsuke Horii

Shunsuke Horii is a partner in PwC Japan with 15+ years consulting experience, most of which is focused on Life Sciences.

Shunsuke.S.Horii@jp.pwc.com



Tim Neely

Tim Neely is a Director at PwC in Japan. Tim has over 20 years of experience helping clients with globalization projects, and execution across diverse regions, focusing mostly on Life Sciences.

Timothy.Neely@jp.pwc.com

Contacts

London

Deirdre Flynn
+44-20-7393-3279
deirdre.flynn
@strategyand.pwc.com

Roudie Shafie
+44 207 691 3588
office@medcityhq.com

Tokyo

Ayumi Suda
+81-3-6757-8683
ayumi.suda
@strategyand.pwc.com

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