Interview: Luc Brucher – Partner, Audit; Healthcare & Life Sciences Leader, Deloitte Luxembourg



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Deloitte's Luc Brucher delves into market integration efforts in Luxembourg, Europe's 'test-bed,' for a new and unique approach to healthcare. Committed to creating innovative medical solutions, Brucher explains why Deloitte are seeking both short and long-term results.

The life sciences sector in Luxembourg represents an emerging and evolving market with significant investments during the last decade. Can you start by giving us a brief historical overview of how Luxembourg has built its life sciences sector?

In 2006, the government of Luxembourg took the decision to promote the development of the life sciences industry as part of a wider strategy to diversify Luxembourg's economy. Along with five other focus areas, life sciences was selected as a key strategic area that shows great potential for the future sustainable development of the national economy.

In 2008, biomedical research received a huge investment to support the foundations of the Luxembourg's life sciences sector focusing in particular on personalized medicine. Indeed, the development of a more precise, predictable and powerful health care that is customized for the individual patient is becoming a reality for a variety of diseases. More individually targeted care will fundamentally change healthcare services and open new opportunities for the industry.

To support research and make the country a global leader in incorporating personalized medicine into a national healthcare system, multiple initiatives have been launched. To become a specialist

center dedicated to the life sciences sector, the Grand Duchy leveraged on the skills it already has in molecular diagnostics, bio-IT, and medical IT, and medical devices. In this way, it teamed up with two world-renowned American research institutes — the Translational Genomics Institute (TGen) and the Institute for Systems Biology (ISB) in Seattle — as well as the Phoenix-based Partnership for Personalized Medicine (PPM), working with experts from the University of Luxembourg and various public research centers. This cooperation led to the establishment of the LCSB (Luxembourg Centre for Systems Biomedicine) and the creation of an international bio-banking infrastructure named IBBL (Integrated Bio-Bank of Luxembourg). This commitment to investing in research has given a real lift to the entire industry in Luxembourg.

Also, Luxembourg has created the Personalized Medicine Consortium (PMC), which includes the IBBL (Integrated BioBank of Luxembourg), the “Centre de Recherche Public – Santé” (CRP – Santé) – now called Luxembourg Institute of Health (LIH) – and the Luxembourg Centre for Systems Biomedicine (LCSB) at the University of Luxembourg. Since its creation in 2010, the consortium has supported research programs in personalized healthcare, specifically in cancer, diabetes and most notably in Parkinson’s disease. The National Centre for Excellence in Research on Parkinson’s disease focuses on improving the diagnosis and stratification of Parkinson’s disease (PD) by combining detailed clinical and molecular data of patients to develop novel disease biomarker signatures. The ultimate goal is to diagnose PD at an earlier stage and with a higher specificity than it is currently possible. This collaboration between all the research institutions focusing on Parkinson’s disease in Luxembourg has been funded by the Fonds National de la Recherche (FNR) since spring 2015.

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Besides, the country’s appeal to the biomedical sector has further increased with the opening of the House of Biohealth, a unique hosting facility with office and lab spaces, for both established and start-up companies in the field of biotech, clean-tech and ICT.

To complete the 2008 investments, the Luxembourg BioHealth Cluster was also created the same year. The Luxemburg cluster is a young emerging cluster aiming to reinforce and capitalize on the National Strategy developed by the Government to achieve scientific excellence in molecular diagnostics and to enhance Luxembourg’s reputation as a recognized and attractive environment for biomedical research, development, innovation (RDI) and business.

Whereas the number of life sciences companies has more than doubled between 2006 and 2013, Luxembourg certainly needs to further attract industry in order to generate further growth and to

create an even stronger environment favorable for the attraction of foreign companies in the life sciences domain.

Could you please introduce Deloitte's life sciences practice here in Luxembourg and how it has evolved since you took the helm 3 years ago?

Deloitte has always taken a proactive approach towards partnerships, with both the medical research community and the pharmaceutical sector. We work in close proximity with the various research centers, the National Research Fund and Big Pharma operating in Luxembourg. Deloitte saw many strategic and organizational benefits in the creation of this new eco-system. Our focus was on how Deloitte could create conditions in which private companies could benefit from this huge amount of public funding that would enrich Luxembourg's eco-system as a whole. There is still room for improvement but with Deloitte's global reach, we always believed we could support Luxembourg's new vision for life sciences. We can promote Luxembourg's biotech ecosystem abroad by using our own networks, notably in the US market. Currently, together with Luxinnovation Deloitte Luxembourg is conducting a pilot program called "Expand with Luxembourg" which aims to screen healthcare and life sciences companies outside of the EU market and to identify those that would be interested to relocate to Luxembourg in order to further their European expansion. Interest and concrete actions have already been obtained with some US start-ups specialized in e-Health.

I also lead an initiative called "Mind and Market in Luxembourg". For this project, we partner with the National Research Fund, the University of Luxembourg, Luxinnovation and Mind and Market Belgium to create further opportunities to innovate. Whilst an increase in the collaboration between public research institutions and private companies is desired, we would like to go further and develop partnerships with start-ups in order to maintain a strong level of creativity. This means creative knowledge will not be wasted due to lack of resources or expertise. Ideas can also be confronted and market reality checks can be conducted. Obviously, the objective behind this initiative is to achieve more with the research currently being undertaken and to provide real solutions which are marketable.

Jean-Paul Schuler from Luxinnovation was explaining that to move to the next level, and to eventually attract portions of R&D from Big Pharma, maybe Luxembourg would benefit from adopting a research tax credit model similar to France. What are your thoughts?

Before introducing a new tool, we need to look at why Luxembourg is not as competitive as other nations. When it comes to bio-technology, Luxembourg has not adapted its strategy since 2008. We need a clear focus on what we want to have in Luxembourg in terms of bio-technology: what are the short-term goals and the long-term perspectives? Based on that, we need to reassess our strategy and supportive tools and initiatives.

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Operationally, we have to adapt the old IP box to international standards. Protecting the intellectual property is vital in a sector like healthcare and life sciences where huge amounts of money are invested in R&D. The access to funding is another aspect we need to review. Luxembourg ranks second for investment funds but these funds often do not support start-ups. What is relatively scarce on the other hand, is Venture Capital to support promising biotech or e-health start-ups during the development of their drug or product and the subsequent commercialization.

Financing R&D and innovation is often challenging, for companies as well as for public research organizations. State incentive packages exist in Luxembourg for R&D and innovation activities in the public as well as the private sector. They have been improved, with a greater focus on innovation, including the services sectors. Support can come in the form of direct grants or loans from the National Credit and Investment Institution (Société nationale de crédit et d'investissement, SNCI), a bank under public law. A new tax credit model could strengthen and increase R&D activities in Luxembourg.

Many big players have already established their R&D center in Luxembourg. For example, Goodyear operates its largest R&D center outside the US in Colmar-Berg, Delphi, with its European headquarters and worldwide powertrain business headquarters in Bascharage, also employs over 600 technical experts in its Luxembourg R&D center; DuPont de Nemours, Novelis/Hindalco, Ceratizit, IEE, ArcelorMittal, SES and Paul Wurth all operate R&D activities in the Grand Duchy.

A similar success is possible in the pharma and life sciences sector but laying successful foundations in this sector takes a long time. Therefore, short-term success is equally important and Luxembourg should focus on areas like digital health where opportunities to be competitive with other nations exist at present.

Some of Luxembourg's strengths are related to digital security and data analytics. This can partly be explained by the fact that Luxembourg has a long history of protecting confidential data related to the financial industry.

Although much has been accomplished in recent years and the Government has supported life sciences development, the industry is behind other EU nations. Do you ever think Luxembourg can catch up and in which specific fields can the country be competitive at least at the EU level?

We need to have lighthouse projects as they are crucial to an international positioning. I do not think that Luxembourg will ever become a hub for huge pharmaceutical business, but we can focus on some very evident advantages that exist here and build niche positioning. Mainstream success is not the goal; we can only step out of the shadow if we are truly excellent in certain areas that will make us a highly-wanted partner for international players.

Being excellent in a few areas like Parkinson's disease (currently led by the LCSB) for example is very important in order to attract bright people working on interesting projects and producing impactful research. However, that does not mean we can perform without a clear strategy and clear governance. We need this strategy to get all the stakeholders aligned and work efficiently together.

We should leverage on the competences we have developed for other industries, like the ICT and banking sectors. Our experience with data security and analytics based on the excellent data center infrastructure is becoming more and more relevant for the health sector. Combined with our excellent research in ICT at the SnT (Interdisciplinary Centre for Security, Reliability and Trust), Luxembourg has definitely a role to play in the e-Health sector. We sincerely hope that the Luxembourg government recognizes this unique opportunity and develops an appropriate strategy in cooperation with all local actors.

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Healthcare in Luxembourg is without a doubt one of the best in the world, but the system is currently facing some major challenges: an ageing population, development of health technologies, change of patient profile, the economic crisis… How could Deloitte serve as the prime partner to the Luxembourg authorities and particularly, the Healthcare authorities, in ensuring the sustainability and efficiency of the system?

We aim to become the primary partner for Luxembourg's healthcare authorities. We already work very closely with public figures. Every year, we organize a major conference together with the Hospital Federation in Luxembourg (Fédération des Hôpitaux Luxembourgeois – FHL), during which more than 100 leading healthcare professionals meet to review ongoing challenges and discuss future movements within the industry. This year our conference focused on Integrated Care and discussed about how a more integrated care model could be of advantage for Luxembourg and how Luxembourg could act as "testbed" for such promising models. The next conference 2017 will focus on prevention of chronic diseases which represent a huge burden for economies and health system. During this event, we will gather professionals and experts of the sector to discuss and provide solutions. Research, private sectors and public organizations will be gathered in order to explore new strategies to better prevent these diseases. Our conference on prevention also provides us with the opportunity to get more start-ups involved in the collective effort to develop and improve the industry. Many start-ups are active in prevention and we are currently screening these companies to decide which organizations would prove the most beneficial in our discussions. Connecting the market with new ideas is crucial to the future of the industry. Also, we are currently working on a white paper identifying best practices in terms of prevention of chronic diseases based on WHO's guidelines and other countries' experiences.

Through our local experts and also our huge international capabilities in the network, we follow very closely all market trends and new innovative solutions that may apply to the industry. As such we identify the "hot topics" and come up with innovative solutions in order to serve the industry as trusted advisors. Focus areas based on current trends are certainly: data privacy, cybersecurity, digitalization linked to process reengineering and IT infrastructure modernization, internal audit and risk management key areas when it comes to compliance and regulation which are more and more severe in the healthcare & life sciences industries.

Luxembourg has a longstanding image of professionalism in the banking field, particularly in regards to data security – which as we all know, is a major concern within the healthcare sector. What synergies can be harnessed from this and leveraged to the healthcare sector?

There is a long tradition of data security and confidentiality related to the banking industry in Luxembourg. The healthcare industry is more and more facing similar challenges related IT security. In particular, healthcare professionals have currently a major concern related to cybersecurity and data privacy. From mobile apps to insulin pumps, medical devices are increasingly connected to the Internet. But connectivity comes with a price.

Weaknesses in medical device security attracted media attention in 2015 when hacker conferences exposed vulnerabilities in devices such as EEG scanners. In May 2016, Deloitte published a new survey of medical device security in hospitals in nine countries, claiming that improvements are still needed at an operational level.

As security breaches become more common and costly, medical device cybersecurity will emerge as a major issue in the coming years, requiring device companies and healthcare providers to take preemptive actions to maintain trust in healthcare and to prevent breaches. At the same time, the management and the protection of all the collected data will be crucial in the coming years. Especially with the evolution of the regulation. Indeed, in order to reinforce the Digital Single Market, the EU Commission put forward the EU data protection reform which entered into force on 24 May 2016. The General Data Protection Regulation (GDPR) will replace the current Directive and will be directly applicable in all Member States without the need for implementing national legislation. It will not apply until 25 May 2018. However, as it contains some onerous obligations, many of which will take time to prepare for, it will have an immediate impact. This new regulation intends to strengthen and unify data protection for individuals within the European Union (EU), and also addresses export of personal data outside the EU. The main topics covered by the GDPR are: Privacy Impact Assessment, Privacy by Design and Default, Transparency, Data breach notification, Consent, Right to be forgotten and Sanctions in case of non-compliancy.

Consequently, important initiatives have to be launched by healthcare providers (hospitals, laboratories, homecare providers, research centers, etc.) in the coming months to ensure the compliancy with the new regulation by 2018. The competences and the expertise developed in the ITC and data privacy in the financial sector can definitely be leveraged to the healthcare sector in this context.

How do you differentiate your offerings from the rest of the Big 4?

Deloitte in Luxembourg is the only Big Four with a clear balance between the different services (Audit, Tax and Advisory & Consulting). In Luxembourg, we also have the most important consulting department among the Big 4. Regarding healthcare and life sciences, we have very dedicated people and a well-established team, who work on developing and maintaining strong relationships with all stakeholders in the healthcare sector locally and abroad. One of our strongest added value is that our team is able to provide the client with an end-to-end solution as we have all the competences and expertise internally to answer the client’s needs.

> “Luxembourg has always been very smart when it comes to diversifying its economy, and this helps to keep this small country on the map.”

As a young Luxembourgish businessman, did you ever think 20 years ago that one day Luxembourg could play a role in other sectors outside of FinTech and IT?

Luxembourg has always been very smart when it comes to diversifying its economy, and this helps to keep this small country on the map. Luxembourgish people have made significant efforts in developing an entrepreneurial spirit in the country over the last years, even if there is still room for improvement.

It is not ingrained in our mentality to take risks and it is thus more difficult to innovate. We therefore have to work with innovative companies outside Luxembourg and attract them to our projects. I would ideally like to see more of this entrepreneurial spirit developed in Luxembourg in the future. It would prove a very successful model if public authorities provide a strategic framework to support the development of this mindset. In my opinion, this change in mentality needs to be both supported and accelerated.

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