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NEWSLETTER

# MELIOR INSIGHTS

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### INTRODUCTION

THE DNA OF HEALTHCARE AND LIFE SCIENCE  
IS CHANGING... AND IT'S CHANGING FOR THE BETTER

What are the forces that are shaping this change?

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**Melior**  
CAPITAL MANAGEMENT



## Introduction to Melior Capital Management

# MELIOR

/me'ljor/

(from Latin)

**BETTER, SOUNDER, SUPERIOR**

Melior Capital Management is a Swiss domiciled investor and advisory firm focused exclusively on the global life science sector.

We specialise in finding funding for medtech, biotech and pharmaceutical companies by applying institutional quality service and process to raise capital.

Our investment approach is to find qualified innovative projects, with proven management teams, promising data, robust IP, strong corporate governance and a likely opportunity for significant commercial upside in a three to five-year horizon.

In the current environment, many existing companies seeking capital for medical trials have encountered a diminishing supply of funding from governments, private equity firms, investment banks and research foundations in favour of start-ups. At Melior, we combine the global reputation of our scientific, management and advisory members to select best in class investment opportunities with credible upside potential.

Our value proposition is attributable to our world class team and their proven track record in the life-science sector, plus the strong emphasis that we place upon due diligence and first-hand experience. Our goal is to offer attractive

and diverse investments to both high net worth private clients and larger corporates through their professional advisers. For our business to be truly successful, we consider the needs of all parties, including our investees, investors and professional advisers at introduction and throughout the life of the investment. Our financial success depends on funds raised and the financial return of our investees as we share a common goal.

In this edition of our Melior Insights newsletter, we review how the healthcare and life science industry fared during the pandemic and where it is likely to go next. Our view is that life science not only managed to survive, but became more agile. These changes would not have been possible without seven factors that are reviewed in this report. Changes brought incredible value and great potential, as well as new excitement to one of the key economic sectors. There are great opportunities ahead for life science and those that choose to align with it.

Melior does not accept enquiries from members of the general public, but we welcome enquiries from professional intermediaries.

*Melior Capital Management*

**MELIOR CAPITAL MANAGEMENT**



# THE DNA OF HEALTHCARE AND LIFE SCIENCE IS CHANGING...

## ...AND IT'S CHANGING FOR THE BETTER

### What are the forces that are shaping this change?

**H**umans have always valued the things that bring a better and longer life. The COVID pandemic showed us that our comfortable lives can easily be changed by something that is not even visible to the naked eye. We have gone through times of extreme challenges, with more than 3 million people dying of COVID, a growing loss of the global GDP, now estimated at a whopping \$5.6 trillion, as well as severe health, social and economic effects – mental health, unemployment, soaring poverty, and undiagnosed/untreated diseases. In this context, we have seen the role of life science becoming one of the indispensable instruments.

The life science sector has not gone through these times unchanged, it has emerged nimbler and more innovative. These changes were generated by a number of forces that will continue to shape the industry in years to come. These forces are reviewed in this report.

### 1. Growing agility from mature life science companies

Before the pandemic, the key players were often criticised for prioritising marketing investing over research. They were regarded as hedging their bets by prioritising established successful directions instead of exploring novel therapies; while also allegedly practicing price-gouging. A 2019 Gallup poll, showed that out of 24 industries, drugs business was the least favourable to the American public.

With the global pandemic, these companies have reconsidered their modus operandi and many players have introduced more agile practices, including digitisation, in

their chase for COVID vaccines and therapies. Besides their commitment to improving their operations, many Big Pharma companies have expressed their readiness to work with governments and insurers to find ways to make drugs more accessible.

*“The impossible can many times become possible”*

**Albert Bourla**  
CEO of Pfizer

*(speaking about the speedy development of the COVID vaccine)*

### 2. Growing life science investment interest

Despite 2020 being a year with significant challenges for everyone, including investors, life science has seen encouraging trends. When looking at buyouts in the sector, there was a 17% decrease in the value of deals, with a 21% increase in deal volume, meaning a decrease of the average deal size. For the first time, the Asia-Pacific region logged the most buyouts – 41% of global deals, driven by the biopharma sub-sector, North America remained the leader at 53%. In 2020, while the percentage of life science deal value compared to all sectors slightly decreased (from 14.5% to 11.1%), the life science deal volume increased significantly (from 8.7% to 12.3%) indicating a growing interest in life science buyout deals.



Buyouts		2019	2020	Change
Life Science	Value	\$80 B	\$66 B	-17%
	Volume	313	380	+21%
All Sectors	Value	\$551 B	\$592 B	+7.5%
	Volume	3,600	3,096	-14%

The deal value and volume of life science mergers and acquisitions also decreased in 2020, which is reasonable when taking into account the rising complexities of deal making during the pandemic. However, the decrease in deal value was driven by a reduction in megamergers – in 2019 there were deals like the \$74 billion BMS-Celgene merger and the \$63 billion Abbvie-Allergan transaction, while the largest 2020 deal was the \$40 billion Astra-Zeneca-Alexion deal.

Life Science M&A	2019	2020	Change
Value	\$541 B	\$339 B	-37% of disclosed value
Volume	3,137	2,845	-9%

Life science exits, including IPOs, sponsor-to-sponsor and corporate exits, showed an interesting evolution during 2020; the disclosed deal value almost doubled, while deal volume increased by 16%. The median holding period increased slightly to 4.5 years in 2020, from 3.6 in 2019. When looking at the gross pooled multiple on invested capital (MOIC) for the period of 2010 to 2018, life science yielded a return of 2.5x, while all other industries average at 2.0x – another indicator that proves why so many investors are attracted to life science assets.

Life Science exits	2019	2020	Change
Value	\$41 B	\$73 B	+78% of disclosed value
Volume	126	146	+16%

In addition, forecasts indicate that overall healthcare investments are likely to pass \$10 trillion by 2022, continuing in an upward trajectory for at least 10 years, fuelled by the COVID pandemic and life science ecosystem changes.

### 3. More active governments

Governments are a key stakeholder in the development and operations of the life science sector. They have an important say in life science and this became even more evident during the pandemic, when governments around the world intervened in many ways to attenuate the effects of the pandemic, while also contributing to the identification of solutions for ending the pandemic. In the US alone, major potential reforms took centre stage – accelerated approval steps for vaccines and therapies, policies regarding PMA approval and 501(k) clearance processes for medical devices, drug pricing and significant changes to reimbursement rates and health insurance. In January 2021, the US FDA released the artificial intelligence action plan outlining measures to improve the regulatory framework and confirming support for the development of medical AI applications. It is also likely that we will see a wave of national tax reforms, prioritising the role of medical and social care, with growing support from governments to foster public-private collaborations. The promotion of alignment of interests of life science ecosystem key stakeholders like healthcare sponsors, providers, community organisations, social services, life science innovators and investors will also be likely.

Governments have also restated their continuous support for existing incentives for investing in life science companies, as well as announcing new ones:

#### US

- The US has many programmes at a State level, particularly in the key Life Science Clusters - Massachusetts, California and New York
- National Institutes of Health grants for life science research
- Orphan drug research credits
- Federal credits for R&D payroll of up to 10% on qualified expenses
- Refundable state R&D tax credits
- Angel investor tax credits of up to 50% of the investment made



**UK**

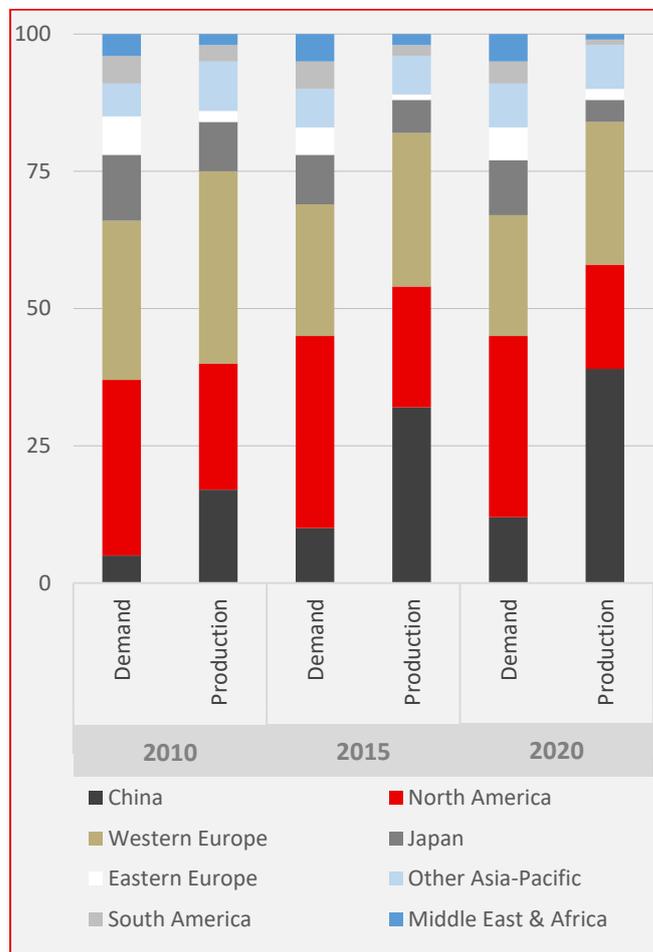
- The Life Sciences Investment programme - GBP 1 billion sponsored by the UAE-UK Sovereign Investment Partnership to catalyse later-stage life science investments
- The Future Fund Breakthrough programme – GBP 375 million, run by the British Business Bank, aimed at R&D intensive life science companies seeking at least GBP 20m investment to support their growth
- Fiscal benefits for life science companies: “super-deductions” on qualifying plant and machinery, loss carry back relief and R&D tax reliefs
- Policies around professional immigration, apprenticeships and other schemes to support the recruitment and retention of the best life-science talents

**4. More resilient supply chains**

In March 2020, with the avalanche of restrictions and suspension of international transportation, many industries started questioning the viability of their supply chains - life science was no exception. The complexity of this issue is best illustrated by comparison of production and demand of life science ingredients around the world. Asia-Pacific accounts for 45% of pharma ingredient production, about 39% being produced in China alone. However, this region demands approximately only 18% of all ingredients, thus being a considerable net exporter, which has serious implications and concerns in the context of not only a global pandemic, but potential tax wars, as well as trivial logistical mistakes, like the Evergreen grounding situation in the Suez Canal in March 2021.

Evolution of the regional demand / supply split has seen a shift from developed markets (North America, Western Europe and Japan) with a demand of 73% and a supply of 67% in 2010, to 65% demand and 49% supply in 2020, while Asia-Pacific had a demand of 11% and a supply of

26% in 2010 and a demand of 20% and supply of 47% in 2020:



Obviously, total reset to local production would be very costly and is not viable, although a partial return of local production capabilities has already started, and more importantly additional measures to improve the resilience of supply chains are being implemented. These measures include risk assessments to understand the risks that span the entire supply chain, increased transparency of transportation processes, distribution of ingredients and production of the final products. These new processes will continuously offer valuable findings, that will help life science companies to better predict the demand for ingredients, improve their adaptability to any systemic disruptions and build up redundancies to ensure highly resilient and agile supply chains.



## 5. Shifts in consumer behaviour

The pandemic brought significant changes to the way patients access and use healthcare services. On the one hand, due to strict measures and overwhelming pressure on health providers, many health services have seen a drastic reduction in use, which might have a long-term adverse impact, these include services such as elective surgery, deferred diagnostics and group disability care. On the other hand, the same factors motivated many people to become more health-conscious, adopting more and more healthy behaviours, including regular handwashing, flu jabs and usage of wearables. Wearables, in turn become more and more useful, offering more accurate readings. An eloquent example is the research partnership of Apple and Johnson & Johnson, who joined forces to conduct a three-year, 150 thousand patient study to developing a more advanced electrocardiogram to be incorporated into Apple watches in the future, this being the largest randomised cardiovascular study conducted in history.

These circumstances also brought growing interest to remote care (telehealth), which will likely soon make it the preferred way of accessing care. This will have implications for medical workers and health providers, requiring them to create appropriate technical infrastructure and develop skills to serve the growing demand. Another interesting element that started forming last year is 'mutation' of the working process, with the shift to home offices, and often to prolonged working hours with numerous online meetings and technical challenges. Many employers have already reassessed the benefits they offer to employees, with a growing focus on health services and in particular on mental health, which is expected to see a boost in development and investment in the near future.

## 6. Accelerated digitisation

The pandemic has shifted many paradigms, bringing more openness towards technology and a higher willingness to share personal data. Accelerated growth of virtual care and e-commerce, including direct to home medicines delivery, will change the way many milder diseases are diagnosed and treated. However, these changes bring a number of risks too, including misdiagnosis, cybersecurity, privacy concerns, and potential fraud. Previous cutting-edge innovations show that such risks are addressed in due time and that control systems are introduced to mitigate them.

In addition to the effects of digitisation at the customer end, digitisation has entered into the process of drug marketing and even clinical testing. McKinsey Global Institute recently reported that the shift to digital sales could boost industry-wide productivity by 25%, since it means leaner budgets for marketing and a smaller staff. This is a huge advantage for both the Pharma industry and doctors, as it makes the process easier, while also reducing one of the key costs of the industry – marketing, which accounts for nearly 40% of operating costs in some cases.

At the beginning of the pandemic, clinical trials have seen drops in recruitment, in some cases as significant as 80%. Life science companies were facing an existential crisis, and it was digitisation that helped them rebound. The usage of remote monitoring, electronic patient screening and remote consultations made it possible to bring clinical trials to a new level. Most of the companies that adopted digital tools report that their trials were on track in 2020 and it is very likely that such digitisation in clinical trials will see wider application in the near future.

“Virtual trials could prove faster and better, as well as bringing in harder-to-reach populations, for instance in rural areas”

**David Ricks**  
CEO of Eli Lilly



## 7. Expansion of Artificial Intelligence

Besides the accelerating growth of digitisation, artificial intelligence has an expanding role in life sciences too. In a recent Deloitte survey, 3 in 4 life science organisations reported that they are committing more funding to AI investments, many of them already using AI to making internal processes more efficient, improving electronic health record (HER) management and improving diagnosis. AI can bring much value to life science in a number of ways:

### STAYING HEALTHY

The use of AI and Internet of Medical Things (IoMT / wearables) helps people exercising more, maintaining healthy habits and the possibility to better understand day-to-day patterns.

### EARLY DETECTION

AI already helps in the identification of early-stage cancers, including breast cancer, where AI enables review and translation of mammograms 30 times faster with 99% accuracy. In addition, with the use of wearables, AI can identify early-stage heart disease and other conditions.

### IMPROVED DIAGNOSIS

IBM's Watson for Health and Google's DeepMind Health are able to scan vast amounts of health data, being capable of not only supporting diagnosis decisions, but improving its quality.

### BETTER TREATMENT

AI can bring a more comprehensive approach to disease management, including improved coordination and communication with patients, boosting discipline and bringing better outcomes.

### BOOSTED RESEARCH

It takes about 12 years for a drug to get from the research lab to patients, only five in five thousand drugs that enter preclinical testing, make it to human testing and only one of these is approved; the average development cost being about \$359 million per drug. AI can significantly improve these numbers with better pattern recognition.

### MORE EFFICIENT TRAINING

The field of medicine is enormous, with the body of knowledge increasing every year. AI can be a great instrument to improve learning outcomes and help medical workers continuously improve their skills and capabilities.

AI brings new tools, increased efficiencies, and cost reductions leading to profitability, while also creating opportunities for new revenue streams, which further help the life science industry.

**Sources:** The Economist, RSM US, PWC Australia, Bain, Fierce Healthcare, PWC, Healthcare Newsdesk, Bain, the FDA, UK Government, Bio Industry, FTI Consulting, CLA Connect, and the Melior Insights Team



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## MELIOR CAPITAL MANAGEMENT: PIONEERING LIFE SCIENCE INVESTMENT

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- III. Members of the Melior Scientific Team have worked on and taken to market a large number of life science projects during their careers, which spans over the past forty years. Some projects added additional revenue streams to an existing big pharma patent portfolio, some were trade-sales and some were IPOs.