

# CREATING A GROWTH MINDSET





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## Healthcare Feature


It is difficult to believe that only 18-months ago the world as we knew it changed. Since its emergence and subsequent spread to every corner of the globe, COVID-19 has proven to be the great tragedy of our times, killing millions, extinguishing freedoms, and causing unparalleled economic havoc in the process. However, thanks to the collective efforts of the scientific community, the COVID-19 pandemic - whilst by no means over - has to some extent been brought to heel.

As politicians huffed and puffed, using flag-draped populism to dress up efforts to develop COVID-19 vaccines as a latter-day arms race, scientists have rolled their eyes and quietly gone about the business of finding and developing the solutions the world so desperately needs, unseen and to some extent unappreciated.

And develop them they have, at an extraordinary pace, no less. The unprecedented lightening-speed at which scientists have succeeded in developing high efficacy bio-therapeutics and vaccines is without parallel in human history.

Industry insiders like Vikalp Mohan, Chief Operating Officer at the Swiss bio-solutions provider, Celonic AG, understand better than most the arduous process of not only developing innovative bio-therapeutics, but then getting them in patient's arms.

*"No-one would have anticipated receiving authorisation and administering vaccines to patients within a year of the outbreak of the pandemic. It is unprecedented, and it has been possible because of concerted global efforts between biopharmaceutical innovators, bio-solutions providers and regulatory bodies."*

Celonic AG develop life-saving medical technologies 



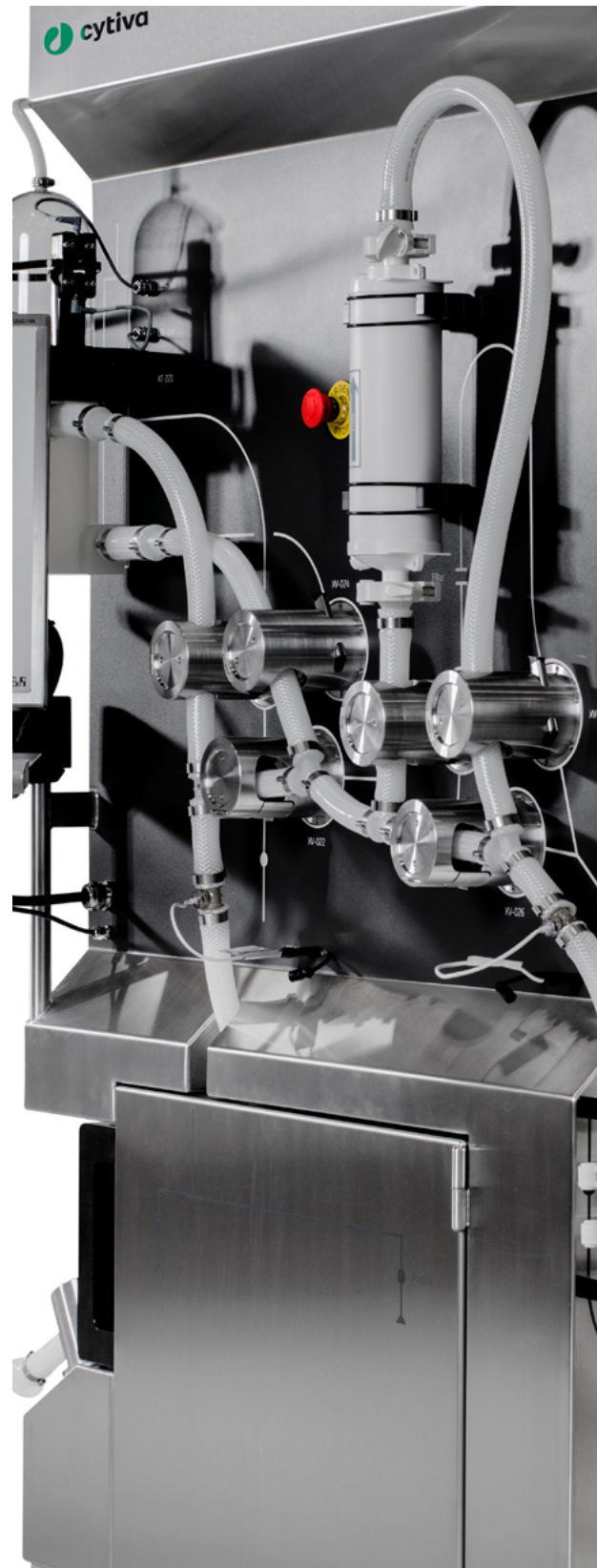


*The onset of the pandemic has facilitated transformational advancements in the development of modalities, such as cell & gene therapy and mRNA. Whilst these potential modalities have been in existence for more than two decades, it is remarkable how their potential has been realised in so short a timeframe to enable the development and production of a breadth of vaccines and therapeutics, which tune your body's immune system to defend against a new novel virus. It's fascinating. COVID-19 has transformed the drug development landscape in life sciences, for good."*

Undoubtedly, the pandemic has provided a powerful reminder to the world of the importance of the life sciences sector, and how the industry is a defacto guarantor of global health, security, and the economy.

Through the efforts of companies like Celonic AG, which is developing and producing multiple vaccines programs and bio-therapeutics for industry players, and of course the Pfizers, Astra-Zenecas, and Modernas of the world, the link between infection, serious illness and death is on the way to being severely weakened. Of course, there is the risk that new variants might emerge, and with billions still unvaccinated, it is far too early to claim we are out of the woods just yet, but the light can finally be seen at the end of what has been a long 18-month tunnel.

But back to the topic at hand - who are Celonic? From its headquarters in Basel, an area known to be one of the world's most productive life sciences hubs, Celonic is a pioneering developer and manufacturer of innovative bio-therapeutic solutions. Through its work in fields like traditional biologics, monoclonal antibodies, and fusion proteins to newer, advanced therapy medicinal products (ATMP) such as mRNA and other cell-gene therapies, Celonic and its talented workforce operate at the frontier of biotherapeutics development to enable its partners to bring innovative medicines to the patients.



For Vikalp, who has enjoyed a globetrotting 20+ year professional journey that has taken him from KPMG in the US to INSEAD in Fontainebleau, and then Syngenta and now Celonic in Switzerland, his time in life sciences so far has been the cherry on the cake of what has been a captivating career to date:

*"Bio-solutions development is a fascinating world and it's a privilege to be part of the industry," enthused Vikalp Mohan. He continued: "In a nutshell it enables the biotherapeutics of the future. There are so many unmet medical needs - if you look at oncology, if you look at neurodegenerative disorders, even infectious diseases, the world has so many unmet challenges in terms of medical conditions and finding cures for the aging population.*

*In terms of what we do at Celonic, our collaboration with biotech and pharmaceutical partners typically starts at the discovery stage of a poten-*

*tial biotherapeutic - at that time the therapeutic has just indicated a promise of a potential benefit. Our deeply science-rooted team works with our partners in transforming the potential into an end solution for patients."*







## Working together to solve the inconceivable

At Cytiva, we've had decades of experience accelerating the path of discovery to market. We help get therapies to patients faster by optimizing efficiencies and reducing risk.

**Together, we can accelerate brave science.**

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### Cytiva

Many people around the globe are enhancing their health thanks to cutting-edge science and advanced medicines – vaccines, oncology drugs, and more. To help ensure these therapies are developed, manufactured, and delivered to patients, we must gain efficiencies in biopharmaceutical research and manufacturing workflows. Our customers undertake activities from fundamental research to developing innovative vaccines, biologic drugs, and novel cell and gene therapies. The high stakes associated with producing a life-saving drug can weigh on a manufacturer. Every decision can make or break a project, and, unfortunately, many are made long before anyone knows if the drug will make it to market.

We need to access expertise. Our industry must be flexible and adapt to our constantly shifting world. The advent of COVID-19, which transformed the industry's focus in a matter of months, is a stark example of rapid and far-reaching change, especially demonstrated in the success of mRNA vaccines. Biopharma's approach to responding to such pandemics lies in finding smarter approaches to drug discovery and development.

At Cytiva, we promote rapid progress in the industry through reliable supply of high-quality tools and enabling services that allow our customers to go faster and smarter to clinic and to market. Adaptation, innovation, and collaboration are essential characteristics of all companies in life sciences. We work with our customers to support these goals, whether in-house or at a CDMO.

### Sustainability – our imperative

We intend to reduce our environmental footprint even as demand for our offering grows.

### Continuous innovation

We listen intently to our customers and develop solutions that will advance their work — by simplifying processes and improving speed, capacity, and quality in workflows across all key therapy types.

### Ensuring resilience in the biopharma supply chain

The reliable supply of medicines to patients depends on robust supply chains for both equipment and raw materials.

Recently, Cytiva and Pall Corporation (both part of the Danaher Corporation, NYSE: DHR) announced that they're investing 1.5 billion USD over two years to meet growing demand for biotechnology solutions. This major investment is expanding manufacturing capacity for life sciences products at 13 sites.

New sites are opening in US and UK to support regional needs. Overall, the companies plan to hire 2000 full-time associates in two years.

This investment follows five strategic acquisitions the companies made this year and supplements Cytiva's continuing capacity investments estimated at 500 million USD through 2022.

Emmanuel Ligner, Danaher Group Executive, says: "Our customers tell us they need access to manufacturing agility, a robust global supply chain, and more regional options. This investment further fuels our expansion program so we can rapidly meet the current and future needs of our customers and ultimately, their patients."

Visit [www.cytiva.com](https://www.cytiva.com) for more information.



The process of fine-tuning potential therapeutics into an efficacious and safe end product that is ready for patient administration can be a long and difficult one. Can this molecule really be effective? Will it have any toxic effects? Can it be stable? Can it be produced economically? These are all questions that must be answered, and the incredibly complex, meticulous nature of life sciences research means there is little margin for error.

To ensure that Celonic continues to develop and manufacture best-in-class, and first-in-class drugs, Vikalp's team work closely and often with the company's long-standing key supply partners, who for many years have stood shoulder-to-shoulder with Celonic – partners like Cytiva, Securecell, and Corning, all of whom have made an integral contribution to Celonic's success over its journey.

On Celonic's partnership with Securecell, Vikalp stated: *"The concept of bio-processing Industry 4.0 is shaped on acceleration of digital transformation – of processes, equipment, production, controls, systems, software etc – interconnected via IoT (Internet of Things).*

*The data-driven, intelligent decision making, in real-time, is the future of the bioprocess development and manufacturing. Celonic and Securecell have a shared vision on harnessing the benefits of automation in process development. Our collaboration on automated sampling and close-loop control Numera system has affirmed the potential of advancing innovation in integrated bio-process development."*

Cytiva, a global provider of technologies and services that helps advance and accelerate the development and manufacture of therapeutics,

has also worked closely in alignment with Vikalp and his team. Bringing speed, efficiency, and capacity to research and manufacturing workflows, Cytiva has been an important enabler of Celonic's ability to deliver transformative medicines to patients.

**“ People are the most significant investment that we make as an organisation ”**

And then, of course, there's Celonic's scientists and researchers - individuals whom he describes as the sharpest, most astute minds he has come across. In this industry, it's all about people; having great talent, keeping them engaged and hungry as they go about their work, and ensuring that they have the opportunity to keep learning.

For Vikalp, working alongside such men and women who are changing the world is a source of great inspiration, and yet another fascinating part of the job in this most fascinating of industries:

*"People are the most significant investment that we make as an organisation. There is a talent war, it is extremely challenging! These are young and experienced minds; what I have seen is you have to work together towards a common purpose.*

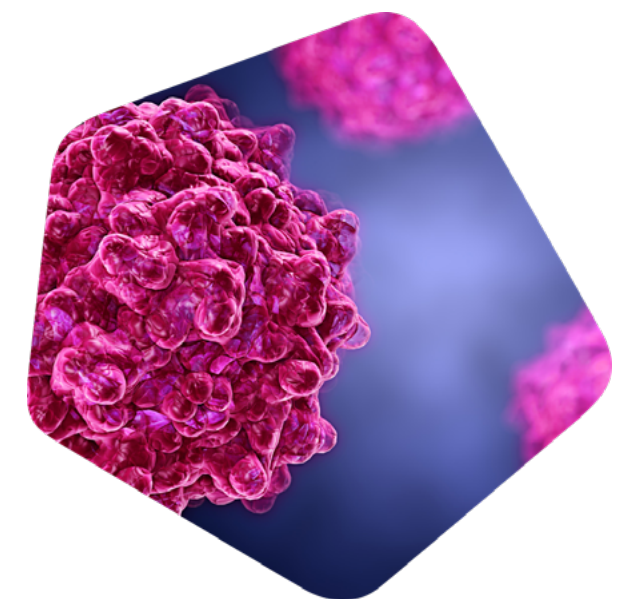
*Everyone, including myself, has a strong belief in our corporate purpose and it drives us to continually deliver our best. Our purpose is simple, yet profoundly grounded: we truly want to be the enabler of the biotherapeutics of tomorrow. The modalities landscape of bio-therapeutics is becoming ever more complex with seemingly every passing day. Beyond the complex biologics – fusion proteins, bispecific, ADCs – the pipeline of cell & gene therapies has progressed substantial-*

*ly over the last five years. To be a true enabler, team Celonic leverages and promotes customer-centric, solution-oriented services, and strives to continuously upgrade our learning mindset of what's coming next, optimising our platform processes and analytics.*

*When we go out and attract talent, we do promise our talent pool that they will be working on the frontier of bio-innovation."*

Like any smart organisation, Celonic prioritises the wellness and continued development of its people. Granted, Vikalp's staff are a highly qualified, high-value asset in a business context, but even the most brilliant minds have room to grow.

Vikalp takes special pride in the conscious efforts the organisation has put into embracing a Growth Mind set - A continuously learning frame of mind that thrives on challenges to deliver outstanding solutions for all stakeholders. With this in mind, investment into training and upskilling staff is a foremost part of Celonic's strategy to maintain its standing as an industry pioneer, as is encouraging participation in the latest academic conferences and congresses.





This commitment to investing in people works well on all levels - the more up to speed, the more ahead of the curve Celonic's team are, the better they utilise and integrate their creativity into finding solutions. Investment into other key assets such as its cutting-edge facilities is also central to Celonic's efforts to maintain its industry standing, as evidenced by the company's recent €60+ million capital expenditure into its Heidelberg facility – a fortuitously timed move on the part of Celonic that greatly enhanced its bio-therapeutics manufacturing capability just as COVID-19 had started to emerge.

After a year that has been, to say the least, challenging for the world but most exciting for life sciences, from a technical standpoint, Celonic along with its peers are looking at a new landscape that is very different from what they anticipated only a year ago. With this in mind, the question is what next for the company?

*"The industry is witnessing massive expansion and considerable consolidation," explained Vikalp. "There has been huge capital inflow and there are more players coming in. The industry is growing and we want to stay ahead of the pack. If someone is looking at Celonic, we are actively striving to be known as the true technology partner of choice."*

*"And technology for us is central, we do invest considerably in this area. Out of the investments we are making, we have announced ATMP investment in the life science park in Stein with projected capacity to employ more than 250 professionals, and we have already committed Capex into our Heidelberg for around €65 million."*

To consolidate and take its operations to the next level, Celonic aims to pursue organic and inorganic growth by making measured moves to expand its bio-solutions portfolio into new marketplaces further afield.

*"We want to serve our end community of patients as well as our collaborating partners across the globe. The question is how can we accelerate what we are doing? And in a true sense, what is Celonic's platform, what could Celonic offer to add value to biotech players? There's a huge focus on data-driven decision making, quality systems and the time-to-market element. That's part of our strategy – how does the Celonic platform continue to help our collaborators bring the future of the innovations to the patients faster?"*

*This requires a global footprint, beyond our physical presence at present. We may be actively considering a potential expansion into the US at appropriate time.*

*The next element goes more into looking at our internal platforms, and where we want to focus on advanced therapeutics or ATMP cell and gene therapies. How do we build our capabilities and capacities to serve the novel modalities? Celonic is quite advanced in team capabilities and capacities to serve our cell & gene therapy partners. We are a strong believer in collaborative development principles and would continue to engage with likeminded partners, in both technology as well as the program delivery space."*

Celonic continues to serve its customers well, and can offer a broad range of value differentiation when compared to competitors. Vikalp concluded, stating: *"Staying true to our purpose of being an enabler, we are working on multiple R&D and delivery projects to shape-up products and platforms of the future. Looking on the road ahead we are highly excited on the leading role team Celonic will continue to play in addressing unmet medical needs in collaboration with our partners."*



# A legacy of progress through unprecedented times

*John M. Tobin is vice president and general manager of Corning Life Sciences.*

**Corning is vital to progress – in the industries we serve and in the world we share. We invent life-changing technologies using materials science. Our scientific and manufacturing expertise, boundless curiosity, and commitment to purposeful invention make us integral to the way the world interacts, works, learns, and lives. Our sustained investment in research, development, and invention means we're always ready to solve the toughest challenges alongside our customers.**

Early last year, I stood on stage in front of a group of Corning executives speaking about how 2020 promised to be a smooth year for our organization. The life sciences market was growing steadily. Our customers were innovating and developing life-changing and life-saving treatments and therapies faster than ever before. We were ready to support them and grow alongside them.

Corning has been a trusted supplier to the global health care and pharmaceutical industries since the introduction of PYREX® glass in 1915, with brands found in more than 100,000 laboratories worldwide. Last year, we were ready to continue our journey as an industry leader, but we all know what happened next.

Like most companies, it took us a little while to understand both the challenges that the pandemic would present to our business and the opportunities for us to help.

**The global pandemic changed everything—but it didn't change our customers' commitment to making scientific breakthroughs at breakneck speeds.**

As scientists and researchers raced to address the pandemic, many were using Corning Life Sciences' products in their basic research to understand the virus. Almost overnight, we couldn't produce enough laboratory consumables to meet the growing demand. While the virus spread, new tools were developed for

testing and analysis. Corning began to provide critical products to the developers of PCR and serological test kits. As our customers rushed to develop effective, safe vaccines, they began to use more of our bioproduction products to support the culturing, scale-up, and production of these vaccines.

In addition, our sister business, Corning Pharmaceutical Technologies, had recently introduced Corning Valor® Glass, a revolutionary packaging solution purpose-built for the pharmaceutical industry. This new technology helps to enhance the storage and delivery of drugs like the COVID-19 vaccine, provides more reliable access to medicines essential to public health, and optimizes manufacturing efficiency.

**The result of the pandemic was an unprecedented increase in global demand for our life science and pharmaceutical products – as much as 200% to 1000%.**

Our commitment to our customers and the industry has never been stronger, and so our response to this increase in demand must also be unprecedented. Corning has made a commitment to invest more than \$500 million in manufacturing capacity expansion between 2020 and 2021, including government co-investments to support domestic manufacturing of critical supply chain components. This represents the largest capacity expansion in our history in the life sciences industry.



**While we invest in meeting today's demand, we are also preparing for a future driven by incredible advancements in life science.**

This isn't the first time Corning has helped to enable unprecedented life science progress. Our products and innovations were critical in fighting the Spanish flu, the discovery of penicillin during World War II, and developing a polio vaccine in the 1950s.

We have always invested in scientific excellence, helping scientists to make medical breakthroughs that can help us live longer, healthier lives. It is as an extension of this legacy that we remain fully committed to serving the scientific community as it continues its essential work during the COVID-19 pandemic and beyond.

**Our products allow our customers to not just change but save lives.**

One of the best parts of my job is the inspiring stories that I get to hear on a regular basis from our customers. Scientists use our products to discover new treatments for cancers, Alzheimer's disease, nervous system diseases, and cystic fibrosis. They're improving early assessment of drug toxicity and growing advanced cell structures outside of the body that allow for the study of diseases that currently have no cure. These stories have instilled an organizational passion for developing products and technologies that transform the way researchers work. That includes optimized surfaces for cell culture and assays, single-

use products, and closed system solutions for more efficient scale-up and downstream bioprocess, such as our industry-leading Corning® HYPERStack® vessels. Corning's technologies can translate to new efficiencies and improved results for scientists around the world who are taking research into reality.

**The life science industry continues to grow in unprecedented and, sometimes, unexpected ways.**

If we've learned anything over the last 18 months, it's that we can't always predict the next challenge. What we can predict is that Corning will remain steadfastly committed to progress and our customers' success through it all.





[www.corning.com/lifesciences](http://www.corning.com/lifesciences)





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