

UPPSALA
– WHERE LEGACY
MEETS CURIOSITY



STUNS  *life science*



Co-funded by
the European Union

Uppsala's thriving life science ecosystem: **A two-decade journey of growth and innovation**

WE USUALLY SAY that Sweden is incredibly strong in life science, and Uppsala is exceptionally good. When we look at both qualitative and quantitative aspects, which is what we are trying to emphasize in this report, we see just that.

Twenty years ago, STUNS and Vinnova made a joint effort to develop the life science ecosystem in Uppsala. Pharmacia had undergone several acquisitions and sales, and at the same time, we saw more research results beginning to be commercialized.

Looking at the numbers, we can see that the number of active companies has quadrupled since then, and the number of companies with revenue has increased by 150 percent over the past ten years. Similarly, we see increases in all parameters each year, including the number of employees, revenue, attracted capital, and more women in leadership positions. The future looks bright for Uppsala's life science sector.

However, we are still early on the curve. Most companies that do not originate from Pharmacia are still small, with a few having expanded to have several hundred employees and activities in other parts of the world. The projection is upward, and more people see the value in both operating and investing in Uppsala.

Even though the global situation is challenging right now with a recent pandemic, conflicts in the surrounding areas, and high inflation, there is a strong innovation system and good infrastructure that provide a robust ecosystem. The intention is to guide many research ideas to commercial successes.

Introducing Insight Machine: Your key to empowering life science discoveries

OUR MISSION is to empower decision-makers like you with a robust foundation for strategic choices. Therefore, we have developed a database to provide us with these foundations – the Insight machine.

In the ever-evolving landscape of life science, understanding the intricacies of conditions and changes over time is paramount. Moreover, the ability to benchmark ourselves against a vibrant community of peers is essential. With Insight Machine, you gain the clarity and wisdom needed to navigate this complex terrain.

We cordially invite you to embark on this transformative journey with us as we shape the future of life science insights. Your exper-

ience is the driving force behind our shared mission, and together, we'll pioneer new frontiers of knowledge and innovation.

Data within the Insight Machine is gathered and meticulously processed with the collaborative efforts of a wide range of stakeholders deeply involved in the life science sector. We extend our heartfelt gratitude to Stockholm Science City, Medicon Village, and Sweden BIO for their invaluable contributions in this project, as well as Tillväxtverket for financing it through the European Regional Development Fund (ERDF).

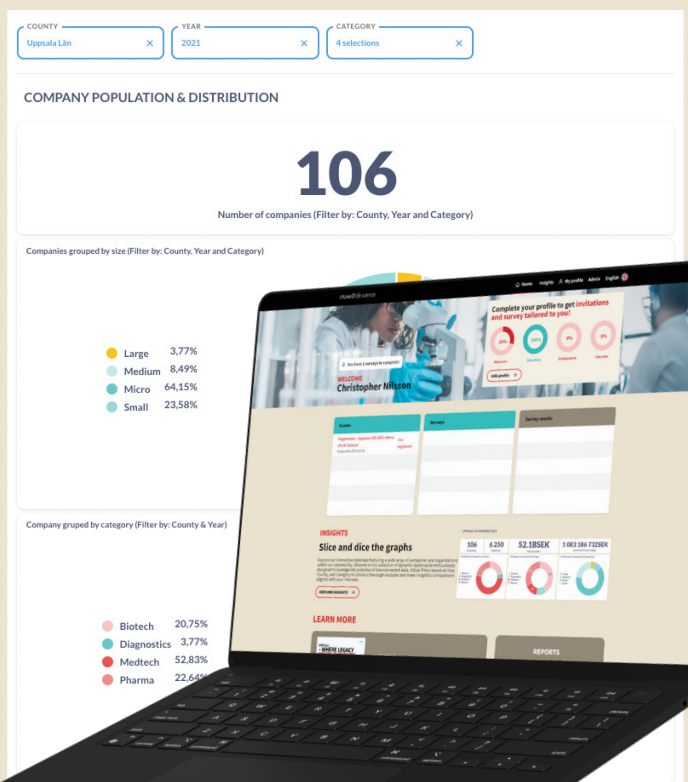
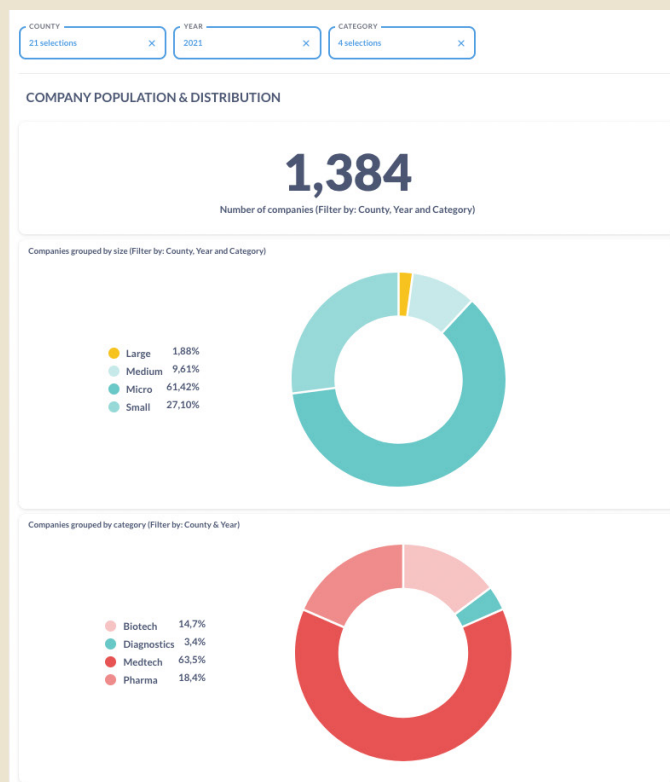
We are committed to delivering valuable data that caters to our community's specific needs. As we embark on this journey,

our dashboards will continually evolve, introducing new charts and insights. Please don't hesitate to contact us at insightmachine@stuns.se with any questions, thoughts, or suggestions you may have.

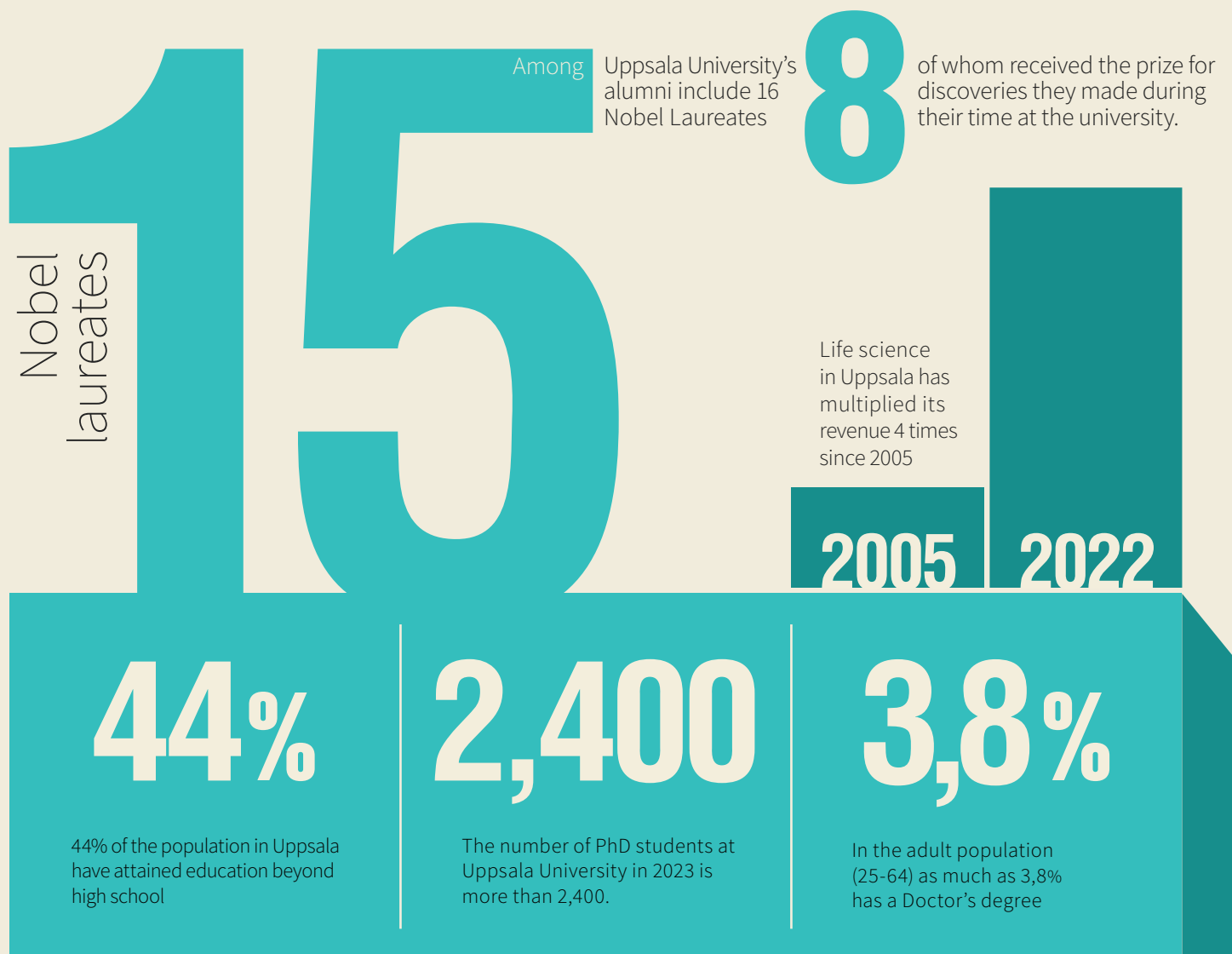
A big thank you in advance for your engagement—only together do we become strong.



DAJANA ILIC SUSAK
STUNS LIFE SCIENCE



Uppsala in numbers



55 000 of 243 000

In a city of only 243,000 in population as much as 55,000 of those are students

UIC

- A World-Class Business Incubator. Uppsala Innovation Centre supports innovative startups and growth companies.

5 Uppsala researchers in the top **1%** most cited according to Web of Science

SEK52B

Uppsala's life science sector reached SEK 52B in revenue and staff increased by 7%.



4X the amount of companies

2001

2021

#77

UU is ranked number 77 according to QS World University Rankings by Subject 2023: Life Sciences & Medicine.

#54

Uppsala University hospital is ranked 54 in Newsweek's ranking of the smartest hospitals in the world. (2024)

#3

SLU is ranked number 3 according to QS World University Rankings by Subject 2022: Agriculture & Forestry.



“ I think I have managed to be where I am professionally a lot due to that I have had this other life that has really pushed me to think of other things, discuss other things, and also steam off when needed. ”



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SPEED OF LIGHT

TRAILBLAZERS – Christel Bergström

Trailblazers - Christel Bergström

OKAY, SO WHAT DEFINES YOU? I think if I look back on my career, I would not say that I'm goal-oriented. I think people would view me as very goal-oriented, but maybe rather challenge-oriented. And that challenge could be either professional or personal. Trying to get myself out of my comfort zone every now and then, just to check out what would happen.

And having a bit of a mindset like what is the worst that can happen? If I do this, what is the worst that can happen?

WHAT IS THE WORST THAT CAN HAPPEN? Typically the worst does not happen. So if you step outside your comfort zone, you will explore, and learn, you will meet new competencies, new colleagues, new friends, maybe for life. And for me, at least as a scientist, that has changed my research field or direction a number of times, always for the better.

But definitely, it has been very difficult, and costly with regard to both my efforts and time. It's not the easy way out, but extremely rewarding.

HOW DO YOU SEE SETBACKS? HOW DO YOU HANDLE THEM? We all have setbacks and they can also be of the smaller or larger kinds. No, I'm very persistent. I don't necessarily need to have a delivery tomorrow. I think that's more or less a demand, being in the position that I am. But being very persistent, believe in the idea or the strategy that I rolled out.

But also be open-minded to change a little bit or add a little bit, listen to potential additions that need to be made to that particular, whatever it is that I work on. And not be... I have been better with the years, I think, to be kinder to myself with regard to setbacks. Yeah.

So I step back a bit, and reflect over those. And of course, all of us, how successful you are, you have more of the setbacks than the successes. But we don't show them. We don't talk about them that much. So I mean, even if the CV looks stellar, there are a lot of setbacks in that CV. So the setback CV would probably be double or triple as long.

But be kind to yourself and I think that's important and have the persistence to continue. Don't give up, never give up.

HOW DO YOU PERCEIVE RIVALRY OR COMPETITION? I think competition is good. I think we need competition to become better. I for sure need competition. Because I also, I mean, these, some of the highly competitive guys have been my heroes, the ones that you have looked up to, learned from.

I believe in competition, but I also believe in sharing knowledge, being generous with ideas and competencies, and to work together. But one is not excluding the other. I still think, I mean, if there only would be one good group in the world, it would be a not as good world as we have today. So for sure, competition is good, but it depends on how it pays out.



“ But I think I would have liked to have a competitor. That would have been fun. Someone that you could really go and have arguments with or send notice to when something is going well. That would have been fun. ”



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SPEED OF LIGHT

TRAILBLAZERS – Håkan Engqvist

Trailblazers - Håkan Engqvist

WHAT WOULD YOU SAY YOU DO THAT OTHERS DON'T? I get a lot of energy in projects where I could see a tangible outcome, an unsolved problem. I know that others do that as well, but I think I might take that a little bit longer than what many others do. I think I drive it further.

I'm prepared to do quite a lot to commercialize a project, work-wise, in hours, to run that forward. And sometimes I get confused and when I think, oh, we were supposed to do this project now, and then I realized it was just me who thought that we were going to commercialize it. Then I realize that it might not have been the other's idea.

WHAT HAS CREATED OPPORTUNITIES FOR YOU? I think I'm not afraid. I'm prepared to take risks. So I think that creates opportunity. I never seen myself as afraid. So I take risks. And yes, most often it is so. And it just could be to take contact with someone or spend time on something that might be seen to be a bad idea and so on. And that creates opportunity.

HOW DO YOU PERCEIVE RIVALRY OR COMPETITION? I think I am fine with rivalry and competition. I don't like if it's dishonest, otherwise I think I have no problem with it actually. Everyone is doing their thing, trying to survive or trying to make their thing grow. And if it is someone doing something very close to me, and they are successful and I'm not, because that happens, of course, that's actually quite fine for me. Then they have done something that I haven't or they worked harder or been more talented.

DO YOU HAVE A SPECIFIC RIVAL OR SOMEONE THAT YOU MEASURE YOURSELF AGAINST? No, not really. That would have been good. No. I don't have that. Anyone that I, you know, specifically follow or try to be better than.

WOULD YOU LIKE TO HAVE ONE? I think so. Yeah. I think that would be fun.



“ I sometimes compare myself to Alice in Wonderland, who says she has seven impossible ideas before breakfast. ”



Click or scan to listen to the full podcast:

SPEED OF LIGHT

TRAILBLAZERS – Johan Sundström

Trailblazers - Johan Sundström

HOW DO YOU DEFINE SUCCESS? Oh, well, the only way to survive in this business is to view every rejection on a grant application and every rejection on a manuscript submission as the natural course of your work. And that's what you have to expect. And whenever you get accepted and whenever you get funded. That is something extraordinary.

And that means if you want to have fun in your everyday work, you need to start celebrating small victories. I mean, it's in the grit and the everyday hard work that we succeed. And most of the projects that I try to do now are projects that really change the way we do healthcare. And those projects are typically sort of a decade long. You can't just count those successes because you wouldn't stand it. So we celebrate all the time, but the small victories.

HOW DO YOU PERCEIVE RIVALRY OR COMPETITION? I love it. I mean, in the sense of the entrepreneurship I've been doing. If it's just a small improvement of existing technology or service or what-not, then competition will eat you up if you don't go wholeheartedly into that project and make sure that you end up on top. Those are not the kinds of developments I try to work with. I try to work with stuff so far ahead or completely different in terms of perspectives that we need to convince people that this is the best way of doing things.

And in five years, we might be proven right. I'd like to be at a point where no one is at the moment and make sure that we show

people that this is the way we need to go. And there's usually no competition in that space. Everyone's competing about the small sort of incremental developments

WHAT DO YOU DO THAT OTHERS DON'T? I try to spend a lot time outside the usual research environment. And I try to give talks to audiences that I usually don't meet. And I interact with people in a cross-disciplinary way.

As a Ph.D. student, you think that every minute away from your keyboard is a wasted minute. And 10 years after my Ph.D., I thought, I won't go to any scientific meetings because that's just a wasted week. That's just a week that I'm not publishing papers. And all kinds of cross-disciplinary meetings that I was forced to, I hated, or not hated, but I tried to always check my emails at the same time. But I'm sort of increasingly appreciating those moments.

Now I try to spend as much time as possible (in those meetings) because that's where I get to think of the really paradigm-changing ideas—trying to understand what those people are doing and why are they doing it that way. And can we apply any of that in my scientific environment?

Usually, those kinds of lust-driven collaborations and experiences turn out to be fruitful because you end up doing something that is a little bit different than your mainstream colleagues would do.



“ I think people sometimes think I am too straightforward and maybe blunt. Which may put me in situations where they believe that I am a person which causes conflicts. ”



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SPEED OF LIGHT

TRAILBLAZERS – Sara Mangsbo

Trailblazers - Sara Mangsbo

WHAT WOULD YOU SAY DEFINES YOU? I am always kind of curious about what is creating a barrier for an idea or a barrier for a person to make a choice of pursuing something. And for me, I've always tried to figure out what is sort of behind the barrier that I feel that I have. I mean, when I was not an entrepreneur until I became an entrepreneur. One of the barriers that I felt was the barrier of fear around how do you even start a company. What knowledge do I have to have to start a company? What type of economic contributions do I have to make? And am I willing to take that risk? And also, what type of network do I need? And all of those things are barriers. And things that I was frightened of, sort of, which in a way controlled me. And I think I don't really like the feeling that something controls me, and I don't want to put boundaries on myself. So I'm always constantly trying to push my boundaries, and maybe that's what defines me a little bit.

I think it's also a way for me to sort of see what is sort of logic and what is emotions and what is connected to a choice that I make. Usually, you can make a choice, and you can start to work on a new thing that you don't have control over, but emotions may stop you if it's something you're afraid of or haven't done, etc.

And I don't think that I should be controlled by those emotions. I should be controlled by what I can and the capabilities I have. And I have a lot of them with me from experiences, from school, from learnings, etc.

And if I let the fears control me, then I don't allow myself to become the thing that I want to become or use my full potential to drive out ideas that can actually influence other lives.

HOW DO YOU VIEW SETBACKS? A setback is something that has always been present in academia, right? It's the experimental setbacks that you get every day. And so it's not something that I'm not used to. And in the journey of building companies, you should talk about the vision, right? And you should sort of try to bring your company to that vision in the end, but it's far, and there will be many setbacks.

So it's also a constant reminder not to get settled, right? To not get too familiarized with the current scenario, because you need to be agile in every type of project where you're on your journey towards something. So I'm also trying to see setbacks as some kind of signal to be aware of.

HOW DO YOU PERCEIVE OR DEFINE SUCCESS FOR YOURSELF?

I think that right now, I'm not sure it would have been the same answer before. But since I feel like I have achieved a lot, I'm really happy with just being part of learning more, which is something that is a goal for me right now. It's not like a big goal to achieve another step in life. It's to be part of a journey where others learn and where I can share learnings. I think that's the big thing. If I can use that knowledge in a small arena or a bigger one, that is really rewarding for me right now.



“ We had a summer’s house that needed much fixing up at the tender age of 10 or 11. I did a lot of very advanced things that I probably would hesitate to engage in today. So I felt that I was practical and handy, and I’ve done some hobby carpentry and also built a lot of furniture. So in a way, I see the molecular work we do as a smaller scale of the woodwork carpentry. ”



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SPEED OF LIGHT

TRAILBLAZERS – Ulf Landegren

Trailblazers - Ulf Landegren

WHAT WOULD YOU SAY DEFINES YOU? I’m not sure. But I enjoy inventing things. I think I probably early on had an idea that I would be a scientist, but I think that was based on a misunderstanding that science is about inventing things as opposed to finding out what nature is like. So I think the possibility of creating something that didn’t exist before and seeing it applied, that’s driving for us.

ARE THERE ANY OTHER EVENTS THAT HAVE SHAPED YOU INTO WHO YOU ARE? Well, I think there’s a number of them. What I often describe is the fact that when I left high school, in Sweden, I had an unfinished love affair with a girl who got a job at Ultuna at the Agricultural High School. And so I got a job there to pursue her unsuccessfully.

I was working as an assistant to a technician, but the technician did not exist. And the person who ran the lab didn’t run the lab, he was interested in teaching. So I had a lab to myself when I was 19.

I was extremely naive. Since I had no formal training, I reinvented lots of wheels there too, and tried things that people had already shown couldn’t work, or that already worked in other people’s hands. But it was a fantastic opportunity, and I really enjoyed myself. I worked day and night, and went there Saturdays and Sundays if I had some idea of something to try out.

WHAT WOULD YOU SAY IS YOUR WAY OF HANDLING SETBACKS? In my time at Caltech, there was a long streak of setbacks. I had a fantastic series of failures, which probably would have killed most scientists at this stage of the game, the way careers are constructed now.

After three years of working day and night, I had accomplished exactly nothing. When I think back, I think I wasn’t so tolerant for setbacks. That was extremely stressful. Because of the combination of unlimited opportunities, I had all the money in the world in the very rich lab and expertise in all areas, and no particular direction to go. Everything was possible.

Nothing was more likely than anything else. So I went off in a number of different directions, and several of them turned out to be quite useful but not in my hands because I wasn’t able to pursue them all. But one of them I stuck with this business of ligating oligos as a way of detecting things. And that’s become a theme that has turned out to be quite successful.

A brief historical perspective

JACOB ULFSSON was born sometime in the 1430s, but we actually don't know the exact year due to conflicting information.

However, we do know that he studied in Rostock in 1457 and was in the papal curia in Rome between 1465 and 1470. Following the passing of Jöns Bengtsson Oxenstierna, Pope Paul II appointed him Archbishop of Uppsala.

Ulfsson aimed to establish an educational institution for Catholic priests in the form of a Stadium Generale, inspired by older universities. After applying for this in Rome, Pope Sixtus IV issued a bull for its establishment on February 27, 1477. The Swedish Council approved the plans on July 2, and studies began on October 7 of the same year.

It was stipulated that teaching could cover theology, canonical (ecclesiastical) law, and philosophical subjects. Like the model Paris University, the institution could confer all academic degrees. It was also decided that students had to swear, at the rector's hand, not to communicate anything from the teachings abroad that could be detrimental to the realm.

After 1515, there is no mention of Uppsala University in the sources until the end of the century. The bishop's residence in Uppsala was burned down during internal conflicts in 1497 and 1521, and these events might have reduced the availability of books in the city.

With the Protestant Reformation, the university's activities were significantly limited. The university's Catholic-influenced early period was not appreciated by the then-first Protestant-minded king Gustav Vasa, who is nevertheless claimed to have studied there himself.

I can imagine how optimistic it was when Gustaf II Adolf revitalized and revived our dormant university through his generosity, attracting as many as 1000 students to Uppsala in 1630—a number that held until 1880 before rising again.

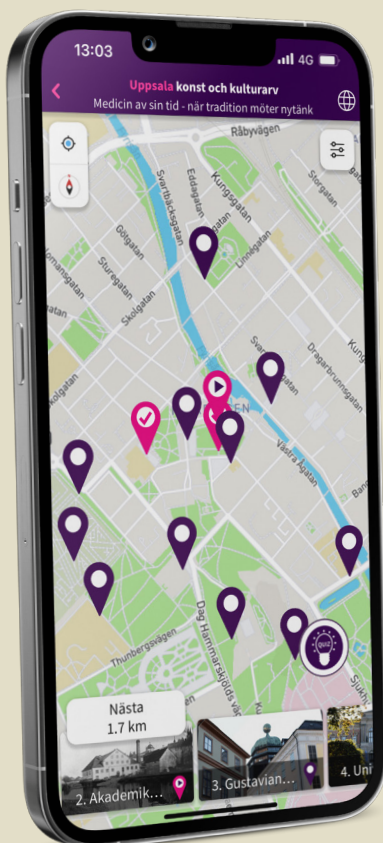
We can read about Olof Rudbeck, the first professor of practical medicine, and a respected polymath, who conducted what many call the first Swedish scientific discovery when he demonstrated the lymphatic system. He also redesigned the city's network and reportedly stood on the roof of Gustavianum, directing firefighting efforts the night Uppsala burned in 1702.

I get a delightful image of the first female student, Betty Pettersson, being enrolled in the university in 1872. Twenty years later, the first female student association was formed in 1892, and in 1949, Gerd Enequist, a geographer, became the first female professor in Uppsala. Although Anna Paues had been the first female Swedish professor when appointed in 1934, she had no employment at any university. Karolinska Institutet was also ahead of Uppsala when they appointed Nanna Swartz as a full professor in 1937, one of 23 in the college.

It's easy to be inspired by Manne Siegbahn, who, despite his research success at Lund University, chose to leave for Uppsala and a professorship in 1922 when Uppsala offered better facilities and equipment funding. Just two years later, Manne received the Nobel Prize in Physics for his "discoveries and research in the field of X-ray spectroscopy."

And there would be more Nobel Prizes to come. In 1926, The Svedberg received an award for his studies of dispersed systems, and in 1948, Svedberg's disciple Arne Tiselius received his award for research in electrophoresis and his studies of the complex nature of serum proteins.

Even today, knowledge plays a significant role in Uppsala's future. All development can be traced in history, and if we look ahead, that's where we find the answers to what will make us successful tomorrow. However, this doesn't necessarily mean that we should search in the same soil for the experiences that will shape tomorrow's successes but perhaps in the borderlands of the known world.



UPPSALA - WHERE LEGACY MEETS CURIOSITY.



Uppsala - a center of learning

IN THE YEAR 1258, following the tragic fire at the Old Uppsala (Gamla Uppsala) Cathedral, Pope Alexander IV granted his approval to relocate the episcopal see to the new city of Uppsala, also known as Östra Aros. This was marked by constructing a majestic new cathedral on Dom-berget (the Cathedral Hill). Construction commenced in 1272 and culminated in its inauguration in 1435, marking the beginning of a new era in Uppsala's history.

It was Archbishop Jacob Ulvson who soon obtained permission to establish an educational institution for priests in the city. In 1477, he received a papal bull from Pope Sixtus IV to establish this institution, leading to the emergence of the Cathedral Chapter, where the very first students were educated in the doctrines of Catholicism.

The initial building, known as the Carolinian Academy or Academia Carolina, became the birth-place of Uppsala University.

The early years were focused on priestly education and the teachings of Catholicism. However, the university declined in significance when the Reformation swept through Sweden in 1527. It was only during the reign of King Gustav II Adolf that the university regained its vitality, as the need for loyal priests and officials to serve the king's interests in Europe grew.

In 1622, construction began on an impressive new university building, later named Gustavianum, in honor of the king who financed the project. This grand structure was designed to house lecture halls, a printing press, dormitories, a student dining hall, and a library. Gustavianum gained further renown when the anatomical theater was added, thanks to Olof Rudbeck the Elder, featuring excellent lighting and steeply tiered seating.

During the city fire of 1702, the Carolinian Academy suffered significant damage. In 1778, the old building was demolished to make way for the new university library, Carolina Rediviva ("the Resurrected Carolina"), completed in 1834. This library houses treasures such as Isaac Newton's first edition of "Philosophiæ Naturalis Principia Mathematica" and the Silver Bible, a handwritten gospel book from the 5th century.

Today's "new" university building was completed as recently as 1887 and was inaugurated by King Oscar II. This building, constructed in Roman Renaissance style in the University Park, or Gustavian Academy's Garden as it was known in the 18th century, is an impressive landmark. The grand entrance, illuminated by dome-shaped skylights, leads to an auditorium that can accommodate up to 1800 people, hosting numerous events and lectures.

Above the entrance, one can read the words of philosopher Thomas Thorild: "To think freely is great, but to think correctly is greater." ("Tänka fritt är stort, men tänka rätt är större") The facade is adorned with plaques dedicated to the great personalities associated with the university.

Today, Uppsala University is one of Sweden's most esteemed institutions, with over 50,000 students and 5,000 researchers. It has adapted and evolved to meet the challenges and opportunities of changing times. The university's presence permeates the entire city, and Uppsala has become synonymous with the City of Knowledge, a place where science and learning flourish, continuing to shape the future.

Kemicum - From the discovery of oxygen to the atom knife

KVARTERET MUNKEN (THE MONKS QUARTER), nestled alongside the Fyris River and the “Islandsfallet” waterfall, has witnessed the evolution of various academic disciplines from the 18th to the 20th century. Most recently, it was home to the fields of psychology and law. However, its origins are steeped in scientific exploration, housing Anatomicum, Patologen, Histologen, and the Chemist’s Laboratory, known as “Laboratorium Chemicum.”

In 1738, the Chancellor of the University of Uppsala approved the establishment of a chemical laboratory in the quarter. By 1752, the land was acquired, and it was here that the chemist and pharmacist Carl

Wilhelm Scheele and the chemistry professor Torbern Bergman conducted their groundbreaking research. It was within the walls of Chemicum that Scheele proved the existence of oxygen, although he did not publish his observations before competitors beat him to it.

The Department of Chemistry relocated to new facilities in Kemicum near the Engelska Parken (English Park Campus) in 1859. Architect Ture Stenberg’s initial project in Uppsala was to design these modern chemistry facilities. Kemicum provided the university with much-needed state-of-the-art facilities, including lecture halls, laboratories, workspaces, and workshops,

all behind impressive and aesthetically pleasing facades set within beautiful park surroundings.

Even though the chemistry department has since moved to new premises, busts of the eminent Swedish chemists and researchers Torbern Bergman, Jöns Jacob Berzelius, and Carl Wilhelm Scheele still grace the entrance, as does The Svedberg Laboratory.

As the 20th century dawned, modern science embarked on a journey into the world of atoms and molecules—the building blocks of life.



Theodor (The) Svedberg, a charismatic and exceptionally gifted scientist, became a professor of physical chemistry at a very young age. His studies primarily focused on colloids—microscopic particles in water solutions. During his work, he invented the ultracentrifuge, allowing him to separate and study purified proteins. For this groundbreaking work, he was awarded the Nobel Prize in Chemistry in 1926, laying the foundation for molecular biology. He is also the progenitor of the unit known as the “svedberg,” a measure of sedimentation velocity.

Svedberg’s successes made the laboratory in Kemicum internationally renowned, attracting numerous guest researchers.

With the advent of the atomic bomb, research into the atomic world accelerated, and Svedberg quickly recognized its immense potential. A new facility was constructed in Uppsala to study

atoms through nuclear chemistry. This facility was built around an electromagnet, from which a particle beam could be directed, including for medical applications with the so-called “atom knife.” A 60-year-old woman with uterine cancer became the world’s first patient to be treated with this groundbreaking technology.

Today, chemical research and education can be found at various locations across the city, including the Biomedical Center (BMC), constructed in the 1960s, which became the new home for much of the department’s activities previously housed in Engelska Park. Additionally, the Ångström Laboratory hosts inorganic chemistry and materials science research. Recently, it was expanded with the addition of the New Ångström Laboratory, marking the largest investment in the university’s history.

A brief history of **Uppsala University Hospital**

The history of hospitals in Uppsala dates all the way back to the 14th century with Helgeandehuset on Fyristorg. Here, the church provided care for the sick and impoverished, with priests on staff. Over the years, this function transitioned to the crown during the Reformation and Gustav Vasa's reign. Despite being razed in the 1702 city fire, the building was reconstructed and continued its mission. The Oxenstiernska House at Riddartorget was initially built as a residence for Bengt Gabrielsson Oxenstierna, a diplomat and chancellor during King Karl XI's rule. It gained recognition as Uppsala's first academic hospital when Uppsala University acquired the property in 1708.

Though the renowned Olof Rudbeck the Elder had envisioned an academic hospital in the early 1600s, it was not realized during his lifetime. Instead, it was Lars Roberg, after his appointment as a professor of anatomy and practical medicine in 1697, who succeeded in advocating for clinical teaching at the bedside.

The hospital operated on an outpatient basis and had up to eight beds. The exact number of patients served remains unclear, but it was determined that no more than two patients could occupy a single bed. Roberg faced financing challenges, despite significant contributions from the university. When his successor, Nils Rosén von Rosenstein, took over, renovations and expansions of the Oxenstiernska House were initiated.

Nils Rosén von Rosenstein, originally a theologian, retrained in medicine and made significant strides in pediatrics. He revolutionized healthcare by emphasizing hygiene, proper nutrition, hydration, and vaccination against smallpox. He also stressed the importance of maintaining comprehensive patient records.

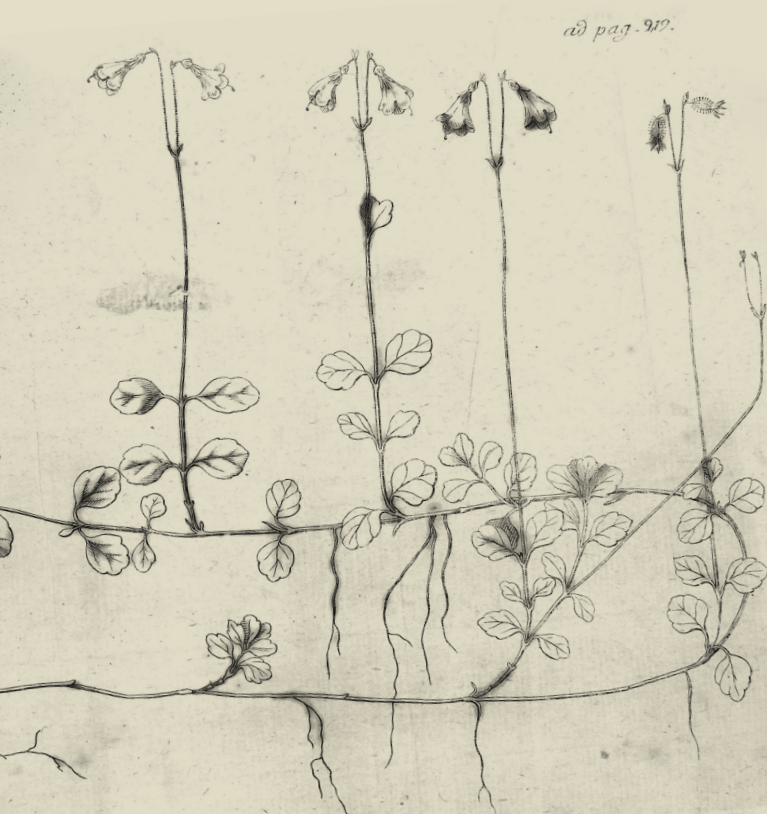


Carl von Linné also practiced at the hospital during his tenure as a professor of practical medicine, as did Samuel Klingenstierna, who, after studies in law and mathematics, became Sweden's first professor of physics at Uppsala University. Klingenstierna conducted electricity experiments in the academic hospital building at Riddartorget. His work with electricity machines led to Linné and Rosén conducting electrotherapy at the academic hospital. It's even said that a woman with a broken hip was freed from pain and could discard her crutches.

Following Rosén, Israel Hwasser expanded the hospital at Riddartorget to accommodate 32 beds. Eventually, plans were made to construct a new hospital south of Uppsala Castle.

When it was inaugurated in 1867, it stood as one of Northern Europe's most modern hospitals, with four stories and 150 patient beds.

Much has transpired since the days of the Oxenstiernska House, and the institution has evolved over the 20th century. Research and education continue to thrive at the Academic Hospital, rooted in Lars Roberg's foundational idea of "clinical teaching at the bedside, all for the benefit of the individual patient." This commitment to innovation and patient care has propelled it into the ranks of the world's top 100 most innovative hospitals.



Unlocking Sweden's biopharmaceutical potential

In recent years, Sweden has witnessed a remarkable surge in its commitment to the fields of biological production and next-generation pharmaceuticals.

This visionary initiative, spearheaded by the Swedish government and Vinnova, has paved the way for groundbreaking advancements in biotechnology. At the heart of this journey lies the Testa Center, a state-of-the-art facility strategically located in Uppsala, established through a close partnership with industry giant Cytiva and STUNS Life science.

The Testa Center, celebrating its fifth anniversary in the fall of 2023, has become a beacon of innovation. This cutting-edge testbed serves as a nucleus for the verification, validation, and scaling-up of biological production processes. Moreover, it's a hub for pioneering technological and digital innovations that are reshaping the landscape of biopharmaceuticals.

Beyond its remarkable infrastructure, the Testa Center has played a pivotal role in supporting a multitude of enterprises and projects like Abera Bioscience. Furthermore, Uppsala University has harnessed the center's potential to empower over 300 students, offering them a hands-on experience in industrial-scale processes.

In the collaborative journey of STUNS Life science and Testa Center, numerous insights have emerged. A key revelation is the importance of stable cell lines in the scaling-up process. Fortunately, Sweden boasts several capabilities in this area, primarily within SciLifeLab and their Drug Discovery & Development platform (DDD).

Currently, efforts are underway to synergize these capabilities, streamlining the transition from concept to commercial product. This strategic move aims to bolster Sweden's competitiveness on the global stage.

To secure Sweden's leadership in biological production and next-generation pharmaceuticals, it's essential that we optimize our existing strengths. From the perspective of STUNS Life science, this represents an exciting next chapter, filled with promise and anticipation.

As we look ahead, Sweden stands poised at the forefront of biopharmaceutical innovation, driven by a vision of excellence, collaboration, and a relentless pursuit of scientific advancement.



ANISHA KHAN
STUNS LIFE SCIENCE



MALIN WIEDERHOLM
STUNS LIFE SCIENCE





Revolutionizing vaccine production: Abera Bioscience's triumph with Testa Center and NorthX Biologics innovation hubs

Abera Bioscience successfully upscaled its production process for a new vaccine platform called BERA, which utilizes vesicles from bacteria (OMV) decorated with disease-specific antigens. Their initial candidate is a pneumococci vaccine designed to protect against all pneumococci variants.

They collaborated with NorthX Biologics to produce raw materials through bacterial fermentation. At Testa Center, they developed and verified purification steps, ensuring the production process is now suitable for industrial scale. Abera's next steps include producing GMP material and conducting their first clinical study in 2024.



Journey from research to industrialization: The birth of Akiram Therapeutics through DDD platform and Testa Center

Marika Nestor, a researcher at Uppsala University, has spent many years studying antibodies for radioimmunotherapy, particularly for thyroid cancer treatment. She and her team identified a promising antibody for this purpose. To advance towards patient treatment, they collaborated with the DDD platform to establish a stable cell line.

To form a company, they needed to demonstrate scalability to an industrial level, which they achieved through a successful project at Testa Center in 2021, maintaining the antibody's effectiveness. The material produced at Testa Center was used for preclinical experiments, leading to the founding of Akiram Therapeutics after securing additional funding for drug candidate development.



Sustainability network

JOINING FORCES FOR A SUSTAINABLE TOMMOROW

Crafting a sustainable future that benefits all Earth's inhabitants is no easy feat.

The most intricate challenges are often best tackled together. Sustainability is not a solo endeavor; it's a collective endeavor, requiring the combined efforts of all. No individual can single-handedly build the sustainable, climate-neutral future that our planet so urgently demands.

Guided by the principles of "Sustainability," "Action," and "Unity," a consortium of representatives from companies within the life science community convenes regularly to discuss and take coordinated action on sustainability.

We orchestrate these gatherings and provide the platform that empowers these representatives to unite in their shared mission of forging a more sustainable future.

To provide a holistic view of why collaborative sustainability efforts are paramount and the valuable takeaways gleaned from these meetings, we turned to the voices of those actively involved.

Three members of our network graciously shared their perspectives on why they engage in this network format. On the next page you will find their insights about the network.



FANNY BLOM
STUNS LIFE SCIENCE





Collaborating across borders on sustainability feels both important and crucial to get a holistic perspective where we together take responsibility and share. The network is a fantastic platform for this, it both inspires and educates, this gives energy and ideas that facilitate the progress of the sustainability work when I get back to my daily work. ”

ANN-SOFIE ANDERSSON
GRADIENSTECH



External partnerships, like those in the Sustainability Network, are pivotal. They ensure continuity in our sustainability efforts, offer a platform for knowledge exchange, and provide practical implementation guidance. These elements are vital for sustained, efficient sustainability initiatives, often hard to attain solely within a single company. ”

MATS GULLBERG
Q-LINEA



Networking and mutual support are the avenues through which we can collectively advance sustainability. By nurturing these connections, we promote sustainability for all, particularly smaller businesses grappling with evolving requirements, regulations, and reporting. Nevertheless, I firmly believe that networking benefits all, irrespective of size. Together, we enhance our knowledge, faster and better. ”

PETRA DUPREZ
BIOTAGE





Sustainability in Uppsala's life science sector

THE LIFE SCIENCE SECTOR'S profound connection with health and care is at the heart of sustainability. This dynamic synergy extends to the right to a healthy life on a thriving planet, with a responsibility to steward our environment and precious ecosystems – the lifeblood of our existence.

This intrinsic relationship finds its anchor within the life science sector, threading its way through academia, business, and society at large.

In 2021, we embarked on a journey, delving deep into the heart of sustainability within the Uppsala life science sector. Our comprehensive summary of collective actions revealed a resounding truth: effective communication is the linchpin to successfully nurturing sustainability initiatives within organizations.

By articulating their sustainability actions, organizations not only inspire others but also serve as beacons of exemplary practice, fostering a more transparent and informed discourse.

In the world of corporate communications, the act of conveying our actions becomes more than just words; it transforms into a catalyst for clarity and growth. It's within these moments that a profound learning process ignites, setting in motion an ever-evolving journey.

Moreover, each time the life science sector is mentioned in the context of sustainability and sustainable development, our collective influence gains ground. By weaving a narrative of effective communication and embracing unwavering transparency surrounding our company's sustainability aspirations, we don't just foster sustainable development – we propel it into the limelight.

But it doesn't stop there. When we take our sustainability efforts beyond internal confines and share them with the world, we spark a potential revolution. We have the power to inspire like-minded stakeholders to join our cause, cultivating a fertile ground for collaborative endeavors and innovative solutions. This not only bolsters our brand but also makes our company a magnet for top-tier talent and expertise.

Yet, amidst the sea of progress, a cloud of missed opportunity looms. In today's landscape, far too many actors within the life science sector content themselves with mere compliance, ticking the boxes of legal requirements when reporting on sustainability efforts. This missed opportunity results in countless exceptional initiatives, those that exist beyond the bounds of legal mandates, languishing in obscurity – their brilliance hidden, their impact unrealized. It's a narrative we must collectively rewrite, celebrating and elevating these unsung heroes of sustainability.

Building on this foundation, we conducted a subtle exploration of the current sustainability landscape within the Uppsala life science community. Our quest led us through diverse communication channels, with a special focus on open-source platforms, notably websites and LinkedIn. We sought to uncover how companies in our community convey their commitment to sustainability.

Our findings, presented in the first diagram, showcase a prevailing trend – a substantial number of companies utilize their websites as the primary conduit for sharing their sustainability endeavors. These initiatives take diverse forms, including dedicated sustainability reports, website sections, integration within vision/mission statements, and inclusion in annual reports.

Turning our gaze to LinkedIn, the second diagram paints a slightly different picture. LinkedIn serves as a platform for companies to project their profiles to prospective talent, investors, and the wider professional community within the sector. Interestingly, fewer companies in our community harness LinkedIn to communicate their sustainability initiatives compared to their robust website presence. This disparity represents a ripe opportunity

for refinement, as several organizations that feature sustainability content on their websites have yet to extend their message to this more socially-driven platform.

IN CONCLUSION, our analysis sheds light on the potential for greater synergy in sustainability communication efforts across websites and LinkedIn within our vibrant Uppsala life science community.

By harnessing these channels with more precision and purpose, we can magnify the impact of sustainability initiatives and cultivate an even more informed and engaged audience. The journey toward a sustainable future continues, guided by the harmonious convergence of life science, health, and sustainability.

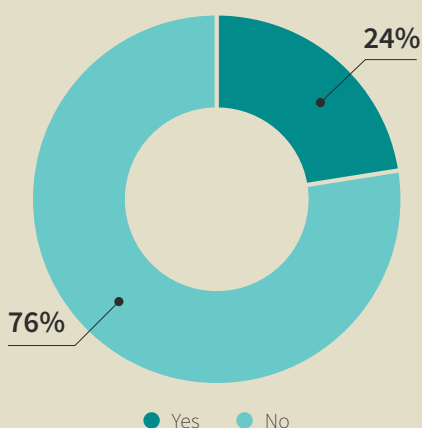


FANNY BLOM
STUNS LIFE SCIENCE

Sustainability Communication **in numbers**

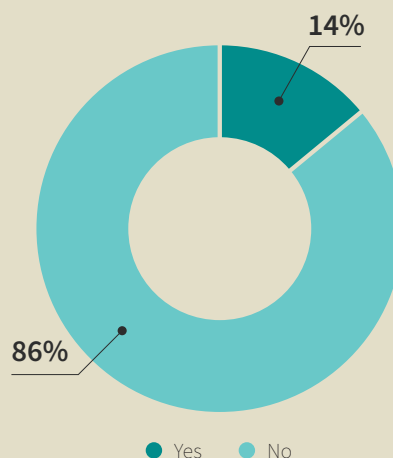
Website

Life science companies in Uppsala who communicate sustainability via website



LinkedIn

Life science companies in Uppsala who communicate sustainability via LinkedIn



The silent facilitators: How consulting businesses drive Uppsala's life science scene

IT IS NO SECRET that the life science industry has been hugely successful in Uppsala. Behind the success are the often-overlooked service providers. They form the backbone of this thriving sector, offering crucial support and expertise. We have identified and chosen to highlight four areas where consulting businesses are invaluable in this field.

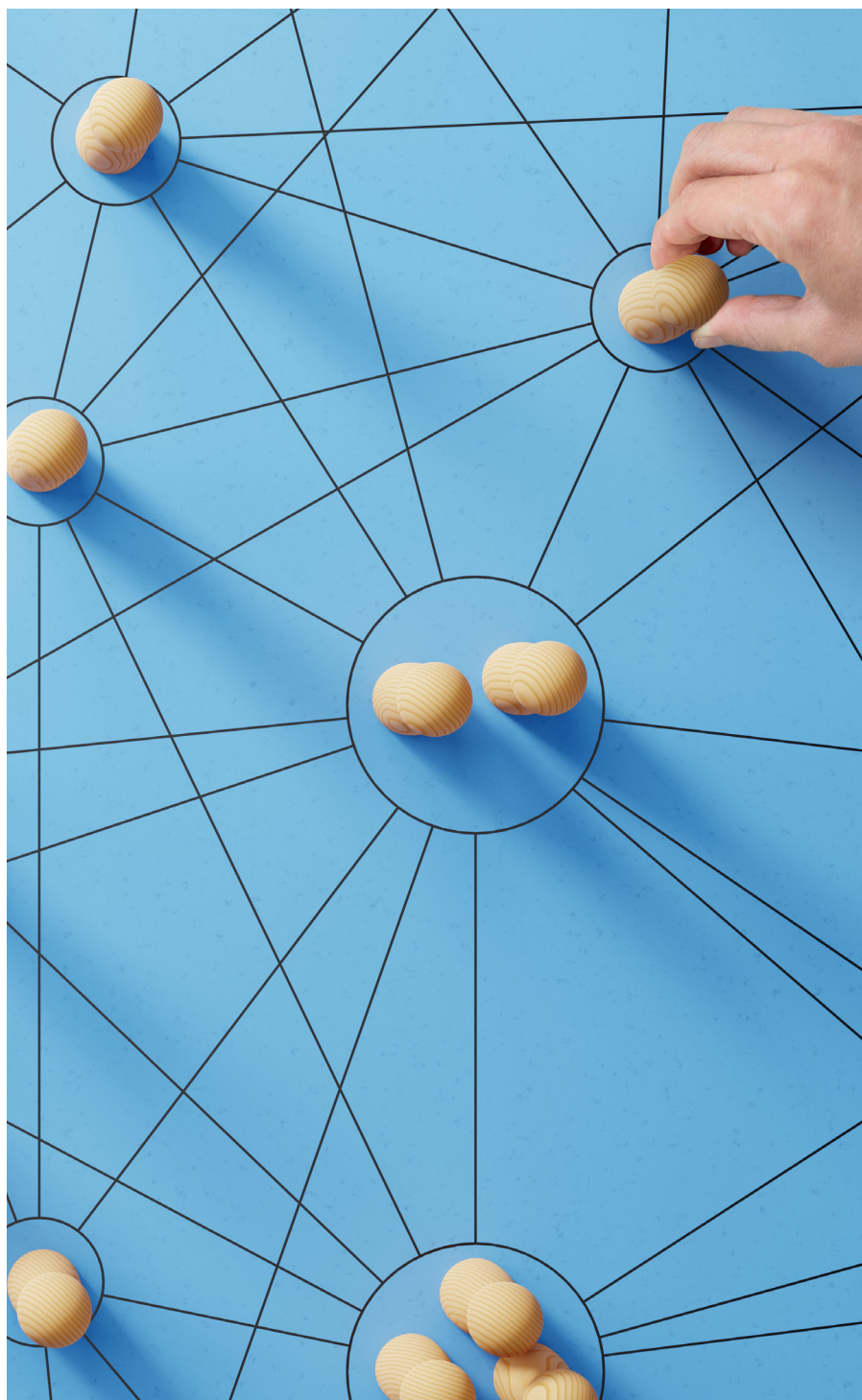
CONSULTANTS ARE VESSELS OF TRANSPORT FOR KNOWLEDGE as they have the advantage of working on projects at many different companies. They are also exposed to not only several working environments, but sometimes even several industries, where other perspectives and solutions are in working practice. Unfortunately, the vast majority of the consultants we interviewed described a hesitance from their customers to bring in consultants with a background in other sectors. We believe that applying knowledge from other companies and industries could accelerate and make the life science industry in Uppsala even more successful.



I think we are sometimes a bit too obsessed with putting life science experience as a prerequisite for recruitments. Instead, I would like to challenge companies to look more at the competences needed for the role, as life science isn't always as unique as we might like to think. For example, I have seen several great cases of people transitioning from other heavily regulated industries such as the nuclear power- or defence industry.



SANDRA BYDELL SVEDER
MPYA SCI & TECH





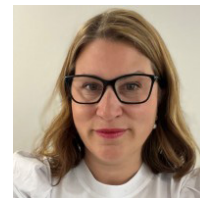
CONSULTANT COMPANIES ARE YOUR PARTNER THROUGH THICK AND THIN.

Operations can be truly diverse and can range from research in a lab to company founding, to various stages of clinical trials, to production design and commissioning, to daily production and supply chain operations. In each step of the way, specific skills can be of paramount importance. However, later when going into another stage, these same skills can be deemed superfluous, which is why consulting companies are so important. We believe that the strength of our ecosystem lies in the large number of active companies and projects distributed at these different stages – allowing for specialized consultants and professionals to have a steady stream of projects to work on in their respective niche.

CONSULTANTS ARE ENABLERS IN EARLY-STAGE COMPANIES when funds often are limited and not all positions can be hired. Many choose to hire consultants in part-time positions, especially in support functions such as IT, law and HR, eventually scaling up the contracted tenure as time progresses. By hiring consultants, companies can minimize their financial risk and adapt efficiently to the ever-changing demands of a young company. Using consultants at an early stage can also be a great way of getting access to valuable insight and senior competences, which is normally unobtainable for small companies to hire full time.

CONCLUDING REMARKS Uppsala has, and will continue to, develop life science companies that are in the forefront in their respective fields. However, in contrast to other prominent university cities, Uppsala stands out as we also have developed a world class supporting system that is able to assist entrepreneurs evolve from mere ideas to international conglomerates. We are truly unique in this aspect, and we should relish this opportunity.

“ Uppsala’s established consulting sector has been crucial for us as a fast-growing company. Especially with regard to the difficulty of finding the right competences quickly when we needed them. ”



MILENA POTUCEK
OLINK



ELLIOT WESTERLIND
STUNS LIFE SCIENCE

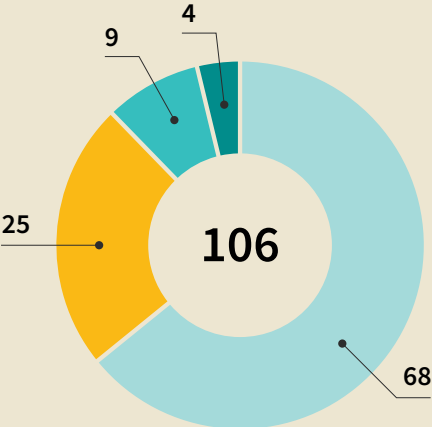


OSKAR WIGGINS
STUNS LIFE SCIENCE

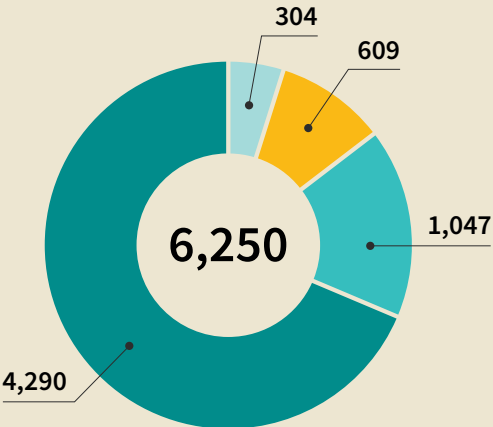
Life science in numbers (2021)

The larger the company, the higher the revenue and turnover per employee

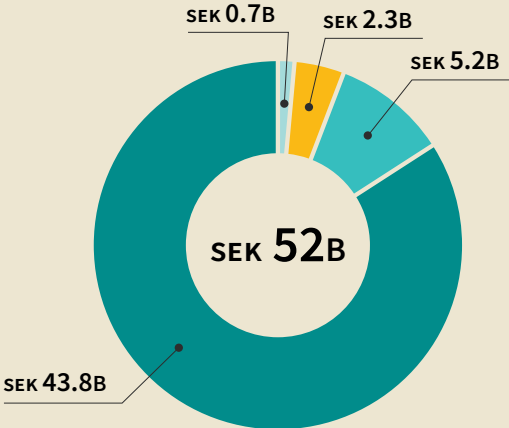
MICRO	SMALL	MEDIUM	LARGE
Companies with 2-10 employees	Companies with 10-50 employees	Companies with 50-250 employees	Companies with 250+ employees



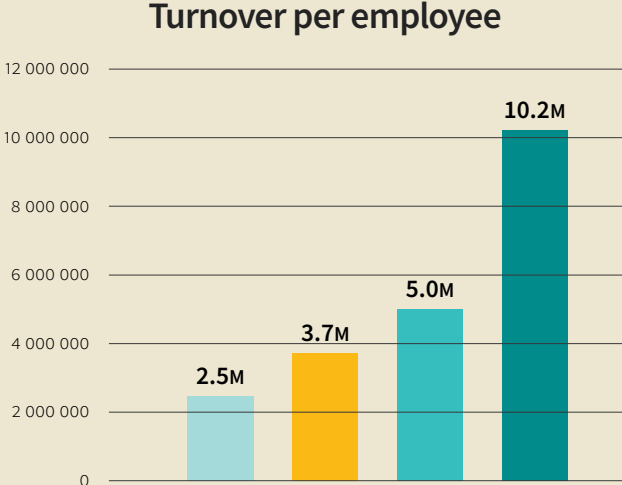
Number of companies
A total of 106 companies



Number of employees
A total of 6,250 employees



Revenue
A total of SEK 52 billion



- 3** governmental authorities
- 3** science parks
- 2** universities
- 2** university hospitals

- 106** companies
- 6,250** jobs
- SEK **52** B revenue
- SEK **1.1** B attracted risk capital

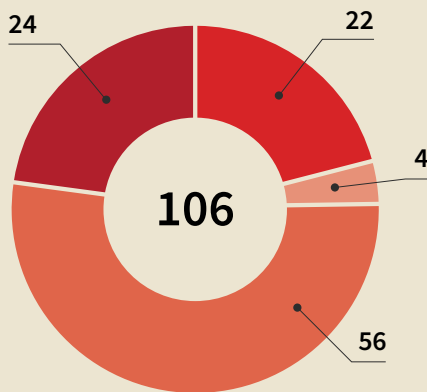
Strong biotech tools and supplies sector drives the revenue stream

BIOTECH

DIAGNOSTICS

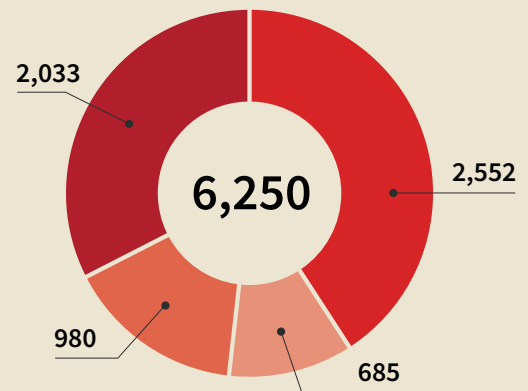
MEDTECH

PHARMA



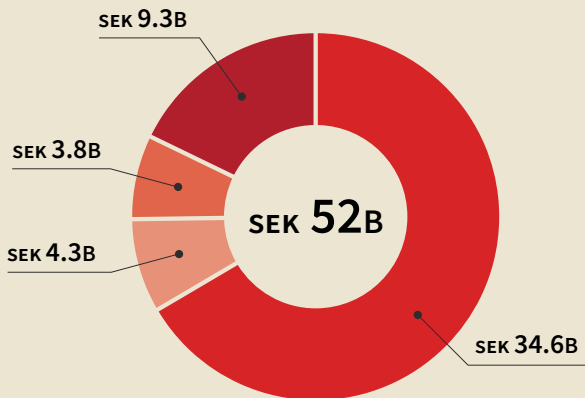
Number of companies

A total of 106 companies



Number of employees

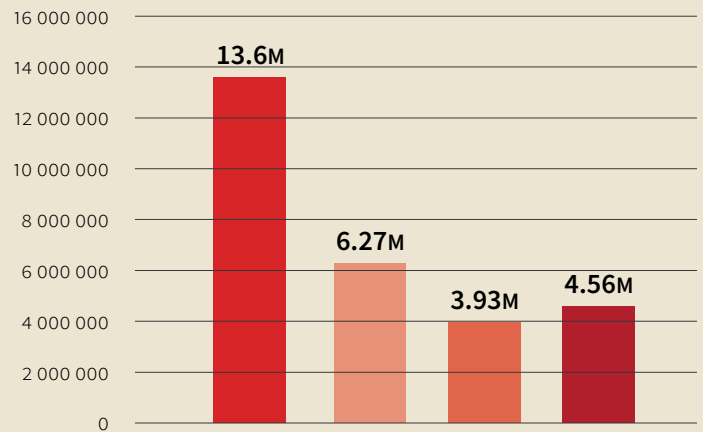
A total of 6,250 employees



Revenue

A total of SEK 52 billion

Turnover per employee



Unlock more life science insights

INTRODUCING THE INSIGHT MACHINE – your portal to a wealth of life science insights & trends.

Explore over 4,000 Swedish life science companies. Find new partners, customers, employers, or investment opportunities. Stay informed about industry health and funding resources. Examine gender equality in your boardrooms, and more.

Our dynamic charts offer clear company distribution visuals, including easy-to-use customization options like selecting county, year, or category.



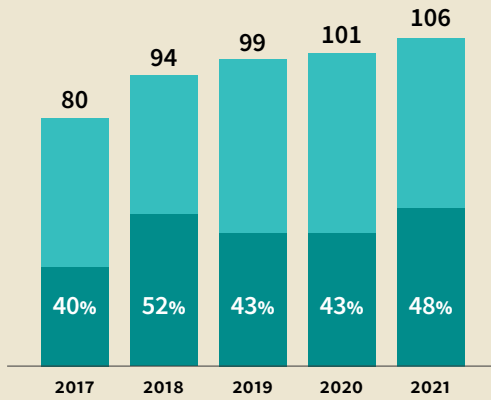
JOIN US in shaping the future of life science insights. Click or scan for in-depth data and dynamic charts.

TOGETHER, WE GROW STRONGER.

Growth and Trends

Growth and Trends

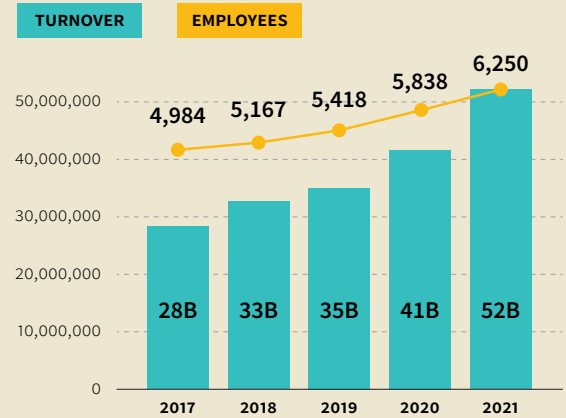
Number of companies in Uppsala



- Number of companies in Uppsala
- Number of companies with positive net result

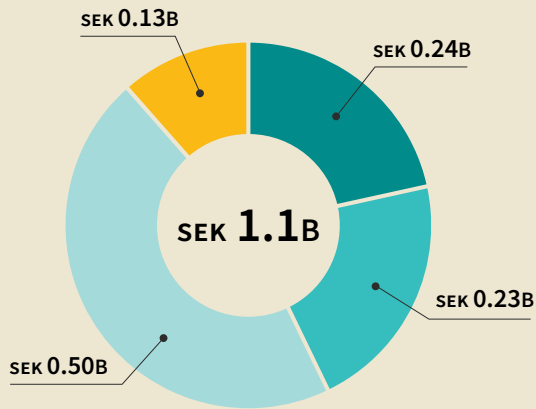
Employees and Turnover

Number of employees and the turnover in Uppsala



Total attracted capital

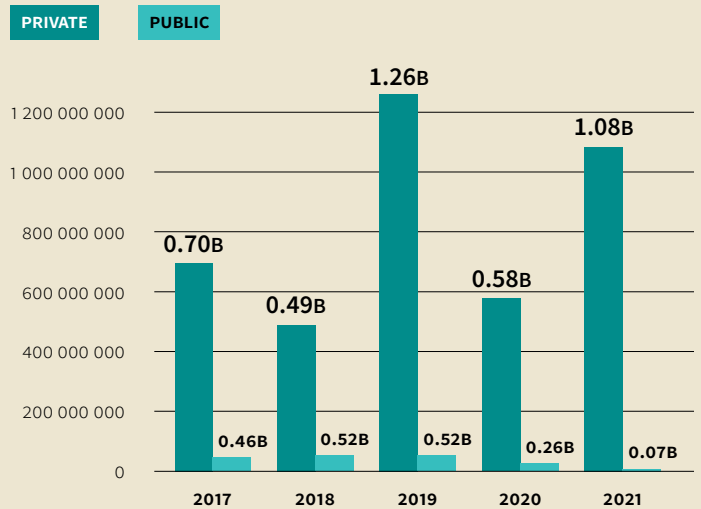
Grouped by industry in Uppsala



- Biotech
- Diagnostics
- Medtech
- Pharma

Attracted capital

Private capital & granted public funding



HENRIK GISTVALL
BUSINESS DEVELOPER
CONNECT SWEDEN,
UPPSALA REGION

“ We see a steady growth among companies in Uppsala, which is a positive development. The challenge still lies in capital acquisition. We at Connect help companies with the early stages of funding. For all life science companies and especially pharma there is a need for more venture capital in early stages as well as public funding. ”

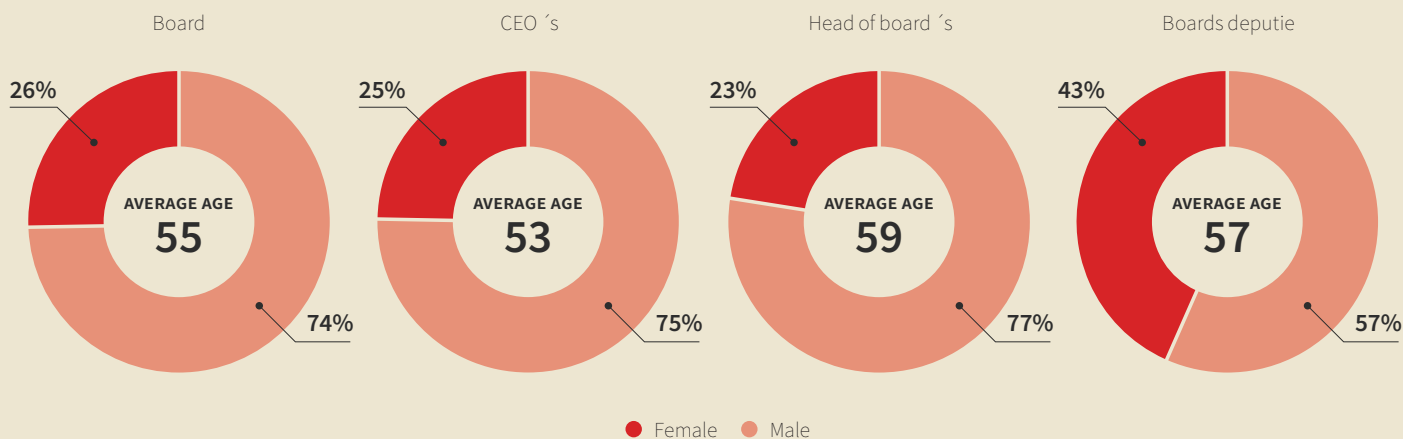


GUNILLA LUNDMARK
CEO AT UU INVEST AB

“ Uppsala’s life science industry continues to deliver strong results and impressive development. One of the keys to this success is the high-quality flow of commercially viable research ideas generated at Uppsala University. UU Invest remains unwavering in its support for the formation of new life science companies in Uppsala. ”

One step closer to gender equality in boardrooms

Gender distribution



In our analysis of gender representation within the companies leadership roles, between 2021/2022, several key findings emerge. Across the board, we observe a 26% female presence, reflecting an increase from the previous report's (2020/2021) 22%. The data also reveals that there is a 25% female representation among CEOs, showing an increase from the previous 22%. The head of the board positions stands at 23% female representation, compared to the previous 18%. Furthermore, we see that female deputies stand at 45%.

42%

of the companies that applied to UIC's incubator program had a woman in the founding team (2022).



DAJANA ILIC SUSAK
STUNS LIFE SCIENCE

“ Encouragingly, female deputies stand at 45%, a number that is in equivalence with the general gender distribution in the industry. Perhaps this is signaling a presence of female leaders within the organizations poised for future advancement. This data underlines the importance of gender equity initiatives in efforts to increase diversity within teams. I believe that creating a more balanced and inclusive leadership landscape, where all voices are heard and valued, will contribute to a more equitable and effective workplace. ”

“ We can see that startups in the life science sector stand out when it comes to the percentage of women in the founding team. In life science companies, there is a more even distribution of women compared to startup teams in other industries. However, something changes as life science companies grow, as the statistics seem to indicate a decrease in the percentage of women holding leadership positions. We have made progress, but we must continue to emphasize gender equality and diversity as a critical factor for these companies to perform at their best. ”



This updated summary incorporates the previous report's data for a more comprehensive perspective on changes in gender representation within the company's leadership roles. For further insights, you can refer to the previous report, 'Equality – a Prerequisite for Sustainable Development'.



NICLAS STJERNBERG
CEO UPPSALA INNOVATION CENTRE

CLICK OR SCAN TO READ THE REPORT:



MEDTECH



BIOTECH



PHARMA



DIAGNOSTICS



IS YOUR COMPANY OR ORGANIZATION MISSING?

Let us know!

INNOVATION SUPPORT SYSTEM



GOVERNMENT AUTHORITIES



RESEARCH AND DEVELOPMENT



SUPPORT COMPANIES



IS YOUR COMPANY OR ORGANIZATION MISSING?

Let us know!

FOUNDERS

