ascenion

Technology transfer for academic research
A company of the LifeScience Foundation

Annual Review 2022/23

READY FOR THE CLINIC

Life Sciences into Business

Committed to translation

Ascenion is an independent knowledge and technology transfer company supporting over 40 European partners with a life-science focus: research institutes, universities, university hospitals and associated institutions.

We are committed to transferring excellent research into profitable applications that benefit society. This demands expertise, interdisciplinary cooperation – and money. We provide support at all levels, whether from our own resources or by connecting inventors and entrepreneurs with suitable experts, partners, investors, and funding programmes. We are also co-initiators of the CARMA Fund, which provides investment for early project development and start-ups. Together with our partners, we have already launched more than 60 start-ups and over 20 new products, from which millions of people are now benefitting.

Our team comprises over 30 members of staff at 7 locations with headquarters in Munich. We are interdisciplinary, international and industry experienced. Many of us have a life-science background and experience in start-ups, medium-sized companies, or global concerns.

We are

» Technology managers and project developers
» Lawyers and negotiation experts
» Start-up coaches and equity managers
» Analysts and industry liaison managers

'I can combine the best of both worlds in this job: high-quality science and my extensive medical marketing experience in the pharma industry. I really enjoy helping committed scientists to transfer their projects from one world into the other.'

Dr Rebekka Müller, Technology Scout at Ascenion

Ready for the clinic

The title reflects what impressed us most while compiling this year's Annual Review: the research results of our partners have, over the years, formed the basis of a broad and varied clinical pipeline. It comprises 19 therapeutic agents currently being evaluated in 22 clinical trials, together with 5 diagnostic or medical technology products that are being clinically validated. If successful, all these projects will bring immense benefits to patients all over the world.

This is what motivates us and our partners to invest ever more energy and money into technology development and transfer. The current status of our partners' pipeline demonstrates that it's worth all the effort. Our partners who committed themselves years ago to the intensive and long-term transfer of their research results, while providing suitable funding, have achieved success where others have not. In retrospect, this contrast is very clear. I would therefore like to take this opportunity to convey our warmest thanks to our partners for their valued collaboration and longstanding loyalty. This is what enables us to make an impact.

We are therefore encouraged by the growing importance of transfer and start-ups in public discourse and in the strategic orientation of research institutes. But we should not lose sight of the fact that these elements always take second place. They are necessary, but not sufficient, for success. It is the quality of the research that is of prime importance. Innovation can only flourish where scientists are able to conduct excellent, open, and broadly based research. This is also very apparent as we look back over the past years.

With this in mind, we look forward to driving joint projects forward, and to discovering and evaluating yet more innovative ideas together with scientists at our partner institutes.

Dr Christian A. Stein
CEO
Ascenion GmbH

Ready for the clinic

STRONG CLINICAL PIPELINE FROM ASCENION'S PARTNERS

Scientists who take on an active role in technology transfer encounter a range of challenges that have little to do with their primary research area. Their motivation to carry on and overcome these obstacles nearly always comes from the desire to give patients new possibilities.

We have reviewed the evolution of our partners' pipeline over the years and are more than impressed.

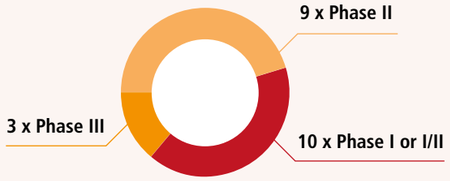
STRONGLY POSITIONED

We see a broad and varied clinical pipeline of therapeutic, diagnostic, and medical technological innovations that could bring significant benefits to patients all over the world.

To put our partners' figures into context, we compared them to the clinical pipeline of German biotech companies, as presented by Ernst & Young (EY) in their latest Biotechnology Report. This comprises a total of 145 clinical trials in 2022.

PROJECTS IN THE CLINIC[1]

19 therapeutic projects in 22 clinical trials



5 diagnostic or medical technology products in clinical validation

AHEAD OF THE TREND

Over half of the trials in our partners' pipeline involve "New treatment modalities", whereas the German biotech companies' pipeline is still dominated by "traditional" drugs. However, an overall trend in Germany towards new drug classes can be seen, together with a shift away from modes of drug action that regulate disease processes toward those that combat the causes. It is this latter approach that will shape the future of healthcare and drive growth in sales.

DRUG CLASS

50% studies with new drug classes

- RNA therapies
- Cell therapies
- Peptides
- Antibody derivatives

50% studies with traditional drugs

- Small molecules
- Antibodies

A WIDE VARIETY

With regard to indications, our partners are already well positioned in a wide range of therapeutic areas.

Among our partners' trials 'only' 45% are in oncology, compared with 55% on average in the German biotech pipeline. The traditional dominance of cancer indications will recede, firstly because other areas such as infectious diseases have become commercially more attractive following the pandemic, and secondly due to intensive competition in the oncology sector, which is progressively reducing market chances. According to the WHO, 26,400 clinical trials in cancer were registered worldwide in 2022 alone. Indications on the margins of the big, commercially attractive markets are also of interest to our partners. These include infections prevalent in economically weaker regions, such as tuberculosis, as well as rare diseases.

INDICATIONS

Clinical trials (therapies)

- 10 x cancer
- 5 x infectious disease
- 4 x other (liver degeneration obesity mitochondrial disease cluster headache)
- 3 x cardiovascular disease

Clinical validation (diagnostics & medical devices)

- Infectious disease (multipathogen)
- fungal skin and nail infections
- osteoporosis
- 2 imaging techniques with various applications

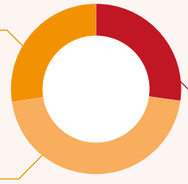
MANY ROADS LEAD TO THE CLINIC

Our partners have chosen various routes towards clinical development. Notably, six clinical studies are Investigator Initiated Trials (ITT). From our point of view, there are good reasons for this approach – not least the independence from economic interests.

The biggest hurdle for this type of clinical trial in Germany is funding. In other countries, for example the Netherlands, health insurers have the possibility of investing directly into clinical projects. This brings two advantages: it reduces the lack of capital resources for clinical trials and gives insurers an opportunity to play a part in shaping the range of therapeutic and diagnostic agents available.

PRINCIPAL INVESTIGATOR/SPONSORS

- 6 x start-ups
- 10 x sponsors / licensing partners in the biotech / pharma industries



- 6 x Investigator Initiated Trials (ITT) (trials without industry involvement)

MONEY IS (STILL) IMPORTANT

Patient welfare may be the primary motivation, but money remains the decisive factor in enabling clinical trials and creating new therapies. In its current report on the German pipeline, EY also concludes that the availability of capital will be crucial for the further success of clinical candidates. Medical innovation only works when the economic success of development is made visible to those involved: to research institutes, venture capitalists, start-ups, biotech and pharma partners, and insurers. Each player can contribute, including ourselves at Ascenion and our academic partners. Looking back, we can clearly see that it is worth investing in technology transfer and early development, and worth negotiating fair terms for start-ups and industry partners. Institutes who have taken this approach are now seeing their first clinical successes and financial returns that can be invested in new research and development projects.

[1]Our compilation comprises all drugs and technologies based on research at our partner institutes that were in clinical trials or validation up to the middle of 2023. Our survey period therefore differs from that in the German Biotechnology Report 2023 of EY.
[2]International Clinical Trials Registry Platform (ICTRP). World Health Organization. July 2023. https://www.who.int/clinical-trials-registry-platform

Ready for the clinic

NEW HOPE FOR PATIENTS

Here we outline a few examples to show how the development of products based on research results from our partner institutes can benefit patients. Four of the six examples are being developed in start-ups founded by scientists from our partner institutions.

AN IMPROVED TUBERCULOSIS VACCINE COMING SOON?

Tuberculosis still causes more deaths worldwide than any other infectious disease – and no new vaccine has come onto the market for the past 100 years. Scientists at Serum Life Science Europe (formally VPM, a spin-off from the Helmholtz Centre for Infection Research) want to change this. VPM1002, a genetically improved recombinant variant of the old vaccine, has demonstrated significantly improved safety and tolerability in Phase II trials, including in the critical group of HIV-exposed infants. Phase III trials are currently underway.

KILLER T-CELLS AGAINST CANCER

T-knife, a spin-off from the Max Delbrück Center together with the Charité - Universitätsmedizin Berlin, has for the first time established a system that enables the *in-vivo* development of T-cell receptors specific for cancer-associated antigens. In this way, they can educate the patient's T-cells to recognize and attack solid tumours. The approach is currently being evaluated in a Phase I clinical trial.

TARGETING THE CAUSES OF HEART DISEASE

Heart disease remains the number one cause of death worldwide. Cardior, a spin-off from the Hannover Medical School, is addressing the causes of heart failure with an innovative antisense oligonucleotide that, for the first time, offers patients disease-modifying therapy. A Phase II trial is underway.

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SPECIFIC POISONING OF CANCER CELLS

Scientists at the Max Delbrück Center have used humanized αBCMA antibodies as the basis for the targeted therapy of multiple myeloma. BCMA is a surface structure that can be found at a high concentration on all malignant plasma cells, but at a much lower concentration on healthy plasma cells, and then only in their later stages of differentiation.
The licensing partner Heidelberg Pharma has coupled these antibodies to the highly potent toxin amanitin, in order to target it specifically to cancer cells. A Phase I study is underway.

UNDER THE SKIN IN REAL TIME

iThera Medical, a spin-off from Helmholtz Munich, has developed MSOT technology (multispectral optoacoustic tomography) that allows optical contrast in deep tissue layers to be made visible at a high resolution and in real time. MSOT is already in world-wide use in preclinical research and clinical development, and is currently being validated for diagnostic applications. The technology allows the distribution and concentration of endogenous chromophores (the body's own dyestuffs) to be determined in tissues, and to monitor changes in these. This allows more precise diagnosis of several diseases, including inflammatory, fibrotic, cardiovascular, and oncological disease.

MONITORING BONE HEALTH WITH ULTRASOUND

Osteoporosis is responsible for more hospital days than breast cancer, heart attacks and diabetes together. POROUS, a spin-off from Charité – Universitätsmedizin Berlin, has developed an innovative, mobile ultrasound system, that uses a patented algorithm to test bone health with greater sensitivity and to diagnose osteoporosis earlier than is currently possible with available measurement techniques. The approach has been validated in a clinical pilot study and will be entering clinical trials in 2024. The goal is to make an effective contribution to the prevention of bone fractures due to osteoporosis, which cause healthcare costs of EUR 57 billion per annum in Europe alone.

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Ready for the clinic

PRACTICAL TIPS

We asked experts from our portfolio companies what lessons they learned along the road to the clinic, what advice they can give to scientists who also want to advance their projects into clinical development, and what we at Ascenion can do to support them. Here are some of their answers in condensed form.

Many thanks to Dr Julia Eschenbrenner and Dr Maren Glüer from POROUS, Dr Leander Grode from SLS Europe (formerly VPM), Dr Elisa Kieback from T-knife, Dr Peter Ruile from Cardior and Dr Christian Wiest from iThera Medical, for their input!

LESSONS & RECOMMENDATIONS

Involve experts from other disciplines early on, as well as regulatory authorities.
Clinical development is more complex than people think. The range of specifications, the time spent on documentation and the amount of non-scientific expertise required surprised many.

> **'It's very important not to stay in your own bubble, but to get feedback from others – particularly your critics.'**
> Dr Julia Eschenbrenner, POROUS

Define the product profile and what you expect from partners as precisely as possible.
Clinical development is not 'agile'. It must be clear from the beginning what should emerge for whom at the end, and what the various parties responsible for progress are expecting: clinicians, authorities, (future) pharma partners, insurers.

> **'It's crucial to carry out development in a manner that is convincing to pharma companies.'**
> Dr Peter Ruile, Cardior

Plan from the market backwards.
Project planning works best when you work from your final goal backwards along the whole value chain – and then increase the calculated time and cost budget. It will always be more costly and time-consuming than you think, especially the first time.

> **'Talk to people who've done it all many times before.'**
> Dr Elisa Kieback, T-knife

HOW ASCENION CAN HELP

- Create a solid basis: strong IP, fair licensing and service agreements with the originating institutes, a professional business plan, comprehensive market research
- Find the right partner: offer access to the network and forge contacts with suitable experts, investors and development partners
- Share experience: highlight critical aspects at an early stage, enable discussions with scientists who have already had positive or negative experiences of clinical trials

Yes, we heartily agree with all this, and are very happy to help!
Simply contact 'your' Technology Manager directly.

Start-up milestones 2022

5 NEW PARTICIPATIONS

Bendor
Spin-off from Tube Pharmaceuticals, a former Ascenion portfolio company
Further development of the antitumour chemotherapy Bendamustin.

Captain T-Cell
Spin-off from the Max Delbrück Center
T-cell immunotherapy for otherwise incurable leukaemia patients.

CERNT
Spin-off from the Helmholtz-Zentrum Dresden-Rossendorf
Translational development and GMP-compliant production of innovative medical radionucleotides and tailored chelator systems for radioligand therapy in the treatment of various diseases.

Nephrolyx
Spin-off from Charité – Universitätsmedizin Berlin and Berlin Institute of Health at Charité
Rapid and accurate determination of glomerular filtration rate for the early and reliable detection of acute renal failure.

Recovery Cat
Spin-off from Charité – Universitätsmedizin Berlin and Berlin Institute of Health at Charité
Platform for the therapeutic collaboration between patients with severe mental disorders and their psychiatrists

7 FINANCINGS

Seven companies in Ascenion's equity portfolio collected total investments of around EUR 57 million in 2022. The biggest volume went to Aignostics. A spin-off from the Charité – Universitätsmedizin Berlin and Berlin Institute of Health at Charité, Agnostics secured Series A financing of EUR 14 million to support further development of their AI-based solutions for pathology research. The CARMA Fund, co-initiated by Ascenion, was one of the investors.

EQUITY IN 30 SPIN-OFFS AT THE END OF 2022

2022 in figures

LIFESCIENCE FOUNDATION

EUR 0.09 m from Ascenion's revenues distributed to the Foundation

EUR 0.38 m made available as grants for projects at endowing institutes

PARTNERS IN SCIENCE

27 research institutes, universities and university hospitals

12 of which are endowing members of the LifeScience Foundation

PROTECTING IDEAS

116 invention disclosures assessed

43 patent applications managed

860 patent families and research materials managed in total

TRAINING

18 training courses held for scientists on topics in knowledge and technology transfer

START-UPS

26 start-up projects accompanied by us

EUR 57.05 m in venture capital investment for **15** portfolio companies

5 company foundations and participations

TRANSLATION

35 technologies supported in the project development phase

EUR 12.31 m in funding acquired for translation

LICENCES & COOPERATIONS

40 revenue-generating agreements closed with industry partners

100 further agreements relating to commercial exploitation supported

EUR 8.17 m in revenue for our partner institutes through agreements supported by us: including licences, options and sales of materials

> 2,000 active contacts to industry and investors

PRODUCT PROGRESS

6 clinical milestones

Start Phase I or I/II for the drug candidates

- HDP-101 for the treatment of multiple myeloma
- TK8001 for cancer immunotherapy
- MYDGF in cardiac disease
- LuCaFab in glioblastoma
- c-di-nucleotide as an adjuvant

Start Phase II for

- a non-coding RNA-based therapeutic for cardiovascular disease

Certification

Ascenion is certified for its quality management in accordance with the European standard DIN EN ISO 9001:2015. The certification comprises the areas of consulting, evaluation and support for start-ups in life-science technology transfer, and also equity management.

Licences and cooperations

Many innovations arising from Ascenion's partner institutes are long-term success stories that are being continually developed and have varied applications. They offer many licensing opportunities, create multiple benefits, and generate income over several years for the institutes and inventors involved. Here are three examples:

'SLEEPING BEAUTY' FOR EFFICIENT AND STABLE GENE TRANSFER

Max Delbrück Center

The 'Sleeping-Beauty' transposon system, consisting of a transposase and a transposon, enables inexpensive, simple and highly efficient gene transfer, thereby offering an attractive alternative to viral gene transfer systems. The technology was developed by Dr Zsuzsanna Izsvák and Prof. Dr Zoltán Ivics (currently at the Paul-Ehrlich-Institut) and with Ascenion's help, has already been licensed for a number of different applications, including cell and gene therapy, protein production and as a R&D tool. An adoptive CAR T-cell therapy that uses 'Sleeping Beauty' is already in clinical testing.

In 2022, a further licensing agreement was signed, this time for TCR T-cell therapies. The partner is the biotech company Immatics. Furthermore, the inventors have recently developed three new variants of the transposase for which patent applications have been filed. These are attracting considerable interest from industry. One version is optimized for efficiency and is particularly suited for the production of proteins. The other two are optimized for safety and offer advantages in therapeutic applications. Their combined use is also possible by introducing the respective mutations in the same variant of the transposase.

CRISPR TECHNOLOGIES FOR IMPROVED GENOMIC SCREENING

Institute of Molecular Biology (IMBA), Vienna BioCenter (VBCF)

With their innovations 'CRISPR-StAR' and 'CRISPR-Switch', Dr Ulrich Elling (IMBA) and Dr Krzysztof Chylinski (VBCF) have been able to overcome critical limitations in functional genomic CRISPR screens. CRISPR-Switch allows precise spatial and temporal control of such screens, whereas CRISPR-StAR allows screens to be conducted reproducibly in organoids or *in vivo* models for the first time. Together, these two technologies offer the opportunity to gain new insights into dynamic genomic patterns that underly complex diseases such as cancer. In 2022, Ascenion supported the negotiation of a licensing agreement for this application between IMBA, VBCF and the biopharma company TANGO Therapeutics. TANGO wishes to use the technologies to discover genes involved in the emergence and immune evasion of cancer. Their goal is to develop new, targeted therapies for cancer.

Ascenion is currently in talks with several further interested parties who would like to use these CRISPR technologies as research tools or for the identification of disease-relevant genes.

VITROCELL® CLOUD ALPHA: EFFICACY ANALYSIS OF INHALED SUBSTANCES

Helmholtz Munich

Dr Otmar Schmid and his team at the Institute for Lung Health and Immunity have developed a procedure with which micro-quantities of chemical substances, particles, drugs, or viruses can be finely nebulized and evenly deposited on cell cultures. In close cooperation with the medtech company VITROCELL Systems, they have developed a product range of equipment for examining the effectiveness of aerosols on human cells very simply and reproducibly. The exposure systems are able to reproduce the inhalation of substances into the lungs far more realistically than the usual methods of administering aerosols.

Since the partnership began nearly 10 years ago, the system has advanced to become market leader for toxicity analysis of inhaled aerosols. The initial device in the VITROCELL® Cloud Alpha series has since been joined by seven further products. 'It's quite conceivable that the system will be approved in the mid-term for inhalation toxicology in clinical trials,' says Otmar Schmid. Furthermore, its application in respiratory and drug research is an expanding market.

Ascenion and the innovation management team at Helmholtz Munich have been working in close cooperation with the scientists from the beginning, accompanying patent applications and supporting licence negotiations. In 2022, a second licensing agreement between Helmholtz Munich and VITROCELL was concluded, through which the partners intend to extend their successful cooperation into new areas.

BIOVARIA MUNICH 24 – 25 APRIL 2023

EUROPE'S LEADING SHOWCASING EVENT FOR LIFE-SCIENCE TECHNOLOGIES

More innovators than ever before gathered in Munich for BioVaria 2023. Potential investors and licensees took this opportunity to explore a wide range of promising projects from European academic life-science research, some of which were being presented to a large international audience for the first time. Inventors and entrepreneurs made valuable contacts with other delegates seriously interested in forging partnerships or investing in early-stage technologies and emerging start-ups.

This year's BioVaria StartUp Pitch & Partner Awards were won by Ceridwen Oncology and Lactabico. The British start-up Ceridwen Oncology has developed a new approach to cancer therapy, addressing for the first time a group of developmental-specific transcription factors. Lactabico, an emerging start-up with offices in Berlin and the USA, develops novel drugs based on milk peptides for the treatment of mental and metabolic diseases.

‚Biovaria was a great event overall. As a start-up it was great to be selected for a presentation, and to have the possibility to show our work. At the same time, the program was truly excellent. What I particularly enjoyed was all the networking opportunities offered.'

Prof. Andrea Brancale, Ceridwen Oncology

‚The event's exceptional format – combining pitch sessions with speed dating-style investor meetings – provided us with 12 valuable leads in just two days.'

Dr Anton Malyshev, CEO and founder of Lactabico, Lactocore Group

270 participants from industry, venture capital, science and technology transfer

69 licensable projects: potential therapeutics, diagnostics and platform technologies

31 10-minute technology presentations

10 start-ups, 5 each in the categories 'Emerging' and 'Rising'

6 early-stage innovation presentations from the GO-Bio initial & ForTra programmes

46 research institutes, universities and university hospitals from all over Europe

14 technology transfer organisations as BioVaria partners

GO-Bio initial: an opportunity for early projects

The funding program of the German Federal Ministry for Education and Research addresses very early projects with significant potential for application. A project outline is all that is required to apply for funding for the initial conceptual phase. If the results are convincing, a follow-up grant for a further two years can be applied for, in order to evaluate the feasibility of the project.

Ascenion supports scientists during the application process and project development.

Conceptual phase in 2022
- **18 applications supported**
- **10 projects from 7 institutes entered the conceptual phase**

Feasibility phase in 2022
- **5 applications supported**
- **3 projects from 2 institutes entered the feasibility phase**

Events in 2022
- **4 further training and networking events with a very positive reception**

Further applications are possible!

Please contact Rebecca Engels if you would like to explore the potential applications of your project: engels@ascenion.de

One versus all: a versatile platform for combatting RNA viruses

One of the projects entering the feasibility stage in 2022 is 'TheraCas13' from Dr Christoph Gruber and colleagues in the team lead by Prof. Wolfgang Wurst and Dr Florian Giesert at Helmholtz Munich. For several years now they have been focusing intensely on a variant of the CRISPR/Cas system that can cut RNA strands. This system is usually highly active in the cell nucleus, but the team have been able to modify the enzyme so that it is highly active in the cytosol of human cells – there where most of the RNA viruses in an infected person are found. Through simple adaptation of the guide RNA, the system can be used against every type of RNA virus. These include not only the known coronaviruses, but also the polio, measles and Ebola viruses, and many others.

During the conceptual phase, extensive research revealed good market opportunities and a solid patent position. 'The good IP position impressed me, because of course CRISPR/Cas is associated with many other patents. The innovation management team at Helmholtz Munich together with Ascenion have done a really good job,' says Christoph Gruber.

During the feasibility phase, the team is working closely with Dr Gregor Ebert at the Technical University of Munich, where it can investigate *in vivo* the effects of the approach in S3 laboratories. 'Without the GO-Bio-initial funding, the project would be extremely difficult to finance. We are very optimistic that the approach will prove effective in living organisms.' Should this potential be confirmed, Christoph Gruber can well imagine further developing the platform in the form of a start-up.

'GO-Bio initial is exactly what we needed in order to plan and advance our therapeutic concept for combatting RNA viruses.'

Dr Christoph Gruber, Helmholtz Munich

SPONSORED BY THE
Federal Ministry of Education and Research

Ascenion's Life Science Digital Hub is supported by the German Federal Ministry of Education and Research as part of the GO-Bio initial programme. Project number: 161B1002.

Welcome to the Board!

Last year, Ascenion gained two new Advisory Board members: Dr Christiane Hanke-Harloff and Prof. Dr med. Thomas Gottwald. Together, they bring immense experience and varied expertise to the team. Dr Timm-H. Jessen has retired from the Advisory Board after many years of dedicated support. Dr Joachim Rothe, also a member of Ascenion's Advisory Board for many years, continues to support us with his valuable expertise.

We would like to express our sincere thanks to **Dr Timm-H. Jessen**, who retired from the Advisory Board after 21 years of outstanding commitment at the end of 2022. Thank you, Timm!

Dr Christiane Hanke-Harloff has a PhD in molecular biology and a distinguished career spanning 25 years as an executive in the biotechnology and pharma industries. She currently advises prominent venture capital and private equity firms as an independent expert and supports biotech companies in operative and strategic matters. She is also Associate Partner at Fidelio Healthcare Partners and a member of the Advisory Board of Recipharm AB, a global CDMO.

Prof. Dr Thomas Gottwald is a general and visceral surgeon with an impressive career in academia, clinical practice and the biotechnology, medical technology, and pharmaceutical industries, where he has held several executive positions. He is currently CEO of a medical technology start-up while teaching at the University of Tübingen. He also advises the German Federal Ministry of Education and Research (BMBF), as well as several biotechnology and medical technology companies. wie mehrere Biotech- und Medizintechnikunternehmen.

Dr Christiane Hanke-Harloff and Prof. Dr Thomas Gottwald have known and valued Ascenion for a long time. Working at the interface from which tangible benefits and commercial success emerge from scientific research is what particularly attracts both new Board members about their role at Ascenion.

'Academic research is still the nucleus from which nearly all relevant inventions in the life sciences stem. Our job is to support young companies through the entire development and commercialization process. The variety of tasks arising from the complex demands on innovative biotechnological projects makes it all the more exciting.'
Dr Christiane Hanke-Harloff

'Ascenion is one of the top addresses in the field of technology transfer, and I am greatly looking forward to working with their proven team of experts and their wider network.'
Prof. Dr Thomas Gottwald

Ascenion is delighted to welcome its new Advisory Board members and looks forward to a constructive collaboration.

LifeScience Foundation: EUR 381,000 for funded projects

Ascenion distributes most of the revenue it generates to the LifeScience Foundation for the Promotion of Science and Research. In 2022, the Foundation used EUR 381,000 of these funds to support 5 projects at 12 endowing institutes, including a project described here from the German Institute of Human Nutrition Potsdam-Rehbrücke.

MOBILIZING ENDOGENOUS FORCES AGAINST FATTY LIVER

German Institute of Human Nutrition Potsdam-Rehbrücke (DIfE)

The research group for muscle physiology and metabolism of Dr Maximilian Kleinert has developed a new gene therapy approach using the CRISPR/Cas9 system – not to cut or modify genes, as is usually the case, but for the targeted and reversible activation of metabolically important genes. The team's main project addresses how this approach can help to mobilize endogenous defences in skeletal muscle against diabetes and obesity.

Thanks to the support from the LifeScience Foundation, the research team was also able to evaluate the approach for the treatment of non-alcoholic fatty liver (NAFL). This condition is the main cause of chronic liver damage, currently affecting one in four to one in three adults, and rapidly on the rise. There are barely any treatment possibilities at present. 'It was a great experience to be able to examine this important area of application systematically and comprehensively in the form of a master's thesis with the help of the LifeScience Foundation,' says Dr Kornelia Johann, a postdoc in the group. The results are encouraging. The team were able to induce stable expression in hepatocytes of the Ucp1, Gdf15 and Fgf21 genes, which are relevant to fat metabolism in the liver, and confirm these results in an initial pilot study in a mouse model. These findings have given the team an excellent basis on which to apply for a German Research Foundation (DFG) grant to fund the next stage of comprehensive *in vivo* studies.

Ascenion's partners

Ascenion is part of the global technology transfer ecosystem. We connect science and business and help to create framework conditions for more efficient and successful transfer.

Our scientific partners are academic and translational institutes, mainly in Germany and Austria, but also worldwide. In 2022 we supported 27 institutes as part of long-term partnerships, together with many more individual projects.

Our partners in business comprise over 1,500 industry representatives and investors with whom we are in personal contact. This network forms the basis from which successful licensing agreements, financings and start-ups are initiated.

HELMHOLTZ ASSOCIATION

- DZNE, German Center for Neurodegenerative Diseases
- **HZDR, Helmholtz-Zentrum Dresden-Rossendorf**
- **HZI, Helmholtz Centre for Infection Research**
- **Helmholtz Zentrum München, German Research Center for Environmental Health**
- **MDC, Max-Delbrück Center for Molecular Medicine in the Helmholtz Association**

LEIBNIZ ASSOCIATION

- ATB, Leibniz Institute for Agricultural Engineering and Bioeconomy
- **DIfE, German Institute of Human Nutrition Potsdam-Rehbruecke**
- **DPZ, German Primate Center - Leibniz Institute for Primate Research**
- FLI, Fritz Lipmann Institute - Leibniz Institute on Aging
- **FZB, Research Center Borstel - Leibniz Lung Center**
- **HKI, Hans Knöll Institute - Leibniz Institute for Natural Product Research and Infection Biology**
- LIN, Leibniz Institute for Neurobiology Magdeburg
- LIV, Leibniz Institute of Virology

UNIVERSITIES, UNIVERSITY HOSPITALS AND FURTHER PARTNER INSTITUTES

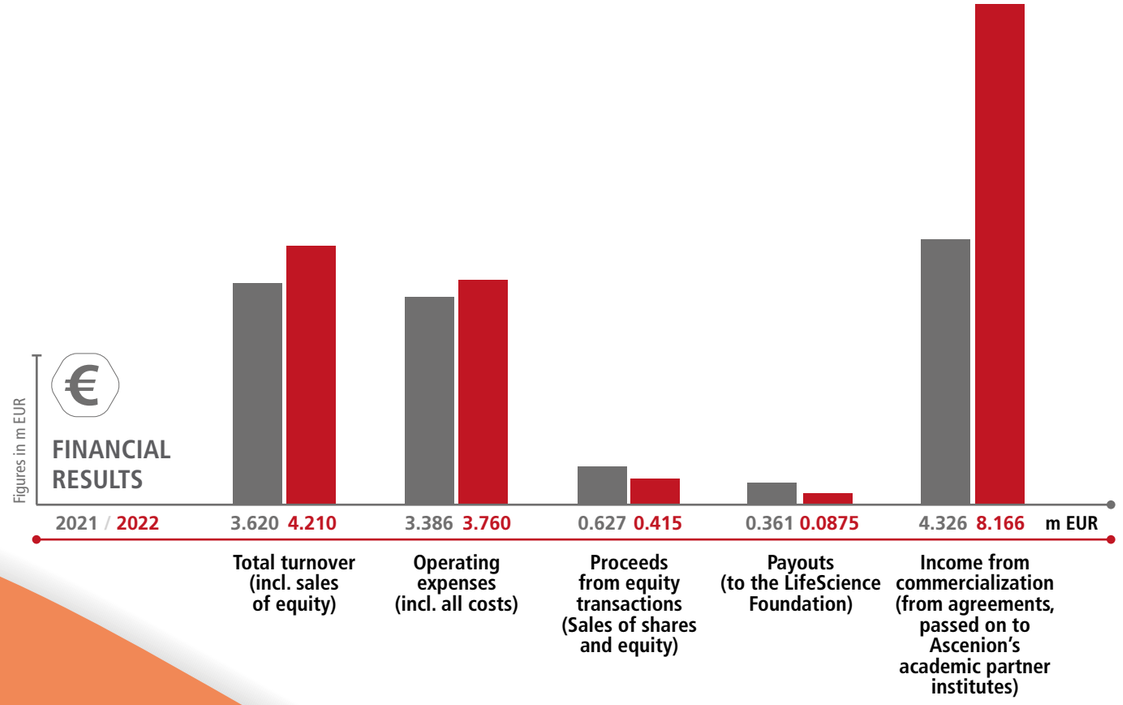
- CAU, Kiel University
- **Charité - Universitätsmedizin Berlin**
- **MHH, Hannover Medical School**
- MUI, Medical University of Innsbruck
- TUD, Dresden University of Technology
- EKFS, Else Kröner-Fresenius-Stiftung
- **FBN, Research Institute for Farm Animal Biology**
- iba, Institute for Bioprocessing and Analytical Measurement Techniques
- IMB, Institute of Molecular Biology
- IMBA, Institute of Molecular Biotechnology
- LIFE & BRAIN
- MGC, Mouse Genetics Cologne Foundation
- TWINCORE, Centre for Experimental and Clinical Infection Research
- UMG, University Medical Center Göttingen

Endowing institutes of the LifeScience Foundation are highlighted.

Financial results 2022

Ascenion helps its partner institutes transfer their research results into applications that benefit society. Its company structure as a 100% subsidiary of the LifeScience Foundation ensures that the majority of the revenue generated by Ascenion is made available for further research projects. Ascenion's revenue consists of consulting fees, performance-related bonuses, and income from its investment business. The latter arises from the sale of equity acquired by Ascenion in spin-offs from its partner institutes. Income from this source is subject to natural yearly fluctuations.

2022 saw the best financial results for Ascenion in the last three years. Our partners' income from commercialization was almost twice as high as in the previous year, thereby returning to a healthy level. 'Based on our pipeline and deal flow, we anticipate that this level – apart from fluctuations typically seen in this business – will be maintained over the coming years,' says Christian Stein. 'We are delighted that academic institutes working with Ascenion could raise over EUR 8 million last year. This emphasizes once again the importance of inventions and licensing agreements for academic institutes.'



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