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Ascenion Information Letter  
December 2006

## Ascenion Attracts New Partners, Expands Team

In 2001, Ascenion was originally founded to manage IP assets for the four life science institutions of the Helmholtz Association. To date, Ascenion has also won nine institutions of the Leibniz Association's life science section (section C) as well as one medical school as partners.

"Our idea was to create a critical mass in the life sciences in order to enhance the transfer of scientific findings into valuable products and services," Dr Christian Stein, CEO of Ascenion comments. Currently, Ascenion manages a portfolio of more than 550 patent families together with a broad range of materials and research tools – all of them with strong commercial potential. "With an IP portfolio of this quality and size, we have been able to build an excellent team of technology managers, analysts and attorneys with multiyear industrial experience to serve our partners and market their assets to industry. In addition, we provide a visible and convenient point of access to companies seeking innovative technologies in the field."

### Leibniz Association: Ranking quality first

Prof. Rosenthal, spokesperson of section C of the Leibniz Association, confirms that sector-specific expertise and a strong network throughout the community is invaluable for them as partner. "In the life sciences, things often get tricky when it comes to looking at the details," Rosenthal explains. "We were therefore looking for a partner who is familiar with the intricacies of the field, someone who would look at each project case by case and then come up with an individual IP and commercialization strategy." He emphasizes that their decision to work with Ascenion

was mainly driven by the goal to improve the quality of handling IP issues and their commercialization. "For us, it is not the raw number of patents that counts. More challenging is the task of working out whether a patent is actually worth filing for or holding," he adds. For this reason, Rosenthal appreciates Ascenion's selective approach. Since May 2006, when the partnership was inked, Ascenion has weeded through its partners' patent portfolios and has already earmarked a number of patents to be cancelled. At the same time, other projects have been advanced to commercialization. For instance, Ascenion helped structure licensing and co-operation agreements on novel flavour

## Content

### page 1

- Ascenion Attracts New Partners, Expands Team

### page 4

- Spinning Innovation
- Nanorepro: Over-the-counter home fertility test for men
- Dr Igor Tetko: Testing novel medicines for "drug-like" properties

### page 5

- Turning Science into Business Opportunities
- Bitter insights from taste research
- Tasteful deals

### page 5

- Structuring Deals
- New foundation to market mouse models

### page 6

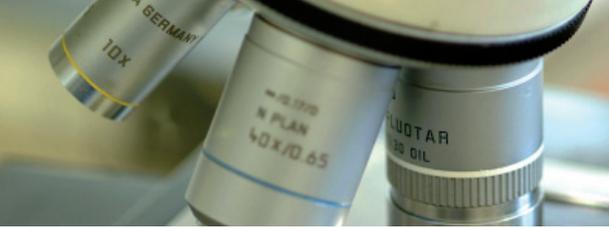
- News in Brief

### page 6

- Technology Offers

### page 6

- Editorial



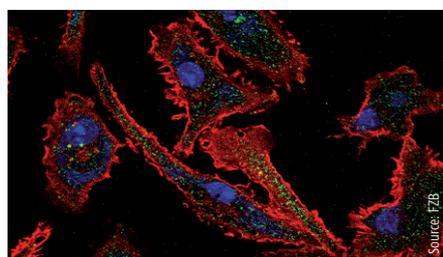
## New Partners of the Leibniz Association

- nine institutions in section C have closed partnerships with Ascenion:
- BNI, Bernhard Nocht Institute for Tropical Medicine
- DIfE, German Institute of Human Nutrition
- DPZ, German Primate Center
- FMP, Leibniz Institute for Molecular Pharmacology
- FLI, Leibniz Institute for Age Research – Fritz Lipmann Institute
- FZB, Research Center Borstel – Leibniz-Center for Medicine and Biosciences
- HKI, Leibniz Institute for Natural Product Research and Infection Biology – Hans-Knoell-Institute
- HPI, Heinrich Pette Institute for Experimental Virology and Immunology
- IPK, Leibniz Institute for Plant Genetics and Crop Plant Research
- total staff of over 2,500
- total budget of approx. EUR 157m in 2005, approx. EUR 37m thereof external funding
- more information at [www.wgl.de](http://www.wgl.de)

## Hanover Medical School

- 18 clinical centres
- scientific staff of over 1,200
- external funding in excess of EUR 44m in 2005
- pioneer in transplantation medicine, cochlear implants and infection research
- other key areas include:
  - heart, lung, chest and vascular system disease
  - digestive system and liver disease
  - cancer therapy for children and adults
  - nervous system disease
  - immunological, infectious and rheumatological disease
  - accident and orthopaedic surgery
  - plastic, hand and reconstructive surgery
  - urology
- more information at [www.mh-hannover.de](http://www.mh-hannover.de)

additives between DIfE (German Institute of Human Nutrition) and industry. A couple of further projects are currently under negotiation, including licensing deals and spin-offs from various institutions.



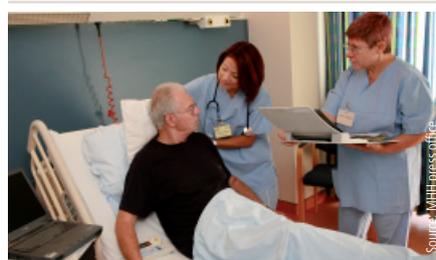
Together with Ascenion, MHH now wants to raise awareness among researchers for the issues surrounding IP rights in order to enhance the translation of research findings into products or services that help improve medical care. "Medical schools in general make a substantial contribution to medical progress – from genuine inventions arising from patient-based research, to clinical studies of new therapeutic or diagnostic agents," Baumann further explains. And he expects the co-operation between hospitals and industry to become even more intense over the next few years. "

foster relationships with researchers so that they approach Ascenion voluntarily with their ideas and findings. "This task is much more difficult," Stein says, "scientists must believe that it's worthwhile sharing their results with us." Both Rosenthal and Baumann agree, and emphasize that the key challenge in establishing a fruitful collaboration is building trust. "And this is why we have several offices in Germany," Stein adds. "We feel it is crucial to be present on site and work with the scientists in person." The company recently opened a new office in Hamburg and plans to establish another one in Hanover by the end of the year.

### Hanover Medical School: Rewarding clinical research

In October this year, Hanover Medical School (MHH) decided to team up with Ascenion. MHH's core motivation was to offer better services to its researchers. "We want to provide them with the opportunity to tap the resources of a professional partner in order to understand the IP value in their work or gain support in terms of commercialization," Holger Baumann, MHH's Vice President, responsible for the Division Business & Administration, points out. Research at the MHH is renowned for its outstanding quality, as reflected by international rankings as well as an exceptionally high proportion of external funding. The output in terms of patents, patent-based spin-offs or licensing agreements, however, has been comparatively low, so far.

Our contribution should be adequately reflected in future agreements with industry," Baumann says, "and together with Ascenion we are better positioned to ensure this."



### Making co-operation work

When starting out with a new partner, Ascenion's first task is to screen through existing patents and make the best use of what is already there. The second task is to

### Measuring results



How will the new partners evaluate their alliance over time?

At the end of the day, it's a question of revenues, jobs and new products that contribute to economic and social progress. But since it could take up to 10 years before these "hard measures" kick in, the partners will also look at the "soft facts". They will primarily assess



## Ascenion Team

- staff of 20, 14 of them based at the Munich headquarters
- scientists, lawyers, management consultants and analysts combining specific expertise with multiyear experience in the life-science industry
- Ascenion welcomes six new employees:
  - Thomas Schoepke, legal counsel (Munich), previously with Fraunhofer-Gesellschaft (Fraunhofer Venture-Group) and law firm Jacob Associates, LL.M. degree in international business law
  - Hubert Müller, technology manager (Munich), previously with Fraunhofer Patent Center and Connex GmbH, PhD in biology
  - Hinrich Habeck, technology scout (Hamburg), previously with Greiner Bio One and Exelixis, PhD in biology
  - Sigrid Scheek, technology scout (Neuherberg), previously with Ingenium Pharmaceuticals and Axaron Bioscience AG (now SYGNIS Bioscience GmbH & Co. KG), PhD in chemistry
  - Ralf Cordes, technology scout (Hanover), previously with Hanover Medical School, PhD in biology and MBA
  - Esther Lange, research analyst (Munich), diploma in biology and diploma in industrial biology
- more information at [www.ascenion.de](http://www.ascenion.de)

the quality of service and gather feedback on how the working relationship is perceived by their employees. In addition, they will monitor project progress. Stein nevertheless emphasizes the need to deliver tangibles early

on. "It will be important to advance projects swiftly and get some first deals closed. We will measure ourselves by the number of agreements as well as by their quality." Last but not least, early success stories, even

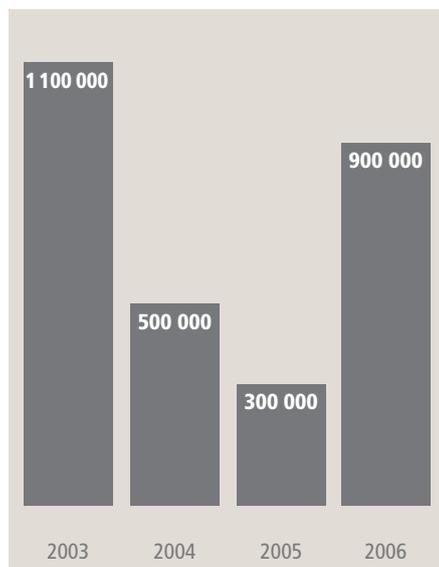
small ones, will be building blocks within this process that all partners regard as crucial: building trust and fostering co-operation with inventors.

## Ascenion's Results

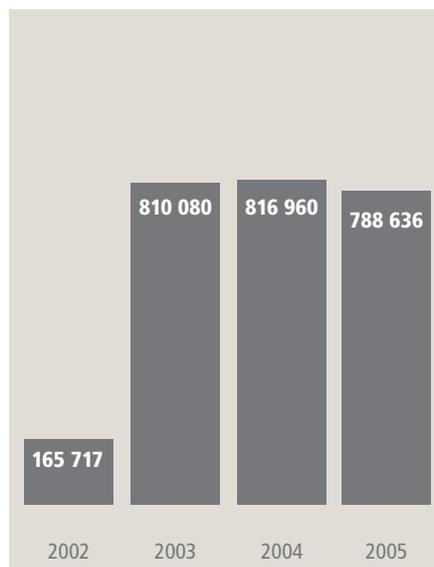
Proceeds from licensing, cooperation and material transfer agreements are forwarded by Ascenion directly to the respective research institutes while the major portion

of Ascenion's profits is paid out to the Life-Science Foundation for the Promotion of Science and Research. The latter include revenues from equity deals, consulting,

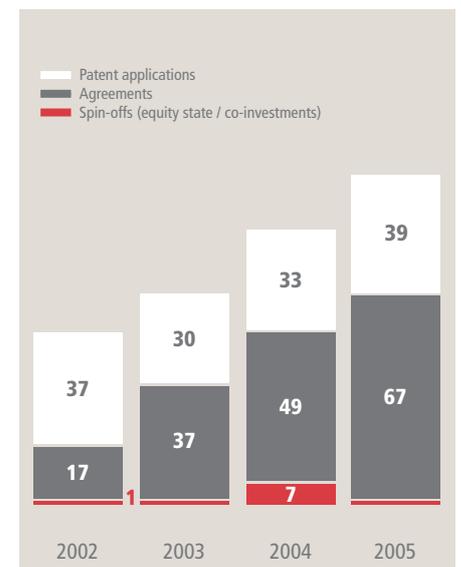
success fees and fees for the support of other projects such as grants etc. The Foundation then distributes the funds to appropriate research projects.



Proceeds passed on by Ascenion to the Foundation for the Promotion of Science and Research to fund research



Proceeds from licensing, cooperation and material transfer agreements directly transferred to Ascenion's partner institutions



Patent applications, agreements and spin-off deals

# Spinning Innovation

## Sharing risks and rewards: Coaching in return for equity

Ascenion takes on start-up projects whenever it believes that a technology has the potential to be turned into a commercially viable product or service within a new company – regardless of whether the founder is affiliated with one of its partner institutions or not.



Dr Christian Stein, CEO of Ascenion

In return for its support, Ascenion typically receives equity in the company. If the venture is successful, Ascenion may cash out at a later timepoint. The proceeds will then go to the Life Science Foundation for the Promotion of Science and Research to fund various research projects in the life sciences. When a company in which Ascenion has equity is a spin-off from a partner institution, the exit proceeds flow back into that institution.

## Nanorepro GmbH: Cryopreservation of adult stem cells and over-the-counter home fertility test for men



Preparing probes for cryopreservation

Long before its inception, Ascenion started working with the founding team – HD Dr Gunther Wennemuth, Professor Dr Martin Hrabé de Angelis, Nicolas Combé and Dr Olaf Stiller – to sharpen Nanorepro's business case and refine its business plan. In January this year, Nanorepro was founded and Ascenion remains its coach and sparing partner in all aspects of business development and corporate growth.

In November this year, Nanorepro launched its services for cryoconservation of adult stem cells. Clients can have their own stem cells extracted from skin and stored over years for potential therapeutic use in the future. Adult stem cells have the potential to transform themselves into practically all other cell types and could therefore help repair damaged or defective tissues. At some point in the future, they might also help alleviate or heal many of the so-called degenerative diseases, for which there are as yet no effective therapies.

Nanorepro's second product – a home fertility kit for men – is planned to hit the market in 2008. Based on many years' experience in researching this field, Wennemuth believes that the test will meet a strong demand and may help identify some fertility problems at an early stage. At present, many couples only test for female infertility or just wait – which may be crucial because age can negatively impact fertility.



Nanorepro founders Nicholas Combé, Dr Olaf Stiller, HD Dr Gunther Wennemuth (left to right)

In September this year, the founding team was awarded fourth place in a nationwide start-up competition organized by the federal state of North Hessen ("promotion Nordhessen").

## Dr Igor Tetko: Testing novel medicines for "drug-like" properties

With the help of Ascenion, GSF researcher Igor Tetko recently received a grant from Go-Bio, a funding programme of the Federal Ministry for Education and Research. Tetko has developed chemo- and bioinformatic tools to enable the *in silico* (computer based) analysis of new therapeutic agents for properties referred to as ADME/T. This acronym stands for absorption, distribution, metabolism, excretion and toxicity and thus

summarizes the properties of a new drug that must be elucidated before it can proceed to pre-clinical and clinical testing. For instance, it is crucial that a drug will be absorbed, be stable, be non-toxic and will remain in the bloodstream for a sufficient period of time to produce a therapeutic effect. Early information on these properties of candidate molecules helps to guide drug development. Experts assume that about 60 percent of new drugs fail during development due to poor ADME/T properties. This drop-out ratio significantly contributes to the \$800 million to \$1.7 billion estimated development costs for developing a new drug up to launch. As a consequence, a rapid and reliable procedure for prediction of ADME/T properties early on is of great interest to pharmaceutical and biotechnology companies and can significantly reduce the costs for



Dr Igor Tetko

the drug development.

"First, however, I needed to secure some funding in order to further develop and validate the tools," Tetko comments. "In July this year, I therefore started working with Ascenion who were really helpful and provided counsel as well as hands-on support throughout the process – from setting-up a business plan up to the Go-Bio application and beyond."

Tetko will use the proceeds from Go-Bio to expand his team and move his ADME/T *in silico* methods up to proof-of-concept. If this is successful, he plans to set up a company to market the developed tools.

Ascenion will certainly remain on board as coach as well as GSF's internal technology transfer department (PTT) managed by Dr Wolfgang Nagel, who provided valuable support throughout the project. For further information see [GSF press release](#).

## Turning Science into Business Opportunities

### Bitter insights from taste research

How do we recognize, perceive and respond to tastes? And how does that guide our choice of foods and beverages? The team around Prof Dr Wolfgang Meyerhof at the Institute of Human Nutrition (DIfE) in Potsdam helps answer these questions by studying the genomic and molecular basis of taste. Tastes come in five flavours: salty, sour, bitter, sweet or umami (sometimes described as “meaty” or “savoury”). Millions of taste buds on the tongue contain specific taste receptors that react to food chemicals and then send signals along nerve fibres to the brain for interpretation. Human bitter taste, for instance, is initially recognized by a family of around 25 bitter receptors. These are able to identify a vast number of structurally diverse bitter compounds, a capability which is thought to have evolved as a defence mechanism to detect potentially harmful toxins in foods: bitter-tasting strychnine, for example. Today, a bitter taste can still help us to identify poison in food but, in some cases, it may also be prejudicial - as anyone knows who has tried to persuade a child to swallow bitter medicine.

So, industry is keen to exploit DIfE’s expertise in taste for many applications. One idea is to create bitter blockers which could not only help pharmaceutical companies make bitter-tasting medicines more palatable, but could also help food manufacturers reduce the



amounts of fat, salt and sugar in processed foods – frequently used to mask bitter tastes. Likewise, enhancers of specific flavours could help decrease the content of sucrose or salt in foods while maintaining the perceived sweetness or salty taste. The reduction of both these ingredients would have beneficial implications for human health.

### Tasteful deals

Ascenion has already mediated a series of deals exploiting the commercial potential of DIfE’s expertise including a seven digit volume collaboration with Swiss flavour giant Givaudan to develop bitter blockers. Research will be performed at DIfE and Givaudan will cover the full costs of the project including patent fees. In addition, DIfE will receive upfront and milestone payments as well as royalties upon commercialization of resulting products. IP created in the context of the

collaboration will be shared. In a collaboration with Quest, an international provider of flavours and fragrances, DIfE will test a range of Quest’s novel flavour ingredients for sweet, salt and umami taste to build the background understanding testing current models to help identify the most promising compounds.

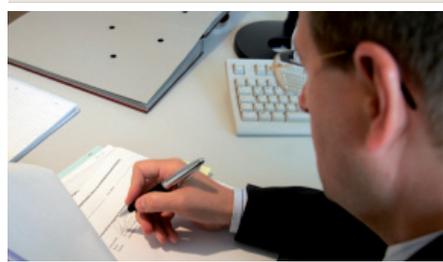
A third alliance was closed with Monell Chemical Senses Center to explore the genomic basis of individual differences in the perception of various bitter compounds.



## Structuring Deals

### New foundation to market mouse models

In order to maximize revenues for public research, Ascenion has created together with Prof Klaus Rajewsky the Mouse Genetics



Cologne (MGC) Foundation to market a total of 53 transgenic mice proprietary to Rajewsky. Commercial users can license these animal models through Ascenion. Their fees, however, go to the MGC Foundation which then makes these tax-free funds available to research programmes, mainly at the Institute for Genetics of the University of Cologne and at the CBR Institute for Biomedical Research in Boston.

Rajewsky, a world-famous immunologist and geneticist, developed the transgenic mice, mainly models of immune system diseases, at the Institute for Genetics in Cologne, where

he worked for nearly 40 years, before moving to the CBR Institute for Biomedical Research at the Harvard Medical School in 2002. Researchers in universities and public research institutes may continue to use the animal models without a licence.

Since the inception of the foundation in May this year, Ascenion has already sealed six licence agreements with international biotech and pharma companies. A list of licensable animal models can be found at the [Ascenion website](#).

## News in Brief

### IP due diligence for Chinese client

Ascenion took on IP due diligence for a research project performed at Peking University sponsored by the Bill & Melinda Gates Foundation in the context of their "Grand Challenges" programme. Choice of Ascenion as partner for IP matters was based on the positive experience made during a previous project in the same programme that involved, among others, Ascenion's partner institution HZI (Helmholtz Centre for Infection Research).

### Antibodies for research use

Ascenion has closed a series of licence and material transfer agreements for GSF (National Research Centre for Environment and Health) and MDC (Max Delbrück Center for Molecular Medicine) providing various life science companies with access to hybridoma technology or specific antibodies designed at GSF or MDC, respectively. All material is intended for research use.

Click [here](#) to browse a list of more than 200 antibodies available through Ascenion.

### Vector licensed to vaccine developer

Glycovaxyn AG, a Swiss biotech start-up, will use a vector developed by HZI researcher Prof. Dr Kenneth N. Timmis, Department Microbiology, and his team. Glycovaxyn obtained a licence to use the vector as a tool to create novel conjugated vaccines. HZI will receive licence fees in return.

### EPCARD helps airlines comply with new EU directive

EPCARD is a computer program co-developed by GSF researchers Dr Hans Schraube, Dr Gerhard P. Leuthold and Vladimir Mares at the Institute of Radiation Protection together with scientists of Siegen University and the European Organization for Nuclear Research CERN. The program allows calculating the

dose of cosmic radiation an aircrew member will receive during a specific flight. Following a new EU directive, airlines are obliged to collect such data and ensure that the dose per crew member does not exceed a certain limit over time. As a result, Ascenion has recently helped to close a number of agreements with various airlines providing them with online access to the EPCARD program. [More about EPCARD](#)



### Novel procedure for peptide arrays licensed

HZI researchers around Dr. Ronald Frank, Department Chemical Biology, have developed a novel method for generating chemical microarrays. A unique procedure for synthesizing peptides on modified cellulose supports allows the production of multiple arrays that are almost 100 per cent identical and can therefore overcome problems of limited reproducibility among array charges. Following the successful completion of a one-year pilot phase for the evaluation and further development of the method, Intavis Bioanalytical Instruments AG have now received an exclusive licence for the production and commercialization of arrays as well



as the corresponding peptide solutions. In return, HZI received a payment for the pilot phase and is eligible to licence fees as well as to royalties on Intavis' revenues from commercialization.

The peptide microarrays, named CelluSpots, were recently launched and are now available with sequences of choice. Clients may also choose from a selection of kinase arrays which are particularly valuable in cancer research. More information at [www.intavis.de](http://www.intavis.de).

### Enzymes for sale

The team around Prof. Dr Christoph Englert at FLI will produce and purify the recombinant protein tyrosine phosphatase enzyme from *Arabidopsis thaliana* for Jena Biosciences GmbH to be distributed for research use. Under the terms of the agreement, FLI will provide the enzyme upon request in return for a fee.

## Editorial

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## Latest Technology Offers

- Treatment of advanced stage neuroblastoma ([TO 09-0016](#))
- Inhibition of HAART resistant HIV ([TO 13-00002](#))
- New research reagents ([TO 08-00006](#), [TO 08-00018](#))
- Fluorinated deoxythymidine derivatives highly suitable as PET tracers ([TO 03-00221](#))
- New mouse model for tumorigenesis ([TO 03-00238](#))
- Screening assay for kinesin-specific modulators ([TO 11-00003](#))
- Peptides for the diagnosis and therapy of Alzheimer's disease ([TO 11-00011](#))