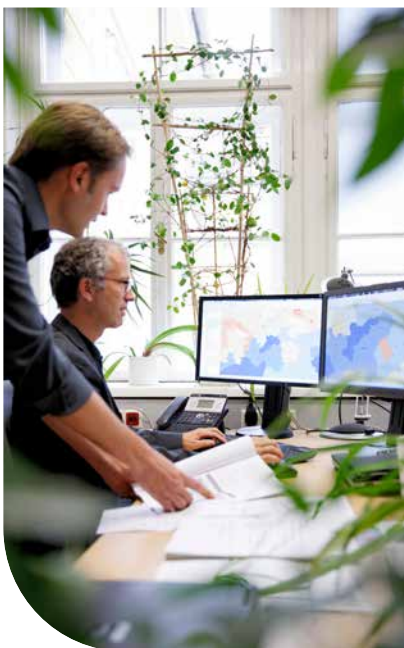


JOANNEUM RESEARCH

Annual Report 2015/2016



JOANNEUM RESEARCH
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Research in motion



**Prof. Dr
Wolfgang Pribyl, MBA**
Chief Executive Officer

JOANNEUM RESEARCH started a process within the financial year of 2015/2016 to develop the company strategy for the time period from 1 January 2017 to 31 December 2021 in order to be optimally positioned for the coming years. Numerous measures for optimising the

research portfolio, the company structure and competitiveness have already been introduced and implemented.

JOANNEUM RESEARCH has taken over ownership of NanoTecCenter Weiz Forschungsgesellschaft mbH and integrated the company into the MATERIALS institute in coordination with Graz University of Technology in order to reinforce the position of the MATERIALS institute within the course of the planning phase for the new Strategy Document 2017-2021. Thus, an internationally visible, critical mass has been created in the field of micro and nanotechnology.

Long-standing and successful cooperation with the Healthcare Fund Styria in the area of health and care planning have resulted in the founding of »EPIG GmbH«. Thus, synergies have been created for all participants, and healthcare in Styria has been optimised to an even greater extent based on the enormous competence of the HEALTH institute of JOANNEUM RESEARCH and knowledge of the Styrian service landscape.

At the beginning of 2016, parts of the research group Energy and Bio Resources, formerly known as the RESOURCES institute, merged with the research group Regional Policy, Risk and Resource Economics of the POLICIES institute to form the new centre »LIFE – Centre for Climate, Energy and Society«, thereby bundling our

competences in the climate and energy field with increased intensity.

The founding of the spin-off »decide Clinical software GmbH« has resulted from an EU project with substantial participation from the HEALTH institute of JOANNEUM RESEARCH and the Medical University of Graz. The software GlucoTab® is a tablet-based decision support system for blood sugar management on the hospital ward and for the optimisation of the quality standard in diabetic healthcare, which can be used both by care personnel and doctors.

The area »Water« of the former RESOURCES institute is continued as an independent subsidiary of »JR-AquaConSol GmbH«. The service offer of the new company encompasses solutions in water management, exploration and protection of water resources as well as the evaluation of the effects of infrastructure measures on the protected good of water and risk estimation/assessment.

The founding of the spin-off has made it possible to develop internal technologies to market maturity and sustainably reinforce our industry and science location in accordance with the company mission.

The scientific focus in the coming years will be increasingly on the topics of Industry 4.0, smart production and services as well as on autonomous driving. Together with other research facilities and the industry, JOANNEUM RESEARCH will participate in the initiative »Silicon Austria«, which is to accelerate research in electronics and microelectronics.

The Provinces of Styria and Carinthia and the federal state have jointly founded the cross-province initiative: Microelectronics Cluster »Silicon Alps«. JOANNEUM RESEARCH had already previously participated in the establishment of the cluster with the goal to increase international visibility of the target regions of Styria and Carinthia in the field of microelectronics and electronics.

Research needs more ...

As a reliable innovation partner, JOANNEUM RESEARCH and its employees significantly contribute to the success of top-level Styrian research, which substantially impacts our lives (in the daily application of Styrian expertise, be it in healthcare or high-tech) and acts as the essential motor for the further development of our society. Public interest in science and research still lags behind its factual importance: Prosperity and the future are being negotiated within this field! The challenges we face have not become smaller – both in regard to internationally increasing competition for the best projects and minds and the securing of financing shares that facilitate a quality-oriented, strategic further development in the first place. JOANNEUM RESEARCH is a

success history, written by its employees. Consistent profiling has been achieved in recent years as the company is a reliable cooperation partner on the multi-faceted »research market«.

Within the special scientific environment of Styria, which is not characterised by its vast size or critical mass, but by smart interactions between exceptional core competences, JOANNEUM RESEARCH provides a sensitive as well as eminently significant interface that continually brings new opportunities for our entire business location. And we must continue to take advantage of these opportunities. We want to sincerely thank all employees for their impressive commitment and active participation in the on-going development process.



Photo: Rothwangl

Christopher Drexler
Minister of Health,
Healthcare, Science and
Human Resources, Styria

Successful top-level research

Carinthia and Styria have realised that an extraordinary opportunity can be created for the business location of Austria by bundling existing competences and potential in this field. We must work together to create workplaces and ensure that entrepreneurs are provided with optimal framework conditions in order to assert themselves in international competition. JOANNEUM RESEARCH is an application-orientated research facility, focussed on innovation, networking and knowledge transfer. Furthermore, results from basic research can more quickly lead to economic success on account of this cooperation. The broad entrepreneurial landscape within the area of (micro)

electronics in Carinthia and Styria and the highly specialised supplier landscape (e.g. cleanroom technology) are ideal preconditions for the development of a technology cluster. Future-oriented enterprises and committed employees, as those employed at JOANNEUM RESEARCH, are needed in order to maintain the existing prosperity in Carinthia. Employees with these qualities are the capital that will allow us to successfully continue top-level research in this province. I want to thank the Board of Management as well as all researchers and employees at JOANNEUM RESEARCH whose innovative and multi-faceted commitment has been impressively documented in this annual report.



Photo: Schaunig

Dr Gaby Schaunig
Deputy Governor Carinthia

»Strengthening strengths«

For JOANNEUM RESEARCH, the lapsed financial year 2015/2016 was an extremely successful one; many changes have been initiated and new topical areas advanced. JOANNEUM RESEARCH has developed numerous successful technologies to market maturity and founded new spin-offs, which provides a substantial added value for the technology locations of Styria and Carinthia and impressively reflects the research capacity of JOANNEUM RESEARCH. At the same time, the portfolio has been focussed even more intensely in the sense of »strengthening strengths«. The Weiz site has become a scientific lighthouse in the area of micro and nanotechnologies due to the integration of NanoTecCenter Weiz GmbH into the MATERIALS institute.

JOANNEUM RESEARCH is also solving important social-political issues and problems by founding and establishing the Life centre at the new Science Tower Graz. The strong southern axis towards Carinthia has brought about new impulses, which is also being demonstrated through the new, joint initiative of company owners of »Silicon Alps« in the field of microelectronics. JOANNEUM RESEARCH is already preparing for prospective challenges with the new Strategy Document 2017-2021. As a link between basic research and industrial application, JOANNEUM RESEARCH remains an indispensable partner for companies, universities and the public sector as well as for the transfer of innovative solutions to the industry.



Photo: Sissi Furgler

Prof. Dr Wolf Rauch
Chairman Supervisory Board

Attractive research portfolio

All active research companies in the world essentially face the same challenges: How can the research company optimally fulfil the tasks commissioned by the owners with available means under the given framework conditions, and how can the rapid changes and developments in science, industry and society be adequately taken into account in the company's research activity. In light of this, the financial year 2015/2016 was very important for JOANNEUM RESEARCH since essential, content-related and organisational measures had to be initiated and implemented within the preliminary stages of the approaching planning cycle for 2017-2021. Based on the activities, outlined in detail in the foreword by CEO Prof. Dr Wolfgang

Pribyl, MBA, extremely positive outcomes can be expected for the content-related orientation of the company in the long term. All measures are aligned with the company's requirement to combine scientific excellence with specific industrial implementation. The content-related orientation must ultimately always fulfil this requirement, and the portfolio must be dynamically adapted accordingly. The history of JOANNEUM RESEARCH shows that even extremely difficult challenges can be successfully mastered, and an attractive R&D portfolio can be offered to the location as well as to cooperation partners and owners, thereby honouring the legacy of the company's namesake Archduke Johann.

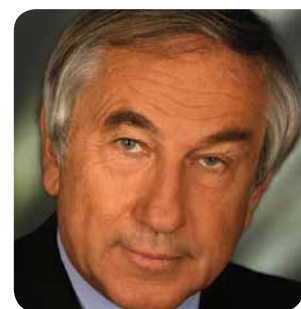


Photo: Sissi Furgler

**Prof. Dr Dr
Gerald Schöpfer**
Chairman Scientific Advisory
Committee

Executive Bodies

Supervisory Board

Prof. Dr Wolf **RAUCH**
Chairman

Brigitte **HASEWEND**
Deputy Chairman

Dr Erfried **TAURER**
Deputy Chairman

Prof. Dr Werner **HAUSER**

Sonja **JÖBSTL-FINDEIS**

Dr Thomas **KRAUTZER**

Martin **PÖLZL**

Ingolf **SCHÄDLER**

Dr Martin **WIEDENBAUER**

Appointed to the Supervisory Board by the Works Council:

Ferdinand **GOLJA**
Chairman of the Works Council

Clemens **HABSBURG-LOTHRINGEN**, MAS

Helen **HASENAUER**, MSC

Gertrude **MATZER**, BA MSc

Gerhard **PROBST**

Scientific Advisory Committee

Prof. Dr Dr Gerald **SCHÖPFER**
Chairman

Prof. Dr Gerhard **FRIEDRICH**
Deputy Chairman

Prof. Dr Hansjörg **ALBRECHER**

Prof. Dr Horst **BISCHOF**

Dr Michaela **FRITZ**

Prof. Dr Günter **GETZINGER**

Prof. Dr Manfred **HUSTY**

Prof. Dr Joachim **KRENN**

Dr Mario **MÜLLER**

Michael **PATAK**

Reinhard **PETSCHACHER**

Herbert **RITTER**, MBA

Prof. Dr Karin **SCHAUPP**

Dr Stefan **TASCH**

Board of Management

Prof. Dr Wolfgang **PRIBYL**, MBA

JOANNEUM RESEARCH Forschungsgesellschaft mbH

develops a broad spectrum of solutions and technologies for the economy and industry and executes top-level, international research. Focussing on applied research and technology development, the INNOVATION COMPANY performs a key function in technology and knowledge transfer in South Eastern Austria.

429 employees

Research units **7**

Province of Styria (85 %),
BABEG – Kärntner Betriebsansiedlungs- &
Beteiligungsgesellschaft m.b.H. (15 %)

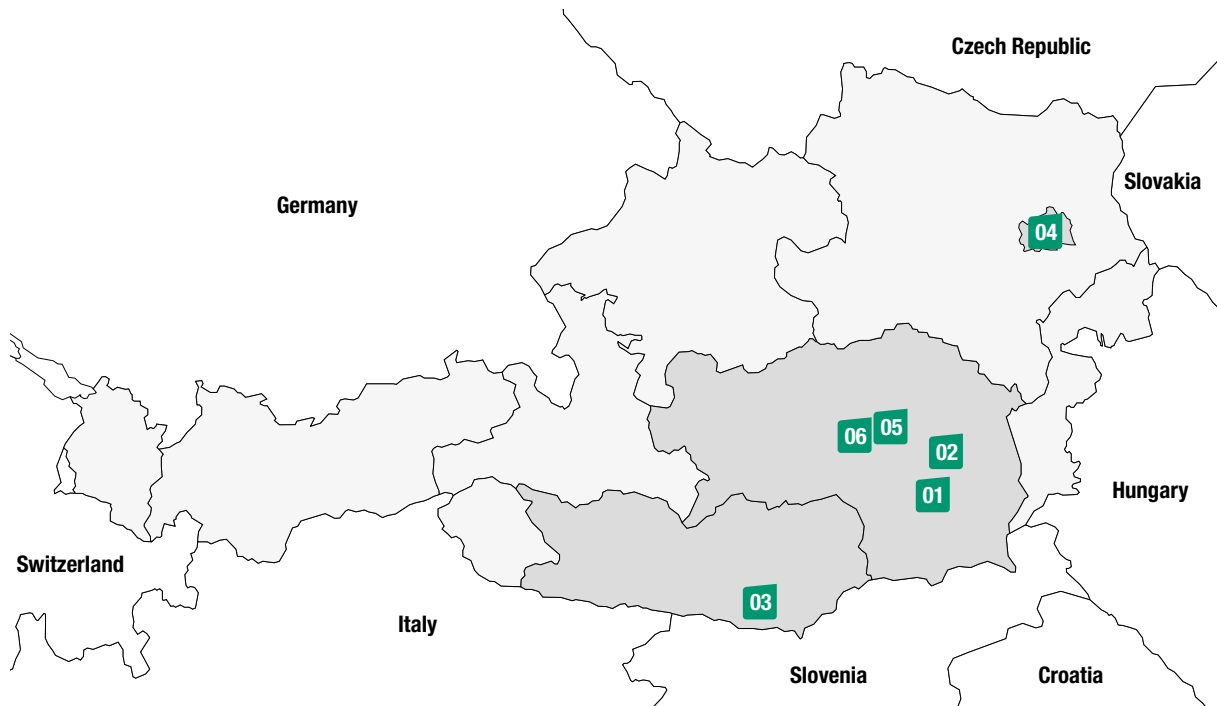
2 owners

8.8 million euro
Shareholder contribution

82% self-financing level

41.1 million euro
Research performance

Company Sites



01 GRAZ

Leonhardstrasse 59
8010 Graz

- Management
- Corporate services
- Corporate department
- POLICIES
- LIFE

Neue Stiftingtalstrasse 2
8010 Graz

- HEALTH

Steyrergasse 17
8010 Graz

- Data Centre
- DIGITAL

Elisabethstrasse 18/II
8010 Graz

- LIFE
- RESOURCES

Hilnswarte
Roseggerweg 31
8010 Graz

- DIGITAL

02 WEIZ

Franz-Pichler-Strasse 30
8160 Weiz

- MATERIALS

03 KLAGENFURT

Lakeside B08a
9020 Klagenfurt am Wörthersee

- POLICIES
- ROBOTICS

04 VIENNA

Haus der Forschung
Sensengasse 1
1090 Vienna

- HEALTH
- LIFE
- POLICIES

05 NIKLASDORF

Leobner Strasse 94
8712 Niklasdorf

- MATERIALS

06 LEOBEN

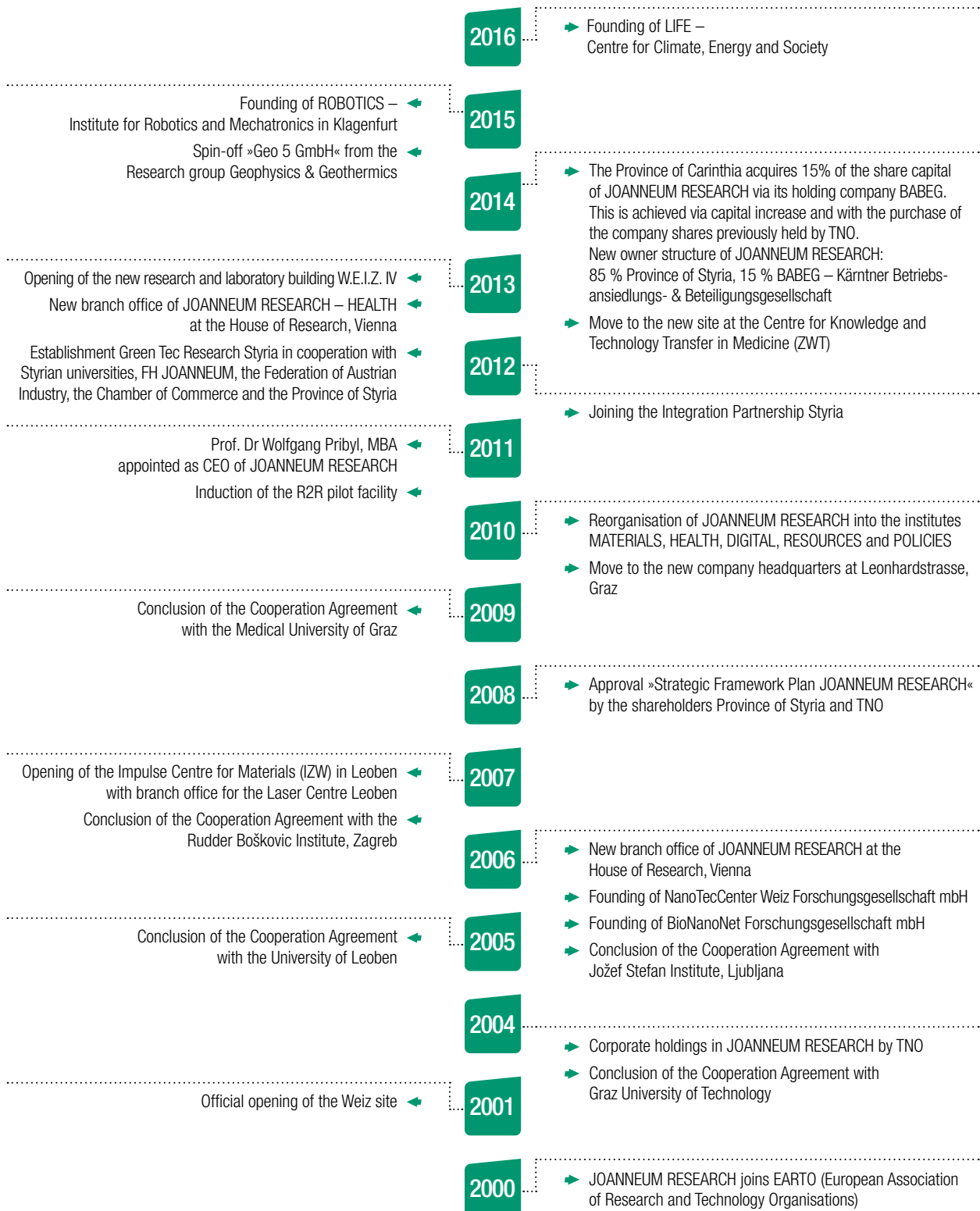
Roseggerstrasse 12
8700 Leoben

- MATERIALS



Navigate to the complete
history of the company

History of the Company



History of the Company



2015

Founding of the new institute ROBOTICS at the Klagenfurt site



2013

Opening of the new branch office of JOANNEUM RESEARCH – HEALTH at the House of Research, Vienna



2012

Groundbreaking for the research building W.E.I.Z. IV



2011

1st Future Conference of JOANNEUM RESEARCH



2011

1st Forum DIGITAL with Tanja Oppitz, IBM



2010

Woman Award 2010 in the category »Job and Children«



2008

1st Long Night of Research with participation from JOANNEUM RESEARCH



2003

1st research prize of the Province of Styria for nanosciences and nanotechnology



2002

EARTO Conference »Internationalisation in Research and Technology«, Graz



2001

10 years Laser Centre Leoben



1991

AUSTROMIR – the first flight of an Austrian cosmonaut into space



1987

Disposal of UNIVAC (Universal Automatic Computer) 494 by the Data Centre



MATERIALS

The research topics of the Institute for Surface Technologies and Photonics are micro- and nanostructuring, light and optical technologies, laser processing, sensor systems and functional surfaces.

HEALTH

The Institute for Biomedicine and Health Sciences acts as a link between fundamental medical research and industrial application in close cooperation with the Medical University of Graz.

DIGITAL

The Institute for Information and Communication Technologies develops new technologies for the World Wide Web, specialising in image, video and acoustic signal processing as well as in remote sensing, communication and navigation technologies.

RESOURCES

The Institute for Water, Energy and Sustainability investigates the use of natural resources and has its research focus on geophysics and geothermy, energy and environmental analytics with a view to sustainability.

POLICIES

The Institute for Economic and Innovation Research offers consulting, planning and evaluation in matters of technology and regional policies, business and statistics.

ROBOTICS

The Institute for Robotics and Mechatronics primarily works on research topics pertaining to human-robot collaboration and interaction in innovative production processes and robot safety. Moreover, the institute also focuses on mobile robotics in the areas of industrial manufacturing, logistics and in service robotics in general.

LIFE

The Centre for Climate, Energy and Society deals with crucial questions relating to climate change: How can society and companies better deal with the risks of global warming? How do we set our economic system on a low-carbon development path?



Navigate to the
JOANNEUM RESEARCH Media Centre

MATERIALS

Projects



Industry proximity with the new step-and-repeat facility

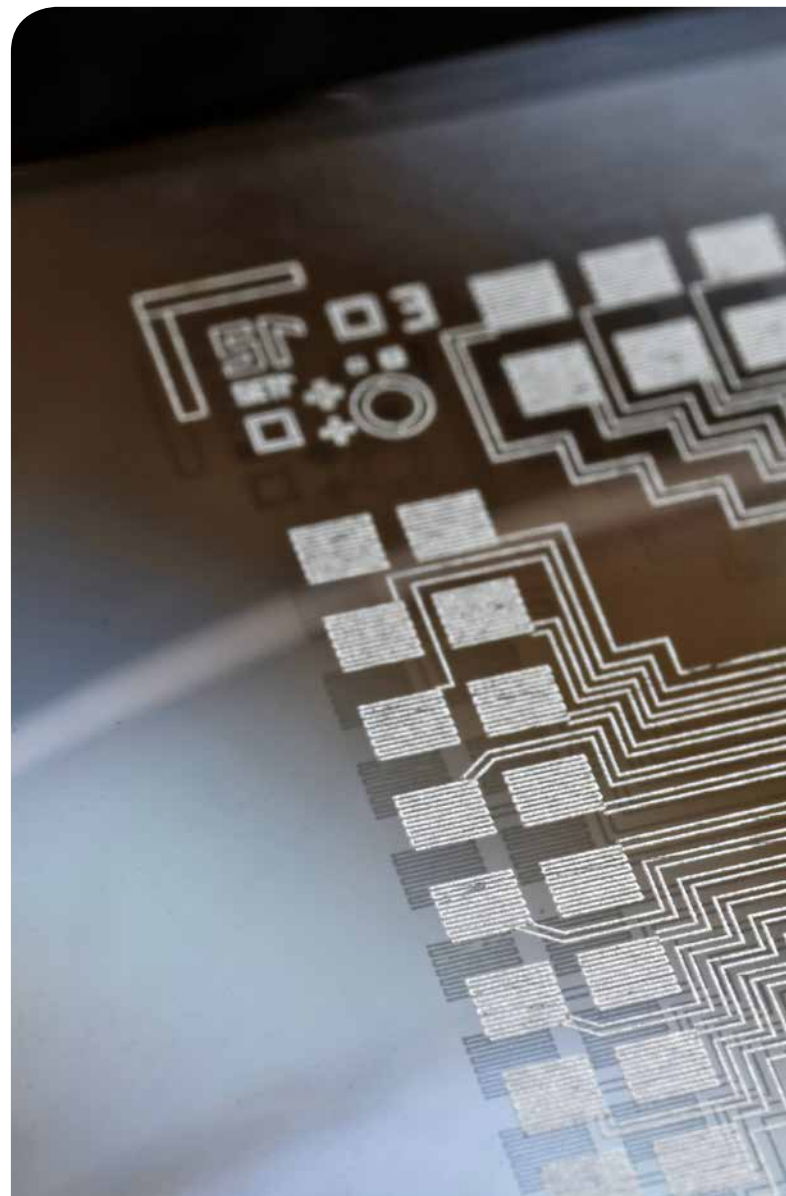
The new step-and-repeat facility complements the existing research portfolio with state-of-the-art structuring techniques as JOANNEUM RESEARCH becomes a general supplier for large-surface imprinting technologies in the micro and nano range. The facility closes the gap between manufacturing small master stamps and quick, large-surface imprinting of micro and nanostructures for industrial application.



ATLASS – an EU-H2020 project

Objects must be given the ability to interact with each other and with people – this is the next step in research being performed on the »Internet of Things«. Within an international project consortium, MATERIALS, as a specialist for large-surface imprinting technologies in the micro and nano range, is researching next-generation solutions for sensor circuits that must be multi-functional and easily integratable such as »electronic skin«.

In the financial year 2015/2016, we were able to thoroughly prepare for the integration of the NanoTecCenter Weiz with the MATERIALS institute. The institute was also concurrently reorganised as 14 employees were taken over. The additional infrastructure expansion provides customers with a greatly expanded technological spectrum of promising research capacities at the highest level.



Institute for Surface Technologies and Photonics



Dr Paul Hartmann
Director MATERIALS

RESEARCH GROUPS

- MNS – Micro- and Nanostructuring
- LOT – Light and Optical Technologies
- LPT – Laser Processing
- SEN – Sensor Systems
- FOB – Functional Surfaces

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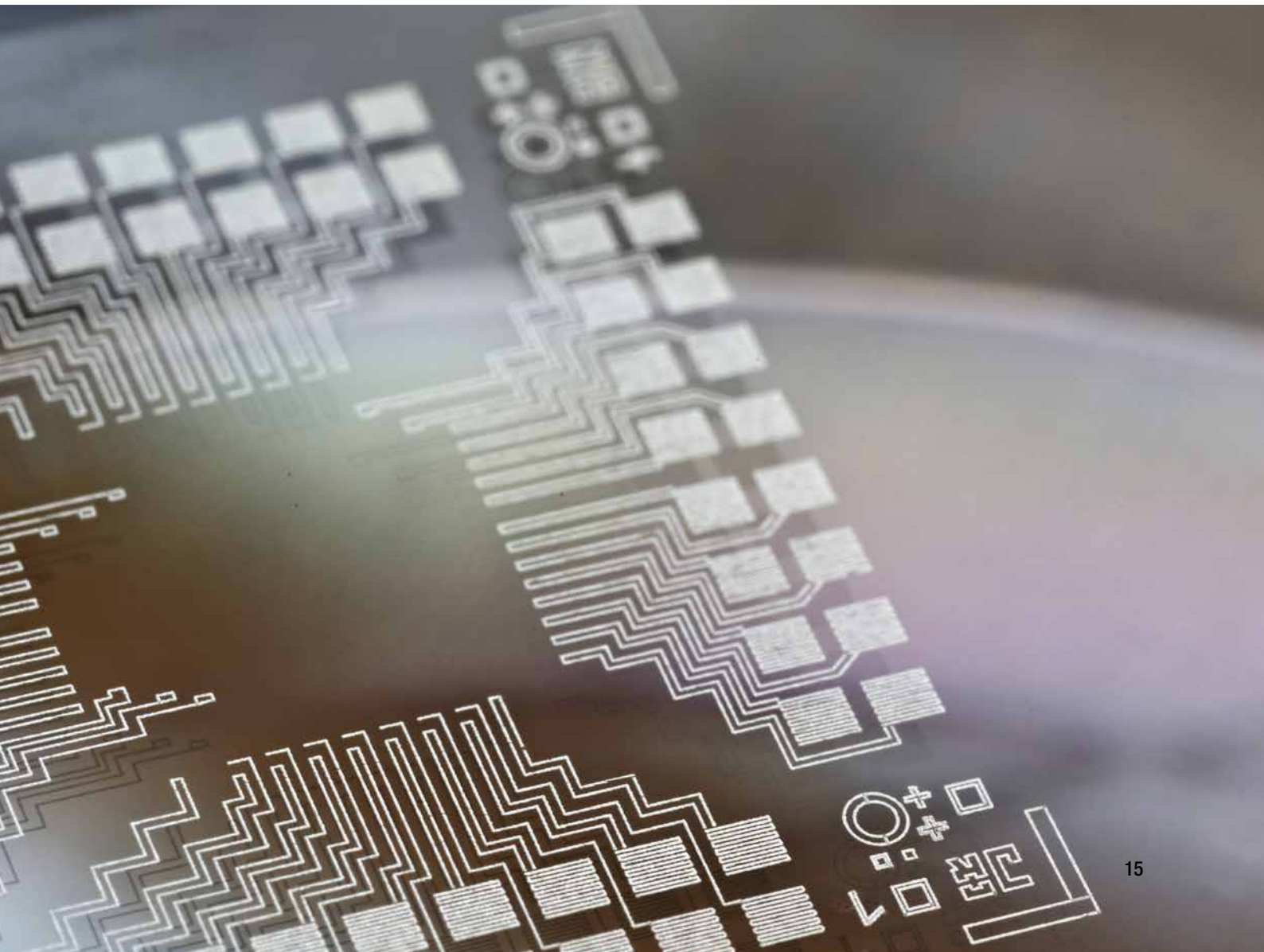
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Projects

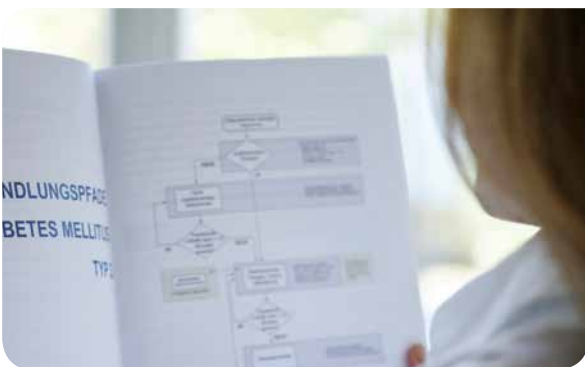


The successful completion of the FDA study, expansion of fruitful cooperation and broadening of our clientele lays the foundation for a scientific and economically profitable continuation of our work.



FDA study: Active substance verification for generics

HEALTH has successfully established a method for determining the bioequivalency of medications in the skin by means of the OFM method (open microperfusion) within the context of a project promoted by the American »Food and Drug Administration«. A reliable method had not existed thus far. The method breaks down barriers for the prospective development of generic medications that are applied to the skin.



Successful spin-offs: EPIG and decide

A part of the research group Health Sciences was outsourced to the newly founded EPIG GmbH in order to satisfy the demand for well-founded, content-related planning and development services in Styrian healthcare. decide Clinical Software GmbH, a spin-off of JOANNEUM RESEARCH, was founded in order to market and further develop GlucoTab®.



Institute for Biomedicine and Health Sciences



**Prof. Dr Thomas Pieber
and Dr Frank Sinner**
Directors HEALTH

RESEARCH GROUPS

- BTM – Biomedical Technology and Monitoring
- BAM – Bioanalytics and Metabolomics
- GWS – Health Sciences

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Projects



Digitisation is currently one of the most important topics for the economy as also emphasised by the Economic Strategy Styria 2025. The innovative institute DIGITAL has its core competences precisely in this field as it shapes these promising changes, a task the institute regards as a special challenge and social responsibility.



Projects for self-determined ambient assisted living (AAL)

Growing old at home most often requires state-of-the-art technology. Three research projects, coordinated by DIGITAL, are to show how specifically adapted technologies can alleviate everyday life for the elderly while, at the same time, increasing the quality of life. The total project volume amounts to more than two million euro; ten partners – among these also HEALTH – are involved. In January 2016, JOANNEUM RESEARCH held a DIGITAL Forum on the topic of AAL.



»We map the World«

Methods are being developed in the research group Remote Sensing and Geoinformation to evaluate remote sensor data of aircrafts and satellites. The sensor flight platforms »ADAM« and »ARGUS« utilise optical and thermal cameras as well as laser scanners coupled with sensors in various combinations for so-called georeferencing.



Institute for Information and Communication Technologies



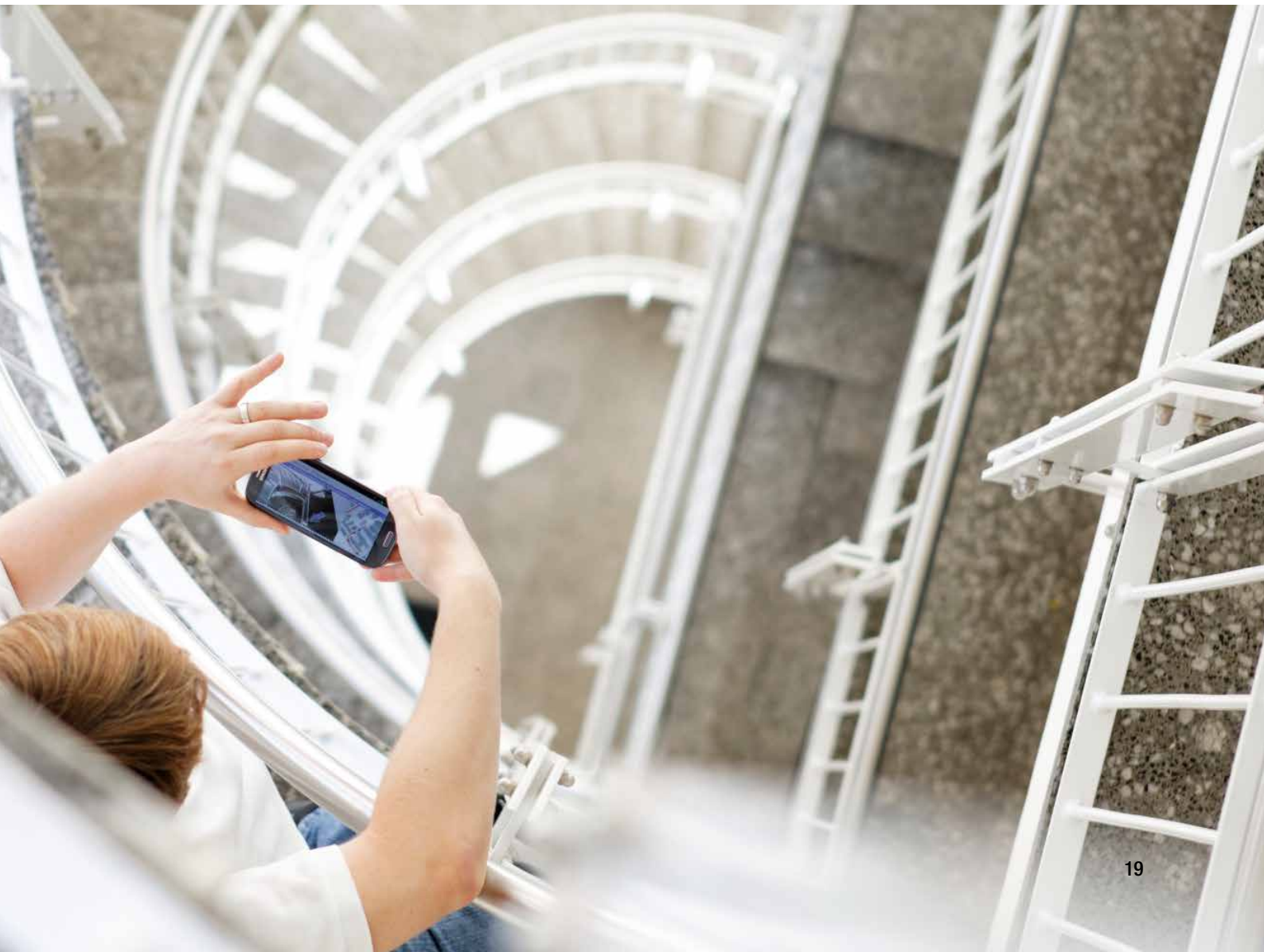
Dr Heinz Mayer
Director DIGITAL

RESEARCH GROUPS

- FER – Remote Sensing and Geoinformation
- MVA – Machine Vision Applications
- WKT – Space and Communication Technology
- AVM – Audiovisual Media
- IIS – Intelligent Information Systems
- IAL – Intelligent Acoustic Solutions

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RESOURCES

Projects



Competence Centre Ground Water Modelling Graz

Within the context of the Promotion Agreement project promoted by bmvit, RESOURCES is developing numerous models in the areas of water movement and conserving materials transport, thermal transport and thermal balance in various compartments with different scales and dimensions. Reactive materials transport is also integrated. The goal of the project is to bundle competences and further develop methods and models.



Cartridge deposit collector

The goal of the self-financed research project was the development of a sample withdrawal system for atmospheric substance contamination in soils and bodies of water – as for example nitrogen – that is designed as simple as possible and requires little personnel expenditure. It is to provide precise and comparable data that can be properly standardised. The sample withdrawal system was developed in cooperation with the company UMS.

As of November 2015, parts of the research group Energy and Bioresources have been moved to the newly founded LIFE centre. The remaining parts are transferred to independent limited companies in the form of spin-offs in order to be closer to the economy.





Institute for Water, Energy and Sustainability



**Dr Johann Fank and
Sebastian Berka**
Directors RESOURCES

RESEARCH GROUPS

- WRU – Water Resources and Environmental Analytics

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www.joanneum.at/resources



Projects



ETER – Higher education database

ETER (European Tertiary Education Register) is the only Europe-wide higher-education database that provides microdata at the level of individual institutes. The database contains an abundance of information for analysing heterogeneity in European higher education systems. Resulting conclusions visualise cooperation possibilities within Europe and make these possibilities a reality. The project was jointly performed by POLICIES together with international partners.

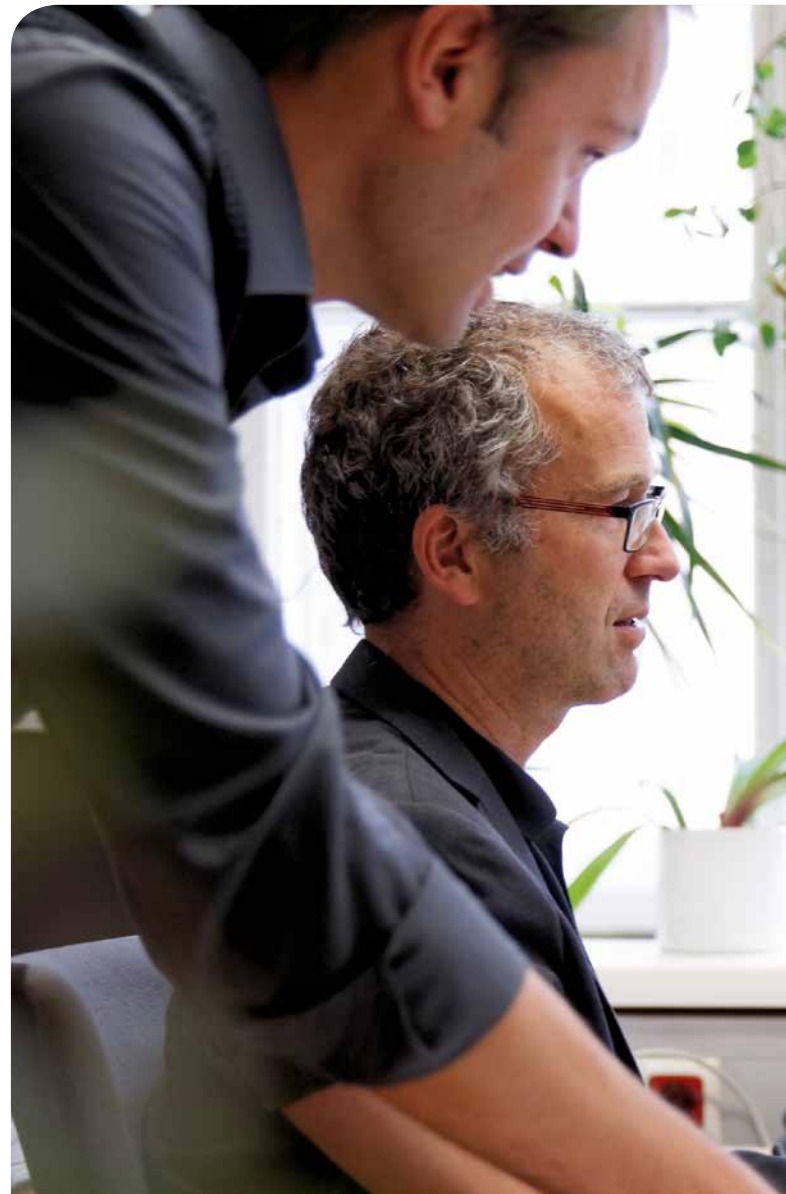


eRamp – an EU-ENIAC project

The focus of eRamp research work is the quicker introduction of new fabrication techniques and the further exploration of casing technologies for power semiconductor devices. POLICIES is developing new prognosis techniques within the framework of the project in order to increase reliability and process yield for new chip technologies. 26 research partners from six countries are participating in the project.

We develop methods and approaches for user-oriented technology in a future lab project.

We want to jointly integrate these methods in our projects in the coming years together with other research units of JOANNEUM RESEARCH.



Institute for Economic and Innovation Research



Wolfgang Polt
Director POLICIES

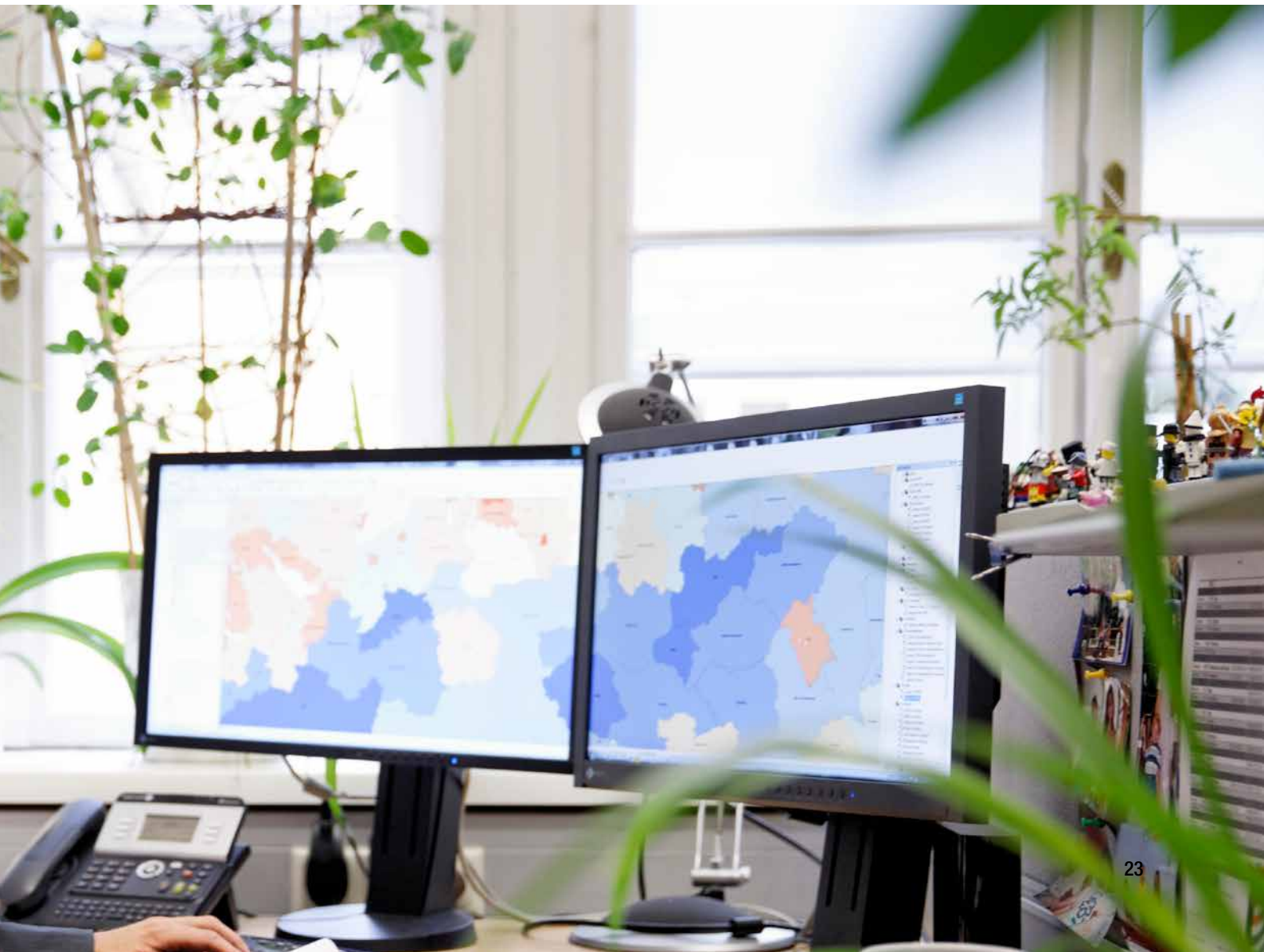
RESEARCH GROUPS

- TIP – Technology, Innovation and Policy Consulting
- STA – Statistical Applications
- REG – Regional Economics and Structural Policy

CONTACT

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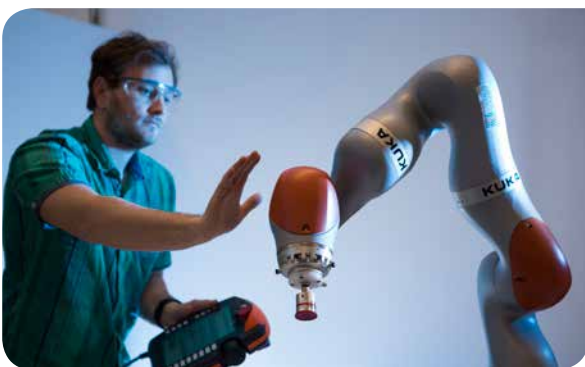
ROBOTICS

Projects



ESA order for ROBOTICS

The scope of ROBOTICS was extended far beyond the borders of Carinthia, even all the way to Mars as the institute is participating in an international ESA project: ROBOTICS is technically preparing the robot-based handling of Mars rocks. This so-called teleoperation is to make the examination of extraterrestrial rock samples possible in high-security laboratories or cleanrooms.



New ROBOTICS research area established

The synergetic utilisation between ROBOTICS and the Alpen-Adria-University Klagenfurt made it possible to explore »robotics security« as a new research area, a topic that had already attracted attention within the international community. The topic of security is fundamentally important within the framework of the Industry 4.0 initiative due to the increasing networking of industrial systems and its close association with the topic of safety.

In addition to the promising specialised expansion of JOANNEUM RESEARCH, the founding of ROBOTICS at the new site in Klagenfurt am Wörthersee also sustainably reinforces the site as an attractive work and operating location for scientists in South Eastern Austria.



Institute for Robotics and Mechatronics



Dr Michael Hofbaur
Director ROBOTICS

RESEARCH GROUPS

- COR – Collaborative Robotics
- RSY – Robot Safety

CONTACT

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robotics@joanneum.at
www.joanneum.at/robotics



Projects



Sustainability of biodiesel

The European Commission commissioned the project »Improving the Sustainability of Fatty Acid Methyl Esters (FAME=Biodiesel)«, which is to essentially improve sustainability measures within the lifecycle of biodiesel production. Together with BDI – BioEnergy International AG, ALTERRA, Wageningen University and Fraunhofer UMSICHT, LIFE successfully examined a total of ten measures based on lifecycle analyses.



IMPACT2C – an EU-FP7 project

The effects of global warming by 2°C on water, energy, infrastructure, coasts, tourism, forests, agriculture, ecological system performance, health and air quality-climate interactions were analysed in the EU-FP7 project IMPACT2C. LIFE introduced a work package and was significantly involved in the quantification of climate damage and the risk for tourism, energy and flooding.

Following the Climate Change Conference 2015 in Paris, the merging of the research groups on the topics of climate, energy and society has created a top-level centre for managing challenges within this interdisciplinary integration: leaving the carbon-based industry behind and focussing on the forward-looking management of climate risks!



Centre for Climate, Energy and Sustainability



Dr Franz Prettenthaler, M.Litt
Director LIFE

RESEARCH GROUPS

- CRM – Weather and Climate Risk Management
- SYS – Future Energy Systems and Lifestyle
- CPE – International Climate Policy and Economics

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life@joanneum.at
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Events and Conferences



23 to 25 August and 27 to 29 August 2015

European Forum Alpbach 2015

HEALTH organised the partner session with the title »Primary Care – Courage for New Challenges or Old Wine in New Skins?«. Approximately 70 participants attended the event. In the Year of the Light, MATERIALS held a work group with the title »Bright Future? Challenges and Opportunities in LED Lighting«.

14 to 18 September 2015

ESSCIRC/ESSDERC Conference

Graz became a hotspot for experts from 30 countries grappling with the topic of integrated microelectronic circuits. Approximately 550 specialists attended the 45th ESSDERC (European Solid-State Device Research Conference) and the affiliated 41st ESSCIRC (European Solid-State Circuits Conference). The conference was organised by JOANNEUM RESEARCH.



25 January 2016

Stakeholder delegation from Carinthia

Dr Gaby Schaunig, Deputy Governor of Carinthia, visited JOANNEUM RESEARCH in Graz together with Dr Erfried Taurer, Stefan Primosch and Prof. Dr Gerhard Friedrich. Following the welcoming address by CEO Prof. Dr Wolfgang Pribyl, the delegation visited the research units DIGITAL, HEALTH and MATERIALS.

26 January 2016

Forum DIGITAL

DIGITAL Director Dr Heinz Mayer welcomed approximately 60 interested participants to Forum DIGITAL, which addressed the topics of AAL (»Active & Assisted Living«) and acoustics. The event was held within the context of the AAL AUSTRIA seminar series. Dr Franz Graf presented the current approaches for intelligent acoustic solutions in regard to unimpeded communication in public buildings.



Events and Conferences



2 and 3 March 2016

Urban Future Global Conference

At the Urban Future Global Conference, held at the Municipal Hall Graz, the research units LIFE and DIGITAL presented innovations for the cities of the future in the areas of mobility, security, sustainability, climate, energy and society. This included, among other things, smart city apps, event monitoring, cyber security, smart living, the prognosis tool WEDDA® and urban development.

9 March 2016

Future Conference

The 6th Future Conference of JOANNEUM RESEARCH was, once again, held at messecongress Graz. It was attended by more than 460 visitors. Prof. Dr Shyam Kamath, a renowned expert for innovations and business models in Silicon Valley, presented at the conference. His keynote address had the title »Managing and Leading in an Age of Exponential Change: A Silicon Valley Perspective«.



21 to 23 March 2016

European Robotics Forum

The »European Robotics Forum« (ERF) was held for the seventh time in Ljubljana/Slovenia. The forum is one of the most important networking events of the European robotics community. The joint booth of the research units ROBOTICS and DIGITAL addressed the topic of »Collaborative Robotics«, i.e. cooperation between people and robots.

22 April 2016

Long Night of Research

More than 25,000 people took advantage of the Long Night of Research 2016 and experienced the present and future of research in Styria. JOANNEUM RESEARCH presented itself at the Centre for Knowledge Transfer in Medicine (ZWT). One of the highlights of the Austrian event was the performance of light artist Ralph Light who played a laser harp.



Joanneum Research lädt zum Elektronik-Gipfel

Graz als Zentrum der Elektronikwelt – seit Montag und noch bis Freitag tagen im Grazer Messecenter rund 550 Experten aus aller Welt zum Thema integrierte Schaltkreise der Mikroelektronik. Ein Begriff, der vielleicht etwas sperrig klingt, ohne den aber vom Smartphone über den Fernseher bis zum Auto praktisch kein elektronisches Gerät mehr auskommt. Insgesamt werden zu den bei-



Kann sich zurecht fressen: Joanneum

FORSCHUNG IM FOKUS

Auf ihrer 2. Zukunftskonferenz diskutieren sich die Joanneum Research und mehr als 100 internationale Wissenschaftler mit Projekten um die Zukunft der Menschheit. Die Konferenz wird von der Joanneum Research und der Joanneum Research Society (JRS) organisiert.

TEXT: HEIDI KOTTER, FOTO: STEFAN BUCHNER



„Ich wünsche, wir hätten eine Institution wie die Joanneum Research in den Staaten!“

DAVID J. KAMATH
Dekan und Professor am
College of Business, California
State University, Bakersfield

Ich wünsche, wir hätten eine Institution wie die Joanneum Research in den Staaten!“

Einsteinst. Besonders stolz ist die Joanneum Research auf die Joanneum Research Society (JRS), die ein Netzwerk von Wissenschaftlern und Ingenieuren aus aller Welt umschließt. Die Joanneum Research ist ein Zentrum für die Forschung und Entwicklung in der Elektronik und der Informatik.

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„Dezenter“ Energieplan

Eine Studie von Joanneum Research hat alle Möglichkeiten zur dezentralen Energieversorgung in der Steiermark analysiert. Anhand eines Mas-

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Technischer Wandel und Ungleichheit

Der Innovationsforscher Wolfgang Polt, hat Erik Brynjolfssons These von der „großen Abkoppelung“ für Österreich untersucht. Sein Ergebnis: auch hierzulande geht die Schere zwischen Produktivität und Einkommen auf.



Wolfgang Polt, Leiter POLICES, JOANNEUM RESEARCH, ist Ökonom und Innovationsforscher. Seine Forschungsgebiete sind die Evaluation von Politik, aktuelle Trends in der Wirtschaft und Innovationen.

Zur Zeit werden die Auswirkungen des technischen Wandels auf die wirtschaftliche Situation wieder intensiv diskutiert. Während der hochentwickelten Ökonomien vor einem Versagen der Fähigkeit damit zu neuem Wachstum von Produktion und Produktivität vor einem großen Durchbruch stehen und ein großes und weites der zunehmenden Verbreitung, Fähigkeiten und Kombinationen. Aus unterschiedlichen Gründen können diese Entwicklungen zu den aktuell beobachtbaren Tendenzen zu einer zunehmenden Entkopplung von Produktions- und Beschäftigungswachstum (in zu zunehmender Ungleichheit von (Arbeits-)Einkommen beitragen; zugleich der Fähigkeiten der...



Das Geräusch von Sprühdosen soll Vandalen überführen

Abhöranlage gegen Sprüher

Steirische Entwicklung soll 2016 Praxistest bestehen.

GRAZ. Drei Schüler im Alter von 14 und 16 Jahren sollen seit Juni 50 Mal in den Grazer Bezirken Andritz und Maria Trost zu Spraydosen gegriffen haben: Nun forschen Beamte der Polizeiinspektion Rieplplatz das Trio aus. Der Sachschaden durch die Graffiti soll mindestens 10.000 Euro betragen. Die Jugendlichen erklärten, wegen des „Adrenalinhighs“ gesprüht zu haben. Sie wurden angezeigt. Damit sich Sprayer erst gar nicht ausstoben können, entwickelt die steirische Forschungs-

DIE VERMESSUNG DER STIEGENWELT

Einfach & genau. Die arbeitsintensive händische Vermessung und Montage von Stiegen gehört dank der Forschungsgesellschaft JOANNEUM RESEARCH bald der Vergangenheit an.

Die Joanneum Research hat ein System entwickelt, das die Vermessung von Stiegen automatisiert. Das System ist einfach zu bedienen und liefert präzise Ergebnisse. Die Joanneum Research hat ein System entwickelt, das die Vermessung von Stiegen automatisiert. Das System ist einfach zu bedienen und liefert präzise Ergebnisse.



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„Zurück in die Zukunft“ wird bald Realität, das „Internet der Dinge“ hat erst begonnen. Und steirische Tüftler von Joanneum Research mischen bei der Technik-Revolution kräftig mit!

Smartphones, Tablets

Wie erinnert's, 80er-Jahre-Film „Zurück in die Zukunft“, von Geisterha und Butter na Waschmaschine, wie dann los der Strom get ist, und Fleisch Daten über se lung und sein speichert. Im Ding werden telligend und das Internet der Inform tauschen. Sc tuelle mit de Kombiniert.

Smart leben geht auch im Alter

DIGITAL. Graz wird Pilotregion für ein Forschungsprojekt, das älteren Menschen länger ein eigenständiges Leben erlauben soll.



Erst Anfang 2015 gründen wir die Kärntner Dependence der Forschungsgesellschaft JOANNEUM RESEARCH, das Institut ROBOTICS, startet nun voll durch.

Die Entwicklungsgesellschaft „Collaborative Robotics“ wird von der gleichnamigen Forschungsgruppe mit der JOANNEUM RESEARCH, Institut für MATERIALS und DIGITAL, getragen.

Die Kärntner Dependence der Forschungsgesellschaft JOANNEUM RESEARCH, das Institut ROBOTICS, startet nun voll durch.

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Mehr Potenzial für Öko-Energie

Studie empfiehlt Ausbau und kritisiert Raumplanung.

GRAZ. Große Potenziale zum Umbau der steirischen Energieversorgung auf dezentrale, ökologische Erzeugung ordnet eine Studie, die Joanneum Research mit Partnern im Auftrag des Landes erstellt hat. Der Masterplan empfiehlt der Landespolitik etwa, mehr Abwärme von Industrieanlagen zu nutzen sowie ein starkes Augenmerk auf thermische Speicherlösungen zu legen.

Die Experten bemängeln, dass das Thema Energieverbrauch in der Raumordnung immer noch kaum berücksichtigt werde, und schlagen vor, die gesamten Raumordnungsgesetzen von den Gemeinden auf das Land zu übertragen.

Zudem empfehlen die Autoren, Genehmigungsverfahren zu vereinfachen und bestehende „Tabuzonen“ zu hinterfragen. Forstungslandesrat Christof Drexler (VP) und Umweltsenatsrat Jörg Leichtfried (SP) wollen das Papier in die künftige Energieplanung einfließen lassen.

G. FILCH

Wie eine Lotterie, in der die Nieten mehr werden

franz Preitenhofer, Joanneum Research:

Der Wintertourismus ist nicht am Ende, aber er braucht an vielen Orten eine Neuorientierung. Es wird auch künftig noch prächtige Winter geben, allerdings immer seltener, die Naturschnee- und Kunstschneeschneicherheit sinkt. Es ist wie eine Lotterie, in der die Anzahl der Nieten zunimmt. Ignorieren und Schönreden helfen nicht mehr weiter, es braucht ein professionelles Wettbewerbsmanagement auf allen Ebenen. Als wirtschaftlich prominentestes Opfer des Klimawandels in Österreich müsste sich die Tourismusbranche auch selbst mehr dem Klimaschutz verschreiben.

Sichere Fahrzeuge, Kampf gegen den Klimawandel

Steirische Geistesblitze: Hochsaison für „Tüftler“

Heiß, sehr heiß ist es im Moment in vielen Labors. Nichtsdestotrotz wird in der Steiermark auf Hochtour geforscht – der Sommer ist Hochsaison für die „Tüftler“. Von der Suche nach Leben im All über das Auto der Zukunft bis zum Klimawandel ist alles dabei.

Es sind steirische Geistesblitze wie diese, die die Zukunft sorgen: An der Uni Graz beschäftigt man sich mit dem berühmtesten Klimawandel: Wie lange unsere Fichtenwälder noch bestehen und wie

fred Lexer im Rahmen eines EU-Projekts. Nach den Sternen greift die Med-Uni dort bereiten sich einige Wissenschaftler federführend auf eine Landung auf dem Mars in

Ein echtes Zukunftsthema ist auch die Umweltproblematik und die damit verbundene Robstoffknappheit, die Leobner Montanisten Kopfzerbrechen bereitet. Und Projektleiter Hans Schwegler von Joanneum Research hat

Formhoch

Mehr Aufträge, mehr Umsatz, mehr Start-ups, mehr Förderung. Österreichs Forschungslandschaft prosperiert. In der Anschlussfinanzierung gibt es allerdings Lücken.

Es begann buchstäblich mit einem Beinbruch. Und mündete in einem der spektakulärsten Start-ups der letzten Jahre. Als Rudolf Stawski im Krankenhaus zusaß, wie ihm ein Gips am Bein angepasst wurde, begann er darüber nachzudenken, ob das alles nicht effizienter geschehen könnte. Gemeinsam mit Freunden entwickelte er eine Idee, die 2013 zur Gründung von „Clever Contour“ führte: großflächige Freiformen – also auch Orthesen für gebrochene Beine – so herzustellen, dass der User sowohl in Software als auch in Fertigung eingreifen kann. Individualisierbar, kostengünstig

dankt sich intensiver Kooperation mit dem Zentrum für angewandte Technologie Leoben und dem Institut für Fertigungstechnik der TU Wien. Und natürlich einer Reihe von Förderungen.

Mehr Aufträge, mehr Druck. In Österreich wird derzeit geforscht, entwickelt – und gefördert – wie noch nie. Laut Schätzung der Statistik Austria dürften im Jahr 2015 rund 10,1 Milliarden Euro in Forschung und experimentelle Entwicklung fließen. Das wäre ein Plus von 2,8 Prozent gegenüber 2014 und entspräche gut drei Prozent des BIP.

Österreich sucht Wundermittel gegen Jobmisere

Mehr als 420.000 Menschen in Österreich finden keinen Job. Ideen, um dagegen anzukämpfen, gibt es viele, sagen Ökonomen. Kurzfristig ist der Spielraum der Politik begrenzt.

ANALYSE: Andrija Segovcic

Wien – Politisch verbindet Alexander Van der Bellen und Norbert Hofer wenig. In einem Punkt sind sie sich aber einig: Die Regierung müsse rasch handeln, um die Rekordarbeitslosigkeit zu bekämpfen. Nach einem Sieg bei der Präsidentschaftswahl würden sich beide Kandidaten sofort einberufen, um über Schritte zu beraten, so die Kandidaten umfassen.

Hofer sagte bei einer Puls-4-Debatte, dass er erwäge, die Regierung zu entlassen, wenn Österreich weiter leidet, weil die Arbeitsmarktsituation „schlechter werden“. Sechs bis zwölf Monate würde er zuwarten, länger nicht. Aber welche Optionen hat die Regierung, um das Straßennetz zu handhabe gemacht wurde, erledigen heute Maschinen. WiFo und Joanneum Research haben ein Computermodell ent-

Um eine Entlastung zu liberalisieren, schlägt die Ökonomin Margit Schratzmeister unter anderem vor, Steuern auf Grund und Boden zu erhöhen, und die Zehnteilsteuer wieder einzuführen. Sie plädiert auch für ökologische Reformen, so könnte der Strebenbonus für Diesel fallen. Ökonomen Helmut Hofer von Hofer für Hörsen Studien ruft dagegen Bsp. von der Verwaltung etc.

WiFo und Hofer betonen jedoch, dass ihre Vorschläge längerfristig wirken. Kurzfristig wären die Effekte überschätzbar. Die Senkung der Lohnnebenkosten um eine Milliarde Euro schafft laut IHS 7000 und laut WiFo 4000 Arbeitsplätze im ersten Jahr. 2014 Milliarde Euro treibt man zudem nicht leicht auf. Eine Restenergie von Erbschaften (23 Prozent) Pflanztrag bei eine Million Euro) würde pro Jahr Mehrerlöse von „nur“ 450 Millionen Euro bringen. Diese Erwägungen sprechen nicht gegen Reformen, so Hofer und Schratzmeister. Aber wie Arbeit wirklich billiger machen will, muss große Veränderungen vornehmen. Schnelle Wundermittel gibt es auch hier nicht. »Denn gefördert wird eine Ent-

Mehrausgaben für Infrastruktur schaffen jobs, aber nicht so viele wie in der Vergangenheit.

Bei Dienstleistern aus Ungarn oder Polen zu beschäftigen. Zudem haben sich auch Menschen um jobs, die gar nicht arbeitslos ge-

Audit Certificate

■ Management's responsibility for financial statements

The legal representative of the company is responsible for the itemisation and the factual overall depiction of financial statements according to the Austrian legal entrepreneurial stipulations as applied in the EU and for internal controls deemed necessary by the legal representative in order to facilitate an itemisation of financial statements that is free of essential misrepresentations – whether intentional or unintentional.

■ Responsibility of the auditor

It is our responsibility to submit an audit opinion on financial statements based on our examinations. We performed the audit while taking the legal stipulations in Austria and the principles of proper annual audits into account. These principles require us to apply international audit standards (International Standards on Auditing). According to these standards, we must observe the vocational behavioural requirements and plan as well as execute the audit so as to gain sufficient certainty whether the financial statements are free of essential misrepresentations.

An annual audit includes the performance of audit actions in order to obtain audit verifications for the valuations and other indications included in the financial statements. The selection of audit actions is dutifully decided by the auditor while taking the risk assessment for the occurrence of essential – intentional or unintentional – misrepresentations into account. The auditor accounts for the internal control system when performing the risk assessment insofar as this is relevant for the overall factual presentation of financial statements by the company in order to plan suitable audit actions that are appropriate in the given circumstances, but not in order to give an audit opinion about the effectiveness of the company's internal control system. Furthermore, the audit also includes an evaluation of the appropriateness of applied invoicing methods and the justifiability of values determined and estimated by the legal representatives in invoicing as well as the evaluation of the overall depiction of the annual financial statements.

We have determined that the audit verifications obtained by us are sufficient and suitable as the basis for an audit opinion.

■ Audit opinion

The audit has not resulted in any objections. Based on our assessment, the financial statements portray the company's asset and financial position on 30 June 2016 and the company's profit situation for the business year ending on this date as accurately as possible while complying with the Austrian legal entrepreneurial stipulations as applied within the EU.

■ Opinion on the management report

The management report is to be examined based on legal stipulations in order to determine whether it is in agreement with the financial statements and whether other information in the management report invokes a false conception of the company's situation. The auditor's report must also include a statement whether the management report is in agreement with the annual financial statements. According to our assessment, the management report is in agreement with the annual financial statements.

Graz, 27.1.2017



Balance Sheet

Assets	30.06.2016 €	Previous year €
A. Fixed assets		
I. Intangible assets		
1. Rights and licenses	202,926.00	169,824.00
II. Tangible assets		
1. Land and buildings	9,137,546.66	9,381,979.66
<i>of which basic value</i>	2,656,523.66	2,656,523.66
<i>of which investments in third-party buildings</i>	2,196,421.00	2,313,490.00
2. Technical equipment	3,653,905.00	2,585,060.01
3. Operating and office equipment	725,144.00	912,128.00
4. Advance payments and assets under construction	385,220.80	402,694.52
	13,901,816.46	13,281,862.19
III. Financial assets		
1. Shares in affiliated companies	200,000.00	25,000.00
2. Equity interests	221,039.25	169,789.25
3. Securities and book-entry securities held as fixed assets	1,345,275.00	1,345,275.00
	1,766,314.25	1,540,064.25
	15,871,056.71	14,991,750.44
B. Current assets		
I. Inventories		
1. Raw materials, consumables and supplies	7,119.20	9,796.60
2. Work in progress	9,306,476.38	10,113,804.71
3. Advance payments	29,625.90	16,361.46
	9,343,221.48	10,139,962.77
II. Receivables and other assets		
1. Accounts receivable	1,568,700.66	1,215,463.67
2. Receivables from affiliated companies	9,927.06	3,341.81
<i>of which trade receivables</i>	9,927.06	3,341.81
3. Receivables from companies in which an equity interest is held	188,982.11	139,720.51
<i>of which trade receivables</i>	188,982.11	139,720.51
4. Receivables from subsidies and project grants	3,394,234.61	5,559,151.92
5. Other receivables and assets	11,614,733.47	3,609,269.69
	16,776,577.91	10,526,947.60
III. Securities and shareholdings		
1. Other securities and shares	1,994,000.00	1,981,000.00
IV. Cash in hand and at bank	5,922,198.49	6,554,974.15
	34,035,997.88	29,202,884.52
C. Trust assets	946,317.44	1,089,929.03
D. Accruals and deferrals	433,842.95	397,572.78
Total assets	51,287,214.98	45,682,136.77

Balance Sheet

Liabilities	30.06.2016 €	Previous year €
A. Equity		
I. Share capital	3,420,000.00	3,420,000.00
II. Capital reserves		
1. Appropriated	3,836,035.02	3,957,261.61
2. Unappropriated	362,637.44	362,637.44
	4,198,672.46	4,319,899.05
III. Revenue reserves		
1. Statutory reserves	159,571.25	159,571.25
2. Other reserves (free reserves)	769,990.22	785,410.22
	929,561.47	944,981.47
IV. Net profit	101,112.53	94,628.00
<i>of which brought forward</i>	94,628.00	340,817.29
	8,649,346.46	8.779.508,52
B. Investment grants	1,759,790.00	1,972,418.33
C. Provisions		
1. Provisions for severance payments	3,515,800.00	4,011,900.00
2. Provisions for pensions	4,369,770.00	4,190,910.00
3. Other provisions	12,972,510.00	5,562,600.00
	20,858,080.00	13,765,410.00
D. Liabilities		
1. Due to banks	712,193.77	826,181.14
2. Payments received on account	10,059,865.01	12,473,440.35
3. Accounts payable	2,078,686.57	1,267,465.51
4. Due to affiliated companies	149,169.46	51,598.10
<i>of which trade receivables</i>	84,652.09	0.00
<i>of which other</i>	64,517.37	51,598.10
5. Due to companies in which an equity interest is held	13,746.00	0.00
<i>of which trade receivables</i>	10,470.00	0.00
<i>of which other</i>	3,276.00	0.00
6. Other liabilities	4,173,182.12	3,560,151.94
<i>of which tax-related</i>	346,672.42	487,278.81
<i>of which related to social security</i>	1,974,871.37	1,377,630.48
	17,186,842.93	18,178,837.04
E. Trust assets	946,317.44	1,089,929.03
F. Accruals and deferrals	1,886,838.15	1,896,033.85
Total liabilities	51,287,214.98	45,682,136.77
Contingent liabilities	238,041.40	234,017.29

Income Statement

Income Statement	2015/2016 €	2014/2015 €
1. Sales revenues	14,808,902.83	15,347,259.02
2. Changes in inventories of goods and work in progress	-807,328.33	-2,008,550.42
3. Other own work capitalised	128,366.36	134,454.91
4. Other project-related income	14,718,114.11	14,248,368.29
5. Shareholder contribution	8,824,000.00	8,175,385.06
6. Other operating income		
a. Income from the disposal of fixed assets	21,743.63	34,269.10
b. Income from the release of provisions	406,547.23	250,999.55
c. Other	9,637,224.05	3,631,768.62
	10,065,514.91	3,917,037.27
7. Cost of materials and other purchased services		
a. Cost of materials	1,279,546.71	1,160,595.11
b. Cost of purchased services	1,945,235.14	1,845,423.90
	3,224,781.85	3,006,019.01
8. Personnel expenses		
a. Salaries	20,604,651.37	20,292,080.61
b. Expenses for severance payments	950,019.10	782,506.32
c. Pension costs	428,201.84	507,469.14
d. Cost of statutory social security contributions and payroll-taxes and mandatory contributions	5,855,538.31	5,902,003.85
e. Other social cost	134,749.15	119,966.37
	27,973,159.77	27,604,026.29
9. Depreciation and amortization		
a. of tangible assets	2,467,542.32	2,422,473.30

Income Statement

Income Statement	2015/2016 €	2014/2015 €
10. Other operating expenses		
a. Taxes unless on income	167,094.49	65,837.25
b. Other	13,757,560.71	6,809,036.63
	13,924,655.20	6,874,873.88
11. Subtotal of lines 1 to 10 (operating result)	147,430.74	-93,438.35
12. Income from other securities	38,528.02	59,863.52
13. Other interest and similar income	105,891.95	62,216.92
14. Income from the disposal and addition to financial assets and securities classified as current assets	19,000.00	23,566.67
15. Expenses incurred on financial assets	419,092.25	317,833.70
<i>of which depreciation</i>	6,000.00	0.00
<i>of which expenses resulting from affiliated companies</i>	300,000.00	223,567.67
16. Interest and similar expenses	20,170.52	23,661.74
17. Subtotals of lines 12 to 16 (financial result)	-275,842.80	-195,848.33
18. Result from ordinary activities	-128,412.06	-289,286.68
19. Taxes on income	1,750.00	2,061.00
20. Net loss for the year	-130,162.06	-291,347.68
21. Release of capital reserves		
a. Appropriated	121,226.59	29,738.39
22. Release of revenue reserves		
a. Other reserves (free reserves)	15,420.00	15,420.00
23. Annual profit/loss	6,484.53	-246,189.29
24. Retained income brought forward	94,628.00	340,817.29
25. Net profit	101,112.53	94,628.00

Notes

Accounting and valuation methods

General principles

The financial statements for JOANNEUM RESEARCH Forschungsgesellschaft mbH were prepared according to the regulations of the Austrian Commercial Code in the valid version while taking the principles of proper accounting and the general norm into account so as to portray the company's asset, financial and profit situation as accurately as possible.

The principle of completeness was observed while preparing the financial statements. The principle of individual assessment was taken into account for the evaluation of individual assets and liabilities, and a continuation of the company was assumed.

The principle of caution was observed by only indicating the profits that were realised by the reporting date. All detected risks and pending losses were taken into account. Comparative values are stated in parentheses unless clearly identified.

Fixed assets

Intangible fixed assets

Intangible fixed assets are evaluated according to acquisition costs plus additional acquisition costs minus the applied discount and the scheduled depreciations calculated according to the straight-line depreciation method. A time frame of 3 to 5 years (20% - 33%) is assumed for the usage duration.

Tangible assets

Tangible assets are evaluated according to acquisition costs plus additional acquisition costs minus the applied discount and the scheduled depreciations. Public subsidies for the fixed assets are identified as investment grants from public funds on the liabilities side. The consumption of investment grants is performed analogous to the scheduled depreciation and amortisation.

Scheduled depreciations and amortization are calculated linearly based on the following useful life and depreciation rates:

Tangible assets	Useful life in years	Depreciation
Buildings and buildings on third-party land	10 – 33	3% – 10%
Machines, scientific equipment and electronic data processing equipment	3 – 10	10% – 33%
Other equipment, operating and office equipment	4 – 10	10% – 25%

Full-year depreciation is applied for attributions in the first half of the financial year; half-year depreciation is applied for the attributions in the second half.

Low-value economic goods within the meaning of § 13 of the Income Tax Act 1988 – individual acquisition value up to EUR 400.00 – are fully written off in the attribution year and are identified in the development of fixed assets as addition and disposal.

Notes

► Financial assets

Shares in affiliated companies and interest are evaluated according to acquisition costs, possibly reduced in order to take depreciations for value decline into account.

Securities held as fixed assets are applied as acquisition costs or the possibly lower attributed value on the reporting date.

No unscheduled depreciation was performed for financial assets in the reporting year; there were no write-ups.

■ Current assets

► Inventories

The evaluation of consumables is performed with acquisition costs while taking the lowest-value principle into account. Work in progress from commissioned research is determined based on the prepared operational settlement. The recording of project costs is performed according to cost centre and individual cost verifications. The evaluation is performed individually for manufacturing or acquisition costs within the meaning of § 203 of the Austrian Commercial Code. Manufacturing costs include, besides the costs assignable according to costs-by-cause, proportionate, activatable overhead costs for manufacturing as well as parts of social costs within the meaning of § 203 (3) next to last sentence of the ACC. Interest expenses and research risk are not accounted.

Discounts from work in progress or provisions are formed for expected loss-incurring orders or for costs that are still expected from already invoiced services. Balance precautions in the form of a provision are performed for potential warranty obligations in connection with commissioned research. Proportionate overhead management costs are activated for orders whose execution extends beyond twelve months.

► Receivables and other assets

Receivables and other assets are evaluated at nominal value, provided that the lower attributable value is not applied for detectable individual risks in the specific case. Fixed-rate corrections in the amount of 2% of the net claim sum are formed as a precaution for general credit risks.

■ Provisions

The severance payment provision is calculated according to financial-mathematical principles on the basis of the actuarial interest rate of 3.0 % (previous year: 3.5%) and a pension age of 65 according to the partial value procedure. The collective-contractual increases and contractual basic pay increases are taken into account with the inclusion of a 3% (previous year: 3%) salary increase. A fluctuation discount for employees for whom the severance payment regulation applies is included in the calculation in the amount of 6% (previous year: 6%) based on previous years.

The pension provision is classified as a liability in the amount of the insurance-mathematical coverage requirement. Guideline tables according to Pagler & Pagler are used as a basis while taking the actuarial interest rate of 3.0% (previous year: 3.5%) into account.

Other provisions account for all recognisable risks and liabilities that have not yet been determined according to the amount. Other provisions than those that are legally designated are not formed.

■ Liabilities

Liabilities are assessed with the repayment amount while taking the cautionary principle into account.

■ Currency conversion

Receivables and liabilities are evaluated with the average exchange rate at the time of occurrence or according to the strict lowest or highest-value principle on the reporting date.

Notes

Notes on the Balance Sheet

ASSETS

■ Fixed assets

Reference is made to the fixed asset movement schedule (annex to the notes) in regard to the development of individual items of the fixed assets and the itemisation of the annual depreciation. All fixed assets are valued on the reporting date at EUR 15,871,056.71 (previous year: kEUR 14,991.8). Investments in the financial year 2015/2016 amount to a total of EUR 3,479,104.60 (previous year: kEUR 2,743.4) contrasted with on-going depreciations in the amount of EUR 2,467,542.32 (previous year: kEUR 2,422.5). Disposals for historical acquisition costs amounted to EUR 2,647,662.80 (previous year: kEUR 2,681.0) in the financial year 2015/2016.

Intangible assets include software and data transmission rights with a book value of EUR 202,926.00 (previous year: kEUR 169.8). Additions in the amount of EUR 176,581.36 (previous year: kEUR 114.8) are allotted for the purchase of licenses and various software.

Tangible assets amount to EUR 13,901.46 (previous year: kEUR 13,281.9) on the reporting date.

The basic value amounts to EUR 2,656,523.66 (previous year: kEUR 2,656.5). EUR 3,043,354.00 (previous year: kEUR 3,069.0) of the building value for developed buildings and buildings on third-party land in the amount of EUR 6,481,023.00 (previous year: kEUR 6,725.5) are purely allotted to the building value and EUR 1,241,248.00 (previous year: kEUR 1,343.0) to structural changes; thus EUR 4,284,602.00 (previous year: kEUR 4,412.0) are allotted for buildings on own land and EUR 2,196,421.00 (previous year: kEUR 2,313.5) for investments in third-party buildings.

Additions in the total amount of EUR 3,076,273.24 (previous year: kEUR 2,595.6) first and foremost pertain to the provision of state-of-the-art scientific equipment for the company's research activity and the further expansion of the technological EDP infrastructure. Disposals for historical acquisition costs in the amount of EUR 2,481,657.68 (previous year: kEUR 2,353.10) essentially pertain to

the discarding or, to a lesser extent, the sale of scientific devices, equipment for electronic data processing and various office equipment. Partial value depreciations have not been performed.

Shares in affiliated companies in the amount of EUR 200,000.00 (previous year: kEUR 25.0) pertain to the shares in NanoTecCenter Weiz Forschungsgesellschaft mbH in Weiz in the amount of EUR 50,000.00 (previous year: kEUR 25.0) and JR-AquaConSol GmbH in Graz in the amount of EUR 150,000.00.

In alphabetical order, the item equity interests, totalling EUR 221,039.25 (previous year: kEUR 169.8) includes

- interest in ACIB GmbH, Graz
- interest in BIOENERGY 2020+ GmbH, Graz
- interest in CBmed GmbH, Graz
- interest in decide Clinical Software GmbH, Graz
- interest in EPIG GmbH, Graz
- interest in FH JOANNEUM Gesellschaft mbH, Graz
- interest in Geo5 GmbH, Leoben
- interest in Holz.Bau Forschungs GmbH, Graz
- interest in Human.technology Styria GmbH, Graz
- interest in in Kompetenzzentrum – Das virtuelle Fahrzeug, Forschungsgesellschaft mbH, Graz
- interest in Know-Center GmbH Research Center for Data-Driven Business & Big Data Analytics, Graz
- interest in Materials Center Leoben Forschung GmbH, Leoben
- interest in Polymer Competence Center Leoben GmbH, Leoben and
- interest in Research Center Pharmaceutical Engineering GmbH, Graz.

Securities held as fixed assets are valued at EUR 1,345,275.00 (previous year: kEUR 1,345.3) on the reporting date.

Notes

➤ No write-ups

Voting rights were utilised in the financial year in order to maintain the lower valuation and omit write-ups despite the fact that the reasons for an earlier performed non-scheduled depreciation are no longer valid. The write-up ceases on account of a careful assessment. The omitted write-up for securities held as fixed assets amounts to EUR 675,00 (previous year: kEUR 4,1).

No unscheduled depreciation was performed for financial assets in the reporting year.

Depreciations of other fixed assets result entirely from normal depreciations.

■ Current assets

➤ Inventories

Consumables in the amount of EUR 7,119.20 (previous year: kEUR 9,8) were predominantly activated for paper,

colour ribbons, PC network adaptors, spare parts for laser printers and various incidental materials.

The item contract research work in progress comprises work in progress and services not yet invoiced totalling EUR 9,306,476.38 (previous year: kEUR 10,113.8) of which administration overheads of EUR 1,860,171.72 (previous year: kEUR 1,955.0) for orders requiring more than twelve months were capitalised.

Prepayments for inventories amount to EUR 29,625.90 (previous year: kEUR 16.4).

➤ Liabilities and other assets

Individual value adjustments in the amount of EUR 108,881.42 (previous year: kEUR 134.8) were formed and actively deducted for prospective debtor losses of accounts receivable.

Receivables & other assets	Receivables as at 30.06.2016 (30.06.2015) €	Term to maturity more than 1 year €	Secured by bills of exchange €	Capitalised accruals as per § 225 (3) of the ACC €	Valuation allowance for bad debts €
Accounts receivable	1,568,700.66 (1,215,463.67)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	29,800.00 (18,300.00)
Receivables from affiliated companies	9,927.06 (3,341.81)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Receivables from companies in which an equity interest is held	188,982.11 (139,720.51)	93,423.84 (80,565.12)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Receivables from owners	14,758.75 (662,000.00)	0.00 (0.00)	0.00 (0.00)	14,758.75 (662,000.00)	0.00 (0.00)
Receivables from subsidies and project grants	3,379,475.86 (4,897,151.92)	0.00 (0.00)	0.00 (0.00)	3,379,475.86 (4,897,151.92)	0.00 (0.00)
Receivable from liability com- mitment Province of Styria	5,600,000.00 (0.00)	5,600,000.00 (0.00)	0.00 (0.00)	5,600,000.00 (0.00)	0.00 (0.00)
Other receivables and assets	6,014,733.47 (3,609,269.69)	0.00 (0.00)	0.00 (0.00)	5,895,865.58 (3,531,004.47)	0.00 (0.00)
Total	16,776,577.91 (10,526,947.60)	5,693,423.84 (80,565.12)	0.00 (0.00)	14,890,100.19 (9,090,156.39)	29,800.00 (18,300.00)

Notes

The item receivables from affiliated companies pertains to accounts receivable.

Receivables from subsidies and project grants relate to assurances from various promotional bodies. Discounting in the amount of EUR 27,800.00 (previous year: kEUR 35.3) was performed since the execution and thus the receipt of payment extends beyond a time period of three months. The actuarial interest rate amounts to 2% (previous year: 2%).

Other receivables and assets essentially include receivables from the insurance company acquired through insurance expenses, receivables from Finanzamt Graz-Stadt, various accrued and deferred interest, remuneration and allowances. Moreover, a liability commitment by the Province of Styria in the amount of EUR 5,600,000.00 (previous year: EUR 0.0) is also identified under this item for the loss coverage from the large-scale enterprise audit by Finanzamt Graz-Stadt.

➔ Securities held as current assets

Bank bonds with a term until September 2020 in the amount of EUR 2,000,000.00 were acquired again after securities of current assets had been drawn by the end of January 2016. An unscheduled depreciation for securities of the current assets has been performed by the reporting date and now displays a balance in the amount of EUR 1,994,000.00 (previous year: kEUR 1,981.0).

➔ Cash in hand and at bank

This item in the amount of EUR 5,922,198.49 (previous year: kEUR 6,555.0) consists of cash in hand of EUR 11,271.60 (previous year: kEUR 8.9) and a bank deposit of EUR 5,910,926.89 (previous year: kEUR 6,546.1).

■ Accruals and deferrals

Prepaid expenses and deferred charges in the amount of EUR 433,842.95 (previous year: kEUR 397.6) contain payments performed in the financial year 2015/2016 that are to be charged to the following year and essentially pertain to advanced payments for maintenance expenses, various subscriptions, membership fees, insurances, travel costs and congress fees.

■ Trust assets

Trust assets include cash at bank for projects with Österreichische Forschungsförderungsgesellschaft mbH or the European Commission in which JOANNEUM RESEARCH Forschungsförderungs mbH acts as a coordinator and manages payments for project partners as a trustee (see trust liabilities).

LIABILITIES

■ Equity

The company's share capital amounts to EUR 3,420,000.00 and is held by the Province of Styria with 85% of the share capital in the amount of EUR 2,907,000.00 (previous year: kEUR 2,907.0) or 15% by BABEG – Kärntner Betriebsansiedlungs- und Beteiligungsgesellschaft m.b.H in the amount of EUR 513,000.00 (previous year: kEUR 513.0). A net profit of EUR 101,112.53 (previous year: EUR 94,628.00) results while taking the annual profit of EUR 6,484.53 (previous year: annual loss of EUR 246,189.29) and the profit brought forward in the amount of EUR 94,628.00 (previous year: EUR 340,817.29) into account.

■ Appropriated capital reserves

The shareholders agreed that appropriated capital reserves in the extent of the usage determined in the participation and cooperation contract from 18 December 2014 are dissolved. This does not result in a disadvantage for creditors since the measure does not change the equity, but only constitutes a shift from appropriated capital reserves to the balance result. Profit distribution for net profit is excluded according to § 6 of the company contract.

Notes

■ Special items for investment grants from public funds

Investment grants from public funds have developed as follows in the reporting year:

Investment grants from public funds	As at 01.07.2014 €	Additions €	Usage in line with depreciation €	Releases €	Reallocation or corrections €	As at 30.06.2016 €
Tangible assets						
1. Buildings including buildings on third-party land	1,611,131.80	7,169.05	-149,029.10	-138.00	46,623.25	1,515,75.00
2. Machines, scientific equipment and EDP equipment	118,905.48	31,481.81	-61,682.29	0.00	0.00	88,705.00
3. Other equipment, operating and office equipment	217,381.05	2,582.20	-43,012.00	0.00	-46,623.25	130,328.00
Financial assets						
1. Shares in affiliated companies	25,000.00	0.00	0.00	0.00	0.00	25,000.00
Total	1,972,418.33	41,233.06	-253,723.39	-138.00	0.00	1,759,790.00

■ Provisions

Of the provisions for severance payments, EUR 746,689.48 (previous year: kEUR 200.6) was utilised of which EUR 500,950.00 (previous year: kEUR 0.0) was transferred to liabilities for severance payments of JR-AquaConSol employees. EUR 41,367.52 (previous year: TEUR 0.0) was dissolved.

EUR 291,957.00 (previous year: allocation kEUR 245.4) was added in order to reach the coverage requirement of EUR 3,515,800.00 (previous year kEUR 4,011.9).

Of the pension provisions (of former CEOs), EUR 249,341.84 (previous year: kEUR 246.8) was utilised for pension payments. EUR 428,201.84 (previous year: kEUR 507.5) was added in order to reach the mathematical insurance coverage requirement of EUR 4,369,770.00 (previous year kEUR 4,190.9).

Other provisions include the provision for not yet consumed vacation days as essential items in the amount of EUR 2,544,500.00 (previous year: kEUR 2,499.8), provisions for contingent repayment demands by various grant

Notes

providers in the amount of EUR 735,000.00 (previous year: kEUR 696.4), the provisions for time credits in the amount of EUR 790,000.00 (previous year: kEUR 868.3) as well as the provision for expected losses or costs from services currently in progress in the amount of EUR 629,390.00 (previous year: kEUR 753.2).

In further consequence, the provision for the large-scale enterprise audit by Finanzamt Graz-Stadt in the amount of EUR 7,154,800.00 (previous year: kEUR 0.0) is stated under this item. This provision includes the effects of the large-scale enterprise audit for the financial years 2011/2012 to 2013/2014 from the title loss of the non-profit status in the amount of EUR 2,258,600.00, the disputed part of the research bonus in the amount of EUR 2,419,600.00 as well as the late payment fine in the amount of EUR 51,000.00. The effects of the large-scale enterprise audit are depicted as follows in this provision for the two following financial years 2014/2015 and 2015/2016: Loss of non-profit status in the amount of EUR 588,200.00, disputed part of the research bonus in the amount of EUR 1,803,300.00, late payment fine in the amount of EUR 34,100.00. A complaint has been submitted against the decrees issued based on the tax-authority audit.

■ Liabilities

The liabilities toward credit institutes indicate an export fund framework credit of EUR 712,193.77 (previous year: kEUR 712.2). The instalment credit for thermal restorations with the previous year value of EUR 113,987.37 has been settled as of 8 June 2016.

Received prepayments, deductible from the inventories for orders in the financial year amount to EUR 7,765,776.55 (previous year: kEUR 8,413.0).

Accounts payable are valued at EUR 2,078,686.57 (previous year: kEUR 1,267.5) on the reporting date and, for the most part, apply towards domestic suppliers.

Among the item other liabilities, the shareholder loan granted by the Province of Styria as of 1 November 2004 is stated in the amount of 1,387,477.00 (previous year: kEUR 1,387.5). Furthermore, liabilities for severance payments in the amount of EUR 643,849.26 (previous year: kEUR 0.0) are indicated for those employed at JOANNEUM RESEARCH Forschungsgesellschaft mbH until 30 June 2016 and at JR-AquaConSol GmbH as of 1 July 2016. The loan from the Promotional Research Fund for Commercial Business with the previous year value of EUR 41,620.00 has been settled as of 31 March 2016. Furthermore, the item, first and foremost, consists of the settlement with Steiermärkische Gebietskrankenkasse as well as other necessary distinctions.

Notes

Liabilities	Liabilities as at 30.6.2016 (30.6.2015) €	Term to maturity			Secured by collateral		Accrued liabilities \$ 225 (6) of the ACC of the ACC €
		up to 1 year €	between 1 and 5 years €	5+ years €	1+ year €	Type of collateral	
Due to banks	712,193.77 (826,181.14)	712,193.77 (826,181.14)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	— (—)	0.00 (0.00)
Payments on account	10,059,865.01 (12,473,440.35)	10,059,865.01 (12,473,440.35)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	— (—)	0.00 (0.00)
Accounts payable	2,078,686.57 (1,267,465.51)	1,404,498.79 (1,267,465.51)	674,187.78 (0.00)	0.00 (0.00)	0.00 (0.00)	— (—)	0.00 (0.00)
Due to affiliated companies L&L	84,652.09 (0.00)	84,652.09 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	— (—)	0.00 (0.00)
Due to affiliated companies. other	64,517.37 (51,598.10)	64,517.37 (51,598.10)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	— (—)	0.00 (0.00)
Due to companies in which an equity is held. L&L	10,470.00 (0.00)	10,470.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	— (—)	0.00 (0.00)
Due to companies in which an equity is held. other	3,276.00 (0.00)	3,276.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	— (—)	0.00 (0.00)
Other liabilities	4,173,182.12 (3,560,151.94)	2,785,705.12 (2,172,674.94)	0.00 (0.00)	1,387,477.00 (1,387,477.00)	0.00 (0.00)	— (—)	2,785,705.12 (2,131,054.94)
of which tax-related	346,672.42 (487,278.81)	346,672.42 (487,278.81)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	— (—)	346,672.42 (487,278.81)
of which related to social security	1,331,022.11 (1,377,630.48)	1,331,022.11 (1,377,630.48)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	— (—)	1,331,022.11 (1,377,630.48)
Total	17,186,842.93 (18,178,837.04)	15,125,178.15 (16,791,360.04)	674,187.78 (0.00)	1,387,477.00 (1,387,477.00)	0.00 (0.00)	— —	2,785,705.12 (2,131,054.94)

Notes

Other financial obligations

Based on the agreement for the establishment and promotion of NanoTecCenter Weiz Forschungsgesellschaft mbH between JOANNEUM RESEARCH Forschungsgesellschaft mbH and Graz University of Technology from 28 February 2006 and the financing agreement for the time period from 01.07.2011 to 30.06.2013 from 21 March 2012 or the side letter for financing from 09 September 2013 for the time period 01.07.2013 to 30.06.2016 between JOANNEUM RESEARCH Forschungsgesellschaft mbH and the takeover of the business shares of Graz University of Technology with the purchasing contract from 18 December 2015 of NanoTecCenter Weiz Forschungsgesellschaft mbH, financial obligations result for the company in the amount of EUR 300,000.00 (previous year: kEUR 200.0) for the financial year 2015/2016. Obligations beyond this based on the promotional assurance do not exist.

The existing obligations resulting from the usage of tangible assets not identified in the balance amount to:

Accruals and deferrals

Deferred income of EUR 1,886,838.15 (previous year: kEUR 1,896.0) essentially pertains to shareholder contributions from the Province of Styria.

Trust liabilities

Trust liabilities are based on projects with Österreichische Forschungsförderungsgesellschaft mbH or the European Commission in which JOANNEUM RESEARCH Forschungsförderung mbH acts as a coordinator and manages payments for project partners as a trustee (see trust assets).

Contingent liabilities

(Please refer to: Other disclosures, contingent liabilities).

Other financial obligations	For the next financial year in €	For the next 5 financial years in €
Space rental	440,047.00	3,871,241.00
(PY)	(997,581.00)	4,926,803.00)
Equipment rental	15,930.00	159,300.00
(PY)	(31,020.00)	(155,100.00)
Leasing instalments	95,974.00	485,519.00
(PY)	(284,163.00)	(1,457,172.00)
Total	551,951.00	4,516,060.00
(PY)	(1,312,764.00)	(6,539,075.00)

Notes

Notes on the income statement

Sales revenues in the financial year are divided as follows according to activity areas as well as domestic and foreign sales:

Domestic sales	2015/2016 €	2014/2015 €
Research	8,080,147.60	9,377,246.15
License revenues	304,463.95	368,900.81
Conference fees	8,889.31	9,238.90
Other	1,190,279.45	19,847.63
Domestic sales, total	9,583,780.31	9,775,233.49
Foreign sales		
Research	5,161,229.69	5,382,952.90
License revenues	62,152.83	189,072.63
Conference fees	1,710.00	0,00
Other	30.00	0.00
Foreign sales, total	5,225,122.52	5,572,025.53
Total sales revenue	14,808,902.83	15,347,259.02

Moreover, a liability commitment by the Province of Styria in the amount of EUR 5,600,000.00 (previous year: EUR 0.0) is also identified under the item other operational income for the loss coverage from the large-scale enterprise audit by Finanzamt Graz-Stadt.

Of the expenses identified under item 8.b) in the amount of EUR 950,019.10 (previous year: kEUR 782.5), EUR 217,604.84 (previous year: kEUR 171.9) pertain to services for the company's employee pension fund and EUR 732,414.26 (previous year: kEUR 611.5) for severance pay.

Other disclosures

■ Shares in affiliated companies and equity interests

An equity interest of 100% or EUR 100,000.00 (previous year: kEUR 50.0) was held in NanoTecCenter Weiz Forschungsgesellschaft mbH, Weiz on the reporting date of which half or EUR 50,000.00 (previous year: kEUR 25.0) has been deposited. The financial statements as of 30.06.2015 indicate equity in the amount of EUR 223,742.45 (previous year: kEUR 102.3), which includes a net profit for the year of EUR 121,395.11 (previous year: net loss kEUR 50.3).

Moreover, a further equity in the amount of 100 % or EUR 150,000.00 is held in JR-AquaConSol GmbH on the reporting date 31.12; the company was established on 9 June 2016. All other interests are below 20%.

■ Personnel

429 persons (previous year: 449) were employed on the reporting date with an aliquot consideration of 366.2 part-time employees (previous year: 380.8). The average employee status with aliquot consideration of part-time employees amounted to 371.5 persons (previous year: 369.2).

An itemisation of wages, severances and pensions for business management according to § 239 (1) of the ACC is disregarded according to the provisions of § 241 (4) of the ACC.

Credits or advances were not granted to members of the Management Board or Supervisory Board. Liabilities benefitting this group of persons were also not performed.

Remuneration for members of the Scientific Advisory Committee and Supervisory Board amounted to EUR 88,527.12 (previous year EUR 79.5).

Notes/Executive Bodies

The following executive bodies were active in the financial year 2015/2016:

■ Members of the Scientific Advisory Board

Prof. Dr Dr Gerald **SCHÖPFER**
Chairman

Prof. Dr Gerhard **FRIEDRICH**
Deputy Chairman

Prof. Dr Horst **BISCHOF**

Dr Michaela **FRITZ**
(as of 01.10.2015)

Prof. Dr Günter **GETZINGER**

Prof. Dr Dr Manfred **HUSTY**
(as of 28.05.2015)

Prof. Dr Joachim **KRENN**

Prof. Dr Markus **MÜLLER**
(until 01.10.2015)

Prof. Dr Annette **MÜTZE**
(until 07.07.2016)

Michael **PATAK**

Reinhard **PETSCHACHER**

Herbert **RITTER**

Bruno **SAURER** (until 07.07.2016)

Prof. Dr Karin **SCHAUPP**

Dr Stefan **TASCH**

■ Members of the Supervisory Board

Prof. Dr Wolf **RAUCH**
Chairman

Brigitte **HASEWEND**
Deputy Chairwoman

Dr Elfried **TAURER**
Deputy Chairman (as of 10.11.2015)

Prof. Dr Werner **HAUSER**

Sonja **JÖBSTL-FINDEIS**

Dr Thomas **KRAUTZER**

Martin **LATZKA**

Martin **PÖLZL**

Ingolf **SCHÄDLER**

■ Appointed to the Supervisory Board by the Works Council:

Ferdinand **GOLJA**
Chairman of the Works Council

Clemens **HABSBURG-LOTHRINGEN**, MAS

Helen **HASENAUER**

Gerhard **FANKHAUSER** (until 10.07.2015)

Gertrude **MATZER**, BA MSc (as of 10.07.2015)

Gerhard **PROBST**

■ Board of Management:

Prof. Dr Wolfgang **PRIBYL**, MBA

Notes

■ Contingent liabilities

According to § 199 of the Austrian Commercial Code, payment guaranties are identified in the balance sheet towards Voestalpine Schienen GmbH (EUR 15,290.00) as well as rental deposits for Zentrum für Wissens- und Technologietransfer in der Medizin GmbH (EUR 110,890.00), W.E.I.Z. Immobilien GmbH (EUR 35,554.36) and Lakeside Science & Technology Park GmbH (EUR 24,924.36) and a coverage relief guarantee towards Autobahnen- und Schnellstraßen-Finanzierungs Aktiengesellschaft (EUR 51,382.68).

In the previous year, payment guaranties were identified in the balance sheet towards EACI Executive Agency for Competitiveness and Innovation (EUR 55,738.50) according to § 199 of the Austrian Commercial Code as well as rental deposits for oekopark Errichtung GmbH (EUR 1,569.96), Zentrum für Wissens- und Technologietransfer in der Medizin GmbH (EUR 110,890.00), W.E.I.Z. Immobilien GmbH (EUR 35,554.36) and Lakeside Science & Technology Park GmbH (EUR 14,947.47) as well as a liability relief guarantee towards Voestalpine Schienen GmbH (EUR 15,290.00).

■ Other items

According to the goals determined in § 1 Section (3) of the company contract, the company exclusively and directly pursues the promotion of the public in the areas of research, development and science in the interest of public welfare. A profit distribution for net profit is not performed.

According to the decree from the Financial Administration of the Province of Styria, ref. 29/31-10/94 from 16 January 1995, JOANNEUM RESEARCH Forschungsgesellschaft mbH is one of the beneficiaries according to § 4 (4) I 5 lit. e of the Income Tax Act 1988 in the version of Art I 4 lit. a of the Tax Reform Act 1993.

Auditor expenses for the audit of financial statements amount to EUR 12,500.00 (previous year: EUR 12,500.00). In this financial year, the auditor again examined the calculation basis for the research bonus according to § 108c of the Income Tax Act for the financial year 2015/2016 as a confirmation service, which amounted to EUR 2,000.00 (previous year: EUR 2,000.00) and also performed other services regarding the on-going large-scale enterprise audit of Finanzamt Graz-Stadt in the amount of approximately EUR 16,000.00 (previous year: EUR 0.00). The auditor has not performed other confirmation services, tax consultation services or other services in the current or previous financial year.

Graz, 27.1.2017



Prof. Dr Wolfgang Pribyl, MBA
Chief Executive Officer

Fixed Asset Movement Schedule 2015/2016

Development of fixed assets	Acquisition/ Manu- facturing costs 01.07.2015	Additions	Disposals	Reallo- cations	Acquisition/ Manu- facturing costs 30.06.2016	Cumulative depreciation	Book value as at 30.06.2016	Book value as at 30.06.2015	Depre- ciation in the financial year
I) Intangible assets									
Software, data transfer and other rights	2,142,393.86	176,581.36	166,005.12	0.00	2,152,970.10	1,950,044.10	202,926.00	169,824.00	141,521.36
Total intangible assets	2,142,393.86	176,581.36	166,005.12	0.00	2,152,970.10	1,950,044.10	202,926.00	169,824.00	141,521.36
II) Tangible assets									
1) Real property and equivalent rights and buildings. Including buildings on land owned by third parties									
a) Land value	2,656,523.66	0.00	0.00	0.00	2,656,523.66	0.00	2,656,523.66	2,656,523.66	0.00
b) Value of buildings	14,887,573.28	203,611.57	291,344.05	94,224.12	14,894,064.92	8,413,041.92	6,481,023.00	6,725,456.00	515,947.69
Total land and buildings	17,544,096.94	203,611.57	291,344.05	94,224.12	17,550,588.58	8,413,041.92	9,137,546.66	9,381,979.66	515,947.69
2) Machines, scientific equipment and electronic data processing equipment	21,711,667.49	2,441,633.91	1,765,065.51	188,411.10	22,576,646.99	18,922,741.99	3,653,905.00	2,585,060.01	1,492,255.01
3) Other equipment, operating and office equipment	3,472,898.98	113,264.16	394,286.07	21,640.05	3,213,517.12	2,488,373.12	725,144.00	912,128.00	286,856.21
4) Advance payments and assets under construction	410,357.92	290,557.95	0.00	-305,680.27	395,235.60	0.00	395,235.60	410,357.92	0.00
VAT Advance payment assets under construction	-7,663.40	-3,756.40	0.00	1,405.00	-10,014.80	0.00	-10,014.80	-7,663.40	0.00
Total adv. payment and assets under construction	402,694.52	286,801.55	0.00	-304,275.27	385,220.80	0.00	385,220.80	402,694.52	0.00
5) Low-value assets	0.00	30,962.05	30,962.05	0.00	0.00	0.00	0.00	0.00	30,962.05
Total tangible assets	43,131,357.93	3,076,273.24	2,481,657.68	0.00	43,725,973.49	29,824,157.03	13,901,816.46	13,281,862.19	2,326,020.96
III) Financial assets									
1) Shares in affiliated companies	25,000.00	175,000.00	0.00	0.00	200,000.00	0.00	200,000.00	25,000.00	0.00
2) Equity interests	203,788.25	51,250.00	0.00	0.00	255,038.25	33,999.00	221,039.25	169,789.25	0.00
3) Certificated and uncertificated securities held as fixed assets	1,354,050.00	0.00	0.00	0.00	1,354,050.00	8,775.00	1,345,275.00	1,345,275.00	0.00
Total financial assets	1,582,838.25	226,250.00	0.00	0.00	1,809,088.25	42,774.00	1,766,314.25	1,540,064.25	0.00
Total fixed assets	46,856,590.04	3,479,104.60	2,647,662.80	0.00	47,688,031.84	31,816,975.13	15,871,056.71	14,991,750.44	2,467,542.32

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The management report for the financial year 2015/2016 from 1 July 2015 to 30 June 2016 is divided into 3 sections: I. Report on the development of business and the economic situation, II. Report on the expected development of business and risks faced by the organisation and III. Report on research and development.

I. Report on the development of business and the economic situation

I.1 Corporate organisation

As of 30 June 2016, JOANNEUM RESEARCH is divided into seven research units that represent the focal points of the company's activities.

Research units	
MATERIALS	Institute for Surface Technologies and Photonics
HEALTH	Institute for Biomedicine and Health Sciences
DIGITAL	Institute for Information and Communication Technologies
RESOURCES	Institute for Water, Energy and Sustainability
POLICIES	Institute for Economic and Innovation Research
ROBOTICS	Institute for Robotics and Mechatronics
LIFE	Centre for Climate, Energy and Society

I.2 Equity interests

As of 30 June 2016, JOANNEUM RESEARCH had corporate holdings in the following companies:

I.2.1 Shares in affiliated companies

Share	
NanoTecCenter Weiz Forschungsgesellschaft mbH	100.0 %
JR-AquaConSol GmbH	100.0 %

I.2.2 Corporate holdings

Share	
decide Clinical Software GmbH	10.0 %
EPIG GmbH	25.0 %
FH JOANNEUM Gesellschaft mbH	14.9 %
Geo5 GmbH	10.0 %
Holz.Bau Forschungs GmbH*	8.7 %
Human.technology Styria GmbH	7.0 %

* COMET K-Projekt »focus_solid_timber_solutions«

I.2.3 Corporate holdings in the COMET Competence Centres for Excellent Technologies Programme (K1 and K2 centres)

As of 30 June 2016, the company owns shares in the following companies, which are promoted by the Competence Centre programme COMET of the Federal Ministry for Transport, Innovation and Technology (bmvit) and the Federal Ministry for Science, Research and Economics (bmwfw):

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Share

ACIB GmbH	8.0 %
BIOENERGY 2020+ GmbH	10.0 %
CBmed GmbH	12.5 %
Kompetenzzentrum – Das virtuelle Fahrzeug, Forschungsgesellschaft mbH	10.0 %
Know-Center GmbH Research Center for Data-Driven Business & Big Data Analytics	10.0 %
Materials Center Leoben Forschung GmbH	17.5 %
Polymer Competence Center Leoben GmbH	17.0 %
Research Center Pharmaceutical Engineering GmbH	15.0 %

In the framework of the corporate holdings, turnover with companies in which an equity interest is held amounted to approx. EUR 0.6 m in the period from 1 July 2015 to 30 June 2016 compared to expenses amounting to EUR 0.4 m.

An essential goal of equity interests is the support of company goals and thus the increase in competitiveness of JOANNEUM RESEARCH. Moreover, the holdings provide a significant added value for the company portfolio.

I.3 Branches

The company has no branches.

I.4 Development of business

On 30 June 2016, the order status amounted to EUR 60.3 m and has increased by approximately EUR 4.3 m compared to the previous year. Work supply amounts to approximately EUR 27.6 m. The offer status is stated at approximately EUR 52.0 m. The net loss of the financial year 2015/2016 amounts to approximately kEUR 130.2 (previous year: net loss of approx. kEUR 291.3). A concomitant self-financing level (operating performance/sum of expenses) is calculated at 82%

(previous year: 79%).

The operating performance for commissioned research is approximately EUR 15.5 m in the financial year 2015/2016 and has increased compared to the previous year (approx. EUR 14.8 m). The operating performance in promoted research was increased by approximately EUR 0.6 m to EUR 15.1 m.

Internationally, JOANNEUM RESEARCH was able to realise commissioned research and promoted research projects in the reporting year in the total amount of approximately EUR 9.1 m (previous year: approx. EUR 9.7 m). Of these, approximately EUR 4.3 m (previous year: approx. EUR 4.1 m) is allotted to projects with the European Union and approximately EUR 4.8 m (previous year: approx. EUR 5.5 m) to commissioned research projects. JOANNEUM RESEARCH's participation in European Union programmes and European Space Agency (ESA) tenders has resulted in revenues in the total amount of approximately EUR 5.2 m in the financial year 2015/2016. Projects with a promotional volume of approximately EUR 1.2 m have been awarded within the context of Horizon 2020; orders in the amount of approximately EUR 2.4 m have been accepted within the context of ESA projects.

In the financial year 2015/2016, revenues in the amount of approximately EUR 6.5 m (previous year: approx. EUR 6.4 m) were achieved due to national, cooperative research projects within the context of Österreichische Forschungsförderungsgesellschaft mbH (FFG).

Funds in the amount of EUR 9.4 m were granted due to the Funding Agreement 2015-2018 with the Federal Ministry for Transport, Innovation and Technology (bmvit). In the reporting period, JOANNEUM RESEARCH has achieved revenues in the total amount of EUR 2.9 m from the Federal Ministry for Transport, Innovation and Technology (bmvit).

The imputed economic share in the financial year 2015/2016 amounts to EUR 11.2 m and thus significantly exceeds the targets of the financing contract with the Province of Styria.

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Purchase of shares in NanoTecCenter Weiz Forschungsgesellschaft mbH (NanoTecCenter Weiz)

JOANNEUM RESEARCH has fully taken over ownership of NanoTecCenter Weiz Forschungsgesellschaft and integrated the company in the MATERIALS institute in coordination with Graz University of Technology in order to reinforce the position of the MATERIALS institute within the course of planning for the new Strategy Document 2017-2021. The integration of NanoTecCenter Weiz into the MATERIALS institute has focussed the field of micro and nanotechnologies in the sense of a »one-brand policy« at the Weiz site within JOANNEUM RESEARCH, creating a visible, critical mass and optimising synergies via the simplification of structures.

In a first step, JOANNEUM RESEARCH has assumed full ownership of NanoTecCenter Weiz until the end of December 2015 and will integrate the company in the MATERIALS institute at the beginning of the shortened financial year 2016. In further consequence, NanoTecCenter Weiz will be retroactively merged with JOANNEUM RESEARCH as of 1 July 2016.

Corporate holdings EPIG GmbH

Existing expertise and the enormous competence of the HEALTH institute at JOANNEUM RESEARCH in the area of health and care planning are to be made available to the Health Fund Styria, and synergies are to be created for all involved parties with the founding of a separate company. Together with JOANNEUM RESEARCH, the Health Platform Styria has approved the creation of a subsidiary company, EPIG GmbH, in the meeting from 4 November 2015. Dr Wolfgang Habacher, the former manager of the research group Health Sciences of the HEALTH institute, is the CEO.

The shareholders of the company are Health Fund Styria with 75% and JOANNEUM RESEARCH with 25%. EPIG GmbH is profit-oriented and has a share capital of EUR 35,000.

The company was founded on 15 December 2015; the location of the new company is Graz.

Founding of LIFE – Centre for Climate, Energy and Society

At the beginning of the calendar year 2016, parts of the research group Energy and Bioresources of the RESOURCES institute were merged with the research group Regional Policy, Risk and Resource Economics of the POLICIES institute under the leadership of Dr Franz Prettenhaler, M.Litt.

JOANNEUM RESEARCH can now bundle the competences of research teams in the climate and energy field. These are research teams who have already been recognised internationally and previously cooperated in successful projects. The site of the new centre is the »Science Tower« of the Smart City district project Waagner-Biro, which is currently under construction.

The new centre with the three research groups »Weather and Climate Risk Management«, »Future Energy Systems and Lifestyle« and »Climate Policy and International Economics« has been operational since 1 January 2016.

Spin-off decide Clinical software GmbH

A new software has been developed since 2010 to support the quality-assured treatment of diabetes on the general hospital ward within the context of an EU project with substantial participation from the HEALTH institute of JOANNEUM RESEARCH and the Clinical Department for Endocrinology and Diabetology of the Medical University of Graz. The software GlucoTab is a tablet-based decision-support system for blood sugar management in the hospital as it optimises the quality standard in diabetic care; it can be used by nursing staff as well as by doctors. In further consequence, the software GlucoTab was further developed within the context of a project within the Research Studios Austria (RSA) programme of the Österreichische Forschungsförderungsgesellschaft mbH (FFG). Research Studios Austria (RSA) takes up topics that can be quickly implemented in marketable products and services with the goal of founding a spin-off.

Five employees of the HEALTH institute, the Medical University of Graz, Franetti Holding GmbH, JOANNEUM RESEARCH and another shareholder are the core shareholders of the spin-off. The share capital amounts to

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EUR 425,000; JOANNEUM RESEARCH has a share of 10%.

The company was founded on 29 April 2016; the company site is the Centre for Knowledge and Technology Transfer in Medicine in Graz.

Founding of the subsidiary JR-AquaConSol GmbH and closing of the RESOURCES institute

The economic situation and strategic orientation of RESOURCES necessitated a new direction and the implementation of respective measures within the course of planning for the new Strategy Document 2017-2021.

The area Geophysics and Geothermics was outsourced in June of 2015 as the spin-off Geo5 GmbH. The area Combustion Technology was closed. Another spin-off is planned for the area »Bioresources«.

The largest and economically most promising field »Water« is continued in a separate subsidiary of JR-AquaConSol GmbH in the sole ownership of JOANNEUM RESEARCH. The service offer of the new company essentially pertains to solutions in water management, exploration and protection of water resources as well as the evaluation of the effects of infrastructure measures on the protected good of water and risk estimation/assessment.

The scientific CEO of the new company is the former director of RESOURCES, Dr Johann Fank, and Erwin Kubista is the commercial CEO.

JOANNEUM RESEARCH is the sole shareholder of the company. JR-AquaConSol GmbH is profit-oriented and has a share capital of EUR 150,000. JOANNEUM RESEARCH grants a time-limited and degressive shareholder contribution.

The company was founded on 9 June 2016 at the Graz site.

The RESOURCES institute was closed at the end of the financial year 2015/2016 as JR AquaConSol GmbH was commissioned.

➡ **I.4.1 Financial position**

The company's asset and financing positions developed as follows:

On the reporting date 30 June 2016, JOANNEUM

RESEARCH indicates balance sheet assets in the amount of approximately EUR 51.3 m (previous year: approx. EUR 45.7 m), which consist of fixed assets in the amount of EUR 15.9 m, current assets (including prepaid expenses and deferred charges) in the amount of approximately EUR 34.5 m and trust assets in the amount of approximately EUR 0.9 m.

On the reporting date 30 June 2016, the equity amounted to kEUR 8,649.3 compared to the previous year (previous year: kEUR 8,779.5). The equity including investment grants amounted to approximately EUR 10.4 m (of which approximately EUR 1.76 m were investment grants) or 20% of the total assets on the balance sheet compared to approximately EUR 10.8 m or 24% of the assets on the balance sheet in the previous year. Third-party capital (including deferred income and trust liabilities) increased by approximately EUR 5.9 m to approximately EUR 40.9 m (previous year: EUR 34.9 m) and amounts to 80% (previous year: 76%) of the total assets on the balance sheet. This rise is to be attributed to the booking of required provisions in the amount of approximately EUR 7.1 m from the large-scale enterprise audit by Finanzamt Graz-Stadt. At the same time, the liability declaration of the Province of Styria in the amount of 5.6 m was discontinued as other receivable.

The cash flow from the result as the sum of the generated annual profit and the income and expense items (internal financing potential of the company) amounts to approximately EUR 1.7 m in the financial year 2015/2016. The working capital (current assets minus short-term third-party capital) increased to approximately EUR 4.5 m (previous year: approx. EUR 5.4 m).

No derivative financing instruments were deployed in the past financial year 2015/2016. The financial instruments identified on the balance sheet are the object of the company's general risk management, which is recorded via bookkeeping and balancing methods.

➡ **I.4.2 Earnings position**

The operating performance including activated own contributions and other operational income without shareholder

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contribution amounts to approximately EUR 38.9 m in the financial year 2015/2016 and has increased compared to the previous year (approx EUR 31.6 m).

70% of the operating performance consists of domestic revenues and 30% of foreign revenues. The portion of operational performance allotted to Styria amounts to 16% and has decreased by 1% compared to the previous year.

The inventory of not yet chargeable services has decreased by EUR 0.8 m compared to the previous year and amounts to approximately EUR 9.3 m per 30 June 2016.

Expenses in the amount of approximately EUR 47.6 m (previous year: approx. EUR 39.9 m) consist of personnel expenses including statutory social security contributions, voluntary social contributions and the allocation for pension provisions (of former CEOs) and severance payments in the amount of approximately EUR 28.0 m (previous year: approx. EUR 27.6), costs for materials and other purchased services in the amount of EUR 3.2 m (previous year: approx. 3.0 m), depreciations in the amount of approximately EUR 2.5 m (previous year: approx. EUR 2.4 m) as well as other operating expenses in the amount of approximately EUR 13.9 m (previous year: approx. EUR 6.9 m). The item other operating expenses reflects the required provisions in the amount of approximately EUR 7.1 m due to the large-scale enterprise audit by Finanzamt Graz-Stadt.

The self-financing level is 82% on the reporting date. Shareholder contributions from the Province of Styria, the Province of Carinthia via Kärntner Betriebsansiedlungs- und Beteiligungsgesellschaft m.b.H. (BABEG) and the Funding Agreement with the Federal Ministry for Transport, Innovation and Technology (bmvit) are essential components of company financing and ensure the fulfilment of the company contract.

The company closes the financial year 2015/2016 with a result of EUR -0.1 from ordinary activities. The net profit amounts to EUR 0.1 m while taking income and revenue tax in the amount of EUR 1,750.00 from the release of free revenue reserves of EUR 136,646.59 as well as the profit brought forward from the previous year in the amount of EUR 94,628.00 into account.

No further significant procedures that might have affected the asset, financial and income situation in the financial year 2015/2016 occurred after the completion of the financial year besides the decree received at JOANNEUM RESEARCH on 13 October 2016 with the results of the large-scale enterprise audit by Finanzamt Graz-Stadt and the acceptance of liability by the Province of Styria, which has already been taken into account in the balance sheet.

➔ I.4.3 Investments

Approximately EUR 3.1 m (previous year: approx. EUR 2.6 m) were invested in the financial year 2015/2016 in the area of tangible assets (scientific devices, equipment for electronic data processing, operating and business equipment, land including buildings).

➔ I.4.4 Human Resources

The number of employees on the reporting date is 429 (154 women and 275 men), -4.45% (-1.28% women and -6.14% men) compared to the value from the previous year. This corresponds to 366.2 full-time equivalents as of 30 June 2016 and thus indicates a decrease of approximately 3.83% compared to the previous year.

There were 60 entries (26 women and 34 men) and 80 exits (28 women and 52 men) in the reporting period; thus, a fluctuation of approximately 18.65% (women 18.18% and men 18.91%) was recorded for active employees, a higher value compared to the previous year (12.25%). The rise results from company foundations and the concomitant change of employees. Geo5 GmbH and decide Clinical Software GmbH have commenced their activity as spin-offs within the reporting period. Moreover, JOANNEUM RESEARCH also has equity interests in EPIG GmbH.

The average employee age is 41.2 years and has slightly increased compared to the previous year (40.8 years).

As of June 30 2016, the share of university and university of applied sciences graduates amounts to 67.13% of which 29.51% are women; the proportion of Matura graduates is 21.21%.

On the reporting date, there were 5 apprentices, 4

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females and 1 male in training at JOANNEUM RESEARCH.

During the reporting time period, the company had a total of 13 interns (10 women, 3 men) who completed their mandatory internships within the context of their educational requirements at universities of applied sciences, universities and during international exchange programmes. Moreover, 20 students (10 women and 10 men) were given the opportunity to write their diploma thesis and dissertations within the context of their service at JOANNEUM RESEARCH in cooperation with the respective universities.

II. Report on the expected development of the business and risks faced by the organisation

■ Economic and political framework conditions for research and development (R&D)

The development of the global economy in the first half of 2016 was characterised by restrained growth, in addition to, at times, on-going stagnation in important economic zones. The current, global economic situation is characterised by repeated, hardly predictable economic fluctuations with vastly different economic upturns and downturns in individual countries and the resulting high degree of uncertainty in regard to global and economical-political effects.

While the US, as the largest national economy in the world, is still grappling with the economic slowdown, which is, for the most part attributed to problems in the crude oil industry as well as low investments, the People's Republic of China experienced a clearly positive development at the beginning of 2016 in contrast to developments in 2015. Slight improvements are also expected for the Russian and Brazilian economies while a slowdown in economic development is becoming apparent in Eastern Europe.

According to the Austrian Institute of Economic Research (WIFO), positive developments are noticeable in the Euro area, which is especially relevant for JOANNEUM RESEARCH; a slight yet consistent recovery is highly probable in the next months. Compared to the previous year, the real GDP of the Eurozone grew by 1.7% in the first quarter of the year (WIFO Monthly Report 6/2016).

Tendencies towards an upturn are noticeable in almost all countries apart from the critical, on-going situation in Greece. At the moment, the unclear impact of the British referendum on leaving the EU in June of this year is an essential insecurity factor.

The situation in Austria is a little more encouraging. In the first quarter of 2016, the GDP, cleared of calendar effects, was 1.1% above the level of the previous year. The driving force behind this development is consistently strong private and public consumerism while especially low crude oil prices and rising equipment and building investments played a decisive role; foreign trade is again falling short of expectations. Overall, a greater expansion of the domestic economy is expected for the years 2016 and 2017, which should manifest itself in an increase in the real GDP of approximately 1.7% per year (WIFO Press Releases, 23.06.2016).

According to the annual global estimate of STATISTICS AUSTRIA (Press Release 11.262-073/16), presumably EUR 10.74 bn have been spent on research and experimental development (R&D) in Austria in 2016. Based on the GDP, research expenses will thus amount to approximately 3.07%. The continuous rise of the research rate in the last years (from 2.74% in 2010 to currently 3.07%) is thereby confirmed, and the European target value of 3% for 2020 has already been achieved at present.

Research financing by the corporate sector is gaining in significance and amounts to 47.8% in the relative comparison of total financing in Austria (in the previous year 47.0%). However, the contribution of the public sector has been reduced to 35.7% (in the previous year 36.6%) and is declining even further. The shares for foreign research financing have remained roughly the same at 16.0% (in the previous year 15.9%) and at 0.5% from the private, non-profit sector (same as in the previous year).

■ Shareholder contribution Kärntner Betriebsan-siedlungs- und Beteiligungsgesellschaft m.b.H. (BABEG)

The agreement for the granting of a shareholder contribution between BABEG and JOANNEUM RESEARCH envisages a term until 31 December 2020.

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■ Shareholder contribution Province of Styria

The Financing Agreement with the Province of Styria in the annual maximum amount of EUR 7.5 m ends on 31 December 2016.

A shareholder contribution in the amount of EUR 7.5 m has been pledged by means of government decree for the year 2017, and negotiations for a continued shareholder contribution by the Province of Styria are presently on-going.

■ Funding Agreement with the Federal Ministry for Transport, Innovation and Technology (bmvit)

The Funding Agreement 2015-2018 was signed on 13 July 2015 between the Federal Ministry for Transport, Innovation and Technology (bmvit) and JOANNEUM RESEARCH. The Federal Ministry for Transport, Innovation and Technology (bmvit) provides funds according to the Funding Agreement 2015-2016 in the total amount of EUR 9.40 m for a total project cost of approximately EUR 11.02 m for basic research projects of which six are already on-going with a total project cost in the amount of EUR 8.86 m and promotional funds of EUR 7.56 m.

Approximately EUR 1.84 m of the promotional funds (total project cost EUR 2.16 m) are available for other projects that will be developed within the Funding Agreement 2015-2018.

After its founding, JR-AquaConSol GmbH has joined the Funding Agreement with bmvit and is completing a former project of RESOURCES with a total volume of kEUR 916.

The Financing Agreement with the Province of Styria and with Kärntner Betriebsansiedlungs- und Beteiligungsgesellschaft m.b.H. (BABEG) as well as the Funding Agreement with the Federal Ministry for Transport, Innovation and Technology (bmvit) are essential financing instrument of JOANNEUM RESEARCH.

■ Risks faced by the organisation

The result of the large-scale enterprise audit of Finanzamt Graz-Stadt leads to provision requirements in the total amount of approximately EUR 7.1 m. A complaint has been submitted against the decrees of the tax-authority audit.

The Province of Styria has issued a liability declaration in the amount of EUR 5.6 m for the coverage of required provisions regarding receivables related to tax law. The still open difference in regard to provision requirements is covered by the operative result.

■ Expected business development

The operative activity of the company (without taking the results of the company audit into account) developed positively in the financial year 2015/2016.

The framework conditions in the national and international promotional landscape are becoming increasingly demanding as effective funding rates are decreasing and competition is becoming increasingly fierce.

■ IT security at JOANNEUM RESEARCH

The IT systems of companies and critical infrastructures are increasingly threatened and under attack. In particular, fraudulent activities are causing enormous (financial) damage due to the lack of IT security measures.

Therefore, JOANNEUM RESEARCH has increased and further developed its security measures in the IT area, controlling and in the internal business processes in order to be able to react appropriately to such threats. The measures for IT security at JOANNEUM RESEARCH rely on processes that have been determined in the quality management system (QM system).

In summary, JOANNEUM RESEARCH has comprehensive knowledge of corporate IT security. IT safety measures are constantly being adapted to new threats, and the deployed software is constantly being updated in order to block intrusion paths. Employees are also continuously informed and sensitised to this topic.

III. Report on research and development

In the financial year 2015/2016, JOANNEUM RESEARCH began the development of the company strategy for the time period from 1 January 2017 to 31 December 2021. JOANNEUM RESEARCH's financial year is being changed to the calendar year in coordination

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with the owners starting from 1 January 2017; the time period from 1 July 2016 to 31 December 2016 represents a shortened financial year.

III.1 Research units

➔ MATERIALS – Institute for Surface Technologies and Phototonics

Activities planned for the shortened financial year 2016:

The integration of NanoTecCenter Weiz GmbH into the MATERIALS institute significantly increases the critical mass and breadth of offers in the areas of nanotechnology, surface technology and phototonics. The merging of these areas has provided an opportunity to restructure the research groups into four new units. Furthermore, the area of generative manufacturing (atomic layer deposition, 3D printing for future industrial manufacturing of components and products) is to be further developed with company partners at the Niklasdorf site in a project within the Promotional Agreement 2015-2018 with bmvit based on a new research concept, and the strong industrial trend, which makes the processing of scientific problems possible in the first place, is to be utilised. For large-surface micro and nanostructuring, the pursued advancement of the role-to-role system continues to be essential for in-depth competence development for a multitude of research projects with domestic and foreign research and industry partners. The expansion and intensification of cooperation with national industry partners, institutions and clusters, the deepening of strategic cooperation with Graz University of Technology as well as the development of a new space concept at the Weiz site are further focal points for the activities of the institute.

➔ HEALTH – Institute for Biomedicine and Health Sciences

Activities planned for the shortened financial year 2016:

The shortened financial year 2016 will be characterised, on the one hand, by the advancement and expansion of total scientific services in particular in the areas of medication and medical project development such as the performance of bioequivalence studies for the approval

of topical generics as well as, on the other hand, by the development of point-of-care sensors in cooperation with the Medical University of Graz.

HEALTH will also enhance its expertise in the area of biochemical analyses of tracers. A project within the Promotional Agreement 2015-2018 with bmvit in the area of tracer technology usage in adiposity research will expand existing or new developments of the institute's competence fields. In further consequence, this expertise is to provide a significant contribution to the clarification of relevant processes in disease progression and for the development of innovative medication.

Moreover, the health-tech site Styria was sustainably strengthened based on the actively performed spin-off strategy and founding of EPIG GmbH as well as decide Clinical Software GmbH, spin-offs that will further intensify HEALTH's already well-established initiative with increased cooperation from local institutions in the shortened financial year 2016.

➔ DIGITAL – Institute for Information and Communication Technologies

Activities planned for the shortened financial year 2016:

In the shortened financial year 2016, the institute pursues the further consistent implementation of large-scale strategic research projects, which optimally reinforces the long-term, strategic goals in regard to content. These include the K projects (COMET – Competence Centers for Excellent Technologies, Competence Centre programme) and several large-scale EU and ESA projects with terms of two to four years as well as participation in the four-year Promotional Agreement project »Collaborative Robotics« (CollRob) of the Federal Ministry for Transport, Innovation and Technology (bmvit). Changes in the international research promotion programmes, first and foremost the new programme Horizon 2020, discussions on the topic of Industry 4.0, but also prospective emphases of the European earth-observation programme Copernicus and the development of demand in industry and the economy (Industry 4.0) represent the challenges of the shortened financial year.

Comprehensive activities across research groups are being increasingly performed at the institute in order to ensure

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synergy utilisation within cross-section technologies such as Ubiquitous Computing and GPGPU (General Purpose Computation on Graphics Processing Units). The establishment and development of deepening expertise in the area of navigation technology is to be advanced with the application of a project within the Promotional Agreement 2015-2018 with bmvit.

The focus is especially on continuing the coordination with Kompetenzzentrum – Das virtuelle Fahrzeug Forschungsgesellschaft mbH as well as Graz University of Technology for the benefit of companies.

► POLICIES – Institute for Economic and Innovation Research

Activities planned for the shortened financial year 2016:

One focal point of POLICIES in the shortened financial year 2016 is further strengthening the core areas of the research group Regional Economics and Structure Policy (regional economic reports, site analyses and strategies in particular for Styria and Carinthia and the associated methodic competences), which were restructured within the course of founding the LIFE centre. A site should also be established at the Lakeside Science & Technology park during this time in order to strengthen and enhance on-site presence and networking with local institutions. A strategically important project (eRamp – Excellence in Speed and Reliability for More than Moore Technologies) of the research group Statistic Applications is to be advanced; more than twenty international partners including many industrial companies such as Infineon AG are involved. This project is important for the expansion of methodical competences in the area of »predictive analytics« as well as for the deepening of contacts to national and international industrial enterprises. This competence field will also be developed in »predictive maintenance« in a project with ÖBB.

► ROBOTICS – Institute for Robotics and Mechatronics

Activities planned for the shortened financial year 2016:

The establishment of the institute has been performed according to plan, and the staff has been expanded to 14 employees.

In the shortened financial year 2016, ROBOTICS will enhance its research groups by founding a third group and dividing the content-related orientation according to three topical areas. The research groups at the institute will also be restructured within the financial year 2015/2016, building on an intensive strategy process. The research groups will be complemented with a third group and split into the three thematic areas of »Cognitive Robotics«, »Robotic Systems« and »Mechatronic Systems«.

An important further focal point in the shortened financial year 2016 is the coordination and planning of the necessary infrastructure build-up at the Carinthia site and the associated new construction of the research site at Lakeside Science & Technology Park. The institute will continue to be established nationally and internationally within the innovation network.

► LIFE – Centre for Climate, Energy and Society

Geplante Tätigkeiten im Rumpfwirtschaftsjahr 2016:

Activities planned for the shortened financial year 2016: For the LIFE centre, the green-tech cluster with its activities and the coordination task, which is to be increasingly realised by LIFE, within the context of Green Tech Research Styria occupy a central role in the shortened financial year 2016. The centre will experience an additional dynamic development based on the establishment of the Urban Living Lab as the fourth research group (implementation is examined and decided in the shortened financial year 2016). Expected synergies resulting from the move to the new Science Tower will support this process. Direct access to companies with which LIFE has already collaborated in cooperative research projects is to be intensified and institutionalised with the definition of so-called preferential business partners. These partners should share the centre's clear company mission and support it for a minimum of five years. Further steps for international marketing of WEDDA will follow.

The shortened financial year 2016 will be essentially characterised by measures that were already introduced and, in part, implemented within the course of strategy work for the optimisation of the research portfolio, the company organisa-

Management Report

tion and the economic situation of the total company.
In the shortened financial year 2016, company infrastructure will be modernised and expanded, in particular with the continued expansion of the ROBOTICS site, the beginning of the necessary restoration of the building at Steyrergasse 21, the move of the LIFE institute to the research tower (Science Tower) as well as screening for possible spatial optimisations for MATERIALS in Weiz.



Graz, 27.01.2017

Prof. Dr Wolfgang Pribyl, MBA
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Corporate services

- AGF – Assistant to the CEO
- INR – Internal Audit
- PEM – Human Resources and Training
- IUR – Legal
- ZQS – Central Quality Assurance
- SFE – Safety, Health and Ergonomics

Corporate departments

- STP – Strategic Planning
- IMM – Innovation Management and Marketing
- FLA – Future Lab
- FCO – Finance and Controlling
- RZJ – Data Centre
- IFS – Infrastructure und Facility Services
- PRM – Public Relations & Marketing

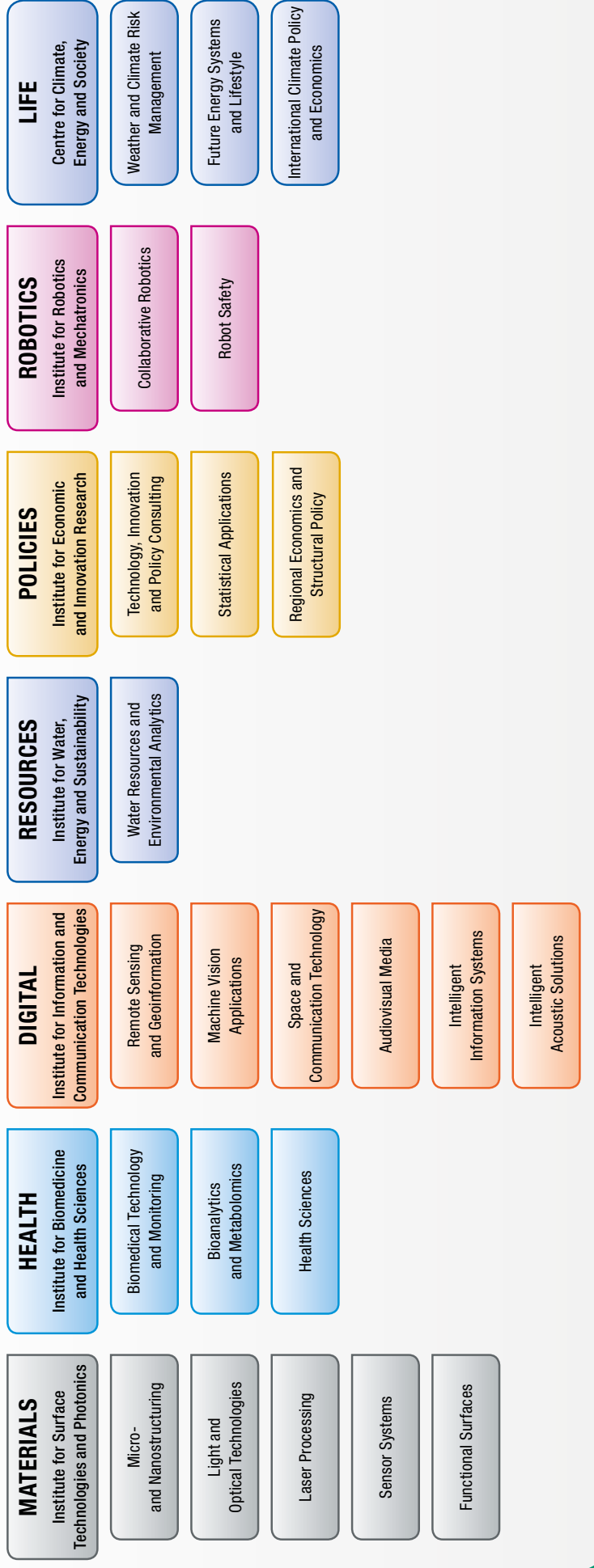
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Executive Board, Corporate Staff and Departments

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Research Units



Equity Holdings

- | | | | |
|---|---|---|---|
| <ul style="list-style-type: none"> ■ NanoTecCenter Weiz Forschungsgesellschaft mbH | <ul style="list-style-type: none"> ■ decide Clinical Software GmbH | <ul style="list-style-type: none"> ■ Human:technology Styria GmbH | <ul style="list-style-type: none"> ■ Kompetenzzentrum – Das virtuelle Fahrzeug, Forschungsgesellschaft mbH² |
| <ul style="list-style-type: none"> ■ EPIG GmbH | <ul style="list-style-type: none"> ■ BIOENERGY 2020+ GmbH¹ | <ul style="list-style-type: none"> ■ Center Leoben GmbH¹ | <ul style="list-style-type: none"> ■ Polymer Competence Center Leoben GmbH¹ |
| <ul style="list-style-type: none"> ■ FH JOANNEUM Gesellschaft mbH | <ul style="list-style-type: none"> ■ CBmed GmbH¹ | <ul style="list-style-type: none"> ■ Research Center Pharmaceutical Engineering GmbH¹ | <ul style="list-style-type: none"> ■ Research Center Leoben Materials Center Leoben Forschungs GmbH² |
| <ul style="list-style-type: none"> ■ Geo5 GmbH | <ul style="list-style-type: none"> ■ Know- Center GmbH | <ul style="list-style-type: none"> ■ ACIB GmbH² | |
| <ul style="list-style-type: none"> ■ Holz.Bau Forschungs GmbH | <ul style="list-style-type: none"> ■ Research Center for Data-Driven Business & Big Data Analytics¹ | | |

¹ COMET K1 Centre

² COMET K2 Centre

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