



CARINTHIA UNIVERSITY OF APPLIED SCIENCES

RESEARCH REPORT

2018–2020



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Universities of applied sciences have long since established themselves as recognised centres of application-orientated research. Research projects that deal with relevant issues within society in a regional and transregional context not only enrich tertiary teaching but also provide an essential contribution to the further innovative development of a region.

On the one hand, this guarantees a high vocational training quality in teaching through the close matching of teaching content with company requirements. On the other hand, it also serves to apply knowledge from tertiary establishments to practical user solutions and to strengthen corporate activities, for example in the form of research projects or professional practical traineeships.

Carinthia University of Applied Sciences (CUAS, FH Kärnten) covers a wide spectrum of research topics. Technical, economic and political topics are researched in an interdisciplinary context in cooperation with industrial and economic partners and are tested in practical trials. CUAS also sees itself as a catalyst and partner for regional small

and medium-sized companies in researching innovative subjects. The tertiary research and development activities have been incorporated into an R&D strategy for 2016 – 2022, in which specially-defined framework conditions and measures are a guarantee for continuous further development. These include an increase in the third-party funding volume, an incentive system for researchers, as well as the corresponding basic financing. The long-term establishment of research groups was a further fundamental milestone of the R&D strategy, with the pooling of research competences at CUAS and the fostering of its outward visibility.

The funding was through the competitive tendering procedure as part of the internal CUAS "Central Research Funding (ZFF)". A special feature of the strategy is also reflected in its interdisciplinary approach. Applied research is understood in this context as an interplay of our focal areas of "Health Sciences & Social Work", "Engineering" and "Management".



We have succeeded in our long-term competence development not only with the research groups but also with three research centres concerned with relevant issues in technology and society. The Carinthia Institute for Micro-electronics (CIME) researches wireless communication and the development of modern high-frequency technology for the future.

The Institute for Applied Research on Ageing (IARA) is a research centre of CUAS with the aim of supporting the challenges and opportunities of an ageing society through practical and interdisciplinary research. The Carinthia Institute for Smart Materials (CISMAT) supports industrial enterprises in the implementation of smart components and systems. Research funding and research management, as a service for scientists, has achieved increasing significance in recent years for the development of Carinthia University of Applied Sciences. At the FH Kärnten Research (FHKR), founded especially for interdepartmental operational development of the whole R&D process, the R&D activities of all study faculties merge.

As a central information and transfer hub, FHKR is both the first point of contact for employees at CUAS as well as external partners such as future project and cooperation partners, universities, research institutions, funding bodies and regional developments. The focus on central research themes and their interdisciplinary reworking, the long-term support of research by the university board, as well as the exceptional dedication of the researchers show how innovations can succeed in all social spheres and can lead to success.

This research report impressively documents this and presents a selection of research projects.



*Carinthia University of Applied Sciences covers a wide spectrum of research topics. Technical, economic and political topics are researched in an interdisciplinary context in cooperation with industrial and economic partners and are tested in practical trials.*



Siegfried Spanz  
CEO

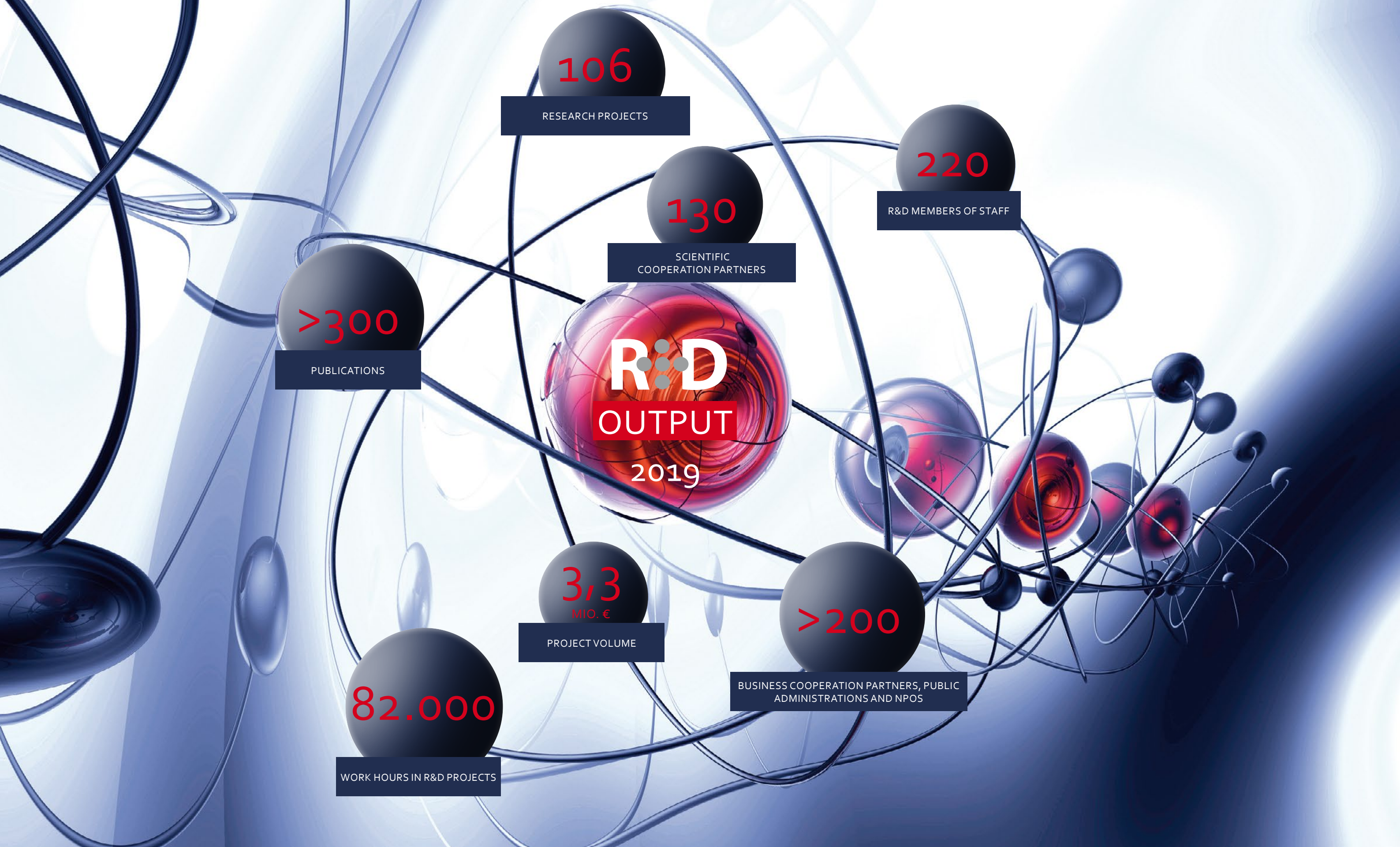


Peter Granig  
Rector



Claudia Pacher  
Head of FH Kärnten Research





106

RESEARCH PROJECTS

220

R&D MEMBERS OF STAFF

130

SCIENTIFIC  
COOPERATION PARTNERS

>300

PUBLICATIONS

R&D  
OUTPUT  
2019

3,3  
MIO. €

PROJECT VOLUME

>200

BUSINESS COOPERATION PARTNERS, PUBLIC  
ADMINISTRATIONS AND NPOS

82.000

WORK HOURS IN R&D PROJECTS



## CIME

CARINTHIA INSTITUTE FOR MICROELECTRONICS

CENTRE DIRECTOR: Johannes Sturm



The Carinthia Institute for Microelectronics (CIME) is a competence centre for the research and development of integrated electronic systems.

Integrated circuits (ICs) have become a key technology for modern electronic systems, embedded in almost any application of our daily life, ranging from data processing, telecommunications, medical electronics, automotive and power electronics to any kind of miniaturised sensing networks. The monolithic integration of billions of transistors on a single silicon chip with an area of a few cm<sup>2</sup> nowadays enables reliable and cost-efficient electronic platforms with enormous computing and signal processing power for future electronics. The research on integrated electronic circuits and systems is a well-established discipline at our institute, which commenced in the early days of Carinthia University of Applied Sciences (CUAS). For more than 20 years, our researchers have been working on cooperative research funded by industry and national/European projects in the field of wireless and wired communications, as well as integrated sensor front-ends. CIME aims to be a competent research partner, with a strong alignment to local industry needs and a clear focus on research excellence with international visibility. This is also based on the research by the Josef Ressel Center "Interact", which has been operated at CUAS since 2019. The required specific education and know-how exchange in the field of microelectronics is supported by the Master's degree program "Integrated Systems and Circuits Design – ISCD" and PhD positions in cooperation with other universities. During the past 10 years, the microelectronics research group has successfully initiated and operated funded research projects with an overall budget for CUAS of approximately 5.5 million €.

CIME can offer research expertise and support in the following fields of microelectronics

- RF and high-speed integrated circuits for wireless and wired communication
- Analogue and mixed-signal integrated circuits for sensor front-ends
- Modelling and design automation of integrated electronics systems (e.g. SystemC – AMS, System Verilog, Matlab, Python) and EM simulations with finite-element solvers
- System-on-Chip design as well as system-in-package integration
- Modern CAD environment with experience in most state-of-the-art IC technologies (CMOS 350 nm, 180 nm, 65 nm and 28 nm)
- Lab characterisation of integrated circuits including PCB-design, chip assembly (wire-bonding) and IC needle-probing

CIME is organised in the three departments "RESPECT", "SIMS" and "RFFE-Lab" focusing on different research topics. The "Research Lab for Radio Frequency Frontends" (RFFE-Lab) is a cooperative research lab, jointly operated with Silicon Austria Labs and co-located at CUAS.

**RESPECT**  
**Research Group for Modelling and Design of Integrated Systems and Circuits**  
 IC design of IP building blocks; modelling of electronic systems; SoC design automation

**SIMS**  
**Research Group for Sensor Integration in Mechatronic Systems**  
 Sensor modelling and IC design for sensor analogue front-ends, signal processing and connectivity

**RFFE-Lab**  
**Cooperative FH / SAL Research Lab**  
 Design of next generation RF and mmWave integrated circuits for wireless and wired high-speed data communication

## CISMAT

CARINTHIA INSTITUTE FOR SMART MATERIALS AND MANUFACTURING TECHNOLOGIES

CENTRE DIRECTOR: Pascal Nicolay



Just over a year ago, in December 2019, the new research centre CiSMAT, "Carinthia Institute for Smart Materials and Manufacturing Technologies", was founded at Carinthia University of Applied Sciences. The centre is dedicated to the research and development of innovative solutions for the industries of the future. CiSMAT is supported by the Carinthian Economic Promotion Fund (KWF).

Within the centre, the following topics are researched in four groups:

### SHM LABS

Smart materials

Integrated sensors for SHM  
 (Structural Health Monitoring Laboratories)

### SIMS

Integration of sensors in mechatronic systems

### IRISE/IMATERIAL

Fibre-reinforced composites and smart materials

3D printing of fibre-reinforced composites and smart materials  
 (Structural Health Monitoring)

### AMAVIS<sup>2</sup>

Agile production systems

Decision-making system for additive manufacturing in the construction process

Multifunctional optimised structures

Case studies of printed structures made of composite and meta-materials

Through the cooperation of these groups, CiSMAT boasts high competences in the fields stated here and can develop networked and superordinate projects.

The research centre works closely with local and international companies and supports them with the latest knowledge in their transformation process towards Industry 4.0. Companies also have the support, if required, of the breadth of the researchers' expertise in order to solve technical challenges. In addition, CiSMAT has tasked itself with providing interested (regional) companies with the latest findings within the aforementioned subject areas. In the area of further training for companies, a new study course is starting in March 2021 at the CiSMAT research centre with a focus on "smart materials" and 3D/4D printing techniques. The main goal of this training is to convey the latest technical and scientific findings to the students, in order to solve technical problems by means of smart materials and progressive 3D printing techniques. A further milestone in the development phase of the centre was and is the cooperation between CiSMAT and the ROBERVAL laboratory of the Technical University Compiègne (UTC) France, which started on 1 October 2020. The cooperation is in the form of two doctoral theses. One of these two PhD projects is co-funded 50% by UTC. Consequently, it is being developed half in France and half in Austria for a period of three years. By means of a two-stage selection procedure, Clarissa Becker was chosen from 30 applicants for this position.

## Research centres

### IARA

INSTITUTE FOR APPLIED RESEARCH ON AGEING

CENTRE DIRECTOR: Birgit Aigner-Walder, Marika Gruber (Deputy),  
Kai Brauer (until 31.05.2019), Gabriele Hagendorfer-Jauk (from 01.06.2019),  
Johannes Oberzaucher, Franz Oswald Riemelmoser, Angelika Voutsinas (Deputies)



The Institute for Applied Research on Ageing (IARA) was set up in 2016 as a research centre of Carinthia University of Applied Sciences. Research on ageing has since been carried out here through the interdisciplinary cooperation of three departments, in order to meet the challenges and possibilities of an ageing society. The aim is to study the social, health and economic situations of people in the process of ageing through practical projects, and to improve these through inclusive solutions and innovative developments. Scientific findings are prepared through dialogue and the active participation of specific target groups such as elderly people so that they are useful in politics, the economy and civil society and so that those affected can benefit from them.

#### DCRD Department for Demographic Change and Regional Development

Overall economic perspective

The Human-Economy research field focuses on the study of the effects and influences of the ageing of the population as well as of migration movements from an economic point of view. DCRD concentrates on the focal points of the labour market, consumption and the overall economy. It studies what economic policy measures can be implemented in order to meet challenges associated with an ageing population and what growth potential there is for ageing regions.

#### HAT Department for Health and Assistive Technologies

AAL and health technology

The HAT Department is concerned with the interaction between people and technology. It concentrates on social and technical innovations that support a healthy and independent life for the elderly – in one's own home environment, in public areas and at the workplace. It applies a strong interdisciplinary research and innovation approach. The focus is on the research fields Active & Assisted Living (AAL), eHealth & Health Solutions, as well as Participative Research & Living Lab.

#### ISAC Department for Intergenerational Solidarity, Activity and Civil Society

Civil society perspective

The Human-Society research field focuses on the living environments of elderly people, social inclusion and equality of access to healthcare. In the primarily participatory approaches, it is about ageing as a social process, communication between the generations, the civil engagement of and for the elderly, active participation up to a great age, and a mix of professional, family and neighbourly help in the communities – ultimately about the future of human well-being at every age.

#### SCIENTIFIC MANAGEMENT



Birgit Aigner-Walder



Marika Gruber (deputy)



Johannes Oberzaucher



Kai Brauer  
(until 31.05.2019)



Gabriele Hagendorfer-  
Jauk (from 01.06.2019)

[www.iara.ac.at](http://www.iara.ac.at)



*Research & development are dominated by industrial companies in Carinthia. Many of them are closely linked to Carinthia University of Applied Sciences, on the one hand, through interesting projects, and on the other, through the many graduates in the technical field who work there.*

**DR. CLAUDIA MISCHENSKY**  
Managing Director  
Carinthian Industrialists' Association







RiD

MORE RESEARCH  
PROJECTS THAN  
EVER BEFORE



### AAL – Active & Assisted Living

PROJECT MANAGEMENT: Daniela Krainer

DURATION: 01.02.2018–31.12.2022

FUNDING PROGRAMME: Central Research Funding

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The focus of applied research and development of the Active & Assisted Living (AAL) research group is the technical development, validation and evaluation of innovative technical solutions. The AAL research group aims at developing concepts, products and services that connect technologies with social environments, which can be seamlessly integrated into different living conditions, creating a positive user experience and added value. These have a positive effect on acceptance, promote long-term usage and thus contribute positively to a higher quality of life in old age and throughout all stages of life. The clearly defined technical research contents of Smart Home, Smart Health and Smart Interaction are integrated in a Living & Innovation Lab approach – a research approach that combines the methods, processes, infrastructures and partnerships for realising cooperative applied research with relevant actors in the context of AAL. [blog.fh-kaernten.at/aal](http://blog.fh-kaernten.at/aal)

### ABMS

ADVANCED BATTERY MANAGEMENT SYSTEMS

PROJECT MANAGEMENT: Wolfgang Werth

DURATION: 03.04.2019–31.12.2023



To date there is no way of storing chemical energy without any risk. Every storage technology requires constant monitoring and efficient management to reduce safety risks. Storage technology is a key element for a successful future in harmony with the resources of our planet. The research group ABMS therefore works on core questions surrounding the topic of management of lithium-ion batteries (BMS), in order to further increase their efficiency and safety. The aim is to answer the following key questions: 1. How does the use of modern BMS concepts affect the weight optimisation of lithium cells? 2. Is it possible to raise the lifespan of an LIB further with the help of innovative control concepts and a novel performance electronics topology? 3. Can intelligent system design guarantee or even increase user safety? [forschung.fh-kaernten.at/abms](http://forschung.fh-kaernten.at/abms)



*The research focuses at Carinthia University of Sciences are pooled in an interdisciplinary manner and are dealt with thematically in research groups and research centres.*

### AMAVIS<sub>2</sub>

ADDITIVE MANUFACTURING IN AGILE VIRTUAL SYSTEMS FOR PRODUCT DESIGN AND PRODUCTION PROCESS DESIGN

PROJECT MANAGEMENT: Roland Willmann

DURATION: 01.01.2019–31.12.2023

FUNDING PROGRAMME: Central Research Funding

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



Additive manufacturing processes can only be used effectively if their possibilities (e.g. meta-materials, function integration) and restrictions are taken into consideration already during the construction process. This knowledge is currently not sufficiently available in companies. Furthermore, the state of knowledge is constantly evolving. The research group develops a partially automated method of knowledge transfer, from the process development in the area of additive manufacturing procedures to the construction processes of companies. The group also deals with the potential of meta-materials and multi-material 3D printing, as well as an overall consideration of additive manufacturing techniques in product development, with regard to function and economic aspects.

[forschung.fh-kaernten.at/amavis](http://forschung.fh-kaernten.at/amavis)

### CONNA

CONSTRUCTION NEEDS NATURE

PROJECT MANAGEMENT: Martin Schneider

DURATION: 01.04.2019–31.12.2023

FUNDING PROGRAMME: Central Research Funding

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The conflict points of nature protection, land usage and resource scarcity are at the forefront of the research group. The topics include the development of implementation practices for establishing nature protection on building sites, as well as translating the themes of nature awareness with notions such as strong sustainability, renewable raw materials, resource management and environmental protection into practical usage algorithms for the planning and realisation of building structures. The emerging solutions are spread out on a European level through a strong network. The resulting objective is the creation of an expertise centre for natural building and its further development.

[forschung.fh-kaernten.at/conna](http://forschung.fh-kaernten.at/conna)

### DTMO

#### DIGITAL TRANSFORMATION MODELLING

PROJECT MANAGEMENT: Wolfgang Eixelsberger

DURATION: 01.02.2018–31.12.2022

FUNDING PROGRAMME: Central Research Funding

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



Due to its constantly increasing complexity, digital transformation is a great challenge for many businesses. The modelling of data, processes, organisational structures and transformation tasks is one option that allows us to reduce this complexity. The goal of this research group is to evaluate, adjust and integrate existing business models and to develop new models of digital transformation to give businesses a tool for managing digitalisation.  
forschung.fh-kaernten.at/dtmo

### FUCOSO

#### FUTURE CONCRETE SOLUTIONS

#### IMPLEMENTING INNOVATIVE TECHNOLOGIES IN NEW AND EXISTING BUILDINGS

PROJECT MANAGEMENT: Norbert Randl

DURATION: 01.01.2018–31.12.2022

FUNDING PROGRAMME: Central Research Funding

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The focus here is on the further development of high-performance, robust types of high performance concrete. The goals include assessing their technical feasibility in Austria and considering an economically justifiable way of building to support the sustainable development of the environment. Modern structural monitoring technologies are used to evaluate the properties of materials throughout their life cycles.  
forschung.fh-kaernten.at/fucoso

### IMATERIAL

#### FIBER MATERIALS AND SMART MATERIALS

PROJECT MANAGEMENT: Franz Oswald Riemelmoser

DURATION: 01.01.2019–31.12.2023

FUNDING PROGRAMME: Central Research Funding

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The research group iMaterial is concerned with the development and further development of additive manufacturing procedures for high-performance composites (HPC). The focus of the research is on 1. the further development of the additive manufacturing procedure, 2. material assessment, 3. the examination of the microstructure influence of HPC on material and substance properties, 4. FE simulations for iterative design processes, 5. process control and quality assurance, 6. the manufacturing of demonstrators with in-situ sensors, as well as 7. scientific publications.



*Knowledge and know-how are THE key for our future social and economic viability. The corona pandemic in particular has made this even more evident. With Carinthia University of Applied Sciences, we have a local, strong, application-orientated knowledge partner, bringing together training, qualifications, research and practice. Research-led teaching will be an even greater focus in the future. This R&D report provides an insight into concrete research works at CUAS and is an invitation for ongoing collaboration.*

DI DR.<sup>IN</sup> SABINE HERLITSCHKA, MBA  
CEO of Infineon Technologies Austria  
Supervisory Board Chairwoman of  
Carinthia University of Applied Sciences





IRAT  
INNOVATION RESEARCH AND TRANSFORMATION

PROJECT MANAGEMENT: Peter Granig  
DURATION: 03.04.2019–31.12.2023



The “Innovation Research and Transformation” (IRaT) research group uses interdisciplinary research approaches and aims to operate innovation research on an individual, organisational and societal level. Through the targeted use of innovation methods and models, we promote theoretical and practical uses, the enabling of a systemic perspective and the creation of value-adding applications.  
forschung.fh-kaernten.at/irat

IRISE  
INTELLIGENT ROBOTIC SENSORS AND SYSTEMS

PROJECT MANAGEMENT: Lisa-Marie Faller  
DURATION: 03.03.2020–31.12.2024



The aim of the iRISE research group is to develop novel sensor concepts, as well as to co-design robotic systems to best make use of them. The manufacturing of systems, as well as the integrated sensors, are achieved by means of novel manufacturing technologies and strategies. Different combinations of materials and of sensor concepts (multi-modality) are examined with regard to their advantages in relation to their sensor properties, as well as their feasibility (integration) in robotic systems. A further aim is the design and manufacturing of robotic gripping systems, especially based on elastomers, which are also evaluated in terms of their gripping capacities. New learning concepts from the areas of “machine learning” and “deep learning” are to be developed for gripping processes. In addition, the analysis, development and realisation of the intersection of man and machine are the subject of a research project: the aim is to realise this in as user-friendly a manner as possible with the help of elastomer-based systems and sensors. Furthermore, novel regulation concepts for such systems are developed, with the integration of sensor signals.

LIPA  
LERNEN IM PROZESS DER ARBEIT (LEARNING DURING THE WORK PROCESS)

PROJECT MANAGEMENT: Martin Klemenjak  
DURATION: 01.01.2019–31.12.2023  
FUNDING PROGRAMME: Central Research Funding  
PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The primary task of the research group is to analyse the inclusivity of the working world in relation to people who are confronted with special challenges and difficulties in participating in the labour market, thereby defining and establishing best-practice examples for inclusion and integration. LiPA was set up with a 5-year development phase and within this period the plan is to develop into a skills centre for consulting, evaluation, inclusion and effect research in the field of labour market integration.  
forschung.fh-kaernten.at/lipa

OUPPL  
ONLINE UND POCKET LABS

PROJECT MANAGEMENT: Andreas Pester, Thomas Klinger  
DURATION: 01.02.2018–31.12.2022  
FUNDING PROGRAMME: Central Research Funding  
PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



Online and pocket labs are a new development in the field of MINT education and allow laboratory education independent of location and time. Machine learning as well as virtual and augmented reality concepts are integrated as part of a future-oriented education in engineering. The combination of all types of laboratory creates the foundation for new work practices in the industry.  
forschung.fh-kaernten.at/oupl

RESPECT  
RESEARCH GROUP FOR MODELLING AND DESIGN OF INTEGRATED SYSTEMS AND CIRCUITS

PROJECT MANAGEMENT: Johannes Sturm  
DURATION: 01.02.2018–31.12.2022  
FUNDING PROGRAMME: Central Research Funding  
PROJECT VOLUME COVERED BY CUAS: > €500,000



The fields of microelectronics and nanotechnologies and specifically communication systems and sensing applications are treated as key technologies in the European research strategy. By bundling research expertise in the field of integrated systems and circuits, RESPECT is researching “Analogue and digital integrated circuits”, “Modelling of integrated electronic systems” and “Design automation for system-on-chip (SoC) development”.  
forschung.fh-kaernten.at/respect

### ROADMAP-5G

R&D CENTER FOR 5G USE CASE INTEGRATIONS

PROJECT MANAGEMENT: Helmut Wöllik

DURATION: 01.04.2019–31.12.2023

FUNDING PROGRAMME: Central Research Funding

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The ROADMAP-5G research group has the aim of examining the requirements and possibilities for the industrial, community and commercial fields of future network topologies that will result from the basis of the 5G mobile communications generation, in order to derive measures for the optimal implementation of 5G integration. The focus is on the use and the individual creative possibilities of the mobile edge cloud, as well as the identification of the required 5G network slicing parameters. The aim is to create skills in the planning and implementation of specific 5G use cases with partners. The research group is envisaged as an independent link between the “verticals” (the users) and the commercial 5G network operators. The R&D activities can be classified thematically within the areas related to software and specific to network technology. Technically complex projects are able to be carried out due to the close cooperation and exchange of the available specific competences between these two subject areas within the research group.

[forschung.fh-kaernten.at/roadmap-5g](https://forschung.fh-kaernten.at/roadmap-5g)



*The focuses of the research groups cover many of the relevant requirements of the economy, industry and society.*

### SIENA

SPATIAL INFORMATICS FOR ENVIRONMENTAL APPLICATIONS

PROJECT MANAGEMENT: Gernot Paulus

DURATION: 03.04.2019–31.12.2023



The vision of SIENA is the development of a new competence centre at CUAS for the spatiotemporal analysis of high-resolution, multidimensional environmental data, in order to support decisions quicker and better. The supporting pillars of SIENA are the use of unmanned systems for high-resolution environmental data collection, in combination with intelligent algorithms that generate information from this data (“smart data”).

[forschung.fh-kaernten.at/siena](https://forschung.fh-kaernten.at/siena)

### SIMS

RESEARCH GROUP FOR MODELLING AND DESIGN OF INTEGRATED SYSTEMS AND CIRCUITS

PROJECT MANAGEMENT: Dongning Zhao

DURATION: 01.01.2019–31.12.2023

FUNDING PROGRAMME: Central Research Funding

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



This research group is an intensified, multidisciplinary research collaboration for mechatronic sensor integration in the development of integrated wireless sensors and smart manufacturing - smart living. The goal is to investigate, develop and integrate complete autonomous sensor modules e. g. based on IC/ASIC platforms that integrate sensor actuation, sensing, data processing, RF/wireless communication and portable energy harvesting on a single chip / system-board for Industry IoT/Industry 4.0 smart manufacturing applications. [forschung.fh-kaernten.at/sims](https://forschung.fh-kaernten.at/sims)

### TRANS\_SPACE

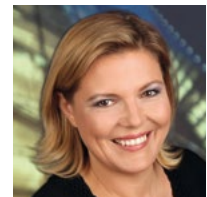
TRANSFORMATIVE SOCIETAL AND POLITICAL CULTURAL ENGAGEMENT

PROJECT MANAGEMENT: Kathrin Stainer-Hämmerle

DURATION: 01.02.2018–31.12.2022

FUNDING PROGRAMME: Central Research Funding

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



Current changes and their social effects, such as (forced) migration, demographic change, the concept of democracy, issues of globalisation, interculturalism and multilingualism, are subjects of this interdisciplinary research. The results will contribute to consulting processes in politics, economy, education and society.

[forschung.fh-kaernten.at/trans-space](https://forschung.fh-kaernten.at/trans-space)

### TRIPLE\_E

ENTREPRENEURSHIP & ENTREPRENEURSHIP EDUCATION

PROJECT MANAGEMENT: Erich Alois Hartlieb

DURATION: 01.02.2018–31.12.2022

FUNDING PROGRAMME: Central Research Funding

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The emergent research field of entrepreneurship deals with the central topics of the mode of organising, individuals and teams, opportunities and environments. Overlapping areas of these central topics are highlighted, and shared aspects such as environmental influences, opportunity creation and individual characteristics of entrepreneurs are investigated.

[forschung.fh-kaernten.at/triple-e](https://forschung.fh-kaernten.at/triple-e)





**R&D MANAGEMENT:** Franz Oswald Riemelmoser  
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Professor of Manufacturing Systems Engineering

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### AIRLABS

AERONAUTICAL INNOVATION & RESEARCH LABORATORIES AUSTRIA

**PROJEKTPROJECT MANAGEMENT:** Gernot Paulus

**DURATION:** 01.01.2020–31.12.2024

**FUNDING PROGRAMME:** FFG

**PROJECT VOLUME COVERED BY CUAS:** €100,000

AIRlabs Austria along with 26 partners is planning a unique innovation laboratory for the development and operation of a multisite test infrastructure in Austria, which will support the research, development and authorisation of Unmanned Aerial Systems (UAS) on the basis of new European drone operation regulations. This unique innovation laboratory is funded by the Austrian “Take Off” aviation research programme of the FFG. Carinthia University of Applied Sciences is an active member of the AIRlabs Austria partner consortium, as well as a member of the board of AIRlabs Austria GmbH. This unique test infrastructure offers a great opportunity to plan, test and carry out innovative drone usage scenarios, such as BVLOS (Beyond Visual Line of Sight) missions at great altitude in complex alpine terrain, and Urban Air Mobility (UAM) concepts.



### ANAGEN

ANALOG GENERATORS

**PROJEKTPROJECT MANAGEMENT:** Johannes Sturm

**DURATION:** 01.01.2020–30.11.2022

**FUNDING PROGRAMME:** cooperative research

**PROJECT VOLUME COVERED BY CUAS:** €100,000–€500,000

The main goal of the ANAGEN project is to develop an agile analog design methodology where the IC analog engineering knowledge will be captured in executable generators implemented in Python programming language. The target of the project is to design of basic analog blocks and systems that will be reused across different system-on-chips (SoCs) and CMOS technologies.



### ASAM\_2019

APPLICATION-SPECIFIC AM TECHNOLOGY: INTERREG NETWORK  
FOR EDUCATION AND RAPID PROTOTYPING

**PROJEKTPROJECT MANAGEMENT:** Franz Oswald Riemelmoser

**DURATION:** 01.01.2020–31.12.2021

**FUNDING PROGRAMME:** Interreg SI-AT 2014–2020

**PROJECT VOLUME COVERED BY CUAS:** €100,000–€500,000

The overall project objective is to strengthen cross-border competition, research and innovation through the establishment of a shared AM technology platform.

In the ASAM project, the cooperation of the two high-technology locations of the Ljubljana region and the Villach Technology Park has been raised to a professional level in the focal area of “Additive Manufacturing (AM)” and a shared cross-border AM platform has been established. The medium-term goal is to develop the macro region (Slovenia, Austria, Northern Italy, Croatia) into a European leader region for AM technologies.



### AYUDO

BETTER WELL-BEING THROUGH INNOVATIVE, DIGITALLY SUPPORTED  
PERSONAL HEALTH MANAGEMENT

**PROJEKTPROJECT MANAGEMENT:** Daniela Elisabeth Ströckl

**DURATION:** 01.10.2019–30.09.2022

**FUNDING PROGRAMME:** FFG benefit

**PROJECT VOLUME COVERED BY CUAS:** < €100,000

The AYUDO project would like to enable the long-term integration of already distributed, available digitised health data, such as vital data, lifestyle data, well-being data, or medication, intake or findings data of older, chronically ill people in their “personal digital health file”. The research group also intends to make this “collection” user-friendly and barrier-free as much as possible for end users through new, intelligent services such as time analyses, overviews, reminders or early warnings for their personal health management. The use of the software developed as part of AYUDO is intended to have a preventive effect and to improve personal responsibility and the assessment of end users regarding their own state of health. The social environment of an older, chronically ill person can also be supported in terms of care through the AYUDO software. Interoperability plays a significant role in the architecture of the planned technical solution, and interfaces to digital data sources should be able to be flexibly adapted to the requirements of the person being supported. Intelligent services should be as barrier-free as possible, building on the “personal digital health file”, and that is why the approach of the multimodal interface concept was chosen. The focus in AYUDO is the development of a digital language assistant in combination with the established touch interactions on a tablet computer.





### BACKROBOT

ROBOT SYSTEM FOR BAKERIES

PROJEKTPROJECT MANAGEMENT: Christian Madritsch

DURATION: 01.04.2019–20.12.2019

FUNDING PROGRAMME: FFG – INNOVATION VOUCHER WITH EXCESS FROM 2018

PROJECT VOLUME COVERED BY CUAS: < €50,000



As part of this research project, an analysis of the production process was first carried out with the help of video recordings, time recordings and process descriptions. The resulting individual activities were classified according to their automation capability with existing technologies. For individual activities that could not be automated with existing technologies, feasibility studies were compiled on the basis of experiences of the research partner. Then a prioritisation was carried out for the automation of all individual activities with a profitability study.

### BLEI\_MOOR

DRONE-BASED MONITORING OF THE EUROPEAN  
NATURE RESERVE “BLEISTÄTTER MOOR”

PROJEKTPROJECT MANAGEMENT: Gernot Paulus

DURATION: 01.10.2017–31.12.2021

FUNDING PROGRAMME: Research cooperation

PROJECT VOLUME COVERED BY CUAS: < €10,000



In spring 2017, the “Rehabilitation Project Ossiacher See – Bleistätter Moor” was completed with the construction of flooding and sedimentary basins in the estuary zone of the River Tiebel. In the course of the research cooperation between the Office of the Provincial Government of Carinthia, Dept. 8 – Environment, Water and Protection of the Environment, and Carinthia University of Applied Sciences’ study programme on Geoinformation and Environment, a drone-based, long-term monitoring programme will be implemented. This will provide a high-resolution recording of the changing processes of this European Nature Reserve in the estuary zone of the River Tiebel at Lake Ossiacher See during the period from 2017–2021.

### CAPACON

PROMOTING R&I CAPACITIES IN THE FIELDS OF ENERGY CONVERSION  
AND ENERGY MANAGEMENT IN SLOVENIA AND AUSTRIA

PROJEKTPROJECT MANAGEMENT: Stephan Mark Thaler

DURATION: 23.03.2017–31.03.2019

FUNDING PROGRAMME: Interreg SI-AT 2014–2022

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The project is used to improve the competitiveness of businesses in the fields of energy conversion and energy management in Slovenia and Austria. This is to be made possible through new, integrative ways of thinking within businesses beyond the current state of the art, thereby promoting research and innovation.



### CARE4TECH

CROSS-SECTORAL ALLIANCES FOR SMART LIVING

PROJEKTPROJECT MANAGEMENT: Johannes Oberzaucher

DURATION: 01.11.2016–31.10.2019

FUNDING PROGRAMME: Interreg Alpine Space 2014–2020

PROJECT VOLUME COVERED BY CUAS AS LEADPARTNER: €100,000–€500,000

TOTAL PROJECT VOLUME: €1,8 million



The core aim of this project is to record novel, innovative approaches in the field of “smart living” technologies to make them visible and accessible to the public and to manifest regional Living Labs focussed on special fields of competence. Fields of competence are, for example, Industry 4.0, Active & Assisted Living (AAL) and E-mobility. Joint projects will be stimulated to create added value within the German, Austrian, Swiss, French, Italian and Slovenian Alpine regions.

### CAPSIZE

COLLABORATIVE HUMAN-ROBOT WORKING ENVIRONMENTS

PROJEKTPROJECT MANAGEMENT: Dongning Zhao

DURATION: 01.09.2018–31.05.2022

FUNDING PROGRAMME: KWF – Regionale Impulsförderung/Regional Impulse Promotion

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The aim of the CapSize Project is to develop a cost-effective, novel perception sensor system for gesture recognition, position estimation and motion tracking in a real-time human-robot working environment using innovative integrated sensor solutions. The new key technology will enable the development of a Contactless and Safe Interaction Cell (CSIC), where humans can collaborate and interact with the robot in a safe and intuitive way. CapSize is a cooperative project between Alpen-Adria-Universität Klagenfurt, FH Kärnten and Joanneum Research – Robotics. The research target of FH Kärnten is to develop an integrated circuit for capacitive sensor read-out to monitor human safety and increase the collaborative productivity for robots in the future.





## COMMON ACCESS 2

PROJEKTPROJECT MANAGEMENT: Erich Alois Hartlieb  
DURATION: 01.01.2020–31.12.2022  
FUNDING PROGRAMME: Interreg SI-AT 2013–2020  
PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The aim of the project is to increase the number of internationalised small and medium-sized enterprises in the programme area of Austria and Slovenia. The main focus is on companies that offer products and services in the area of Industry 4.0 or digitisation processes. New technologies and a quicker data transfer enable new business models and increase the ability to compete. However, there is still a low awareness of the need to integrate digital technologies into the business processes of small and medium-sized companies. The key focus of the project is therefore to offer small and medium-sized companies in Austria and Slovenia suitable help when introducing new digital solutions, in order to facilitate the internationalisation of business activities and to raise competitiveness on the Polish market.

## COOLBOX

ACTIVE COOLING TRANSPORT CONTAINERS

PROJEKTPROJECT MANAGEMENT: Josef Tuppinger  
DURATION: 13.02.2018–15.03.2018  
FUNDING PROGRAMME: Contract research  
PROJECT VOLUME COVERED BY CUAS: < €10,000



The idea of an active cooling transport container for commercial use will be evaluated as part of an initial, more general research effort and a workshop with experts, identifying demand and requirements.



*Carinthia University of Applied Sciences covers a wide spectrum of research topics. Technical, economic and political topics are researched in cooperation with industrial and economic partners and are tested in practical trials.*



## COOP4HEALTHCARE

CROSS-SECTORAL ALLIANCES FOR SMART HEALTHCARE SOLUTIONS

PROJEKTPROJECT MANAGEMENT: Daniela Krainer  
DURATION: 01.05.2018–31.05.2020  
FUNDING PROGRAMME: Interreg SI-AT 2014–2020  
PROJECT VOLUME COVERED BY CUAS AS LEAD PARTNER: €100,000–€500,000  
TOTAL PROJECT VOLUME: €958,000



As its overriding project goal, the COOP4HEALTHCARE project promotes an improved offer of services in the health-care sector by means of cross-border cooperation between the relevant actors in the defined programme area of Slovenia and Austria, including strategic European partners. Regional, national, international and long-term pilot projects in the fields of digitalisation, knowledge excellence and cooperation models are activated and implemented so that current challenges of integrated healthcare solutions can be met accordingly. Strategic positioning and the development of a common roadmap will facilitate timely, long-term, well-adjusted, high-quality care for all communities, independent of location. <https://www.coop4healthcare-project.eu/>

## CROSSTRAIL

SUPPORT TRAILRUN FOR EVERYONE IN THE CLLD REGION „HEUROPEN“

PROJEKTPROJECT MANAGEMENT: Daniela Elisabeth Ströckl  
DURATION: 01.10.2019–28.02.2022  
FUNDING PROGRAMME: Interreg IT-AT  
PROJECT VOLUME COVERED BY CUAS: < €10,000



In the CLLD region of “HEurOpen”, trail running as a sport is to be promoted so that people of all ages, professional athletes and beginners alike, can grow to love this sport and are able to find out easily which stretches are most suitable for them to explore the region in this manner. The sportspeople are provided with all the information on the routes by means of a digital information platform and a printed trail guide. In addition, this cooperative project of the Medical University of Udine and Carinthia University of Applied Sciences addresses the topics of health/technology and prevention.



### COST HARMONIOUS

EUROPEAN COOPERATION IN SCIENCE & TECHNOLOGY (COST) CA16219–  
HARMONIZATION OF UAS TECHNIQUES FOR AGRICULTURAL AND NATURAL  
ECOSYSTEMS MONITORING

PROJEKTPROJECT MANAGEMENT: Gernot Paulus

DURATION: 01.11.2017–30.11.2021

FUNDING PROGRAMME: European Cooperation in Science & Technology (COST)

PROJECT VOLUME COVERED BY CUAS: < €50,000

Environmental monitoring plays a central role for the management of natural and agricultural systems. In relation to this, Unmanned Aerial Systems (UAS) are developing radically and offer an exceptional opportunity to close the existing gap between field observations and traditional aerial and spatial exploration from a distance. Our SIENA research group participates very actively in the EU COST campaign COST HARMONIOUS (<https://www.costharmious.eu/>) for the use of Unmanned Aerial Systems (UAS) for the monitoring of agricultural and natural ecosystems and works with international experts in this innovation network. In February 2020, CUAS hosted an international COST-funded training school on the topic of "Monitoring Natural and Agricultural Ecosystems with Unmanned Aerial Systems (UAS)". In total, 20 graduate students and doctoral candidates, as well as professors and experts from all over Europe, took part in this international event.



### DCOMFRA

DIGITAL COMPETENCE FRAMEWORK FOR UKRAINIAN  
TEACHERS AND OTHER CITIZENS

PROJEKTPROJECT MANAGEMENT: Andreas Pester

DURATION: 15.11.2018–14.11.2021

FUNDING PROGRAMME: EACEA – Erasmus+ Key Action 2: Capacity building  
in the field of higher education

PROJECT VOLUME COVERED BY CUAS: < €100,000

The purpose of this project is to improve the Digital Competence (DC) development situation in the Ukraine (UA) to harmonise it with the European mainstream by adapting the Digital Competence Framework for Citizens and for Educators, as well as the creation of the Ukrainian National Digital Coalition (UNDC); reforming in-service training for teachers and providing "best practice" experiences of how DC could be further developed in general and adapted to the challenges of the higher education sector within society at large. The motivation for this comes from the goal set by the European Commission in Digital Skills and Jobs Coalition, DigComp frameworks and the Digital Agenda for Europe (DAE). The project aims to establish an effective UNDC network amongst UA educational institutions, associations, public authorities and business representatives; to design and implement UA DC frameworks; to make recommendations for modifying the DC studies curriculum according to the DAE and modern labour market requirements; to create DC training for teachers and for citizens and to provide high-quality DC training for various social strata of society.



### DETECT&CONNECT

TECHNOLOGY, CONNECTING PEOPLE IN NEED WITH PEOPLE WHO CARE

PROJEKTPROJECT MANAGEMENT: Daniela Krainer

DURATION: 01.03.2017–31.03.2019

FUNDING PROGRAMME: FFG – Basic programme

PROJECT VOLUME COVERED BY CUAS: < €100,000

Detect & Connect is a research project by the firm P.SYS, caring systems KG with the aim of implementing a user-friendly system that connects older people and people living alone with first aiders from their extended social environment quickly and autonomously in cases of need or emergency. This will be achieved by developing and testing a self-learning system which recognises and interprets the needs of a user – Detect. After identifying a particular need, the best suitable aid provider will be dynamically identified from the extended individual social environment and activated – Connect. During the development stage, the project will get scientific support from Carinthia University of Applied Sciences. Based on theoretical considerations and workshops with the target group, the requirements for the technical system will be defined. In addition, different system components will be tested and documented by the laboratories at Carinthia University of Applied Sciences. <http://www.psysengineering.com/index.htm>



### DIGITAL FUTURE

KWF SUPPLIER DEVELOPMENT PROGRAMME II

PROJEKTPROJECT MANAGEMENT: Roland Willmann

DURATION: 01.11.2017–31.05.2019

FUNDING PROGRAMME: Interreg Alpine Space 2014–2020

PROJECT VOLUME COVERED BY CUAS: < €50,000

Digitalisation creates new opportunities, for example, in the fields of cooperation, processes, products, organisations, business models and technologies. To sustain competitiveness, the actual state and potentials of regional suppliers in these fields are analysed. In addition, a curriculum is developed and implemented, consisting of six one-day workshops on the topics of "General Digital Transformation", "Adaptive Production Systems", "From Data to Information and Process Control", "smart Production – Automated Manufacturing", "smart Products – Sensor System and Internet of Things", as well as "Digital Business Models". As an accompanying measure, company-specific or cross-company implementation projects are defined. They are partly implemented in the form of bachelor's and master's theses.







## Engineering & IT – Projekte

### DRONE RISK AUSTRIA

A MULTIDISCIPLINARY APPROACH TO SUPPORT RISK ASSESSMENT OF UAS MISSIONS IN AUSTRIA

PROJEKTPROJECT MANAGEMENT: Gernot Paulus

DURATION: 01.11.2019–28.02.2021

FUNDING PROGRAMME: FFG – Take off

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



Alongside the ground risk and aerial risk that are defined in the “Specific Operations Risk Assessment” (SORA) of the European Union Aviation Safety Agency (EASA), Drone Risk Austria also for the first time took into account the weather risk for drone flights resulting from fluctuating weather conditions and representing an important safety aspect of drone operations. The project was targeted towards 1. developing detailed concepts for national geodata integration, 2. carrying out a prototypical implementation of the developed concepts and 3. implementing an interface for the provision of the integrated geodata and the risk assessment in a UTM system. The technological platform that was developed as part of the “Drone Zone Austria” project, funded by FFG, was extended accordingly in order to quickly provide Austrian drone pilots with a tool that supports digital risk assessment on the basis of the new European legal regulations. It is expected that Drone Risk Austria will increase the safety of drone operations and provide an important contribution to the legal security of the UAS operation in national airspace and to the further development of U-space.

### DRONE ZONE AUSTRIA

DESIGN OF A WEB PORTAL FOR SAFE DRONE MISSION PLANNING IN AUSTRIA

PROJEKTPROJECT MANAGEMENT: Gernot Paulus

DURATION: 01.11.2016–31.01.2018

FUNDING PROGRAMME: BMVIT – TAKE OFF

PROJECT VOLUME COVERED BY CUAS ALS LEADPARTNER: < €100,000



The “Drone Zone Austria” project works on the development of a web portal for the safe mission planning for unmanned aircraft (Remotely Piloted Aircraft Systems – RPAS, or drones). This portal is the first to integrate the one-stop shop principle for geographical data, such as building density, aviation law restrictions and nature protection areas, that is necessary for safe drone flight planning for the entire Austrian territory. This portal is now freely accessible at [www.dronezoneaustria.at](http://www.dronezoneaustria.at).



*The universities of applied sciences form an important pillar of the Austrian university, research and innovation landscape. Relevance orientation and the cooperation with regional companies and networks are the special strengths of R&D at such universities. CUAS makes an important contribution to innovation in the region and beyond as one of the research-strong universities of applied sciences.*

SEKTIONSCHEF MAG. ELMAR PICHL

Head of the University Department at the Federal Ministry of Education, Science and Research





EDU\_LAB  
EDUCATIONAL LAB\_MODUL SMART LAB

PROJEKTPROJECT MANAGEMENT: Roland Willmann  
DURATION: 16.03.2018–31.12.2021  
FUNDING PROGRAMME: KWF – Regionale Impulsförderung/Regional Impulse Promotion  
PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The smart lab CARINTHIA is to offer secondary school pupils low-threshold access to manufacturing infrastructure, with additional workshops and theoretical courses. To this end, a smart lab at Lakeside Park in Klagenfurt is equipped with suitable machinery and training rooms. This smart lab belonging to Carinthia University of Applied Sciences at Lakeside Park is a central module of the Educational Lab. The smart lab at Lakeside Park and the other one on campus in Villach are networked to cover as large a portfolio of manufacturing technologies as possible.



*Competent specialist personnel and a solid network of universities and economic partners together form the basis for successful application-orientated research, with very well-equipped laboratories.*

E-EDU4.0  
ÜBERREGIONALES NETZWERK ZUR BILDUNG 4.0

PROJEKTPROJECT MANAGEMENT: Roland Willmann  
DURATION: 16.03.2018–31.10.2020  
FUNDING PROGRAMME: Interreg IT-AT 2014–2020  
PROJECT VOLUME COVERED BY CUAS ALS LEADPARTNER: €100,000–€500,000



E-EDU4.0 develops cross-border qualification and education programmes on the vast topic of Industry 4.0 with project partners from Northern Italy. The focus is on the following target groups: 1. Employees of manufacturing companies, 2. Upper secondary school teachers, as well as 3. Upper secondary school students. In addition, the technical possibilities of remote learning are integrated into the training and educational programmes and lessons. This project is a complementary element to the equipment and network of the smart labs CARINTHIA of the Educational Lab – smart lab Module project.



ETAT  
EDUCATION & TRAINING FOR AUTOMATION 4.0 IN THAILAND

PROJEKTPROJECT MANAGEMENT: Christian Madritsch  
DURATION: 15.11.2019–14.11.2022  
FUNDING PROGRAMME: Erasmus+ KA2, Capacity Building in Higher Education  
PROJECT VOLUME COVERED BY CUAS: > €100,000



An essential basis for the implementation of the EEC project is the availability of highly qualified professionals who can develop, operate and maintain the relevant production, manufacturing and logistics technologies. The ETAT project aims to create exemplary Education & Training Centers in the field of engineering education at selected EEC universities that are suitable education hubs in the region to support industry-related education and training for engineers and young specialists. It aims to achieve the following objective: modernisation of higher education in Thailand based on the experience of EU countries; increasing the employment rate of university graduates and implementing the concept of LLL with the help of training in Automation 4.0; development of partnerships with enterprises; improving the quality and relevance of higher education in Thailand in Automation 4.0; establishment of 6 certified ETAT Training Centers at Thai universities, which will be equipped with 24 special training places (4 ETAT Smart Labs per university); Establishment of a platform for distance learning and cooperation for providing e-learning and for exchange of didactical documents and information. ETAT Training Centers will be provided with teaching materials and certified courses for different target groups (students, employees, post-graduates) as well as with the Thai trainers trained by EU partners. Carinthia University of Applied Sciences is the coordinator of this project.

FIL\_EXTRUD  
ENTWICKLUNG EINES FILAMENTEXTRUDERS

PROJEKTPROJECT MANAGEMENT: Franz Oswald Riemelmoser  
DURATION: 01.05.2019–30.06.2020  
FUNDING PROGRAMME: Contract research  
PROJECT VOLUME COVERED BY CUAS: < €50,000



To support the development of the filament extruder, parts were manufactured at the workshop of CUAS. Furthermore, the work was supported by the expertise in 3D printing of long-fibre materials, especially regarding the necessary process parameters and their interaction with material properties.





### FISHSTREAM

FINDING FISH LADDERS

KEY STIMULI AND DRONE-AIDED ANALYTICAL TOOLS

PROJEKTPROJECT MANAGEMENT: Gernot Paulus

DURATION: 24.10.2018–31.12.2020

FUNDING PROGRAMME: Research cooperation

PROJECT VOLUME COVERED BY CUAS: < €100,000



On the one hand, the research project provides a detailed investigation into the connection between flow conditions caused by water power plants and finding and the frequency of use of fish ladders, and on the other hand, the systematic clarification of the impact of key stimuli on fish with regard to finding fish ladders. The effects of water currents are examined using drone-aided analytical tools. Key stimuli (heat, sound, light) are temporarily created at the entrance to fish ladders during on-site experiments. The main focus of the scientific cooperation (VERBUND Hydro Power GmbH, flussbau iC GmbH, University of Life Sciences and ViewCopter e.U. Studios) of the project is the conception, the prototypical development, and the validation of drone-aided tools for the quantitative determination of flow conditions in the areas of fish ladders for different operational scenarios of power plants.

### FLY\_WOERTH

PHOTOGRAMMETRIC ANALYSIS OF DRONE-BASED

FLIGHTS OVER THE SHORELINE OF LAKE WÖRTHERSEE

PROJEKTPROJECT MANAGEMENT: Gernot Paulus

DURATION: 01.04.2018–31.12.2018

FUNDING PROGRAMME: Research cooperation of the Office of the Provincial Government of Carinthia, Dept. 8 – Environment, Water and Protection of the Environment, flussbau iC GmbH and ViewCopter Studios e.U.

PROJECT VOLUME COVERED BY CUAS: < €50,000



In 2018, a professional, unmanned aircraft (“Unmanned Aerial System”, “drone”) flew along the entire shoreline of Lake Wörthersee in one of the largest scientific, drone-based geographical data recording projects in Austria. In the course of an interdisciplinary research cooperation between Department 8 – Environment, Water and the Protection of the Environment of the Office of the Provincial Government of Carinthia, the industrial partners flussbau iC and ViewCopter, as well as the study programme “Geoinformation and Environmental Technologies” at Carinthia University of Applied Sciences as scientific partner, the entire shoreline of Lake Wörthersee, with a length of nearly 50 km, was remeasured with a digital, high-precision system with cm resolution. The aim of this project is to prepare a very precise, digital, three-dimensional terrain and surface model of the water’s edge of Lake Wörthersee, paying special attention to the transition area between water and land. The result is the “missing digital link” for a seamless, continuous and complete 3D model between already existing laser scan terrain data of the lake environment and the underwater echo-sounder measurement of Lake Wörthersee performed in winter 2017.



### 3D\_FOR\_VET

STRATEGIC PARTNERSHIPS FOR THE DEVELOPMENT OF 3D COMPETENCES

PROJEKTPROJECT MANAGEMENT: Robert Hauser

DURATION: 01.09.2017–31.08.2020

FUNDING PROGRAMME: EACEA–Erasmus+: KA2, Strategic Partnerships

PROJECT VOLUME COVERED BY CUAS: < €100,000



The goal of the project was to introduce the pupils at vocational schools to modern technologies, in this case 3D printing technology. As part of this transnational project, selected schools from Lithuania, Croatia and Poland came together and Carinthia University of Applied Sciences shared their knowledge. Over the course of several workshops, pupils and teachers were introduced locally (in Villach) to the design, construction, manufacturing and refining of freely selected objects, using the various 3D printing technologies. Subsequently, this knowledge will also be applied at the schools using 3D printers acquired during the project.

### 5GPLAYP1

5GPLAYGROUND CARINTHIA PHASE 1 – BABEG GMBH

PROJEKTPROJECT MANAGEMENT: Helmut Wöllik

DURATION: 01.04.2018–31.10.2018

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €50,000



The main goal of this project was to perform an analysis of development and test environments (= testbeds) around the future mobile communications standard 5G, and to evaluate it regarding its usability and flexibility in different usage scenarios put forward by research partners and industrial partners.

### 5GSCITY

5G SMART CITY USE CASE

PROJEKTPROJECT MANAGEMENT: Helmut Wöllik

DURATION: 01.11.2019–31.10.2022

FUNDING PROGRAMME: Research cooperation

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The project researches and tests typical smart city applications, such as environmental and traffic monitoring, control systems and resource management systems on the 5G playground. The aspect of energy efficiency is examined, among others. It is primarily concerned with applications that refer within the IMT 2020 triangle to the area of mMTC (massive machine-type communication).



### GFM-BAUW

#### DIGITAL BUSINESS MODELS – CONSTRUCTION

PROJEKTPROJECT MANAGEMENT: Erich Alois Hartlieb

DURATION: 01.04.2019–31.05.2020

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS ALS LEADPARTNER: < €50,000



With digitisation, new possibilities are opening up, including in the areas of cooperation, processes, products, organisation, business models and technologies. To maintain the competitiveness of local companies in the construction industry, a comprehensive qualification and coaching programme about BIM (Building Information Modelling) in construction was developed and carried out in close cooperation with interested representatives, companies and BIM experts. The companies were trained comprehensively in the topic of BIM. In addition, for each company an assessment was carried out regarding the degree of maturity of digitisation, from which specific development measures were derived. Parallel to the training, the whole group of participants together developed a comprehensive concept and a digital twin for a future-orientated preschool.

### GENELLPRO

#### GENERATIVE ELBOW PROTECTOR

PROJEKTPROJECT MANAGEMENT: Reinhard Tober

DURATION: 05.08.2019–30.04.2020

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS ALS LEADPARTNER: < €10,000



The company Edera Safety GmbH & Co KG is developing a generatively designed elbow protector. Carinthia University of Applied Sciences provided support with their possibilities in the field of Rapid Prototyping and Rapid Manufacturing. In addition, the company Edera Safety was also supported with expertise in these areas.

### GO 2 BENELUX & SCANDINAVIA

PROJEKTPROJECT MANAGEMENT: Erich Alois Hartlieb

DURATION: 01.05.2018–30.04.2021

FUNDING PROGRAMME: Interreg SI-AT 2014–2020

PROJECT VOLUME COVERED BY CUAS ALS LEADPARTNER: €100,000–€500,000



The main objective is to increase the number of internationally oriented SMEs in cross-border areas. Go 2 Benelux & Scandinavia represents a common approach for supporting the internationalisation of SMEs through joint cross-border initiatives as well as the development of shared smart services. The project aims at facilitating internationalisation, smart specialisation, and cross-border learning and competence development by developing transnational linkages between SME networks, clusters and other specialised research and innovation hubs – for the benefit of their members.



*In the new study model of “Systems Engineering extended”, we see great potential for the transfer of scientific results between CUAS through the students to regional economic enterprises. The functioning cooperation between CUAS and the company PMS was the basis for us to support the required teaching and research infrastructure.*

MAG. SANDRA VENUS

CEO of the Carinthian Economic Promotion Fund (KWF)







### GRISU

GROUP COMMANDER TRAINING BY THE FIRE DEPARTMENT WITH INNOVATIVE TEACHING AND LEARNING METHODOLOGY

PROJEKTPROJECT MANAGEMENT: Thomas Klinger

DURATION: 01.01.2019–31.12.2019

FUNDING PROGRAMME: ÖAD – Österreichischer Austauschdienst

PROJECT VOLUME COVERED BY CUAS ALS LEADPARTNER: < €50,000

As part of this project, an interactive teaching and learning environment was set up and applied, based on the example of the group commander training course of the Austrian fire department, which presents the contents of the course by means of videos and interactive content. A Moodle server was set up as a platform. Carinthia University of Applied Sciences contributed not only support for compiling the digital content but also expertise in platform maintenance. The aim of the project was to support the fire service training programme with modern teaching and learning methods, thereby facilitating participation in the training – especially for volunteers. The compilation of the teaching and learning documents and the methodology was supported by Citizen Science methods, which means that instructors at the fire department school, course participants as well as those using fire services were questioned about the methodology and training quality and were able to make a contribution.



### GRÜNDERCAMPUS KÄRNTEN

PROJEKTPROJECT MANAGEMENT: Erich Alois Hartlieb

DURATION: 27.10.2016–31.10.2019

FUNDING PROGRAMME: KWF – Regionale Impulsförderung/Regional Impulse Promotion

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000

The Gründercampus (Startup Campus) aims at sensitising entrepreneurship, acquiring and developing startup projects, and creating attractive framework conditions for startups in the university campus environment. Within this framework, extensive support for startup projects was provided, using the expert knowledge and laboratory infrastructure of Carinthia University of Applied Sciences. The environment for startups was further developed in close coordination with StartNet Carinthia, the platform for Carinthian startup institutes.



### GSMART

SPATIAL ICT INFRASTRUCTURES FOR SMART PLACES

PROJEKTPROJECT MANAGEMENT: Gernot Paulus

DURATION: 29.09.2014–31.07.2018

FUNDING PROGRAMME: EACEA – Erasmus Mundus: Action 2, Scholarship-Programm

PROJECT VOLUME COVERED BY CUAS: < €100,000

Carinthia University of Applied Sciences, represented by the Department of Geoinformation and Environmental Technologies, participated for the first time in its history in the prestigious international academic European exchange programme ERASMUS MUNDUS. The project “gSmart – Spatial ICT Infrastructures for Smart Places” has established a partner network of 13 Central Asian universities from Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan and 6 European universities from Austria, Spain, The Netherlands, Hungary and Romania. The major goal of this project was to jump-start the urgent requirements for spatial science specialists in the Central Asia region with a focused programme. Therefore, the overall mission of the gSmart project was to build a highly qualified, motivated and dedicated community of specialists in geospatial technologies and methods within their respective domains of expertise across the spatially oriented sciences, contributing to progress in industry, administration and society within the Central Asia region.



### HE-MARY

COMPREHENSIVE EVALUATION OF THE BEETLE MARY

PROJEKTPROJECT MANAGEMENT: Daniela Elisabeth Ströckl

DURATION: 01.01.2019–31.03.2020

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €50,000

This project followed the project by Sticklett from 2018. The further developed version of Mary by Sticklett was evaluated once again in its current product-near version by experts, on the basis of scenarios and tasks, in order to carry out further optimisations. By means of online questionnaires, a tool was put together that allows the gathering of customer feedback and to draw on it for further development measures. An evaluation was carried out for the possible use of Mary as an aid for parents and legal guardians whose children suffer from epilepsy.





## H2GREENTEC

STRENGTHENING CROSSBORDER R&I CAPACITIES IN ADVANCED HYDROGEN TECHNOLOGIES BY DEVELOPING SYNERGIES BETWEEN ENTERPRISES, R&D CENTRES AND HIGHER EDUCATION

PROJEKTPROJECT MANAGEMENT: Wolfgang Werth  
DURATION: 18.03.2020–30.09.2022  
FUNDING PROGRAMME: Interreg SI-AT  
PROJECT VOLUME COVERED BY CUAS: < €100,000



The H2GreenTECH project is looking at cost-efficient ways to make the European economy more climate-friendly and less energy-consuming through the development of hydrogen technology. The goal is to improve access to and the use of the research infrastructure for hydrogen technologies in Slovenia and Austria with the establishment of the Hydrogen Center one stop-shop for enterprises, researchers and students by 2025. Furthermore, CUAS develops competences in hydrogen technologies with the development of demonstration models to be used as well as educational modules. The H2GreenTECH project is co-funded by the European Regional Development Fund as part of the Interreg V-A Slovenia-Austria cooperation programme.

## HOCHWASSER GAILTAL

CUBATURE ASSESSMENT OF FLOOD SEDIMENTS GAILTAL-RATTENDORF-STRANIG

PROJEKTPROJECT MANAGEMENT: Gernot Paulus  
DURATION: 12.03.2019–11.11.2019  
FUNDING PROGRAMME: Contract research  
PROJECT VOLUME COVERED BY CUAS: < €100,000



The aim of this project was to carry out a volume assessment as quickly and accurately as possible of large-scale flood sediment deposits that severely damaged agricultural areas in the Gailtal valley during the dramatic Gailtal flood in 2018. This cubature assessment served as the main tendering basis for the cost assessment of removing and disposing of this flood sediment. The central data basis for the volume estimation of the deposited flood sediment to be cleared was a high-resolution digital surface model, accurate to the centimetre, that was calculated photogrammetrically from precise picture flight data by a special fixed-wing Unmanned Aerial System (UAS).



## IDEATION

SIMULTANEOUS BIDIRECTIONAL DATA LINK OVER ON-CHIP GLOBAL MIMO INTERCONNECT

PROJEKTPROJECT MANAGEMENT: Michael Köberle  
DURATION: 01.01.2017–31.03.2021  
FUNDING PROGRAMME: FFG – BRIDGE Frühphase  
PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The planned research concentrates on the modelling and design of on-chip networks from the system to the physical level. For verification they need the development and manufacture of test chips in sub-100 nm CMOS technology. The goal is to provide analogous solutions for echo cancellation (full-duplex mode) and to attenuate crosstalk (MIMO). The expected research results could also be of interest for full-duplex wireless communication.

## INNO\_DULL

INNOVATIONSSCHECK DULLNIG

PROJEKTPROJECT MANAGEMENT: Roland Willmann  
DURATION: 15.01.2020–04.11.2020  
FUNDING PROGRAMME: FFG – Innovation Voucher with excess  
PROJECT VOLUME COVERED BY CUAS: < €50,000



The aim of the project was to study the technical and economic possibilities for the innovation of an established conventional manufacturing process. The requirements resulted in tasks regarding the selection of suitable polymers and the development of a suitable product design. Suitable printing procedures were evaluated and material tests were carried out. Then a profitability assessment of the procedure was completed.





### INNO-EBS

INTERDISCIPLINARY KNOWLEDGE TRANSFER IN ELECTRONIC BASED SYSTEMS (EBS) FOR THE REINFORCEMENT OF ACTORS IN THE VALUE-ADDED CHAIN

PROJEKTPROJECT MANAGEMENT: Thomas Klinger

DURATION: 01.02.2020–31.07.2023

FUNDING PROGRAMME: FFG – Basic programme

PROJECT VOLUME COVERED BY CUAS: < €50,000



Electronic Based Systems (EBS) are components, devices and systems with micro and nano electronics, along with the associated embedded software. They are a key enabling technology (KET) and form the basis for a wide range of digitised products and processes, such as autonomous vehicles, personalised medicine, Internet of Things and intelligent machines. The Inno-EBS qualification programme is used complementarily, in some cases using existing networks of the Styrian, Carinthian and Upper Austrian partners and putting together an attractive consortium of 5 scientific and 15 corporate partners along the EBS value-added chain. Inno-EBS fills a gap on the market by concentrating on conveying state-of-the-art synergetic competences in hardware, embedded software and systems. The programme addresses target groups from these areas, as well as generalists in innovation management. As part of four target group specific tracks, the hottest topics of the companies are addressed in EBS. 67 participants are being trained as certified EBS specialists using current didactic methods such as “blended learning” formats.

### FLOOROP

PROJEKTPROJECT MANAGEMENT: Gernot Paulus

DURATION: 01.05.2018–31.12.2018

FUNDING PROGRAMME: FFG – Innovation Voucher plus €10,000

PROJECT VOLUME COVERED BY CUAS: < €50,000



The company Hrovath in Arnoldstein very successfully works with the development of trade fair flooring systems for the automotive industry, using modern compound fibre materials. Under the motto “trade fair floors as maps”, new, creative digital business processes in the field of trade fair floors have been jointly developed. The goal of the project is to design a technical implementation concept for the digital simulation and optimisation of trade fair floor laying projects, taking batch-specific visual surface material variations into account.



### FLYING FLOOR

PROJEKTPROJECT MANAGEMENT: Hermann Sterner

DURATION: 01.05.2018–31.12.2018

FUNDING PROGRAMME: FFG – Innovation Voucher with excess 2018

PROJECT VOLUME COVERED BY CUAS: < €50,000



The goal of this project was to significantly increase the value of flooring when designing visually impressive trade fair appearances by integrating additional functions.

### MMO-3D

STRENGTHENING R&I IN TECHNICAL AND INDUSTRIAL FOCUS AREAS BY WAY OF CROSS-BORDER COOPERATION BETWEEN RELEVANT ACTORS

PROJEKTPROJECT MANAGEMENT: Franz Oswald Riemelmoser

DURATION: 04.10.2016–31.08.2019

FUNDING PROGRAMME: Interreg SI-AT 2014–2022

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The main aim of this project is the development of a robot cell for the 3D printing of composite, lightweight and natural materials. The core of this innovation is the adaptation of a six-axis robot with FDM technology and a fibre manipulator. This technology allows the manufacture of geometrically complex products with high-tensile lightweight construction materials.

### MOVINSI

MOVINSI! OFF WE GO!

PROJEKTPROJECT MANAGEMENT: Daniela Elisabeth Ströckl

DURATION: 01.10.2019–31.03.2022

FUNDING PROGRAMME: Interreg IT-AT

PROJECT VOLUME COVERED BY CUAS: < €100,000



This collaborative project situated in the CLLD region of “HEurOpen” is about supporting the mobility of elderly persons. As part of on-site training (2 test groups) and home-based training (2 test groups), weekly exercises are issued to the participants, who must carry these out within the 9-month test phase. In addition, the participants receive access to an app developed at CUAS that enables them to make contact with other participants across borders and languages (automated translation of chat messages). Furthermore, the participants have the possibility to access information about health topics via the Movinsi app. The project is accompanied by evaluations relating to technology, and a regional benchmarking analysis.



NGA

NEXT GENERATION ACCESS

PROJEKTPROJECT MANAGEMENT: Markus Prosegger  
DURATION: 03.04.2018–open  
FUNDING PROGRAMME: Contract research  
PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000 (Stand Apr. 2018 bis Aug. 2019)



Development of graph generation and simulation models for the NGA glass fibre extension, based on PON and GPON. Support of specifications from the "Guide on Planning and Construction of Glass Fibre Access Networks" by the Federal Ministry for Transport, Innovation and Technology. Support of local communities, cities and local communication network operators in preparing strategies for broadband initiatives.

PIEZOPRINT

PRINTING OF PIEZOELECTRIC SENSOR ELEMENTS

PROJEKTPROJECT MANAGEMENT: Lisa-Marie Faller  
DURATION: 01.10.2019–29.02.2020  
FUNDING PROGRAMME: Contract research  
PROJECT VOLUME COVERED BY CUAS: < €10,000



The project was designed to evaluate printability and the properties of piezoresistive inks on different substrates. The inks were evaluated with regard to their printability, especially on paper, and their sensory properties. In the beginning, different inks were compared through research in terms of their printability, sensory properties and environmental friendliness. With regard to the substrates used, different papers played a key role. In relation to this, the ability to compost the different inks was also taken into consideration, based on the available data sheets and literature. As a result of the research, two to three different inks emerged that were then used for printing tests at the laboratory. The respective material was provided by the client. For the evaluation of the fundamental suitability as sensors, standard structures (basic point and line patterns as well as a solid surface) were printed on different substrates.

PILAR2016

PLATFORM INTEGRATION OF LABORATORIES BASED ON THE ARCHITECTURE OF VISIR

PROJEKTPROJECT MANAGEMENT: Andreas Pester  
DURATION: 09.11.2016–14.10.2019  
FUNDING PROGRAMME: EACEA – Erasmus+ Key Action 2: Capacity building in the field of higher education  
PROJECT VOLUME COVERED BY CUAS: < €50,000



The PILAR partnership will enhance the learning, teaching and practical training at the tertiary and secondary levels by allowing the development of many different electronic practices through a newer and richer level of digital integration. The possibility of real practical exercises at almost real time for many different student profiles will help to develop basic and transversal skills throughout the involved countries and, as a second step, this can be expanded to any interested country. The strategic-partnership project includes partners from 5 European countries.



POLY-GENFEROS 4.0

POLYMERIC GENERATIVE MANUFACTURE IN OPERATIONAL SUPPLY CHAINS 4.0

PROJEKTPROJECT MANAGEMENT: Bernhard Heiden  
DURATION: 07.10.2016–01.09.2018  
FUNDING PROGRAMME: FFG – Qualification Networks  
PROJECT VOLUME COVERED BY CUAS: < €100,000



Poly-GENFEROS 4.0 was designed to make 3D printing or generative manufacturing technologies using plastics more easily available as new manufacturing technology for companies in Austria. In pursuing this goal, these technologies should be better integrated into the company's own innovation strategy. Other topics were cost analysis and the integration of these new technologies into the manufacturing process, as well as further education on the latest trends in this field of production technologies.

REHA2030

POST-CLINICAL REHABILITATION OF STROKE PATIENTS IN RURAL AREAS IN 2030: TELEREHABILITATION AT HOME OR IN A HOME ENVIRONMENT AS A USER-ORIENTATED SERVICE FOR BRIDGING POST-CLINICAL THERAPY GAPS IN THE PROGRAMME REGION

PROJEKTPROJECT MANAGEMENT: Christina Paril  
DURATION: 01.01.2019–31.12.2021  
FUNDING PROGRAMME: Interreg SI-AT  
PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The main output in the project is a user-orientated service model for the post-clinical home rehabilitation of stroke patients and the development of the required technology platform (rehab robots, internet platform). Particular importance is attached to the sustainability aspect, and suitable project structures are prepared for the expansion of the project, including the founding of REHA International Alliance. The joint challenge in the programme region is due to the current demographic change, which has led to a shortage of post-clinical rehabilitation possibilities especially for older stroke patients in Slovenia and Austria. The shortage especially affects rural areas. The overall project aim fulfils the demand for an increase in R&I in technical and economic areas through the cross-border cooperation of relevant actors, especially in the area of telerehabilitation. Colleges and universities, companies, small and medium-sized enterprises, the public and others all benefit from the project. These are the following groups of persons in particular: stroke patients, clinical personnel, therapists, businesspeople, researchers and students. In addition, related groups are actively incorporated: insurance agents, operators of data management systems and other R&D groups in the programme region and beyond.



### RFFE-LAB

RESEARCH LAB FOR RADIO-FREQUENCY FRONTENDS

PROJEKTPROJECT MANAGEMENT: Johannes Sturm

DURATION: 01.07.2019–31.12.2023

FUNDING PROGRAMME: Cooperative research

PROJECT VOLUME COVERED BY CUAS: > €1,5 Mio.



The “Research Lab for Radio Frequency Frontends” (RFFE-Lab) is a cooperative research lab jointly operated with Silicon Austria Labs (SAL) and co-located at CUAS. As successor of the Josef Ressel Center for Integrated CMOS RF Systems and Circuits (Interact), it acts as an innovation hub for high-level research in RF and mmWave integrated circuits for wireless and wired high-speed data communication systems.



### ROB-E

PROJEKTPROJECT MANAGEMENT: Roland Willmann

DURATION: 01.09.2020–31.08.2022

FUNDING PROGRAMME: FFG - Talents Regional

PROJECT VOLUME COVERED BY CUAS: < €50,000



The idea of the swarm intelligence of robots is combined with approaches to the circular economy, leading to the development of a didactic concept for pupils at primary and secondary schools. Such robots are designed and built of recycled material. These robots are subsequently designed to gather waste themselves. Suitable aspects of this idea are conveyed to the various school ages (see also project Talentepipeline Kärnten).

### RPH\_2030

RUNDHOLZPLATZ 2030

PROJEKTPROJECT MANAGEMENT: Josef Tuppinger

DURATION: 01.01.2018–02.02.2018

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €10,000



The logyard of a sawmill still offers great potential for differentiation and productivity increases by way of innovation. In a creative workshop, concepts for a logyard 2030 were to be generated by involving external parties and staff members of the Springer company.



### S3HubsinCE

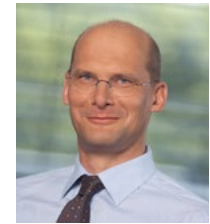
UNLEASHING THE POTENTIAL OF TRANSNATIONAL COOPERATION,  
THROUGH DIGITAL INNOVATION HUBS, TO PROMOTE RIS<sub>3</sub> IMPLEMENTATION

PROJEKTPROJECT MANAGEMENT: Roland Willmann

DURATION: 01.03.2019–28.02.2022

FUNDING PROGRAMME: Interreg CENTRAL EUROPE Programme

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The project partnership will develop an innovation network of “RIS<sub>3</sub> Champions” of Central Europe. It will initiate a new generation of innovation networks, create a comprehensive “Digital Integration Toolkit” to enhance cooperation between partners from relevant institutions, as well as develop joint strategies and action plans. The project will help relevant actors to better understand RIS<sub>3</sub> needs and the role they play in their implementation. Moreover, it will create a novel method of designing, managing and introducing innovation in the framework of smart specialisation strategies, applicable beyond participating regions.

### SAFETYPLAST

IDENTIFICATION OF MARKET ENTRY BARRIERS AND ELABORATION OF  
STRATEGY OPTIONS FOR MARKET ENTRY

PROJEKTPROJECT MANAGEMENT: Josef Tuppinger

DURATION: 02.02.2018–30.04.2018

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €10,000



Europlast Kunststoffbehälterindustrie GmbH has developed the Safetyplast product for construction site safety and has primarily sold it in France. Market entry in the German-speaking area (DACH region) has not yet been successful. In the project, internal and external market entry barriers in the DACH region were identified and measures to overcome them (technical, organisational, etc.) were derived, strategy options for a market entry were drafted, and a strategy recommendation was made.

### SCiENCE\_LiNKnockberge

PROJEKTPROJECT MANAGEMENT: Michael Jungmeier

DURATION: 09.06.2020–31.12.2024

FUNDING PROGRAMME: Research cooperation

PROJECT VOLUME COVERED BY CUAS: < €100,000



As part of a long-term cooperation with the UNESCO Nockberge Biosphere Reserve, the aim is to stimulate, develop and support student research work in the biosphere reserve region. The Bachelor and Master works should study current and important issues in the region and drive them forwards. SCiENCE\_LiNK is open to students in all fields. Successful projects can be presented in the region and in the “meine biosphere” (my biosphere) magazine.





SENSHOME  
SENSORS FOR SPECIAL ENVIRONMENTS

PROJEKTPROJECT MANAGEMENT: Daniela Krainer  
DURATION: 01.10.2019–31.03.2022  
FUNDING PROGRAMME: Interreg Italien-Österreich (ERDF)  
PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The purpose of SENSHOME is to use passive sensor networks in order to monitor and regulate room conditions (e. g. temperature, humidity, acoustics ...) to improve comfort and wellbeing, while at the same time having the possibility to identify hazardous events for people with special needs. The overarching goal is to enable a self-determined, independent life for individuals on the autism spectrum and ensure a high level of privacy. SENSHOME will bridge the gap between independent living and nursing homes to support involved user groups, especially primary end users, who are not able to live by themselves but do not require constant care either. More specifically, we aim to infer the persons' status by means of centralised architectures that collect data from a set of sensors deployed in their living environment.

SIAA  
SOZIALE INNOVATION

PROJEKTPROJECT MANAGEMENT: Petra Hössl  
DURATION: 01.01.2018–30.10.2020  
FUNDING PROGRAMME: Interreg IT-AT 2014–2020  
PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



In the course of the Interreg project, "Social Impact for the Alps-Adriatic Region (SIAA)", solutions for the key challenges of the Alps-Adriatic border regions are to be developed together with public administrative bodies, institutions and social entrepreneurs. The goal is the identification of the current situation and the development of suitable measures for developing know-how in the region and for implementing social entrepreneurship projects and foundations. In addition, the project partners from Carinthia (Carinthia University of Applied Sciences, University of Klagenfurt, build! Gründerzentrum Kärnten GmbH), Friuli-Venezia Giulia (Friuli Innovazione, Udine University), Treviso (t2i) and South Tyrol (Free University of Bozen-Bolzano) will organise design contests, followed by social impact training and an accelerator programme in order to identify approaches for solutions with a social impact on site. At the end of the project, a manual will be published, and the acquired knowledge will be transferred into the system of public administration by means of workshops.



SMARTER LEICHTBAU 4.0

PROJEKTPROJECT MANAGEMENT: Franz Oswald Riemelmoser  
DURATION: 01.05.2019–30.06.2020  
FUNDING PROGRAMME: Regionale Impulsförderung/Regional Impulse Promotion  
PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



This research focuses on pioneering lightweight construction developments (specifically on the basis of natural fibre-reinforced plastics) with integrated sensors and efficient process analysis. The "Smarter Leichtbau 4.0" project pools the expertise of Carinthia University of Applied Sciences, Carinthian Tech Research and WOOD K Plus and, at the same time, represents a link to the mainstream issue of Industry 4.0.

SMART\_PROD  
SMART PRODUCTION AND SERVICE SOLUTIONS

PROJEKTPROJECT MANAGEMENT: Roland Willmann  
DURATION: 01.08.2016–30.09.2019  
FUNDING PROGRAMME: Interreg SI-AT 2014–2022  
PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The general project goal is the development of a database of innovative, production-oriented small and medium-sized enterprises in the programme's territory of Slovenia and Austria, in the field of common technological specialisations. The topic areas include the support of small and medium-sized enterprises (SMEs) with the implementation of lean production, smart products, smart production or quality management, as well as the support of technology startups. Besides a best practice database, workshops, consulting services and small-scale implementation projects for SMEs are developed and implemented on these main issues. The focus of Carinthia University of Applied Sciences in this project is on consulting and on the implementation of smart production, as well as the creation of infrastructure to promote talent and startups. It also includes complementary networking with the Educational Lab – smart lab Module project.



## SMARTSOCCER

SMARTSOCCER - SMARTFISH UNLIMITED

PROJEKTPROJECT MANAGEMENT: Helmut Wöllik

DURATION: 21.11.2017–31.07.2018

FUNDING PROGRAMME: FFG – Innovation Voucher with excess 2018

PROJECT VOLUME COVERED BY CUAS: < €50,000



The project dealt with the compilation of mathematical models of ball movements during simple football training exercises. The aim is the verification of these models by way of linear acceleration and gyro sensors that can be positioned with little or no influence on or inside the ball. Using Bluetooth low energy transmission methods, they can be visualised on a computer or smartphone.

## SMARTVITAALITY

CARINTHIAN TEST REGION FOR THE SUPPORT OF HEALTH AND WELL-BEING

PROJEKTPROJECT MANAGEMENT: Johannes Oberzaucher

DURATION: 01.01.2017–31.12.2019

FUNDING PROGRAMME: BMVIT – benefit: ICT of the Future – Demographic Change

PROJECT VOLUME COVERED BY CUAS AS LEADPARTNER: > €500,000

TOTAL PROJECT VOLUME: €1,6 Mio.



Within the context of the Smart VitAALity project, assistance systems for older people are being developed. These systems are implemented in a Smart City setting such as “Health, Inclusion and Assisted Living” in senior citizens’ homes. The Smart VitAALity system offers needs-based, extendable/upgradeable, modular and intuitively useable services for future users and their personal environment that are well-integrated in existing everyday processes. The main research question concerns the effectiveness in core dimensions of empirically measurable quality of life (well-being, health, social inclusion) and whether defined factors of quality of life can be positively influenced. Smart VitAALity is a cooperative research project and is co-funded as part of the FFG programme “benefit” with funds provided by the Federal Ministry for Transport, Innovation and Technology.

## SNOWDRONE

DRONE-BASED SNOW DEPTH MEASUREMENT

PROJEKTPROJECT MANAGEMENT: Gernot Paulus

DURATION: 01.02.2020–31.12.2020

FUNDING PROGRAMME: R&D service

PROJECT VOLUME COVERED BY CUAS: < €50,000



The aim of this project was the evaluation of drone-based, contactless snow depth measuring in selected high alpine test regions in the area of the Kolnbreinsperre dam in the Maltatal valley in Carinthia. Various drone flight platforms and sensor systems were used for this.



## SPORTNETWORK

PROJEKTPROJECT MANAGEMENT: Helmut Wöllik

DURATION: 01.05.2018–31.10.2030

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €50,000



This project deals with the development and operation of network and communication technology components for their use at sports events. In particular, radio channel planning, setting up operation schedules for communication processes (language, chat, data workflow), development and configuration of software tools and database architectures for athlete administration, ad hoc mobile networks (STAMINA V2) and the development of modern authentication systems for public WLAN with sponsor-ready added value (social login), are taken into account. Clients include the event organisers of Ironman Austria, Kärnten Läufer, Spartan Race, World Bodypainting Festival, Special Olympics Austria, etc.

## STEVE

SMART-TAILORED L-CATEGORY ELECTRIC VEHICLE DEMONSTRATION IN HETEROGENEOUS URBAN-USE-CASES

PROJEKTPROJECT MANAGEMENT: Erich Alois Hartlieb

DURATION: 01.11.2017–31.03.2021

FUNDING PROGRAMME: H2020-GV-2016–2017 (2016–2017 Green Vehicles)

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The underlying idea of the STEVE project is the implementation and testing of lightweight electric vehicles in four European towns (Calvià in Spain, Turin and Venaria Reale in Italy, and Villach in Austria). The aim is to create attractive new mobility services that are affordable, convenient and environmentally friendly, both for local residents and for visitors. The team at Carinthia University of Applied Sciences closely cooperates with the project partners and local institutions in Villach to develop customer-oriented offers and business models for sustainable implementation.





# STICKLETT

EXPERT VALUATION AND QUALITATIVE UX ANALYSIS

PROJEKTPROJECT MANAGEMENT: Daniela Elisabeth Ströckl  
DURATION: 01.02.2018–30.05.2018  
FUNDING PROGRAMME: Contract research  
PROJECT VOLUME COVERED BY CUAS: < €50,000



In the context of a heuristic evaluation and based on the heuristics of Jakob Nielsen, an expert evaluation was performed with 5 people from the specialist domains of computer sciences, development and usability. Furthermore, it was ensured that the experts also had contact to children, so they could assess the product properly. Another component was a high-quality UX analysis where 10 test subjects tested the product for 3 to 5 days in their own personal environment. Their experiences were documented in subsequent interviews. Finally, the results were summarised, and suggestions for optimisation were submitted.

# SURE

START-UP REGION – AWARENESS AND MOBILISATION FOR REGIONAL ENTREPRENEURSHIP AND FOUNDATIONS

PROJEKTPROJECT MANAGEMENT: Josef Tuppinger  
DURATION: 01.09.2019–30.06.2021  
FUNDING PROGRAMME: Contract research  
PROJECT VOLUME COVERED BY CUAS: < €10,000



To establish and maintain a living space also as a working environment requires additional effort, in order to ensure sustainable economic development and a high intensity for start-ups. It has been proven that in regions which support entrepreneurial activity, new companies emerge and existing companies grow quickly, while foundations elsewhere are rarer and small start-ups either do not develop further or disappear again quickly. The aim of this project is to promote both innovation and the founding of companies in the region. This is achieved by showing ways, methods and support options of how to move from an idea to a product/service and company foundation. By emphasising best-practice examples from the region and networking like-minded people, collective learning should be enabled and innovation networks formed.



# T4

TRANSNATIONAL TECHNOLOGY TRANSFER TRAINING: TRAINING BLUEPRINTS FOR ACCELERATED GROWTH

PROJEKTPROJECT MANAGEMENT: Roland Willmann  
DURATION: 07.12.2016–31.10.2018  
FUNDING PROGRAMME: EACEA – Erasmus+ Key Action 2: Capacity building in the field of higher education  
PROJECT VOLUME COVERED BY CUAS: < €50,000



The main goal of this project was to improve the skills and competencies of European SMEs in the field of transnational technology transfer, as well as to accelerate reactions from public and private organisations and their interest groups to qualification requirements defined by SMEs. In the context of this project, the content of the qualifications demanded from technology transfer managers was identified. Furthermore, a curriculum for transnational technology transfer management was developed and made available to the public on an e-learning platform.

# TALENTEPIPELINE Kärnten

PROJEKTPROJECT MANAGEMENT: Roland Willmann  
DURATION: 13.02.2019–open  
FUNDING PROGRAMME: mixed  
PROJECT VOLUME COVERED BY CUAS: > €500,000



The handling of modern manufacturing technologies is presented to pupils and teachers at primary and secondary schools in order to raise MINT capabilities, showing how ideas can be converted into reality. The programme is based on the smartlab locations in the Klagenfurt Lakeside Park and Villach Technology Park. Innovative teaching concepts (e.g. Making Mathematics Tangible, Inverted Virtual Classroom) are developed at the Educational Lab at Lakeside Park. The aim is to foster the interest of young people in technical study courses and potential company foundations through increased MINT capabilities. The programme draws on the possibilities of the innovation workshop and start-up garages. The project is funded through CUAS's own means, in combination with third-party funding from KWF/EFRE, Lakeside Park, BABEG and others.



TIMING

PROJEKTPROJECT MANAGEMENT: Helmut Wöllik  
DURATION: 09.02.2018–31.12.2030  
FUNDING PROGRAMME: Contract research  
PROJECT VOLUME COVERED BY CUAS: < €50,000



Executing service contracts for timekeeping in sports. Use of (active and passive) transponder systems developed internally at Carinthia University of Applied Sciences with the corresponding live timing software “FH Timing”. Alternatively, or in combination with transponder systems, tracking systems are also offered and used (GPS or beacon technology). Clients include the organisers of the Grossglockner Mountain Run, TriStar Switzerland, Tour de Kärnten and Special Olympics Austria, various associations of the Carinthian Triathlon Federation, and others.

USA – AUSTRIA Transnational  
Research Cooperation  
MARSHALLPLAN STUDENT SCHOLARSHIPS

PROJEKTPROJECT MANAGEMENT: Gernot Paulus  
DURATION: 10 projects with a duration between 3 and 5 months per project (2018 – 2020)  
01.03.2018–01.08.2020  
FUNDING PROGRAMME: Austrian Marshall Plan Foundation – Marshall Plan Jubilee Foundation  
PROJECT VOLUME COVERED BY CUAS: < €100,000



Since 2009, Carinthia University of Applied Sciences has been one of the most successful Austrian universities at the awards of research grants for students awarded by the Austrian Marshall Plan Foundation, thanks to international research collaborations with top US universities within the study programmes in the fields of Geoinformation and Environmental Technologies (BSc) or Spatial Information Management. These research grants allow ambitious students of our study courses and those at our American partner institutes to gain research experience in an international environment during their education programme, and to prepare themselves in the best possible way for a future career in the field of geoinformation and environmental technologies. In the period from 2016 to 2018, 14 students were successfully nominated for a Marshall Plan grant: 1 American doctoral candidate, 4 American master’s students and 9 national and international master’s and bachelor’s students from our “geo” study courses. The strategic focuses of research topics include innovative methods and applications of geoinformation technologies in the fields of high-resolution environmental monitoring with unmanned aerial systems, crime analysis and prediction, spatial decision support, spatial data mining and the geospatial analysis of social media data.



USEDT  
ULTRASONIC ENERGY AND DATA TRANSMISSION

PROJEKTPROJECT MANAGEMENT: Pascal Nicolay  
DURATION: 17.04.2019–31.12.2021  
FUNDING PROGRAMME: Contract research  
PROJECT VOLUME COVERED BY CUAS: < €50,000



Integrated sensors are one of the key technologies for the “Internet of Things” and Industry 4.0. However, there is the problem of the wireless reading of sensors that are integrated into closed structures with metal walls (e.g. chemical reactors). In this case, it is not possible to use conventional wireless techniques (radio waves) because radio frequencies cannot penetrate metal. At CiSMAT, researchers from the group SHM Labs are working in partnership with Silicon Austria Labs and TDK-EPCOS on the development of a solution for the transmission of data and energy through thick metal walls by means of ultrasound waves. Several prototypes have already been developed and successfully tested.

VIPL  
CREATION OF A VIRTUAL INNOVATION AND PRODUCTION LABORATORY FOR  
EXPERIMENTAL RESEARCH WITH STUDENTS

PROJEKTPROJECT MANAGEMENT: Bernhard Heiden  
DURATION: 04.04.2016–31.12.2018  
FUNDING PROGRAMME: Research cooperation  
PROJECT VOLUME COVERED BY CUAS: < €50,000



Creation of a virtual innovation and production laboratory for experimental research with students. Development and realisation of an experiment for the production of robots. One strategic goal is the further development of the holistic approach of innovation and production processes. In addition, the options available for the production of robots should be researched by using generative manufacturing methods.





### VISIR+

EDUCATIONAL MODULES FOR ELECTRIC AND ELECTRONIC CIRCUITS THEORY AND PRACTICE FOLLOWING AN ENQUIRY-BASED TEACHING AND LEARNING METHODOLOGY SUPPORTED BY VISIR



PROJEKTPROJECT MANAGEMENT: Andreas Pester

DURATION: 01.01.2016–12.04.2018

FUNDING PROGRAMME: EACEA – Erasmus+ Key Action 2: Capacity building in the field of higher education

PROJECT VOLUME COVERED BY CUAS: < €100,000

The project targeted the broad field of Electrical Engineering and, within it, the subject of circuit theory and practice. It aimed to define, develop and evaluate a set of educational modules comprising hands-on, virtual and remote experiments; the latter supported by a remote lab named Virtual Instruments System in Reality (VISIR). The nature of each experiment had an impact on the students' perception of circuit behaviour. Therefore, it is mandatory to understand how these different learning objects can be arranged together in order to scaffold their understanding and increase their laboratory-based skills. The concern of the underpinning teaching and learning methodology is to favour, in particular, student autonomy for discovering how circuits work through an enquiry-based approach. VISIR+ brought together the power of the best remote lab for experiments with electrical and electronic circuits as well as the long history of collaboration among the consortium partners. Moreover, it fostered the exchange of best practices between Europe on one side and Brazil and Argentina on the other.

### WTZ II Süd

KNOWLEDGE TRANSFER CENTRE II SOUTH



PROJEKTPROJECT MANAGEMENT: Christina Paril

DURATION: 01.07.2019–31.12.2021

FUNDING PROGRAMME: aws – Austria Wirtschaftsservice

PROJECT VOLUME COVERED BY CUAS: < €100,000

The Knowledge Transfer Centre South consists of five cooperative projects and their coordination. 1. Transfer impulses: the cooperative project contributes to the professionalisation of handling intellectual property and implements concrete measures for optimising the transfer of knowledge and technology at participating research institutes, with special consideration of humanities, social and cultural sciences. 2. Usage channels 2.0: a wide spectrum of usage channels in a range of scientific disciplines is analysed and comprehensive expertise regarding usage alternatives for universities and universities of applied sciences is developed. 3. For the commercialisation of technologies and the support of start-ups, two components are developed and combined in this cooperative project: founder personalities at the institutions, technologies, project contents and foundation contents. 4. In this cooperative project, information/training blocks for pioneering technology sectors are offered by the participating universities for illustration. 5. This cooperative project studies the participatory development of new research themes and the consideration of research requirements from society and corporate practice.





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### ALTERSBILD

THE IMAGES OF OLD AGE IN BENEFIT AND AAL PROJECTS  
A MIXED METHODS STUDY

**PROJEKTPROJECT MANAGEMENT:** Olivia Kada

**DURATION:** 08.10.2018–31.05.2019

**FUNDING PROGRAMME:** BMVIT – benefit: ICT of the Future – Demographic Change as an Opportunity

**PROJECT VOLUME COVERED BY CUAS ALS LEADPARTNER:** < €50,000

**TOTAL PROJECT VOLUME:** approx. €74,100

In collaboration with the Institute of Psychogerontology (IPG) at the Friedrich Alexander University in Erlangen-Nuremberg, benefit projects and studies as well as AAL projects are analysed in the context of a mixed methods design under Austrian-led management. The content of user groups is analysed, the developed technical solutions are categorised against the backdrop of gerontological theories and concepts of the assessment of consequences of technologies, and an analysis of the images of old age reflected in language use is performed. A comprehensive integration of relevant stakeholders is achieved by involving senior citizens and students, and by taking perspectives held by the researchers taking part in these projects into account.



### AR\_FÄHIG

STUDY: “(IN)CAPABLE OF WORK?”

**PROJEKTPROJECT MANAGEMENT:** Susanne Dungs

**DURATION:** 18.12.2019–31.10.2021

**FUNDING PROGRAMME:** Call for Proposals of the Federal Ministry of Labour,  
Social Affairs, Health and Consumer Protection

**PROJECT VOLUME COVERED BY CUAS:** < €100,000

The aim of this project is the development of a study on “work (in)capability”. The job market in Austria presents itself as dynamic and adaptable, in European comparison. The Austrian labour market policy is therefore considered exemplary by the EU. Even so, the Austrian labour market is still structured in such a way that persons with disabilities who are very interested in regular work can be labelled as “incapable of work” as part of assessment processes, obstructing their professional integration, qualification or rehabilitation. This equates in practice to a “work prohibition” in the general labour market, according to “dabei austria” (2018). The avenue of special school/workshop has been criticised, along with the lack of permeability of the general job market, special work conditions and other excluding settings. The “(In)capable of work?” study examines on the one hand to what extent the existing procedures for determining the incapacity for work contribute to a structural exclusion of people with disabilities on the job market. On the other hand, also on the basis of an international comparison, recommendations for inclusion are formulated that are orientated towards Article 27 of UN Convention on the Rights of Persons with Disabilities, which states a right to “equal work opportunities” for persons with disabilities.



### BEP2024

REQUIREMENTS AND DEVELOPMENT PLANNING FOR PERSONS WITH  
DISABILITIES – EVALUATION OF REQUIREMENTS PLANNING 2020-2024

**PROJEKTPROJECT MANAGEMENT:** Christine Pichler

**DURATION:** 01.04.2020–31.10.2020

**FUNDING PROGRAMME:** Contract research

**PROJECT VOLUME COVERED BY CUAS:** < €50,000

In the requirements and development planning for persons with disabilities in Carinthia, an economic requirements prognosis was compiled with regard to the necessary financial means for the care and supervision of persons with disabilities in the areas of residence, work/occupation, assistance and school/playschool. Additionally, a qualitative and participatory survey was carried out in these areas, as well as among the carers, and the needs of employees and those affected were sounded out. In the context of an inclusive society and of self-determination and participation, as well as on the basis of the Carinthian Equal Opportunities Act and the UN Convention on the Rights of Persons with Disabilities, the project results serve further development in these areas for persons with disabilities in Carinthia.





### C4S CITIZENS4SCIENCE

PROJEKTPROJECT MANAGEMENT: Marika Gruber,  
Gabriele Hagendorfer-Jauk

DURATION: 01.06.2020–30.09.2021

FUNDING PROGRAMME: Internal projects

PROJECT VOLUME COVERED BY CUAS: < €50,000



The aim of the project Citizens4Science is to establish a wide knowledge base at Carinthia University of Applied Sciences for participation-based research projects, to reflect on various terminologies and along with citizens to create the research process of a Citizen Science project as part of a participatory process. The experience gained is gathered in a methodology toolkit, good-practice examples of various methods and tools are recorded in the form of a Citizens4Science manual and made available to the interested research community (of universities of applied sciences).

### CarinthiJa 2020 YOUTH PARTICIPATION AND DEMOCRATISATION IN THE AGE OF ACCELERATION: HISTORICAL REFLECTIONS – CONTEMPORARY ANALYSES – FUTURE PERSPECTIVES

PROJEKTPROJECT MANAGEMENT: Waltraud Grillitsch,  
Christian Werner Erich Oswald

DURATION: 01.11.2019–30.11.2020

FUNDING PROGRAMME: Province of Carinthia

PROJECT VOLUME COVERED BY CUAS: < €50,000



The aim of the project was the development of a conference concept under the motto of “youth participation and democratisation in the age of acceleration: historical reflections – contemporary analyses – future perspectives”.

### DFGM DEMENTIA-FRIENDLY MODEL COMMUNITY OF MOOSBURG

PROJEKTPROJECT MANAGEMENT: Gabriele Hagendorfer-Jauk

DURATION: 01.02.2018–31.01.2020

FUNDING PROGRAMME: FGÖ – Practice-oriented project

PROJECT VOLUME COVERED BY CUAS: < €100,000



The aim of this project is to promote the development of commitment to dementia-friendly living environments and caring local communities. Awareness-raising, specific actions and events to strengthen the support networks and self-organisation, as well as the exchange between generations and professions, are designed to mitigate the exclusion of those affected by dementia.



### ETSCHU HOW TO BE A PUPIL – OCCUPATIONAL THERAPY IN SCHOOLS

PROJEKTPROJECT MANAGEMENT: Angelika Mitterbacher

DURATION: 06.09.2017–31.10.2018

FUNDING PROGRAMME: Internal project

PROJECT VOLUME COVERED BY CUAS: < €100,000



The “How to be a Pupil – Occupational Therapy in Schools” research project dealt with possible support offers for children during their first year at school. The goal was to point out the efficiency of school-based occupational therapy among children during their first year at school, and to ensure that pupils fulfil their roles in order to cope with the challenges of everyday school life.

### EVALCF EVALUATION OF THE INTEGRATIVE EMPLOYMENT PROJECT “CHANCENFORUM”

PROJEKTPROJECT MANAGEMENT: Susanne Dungs

DURATION: 01.09.2017–31.07.2018

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €50,000



autArK Soziale Dienstleistungs-GmbH, with its project ChancenForum (CF, Opportunity Forum) for people with learning disabilities in Carinthia, offers regular employment and therefore promotes inclusion in the mainstream labour market. autArK works as a staff leasing agency for employers and provides comprehensive support both for CF workers and the participating businesses, as it provides personal work assistance (PEAASS) that considerably contributes to implementing inclusion. During the project, the ChancenForum was evaluated based on socio-scientific and macroeconomic criteria.





### FAM\_CASE

#### FAMILY-CENTRIC CASE MANAGEMENT

PROJEKTPROJECT MANAGEMENT: Melitta Horak

DURATION: 01.04.2020–30.09.2021

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €50,000



This pilot project is carried out in the form of practical research and includes the implementation of an evidence-based, systematic guideline; the so-called 15-minute family interview. This family discussion was conceived as part of a 30-year research-based development project at the University of Calgary in Canada by the care experts Lorraine M. Wright and Maureen Leahey. It contains the practice-relevant basic elements of the Calgary Family Assessment and Intervention Model and is used very successfully in practice both internationally and in Europe. As part of this practical research, the aim is now to study to what extent this 15-minute family interview can represent added value also for the case managers of WiSo when dealing with families in care situations. Corresponding training elements and scientific supervision of the implementation phase are planned.

### GEKO

#### GEKO GERIATRIC CONSULTATION SERVICE ROLLOUT

PROJEKTPROJECT MANAGEMENT: Olivia Kada

DURATION: 12.06.2018–31.12.2020

FUNDING PROGRAMME: Research cooperation

PROJECT VOLUME COVERED BY CUAS: < €10,000



At Klagenfurt General Hospital, a geriatric consultation service (GEKO) will be established and rolled out, step by step, to include care homes in Carinthia. The task of Carinthia University of Applied Sciences is to scientifically accompany this project.

### GUTE\_IDEE I+II+III

PROJEKTPROJECT MANAGEMENT: Kai Brauer

DURATION: 28.11.2016–31.08.2018

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €50,000



Scientific support and evaluation of the “Gute Idee” (“Good idea”) diabetes prevention programme. By employing the approach of “action-based integrated accompanying research”, a multi-stage impact analysis was carried out in the form of standardised interviews, expert interviews and validation rounds.



### IATLAS

#### TOWARDS VALID BRAIN IRON QUANTIFICATION USING MAGNETIC RESONANCE IMAGING

DEVELOPMENT OF A HISTOLOGICALLY BASED 3D IRON AND MYELIN VALIDATION  
MAP AND ITS COMPARISON TO QUANTITATIVE SUSCEPTIBILITY MAPPING

PROJEKTPROJECT MANAGEMENT: Günther Grabner

DURATION: 01.06.2015–31.12.2018

FUNDING PROGRAMME: Research cooperation

PROJECT VOLUME COVERED BY CUAS: < €50,000



The aim of this project was to create a 3D iron atlas and a myelin atlas of the entire human brain in order to evaluate QSM and R2\* mapping. The iron atlas and the myelin map will be based on 2D histological analysis and the ferrozine assay will be used to calculate a quantitative iron map. In order to create a 3D map of the iron and myelin concentrations, the 2D iron and myelin stains will be reconstructed to a 3D volume referred to as atlas.

### INNO\_VI

#### DEVELOPMENT OF AN INNOVATION MANAGEMENT SYSTEM FOR THE TOWN OF VILLACH

PROJEKTPROJECT MANAGEMENT: Peter Granig

DURATION: 01.08.2019–30.05.2021

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €50,000



The aim of the project is the scientific supervision of the development of an innovation management system for the town of Villach. The following steps are handled by Carinthia University of Applied Sciences: development of an innovation management system, strategic consulting in innovation matters, support in the development of an innovation culture, support for the operative implementation of the innovation management system, support in evaluating innovation projects, supervision of the implementation of innovation projects.



### INVOLVED

PROJEKT „INVOLVED“

PROJEKTPROJECT MANAGEMENT: Susanne Dungs

DURATION: 15.08.2019–31.05.2020

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €50,000



The project “INVOLVED” was aimed at cross-border cooperation with relevant actors from Slovenia, Carinthia and Styria, in order to develop and implement new innovative approaches to the social integration of persons distant to the labour market and persons threatened with exclusion from the job market. The project initiators on the one hand hoped for a fundamental strengthening of social cohesion in the involved regions, on the basis of the consideration of the specific needs and requirements of the selected target groups. On the other hand, the resulting network of transregional cooperation can be used in future to be able to meet a range of social challenges together.

### IRING

THE INFLUENCE OF IRON RINGS AROUND MULTIPLE SCLEROSIS LESIONS ON LESION GROWTH, BRAIN ATROPHY AND DISEASE PROGRESSION IN MULTIPLE SCLEROSIS PATIENTS

PROJEKTPROJECT MANAGEMENT: Günther Grabner

DURATION: 01.03.2018–31.12.2019

FUNDING PROGRAMME: Research cooperation

PROJECT VOLUME COVERED BY CUAS: < €50,000



Multiple sclerosis is a chronic disease of the central nervous system. Some magnetic resonance imaging (MRI) markers for disease activity such as the number of Gadolinium-enhancing lesions work well to predict the conversion from clinically isolated syndrome to MS. MRI and pathological studies report iron accumulation around a subset of chronically demyelinated MS plaques forming characteristic iron ring lesions. In this longitudinal imaging study on MS patients, we will analyze the presence or absence of hypointense rings around lesions in susceptibility-weighted imaging (SWI). If the presence or absence of the respective lesion types is indeed related to faster or slower atrophy development, we will be able to establish a highly practical novel imaging marker for disease progression in multiple sclerosis.



### CHILDREN’S AND YOUTH UNIVERSITY OF CARINTHIA UNIVERSITY OF APPLIED SCIENCES

PROJEKTPROJECT MANAGEMENT: Waltraud Grillitsch,

Christian Werner Erich Oswald

DURATION: 01.02.2019–10.11.2020

FUNDING PROGRAMME: Federal Ministry of Education, Science and Research

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The Children’s and Youth University of Carinthia University of Applied Sciences provided a range of opportunities for children and young people between 6 and 19 years old to get to know the university through research and teaching. It offered themes in the areas of health sciences and social work, as well as engineering and IT, in participatory workshops at the campuses (in Feldkirchen, Villach, Klagenfurt), “on tour” directly at schools, as well as in an online format. As part of the interactively designed workshops, the participating pupils could work on themes such as addiction, autism, diversity, bullying prevention, gender and family diversity, human rights and discrimination, as well as geoinformatics and technology, etc. The following study courses were involved: Disability & Diversity Studies, Occupational Therapy, Healthcare and Nursing, Healthcare Management, Midwifery, Social Work, Geoinformatics and Environment. The workshops were led by teaching staff from CUAS or by students from the “Health Sciences & Social Work” study course in the form of a peer education format.

### KOHAK

KOLPINGHAUS KLAGENFURT HOME FOR THE ELDERLY – INITIATIVE

PROJEKTPROJECT MANAGEMENT: Kai Brauer

DURATION: 01.05.2017–02.05.2018

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €10,000



By means of an “action-based, integrated accompanying research” approach, the creation of the “Kolpinghaus – home for the elderly” living concept was scientifically accompanied in the form of participatory processes. Research was used to observe the start of a new residential project right from the beginning. The input was useful for planning tasks to be carried out by the funding bodies (Medical Chamber), and the idea is that it will lead to more comprehensive academic research and potentially also third-party funded projects.



### KUKIS-TOOLBOX

#### COMPETENT AND COHERENT STUDY TOOLBOX

PROJEKTPROJECT MANAGEMENT: Eva Mir

DURATION: 01.03.2019–31.07.2020

FUNDING PROGRAMME: Internal project

PROJECT VOLUME COVERED BY CUAS: < €50,000



The KukiS toolbox project was initiated by the Healthcare Management study course and focussed on key competences for fostering the ability to study, addressing personal skills and social skills in particular. As part of the project, innovative teaching and learning materials for the following topics were developed, in some cases with student participation:

1. Procrastination – the problem of putting things off
2. Loneliness – I feel so lonely
3. Student coherence – Where's the insight?
4. Movement in teaching – the Physiotherapy study course makes us stand up!

A reflexive consideration of resources and challenges, as well as the strengthening of the associated competences, can make an essential contribution to employability.

The developed teaching and learning materials have been available free of charge since the summer semester of 2020 to all the students and employees of CUAS via Moodle.

<https://blog.fh-kaernten.at/kukis/>

For the wider public and other interested parties, the KukiS blog at <https://blog.fh-kaernten.at/kukis/> was created, which also provides a corona special with “tips to avoid procrastinating” and “tips to avoid loneliness in times of social distancing”.

### MOSS

#### MOVING INTO SOFT SKILLS

PROJEKTPROJECT MANAGEMENT: Outi Sulopuisto

DURATION: 01.09.2019–31.08.2021

FUNDING PROGRAMME: Erasmus+ K2 Strategic Partnerships

PROJECT VOLUME COVERED BY CUAS: < €100,000



The Erasmus+ project MOSS – “Moving into Soft Skills” – thematises the development of an innovative and adaptable training module (16 teaching units) for conveying soft skills by means of body-orientated and somatic approaches. The project is being carried out in 4 EU countries and brings together methods from social education, contemporary dance, dance movement therapy and experiential learning. The module is being tested with selected groups of students over the winter semester of 2020/21.



### MS\_BRAIN

#### TEMPORAL CHANGES IN THE BRAIN OF MS PATIENTS

PROJEKTPROJECT MANAGEMENT: Günther Grabner

DURATION: 01.01.2020–31.12.2020

FUNDING PROGRAMME: Cooperative research

PROJECT VOLUME COVERED BY CUAS: < €50,000



Multiple sclerosis (MS) is a chronic disease of the central nervous system. Some magnetic resonance imaging (MRI) markers for disease activity, such as the number of Gadolinium-enhancing lesions, work well to predict the conversion from clinically isolated syndrome to MS. In this longitudinal imaging study on MS patients, we analysed the brains (atrophy rates and so on) of MS patients. The goal of this study was to determine new markers for MS development based on the presence or absence of faster or slower atrophy rates of certain brain structures.

### OPEN\_VI

#### OPENVILLACH

PROJEKTPROJECT MANAGEMENT: Peter Granig

DURATION: 21.12.2018–31.08.2019

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €10,000



The brief “Open Villach” study examined what optimisation and transparency potential “digital openness” harbours as a guideline across different administrations.

### PATHWAYS

#### PARTICIPATION TO HEALTHY WORKPLACES AND INCLUSIVE STRATEGIES IN THE WORK SECTOR

PROJEKTPROJECT MANAGEMENT: Susanne Dungs

DURATION: 01.05.2015–30.04.2018

FUNDING PROGRAMME: CHAFA – 3<sup>rd</sup> Health Programme

PROJECT VOLUME COVERED BY CUAS: < €100,000



The aim of the project was to develop recommendations for innovative approaches for the professional (re-)integration of people with chronic diseases. The focuses of research were the depiction of existing strategies for (re-)integration, the evaluation of their effectiveness and inquiries on work-related requirements of people with chronic diseases, as well as the perspectives of national and European stakeholders.





### PRECONET

PRECONCEPTION HEALTH OF YOUTH,  
BRIDGING THE GAP IN AND THROUGH EDUCATION

PROJEKTPROJECT MANAGEMENT: Birgit Münzer

DURATION: 24.10.2018–30.09.2021

FUNDING PROGRAMME: EACEA – Erasmus+ Key Action 2: Capacity building in the field  
of higher education

PROJECT VOLUME COVERED BY CUAS: < €100,000



This “Erasmus+” project is scheduled to last three years and is based on the fact that having children is occurring later and later in life in Europe due to lifestyle factors, among other things. The project focuses on the health of women and men before pregnancy. On this subject, efficient education concepts will be defined in this project, and innovative, digital teaching packages will be devised. The Tampere University of Applied Sciences in Finland has created this Education, Audiovisual and Culture Executive Agency (EACEA) project together with the Midwifery degree programme and the Nursing degree programme at Carinthia University of Applied Sciences, as well as the Midwifery degree programme at the University of Ljubljana (Slovenia), the Nursing and Midwifery degree programmes at the VIVES University College (Belgium) and the Faculty of Health Sciences at the University of Primorska (Slovenia).

### PROSOWO II

PROFESSIONAL SOCIAL WORK IN EAST AFRICA – TOWARDS SUSTAINABLE IMPACT

PROJEKTPROJECT MANAGEMENT: Helmut Spitzer

DURATION: 28.01.2016–31.03.2019

FUNDING PROGRAMME: OEAD – Appear 2014–2020

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



PROSOWO II is an extension of activities that were successfully implemented under the PROSOWO project (2011–2014) in order to promote professional social work in East Africa. The overall objective of the international cooperation between partner institutions from Austria, Burundi, Kenya, Rwanda, Tanzania and Uganda is directed towards the formation and strengthening of mechanisms for social work education and practice to more effectively contribute to poverty reduction and social development in countries of the East African Community. Key components of the project are practice research, curriculum review, policy advocacy, joint publications and conferences, as well as the establishment of a regional centre for research and innovation in social work.



### QO

QUALITY INITIATIVE FOR THE SUBDIVISION OF INTERDISCIPLINARY  
SOCIAL/DEVELOPMENT PLANNING, YOUTH, FAMILY AND WOMEN INCL.  
PROFESSIONAL ADMINISTRATIVE AND SERVICE DEPARTMENTS FOR CHILD  
PROTECTION AND SOCIAL WORK CARINTHIA/GENERAL SUPERVISION

PROJEKTPROJECT MANAGEMENT: Hubert Höllmüller

DURATION: 01.03.2019–16.12.2019

FUNDING PROGRAMME: Office of the Provincial Government of Carinthia

PROJECT VOLUME COVERED BY CUAS: < €50,000



For the subdivision of Department 4, Social Security, of the Province of Carinthia, an organisational consultation process was carried out on the basis of completed evaluations, which has raised the process and results standards in the administration of child and youth welfare.

*... supplying accurately, optimising profitably,  
evaluating new developments: this is how research  
modernises healthcare ...*



### SLIKH

SMART LIVING IN KLAGENFURT HARBACH

PROJEKTPROJECT MANAGEMENT: Kai Brauer

DURATION: 01.02.2017–31.01.2018

FUNDING PROGRAMME: BMVIT – Climate and Energy Fund, Smart Cities Demo

PROJECT VOLUME COVERED BY CUAS: < €100,000



The result of this project is a comprehensive guide and list of action for smart residential areas that is used as the basis for the detailed planning of “hi Harbach”. Next to mobility, the design of green areas and open spaces, building technology, new information technologies and smart home applications, the social innovation and the development of an innovative social space concept were the focus of this project.



### SOZ\_KONGO

STRUCTURAL IMPROVEMENT OF SOCIAL WORK FOR  
A SUSTAINABLE FIGHT AGAINST POVERTY IN EASTERN CONGO

PROJEKTPROJECT MANAGEMENT: Helmut Spitzer

DURATION: 01.01.2018–30.06.2019

FUNDING PROGRAMME: Office of the Provincial Government of Carinthia –  
Developmental projects

PROJECT VOLUME COVERED BY CUAS: < €50,000



This project aims at improving social work in the crisis-torn region in the east of the Democratic Republic of Congo. The primary objectives are: 1. Short-term: foundation and institutional anchoring of a professional association for social work for structural influence on social politics and the fight against poverty in Eastern Congo; 2. Medium-term: foundation of an educational institution for social work in cooperation with the University of Bukavu; 3. Long-term: provision of qualified social workers to support poor and vulnerable population groups.

### SPEKTRAAL

PRESENTATION OF THE SPECTRUM OF BENEFIT/AAL SOLUTIONS IN LIGHT  
OF THE USER PERSPECTIVE AND GERONTOLOGICAL THEORIES

PROJEKTPROJECT MANAGEMENT: Olivia Kada

DURATION: 01.09.2019–16.06.2020

FUNDING PROGRAMME: FFG benefit

PROJECT VOLUME COVERED BY CUAS: ≈ €50,000



In the project SpektrAAL, the spectrum of technical solutions for elderly persons was presented on the basis of twelve benefit and AAL projects. Uniform project descriptions were developed for all the projects; alongside aims and usage areas they also contained target group descriptions and details of phases and methods of user inclusion, as well as of technological maturity and interconnections with other projects.

In the end user study, 47 guided interviews were carried out with primary, secondary and tertiary end users regarding their experiences in participating in the project and using the technical solutions. The primary end users also completed a brief standardised questionnaire. The study allowed new insights to be gained into the use of modern technologies as part of development regulation, as well as the presentation of the experienced effects in terms of development opportunities and risks from the point of view of end users, along with important indicators for how to structure participatory processes. In addition, overview videos were produced in the project in which the technical solutions of the twelve projects were presented in a generally understandable form from the point of view of developers and users.



### SURAAA

AUTONOMOUS DRIVING IN PÖRTSCHACH

PROJEKTPROJECT MANAGEMENT: Peter Granig

DURATION: 06.09.2017–31.03.2020

FUNDING PROGRAMME: Research cooperation

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The goal of the SURAA project is to provide an efficient, environmentally sound and affordable mobility system for the future, which supports a specific development in the field of autonomous driving, and, at the same time, to develop the relevant business models and foundations for decision-making. It is the task of Carinthia University of Applied Sciences to provide scientific assistance during the organisation and implementation of autonomous driving and the test environment for autonomous driving in Pörtlach.

### TIFARITI

DEVELOPMENT OF A SOCIAL SCIENCE RESEARCH GROUP AT TIFARITI  
UNIVERSITY IN THE SAHARAWI REFUGEE CAMPS IN WESTERN ALGERIA

PROJEKTPROJECT MANAGEMENT: Hubert Höllmüller

DURATION: 01.01.2019–31.03.2020

FUNDING PROGRAMME: Office of the Provincial Government of Carinthia

PROJECT VOLUME COVERED BY CUAS: < €10,000



A research group was developed with young academics who grew up in and live in the refugee camps, who with expert support developed and carried out projects researching refugee society, in order to stimulate sustainable development projects.





### TOBP

TRANSCULTURAL OPEN BADGES PLATFORM FOR MIGRANT'S TRANSITION  
MENTORING IN EARLY LIFE FAMILY CARE

PROJEKTPROJECT MANAGEMENT: Katerina Sidiropulu Janku

DURATION: 03.10.2018–31.08.2021

FUNDING PROGRAMME: Erasmus+ Key Action 2: Cooperation for Innovation and the Exchange of Good Practices, KA203: Strategic Partnership for higher education

PROJECT VOLUME COVERED BY CUAS ALS LEADPARTNER: < €100,000

GESAMTVOLUMEN: < 200.000 €



With the "Erasmus +" project ToBP (Transcultural Open Badge Platform for Migrant's Transition Mentoring in EARLY LIFE FAMILY CARE), Carinthia University of Applied Sciences was for the first time the coordinator of a project in this EU call. The project deals with the lack of acknowledgement of foreign formal and informal qualifications, as one of the central migration themes in the post-industrial societies of the 21st century (UN 2016). For the first time, new standards are being developed for the acknowledgement of the skills of migrants in the area of Early Life Family Care (ELFC), whereby "Open Badges" are used as a flexible and visible acknowledgement system. The aim is to establish a new professional profile, the so-called transition mentor. The project is being implemented in five countries – Finland, Germany, Kosovo and Switzerland, and Austria. In each country, universities and research institutions work closely with partners in practice in the fields of Early Life Family Care, social services and healthcare, IT and networks. Carinthia University of Applied Sciences is the lead partner.

Website: [www.tobp.eu](http://www.tobp.eu)

*The aims of all research activities of the healthcare and social professions are the assurance and further development of services in the healthcare and social sector for the benefit of the target groups.*







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### BIM-ZERT

**STANDARDISED QUALIFICATION AND CERTIFICATION MODEL FOR  
BUILDING INFORMATION MODELLING IN AUSTRIA**

PROJEKTPROJECT MANAGEMENT: Jörg Störzel  
DURATION: 01.01.2019–31.10.2020  
FUNDING PROGRAMME: FFG, 4<sup>th</sup> Call for Proposals, Qualification Networks  
PROJECT VOLUME COVERED BY CUAS: < €100,000



Building Information Modelling (BIM) is the next pending evolutionary stage in the digital planning culture for building planning and construction in the sector. Along with the major stakeholders, the leading Austrian tertiary establishments in the field of civil engineering developed a targeted training network with BIM-Zert for widening the application basis and standardising the understanding of BIM in the planning and construction process. The aim of the project was to develop a user-specific, product-independent training concept, the conclusion of which represents an internationally valid certification for users of Building Information Modelling. Accordingly based on the current qualification level in Austria in the area of digital construction process, BIM-Zert aimed to familiarise the participants with the strongly networked, process-orientated and interdisciplinary BIM process, enabling them to use the necessary tools (processes in particular) usefully in their own areas.



### CLEANSTONE

**REDUCTION OF DUST DURING ROCK MINING IN QUARRIES**

PROJEKTPROJECT MANAGEMENT: Martin Schneider  
DURATION: 01.01.2019–31.10.2021  
FUNDING PROGRAMME: Interreg Central Europe Programme  
PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



During the preparation of rock material for use as high-quality raw materials for the construction industry, fine grain is produced in the form of sands rich in silt and clay. These sands represent a problematic mass, because disposal is often only possible as filling within the quarries, even though there is already a high enthalpy potential through the mining and preparation. The aim of the project is to analyse the materials that result from the production process, in the overall context of the project partners, and to establish the main shared features of the material. The disposal concepts for the associated quarries are gathered and their transferability is evaluated. It is also about finding solutions for useful mineral material which can be made available throughout the programme area. The background is the declaration of such sands as reusable material and not as waste, so that reuse and repurposing is possible without a new designation as a building material or industrial goods. Fine grain sands are produced in particular, which can be fed back into a useful production process. [www.cleanstone.eu](http://www.cleanstone.eu)

### FIREEXPERT

**CONSTRUCTION OF A NEW, CROSS-BORDER LIVING LAB FOR THE  
EXAMINATION AND SIMULATION OF THE FIRE BEHAVIOUR OF COMPOSITE  
MATERIALS DURING AND AFTER A FIRE**

PROJEKTPROJECT MANAGEMENT: Martin Schneider  
DURATION: 01.05.2018–31.10.2020  
FUNDING PROGRAMME: Interreg SI-AT 2014–2020  
PROJECT VOLUME COVERED BY CUAS ALS LEADPARTNER: €100,000–€500,000



The aim is to create an expert and innovation centre for building materials and the building industry that will work in the form of a "Living Laboratory" (Living Lab, LL) in the field of fire protection.



### GREEN-LOGIX

#### VEGETATION CONTROL ON ROADS AND RAILWAYS

PROJEKTPROJECT MANAGEMENT: Martin Schneider

DURATION: 01.07.2017–30.09.2020

FUNDING PROGRAMME: BMVIT – Future Mobility:

Transport Infrastructure Research, Contract research

PROJECT VOLUME COVERED BY CUAS: < €100,000



The aim of the project is to control vegetation on transport infrastructure surfaces, with a balanced consideration of traditional and effective, alternative ecological methods. Ecological, chemical, mechanical and thermal alternatives to existing systems of vegetation control are developed, and the existing systems are analysed and evaluated.

### RESBYDE

#### RESEARCH BY DESIGN

PROJEKTPROJECT MANAGEMENT: Alexander Hagner

DURATION: 01.04.2017–21.12.2018

FUNDING PROGRAMME: Municipal authorities of Klagenfurt

PROJECT VOLUME COVERED BY CUAS: < €50,000



Research by Design dealt with the editing and presentation of the project by master's students on the topic of social housing construction on the Siebenhügelstrasse in Klagenfurt.



*The research-related core competence of the field of study of Civil Engineering and Architecture lies in the area of materials, design and construction.*



### SSUHPC<sup>2</sup>

#### SUBSTITUTION OF STEEL BY UHPC

PROJEKTPROJECT MANAGEMENT FH KÄRNTEN: Norbert Randl

DURATION: 15.10.2014–31.03.2018

OVERALL PROJECT MANAGEMENT: VViet Tue Nguyen, TU Graz

CONSORTIUM: TU Graz – Institute of Structural Concrete (leader of the consortium); Carinthia

University of Applied Sciences; TU Graz – Institute of Technology and Testing of Construction

Materials; voestalpine Special Wire GmbH; Kirchdorfer Fertigteilholding GmbH

FUNDING PROGRAMME: FFG – BRIDGE

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



The goal was to provide the essential foundations for a product-related substitution of steel by ultra-high performance concrete (UHPC). This was to make an essential contribution to sustainable building, because UHPC has advantages over steel with regard to costs and CO<sub>2</sub> emissions.

### THERMOSYS

#### ANALYSIS OF THE REAL HYGROTHERMAL MATERIAL BEHAVIOUR OF CONSTRUCTION INSULATION MATERIALS IN CHANGING CLIMATIC EXPOSURES

PROJEKTPROJECT MANAGEMENT: Christoph Buxbaum

DURATION: 01.11.2017–30.04.2018

FUNDING PROGRAMME: Internal project

PROJECT VOLUME COVERED BY CUAS: < €50,000



The content and goal were to carry out laboratory analyses in the double climate chamber of the construction laboratory at Carinthia University of Applied Sciences, to study the authentic hygrothermal behaviour of different construction insulation materials in dynamic marginal climatic conditions.



### UHPC\_APPLY

NEW APPLICATIONS FOR ULTRA-HIGH PERFORMANCE CONCRETE

PROJEKTPROJECT MANAGEMENT: Norbert Randl

DURATION: 01.10.2019–30.09.2020

FUNDING PROGRAMME: Contract Research

PROJECT VOLUME COVERED BY CUAS: < €50,000



The project was part of the industry initiative for the application of ultra-high performance concrete (UHPC) in practical conditions, which was coordinated by Österreichische Bautechnik Vereinigung (Austrian Construction Engineering Association). The part of the project covered by Carinthia University of Applied Sciences dealt with testing and dimensioning the composite action between standard concrete and a UHPC top layer, and in UHPC precast elements complemented with standard concrete. Due to its stability, robustness and durability, UHPC is particularly well suited as a top concrete layer for the reconstruction and reinforcement of existing building structures.

### ZFF\_FI\_TUC

FILIGRANES BAUEN MIT TEXTILBEWEHRTEM UHPC

PROJEKTPROJECT MANAGEMENT: Sandra Ofner

DURATION: 01.03.2017–30.06.2018

FUNDING PROGRAMME: Central Research Funding

PROJECT VOLUME COVERED BY CUAS: < €50,000



This follow-up project focused on the further development of the available ultra-high performance concrete (UHPC) recipe at Carinthia University of Applied Sciences construction laboratory with regard to its workability in combination with textile fabrics used for reinforcement. Numerous tests have confirmed the suitability of UHPC for combinations with textile reinforcement. In addition, tests were performed with regard to the usability of the new composite material as a reinforcement measure in the form of a top concrete layer with a very high bonding strength between cured concrete and later applied UHPC. The conditions observed in the project will be examined in greater detail in subsequent research applications, e.g. in a project funded by the FFG (CON\_FIT) for a holistic discussion on the topic.



### ZFF\_WOOD WoodWatch

ANALYSIS OF THE PRACTICAL USABILITY OF SELECTED MEASURING SENSORS TO BE APPLIED TO WOOD IN AGGRESSIVE ENVIRONMENTS

PROJEKTPROJECT MANAGEMENT: Martin Schneider

DURATION: 03.02.2017–30.06.2018

FUNDING PROGRAMME: Central Research Funding

PROJECT VOLUME COVERED BY CUAS: < €50,000



As a rule, wood is quite resilient against chemicals. There are, however, some environments that can cause considerable damage. In this project, measuring systems were analysed so that technical measuring fundamentals could be determined for timber constructions in special climatic conditions.



*... the research of today meets  
the challenges of tomorrow ...*

### ZUWO

LIVING TOGETHER

PROJEKTPROJECT MANAGEMENT: Angela Lambea

DURATION: 13.04.2017–31.12.2018

FUNDING PROGRAMME: Internal project

PROJECT VOLUME COVERED BY CUAS: < €50,000



“LIVING TOGETHER” deals with analyses and drafts for the future of residential buildings, taking matters of design, urban development and social considerations into account.





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### AAES

**ARAB ADMINISTRATIVE ELITES SURVEY–SURVEY OF THE CIVIL SERVICE FOR COUNTRIES IN THE MIDDLE EAST AND NORTH AFRICA**

**PROJEKTPROJECT MANAGEMENT:** Rahel Schomaker

**DURATION:** 14.06.2019–31.12.2019

**FUNDING PROGRAMME:** Applied research



The project was concerned with the current transformations of the administrations of the states in the Middle East and North Africa (MENA) and the development of new structures and processes of the administrations themselves, as well as changing paradigms of administration science in the region. Detailed, qualitative interviews and the results of the Arab Administrative Elites Survey started in 2018 were used to establish and analyse the status quo and current changes in the MENA administrations.

### ASIS

**ALPINE SOCIAL INNOVATION STRATEGY**

**PROJEKTPROJECT MANAGEMENT:** Rahel Schomaker

**DURATION:** 17.04.2018–16.04.2021

**FUNDING PROGRAMME:** Interreg Alpine Space 2014–2020

**PROJECT VOLUME COVERED BY CUAS:** €100,000–€500,000



The ASIS project objective is to initiate, develop and promote a new vision of innovation in the Alpine area, i.e. social innovation, in order to increase the innovation capacity of Alpine regions by answering new challenges as they arise. ASIS stands for “Alpine Social Innovation Strategy”. The ASIS consortium goal is to develop a new, innovative approach that meets the economic and societal challenges faced by each Alpine region.



### 3<sup>rd</sup> CAF KL

**3<sup>rd</sup> IMPLEMENTATION OF THE CAF (COMMON ASSESSMENT FRAMEWORK)  
DISTRICT COMMISSION OF KLAGENFURT-LAND**



**PROJEKTPROJECT MANAGEMENT:** Benedikt Speer

**DURATION:** 01.10.2018–28.02.2019

**FUNDING PROGRAMME:** Contract research

**PROJECT VOLUME COVERED BY CUAS:** < €50,000

The focus of the repeated CAF project is on a mixture of employees and executives. The organisation will be repeatedly evaluated with regard to its strengths/weaknesses, and the results can be compared with the first two CAF evaluations. In a final workshop, a comprehensive action plan will be laid out for the optimisation of the entire organisation on the basis of the devised improvement measures.

### DEM\_CHECK

**DEMOGRAPHY CHECK**



**PROJEKTPROJECT MANAGEMENT:** Kathrin Stainer-Hämmerle

**DURATION:** 01.05.2020–15.12.2020

**FUNDING PROGRAMME:** Contract research

**PROJECT VOLUME COVERED BY CUAS:** < €50,000

Demography Check: Carinthia 2020 was a project between the Province of Carinthia (Department 10/Agriculture and Forestry, Rural Area) and Carinthia University of Applied Sciences (Management/Public Management study programmes) and studied the effects of demographic change on regional development in the six Carinthian LEADER regions and their municipalities. The Carinthian central area was also included in the observations and prognosis, as there are strong correlations. Only such a comprehensive and multidimensional viewpoint can provide further insights into population change in Carinthia. Demographic change with all its facets represents perhaps the greatest challenge of the 21st century so far for the federal province of Carinthia. Many areas need to adjust to the end of population growth, coupled with strong polarisation and shrinkage processes. Far-reaching social and economic changes are happening already.



### DEMOKRAT 1 + 2

CONCEPTION, IMPLEMENTATION AND FURTHER DEVELOPMENT  
OF A DEMOCRACY WORKSHOP IN THE CARINTHIAN PROVINCIAL PARLIAMENT

PROJEKTPROJECT MANAGEMENT: Kathrin Stainer-Hämmerle

DURATION: 26.08.2015–01.04.2018

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €50,000



In the course of the project, a platform was created for the professionalisation of political education at all levels of Carinthian schools, to find materials for lessons and to network different projects. The content was a draft of preparatory materials for teachers and exercise sheets for lessons on the topics of: basic concepts of political education; the Carinthian Provincial Parliament; old and new minorities; and local communities.



*... our profile is characterised by practice-orientated  
study structures and applied research ...*

### DIVA\_LAD

PROJECT "DIVA" – STATE OFFICE DIRECTORATE

PROJEKTPROJECT MANAGEMENT: Wolfgang Eixelsberger

DURATION: 01.05.2020–30.11.2020

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €10,000



In the Province of Carinthia, a new ELAK (electronic file) is being introduced. In this project, the IT Department of the Province of Carinthia and the State Office Directorate were supported in the management of sample processes within the State Office Directorate. Processes were recorded, modelled, optimised and shown in the ELAK system. The project participants brought in specialist expertise, reflected on the project activities and developed improvement suggestions.



### ETIFOR

FIRST GSTC CERTIFICATION OF AN AUSTRIAN TOURISM DESTINATION

PROJEKTPROJECT MANAGEMENT: Thomas Friedrich Zametter

DURATION: 01.07.2020–26.02.2020

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €10,000



As part of the ETIFOR project, an area between Tarvisio, Val Canale and Nassfeld, as well as the Hermagor tourism region, received GSTC (Global Sustainable Tourism Council) certification as part of the Interreg WOM365 (365 Days World of Mountains) project. The GSTC certificate awards sustainable tourist destinations and is recognised worldwide. Major travel companies such as TUI or booking.com focus on this label. Pioneering work was carried out within the project. It is the first GSTC certification in Austria. The task of Carinthia University of Applied Sciences within this project consisted of supporting and advising the client in relation to the certification, moderating the workshops and compiling a concluding dossier, as well as making the "learning" available in the form of scientific contributions to the sector and the science community. Follow-up projects are also possible.

<https://forschung.fhkaernten.at/trans-space/projekt-fh/projekt-etifor-erste-gstc-zertifizierung-oesterreichs/>

### EVAAL2

EVAALUATION<sub>2</sub> – FURTHER DEVELOPMENT EVAALUATION – DEVELOPMENT OF  
MEASURING INSTRUMENTS FOR THE EVALUATION OF AAL SOLUTIONS

PROJEKTPROJECT MANAGEMENT: Birgit Aigner-Walder

DURATION: 01.10.2018–31.05.2019

FUNDING PROGRAMME: BMVIT – benefit: ICT of the Future – Demographic Change as an Opportunity

PROJECT VOLUME COVERED BY CUAS: < €50,000



EvAAL2 was aimed at developing concrete measuring instruments for the evaluation of the effects of Active and Assisted Living (AAL) solutions, whereby the focus was placed on three concrete usage areas. The developed tools are characterised by a comprehensive approach, i.e. the incorporation of subjective, institutional and social aspects, as well as high user-friendliness to motivate use in practice and to ensure the comparability of the evaluation of AAL products and services. To ensure quality standards, there are various feedback loops (e.g. through the inclusion of stakeholders, experts and quantitative pre-tests).



### EXPORT-OFF

EXPORT INITIATIVE 04/2018 TO 03/2023

PROJEKTPROJECT MANAGEMENT: Melanie Krenn

DURATION: 01.04.2018–31.03.2023

FUNDING PROGRAMME: WKK – Carinthian Export Initiative 2017

PROJECT VOLUME COVERED BY CUAS: > €500,000



Carinthia University of Applied Sciences is working on the following focus themes as part of the Carinthian Export Initiative 2018 – 2023: 1. service export, 2. study of international business development, 3. development and adaptation of business models for successful internationalisation, 4. development and implementation of growth strategies for international markets (International Business Development).

### EXPORT INITIATIVE 2018

EXPORT OF SERVICES

PROJEKTPROJECT MANAGEMENT: Melanie Krenn

DURATION: 01.04.2018–31.03.2019

FUNDING PROGRAMME: WKK – Carinthian Export Initiative 2018

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



In the context of the “Export of Services” project, as a subproject of the Carinthian Export Initiative 2018–2023, scientific foundations were to be devised for the best possible support for service companies in their internationalisation projects and activities.

### FRAUEN–FERTIG–LOS! (WOMEN – READY – GO!)

PARTICIPATION AND SELF-ORGANISATION FOR WOMEN FROM AROUND THE WORLD

PROJEKTPROJECT MANAGEMENT: Kathrin Stainer-Hämmerle

DURATION: 18.01.2019–31.07.2019

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €10,000



During this one-day workshop with inspirational presentation elements, 15 women, mostly from rural areas, were enabled to organise themselves, to network and communicate on an equal footing on topics relevant to them, in accordance with an empowerment approach. The workshop was conceived as a train-the-trainer workshop, so that the participants learn to organise networking meetings independently and can pass on this knowledge as multipliers to other women.



### FS\_GASTRO

GERMAN AS A FOREIGN LANGUAGE FOR GASTRONOMY

PROJEKTPROJECT MANAGEMENT: Colin Heller

DURATION: 02.07.2018–30.11.2019

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €10,000



The focal point of the research project was the study and evaluation of the technical terminology of “gastronomy” in the intercultural context of the “magdas” restaurant in Klagenfurt and the description of its use in the ongoing apprenticeship operation of “magdas”. The project can be assigned to the research fields of applied linguistics (lexicography) and methodology/didactics of foreign technical language instruction, perhaps also social sciences (integration of foreign employees into the Austrian labour market).

### HOTREND

TREND ANALYSIS CARINTHIA

PROJEKTPROJECT MANAGEMENT: Stefan Nungesser

DURATION: 01.11.2017–28.02.2018

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €10,000



The hotel branch of the Carinthian Economic Chamber commissioned the “Hotel Management” branch of study with the implementation of the annual economic situation and trend survey, “Trend Analysis of the Hotel Business in Carinthia”. The online survey deals with the economic results of the previous season and expectations for the upcoming season, the current challenges, as well as investment behaviour. This allows a long-term comparison if the project is implemented over several years. A second set of questions varies from one year to the next and deals with current topics and trends.

### IMPULS-Q

IMPULSES FOR SUSTAINABLE, QUALITATIVE CORPORATE GROWTH IN CARINTHIA

PROJEKTPROJECT MANAGEMENT: Benedikt Speer

DURATION: 01.01.2017–31.12.2018

FUNDING PROGRAMME: KWF –Regionale Impulsförderung/Regional Impulse Promotion

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



In this interdisciplinary R&D project, complementary competences and resources of two Carinthian research and educational institutes (AAU Klagenfurt and Carinthia University of Applied Sciences) were pooled with the aim of researching strategies, development patterns and necessary framework conditions for sustainable, qualitative corporate growth and to make the results accessible for companies, institutes and students. This way, impulses can be provided for sustainable, qualitative corporate growth in Carinthia, leading to increased added value per performance unit in companies to improve their competitiveness.





### KIGA\_VI

#### ANALYSIS OF PLAYSCHOOLS IN VILLACH

**PROJEKTPROJECT MANAGEMENT:** Alexander Schwarz-Musch

**DURATION:** 03.12.2018–30.11.2019

**FUNDING PROGRAMME:** Cooperative research

**PROJECT VOLUME COVERED BY CUAS:** < €50,000



This project was concerned with setting up a database for the expansion and adaptation of the childcare options at the town's playschools and nurseries.

### KLAR\_RO

#### POTENTIAL ANALYSIS AND TOURISM DEVELOPMENT IN THE REGION

#### KLAR! ROSENAL

**PROJEKTPROJECT MANAGEMENT:** Stefan Nungesser

**DURATION:** 01.01.2019–29.02.2020

**FUNDING PROGRAMME:** Contract research

**PROJECT VOLUME COVERED BY CUAS:** < €10,000



As a consequence of climate change, there are noticeable climatic effects in the KLAR! Rosental region, which pose great challenges to the municipalities. Due to these effects, the question emerges for the region as to what should be done to continue being an attractive area for living, working and for tourism. The KLAR! Rosental region is sustained not only by commercial enterprises and agriculture, but also by tourism, which raises the question of what measures can be taken to be considered a holiday destination. The main target groups are, for example, the municipal population as well as people from the south. Now the task is to find out what appeals to tourists and what decisive factors would make them consider the KLAR! Rosental region as a holiday destination. Due to the increasing need for a target group specific way of thinking, the question also arises as to what general expectations the potential visitors have when it comes to attractive leisure options and what specific requirements individual target groups have – so that their expectations can be met. It is also necessary to establish how the KLAR! Rosental region is to be positioned in order to be attractive to tourists ("measures recommendations"). With the help of a design thinking workshop, half-day and full-day offers were developed for locals and tourists, with further work on their implementation in the region after the conclusion of the project.



### KOWIST

#### COMPETENCE DEVELOPMENT FOR RESULTS-ORIENTED MANAGEMENT IN SMALL AND MEDIUM-SIZED MUNICIPALITIES

**PROJEKTPROJECT MANAGEMENT:** Benedikt Speer

**DURATION:** 01.10.2015–31.08.2018

**FUNDING PROGRAMME:** EACEA – Erasmus+ Key Action 2:

Capacity building in the field of higher education

**PROJECT VOLUME COVERED BY CUAS:** €100,000–€500,000



In many countries, small and medium-sized municipalities do not have the basic prerequisites for comprehensive modernisation processes in their administrative bodies to be able to design efficient and effective mechanisms for services provided for the public. The key aim of the project was the creation of an open learning platform (open educational resources – OER). The purpose of this platform is to provide meaningful impulses for the education of students of Administrative Sciences and the further education of staff members in administrative bodies, and also of local politicians.

### KWF-LEP\_IV

#### DIGITAL MARKETING & SALES CONCEPT DEVELOPMENT

**PROJEKTPROJECT MANAGEMENT:** Alexander Schwarz-Musch

**DURATION:** 01.02.2019–31.05.2019

**FUNDING PROGRAMME:** KWF – Supplier Development Programme (LEP) IV

**PROJECT VOLUME COVERED BY CUAS:** < €50,000



With the Supplier Development Programme (LEP), KWF is supporting interested and committed small and medium-sized companies in Carinthia in their corporate development, with a focus on the opportunities emerging through digitisation and inter-corporate partnerships. Digitisation influences an entire company. An area particularly affected by digitisation early on is that of sales and marketing. Here it is not just about the isolated use of innovative tools but especially about the question of how these can be integrated into the sales and marketing of companies: how and to what extent can digital channels be incorporated into one's own marketing and sales strategy? Against this background, a Supplier Development Programme IV – Digital Marketing & Sales was conceived.



## MA-SV

STAFF INTERVIEWS IN THE MUNICIPALITY OF ST. VEIT/GLAN

PROJEKTPROJECT MANAGEMENT: Benedikt Speer

DURATION: 30.08.2016–27.04.2018

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €10,000



Based on the results of the CAF process, staff interviews were conducted to identify the needs and expectations of staff members. This resulted in measures to increase the satisfaction of staff members. Carinthia University of Applied Sciences was responsible for the scientific assistance of the process (questionnaire development and analysis of data).

## MATILDE

MIGRATION IMPACT ASSESSMENT TOWARDS INTEGRATION  
AND LOCAL DEVELOPMENT

PROJEKTPROJECT MANAGEMENT: Marika Gruber

DURATION: 01.02.2020–31.01.2023

FUNDING PROGRAMME: Horizon 2020 research and innovation programme;  
H2020-SC6-MIGRATION-2019

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



MATILDE develops and tests concepts and methods to assess the social and economic impact of migrants (third country nationals) in rural and mountainous regions. The project is based on the hypothesis that foreign immigration can act as a driver of social and economic development in the medium and long term, especially in remote areas where immigration counterbalances processes such as depopulation and economic decline. MATILDE carries out 13 local case studies in 10 different countries, implemented through the synergy among research institutions and local partners engaged in integration processes. Through participatory research and local level field work, it aims to stimulate the involvement of local stakeholders (migrants, policymakers, civil society, transnational networks) to generate new knowledge about the processes and strategies triggered by migration in rural areas.



## MIGRA\_INT

INTEGRATION PROCESS OF THIRD-COUNTRY NATIONALS WITH LONG-TERM  
RESIDENCE PERMITS FROM SYRIA, AFGHANISTAN AND IRAQ IN AUSTRIA

PROJEKTPROJECT MANAGEMENT: Vera Seyer

DURATION: 01.01.2017–31.03.2019

FUNDING PROGRAMME: BMEIA – AMIF

PROJECT VOLUME COVERED BY CUAS: €100,000–€500,000



This project that evaluated Austria's integration policy on the basis of case studies aimed at increasing the state of knowledge on the integration process, at optimising integration strategies and procedures and making them more efficient through improved transparency. The target group consisted of third-country nationals from Afghanistan, Syria and Iraq who are legal residents in Austria and who plan to be long-term residents in future.

## NET-VI

IDENTIFICATION OF THE LEVEL OF NETWORKING BETWEEN THE MUNICIPAL  
AUTHORITIES OF THE TOWN OF VILLACH AND LARGE-SCALE BUSINESSES IN VILLACH

PROJEKTPROJECT MANAGEMENT: Benedikt Speer

DURATION: 01.05.2018–31.12.2018

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €50,000



Based on an empirical study, a survey of processes and interfaces between the municipal authorities of Villach and large-scale businesses in Villach was performed within the framework of this networking project. It highlighted potential improvements on both sides.



## Management – Projects

### NEWORK

#### FUTURE WORK

PROJEKTPROJECT MANAGEMENT: Ursula Liebhart

DURATION: 01.02.2018–31.12.2018

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €50,000



As regards technological and demographic developments, companies must be aware that the design of an attractive working environment for employees creates a decisive competitive advantage. During this project, the KWF project "Future Work" received content support through webinars on the topics of digital transformation, digital learning and working environments, as well as digital competences, and was accompanied by process evaluation.

### NEWORK\_TK

#### WORKING WORLD IN CARINTHIA IN THE TOURISM OF TOMORROW

PROJEKTPROJECT MANAGEMENT: Stefan Nungesser

DURATION: 01.07.2019–31.03.2020

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €50,000



Over 20,000 employees care for the well-being of guests in Carinthian tourism. In recent years, the framework conditions of tourism have changed in general and the requirements, needs and expectations for employees in particular ("New Work"). The collection of the general and specific expectations for the defined employee target groups in tourism – young employees interested in the sector, employees seeking a better work-life balance, employees of the 50+ generation, those returning to Carinthia who want to work in tourism again, newcomers from other sectors with an affinity for tourism, as well as entrepreneurs who want to play an active role in increasing employer appeal – was carried out by means of an interactive series of workshops. The aim was to establish the relevant aspects per group and to summarise and present them in a suitable form. As a next step, the participants (current and potential employees as well as the company representatives) were divided into three groups, with the task of developing solutions (ideas, measures) suitable for improving areas such as management and value systems, framework conditions and development opportunities ("employee experience"). The process brought forth a total of nine concrete recommendations for measures and project ideas, designed to strengthen both the employee experience in Carinthian tourism, and the working and living environment of Carinthia.



*Research and innovation are among the manifold strengths of Carinthia, which we are making even more visible through location marketing. What distinguishes us in particular is the wide cooperation of research establishments, companies and especially educational establishments. This applies not only to the tertiary sector; we consciously also incorporate children and young people actively and appropriately. This is literally our future.*

DR. PETER KAISER  
Governor of Carinthia







### PEOP-BA

PROCESS IDENTIFICATION/OPTIMISATION OF THE FACILITY PERMIT PROCEDURE

PROJEKTPROJECT MANAGEMENT: Benedikt Speer

DURATION: 01.03.2017–31.12.2018

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €50,000



This project aimed at depicting the processes of the facility permit procedure in Carinthia's individual district commissions to derive a standardised suggestion on how to optimise the procedure.

### PERIVIER

PROCESS ASSISTANCE AND MODERATION FOR THE ITAT 4043 ESAR PROJECT  
ESTABLISHMENT OF STRATEGIC URBAN NETWORKS IN THE SOUTHERN  
ALPINE AREA, KP INTERREG ITALY–AUSTRIA 2014–2020

PROJEKTPROJECT MANAGEMENT: Benedikt Speer

DURATION: 01.05.2018–31.07.2019

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €50,000



The “periVIER” project includes the assistance for towns in the southern Alpine area (Lienz, Spittal, Hermagor and Bruneck) in establishing a strategic urban network.



### PRO-MIGRA

PROCESS ASSISTANCE ... THOSE WHO (CAME) COME TO STAY ... –  
IMMIGRATION AS A POTENTIAL FOR THE HERMAGOR REGION

PROJEKTPROJECT MANAGEMENT: Marika Gruber

DURATION: 01.01.2017–30.04.2019

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €10,000



Based on the results of the “Migration as an opportunity for rural areas” project, a service portfolio is to be developed to improve the culture of welcoming immigrants from outside and inside Austria in the District of Hermagor, according to regionally adjusted quality criteria. This process starts with the development and introduction of a regional handbook and contains further measures such as awareness raising workshops for administrative staff, the participatory development of a checklist across different administrative levels for standardised information and consulting services, networking meetings between integration actors and the representatives of immigrants, as well as the development of a coordinated information and consulting/assistance process in the District of Hermagor.

### RESTART\_4DANUBE

BOOSTING CREATIVE INDUSTRIES IN URBAN REGENERATION FOR A  
STRONGER DANUBE REGION

PROJEKTPROJECT MANAGEMENT: Kathrin Stainer-Hämmerle

DURATION: 01.07.2020–31.12.2022

FUNDING PROGRAMME: Interreg Danube Transnational Programme

PROJECT VOLUME COVERED BY CUAS: €100,000– €500,000



The number of urban regeneration (UR) initiatives promoted by European cities is rising. The new status quo is that UR strategies should pursue an integrated approach. Cities face challenges in developing a culture that generates public/private synergies to promote SMEs and stimulate creative urban communities. They need to tailor their UR policies to local specifications and assets and integrate local stakeholders more strongly. This project has identified two main challenges: a lack of transnational cooperation and coordination on institutional levels hindering the R&I potential of the Danube Region, as well as insufficient capability of SMEs to adapt to their innovation needs. These challenges necessitate the following: establishing a transnational creative UR network to improve cross-linkages and optimise internal synergies between creative and cultural industries (CCIs); institutionalising the exchange of good practice in urban regeneration (UR); implementing pilot actions based on open innovation via smart specialisation strategies; strengthening the service, social and eco-innovation capacities of SMEs; improving the framework conditions and policy tools based on the smart specialisation for a new model of urban regeneration in order to transform ideas into practical innovative services. Specific objectives: 1. Develop a common strategy. 2. Develop tools and services. 3. Support policy dialogue. The project comprises 25 partners from 12 countries in the Danube region, who are looking forward to two and a half years of cooperation.



### TEIN<sub>4</sub>CITIZENS

ENGAGING CIVIL SOCIETY IN BORDER REGIONS FOR THE FUTURE OF EUROPE

PROJEKTPROJECT MANAGEMENT: Eithne Knappitsch

DURATION: 01.09.2019–30.06.2021

FUNDING PROGRAMME: TEIN–EUROPE FOR CITIZENS

PROJECT VOLUME COVERED BY CUAS: < €50,000



How can we encourage civil society in border regions to participate in the debate on the future of Europe? With this question in mind and their deep knowledge of the borders' specificities, the members of the Transfrontier Euro-Institut Network (TEIN) started to develop the Engaging Civil Society in Cross Border Regions for the Future of Europe project. Consisting of 5 forums taking place between 2018 and 2021 in the 5 border regions of the 9 project partners, the project will enable citizens not only to deepen their understanding of the EU but also voice their opinion about current trends and EU policy making processes.

### TOP<sub>3</sub> GUEST SURVEY

PROJEKTPROJECT MANAGEMENT: Stefan Nungesser

DURATION: 27.07.2018–31.08.2018

FUNDING PROGRAMME: Contract research

PROJECT VOLUME COVERED BY CUAS: < €10,000



The tourism businesses, Wörthersee Schifffahrt, Minimundus and Pyramidenkogel, cooperate under the name TOP 3. They want to introduce a new ticketing system and improve the way they present their offers by doing so online. This will be achieved in cooperation with the Digital Lab at Carinthia University of Applied Sciences. In a first step in preparation for this project, visitors to the three sights of Lake Wörthersee, Minimundus and Pyramidenkogel were interviewed personally on their needs and wishes regarding their visit, as well as about other options for buying tickets and getting information.



### TOURIK

INTEGRATION OF ASYLUM SEEKERS AND PEOPLE ENTITLED TO  
ASYLUM IN TOURIST RESORTS

PROJEKTPROJECT MANAGEMENT: Marika Gruber

DURATION: 01.10.2017–31.07.2019

FUNDING PROGRAMME: BMWFW – Integration and Preservation of Jobs and Business Locations

PROJECT VOLUME COVERED BY CUAS: < €50,000



The aim of the project was the integration of disadvantaged groups in the labour market and the preservation of tourism jobs and establishments. Unaccompanied minor refugees, as well as young asylum seekers and persons entitled to asylum, were also to be trained for jobs in tourism. Professional and social integration measures were promoted equally, so that completion of training opens the door to careers in tourism (aim: starting an apprenticeship). In turn, tourism establishments were given the opportunity of a long-term source of well-qualified personnel, which can sustain the business. This professional and social integration process was accompanied and evaluated academically. This allowed the identification of frameworks and conditions for the successful job market integration of young asylum seekers and refugees and the drawing up of recommendations in the form of a checklist.



*Application-orientated research and the constant link to practice provide guarantees for up-to-date teaching that reflects new developments in which the students benefit directly from the research.*

WE WOULD LIKE TO THANK OUR  
FUNDING SUPPORT

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