

World's 1st in Green Tech

Leading technologies from the Green Tech Cluster, Austria



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RESEARCH & DEVELOPMENT

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MORE

RESEARCH & DEVELOPMENT

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WELCOME TO THE GREEN TECH VALLEY



HOME OF



GREEN INNOVATION





Johann Seitinger

Member of the Styrian Provincial Government for Sustainability Around 300 BC, the ancient Greek philosopher and scientific pioneer Aristotle postulated "The whole is more than the sum of its parts". This classic, wise posit also holds true for the state of Styria – a leading economic hotspot for green technologies, boasting numerous global players specialized in sustainable energy sources, automation solutions, combustion technologies, electronics and many other fields.

"With its one-of-a-kind Green Tech Valley, consisting of 200 companies and research & development institutions, the "Green Heart" of Austria – Styria – has become a major contributor to the development of both market and technology trends on a global scale. "

Furthermore, by initiating, realizing and supporting a multitude of R&D projects, the Green Tech Valley not only enhances Styria's significance as a renowned stronghold for state-of-the-art green technology, but also ensures economic success in Austria. Therefore, the work and vast amount of innovative solutions, products and services generated within the Styrian green technology conglomerate will also provide a solid basis for further ideas and economic growth in the future.



Siegfried Nagl Mayor, City of Graz

In Graz, in particular, we sense the enormous influx into the cities. An ever increasing number of people require an ever increasing infrastructure - from housing and jobs, right through to public transport. For the city administration, this presents us with great challenges, which we will only be able to meet with innovative and, above all, environmentally sound ideas. To my delight, and as the mayor it is also something I am proud of, ...

"... we are blessed in our state capital with a whole host of creative companies, where people with potential and vision formulate ideas about a future worthy of living, in which we live with careful use of resources, in harmony with nature and the environment."

In an excellent manner, the Green Tech Cluster provides for the necessary network mechanisms. And for this, I would like to take this opportunity and thank you.

A REGION FULL OF IDEAS

Green technology is a growth sector in Styria, which we will continue to emphasise in the coming years, as I believe it important to push ahead with the expansion of green technologies in the interests of a sustainable future for the next generations.

"The regional companies in the Green Tech sector have grown considerably over the past ten years and already provide jobs for more than 21,000 employees."



Theresa Rothwanal

Barbara Eibinger-Miedl State Economic Minister

The contribution to this growth comes not just from the large leading companies but also from the small and medium sized enterprises, which have successfully positioned themselves in niche markets. Over and above these successful companies, we have an industrial cluster, which for a number of years has come to be regarded as the best Green Tech cluster in the world, together with excellent research facilities, as exemplified in the area of competence centres. If through this we are able to further network basic and applied research, we will be able to stimulate further investment and thus create more new jobs.



World's **1**st in Green Tech

The region of Styria, Austria, is home to more than 200 companies. and research facilities on the green tech sector. Here more than 21,700 people are developing the green innovations of tomorrow. With 20 global technological leaders. the region provides the world's highest concentration in the areas of hydropower, bioenergy, solar energy, waste and resource management and green buildings within an hour's drive away. Thus, American journalists nicknamed it the "Green Tech Valley" as the global hotspot for advanced energy and environmental technologies and proven growth through innovation

Pioneering for over 100 years

The Green Tech Valley has an impressive record in cutting-edge green technologies that goes back over 100 years: Several past inventors, such as Nikola Tesla, have worked in Graz, and Styrian inventor, Viktor Kaplan invented

the breakthrough technology for hydroelectric power. Solar thermal energy started its successful market advance here in the 1970s, while pioneers in recycling technology come from Styria. Ever since then the region, which is known as the "green heart of Europe", has always been synonymous with innovative, forward-thinking enterprises that are committed to environmental technology. Current world firsts include the first tidal lagoon power plant, the first large scale green brewery and the first tower with transparent energy glass.

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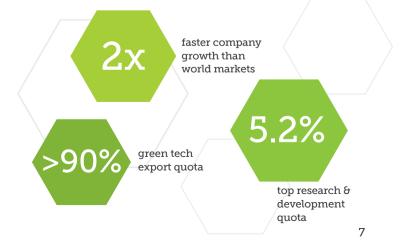
global green tech leaders within an hour's drive- more than anywhere else

core green tech turnover in gross regional product 11%



Green Pioneers grow faster

Styria is an excellent and fertile breeding ground for research and development. With an R&D quota of 5.2%, it is Europe's top region. Since the cluster was created in 2005, green tech companies have grown at a rate of 12% annually, almost twice as fast the average annual rate of around 7% for global markets. More than 90% of this innovative output is exported in global markets. The core green tech turnover of 4,8 billion € equals more than 11% of the gross regional product of Styria. This innovative capacity has consistently attracted global players to the business location Green Tech Valley.





Green Tech Cluster as Breeding Ground for Innovations

The Green Tech Cluster accelerates green innovations and green growth. The 200 companies and research institutions of the cluster constitute one of the world's highest entrepreneurial concentrations in this sector and represent an unique innovation hub.

The Cluster initiates 100 innovation projects

With the Strategy 2015-2020, the cluster is placing the focus for growth on green innovation. In the key strategic areas of Green Energy (integrated energy systems with biomass, hydro and solar), Green Building (energy façades, smart urban buildings) and Green Resources (digital waste management, future waste recycling), the Green Tech Cluster develops more than 20 industrial innovation projects each year. The Green Tech Cluster keeps its finger on the economic pulse of the times through initiatives like the Green Tech Innovators Club and the Green Tech Radar for new products.

Innovate, internationalise, initiate

Based on the triple "I" of innovation, internationalisation and individual services, the Green Tech Cluster provides support with international roll out of innovations and offers customised services to cluster



partners. The Green Tech Cluster has formed the alliance of 15 global clusters in the ICN International Cleantech Network and provides access to international markets.

A global leader

The Green Tech Cluster has been awarded many times for excellent

cluster management ("Cluster Management Excellence Label" in gold with an outstanding evaluation result of 98%), the most innovative growth project in the EU ("Regiostar" of the European Commission) and the No. 1 Environmental Technology Cluster worldwide (most recent rankings).¹



#1 in Green Energy



Efficient power generators and transformers for the energy system of the future

Styrian companies offer turnkey solutions and advanced technologies for power and distribution transformers, as well as generators for hydro power and wind turbines, which ensure that electrical energy is generated and distributed both safely and with minimal power losses. The expertise ranges from plug-and-play transformers (Siemens p159), generators for onshore and offshore wind turbines (ELIN Motoren p75), vertical generators for Francis, Kaplan and Pelton turbines as well as motor-generators for pumped storage plants (ANDRITZ HYDRO p40/41).

© Siemens

Smart energy solutions

In order to accelerate the transformation to renewable energy systems, the need for smart, integrated and user-centric energy solutions is greater than ever. As a result, Styrian companies are collectively working to combine heating and electricity solutions. These solutions are based on a variety of predictive control mechanisms (meo smart energy p 116, JOANNEUM RESEARCH p27), novel energy storage systems (AEE INTEC p20, Samsung SDI p149), domestic plug & play mini PV & storage units for balconies (E²T p68) as well as combined hydro power, biomass, solar thermal and biogas solutions, as used, for example, in the world's first large-scale green brewery (AEE INTEC p20, BDI p47).



DiniTech



© BDI

#1 in Green Energy

Pioneers and technology leaders in hydro power, solar, biomass and biofuels

Styria has an impressive track record in cutting-edge green technologies. The expertise ranges from fully automatic biomass heating systems for domestic, industrial and district heating (KWB p113, BINDER Energietechnik p50), customized turnkey BioDiesel and BioGas plants (BDI p47), electromechanical systems and services for hydropower, (ANDRITZ HYDRO p40/41, doro turbine p64) right through to solar cooling & heating plants (S.O.L.I.D. p161) and steam generators and industrial air pollution control systems (ANDRITZ p40/41, CTP air pollution control p61, Christof Industries p55).

Large scale solar heat & power systems

Large scale systems play a significant role in shifting our energy systems to a renewable energy future. Styrian expertise ranges from turnkey billing systems for one of the world's largest solar power plants, the Quarzazate Noor 1 in Morocco, to providing complete commercial systems in a single software package (VTU Engineering p172). Furthermore, there is a strong focus on large scale solar heating systems including sessional storage systems and absorption heat pumps to significantly increase the share of renewables in district heating systems (S.O.L.I.D. p161, Energie Steiermark p80, FRIGOPOL p95).



© S.O.L.I.D.

#1 in Green Buildings



© XAL

Efficient lighting

Efficiency is one of the most important aspects when it comes to lighting solutions. Futuristic design (XAL p175) is combined with ground-breaking developments in foil technologies so that light is quided to where it is actually needed (EcoCan p69). A further specialist area from Styria is off-grid street lighting, which combines photovoltaic modules and power storage capabilities in one system (ecoliGhts p71).

Industrial prefabrication & recycling of façades

Facades are also vital for thermal insulation, and are a field in which Styrian companies have focused on industrial prefabrication and digitalisation. to offer a maximum level of customisation (WINTERFACE p173), while at the same time retaining the highest levels of building thermal efficiency. The eventual recycling of façades (Binder+Co p49) should also be kept in mind here, as well as the development of new facade mounting systems (Graz University of Technology p25), which facilitate the correct sorting of materials during disassembly.



o WINTERFACE



© PVF

#1 in Green Buildings

Energy façades

Energy facades are one of the key elements for sustainable buildings in the future and in particular play a crucial role in building refurbishment. Energy glass, with the built-in Grätzel cell (SFL technologies p155). opens up new architectural design opportunities, while simultaneously harvesting energy from the sun. Further technologies such as crystalline photovoltaics (PVP Photovoltaiks p137), electrical storage (Ökosolar PV p129), thermal energy generation (S.O.L.I.D. p161) and the associated installation of internal building services during refurbishment (AEE INTEC p20) reinforce Styria's position as a pioneer in the development of sustainable buildings.

Smart City development

Styria is also at the forefront of developments for the Smart City (Architect Markus Pernthaler p62. Stadtlabor Graz p179). The integrated planning process includes various stakeholders, to combine a user centric approach with the testing of novel technologies. In buildings that interact with each other the sharing of energy in micro grids has been enabled by new business models, thus making energy exchange both possible and economically attractive. The innovative Science Tower is part of the Smart City development and the showcase for smart urban buildings (SFL technologies p155).



© Markus Pernthale

#1 in Green Resources



© Christof Industries

Digital waste management

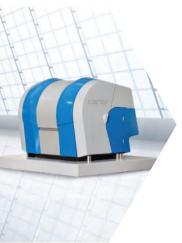
The digital transformation is revolutionising waste management throughout the world. In Styria, the dawn of this era is already marked by developments such as new and scalable B2C and B2B communication platform solutions (pink robin p133, FCC p89, Schrott24 p150, Bautastisch p46), new solutions for waste collection and logistics (Saubermacher p153, FCC p89, t-matix p167) and digital landfill management services (RM Umweltkonsolenten p144). Added to this is the focus on the investigation and implementation of new approaches for "Industry 4.0" (Montanuniversität Leoben p28).

Smart energy from waste

Styrian companies offer turnkey plant solutions and advanced technologies for the generation and utilisation of high caloric waste fractions. These include the production of refuse derived fuels (Thermo Team p179), near-infrared (NIR) devices for eliminating PVC and PET plastics from input material (REDWAVE p141) and advanced waste-toenergy technologies such as the Reject-to-Power technology, that uses an innovative combustion chamber (Christof Industries. p55), and the EcoFluid, bubbling fluidized bed boilers (ANDRITZ Heat and Recovery p 40/41).



© wastebox.biz



© Binder+Co

#1 in Green Resources

Global market leaders in sorting technology

Sophisticated technologies for the sorting of material waste streams form the foundation for producing high quality secondary raw materials. Styria continues to strengthen its renown as an innovation hub for global market leaders in waste management through the development of these advanced technologies, which include cutting edge glass sorting machines and next generation two-stage sorting systems for difficult to screen secondary raw materials (Binder+Co p49). X-Ray fluorescence sorting technologies with high level detection for metals (REDWAVE p141), and a broad range of optical and hyperspectral technologies for waste sorting (EVK DI Kerschhaggl p88, Perception Park p130).

New solutions for rare earth metal recovery & battery recycling

Improving the recovery and efficient use of resources through advanced mechanical and chemical processes is a core competence in Styria. The expertise ranges from tailor-made recycling plant solutions for every type of e-Waste (waste electrical and electronic equipment) (ANDRITZ MeWa p40/41, Saubermacher p153), ingenious metallurgical processing methods for the direct and rapid recovery of rare earth metals from 100 % e-Waste concentrates (UrbanGold p170) and novel pump and treat reclamation techniques for effluents with severe metal contamination (ferroDECONT p90).



© ANDRITZ MeWa

#1 in Green Tech



© Bauer

Air purification

To meet the increasingly stringent requirements for emissions legislation all over the world. Styrian companies provide solutions to reduce industrial air pollution. The range of products include: DeNOx systems, Selective Catalytic Reduction (SCR) and Selective Non-Catalytic (SNCR). Regenerative Thermal Oxidation (RTO). Direct Thermal Oxidation (TO). Recuperative Catalytic Oxidation (CO) and Regenerative Catalytic Oxidation (RCO), as well as adsorption, absorption and filtration systems (ANDRITZ p40/41, CTP air pollution control p61).

Water management and efficiency

Enhancing the efficient use of water is the primary objective of two different systems: the newly developed digital irrigation management system for agriculture (Bauer p147) and the intelligent fluid system for households, which can reduce water consumption by up to 60% (FMC p93). Water pollution can be reduced with the help of high quality wastewater treatment techniques such as diamond electrodes, advanced oxidation processes and innovative fluidized bed reactors (pro agua p135, VTU p172, ferroDECONT p90). In addition, complete wastewater treatment plant solutions are offered for industrial applications (ANDRITZ p40/41, VTU p172).



© CTP

#1 in Green Tech



E-Mobility solutions

Styrian companies are focusing on the development of more efficient and long-lasting battery packs for E-Mobility (Samsung SDI p149) as well as the integration of E-Mobility into local energy grids. To be prepared for the future of transportation. Styrian innovators have developed an autonomous charging system (NRG-X p126) and a novel power cable with a built-in charging station, which transforms your car into a storage system with smart energy capabilities (DiniTech NRGkick p63). The new Powerfilm technology provides maximum efficiency for the thermal regulation of vehicles (ATT p45).

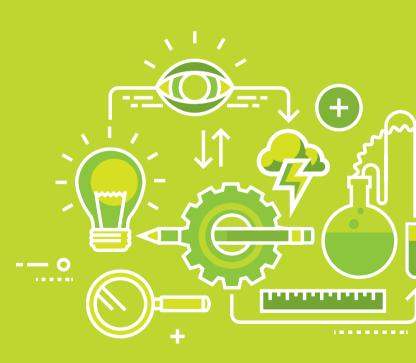
Samsung SDI

Energy efficient processes and equipment

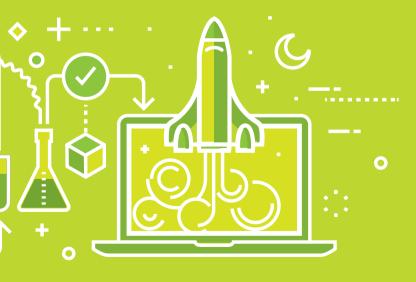
Up to 30% of the power consumption and related CO. emissions are saved through a special process used in Styrian steel production (INTECO p105). At the same time, supermarkets can go green as well using the world's most efficient cooling and heating solutions (AHT p37). And with the large scale mechanical waste treatment machinery that runs on green electricity instead of diesel fuel (Komptech p111), Styrian engineers have proven yet again that they lead the way in energy efficient equipment.



© Komptech



RESEARCH HOTSPOT





AEE - Institute for Sustainable S M L Technologies

R&D: Thermal energy technologies and hybrid systems, building and renovation as well as industrial processes and energy systems.

Staff training and development: Excursions, seminars, conferences and symposia on all fields of application of renewable energies and energy efficiency. Publication of the magazine "nachhaltige technologien" (sustainable technologies).

Know-how transfer projects at national and international level: With these activities AEE INTEC makes a significant contribution to consolidating Austria's excellent reputation in technology policy and also maintaining the export successes of Austrian firms.

Infrastructure and facilities for R&D: Simulation programs, laboratory for experiments, collector test stand with comprehensive measurement technology, test box for façade elements, detailed recording and evaluation of thermal processes.

AEE INTEC is an extramural research facility with 60 members of staff and offers training for PhD students and graduating students.

AEE INTEC

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BIOENERGY 2020+



Biomass combustion systems: Our expertise ranges from fireplaces and stoves to large biomass combustion systems as well as biomassbased CHP units, including small scale boilers.

Biomass gasification systems: By thermal gasification we exploit a variety of biogenic and non-biogenic resources for the production of product- or synthesis gas.

Bioconversion and biogas systems: The core competence is the further development of biogas technology due its's capabilities to valorise residues and waste to supply storable energy.

Analysis and Measuring: Our well-equipped laboratories and test plants form the basis for our investigations and calculations.

Cross cutting topics: Sustainable supply & value chains, automation and control, modelling & simulation, microgrids.

BIOENERGY 2020+ GmbH is a centre of excellence for technologies in the field of bioenergy research and development in close cooperation with industry and scientific institutions. The centre's research activities cover all relevant technologies for the efficient and environmentally friendly provision of fuels, heat and power from biomass.

bioenergy2020+

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CCCA Climate Change Centre Austria



To strengthen Austrian climate research: Improving the coherence of climate research in Austria; Increasing the efficiency of climate research (networking, synergies); Increasing visibility of climate research and understanding of relevance.

Facilitate the education of a new generation of researchers and supporting knowledge transfer: Facilitating the education of young scientists; Promotion of the Young Scientists working group.

To support science transfer: Networking workshops; newsletter; intelligible publications.

To advise politics and society: Provision of the scientific basis for climate policies on national, EU and international levels; Provision of target-group orientated education in questions of climate change for various actors in society.

The CCCA is the contact point for researchers, politicians, the media, and the public for all questions concerning climate research in Austria. Thus, the CCCA promotes a sustainable climate dialog.



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CAMPUS 02 - University of Applied Sciences

The student body of CAMPUS 02 is comprised of future academic specialists and management staff for the industry.

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- 5 fields of study in business and technology:
- G Automation Technology
- G Innovation Management
- G Information Technologies & Business Informatics
- ⁶ Financial Accounting & Management Accounting
- G International Marketing & Sales Management

CAMPUS 02 has a variety of options to support businesses in their activity and further development based on existing knowledge. These options range from concrete individual projects to product series and intensive cooperation in research and training.

Services for the industry: Development of smart services, process optimation and innovation support, innovation workshops, innovation strategy development, mechatronics and automation solutions, special accounting, controlling and marketing solutions.



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FH JOANNEUM – University of Applied Sciences



Institute for Construction Design and Economics

Lifecycle analysis and evaluation of buildings and facade systems. Glass engineering: Execution and evaluation of tests (e.g. double-ring tests), design and optimisation of glass structures.

Sustainable urban living for the future: Evaluation of existing urban districts and future urban developments on the basis of criteria established in the ÖKOTOPIA project.

Timber engineering: Application of cross-laminated timber, concretetimber composites, development of innovative timber connectors. *Head of Institute: Ms. Michaela Kofler, michaela.kofler@fh-joanneum.at*

Insitute for Energy, Transport and Environmental Management

Regional energy strategies: Survey of regional energy demand, assessment of the potential of renewable energy sources, scenarios regarding the integration of renewable energy.

Energy in industry & commerce: Integration of renewable energy, corporate energy strategies, CHP-technologies, waste heat recovery, innovation check, studies and funding proposals.

Challenges of energy supply: Energy production, energy transmission/ energy distribution, smart grids, smart metering, smart households. *Head of Institute: Mr. Uwe Trattnig, uwe.trattnig@fh-joanneum.at*



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Graz University of Technology



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Competence Centres at Graz University of Technology: BioEnergy 2020+ Biomass combustion, ECO Power Drive, ECO-COOL (fully integrated and controlled cooling cycle), FLIPPR (Future Lignin and Pulp Processing), Mobility – sustainable vehicle technologies, focus_sts – Solid Timber Solutions.

Christian Doppler Laboratories: The aging process of lithium batteries, technology and new materials.

Graz University of Technology (TUG) pursues top teaching and research in the fields of the engineering sciences and the technicalnatural sciences. TUG has a clear focus on sustainable construction, energy and design and is THE hub for technological cooperation.



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Forschung Burgenland



Josef Ressel-Zentrum CFD-Centre Austria: The research focus lies in optimizing engineering processes in building technology and energy and environmental technology.

City as energy sponge: Power and district heating grids are interconnected to act as functional power storage. Producers and consumers receive recommendations as to when they should ideally feed-in and when to consume for optimum cost efficiency.

Use waste heat – increase efficiency: The project "RaCiA – Rankine Cycle for industrial waste heat" is devised to support the industry in finding ways to increase process-related waste heat recovery.

Energy4buildings – testing energy efficiency: An innovative test stand optimizes heating and cooling with electrical and thermally driven heat pumps and chillers.

Air & more, simple air conditioning systems: energy efficient, resource saving, affordable for residential renovation projects.



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JOANNEUM RESEARCH





JOANNEUM RESEARCH delivers solutions for renewable power, eco mobility, urban life, tourism & climate with the following areas of competence:

Weather & climate risk management: Risk identification, impact quantification, climate solutions & climate services

Future energy systems & lifestyle: Energy systems assessment, best technology choice, lifestyle transformation tools

Climate policy and international economics: Macroeconomic analysis, policy evaluation, policy design

Urban living lab: Agent based mobility modelling, evaluating & shaping spatial solutions, smart computing 4 smart cities

Photovoltaics



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Montanuniversität Leoben

R&D of environmental topics: Environmental and Process Analysis, Landfill & Remediation, Waste Fuels, Future Waste, Recycling, secondary metallurgy and more.

RecoPhos – Recovery of Phosphorus from Sewage Sludge Ashes:

Within the FP7 Project (EC-funded project) a new thermo-reductive process was developed in order to recover phosphorus from sewage sludge and sewage sludge ashes.

ThermoDrill – High-Tech Solution for Deep Geothermal Challenges:

Development of high-tech solutions to provide economically relevant deep geothermal borehole constructions.

Montanuniversität covers the entire value-added chain: from extraction and processing of raw materials to metallurgy, high-performance materials, process and product engineering, right up to environmental technology and recycling. The addition of energy technology as a specialist subject has expanded its research areas even further.



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Polymer Competence Center Leoben



R&D Solar Heating & Photovoltaics: Polymers for solar cell encapsulation, accelerated ageing, reliability and lifetime modelling, material characterisation and selection.

Smart Windows and Façades: Overheat protection, synthesis and characterisation of thermotropic polymer films for applications in façades, windows and solar thermal collectors.

Light-Weight-Structures: Polymeric composites as lightweight solutions for energy efficient (electric) vehicles.

PCCL is concerned with R&D in the field of polymeric materials for active and passive solar energy utilization, light-weight structures (e.g. e-mobility), sustainable water supply systems (pipes) and biopolymers.



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TERA TU Graz



Fennek: Brushless DC motor with lithium-polymer battery. World record holder with 1092 km/kWh at the Shell Eco Marathon Europe 2014.

Panther: Single-seater for urban traffic: Wheel-hub motor in the rear wheels, lithium-polymer battery.

Ibex: Two-seater with approval for road use: Carbon monocoque and aluminium frame front and rear. Energy source: lithium-ion battery with a range of over 200 km.

Students' organisation for efficient car technologies specialized in electric drive.

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University of Graz Karl-Franzens-Universität

The University of Graz is one of the most innovative universities in Austria. With its 32,500 students and 4,300 employees in research, teaching and administration, the University is keenly involved with sustainability and the environment as can be seen from international Master's degree programmes such as Sustainable Development, Industrial Ecology as well as Environmental Systems Science.

Currently, students can choose between more than 120 bachelor's, master's, diploma and doctoral programmes. As a modern place of science, the University of Graz bundles top-quality research on an international level in seven core fields. In the core field Environment and Global Change, the focus lies on the analysis and monitoring of climate and environmental change and its impacts, on the analysis of the role of human beings and the identification of transition paths towards sustainable regional development and innovation.



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TECHNOLOGY HOTSPOT





AB synergy maps



Synergy maps: In a digital cadastre, non-visible line networks, components and associated buildings are clearly displayed in their own layers. Buildings can be captured digitally, better viewed and maintained.

Synergy maps is an information system for infrastructure. Contracting authorities are municipalities / communities and industrial enterprises. Infrastructure which should be maintained, for example sewer systems, hidden cables or pipes and single maintenance components can be viewed on a map. This overview works online as well as offline on a PC, tablet or smartphone.

The goal of AB synergy maps GmbH is to combine Aquadas' longstanding experience and products with the unique functionality of synergy maps, which has recently resulted in an even more efficient product.

synergy maps

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AccuPower Forschungs, Entwicklungs-, und Vertriebsgesellschaft

Consulting: Assistance in the field of charging technology and batteries.

Project development: Assembling and manufacturing of customized battery-packs from prototype to mass production. Battery Types: NiMH, Lithium: Li-lon; Li- polymer; LiFePo4.

AccuPower's products offer a combination of performance, endurance and value. The technology of microchips, digitization and miniaturization creates a wide variety of new portable power needs. AccuPower batteries can be used in any application where long-lasting operation time is desired and/or required. Micro-controlled, state of the art universal chargers capable of simultaneous charging of different battery sizes and chemistries are offered as well. The R & D team works closely with OEM customers in the development of new charging and control devices. AccuPower assists you with any special request or requirement you may have.



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World's st Source of Green Tech

and home of the legendary pumpkin seed oil



AHT Cooling Systems



Sustainable Technology: AHT develops and produces freezing and chilling appliances with very low energy consumption and environmentally friendly propane as refrigerant.

Green refrigerants: AHT is forerunner and innovation leader the use of environmentally friendly propane as refrigerant.

Cooling Products: Chest coolers and freezers, air curtain coolers, shelve systems, upright and countertop coolers and much more.

AHT Cooling Systems operates in the area of food refrigeration. Here, the main lines of the business are plug-in freezers, deep freezers and refrigerated shelves for supermarkets, ice-cream chests and beverage refrigeration.



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akaryon



Sustainability assessment tools: Online tools for sustainability assessment of technologies (www.komklima.at), projects, towns, procurement etc. Integration of indicators, for instance greenhouse gas emissions, energy consumption, resource efficiency, ecological footprint.

MORE and "Umweltdaten" tool for monitoring responsibility of companies and organisations: Easy management of environmentally relevant data. Calculation of greenhouse gas emissions, social and economic indicators. Basis for performance improvement and sustainability reports, e.g. following the Global Reporting Initiative GRI, the EMAS Audit Scheme, the EU NFI regulation, the Austrian Waste Management Concept (www.more-tool.eu & www.umweldaten-tool.at).

RESYS planning tool for renewable energy strategies of regions/ towns: The online tool estimates energy demands, production and yields of renewables for each hour of the year; Comparison of demand and production and consideration of different storage technologies; Simulation and benchmarking (www.resys-tool.at).

akaryon specialises in environmental data management and in bringing sustainability research results to users through interactive IT tools.



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Alternative Energietechnik Ing. Wolfgang Rebernegg

Automatic tile stove shut-off: A supply-air control system for tile stoves as well as a complete building control system for domestic use (integrated tile stove building heating system) has been developed as a customer-specific solution.

EMC 2000 and Unitech module system: The Unitech module system is used for larger projects with decentralised control equipment, optionally available with visualisation, remote maintenance and heat meter reading.

Plant visualisation: The control system can be monitored, read out and simulated from a PC; Seamless data recording is available for subsequent control.

Alternative Energietechnik develop and produce controllers for heating facilities for domestic and industrial use, as well as custom controllers. For local heating stations, remote maintenance and data logging via the Internet is provided. An active fault indicating system is also available.



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ANDRITZ

Turnkey hydro power plant solutions (from water to wire for any plant type): ANDRITZ HYDRO is a global supplier of electromechanical systems and services ("from water-to-wire") for hydropower plants and one of the leaders in the world market for hydraulic power generation. ANDRITZ HYDRO supplies turnkey tailor-made solutions from initial design to final commissioning – "from water-to-wire" for all kinds of hydropower plants: Run-of-river power plants, storage power plants, pumped storage power plants, tidal power plants and tidal current power plants.

Industrial renewable power production: ANDRITZ offers technologies for producing steam and electricity from renewable fuels as well as the efficient use of biomass, refuse-derived and other fuels. The portfolio comprises technologies such as circulating fluidized bed (CFB) boilers, bubbling fluidized bed (BFB) boilers, blast furnace gas (BFG) boilers, high energy recovery boilers (HERB), sulfite boilers, sodium boilers, and BFB or CFB gasifiers. ANDRITZ also provides innovative air pollution control technologies, including wet flue gas cleaning, dry flue gas cleaning, DeNOx plants, and combined or multi-stage systems.

Municipal and industrial wastewater treatment: ANDRITZ is one of the few suppliers in the world to combine dewatering (four technologies), thickening (three technologies), and drying (four technologies) as well as screening and ancillaries. So whether it is a mechanical or thermal separation technology or renewable energy you need, we can always offer the best solution for municipal and industrial wastewater, biomass, and organic waste applications.



ANDRITZ



Biomass drying and pelleting: Besides technologies and services for waste water treatment and the thermal utilization of sludge ANDRITZ supplies the complete process equipment for biomass drying, from wet milling to drying, fine milling and pelleting – all from a single source! The product portfolio for biomass also includes complete wood yards, chippers to produce wood chips, grinders, pellet presses, and biomass-fired power stations.

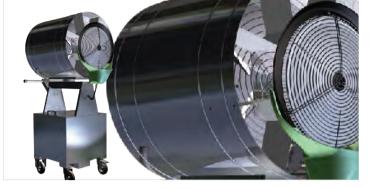
Recycling machines and custom-made recycling solutions: The ANDRITZ plant range offers recycling solutions for a wide variety of different applications: Electronic and electrical waste, refrigerators, cable scrap, aluminum scrap, automotive parts like oil filters, motor blocks and tires, domestic, industrial and bio waste as well as rejects from the paper industry.

ANDRITZ is the world leader in all four of its business areas. Customized technologies and service solutions are the key to success. ANDRITZ is one of the world-leading suppliers for the hydro power business, the pulp and paper industry, a major player in the rolling mills & strip processing business as well as engaged in the separation business and supplies machinery for the feed and biofuel industry.



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A. RAUCH



Water Rauch outdoor cooling: RAUCH water mist systems refresh hot summer air and humidify dry air with fine water mist ecologically and energy-efficiently. As a logical result, dust and odours are also trapped. The applications are limitless!

Dust control with water fog: For industry applications, such as stone crushing plants, the construction industry or the recycling industry, where dust is a problem, we provide solutions to eliminate dust problems.

Humidification with water fog: Humidification can be used for green houses, food storage and various industrial applications.

RAUCH is a leading supplier of water spray misting and fogging systems for adiabatic outdoor cooling, humidification, dust control and water fog effects. RAUCH also provides scales and calibration services.



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ATM Recyclingsystems

Briquetting press: ArnoBrik Series Briquetting Presses create high-density briquettes out of loose swarf or metal chips, dust and grinding slurry.

Scrap shear: A scrap shear is used for cutting metals. Capacity up to 50 tonnes per hour.

Baler press: A baler press is used for baling metals sheets and profiles. Capacity from 1 to 35 tonnes per hour.

Shredder: Arno[®]Shred machines are designed for shredding metals to resist the extreme conditions on scrap yards - suitable for ferrous and non-ferrous metal-swarf.

ATM stands for Arnold Technology for Metalrecycling – based on more than 80 years of experience, it is a leading company of ASCO Group. The company's engineers plan, produce and maintain metal-recyclingsystems for the treatment of secondary raw materials. The basis of the integrated solutions is the market leading engineering knowledge, the in-house-production of recycling machines and the worldwide spare parts and service support.

ATIM RECYCLINGSYSTEMS

Mr. Alexander Kügele

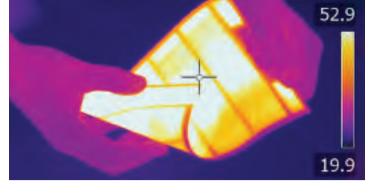
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Speed up your Growth

Carry out your business here and be part of this success story

Companies in the Green Tech Valley have grown nearly twice as fast (+12% p.a.) compared to the international average (+7% p.a.) in green tech.



ATT advanced thermal technologies

Flexible surface heating ATT Powerfilm: ATT Powerfilm is an extremely thin and flexible infrared surface heating system based on a conductive coating, which allows the highly effective and energy efficient heating of interiors and thermal conditioning of technical components.

Ice & water sensor ATT Powersense: ATT Powersense is a completely new, patented ice sensor capable of detecting not only the existence, but also the thickness and air content of ice and water films, thereby enabling a highly efficient control of de-icing measures.

Comfort Control ATT Powerlogic: The comfort control model and ECU ATT Powerlogic automatically calculates the necessary settings for ATT Powerfilm.

ATT's mission is to develop and manufacture groundbreaking new technologies in the area of thermal management for the global market, applied as highly efficient and flexible infrared surface heating in cars (e-cars), airplanes, buildings or windmills.



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Bautastisch



Digital waste management platform for construction and demolition waste: Bautastisch is an online display- and advertising site especially for the construction sector. You can buy or sell used building materials.

for the construction sector. You can buy or sell used building materials used tools, machines or products for the garden.

In Austria alone, every year millions of tonnes of building materials are disposed of instead of being sold. On Bautastisch you can sell all these left over building materials and you help the environment. Also Bautastisch is economical, because companies earn money when they sell their waste products.

It is a win-win situation: buyers can buy building materials cheaper, sellers can earn money for products which they would otherwise have to pay for having them disposed. In addition, the environment benefits, because there is less ecological damage when there is less production of new building materials. The target group is both individuals and companies in the sector.



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BDI - BioEnergy International



BioGas: BDI group also offers the most advanced solution in the field of anaerobic digestion: BDI BioGas technology, designed primarily for industrial applications.

RetroFit Programme: BDI adapts and optimizes existing BioDiesel and BioGas plants supplied by other plant engineering companies.

UIC GmbH: The BDI subsidiary offers plants and components for the gentle distillation of liquid mixtures in both rough and fine vacuum.

BioLife Science: BDI creates with its fully-owned subsidiary BDI – BioLife Science GmbH new standards in the production of valuable algae-based products, such as natural astaxanthin.

BDI develops technologies for energy generation from by- and waste products while ensuring maximum protection of resources at the same time, following the philosophy: From Waste to Value.



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Bike Citizens – BikeCityGuide Apps

Bike Citizens App for urban navigation: This is the smart cycling app for en route navigation. Downloaded over 500,000 times, it offers more than 450 cities worldwide, includes turn-by-turn navigation, tracking options and voice guidance. The app works perfectly together with the self-developed universal smartphone mount Finn.

Cycling technology: The #5MinsbyBike is a very simple and ingenious feature that visualizes how far you can go with your bike in 5, 10, 15 or 30 minutes from your home, workplace or any other point in town.

Urban cycling data: The company shares the data they gain in their app with cities or use it for research projects to improve cycling infrastructure in cities. It has recently launched the Bike Citizens data analysis tool for city planners and governments.

Bike Citizens was founded in 2011 by Daniel Kofler and Andreas Stückl. In addition to the eponymous App, the company developed the globally successful mounting for smartphones, Finn. Bike Citizens participates in many urban mobility research projects.



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Binder+Co



Sensor-based sorting system CLARITY: Binder+Co's revolutionary sensor-based system sorts glass, plastics, packaging waste, WEEE, paper, demolition waste and much more according to colours and type of materials.

Efficient screening system BIVITEC for difficult materials: With BIVITEC, Binder+Co starts where conventional screens fail. BIVITEC stands for highly efficient screening of difficult materials, typical in the processing of secondary raw materials.

Fluidized bed dryer DRYON: Fluidized bed dryers and coolers for bulk materials of any kind.

Binder+Co is an internationally successful specialist in machinery and complete systems for comminuting, screening, drying, sorting, wetprocessing as well as packaging and palletising of bulk materials of all kinds. The company, which is based in Gleisdorf, Styria, concentrates on the three segments of processing technology, environmental technology and packaging technology, and is a global market leader in the fields of screening technology and glass recycling.

binder+co

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BINDER Energietechnik



Biomass boilers: Complete planning of biomass boilers for commerce and industry up to 20,000 kW including warm water boilers, hot water boilers, steam boilers, boilers for non-standard fuels as well as hot airdrying systems, thermal oil systems and CHP systems.

Biomass-heating systems: Planning and engineering of entire heating systems including all components (boilers, combustion systems, extracting systems and transport systems). Every single combustion system is designed to use a specific type of fuel and is assembled and commissioned by trained Binder personnel worldwide.

BINDER supplies automatic biomass heating plants for applications in industry, commerce and district heating. Over 3,000 plants worldwide – from Canada to New Zealand – confirm that BINDER is one of the leading manufacturers in the boiler range of 100 kW to 20 MW.



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BIOS BIOENERGIESYSTEME



Technology development: Development of biomass combustion and gasification technologies in the small, medium and large capacity range including flue gas cleaning.

CFD simulation: Development, design and optimisation of biomass combustion and gasification plants by CFD simulation (Computational Fluid Dynamics).

CHP systems: Development and demonstration of new and innovative biomass-based combined heat and power (CHP) systems.

BIOS is active in research, development, planning and optimisation of processes and plants for the energetic utilisation of biomass and industrial waste heat utilisation for heating, cooling and electricity.



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bit management Beratung / CPC Austria

ECOPROFIT: An EMS which includes workshop training, consultancy and certification. It helps to reduce a company's environmental impact while providing accompanying benefits.

Environmental Manager: Qualification as certified ECOPROFIT environmental manager. Content: Sustainability, environmental and innovation management.

Energy Manager: Qualification as certified ECOPROFIT energy manager. Content: Energy analysis, management and savings, renewable energy.

CPC Austria is an international consulting company with a focus on environmental, eco-efficient and cleaner production consultancy. Furthermore, the company is active in the fields of implementation of ECOPROFIT programs and training of personnel.



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CBLOWER Austria



- G Industrial, centrifugal and axial fans
- G ATEX and biogas fans and blowers

^G Components, filters and accessories for industrial fans and blowers

CreativeBlower Austria Industrieventilatoren is your partner for industrial fans and compressors as well as components in the field of air. The company was founded in 1990 in Austria and has now been engaged in the engineering, manufacture and distribution of industrial fans and compressors for more than 18 years.

Although the customer focus is in Austria and the EU area, CreativeBlower Austria products directly or indirectly reach the whole world from Russia to North Africa, China, Canada, Mexico and the USA. Long-term customer relationships and success do not materialise automatically, they come rather from satisfied customers, good products with high quality standards, and creative and motivated staff.



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Discover the Innovation Hotspot

and visit more than 20 technology leaders around Graz, Austria with the Green Tech Valley Tours (www.greentech.at)

Visionary pioneers, strong industries and an EU-top R&D quota make up the spirit of the Green Tech Valley - besides the excellent white wine.



Christof Industries

Biomass heating & power plants: Based on the know-how of the first ever built cooling stack downstream of a converter in a factory in 1962 our technology creates a whole series of advantages compared to traditional technologies.

Reject to power process: Reject-to-power is a patented process which combines air and grate combustion and is in use at waste processing plants in England, Germany and Austria.

Multi-feedstock bio-diesel plants: Christof Industries patented technology makes it possible to use unpurified raw oils, resulting in far greater quantities of bio-diesel than in traditional processes.

Wood gasification plants: Christof Industries' technology represents a revolutionary method of producing energy from biomass by means of wood gasification.

Christof Industries is a partner in the development, construction and upkeep of industrial plants for industry and energy providers across the globe.



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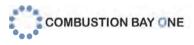
Combustion Bay One

Rayleigh Criterion Probe (RCP): The RCP is a novel sensor combining optical and acoustic measurements to gain detailed information about the flame's front position, the emission products and the combustion stability simultaneously and in real time.

CBOne's SIREN: The SIREN is a technology especially designed for pulsed combustion to push the lean blow out limit further, balance an unstable flame or operate a burner with low caloric value fuels.

Consulting and R&D: We provide consulting and perform R&D geared towards solutions for less fuel burn and less pollutant emissions including burner design, fuel line planning and instrumentation, prototyping and testing of tailored systems.

CBOne is a specialist in the management and the optimisation of combustion processes. Potential fields of application for our know-how are stationary gas turbines and thermal turbomachines. Software and hardware technologies developed by CBOne are applied to perform a comprehensive analysis of incinerators and allow us to respond to customer-specific demand on an individual basis.



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Compuritas



IT hardware refurbishment: Core business is the professional refurbishment of computer hardware. As a sustainably innovative enterprise, we collect hardware from cooperating companies and provide it, after a proper refurbishment process, preferably to schools and NGOs.

Professionally prepared notebooks and PC systems: Compuritas offers high-quality business computers, which have had their first years of operation in an Austrian company and then were professionally processed in our company workshop.

Compuritas is one of Austrias' leading companies to put the values of sustainability and innovation into practice. Through its "Compuritas hardware distribution programme", the IT company from Graz is well-known in all of Austria.



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COSMO CONSULT



Digital solution for the solar industry: COSMO CONSULT has many years of experience with digital solutions for the solar industry. What we offer is based on a clear methodology, on detailed knowledge of the processes in the industry, and on outstanding know-how when it comes to products.

Flexible business software for medium-sized businesses: Microsoft Dynamics NAV (formerly Navision) is a flexible business software, designed specifically for medium-sized businesses with industryspecific requirements.

The COSMO CONSULT Group specialises in the implementation and system management of business software solutions for small and medium-sized and large companies in the fields of manufacturing, services and trade.



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CTB Automatisierungstechnik



Biomass: Measuring and control systems for biomass plants. Furnace systems for hot water, steam and thermal oil plants. Exhaust gas treatment. Combined heat and power systems (CHP).

Biogas: Measuring and control systems for biogas plants. Process control and process optimisation. Liquid and solid dosing systems. Organic waste processing. CHP and plant load management.

District heating: District heat transfer stations from 15 to 3,000 kW. Heating controller and room-control units. Hot water tank heat up systems and heat meters.

CTB Automation provides worldwide solutions for power engineering and industrial plants in the fields of biogas, biomass and district heating networks.



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CPH Zellulosedämmstoffproduktion

Spray-on insulation: Cellulosic layers reinforced with binders are very suitable for sound absorption. This is especially important for schools, kindergartens and similar buildings.

Blowing in insulation: This produces a non-cutting and seamless insulation layer.

Technology: Generally, 90% of the weight of the cellulosic material comes from comminuted and ground paper, which is generally mixed with 10 harmless mineral salts as a fire and insect repellant. All technical parameters of the insulation material are documented in various building approvals and are monitored by relevant institutes. The insulation material is distinguished by a very low primary energy expenditure during production and thus contributes to the reduction of CO₂ emissions.

CPH is specialised in cellulose insulation in the field of energy-efficient building envelopes and is one of the biggest producers of cellulose insulation in Europe.



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CTP – Chemische Thermische Prozesstechnik



<u>نة الم</u>

CTP is one of the world's leaders in air pollution control for industrial applications. The company provides air pollution control systems for the disposal of organic pollutants and specific inorganic compounds in exhaust air. More than 850 CTP references worldwide speak for themselves with currently 3.3 million operating hours per year.

Oxidation: Regenerative Thermal Oxidation (RTO), Direct Thermal Oxidation (TO), Recuperative Catalytic Oxidation (CO) and Regenerative Catalytic Oxidation (RCO) to destroy organic pollutants.

Reduction: The removal of NOx with or without a catalyst - Selective Non-Catalytic Reduction (SNCR) and Selective Catalytic Reduction (SCR).

Adsorption: Effective air pollution control for large flow rates with low pollutant concentrations.

Absorption: Wet gas scrubbing for the removal of inorganic components.

Filtration: Mechanical-thermal filters and fabric filters for the removal of sticky particulate (e.g. tar) and aerosols.



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DI Markus Pernthaler -Architect

Projects: The office was founded in 1990 and works in different fields of architecture, urban planning and design. Since then, cultural, residential and educational buildings as well as traffic and industrial facilities have been its focus of activity.

Smart City Project: Since 2011, the office has been engaged in the development of a new city quarter in Graz. Markus Pernthaler, who had the idea for and designed the Science Tower, is also responsible for the moderation and mediation of the whole process.

Various strategies have been developed with ecological and social sustainability in mind. Numerous projects have been published and lectures and workshops have been held during the last years.

MARKUSPERNTHALERARCHITEXTEN

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<u>نة الم</u>



DiniTech



NRGkick: The mobile charging unit for electric cars transforms every socket into a charging station and benefit from the reduced charging time that standard 3 phase power sockets allow. NRGkick enables a charging power up to 22 kW. Via Bluetooth it communicates with any smartphone (soon via WLAN) and displays each energy meter value, e.g. energy, power, ampere, etc.

NRGkick is developed and produced by DiniTech. DiniTech is an Austrian company which develops of innovative products for electromobility and a competent partner in the realization of ideas.



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doro Turbinen



doro turbine: Doro supplies the machine set incl. generator with frequency converter and supports the project right from the start during the preliminary study up to commissioning.

doro hydro power plant: doro takes over the entire project management and hands over a turnkey small hydro power plant. Due to the close cooperation with our partners and their early involvement, we keep projects slim and handle them efficiently.

doro licence: doro licenses its technology for sales partners, manufacturers and project developers in foreign markets. doro ensures a deep know-how transfer, so that partners can implement doro in the quality they've come to expect.

doro Turbinen develops and markets a technology for the economical use of already existing water levels. Potentials of less than three meters can thus be used energetically without extensive stowage measures.



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E1 Wärme und Energie



Smart Home: El plans and installs advanced Smart Home solutions and integrates power generation and household appliances, etc. into adaptive energy systems.

Heating, climate control and ventilation: As a specialist in advanced and innovative system combinations, we plan integrated heating systems based on heat pumps, biofuels (pellets and wood chips), natural gas, district heating and infrared heating.

Photovoltaics & electrical storage: We offer solutions for intermediate battery storage of excess power from photovoltaics systems. Integrated web servers with graphical interface provide for ideal configuration and visualisation.

E-mobility: We plan and install charging stations, that are matched to the requirements of your vehicle, and to any power generation systems present and connection to the domestic power supply.

E1 Pfund is founded on innovation, reliability, and professional expertise and combines the experience from over 30 years of project business, with wide ranging expert knowledge in the field of renewable energy.



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E.S.Elektronik



Electronics development: Controls for solar lights, pellet ovens and infrared saunas, industrial washing machines, industrial dryers, regulation and control units, sensors and interface components. Furthermore, we also develop products at the customer's request.

Electronics manufacturing and services: SMD and THT assembly as well as Box Build and cable confectioning.

As energy experts in control and automation technology, E.S.Elektronik has an excellent track record as a reliable partner for trade and industry.



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e² engineering



Energy generation engineering: Water, district heat and biomass power plants, combined heat and power, biogas plants, solar technology, geothermal energy, energy analysis, energy concepts and energy certificates, feasibility studies.

Building physics & ClimaDesign: Thermal, moisture and sound insulation, room acoustics, sealing technology, issue of energy certificates, calculation of thermal bridges, sound measurement, dynamic building simulation, studies of shadowing and concepts for solar protection, expert reports.

Building technology planning: Heating, air-conditioning, ventilation, plumbing, electrical engineering, measurement and control technology, materials handling, swimming-pool technology.

The e² engineering company is a general contractor in construction, environmental, energy- and infrastructure technologies. As an engineering manufacturer with a focus on energy self-sufficiency, they provide know-how from a single source.



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E²T - Efficient Energy Technology

Power station for the balcony: Based on a patented non-invasive measurement technology a plug&play power plant has been developed. It consists of a small photovoltaic panel and a small battery pack. The target consumer, an ecologically aware person living in an apartment, can install the system by simply plugging it in to a regular wall socket. The device Sun2Plug produces energy when the sun is shining, the energy is stored in the battery and as soon as electricity is consumed, it is delivered back to the household via the wall socket.

Thereby the system offers two USPs:

- G Ease of Use: simply plug it in
- G 100% self-usage of decentralized photovoltaic power

 ${\sf E}^2{\sf T}$ - Efficient Energy Technology GmbH is a Spin-Off of Graz University of Technology. It is based on a patented non-invasive measurement technology that is able to detect power consumption within a household.



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EcoCan



LED Booster: With the LED Booster technology, EcoCan demonstrates exceptional light amplification effects with a combination of LED lights, highly efficient reflectors and optical light steering foils to save up to 70 % of energy.

LED Booster HiBay: The Solution for high rooms and commercial or industry halls. Various optical foils allow for efficient light distribution according to different work requirements.

The EcoCan mission is to achieve more efficient and environmentally friendly light efficiencies by introducing new light steering technologies, which demonstrate that ecology, economics and ergonomics do not have to work against each other.



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ECOFLUID



Tailored solutions: For the sensible application of environmentally beneficial lubricants and effective oil care.

PANOLIN: High-tech biodegradable lubricants for long oil change intervals, conforming to all environmental regulations.

KLEENOIL: Microfiltration – the most effective way to keep your oil clean, to secure best wear protection and longevity of your lubricants.

ECOFLUID's core competencies are high performance / biodegradable lubricants and oil filtration.



Mr. Robert Hörbst www.ecofluid.at





ecoliGhts SOLARE BELEUCHTUNG



Solar object lighting: A secure and effective illumination of advisory and company signs, bus stops, memorials and bridges by using solar strip lights and high-power-LED floodlights.

Solar path lights "Kion 2" and "Kion 3": Kion is particularly suitable for illuminating foot or bicycle paths, bridges and squares. Particular emphasis was placed on high quality and design.

Solar lamp "Double Sol": The eco-designed solar lamp "Double Sol" is equipped with a special wooden mast, with the result that this light is made of almost 100 % recyclable materials.

ecoliGhts is dedicated to the future of energy and, through its solar lighting systems, provides better security, energy efficiency and cost improvements.



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€cosys



Ecosys 500entry: Is designed for smaller businesses, such as workshops, warehouses, recreational facilities, business premises, or stables and wherever you need a control system with remote access.

Ecosys 1850advantage: The energy saving automation solution for SMEs and industry.

Ecosys atmosphere4500professional: As the flagship of the Ecosys product family, Atmosphere4500professional was developed especially for large companies and industrial application.

€cosys is an automation solution that has been developed to meet the need for sparing use of different forms of energy. It is something we have all experienced: a production facility that is not fully loaded due to intermittent operation, but despite this all consumer devices are running at full load. Efficient use of resources is of paramount importance, especially in view of ever-increasing energy prices and the associated emissions of greenhouse gases.

€cosys is an energy control system that also embraces climate protection.



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eco-tec.at Photovoltaics

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Construction: eco-tec specializes in building and installing photovoltaic plants. Special equipment is available for the installation of plants on rooftops, in open spaces of any size and in other difficult places.

Project handling: As a competent partner, eco-tec supports you in obtaining all permits and grants, but we can also take over the entire project management.

Planning and design: Many years of experience and the use of professional planning software guarantees an exact result and costoptimized process times for your photovoltaic system.

eco-tec.at offers expert advice and planning as well as expert installation and maintenance of your photovoltaic installation. The young, dedicated team helps you at every step with sustainable project support.



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Let's keep in touch

with our news and magazines from the green heart of Europe

Order your free copy of digital and print news: +43 316 407744, welcome@greentech.at, www.greentech.at



ELIN Motoren



- G Electrical high- and low-voltage motors from 37 to 35,000 kW
- ^G Asynchronous generators from 500 to 5,000 kW
- ^G Synchronous generators from 5,000 to 50,000 kVA

Support throughout the life cycle of the machine as well as an extensive scope of services, with central technical handling at Preding/Weiz and the worldwide support of an international network of certified service partners.

With 125 years of experience in development and production of electrical machines, ELIN Motoren GmbH is one of the most traditional industrial enterprises in Austria. The leading position is cultivated with consistent enhancement of the competencies, ongoing expansion of the optimised service solutions and a perfectly balanced "intelligent network" encompassing the entire range of products. The customers can profit from all the advantages of a flexible business.

In 2008 new premises were constructed in Preding/Weiz to house one of Europe's most modern motor and generator factories. ELIN Motoren GmbH serves a worldwide client base from this location.



Mr. Christoph A. Schug contact@elinmotoren.at +43 3172 90606-1000 Elin-Motoren-Strasse 1, 8160 Preding/Weiz, AT www.elinmotoren.at





ELSTA Mosdorfer



E-spot Series – comprehensive e-mobility solutions: Specially designed and tested power supply and metering cabinets for charging points.

Empty Enclosures acc. to EN 62208: Enclosures are electrotechnical components in their own right. Our cabinets are fully tested externally and can be used for a very wide range of applications and installation types.

Equipped Enclosures acc. to IEC 61439-series: The new series of standards poses challenges regarding thermal design, technical calculations and documentation. Our products are fully compliant with the new requirements without losing the advantages of prior solutions.

Long-term experience and permanent improvement assure customized high-quality solutions for low-voltage power distribution and metering. Our strengths are the engineering and electrical design of enclosures for a variety of purposes.



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ELUXOON -Connected Lighting



Easycontrol®: Easycontrol® is an electronic smart control module. Coupled with a light point, it allows to perform the following operations: ON, OFF, dimming, measuring energy consumption, etc.

SMR Touch Intelligent: A simple yet powerful solution to manage the illumination of several independent zones.

SE – Driver: LED Driver for outside lighting installations and street lighting luminaries. Dimmable 10 - 100% and equipped with embedded wireless communication interface. This device can be remotely controlled.

CMC: This device can monitor the electrical network in real time, provide consumption data and detect any incidence occurring in the network.

Eluxoon is a young and highly qualified company focused on lighting solutions and Internet of Things applications. Eluxoon provides solutions that facilitate and improve lighting management in the public, industrial and horticultural sectors.

eluxoor

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enerep schöner Tag Ingenieurbüro Ing. G. Repnik



Resource optimisation of facilities: The aim is to reduce running costs in order to recover associated investment costs in a short time.

HVAC & plumbing engineering: Project engineering, installation monitoring, commissioning and sign-off of building services relating to HVAC and water management.

Operating projects: Planning and installation including the adoption of cost responsibility as facility investor and operator.

Specialised in the areas of heating, air conditioning, ventilation and sanitary installations, enerep undertakes the planning and development of autonomous, independent and resource-optimised energy systems in order to achieve the lowest cost of operation, to the benefit of all concerned.



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Energie Graz



Integrated approaches for energy: The primary focus is on the intelligent linking of different systems for power, heating and cooling, using power-heat coupling, heat storage, and heating with renewable power using low-temperature heating systems.

Heating transition: As a central component of integrated systems, we are working on the medium-term goal of raising the share of renewable energy in secure district heating to 50%.

New business models and innovations in service are essential building blocks for growth and a strong market positioning for Energie Graz.

Advice on energy: Our experts will be glad to answer any questions you have about household energy supply and will give you practical tips for the efficient use of energy.

As an energy service provider, Energie Graz designs and secures an essential part of the infrastructure in the Styrian capital of Graz. We provide the citizens of Graz with electricity, natural gas, district heating, lighting and energy services as well as solar energy from a single source.

ENERGIE GRAZ

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Energie Steiermark



Energy services: Energie Steiermark is increasingly investing in new, innovative services & business models. It is a modern service company fostering renewable energies, energy efficiency, e-mobility and energy storage.

Smart Living: Supported by the latest, connected technologies for smart home, smart & live metering, smart services and smart grids, Energie Steiermark is leading the digital energy transformation.

Next-Incubator: Energie Steiermark is looking for start-ups and innovators to join our open innovation lab to jointly develop products and services for Energie Steiermark's new digital businesses.

Energy production and distribution: Generation, procurement, sale and distribution of power, gas and district heating. As one of the largest service providers in Austria, Energie Steiermark's main focus is on energy efficiency and innovative service offerings in the fields of electricity, natural gas, heating and mobility.



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ensowa – innovation und umweltconsulting

In-situ soil remediation plants: ensowa provides technologically leading in-situ plants for the elimination of environmentally damaging mineral oil hydrocarbons from soil and groundwater with microorganisms.

With the air sparging compressor, air can be blown into up to ten wells (per remediation container). The contaminated air is then extracted from the ground via up to ten wells using a side channel compressor. The extracted air is passed through two activated carbon drums and the purified soil air is discharged.

The data are recorded and analysed using a software-controlled system, which automatically adjusts the plant to the changed remediation conditions. Plants of the new generation are used in china for the decontamination of future economic areas and enormously increase the property value.

The young company with its headquarters in Schäffern in Styria is a global specialist for remediation.



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EnviCare Engineering



Biogas: Biogas is a promising renewable energy source. EnviCare has realised plants with 13.5 MW el. power.

Waste water treatment: Since 1992 we have been steadily working on membrane-based systems. It's experience that counts!

Waste management: Process engineering from EnviCare for reliable energy recovery, biological treatment and safe handling of (hazardous) waste.

As an independent engineering company, EnviCare focuses mainly on waste water treatment, waste handling, renewable energies (e.g. biogas) and energy efficiency. We have been providing innovative solutions based on our specific know-how since 1996.

EnviCare® Engineering GmbH

Ingenieurbüro für Verfahrenstechnik, Graz

Mr. Bernhard Mayr

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eologix sensor technology



The eologix sensor system for rotor blades consists of multiple wireless sensors on the surface of the rotor blades and a receiver which stores the transmitted measurement data and makes the results available locally or in an online data base system.

eologix is a young company developing smart surface sensors. The first product is a flexible, thin and wireless sensor for temperature measurement and icing detection directly on the surface of wind turbine rotor blades.



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EPCOS OHG -A TDK Group Company

Deutschlandsberg is the TDK competence center for ceramics and one of the two sites for the TDK R&D Center Europe.

Employees from more than 25 nations are engaged in the development and production of electronic high-tech products:

Temperature sensors: Semiconducting ceramics and elements for temperature sensors.

Piezo and protection devices: Based on piezoelectric and semiconducting electroceramics, products for surge voltage and overcurrent protection, self-regulating heating elements and piezoelectric actuators for fuel injection systems and haptic feedback applications.

Surface acoustic wave filters: Die-sized and multilayer components for high-frequency applications.



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ERNEUERBARE ENERGIE Ing. Leo Riebenbauer

Project development: Project development and project management, planning and engineering, contracting and consulting. Administration of subsidies.

Consulting in all aspects of renewable energy.

As a leading technical office for renewable energy with more than 200 implemented biomass local heating stations, ERNEUERBARE ENERGIE Ing. Leo Riebenbauer provides our clients with product development, planning, project management, management and accounting of subsidies at a proven level of quality.



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ESTET STAHL- UND BEHÄLTERBAU



Individual constructions in the fields of mechanical engineering and industrial plants.

Turnkey industrial constructions with the project manager as general contractor.

Production of core components with the main focus on welding.

ESTET is well-known for individual steel constructions, components production and turnkey construction projects. Furthermore, the company manufactures and installs equipment, e.g. in the area of biogas. ESTET is a partner for companies in different areas, such as rail traffic, energy industry, transportation and environmental technology.



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EUDT Energie- & Umweltdaten Treuhand

BLUAUL Systematic energy management: Just imagine one complete system monitoring all the energy flows in your company. The consumption of electricity, heat, water, fuels, etc. are all metered.

EMS Systematic environmental monitoring: How can your company benefit from EUDT's environmental monitoring system (EMS)? It meticulously records and analyses your environmental data, is standards-compliant and can be customised; including quadruple backups.

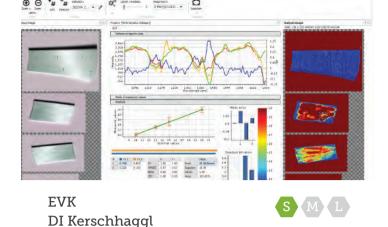
Energy Consulting and energy concepts: Corporate energy questions will be answered by EUDT's energy consultants. They are streamlining your processes and cutting your costs.

EUDT develops and installs high quality software solutions and complete systems. The core areas are managing and monitoring energy and environmental data in companies.



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Colour imaging system for waste sorting: EOS is a smart colour sorting system including the control of the ejection unit for sorting bulk material according to colour, shape, size and texture.

Smart sorting solutions: The expertise of EVK includes engineering services to develop smart sorting solutions for new applications.

Hyper spectral imaging systems for recycling: HELIOS is a smart sensor system, well suited for recycling plastic, paper, e-waste & other raw materials such as wood from shredder light fraction (SLF).

EVK develops and produces smart sensor systems including the control of ejection units for sensor-based sorting of bulk material. Technologies are hyperspectral, colour & inductive imaging; mainly for the recycling of glass, metal, plastic, paper, e-waste, and SLF. Furthermore, there are applications in the food industry as well as for various sorting functions for small parts and in quality control.



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FCC Austria Abfall Service



Waste collection and transport: 1,600 trucks and special vehicles, over 200,000 collection and transport containers, processing plants for mechanical / biological, chemical / physical separation as well as for substitute fuels ensure a smooth handling in waste management.

Waste processing: While the waste is processed biologically and mechanically in Halbenrain and then recycled, the company's own refuse incineration plant is used in Zistersdorf in Lower Austria to recycle around 162,500 tonnes of waste annually.

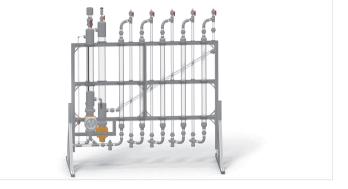
Individual solutions for every waste problem: With innovative solutions and the know-how of our employees, optimal disposal concepts for municipalities, industry, and trade as well as for private individuals are continuously developed.

FCC Austria, an innovative supplier of raw materials and energy sees waste as a key resource of the future. As a company of the internationally operating FCC Environment, the FCC operates in Central and Eastern Europe (CEE) in 8 countries.



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ferroDECONT

Abandoned sites rehabilitation: ferroDECONT offers extensive competent solutions for safeguarding and decontamination of abandoned industrial sites. Heavy metal contaminated hot-spots in soils and groundwater can be cleaned in a smart and effective way with the patented flowing-bed process.

Industrial waste water treatment: Heavy metal containing industry and process water can be purified via the ferrodecont[®]-process and returned to the sewage line. The method does not increase salination of the treated water.

Applied research: As a spin-off company from the Montanuniversitaet Leoben the company provides a solid research background. ferroDECONT's pioneering work is facilitated by an in-house laboratory and technical center and allows the customers to benefit from custom-tailored solutions. ferrDECONT offers concept development, planning and construction of test plants and checks them under real environmental conditions.

ferroDECONT offers cutting-edge technology in waste water treatment from planning to implementation and customized solutions.



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FGM Austrian Mobility Research



Economical and environmentally-oriented optimization of company-wide transport routes (service routes and trips, logistics, work routes).

Development of transport strategies and concepts, in particular in the areas of cycling, public transport, car sharing, E-mobility.

ICT solutions regarding customer contact, control and booking applications.

Socially compatible and child-friendly design of school and kindergartenrelated transport.

Development and implementation of traffic safety measures and campaigns.

Training in the area of transport pedagogy in the school and non-school area.

Austrian MobilityResearch (FGM-AMOR) is a research and consultancy organization in the field of sustainable mobility. The company supports clients and partners in designing their mobility in an economically efficient and environmentally friendly way.



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fluvicon



Water treatment and seawater desalination technology: The

"Osmotic Cycle" is a biomimetic water treatment principle that takes advantage of the natural process of osmosis. That's the same process that nature uses for the regulation of water in every living cell – and that means maximum robustness and energy efficiency. The process scheme consists of an osmosis step that extracts fresh water from any feed water, and a very energy efficient reconcentration step (thus "Cycle"), that reconcentrates the osmotic agent of the draw solution.

fluvicon develops the next generation of water treatment and seawater desalination technology, and makes clean water from almost any raw water source.

The patent pending process uses just about half the energy of the status quo, while at the same time being considerably more robust. This means: Reduction in opex of around 50 %, and far easier operation – even in rugged applications.



Mr. Thomas Griessler

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FMC Technology

Water management system: The product is an electronically controlled water management system for private households and public buildings in particular. No bacterial and legionella formation is possible due to the intelligent-fluid-system. In addition, water consumption is reduced by 60% with the same level of comfort. The material and installation costs are low.

FMC Technology GmbH stands for environmental awareness, quality, trust and innovation. The FMC system sets new standards in plumbing technology.

FMC offers an innovative solution for modern water management, which controls water in all facilities and regulates water consumption in buildings and properties as well as individual consumer units.



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GlobalLogic



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Professional Software Engineering: R&D software services, custom software solutions and consultancy expertise to companies across the globe.

GlobalLogic is a full-lifecycle product development services leader that combines deep domain expertise and cross-industry experience to connect makers with markets worldwide. Using insight gained from working on innovative products and disruptive technologies, we collaborate with customers to show them how strategic research and development can become a tool for managing their future. Headquartered in the United States, GlobalLogic operates design and engineering centers around the world, extending the benefits of its authentic global presence to customers in digital media, electronics, healthcare, infrastructure, finance, retail, and telecom industries.

GlobalLogic°

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FRIGOPOL Kälteanlagen & S M L Energieanlagen

High temperature heat pump systems: Eco-friendly systems for cooling & heating have become a reality with Frigopol's ENERGY STATION ES BASIS V2.0. Operating on natural refrigerant propane (R290), the energy station works like a heat pump or refrigeration unit and is designed for cooling, heating or producing sanitary water. By using primary resources such as soil, groundwater etc. maximum energy efficiency is guaranteed.

Refrigeration & Air Cooling Systems: Special solutions for individual requirements of refrigeration and air-cooling systems using natural and conventional refrigerants. **"It's natural! Frigopol"** represents longstanding experience in the business using natural refrigerants such as ammonia (NH3, R717), CO₂ (R744) and propane (R290).

FRIGOPOL- One-stop solutions for eco-friendly and innovative cooling and heating. Frigopol's products are being sold in over 35 countries all over the world. Special units, as well as small production runs, are delivered to international clients around the globe.



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Graz Energy Agency



As an interdisciplinary consulting company, GEA supports real estate owners in order to operate in an energy efficient, environmentally friendly and cost optimized way.

As a competence centre for energy efficiency services and innovative technologies, GEA contributes to market development.

As an independent partner of public authorities and big companies, GEA supports the implementation of energy and environmental policies through awareness raising, information and implementation projects.

The services comprise the following topics:

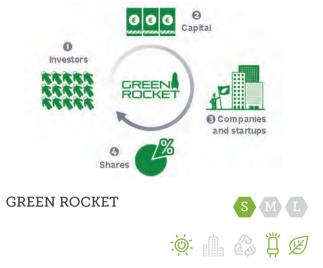
Energy efficiency and services: efficiency analysis, funding consultancy, renovation and energetic optimization concepts, performance models with guarantee including tendering, transition concepts for CO₂-neutral district heating systems in municipalities, emission evaluation.

Strategic consulting & campaigns: e-mobility, awareness raising and user motivation campaigns, municipal energy action plans.



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Crowdinvesting: With a crowd-investing campaign from GREEN ROCKET you have the potential to find investors and brand ambassadors for your company online, in order to implement growth measures.

GREEN ROCKET is Europe's first crowdfunding platform that specializes in companies in the key sectors of the future such as energy, environment, mobility and health. Everybody can invest online in select companies (equity-based crowdfunding or "crowdinvesting") and profit from their growth. There is a large variety of investment opportunities: from startups and first-stage companies to financing well-established companies.



Mr. Peter Garber

garber@greenrocket.com +43 676 841722300 Waagner-Biro-Strasse 100, 8020 Graz, AT www.greenrocket.com





Green Tech Solutions



Design, development and implementation support of lighting projects: Replacement of conventional hall lighting for industrial

and commercial halls; façade illumination; lighting concepts for retail parks, retail shops and other commercial areas; outdoor lighting for municipalities and shopping centres.

Design, development and implementation support of photovoltaic systems: Photovoltaic system construction (rooftops and open spaces) for industrial, commercial as well as for private use; plant sizes from 3 kWp up to 2 MWp; integrated roof and façade systems; plants combined with storage solutions.

Design, production and distribution of infrared heating technology: Production and distribution of infrared heating panels (Austroheat feel the sun), infrared heating foils and conception of projects.



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HADI APP



Platform and shop for craftsmen and service providers: HADI is a quick, simple and easy-to-use way for private customers to get in touch with craftsmen and service providers all over Austria. Users can describe their project by providing a price range and time frame, location, project details, photos and even videos while sending their request to select companies in more than 80 categories of business.

Contractors can decide by "Tinder-style"-swiping over the display whether they want to accept the order or not. Customers can also comfortably order and pay for products of different sellers over the platform using the HADI app: from construction materials and tools to company cars.

It is this innovative combination of app and shop which makes HADI stand out and be a favorite among customers and contractors alike.



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HYDROPLUS - Ingenieurbüro für Hydrogeologie und Projektmanagement

Hydro (geo) logics in construction projects: hydroelectric power station construction, tunnel / tunnel construction, hydraulic engineering flood protection projects, settlement water construction, mining, well construction.

General plans for hydro(geo)logic and more: hydrogeological surveys, hydrogeological and hydrological reports, judicial reports, water balancing, pumping and seepage tests, ground water modeling (Visual Modflow 3D), drainage measurements, leveling and monitoring of groundwater and surface water.

Expert advice and technical support in administrative procedures, EIA procedure, water construction surveys

HYDROPLUS is an engineering office that specializes in the field of "water" for small-scale projects. Domestic builders and settlement water engineering, to large scale projects such as hydropower plants, tunnel construction, industrial plants, etc.



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HBT Energietechnik



CUBOX - The mobile energy pavilion: The CUBOX is a mobile and individually designable energy pavilion which generates its own electricity by the use of integrated solar panels. The CUBOX is available in different sizes and stores the energy obtained in high-performance batteries.

Photovoltaic engineering: Turnkey PV Plants, Storage Systems. HBT is developing and improving innovative photovoltaic facilities and intelligent energy management systems.

Whether traditional PV facilities or innovative, patented products: Elegant and modern design is just as important to us as innovative technology and a high degree of functionality.

As a competent partner for the global photovoltaic sector, HBT is working on the development and improvement of high-performance as well as intelligent photovoltaic plants and energy management systems. Our technicians put their hearts and souls into the development of unique, environmentally friendly product solutions, many of which are now patented.



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IB STENGG



Consulting: IB STENGG is a competent partner for consulting, planning and monitoring of electrical house automation.

Detailed and basic planning: preliminary planning, blueprint planning, planning for submission, detailed planning.

Construction supervision for electrical engineering: construction supervision, inspection, auditing.

KNX Systemintegration: project planning, commissioning, inspection, reconstruction.

IB STENGG provides planning and supervision in the field of building systems and electrical engineering for your 'intelligent' property. They are your building technology service provider and KNX/EIB partner.



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INVENIUM Data Insights



Mobility insights: Analysis of the demand for transport in relation to the available transport modes, services and capacities on offer.

Location insights: Analysis of the frequency of passers-by and customer potential (including sector analysis) at specific locations.

Using innovative algorithms, INVENIUM generates valuable insights from real-time data to answer the questions posed by customers. The analysis and visualization of anonymous cell phone data is INVENIUM's passion and represents the core competency of the company.



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Innovative Light Design

Heat & Light: 2 in 1, LED light and infrared heating panel: This is ILD's multi-talent for lighting and heating - Energy-saving LED light and cozy infrared heating panel.

LED pendant light for a stylish ambience: The ILD pendulum lamp is custom-made according to your requirements. Housing, textile cable and light color can all be freely selected.

ILD presents LED luminaires and lighting solutions for indoor and outdoor use according to your wishes and requirements. ILD offers individual lighting concepts, lighting and lamps. You get a product with heart and soul, with love and an eye for detail.



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INTECO special melting technologies

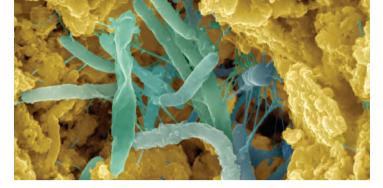
Secondary metallurgy – turnkey solutions & engineering: INTECO's expertise and engineering qualities, as well as the range of customized turn-key solutions (ladle furnance, VD/VOD Units and RH vacuum degassing units) have turned INTECO into the worldwide leader in the field of special metallurgy. INTECO can save up to 30 % of CO₂ emissions in steel production which is just one example of their extended expertise.

As supplier and partner to the steel and melting industry, INTECO is the only single-source supplier worldwide who offers and has already put into operation all production processes for the liquid treatment of steel, ferroalloys and super alloys such as melting (EAF, SAF), refining (LF, VD/VOD, AOD, RH & Auxiliaries), casting (CC, IC, etc.), special melting & remelting (VIM, ESR, Pressure ESR, ESRR, VAR) as well as automation & level 2 systems.



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IPUS Mineral- und Umwelttechnologie



Migulator technology: Migulators are mineral bioregulators. They stabilise, regulate and accelerate biological & chemical processes. They improve performance and quality in several fields.

IPUSmeth-max: IPUS meth-max is a natural and specific nanosilicate with a highly active surface area (up to 600 m2/g). It increases the stability, security and output of a biogas plant.

IPUS Nanobag Analysis: A new chemical analysis for all relevant parameters of animal manure and biogas digestion liquid.

IPUS Agro: Livestock Migulators increase the effectiveness of all the animal feed nutrients.

IPUS is a specialist in industrial services and in the development, production and sales of innovative mineral compounds for technical environmental applications, was founded in Rottenmann in 1990 and is part of the Paltentaler group.



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isn - innovation service network



Open innovation crowdsourcing: @ www.neurovation.net

Crowdfunding and crowdinvesting: @ www.1000x1000.at

Development: of innovation management software and innovation and trend research.

The isn - innovation service network GmbH with locations in Graz, Carinthia, Upper Austria and Vienna as well as in Munich and Ptuj is a holistic innovation service provider. ISN was founded in 2001.

Isn employs more than 30 experts in the fields of innovation education and training as well as innovation services.

innovation service network

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JR-AquaConSol



Investigation of regional availability and usability of water resources and geothermal energy.

Concepts and solutions to avoid or to minimize potentially negative impacts of infrastructure on water.

Assessment of the endangerment of infrastructure by water and natural hazards.

Isotope analytics and customized specific hydrochemical analytics.

Generation, calibration and application of numerical hydro(geo) logical and hydro(geo)chemical models.

Development of prototypes and products in the field of measurement techniques.

Water is one of the most important natural resources – JR-AquaConSol is committed to quantitative and qualitative safeguarding of this invaluable resource. The service portfolio comprises high-quality services and product development individually customized for partners and customers.



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ISOVOLTAIC AG



ICOSOLAR® PV backsheets: The proven ICOSOLAR® backsheets provide lasting protection for solar cells against mechanical and chemical influences and the effects of weather.

ICOSOLAR* PV encapsulants: Thermoplastic encapsulation material with improved features compared to EVA. Reduced costs if combined with ICOSOLAR* backsheets.

ISOVOLTAIC is a world market leader in the development and production of backsheets for PV modules. ICOSOLAR* backsheets have the advantage of more than 25 years of experience, are extremely reliable and set higher standards than required by industry norms.



www.isovoltaic.com

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LEDFORLIVING - intelligent light solutions

Professional advice on lighting: L4L supplies individual lighting solutions for buildings. A flexible range of consulting services are offered to exploit opportunities for increasing business performance, through economic and ecological improvements, irrespective of the size of the business or industry sector.

LED light planning for buildings: L4L offers a wide range of project development services for customer-specific solutions using LED components. The core competence of L4L in LED products and installations, which require detailed professional advice, is particularly in demand in a rapidly changing industry.

LED lighting: L4L always strives to supply the most efficient LED lighting technology, at the best price, in compliance with the highest European quality standards.

L4L is a creative lighting company founded in 2006 in the central energy region of Eastern Styria. L4L provides consulting, design and project management support and works with advanced LED light solutions.



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Komptech



Composting: Self-propelled turners for triangular windrows.

Screening: Drum screens for screening of compost, biomass, soil, gravel, waste as well as star screens for screening of biomass, compost, wood and waste.

Separation: Windsifters for separation of light fraction from screening residues, stone and light material separators for cleaning of biomass, screen residues, waste wood etc. as well as stone separators for removal of stones from biomass fuel.

Komptech is a leading international technology supplier of machinery and systems for the mechanical and mechanical-biological treatment of solid waste and for the treatment of biomass as a renewable energy source. The focus is always on innovative technology and solutions that ensure the maximum customer benefit.



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LEVION Technologies



We simplify technology for you: LEVION Technologies offers complete software and hardware solutions as well as project consulting. The foremost goal of this innovative company located in Styria (AT) is to provide cutting-edge technology in a simple and meaningful way, always adopting the users' point of view and to focus on the benefits of the product itself.

The protection of the environment and the appreciation of each other is also a central concern for the young and dynamic team of LEVION Technologies in the spirit of sustainability.

The main focus of the company is currently on the development of the Smart Energy Management System (SEMS; www.sems.energy): The easy-to-expand and simple-to-operate system connects a wide range of household appliances and ensures that energy is used in a grid-beneficial and economical way – i.e. when a surplus of energy is available.



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KWB



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Log wood heating system KWB Classicfire (18-50 kW): Large fill area, low emissions and proven firing concept.

Pellet heating systems (2.4-135 kW): KWB Easyfire (2.4-35kW) with a footprint of just 0.82 m² offers a moveable ash container, full automation and ultra-low emissions. KWB Pelletfire Plus (45-135 kW) stands for economical heating with high efficiency.

Log-wood & pellet heating system KWB Combifire (18-38 kW): Flexible and safe heating with proven cast underfeed burner and clean combustion.

Wood chip & pellet heating systems (20-300 kW): KWB Multifire (20-120 kW) offers highest fuel flexibility, reliable operation with robust crawler-burner, self-cleaning elements and automatic ash removal. KWB Powerfire (130-300 kW) offers complete security with 10 years guarantee.

KWB offers individual solutions for heating with renewable energies. Whether for refurbishments, new buildings, farms or a businesses, KWB has the high-quality heating solution that fits you.



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Lieb Bau Weiz



Heradomo prefabricated house: A prefab house constructed according to principles of ecology and building-biology. Holistic solutions especially implemented in the fields of low-energy and passive houses.

After many years of involvement in the development and implementation of environmentally sustainable prefabricated houses, Lieb Bau Weiz has successfully created optimum solutions in the fields of low-energy and passive houses.



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Mayer Recycling



Waste treatment & production of substitute fuels: Our modern waste treatment plants produce industrial substitute fuels of high quality.

Recycling & production of secondary raw material: Our metal recycling plants produce secondary metal raw materials of high quality.

Pulper reject processing plant: We process certain rejects from the paper industries to high quality scrap and refuse derived fuels for the paper, iron and cement industries.

Waste management logistics: The company provides logistic systems for all common types of waste management: refuse collection vehicles, skip lorries, container vehicles, walking floor vehicles and various custom-made devices.

Mayer Recycling is an innovative private company that operates in the field of waste, resource and environmental management. The company aims to find optimal recycling solutions both ecologically and economically in order to steadily increase the proportion of secondary raw materials in relation to the input.



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meo Smart Home Energy

meo BOX: Your personal energy control centre - at the heart of it lies the combined expertise of leading building services experts and our own IT scientists that ensure the highest standards of safety.

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meo COCKPIT: Meo COCKPIT provides home owners with an overview of all power generation units, storage systems & consumer devices.

Benefit with meo from:

- G Optimization of inventory heating through anticipatory regulation with weather forecasts
- G Up to 30% efficiency increases through system networking and better use of energy resources
- G All energy flows at a glance using a central management simple heating control at home and away
- G Manufacturer cross heater control and supervision of all installed components: generators, storage, consumer
- G Modular expandable and future-proof through open programming and control with industry standards
- G No running costs through free updates

meo

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Messtechnik



Usage-based heating and water billing for individual residential

units: Messtechnik specialises in usage based billing for heating and water costs. The company has developed systems that meet the relevant regulatory requirements while at the same time meeting the needs of property managers and individual occupants.

Distance reading system REDAC: REDAC is a flexible and easily upgradable wireless network for distance data reading of metering devices.

Handling of monetary transactions for heating and water costs:

In addition to billing for heating and warm water costs, Messtechnik can also handle all of the monetary transactions involved in providing electricity, late payment reminders and debt collection.

Founded in Austria in 1973 as a traditional heating cost billing company, today Messtechnik is an innovative group of companies focusing on providing economical solutions in the fields of heating, energy and water.



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METEKA



HF-Waste Disinfection Devices: The MEDISTER HF-Waste Disinfection Devices are the ideal solution for the safe decontamination of (potentially) infectious wastes and liquids.

METEKA GmbH is a leading provider of system solutions for the safe management of infectious waste and on-site infectious waste decontamination management and treatment. Excellent know-how in matters of hygiene and reliable products give the customers a maximum of safety when implementing hygiene and disposal plans. METEKA's product portfolio is supplemented by a range of innovative products from selected partner companies.



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Midea Austria

Midea Group is a Chinese electrical manufacturer of household appliances and air conditioning, headquartered in Shunde, Guangdong. The company employs more than 125,000 people in 21 manufacturing plants with an annual turnover of 20 billion €. With Midea Austria, **a R&D and Innovation** Center is established in Europe in order to provide professional technology for household appliances R&D to the European market.

The Midea Austria R&D Center houses offices, labs and a show room. It has been equipped with electrical, chemical & application laboratories and other research labs, focusing on intelligence, industry 4.0, smart manufacturing and other core areas. It further integrates and strengthens the R&D and innovation ability in refrigerators, washing machines, kitchen appliances and other core products, and also concentrates on exploration and development of advanced compressor technology under Midea Component Division-GMCC.



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MSG MySolar

Solar heating: The heating system of the future - the most efficient and cost-effective solar heating system on the market. A complete package with solar collectors, heat accumulators, hydraulic modules and system controller.

New installations: Solar systems for hot water production.

Collector replacement: Limited output solar collectors are replaced by the latest generation of Austrian high-performance collectors.

Servicing of solar collectors: Greater security of service through professional maintenance and cleaning at a fixed, all-in price.

MySolar is the specialist for solar systems, replacement and servicing of collectors as well as the MySolar solar heating system.



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Müllex-Umwelt-Säuberung SML

Waste collection: With an eco-dynamic aspect in view, Müllex collects, sorts, processes and disposes waste and valuable substances and provides waste-bins and containers.

Waste sorting and treatment: With the help of state-of-the-art technologies and processes, Müllex manages to constantly increase its recycling rate and to forward the waste to appropriate recycling channels. The outcome is a particularly environmentally sound disposal process of waste and sorting of valuable materials.

As an innovative and forward-looking company, Müllex-Umwelt-Säuberung-GmbH, based in Styria since 1980, has been providing its services in collecting, sorting and treating waste and valuable substances. Müllex-Umwelt-Säuberung-GmbH is as an EMAS certified company and one of the leading and innovative waste disposal companies in Styria.



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M&H CNC-Technik



3D metal printing – Additive Manufacturing (AM): 3D Metal Printing is becoming a key technology in prototyping and small series production. Weight reduction, new possibilities in design and construction - we at M&H CNC Technik GmbH combine these advantages with more than 15 years of experience in turning, milling, 5-axis processing and finishing.

With us being a partner of Airbus APWORKS, you benefit from our know-how in new materials such as Scalmalloy[®] (ductile as titanium, light as aluminum) and our experience in construction and design. Consulting, feasibility and cost analysis round off M&H CNC-Technik's offer for you.



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M-U-T Maschinen-Umwelttechnik-Transportanlagen



Environmental technology: M-U-T is the only Austrian company with the competence for complete solutions ("Green City") in the area of environmental technology.

Water- and wastewater technology: The business activities spread from manufacturing and the delivery of individual components to the planning, implementation and start-up of entire turn-key-projects.

Conveying technology: M-U-T conveying systems are used in virtually all industry areas where the efficient and cost-saving transport of piece goods and bulky goods is needed.

Municipal vehicles: In the field of municipal vehicles, M-U-T offers a broad range of products in waste collection and the disposal of solid and liquid waste as well as street and sewer cleaning.

M-U-T is an international industry company with own planning, engineering, manufacturing, sales and start-up of machinery and plants.



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nahwaerme.at Energiecontracting



Project development: Professional project management for the coordination of complex construction projects and the interlinking of competencies and experiences.

nahwaerme.at Energiecontracting is an energy service provider, which builds and operates plants on the basis of renewable energy sources in cooperation with local partners. In a nationwide network with around 90 partners, nahwaerme.at operates 46 locations for energy generation and several locations for raw materials management in Austria.



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netconnect - Visual Energy Flow

Multi Channel Power Meter MZ12: Our Multi Channel Power Meters contain 4 three-phase meters in a compact 4HP DIN-rail box. Low space requirements, rapid and uninterrupted installation using folding transformers make them ideal for cost-effective retrofitting in existing buildings.

Mobile energy measurement kit: Measuring cases are mobile measuring units that allow the current energy distribution to be determined during a time-limited energy measurement. The long-term storage capability of the measured energy values enables an accurate analysis.

Energy Efficiency Monitoring System (EEMS): EEMS offers a combination of hardware and software components for the automated collection, monitoring and analysis of meter data in companies: "Efficiency through transparency".

Netconnect creates software products (EEMS tools) for energy managers in medium and large companies with the goal of improving energy performance and thus reducing costs.



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NRG-X Charging Systems

Redefining charging for e-mobility: Fully-Automatic. High Power Charging. Efficient. Affordable. Simply Retrofittable to Every Electric Vehicle.

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The Start-Up NRG-X was founded in 2016 with the aim of developing a fully-automatic, conductive charging system for e-vehicles. The innovative system enables high charging capacity and is highly efficient compared to already existing charging solutions. The system is most convenient for users as manual handling of a charging cable is no longer needed.

The charging system provides both a hardware and a software solution. The hardware consists of two parts of which one is installed on the underbody of the vehicle and the second on the floor of the parking space. Thanks to the advanced combination of soft- and hardware, drivers enjoy a great parking tolerance.

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ÖKOPLAN Energiedienstleistungen

Technical building equipment: ÖKOPLAN are experts regarding energy efficiency and operating cost optimisation of building systems.

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Alternative energy planning: Planning of future thermal or electrical energy plants and integration in existing installations. ÖKOPLAN are also specialised in the planning of local and district heating plants on the basis of biomass energy.

Research and Development: Working on alternative solutions and functional system studies.

Contracting: Energy-saving contracts have the goal to improve energy efficiency and save operating costs.

ÖKOPLAN deals with all the requirements of life and living, such as woodchip combustion, solar or district heating plants, rainwater utilization systems, small sewage treatment plants, biological building solutions or thermal imaging.



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Ökoregion Kaindorf



Humus-building programme and certificate trading: The Ökoregion Kaindorf operates a Europe-wide unique humus-building programme. 130 farmers throughout Austria are sustainably farming 1,500 hectares of arable land and storing CO₂. This is being financed by humus certificate trading.

Humus Academy: At Europe's first "Humus Academy" the Ökoregion Kaindorf is offering seminars, workshops and lectures in the areas of "Humus Building", "Sustainability" and "Organic Gardening" primarily for farmers, nature lovers and gardeners.

In as short a time as possible the Ökoregion Kaindorf wants to become a model region operating an ecological closed-loop economy and supplying itself with renewable energy to the greatest extent possible. Subsequently, the region wants to move towards CO_2 neutrality by e.g. humus building and other CO_2 binding and saving measures.



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Ökosolar PV



Power storage: The battery storage system with intelligent control system for existing and new photovoltaic systems.

PV 350 kombi: Combination of heat pumps with photovoltaics.

PV systems: Planning and installation of small and large photovoltaic systems.

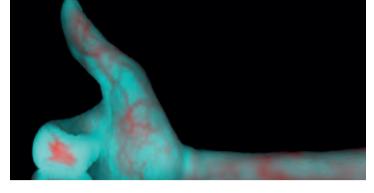
Bee Mobile: Carsharing and charging stations for you e-mobility.

Ökosolar provides you with complete support, from comprehensive advice to turnkey handover of solar power plants.



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Perception Park

Hyperspectral imaging sorting system: Perception Park is an Austrian company passionate about Hyperspectral Imaging. The company focuses on hyperspectral data processing solutions for industrial inline applications.

Perception Park is committed to delivering hyperspectral software tools with highest performance, extendibility and compatibility. Their customers especially appreciate independence and individuality in their development activities which are saving them development time and money. Perception Park's systems are well established in the recycling and mining industries. The solutions enable high speed plastic sorting and wood recycling applications as well as on-site drill core inspection.

Since 2016, Perception Park has been annually organizing the Conference on Hyperspectral Imaging in Industry in Graz. The aim of the conference is to act as an interdisciplinary cross-link between the stakeholder groups of hyperspectral imaging such as application engineers, instrument suppliers, R&D driven organisations and plant operators.



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Perhofer - Alternative Heizsysteme

Pellet heating system: The sophisticated technology and massive construction allows the PK-V15/PK-V30 heating systems to work reliably and safely with the lowest fine dust emissions.

Log-wood heating system: Large filling volume, log length up to 56cm and standard automatic ignition, massive construction and many years of experience distinguish this product.

Combination system: The "Kombi V15/V25" is a pellet burner with a wood fuel boiler for fully automated operation with optimum annual efficiency.

Wood chip heating system: The HDG Compact series combines sophisticated combustion technology and reliability with the highest level of comfort, modern design and innovative control technology.

The Perhofer company has been developing and producing innovative heating systems for renewable energy for more than 30 years. The results are high-quality products for generations.



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Pink



Energy storage buffer tanks: Hot and cold water buffer tanks (energy storage tanks) according to customers' drawings, volumes of up to 50,000 litres

Solar and thermally driven cooling: Thermally driven chillers and complete heating and cooling systems.

Solar heating systems

Energy optimisation

As a supplier of complete solar heating and cooling systems and innovative energy storage solutions for biomass- and solar systems Pink offers customers first class service.



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pink robin



Wastebox.biz is an app with which (construction) firms can easily, quickly and completely transparently organise the disposal of their construction site waste by smartphone.

The application intelligently networks customers and suppliers in real time. By increasing the pool of resources, a quicker and more flexible service is possible. The customers benefit from efficient procedures such as code numbers and reports at the press of a button and thus save time and money.

At the same time local / regional companies are promoted. And the environment too benefits from this as the app sends the orders to the nearest vehicle. This reduces CO₂ emission and traffic volume. The application is continuously being further developed in line with customers' and partners' requirements.



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PRO LEHM Frauwallner



Loam/clay materials:

- G Clay plaster: Rough and finish coat with final painting
- G Clay granules panels: Acoustic panels for walls and ceilings
- G Colours: Natural colours based on limestone and clay

As expert on indoor climate, PRO LEHM takes on planning, production and plasterwork for ecologically healthy living. Furthermore, the company handles the planning work of ecological thermal insulation for both old and new buildings.

The core products include:

Loam/clay renderings: Skim and floating, stucco finishing coloured loam granulate fillings: Noise-attenuating fillings for wall and ceiling, colours based on lime and loam for natural coating.



g'sund Bauen & Wohnen

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pro aqua Diamantelektroden Produktion

S M L

Wastewater disinfection Dez-i-Des-100: Dez-i-Des-100 is a wastewater plant for the disinfection of pre-treated biological wastewater from licensed lodges, cabins, and dispersed settlements etc.

Flow-through cell for COD reduction and disinfection: Flow-through cells with integrated pro aqua diamond electrodes can be used for different kinds of water treatment e.g. COD reduction or disinfection.

Boron doped diamond electrodes test system: The testsystem provides anyone who is interested in the pro aqua-technology the possibility to test the technology of boron doped diamond electrodes.

Rain-Fresher: The Rain-Fresher prevents algae formation and the water remains clear and odorless.

Aquarium-Fresher: The Aquarium-Fresher ensures clear, algae-free aquarium water with minimal cleaning demand.

pro aqua is an industrial top-producer of boron-doped diamond electrodes. The company is specialized in the development and manufacture of flowthrough cells and systems based on boron doped diamond electrodes.



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PROZESS OPTIMAL



Process simulation: Material and Energy Balances, Process Sensitivities, Process Modelling, Chemical Reactors. The high quality of the models is based on a thorough revision of the material data for the thermodynamic calculation methods of process engineering processes.

CFD: Computer Fluid Dynamics, Simulation of Mass and Heat Transfer. The knowledge of the flow processes in material and heat exchange apparatuses, reactors, pipelines and flow channels is a significant potential for optimization in process engineering apparatuses.

Basic engineering: Equipment Design, P&ID, Process description. The engineering experience at Prozess Optimal ranges from process development through plant engineering to large plants including commissioning.

Prozess Opimal was founded in 2007 as an engineering company for chemical process engineering. The company is specialized in: process development and simulation, process optimization, CFD modelling and chemical basic engineering.



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PVP Photovoltaik



Photovoltaic modules for buildings with laminated safety glass: PVP customizes your individual photovoltaic module according to your design requirements

Photovoltaic modules: Glass-foil photovoltaic modules for all applications (on-roof, flat-roof, free-field-application).

Photovoltaic modules for building integrated photovoltaic

Since 2009, PVP Photovoltaik has been producing its highly innovative crystalline photovoltaic modules with special safety glass technology in Austria.

Depending on the aesthetical and structural requirements, PVP customizes individual photovoltaic modules. The design options are almost unlimited.

PVP also offers standard glass modules for glass houses, facades, roof integration and many other applications. PVP supplies architects and builders all over the world with its outstanding products and implements their individual design ideas with the highest level of quality.



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PV-Photovoltaik Styria

Mobile photovoltaic power stations and microgrids

OFF GRID electricity generation & EES: Energy Storage

Large scale PV power plants

Efficient industrial power & refurbishing

PV solar thermal solutions: Solar Cooling

PV-Styria is an "engineering boutique" offering no-compromise, high quality solutions for dislocated off-grid situations and for large-scale renewable energy projects. As a full-service turn-key provider, PV Styria leads the whole project process from scratch to commissioning with a strong commitment to quality and reliability: all partners and suppliers are well assessed to always deliver the best solution for the client.

PV-Photovoltaik Styria is a for-profit group but with a strong social component. The philosophy is not profit maximizing but providing a long-term benefit to local communities and societies, thus creating a platform for a long-term professional environment.



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qpunkt



Thermal management: Development of thermal management concepts, e.g. for alternative engines. Model-based functional development for components and systems. Model-based development of operating and control strategies.

Test bed engineering: Development and implementation of test beds in the field of cooling and air conditioning.

Computational fluid dynamics: Development of thermal models for components and systems and flow simulation for the automotive industry and commercial heat supply.

qpunkt was founded in the year 2008 and has been a member of AVL Group since February 2014, working successfully with most OEM's. It is known for being an innovative engineering service provider offering their engineering services in the fields of thermal management, computational fluid dynamics, test bed engineering, component testing, design, acoustics, e-mobility and vehicle tests. The portfolio offers support all the way from pre-development to series production.



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Redwell Manufaktur



Redwell Mirror heating: Thanks to its discreet elegance, the frameless mirror heating range can be used in a wide choice of locations.

Redwell Blackboard heating: The blackboard heating is ideal for the office or the kitchen, for work reminders, your important notes or your shopping list.

Redwell Standing elements: The lightweight construction means you can easily use the standing elements as a supplementary heater to give you that heating boost.

Redwell Ceiling heating systems: The powerful series is particularly suitable for high rooms such as stairwells.

Redwell Manufaktur is an Austrian company with specialisation in the development and production of high-class-infra-red heaters. The healthy warmth combined with elegant design underlines the exclusive character of the infra-red heating elements. Redwell lays emphasis on energy efficiency and preserving the environment.



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REDWAVE

REDWAVE - Recycling & waste treatment solutions - supplies groundbreaking and economic sorting plants for recyclables as well as turnkey waste treatment plants. Furthermore, it is a leading manufacturer of sensor-based sorting machines with a sturdy industrial design. REDWAVE features a high selectivity for several recycling materials (from mixed waste, glass, plastics, paper, metal, WEEE, wood, MSW/MRF, RDF to complete MBT/MT plants). This results in a high yield of pure fractions. REDWAVE does not stop at the sensor level but provides the complete machine taking the responsibility for the sorting result. The company also focuses on having its own software and hardware knowledge inhouse as this gives their clients the required flexibility and allows them to continuously develop their products and react quickly to market and customer needs.

Furthermore, REDWAVE is the industry leader in XRF (X-ray Fluorescent) optical sorting technology, the most advanced commercially available non-ferrous sortation equipment.

REDWAVE is operating worldwide and headquartered in Austria. It maintains branch offices in Germany, USA, China and Singapore.



a division of BT-Wolfgang Binder GmbH

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Reiterer & Scherling

HVAC consulting, design & project management: Designs in the fields of heating, ventilation, air conditioning systems and sanitary engineering. Energy optimisation, project development, project management & construction supervision.

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Energy consulting: Identification of savings potential, concepts to sustainably reduce energy costs, strategies for the efficient use of energy, energy monitoring, energy certificates and implementation for support programs.

HVAC research & development: Continuous development of better HVAC solutions for green buildings through more than 100 innovation projects with the partner network within the last years.

Reiterer & Scherling provides consulting, design and project management for building and energy technologies.



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Rettig Austria



ULOW-E2 low temperature radiators: Enable efficient, economical and aesthetic low-temperature heat output.

FLOORTEC drying system: Is optimally suitable for old buildings because of the low construction height. You will save energy and enjoy healthy well-being – with the clear conscience that you are protecting the environment.

FLOORTEC self attaching system: Combined and bundled with various advantages of classical underfloor heating systems – conclusion: laying efficiency like never before!

As a pioneer of innovation, VOGEL&NOOT takes on the role of the mastermind and presents future-oriented heat output technologies for thermal well-being combined with sustainable environmental protection.



Mr. Andreas Zottler

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RM Umweltkonsulenten ZT

Environmental analysis/monitoring: Sampling, chemical analysis, experts opinions and consulting services for waste/soil, water/waste water and air emissions as required per permissions and regulations.

Experts services based on specific legislation: Landfill ordinance (waste characterisation, input control, ...), waste incineration ordinance (proofs of evaluation for alternative fuels, external examination of incineration and co-incineration plants, emission measurements, ...), construction material recycling ordinance (exploration of buildings to be demolished, ...).

Expert services for licencing and permits: Baseline report for soil and groundwater for IPPC-installations, support for environmental monitoring/audits, licensing management.

RM Ecoconsultants support their clients in planning and executing projects within the given legal environment.



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Rouge H2 Engineering

OSOD™ (On-Site On-Demand): With the OSOD™ system, Rouge H2 Engineering offers an innovative complete solution for decentralized hydrogen production and thus offers a cost-effective alternative to conventional supply by means of trailer delivery.

R&D – process development: Rouge H2 offers know-how and infrastructure for the development of new innovative technologies and processes in the fields of hydrogen technology and renewable energies.

Rouge H2 Engineering is working on clean future energy solutions focusing on the production of hydrogen from renewable feedstock for Smart City integration.



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Now it's getting personal

We will find the right partners for your green tech projects

Whether you are looking for a supplier or a business partner, we are here for you: +43 316 407744, www.greentech.at/team



Röhren- und Pumpenwerk Bauer

Innovative irrigation solutions: The product mix comprises a comprehensive assortment of solutions for the irrigation of fields with water and/or water with nutritive substances. The irrigation product offering includes the following product categories: hose reel irrigators, pivot linear systems and pipes/pumps.

Slurry management solutions: The product offering includes the following product categories: slurry tanks and distribution systems, slurry pumps and stirring units, separators, bedding recovery unit (BRU) and BIODOS automated loader.

Bauer is a leading manufacturing company in irrigation systems and slurry management technology. It is headquartered in Voitsberg/Austria, where also the main production facility is located. Additional production sites are located in Germany, Brazil, China and Slovakia. The company comprises 19 legal entities and employs more than 610 employees.



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Schaumann BioEnergy



Additives and micronutrients: Schaumann Bioenergy's services comprise fermenter-specific advice based on comprehensive analytical tests, effective silage additives, special preservation products, tailor-made micronutrient mixtures and comprehensive production monitoring.

R&D, analytical services: Schaumann Bioenergy provides expertise, a wide spectrum of analytical tests and advice in biogas production and related R&D projects.

Consulting: Schaumann Bioenergy's experts offer solutions for any type of system and any substrate - from agricultural RRM (renewable raw materials) facilities to industrial waste recycling plants.

Schaumann BioEnergy is the leading specialist for energy production from renewable raw materials. They optimise the biological processes in biogas fermenters in every type of system, and with every type of substrate.



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Samsung SDI



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Lithium Ion technology: Samsung SDI Battery Systems is a global technological leader in e-mobility. Together with our customers in the automotive industry we develop and produce innovative battery systems for automotive applications based on state of the art lithiumion technology.

The headquarter of Samsung SDI Battery Systems is located in Premstaetten, Austria, close to Graz. Samsung SDI is a full service supplier for lithium-ion cells, battery modules and battery packs for pure electric vehicles as well as all types of hybrid vehicles.

To grow with the challenges of e-mobility we are currently operating in five locations around the world, covering research & development, testing & validation as well as battery pack production. This is how we can guarantee customer satisfaction and technology leadership now and in the future.

SAMSUNG SDI SAMSUNG

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Schrott24



Scrap metal price calculator: Calculate scrap metal prices in real-time. It's free and based on data of hundreds of scrap recyclers Europe- and worldwide.

Schrott24 is a scrap metal technology company, offering a range of online services using an innovative and transparent approach in a traditionally non-transparent industry. As a digital scrap dealer, Schrott24 offers all the services you expect from a classic scrap dealer. Through modern, internet-based technology, scrap metal sellers are provided with hundreds of scrap metal prices, updated daily, as well as tools to make the related processes transparent and easy to control. Schrott24 maintains a network of scrap dealers, smelters, mills and transport companies, which allows them to offer the best possible recycling solution for any given time or location. Through the pooling of suppliers Schrott24 achieves and passes on price advantages to sellers, whilst at the same time helping recyclers to fully utilize their capacities.



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Sattler Ceno TOP-TEX



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Double membrane gas storage: Sattler's double membrane gas holders are used for large gas-quantities storage at low investment and operating costs.

Biogas roof double-layer: The membrane tank covers, which are air or mast supported, are suitable for high snow and wind loads. They combine storage and covering.

Lagoons: CENO-lagoons provide safe storage of large amounts of liquid manure and fermentation residues at low costs.

The activities of Sattler Ceno TOP-TEX GmbH includes the manufacturing of gasholders, covers and lagoons on our production sites in Graz (AUT), Rudersdorf (AUT) and Greven (GER) for communal plants, agriculture and industry. Sattler Ceno TOP-TEX GmbH is a member of the Sattler Group, a family-owned international company based in Austria.



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Science Park Graz



Incubation: The Science Park Graz team supports university graduates from all fields by providing professional consulting and coaching, infrastructure and financing during the pre-start-up period.

Mentoring: The mentoring programme bundles the expertise incorporated by all Styrian universities as well as by successful entrepreneurs in order to equip innovative start-up founders with valuable practical experience.

Strategic partnerships: We offer contacts to more than 80 start-ups. Most of them are looking for strategic partnerships in industry.

Science Park Graz is an incubator for high-tech start-ups. The typical members are spinoffs from the local universities. We are looking for partners for our start-ups in the fields of: R&D, sales, venture capital and all other kinds of strategic partnerships.



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Saubermacher



Collection & optimization: Collection is the first step on the road to successful recycling. Modern logistics and container systems provide optimized route planning and appropriate disposal intervals for our customers.

Processing & recycling: Saubermacher operates a variety of highly specialized and automated processing facilities, e.g. high tech splitting and sorting plants, chemical and physical treatment plants, refuse derived fuel processing plants, and many more.

Facility & logistics services: The products range from internal plant logistics through various cleaning services to special services such as courier services, parking assistance or employee leasing.

Saubermacher Dienstleistungs AG is an international waste disposal and recycling company based in Feldkirchen bei Graz. The recycling specialist operates 34 locations and 59 subsidiaries in Austria, Germany, Czech Republic, Hungary, Slovenia and Abu Dhabi. As leader in Waste Intelligence Saubermacher provides innovative and individual services developed with its own Smart Service Team based on customer needs.

Saubermacher

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SEC Sustainable Energy Concepts

PV project development (MW, kW): Project identification and detailed analyses, legal and technical due diligence audits, permission processes, planning.

PV project implementation (MW, kW): Tenders, contractor selection, construction and installation, installation monitoring and quality management, commissioning, feed-in tariff contracts, after sales services incl. operation and maintenance.

SEC Sustainable Energy Concepts offers planning and realization of medium and large scale photovoltaic power plant installations. SEC also participates in installations as general contractor. SEC works exclusively with field-proven technology and hardware. Many years of experience and wide networks guarantee successful and sustainable planning, thus ensuring a straightforward implementation of photovoltaic projects.

SEC has planned and realized multiple MW projects (field or rooftop installations) in Austria and other European countries.



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SFL technologies



SFL energy-glass: the 1st global solution for energy-glass based on the "Grätzel-Effect", i.e. the passive-glass-surfaces will become an active surface for energy-production. The Science Tower (www.science-tower.at) serves as a beacon of Smart Cities in Austria and is pioneering the transformation.

SFL ELI™: a sustainable, electric and mobile universal platform for municipal services as well as for storing energy. Even ELI's production is sustainable (www.eli-transport.at) - 100% powered by solar-power, and driven by SFLenergrid[™].

SFL Iconic glasstm: the quality of mobil phone-cover-glass in largescale dimensions. Increased fracture toughness combined with new mechanics for new designs in architecture.

SFL technologies is a multi-channel technology company with a scientific background for creating new technologies to enhance the performance of buildings. It is best known for the dichroic-glass solution for the One World Trade Center in NY/USA.



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SECAR



Lightweight composite products with carbon, glass and other fibre composites using thermosets and thermoplastics. Our own developments such as the patented PulCore[®] and Pul-Press[®] methods in conjunction with innovative SMC technology make us a competent partner in lightweight construction.

Innovation center for the development of innovative solutions for challenging customer requirements.

Complete energy solutions (E-Port*): A carport solution made out of carbon fibers with integrated photovoltaic modules and lithium-ion battery technology.

SECAR Technologie is highly specialized in the manufacturing of fiberreinforced composite components. SECAR processes new materials such as carbon, glass and aramid fibers. The company combines all steps from project design and production right up to the fully finished product. With innovative technologies, SECAR wants to build lightweight products and complete assemblies like the E-Port[®] solar carport for the future.



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Secop – a Nidec Group Company

Advanced compressor technologies: The Secop range of hermetic reciprocating compressors packs a mighty punch in a small package. Compact design, efficient motors and low energy consumption are the main features in hermetic compressors that build on over 60 years of reliability and quality.

The production site in Austria has several years of experience in developing high performing compressor solutions, mainly for household refrigeration appliances. The highly advanced manufacturing technology allows to manufacture products with the highest quality and performance standards and offer reliable efficiency in all areas. The know-how and expertise of the innovative research and development team along with the close cooperation with market leading customers results in product innovation that enhances customer values and standards.



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Spalt Elektrotechnik- und Maschinenbau

On-site service and repair: Many maintenance and repair work on electric motors can only be carried out on site. Our service technicians solve these tasks flexibly and competently.

Repair shop for electric motors and pumps: Whether at work or on site: Spalt offers technically mature, reliable and professional maintenance or repair of your electric motor or your pump.

Balancing and balancing work: Spalt is also your ideal partner in balancing work: we balancing rotating components, such as pulleys, flywheels or flanges, weighing at least 3 kg.

As a repair shop of electrical drives with 30 years of experience, Spalt ensures a technically sophisticated and professional repair directly on site or at the company.



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Siemens Austria



Rail systems: International leader in providing rolling stock and related services - covering e.g. metros, trams and bogies.

Transformers: Siemens is the high-tech partner for utilities world-wide. In the factory in Weiz, Siemens develops, designs and produces top quality transformers in accordance with international standards.

Smart grids: Siemens offers power providers, network operators, industrial enterprises and cities an end-to-end portfolio with products and solutions to develop intelligent energy networks.

Building technologies: Siemens is "creating perfect places" in the market for safe + secure, energy-efficient + environment-friendly buildings + infrastructures.

SILYZER: This innovative electrolysis system is based on PEM (protonexchange membrane) technology. It can efficiently transform wind and solar power to gas.

Siemens Austria is one of the leading technology companies. The business activities focus on the areas of electrification, automation and digitalization.



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Spirit Design -Innovation and Brand

Strategy development: Design thinking tools, Workshops, Training, Seminars, Design consulting/analysis, System & Trend analysis, Integrated Design Language (IDL), Integrated innovation and brand strategies.

Brand design: Signage, Digital Branding, Branded Architecture, Exhibition Design, Package Design, Interface Design, Brand Design, Vehicle Branding, Editorial Design.

Industrial design: Technology Research, Ideation Design, Ergonomics, 3D Modelling, Design Definition, Design 2 Cost, Eco-Design, Designeering, 3D Animation.

Spirit Design is an internationally leading strategic design company with focus on systemic consulting for sustainable innovations and eco design, that accompanies clients in the development and implementation of the key strategies of innovation and branding, enabling them to sustainably master future challenges.



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S.O.L.I.D. Solarinstallation & Design

Turnkey solar heating and cooling systems: SOLID develops, designs and builds the world's largest solar thermal systems around the globe.

Solar energy service contractor (ESCo): SOLID assembles, operates and finances solar thermal systems, a customer just purchases the generated solar heat or cold at a defined price.

Industrial absorption heat pumps: Large thermal absorption heat pumps with several MWs can be used for heat recovery through flue gas condensation and industrial waste heat utilization. SOLID offers specification, installation and operation.

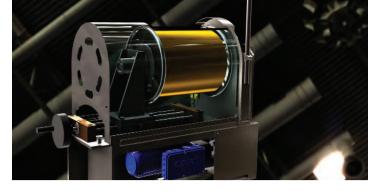
R&D and consulting in solar thermal systems: SOLID is highly active in R&D and offers know-how in solar thermal technology, financing, energy supply strategies, market development.

Since 1992, SOLID has been developing, planning and installing customtailored turnkey solutions for solar cooling, solar district heating, solar process heating and cooling, and water heating.



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Spitzer Engineering

Engineering for environmental technology solutions: Spitzer

engineering's scope of operations includes planning services in industrial and mechanical construction, building and energy management, electrical and environmental technology and engineering: From the concept through detail planning to construction and detailed workshop drawings with bill of materials. Spitzer engineering has the ability to provide the necessary plans on time and to the standards required.

Spitzer Engineering was founded in Germany in 1978 by Herbert Spitzer. In 1989, the company moved to Austria and now has its headquarters in Vorau in the province of Styria. Thanks to successful project management in the power plant construction sector and the expansion of operations to include engineering services in many different technical fields, Spitzer now has around 60 highly-qualified employees available to serve client's needs, making it one of the largest technical and engineering firms in Austria.



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StepsAhead Energiesysteme

Industrial energy systems optimization: Development of optimized heating and cooling solutions for industrial clients incl. consulting, engineering and design.

Turnkey absorption chillers & absorption heat pumps: Absorption machines are using heat as driving energy instead of electricity. Their electricity consumption for pumps and control systems is usually less than 1% of the energy delivered.

StepsAhead specialises in optimized industrial cooling and heating solutions, delivering turnkey systems. Individually optimized systems using absorption heat pumps or chillers significantly increase the potential of conventional energy recovery solutions.



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SVI Austria



Electronic products: SVI Austria covers the entire range of contract manufacture of electronic assemblies, complete devices, cables and systems. From the design to the finished product, SVI is a partner for services and the manufacture of electronic products.

SVI Austria's comprehensive service portfolio includes

- G Product Design & Development
- G Engineering Services
- G Electronic Assembly
- G Cable Harness Assembly
- G Box Build & System Build
- G After Sales Services

SVI Austria is a 100% subsidiary of SVI Public Company Limited in Thailand, one of the top 50 EMS (Electronics Manufacturing Services) providers worldwide with more than 3,600 employees. With over 75,000 sqm of advanced production facilities in Thailand, Cambodia, Austria, Hungary and Slovakia, plus product design centers in Vienna, Slovenia and Bangkok.



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TBH Ingenieur



Building technologies engineering: Heating, ventilation, air conditioning, fire protection, sanitary engineering, building automation, measurement and control technology, energy management, light engineering, KNX / LON bus systems, network technology and security services.

Renewable energy engineering: Biomass power plants, district heating plants, CHP, solar technology, photovoltaic, geothermal energy, energy audits, energy concepts, energy analysis, energy performance certificates and economic efficiency calculation.

Research and development: Product design, project development, simulation, comparative calculation, cooperation with universities, product innovations, process engineering, building analysis and grants.

The TBH is a specialist in the field of building and energy technology and stands for energy efficiency and resource optimization. TBH is active in research and development for better simulation and innovative solutions for integration with various building and energy technologies.



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TELE Haase Steuergeräte

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Load monitor for inductive and capacitive consumers: Load monitoring systems for crushers, mixer, centrifugal and piston pumps, trash compactors or conveyor belts.

Net & grid protection: TELE Grid and system protection is switched between a decentralized energy producer and the grid of the public energy supply company (EVU) and continuously monitors the grid quality.

Fill level measurement: The multifunction relay G2LM20 has galvanic isolation between supply and measuring circuits, even in the case of DC voltage, and enables fill level monitoring of conductive liquids.

TELE is your expert for monitoring technology. Monitoring solutions from TELE ensure safety and energy efficiency at all levels. Relays, load monitors, power electronics and NA protection optimize the running time of machines and systems and optimize the energy requirements of buildings. This allows you to monitor and control various processes on a cross-sector basis.



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t-matix solutions

IoT platform: t-matix delivers a completely independent and flexible IoT-Platform, which enables customers to create applications in no time at all, on their own and without any special programming skills.

The Internet of Things has become part of our daily lives and provides us with exciting opportunities and possibilities.

Even though organizations recognize the great potential, there was a lack of flexible, affordable IoT tools to implement ideas and applications quickly and cost-effectively.

With the **t-matix building kit,** comprising the **Portal Designer** and a **TCU (t-matix control unit)**, t-matix offers an all-in-one solution for a simple and cost-effective gateway into the "Internet of Things". Use this unique opportunity and realize your ideas and innovations. This is "IoT at the next level".



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UNTHA shredding technology



The reliable brand: UNTHA shredding technology develops and manufactures customised, reliable shredding systems that are used in a wide range of applications, from material recycling to the reprocessing of waste to produce alternative fuels.

All shredding machines are developed, manufactured and assembled in Austria. The highest technical production standards, modern CNC processing centres and continuously conducted quality controls guarantee highest reliability.

With more than 40 years of expertise in shredding technology, UNTHA will always find the right solution, however complex the project.

Based on extensive trials in the UNTHA test centres and on the technologies that have been tried and tested a thousand times over, UNTHA will always find the optimal configuration for each shredding machine.



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Uptime Engineering



Uptime LOCATE: Combining centrally stored test specifications, reference duty cycles and measurement results with physics-of-failure based analysis for maximum system reliability.

Uptime HARVEST: Fully integrated, web-based software platform to support effective operations of renewable energy technologies. Compatible with all types of wind turbine, PV Solar and Hydro power plants.

ENERGY YIELD+: Maximising the Energy Production of Operational Wind Turbines.

Uptime Engineering supports the implementation of reliability related processes in organisations. They provide technical consulting as well as reliability software to support information management and efficient data analysis.



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UrbanGold



Consulting & studies: Consulting in the processing of non-ferrous secondary raw materials. Tailor-made case studies, feasibility studies and the development of recycling and raw material concepts.

Process models & engineering: Creation of process models as a basis for detailed mass and energy balances.

Technology package: From technology transfer to the single-source supplier for our technology for the processing of electrical and electronic scrap as well as concentrates from these materials.

Innovative metallurgical process: for the direct and rapid processing of 100% concentrates from waste electrical and electronic equipment.

UrbanGold stands for an environmentally compatible recovery of precious and non-ferrous metals from waste electrical and electronic equipment. The company is the supplement to the established collection and recovery structure, as well as an alternative to the metallurgical heavy industry.



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VPZ Verpackungszentrum

Packnatur[®] cellulose net tube made from Lenzing Modal[®] beechwood fibre: Biodegradable net tubes made from Lenzing Modal[®] cellulose from the thinning of beech trees for organic fruit and vegetables in supermarkets. A world first, which has already earned itself several national and international awards.

Packnatur[®] organic wine glass labels: The labels are manufactured from a completely petrochemical-free composite film, combined with cellulose paper. All raw materials used are of biogenic or mineral origin, are compostable and biodegradable.

Alginsulate Foam made from sea algae: Process up to pilot scale for the production of a biodegradable foam material based on algae.

Wholesale specialised in trading in biogenic packaging materials. Research and development projects for new packaging solutions made from renewable raw materials: Net packaging made from cellulose, Alginsulate foam, Biopolymers made from agricultural waste materials.

νpz.

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VTU Engineering



Solvent recovery: VTU's long experience in the separation business enables us to provide systems that reduce both the need for fresh solvents and the disposal of contaminated solvents.

Exhaust gas purification: VTU manufactures vent-gas scrubbers ranging from simple spray absorbers to complex special designs - with convincing results.

Wastewater treatment: Coolox® water technology offers solutions for persistent organic pollutants to meet current and future water quality standards.

VTU Engineering GmbH is a high-tech company with in-depth experience in the planning of process plants for several industry sectors: pharmaceuticals, biotechnology, fine & bulk chemicals, energy, environmental engineering as well as oil & gas.

VTU offers innovative, sustainable, engineered, and custom-designed turn-key solutions for performance-critical applications - from the initial idea to successful production.



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WINTERFACE



Innovative façade system: WINTERFACE produces our façade modules digitally and industrially and assembles them on site. The individual work steps are optimized using the latest technology.

Facade documentation: 3D building documentation shows the building's workmanship to architects and building owners. The new planning tool generates the individual facade modules from this data.

Software development in construction industry.

WINTERFACE is the tailor-made façade solution for your building. It offers the highest quality, precision and short construction times thanks to its individualised, industrial production of a fully-personalised design with many different insulation materials. WINTERFACE's service portfolio ranges from data collection and production of innovative façade solutions to on-site installation on new or renovated buildings. IT solutions along the value chain are developed in cooperation with well-known partners.

WINTER FACE made to fit.

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ZUSER



Alternative fuels: ZUSER is an important supplier of alternative fuels for the domestic industry and produces more than 100.000 tons of highquality alternative fuels annually. Due to the high energy content and degree of purity, considerable amounts of fossil fuels are saved and thus pollutant emissions are reduced.

Recycling: During waste sorting, ZUSER sorts out high-quality waste such as plastics, iron, non-ferrous metals, paper and wood for recycling and reuse. In addition to the focus on substitute fuels, ZUSER is a complete provider of municipal waste collection as well as commercial and industrial waste disposal.



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XAL



Ultra-thin office luminaire TASK: Energy-efficient. Slim. Impressive. This excellent high-efficiency LED light is perfect for the office. Its balanced design concept blends perfectly into any interior architecture, playing to its technological strengths.

Wireless control of luminaires X-TALK: Using this communication standard, lighting systems can easily be controlled individually or in groups with any smart device as a controller.

Natural light with BIO-PULSE intelligence: The colour temperature of luminaires changes during the day to reflect natural light. It facilitates better recuperation in hospitals, improves performance in offices and increases subjective well-being in hotels, shops and homes.

For more than 25 years, the passion of XAL has been the wonder of light. And for just as long, XAL has been synonymous with individual lighting solutions that combine advanced technology with excellent design. XAL grew from the early LED-pioneer to a leading manufacturer with 1,300 employees, providing lights and lighting systems for shops, offices, hotels and homes.



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