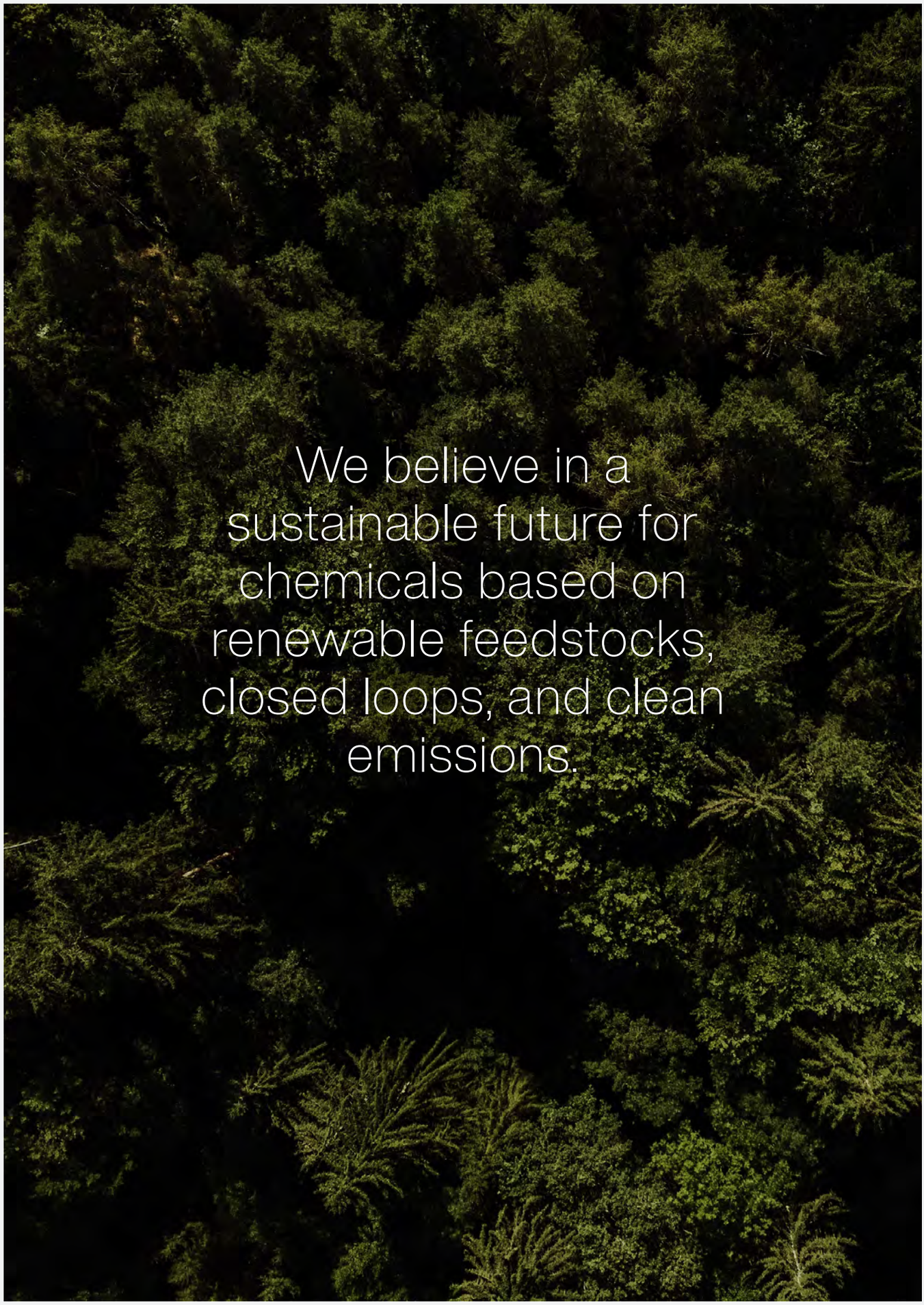

We believe in a sustainable future for chemicals based on renewable feedstocks, closed loops, and clean emissions.
our focus
kvt.technology

This is not some stock photo we found
on the internet. This is our daily view from
the windows of our technology center.

This is where we create.
This is what we work for.

Our environment which we want to preserve.
Every day.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KVT Technology is a global process engineering company offering a full range of services from the initial concept to turnkey industry plant commissioning. We work in close cooperation with our customers, consistently delivering innovative and customised solutions.

Our portfolio includes technical solutions for waste processing technologies, production technologies, and unit operations. In addition to our established KVT-processes, we develop tailor-made solutions for our customers according to their specific challenges and unique requirements.

To implement your idea or the solution for your problem we can act as a licensor and engineering partner, EPC or EPCM contractor. KVT accompanies you from the initial project idea to its successful completion. Our process engineering services focus on maximizing economic efficiency, environmental protection, and rational use of resources. One of our main commitments is to improve the environmental impact of our plants and reduce emissions and waste. The results of our R&D activities are innovative technologies, protected by international patents. At our Technology Center, the R&D team uses an advanced laboratory, to study and test new ideas and innovative technologies.

Our technological developments are mainly concentrated in the fields of:

- production of various chemicals based on renewable feedstocks
- reuse of by-products and waste streams from industrial processes
- production of synthetic fuels from renewable feedstock and waste streams
- complex wastewater treatment
- waste gas cleaning

short facts

30+
years of experience

100%
family owned

300
group employees

250+
realized projects

30+
operated countries

20+
developed technologies

OUR MILESTONES (so far...)

1992
Kanzler Verfahrenstechnik GmbH is founded in Graz by Walter Kanzler. Development of thermal and catalytic oxidation process (THERMOX and CATOX). First flue gas treatment plant for a chemical company in Graz.

1993
Development of a new technology for the treatment of wet sour gas with the recovery of sulfuric acid. The first SULFOX plant (today called OXYSULF) was built in Italy for a client operating in the fields of the textile industry.

2004
Development of glycerine refining process (BIOCERINE). Founding of subsidiary GLACONCHEMIE in Germany and starting to manufacture pharma grade glycerine based on BIOCERINE technology. Research of glycerine derivatives and green solvents.

2008
Development of a new innovative process to produce epichlorohydrin via glycerine in a closed cycle with the possibility to treat and recycle the brine to a chlor-alkali electrolysis plant with the SEABRINE process. The first EPIPROVIT project including epichlorohydrin and brine treatment units was completed in 2014 in Germany for an epoxy resins producer.

2008
First sulfuric acid recovery plant outside Europe for oil and gas industry based on OXYSULF technology.

2012
Establishment of a JV company with MECS for the execution of wet sulfuric acid projects. The JV was ended in 2018.

2014
First application of kvt's wet sulfuric acid process to a lead smelter plant in Bulgaria.

2016
Development of THERMODEC, the technology for treating of industrial sludges with the possibility to produce energy.

2016
Signature of a license contract for the first EPIPROVIT plant in China for a chlor-alkali company located in Shandong province.

2017
Opening of the new kvt headquarter in Graz including new engineering offices and a research department equipped with state-of-the-art laboratory and a test facilities for small scale pilot pants.

2019
Commissioning of glycerine-based solvents (glycerine-formal and Solketal) plant and founding of 50% subsidiary ALTEQO in the Netherlands.

2020
Signature of a license contract for the world's largest epichlorohydrin production plant including glycerine refining and brine treatment in China.

2021
Signature of a license contract for the first EPIPROVIT plant in India for a chlor-alkali company located in Gujarat province.

2022
New Technical R&D center in Graz was opened, with 2000m^2 space for pilot plants, like brine treatment testing, epoxy resins production, and new chemical laboratories. KVT awarded with complete EPIPROVIT cycle. It includes the production of epoxy resin, being the first installment for the complete cycle starting from crude glycerine to epoxy resin incl. internal effluent treatment in Europe.

2023
Engineering start for new renewable chemical production plants at subsidiary GLACONCHEMIE.

2024
Founding of KVT Group.

key milestones

Flue Gas Treatment, 1993

GLACONCHEMIE, 2004

Epoxy resin plant
construction site, 2024

RENEWABLE TECHNOLOGIES

Our renewables division offers closed-loop concepts covering the innovative and eco-friendly production of glycerine, glycerine derivatives, epichlorohydrin, epoxy resins, including an internal waste management and resource recovery. Our efficient technologies utilize renewable feedstocks such as vegetable oils, sugars or wood to produce sustainable chemicals.

BIOCERINE glycerine production

BIOCERINE is the technology developed for the production of glycerine. The process can be adapted to different raw material qualities coming from different industrial sectors. The purification process is a critical factor to ensure the required specification, our own developed process uses physical separation methods ensuring product quality, efficient use of resources and internal effluent treatment.

EPIPROVIT epichlorohydrin production

The EPIPROVIT technology is a modular closed-loop process for the production of epichlorohydrin starting from the raw material crude glycerine. The plant consists of a glycerine distillation unit, an epichlorohydrin production unit, a brine treatment unit and an off-gas treatment unit. The treated brine can be reused in other industrial processes, providing a unique, complete, closed-loop process. The off-gas treatment can generate energy for the plant. EPIPROVIT is closely linked to chlor-alkali electrolysis plants as HCl is a raw material used for epichlorohydrin production. The brine, internally produced and treated, can be recycled as a raw material for chlor-alkali electrolysis plants.

EPIPROVIT+ epoxy resin production

The epoxy resins production plant is the extension of the EPIPROVIT concept. We offer a sustainable process technology for the efficient, economical and environmentally friendly production of various basic liquid epoxy resins, solid epoxy resins, solvent cuts and together with reactive diluents from epichlorohydrin also modified epoxy resins for various applications.

GLYPROJECT glycerine derivatives

Consulting and engineering services for the developing of new glycerine derivatives products and their process technology. Sustainable green solvents from glycerine: glycerine-formal and Solketal.

OLEOSOFT bio plasticizer

Technology for the production of phthalate-free, non-toxic plasticizers. The process uses plant-based raw materials. The performance of the new plasticizer is equivalent to commonly used plasticizers (and even better in thermal stability) and better than the other modern phthalate alternatives.

WET SULFURIC ACID TECHNOLOGIES

We have developed an energy-efficent process technology (OXYSULF) for the purification of sulfur-containing off-gases to produce high-quality concentrated sulfuric acids. This applies to various process plants in refinery industry, viscose industry, pulp and paper industry, sulfuric acid production and chemical manufacturing industry. With the special designed Tail Gas Reactor, the process ensures the lowest emission levels and the maximum sulfur oxidation rate, complying with the most stringent emission regulations.

OXYSULF sulfuric acid recovery

The OXYSULF technology is an innovative wet process for the production of sulfuric acid from sulfur-containing off-gases. This technology combines sustainability with guaranteed low emissions. The process is based on catalytic oxidation or a combination of thermal and catalytic oxidation of sulfur–containing compounds by forming sulfuric acid. It is able to handle contaminants such as SO_2, H_2S, COS or CS_2 at a wide range of concentrations.

OXYSULF LC/HC sulfuric acid production

OXYSULF LC is used for lean H_2S and SO_2 off-gas feed streams, while the OXYSULF HC technology is used for concentrated H_2S off-gas feed streams.

OXYSULF SCU SO_2 and sulfuric acid production

OXYSULF SCU is applied when liquid SO_2 and H_2SO_4 production is required.

OXYSULF MET sulfuric acid production

The OXYSULF MET has been developed to meet the requirements of the metallurgical industry where dust-laden roasting gases need to be treated.

OXYSULF SAR sulfuric acid production

OXYSULF SAR is used for the regeneration of spent acid and sulfate in the petrochemical industry.

ENVIRONMENTAL TECHNOLOGIES

KVT's environmental technologies encompass a wide range of innovative solutions aimed at solving industry's environmental challenges and promoting sustainable resource management. From renewable energy systems to waste recycling technologies, these advancements offer economic opportunities for industrial operators.

With KVT's environmental technologies, you can recover energy from industrial waste and valorize by-products by recovering valuable raw materials.

SEABRINE brine treatment

SEABRINE is a technology for the purification of organically contaminated salt brines, that is generated as a by-product of industrial production plants. The recovered pure brine can be reused as a raw material in industrial production sites like a chlor-alkali electrolysis.

CATOX catalytic oxidation

CATOX is a technology for the treatment of off-gas streams with a medium heating value typically in the chemical, oil and gas or textile industry.

THERMOX thermal oxidation

THERMOX is a technology for the treatment of off-gas streams with a high concentration of VOC.

CHLOROX HCl recovery

CHLOROX is a technology for the treatment of liquid and gaseous chlorinated effluents with reliable emission control and safe operation. The process is based on a thermal decomposition of chlorinated organic compounds recovering steam and HCl.

LILEX liquid-liquid extraction

LILEX is a technology for the recovery of furfural and acetic acid from vapour condensates generated in pulp industry processes. The condensates are subjected to a liquid/liquid extraction and the extracts, furfural and acetic acid are purified by fractional distillation. Reduces emissions by recovering valuable raw materials.

THERMODEC sludge treatment

THERMODEC is our technology for the treatment of challenging industrial sludges while recovering energy and valuable materials.

PRODUCTS

Unit Operations are turnkey process units for critical operations, uniquely designed by KVT. Take advantage of our experience and professional engineering.

RTO PLANT

The RTO is the technology for treating large quantities of low concentrated VOC off-gas, including a regenerative heat recovery system.

WESP Wet Electrostatic Precipitator

For process gases with aerosol contaminations KVT offers a specially designed Wet Electrostatic Precipitator (WESP), which can separate particles and aerosols from the gas stream before it is released to the atmosphere. The WESP is also used to separate aerosol components prior to other treatments to avoid permanent damage to process equipment and/or to a downstream catalyst.

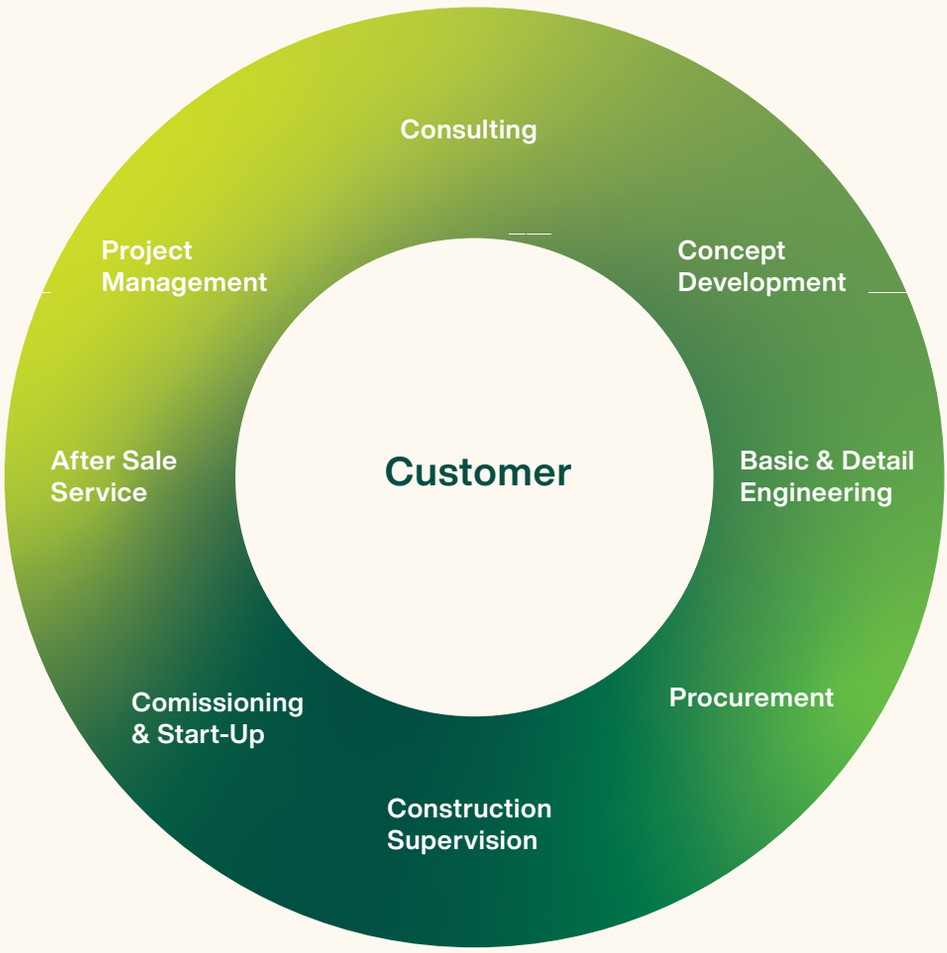
DRY-FIL Hot Gas Filter

Process gas cleaning is a common procedure in chemical, process and metallurgical industries to remove dust and other solid elements that could affect the performance of downstream catalysts and heat exchangers. The KVT Hot Gas Filtration Unit (DRY-FIL) is resistant up to 800°C, even in a corrosive atmosphere. In industrial processes where high temperatures are required, hot gas filtration ensures clean gas without uneconomical use of energy.

TARDIGRAD Catalyst

TARDIGRAD is a special platinum catalyst in the form of a monolithic honeycomb. Its main area of application is in the first bed of SO_3 converters in the wet gas desulfurization process. It can also be used wherever low temperature oxidation of hydrogenated hydrocarbons or sulfur compounds such as H_2S, COS, SO_2 is required. A significant reduction in cross-sectional area of the converter is achieved, which has a major impact on converter design and investment costs.

OUR SERVICES



Consulting & Concept Development

We provide consulting services to meet the highest quality requirements and to deliver unique process solutions, tailored to individual needs. Starting with an assessment of the customer needs, we provide:

- Feasibility Studies & Site Evaluation
- Economic & Ecological Studies
- R&D & Pilot Plant
- Plant Development & Machine Concept

Basic & Detail Engineering

Basic and detail engineering are the core activities of our company. All our engineering activities start with the customer's needs and requirements and continue with the process concept definition. With our experienced experts we offer:

- Process Engineering
- Chemical Engineering
- Mechanical Engineering
- Electrical & Instrumention

Procurement & Construction Supervision

We offer our customers a complete procurement service and the opportunity to take advantage of our supplier network. We assist our customers with:

- Supplier Evaluation & Auditing
- Procurement & Logistics
- Construction Coordination & Site Management
- Contractors Evaluation & Supervision
- Quality Control & Assurance

Commissioning & Start-Up

Commissioning activities ensure that the implementation of the plant systems has been achieved and the plant is ready for start-up. Our main activities are:

- Operation Training
- Commissioning
- Plant Start-Up Support
- Performance Test

After Sale Service

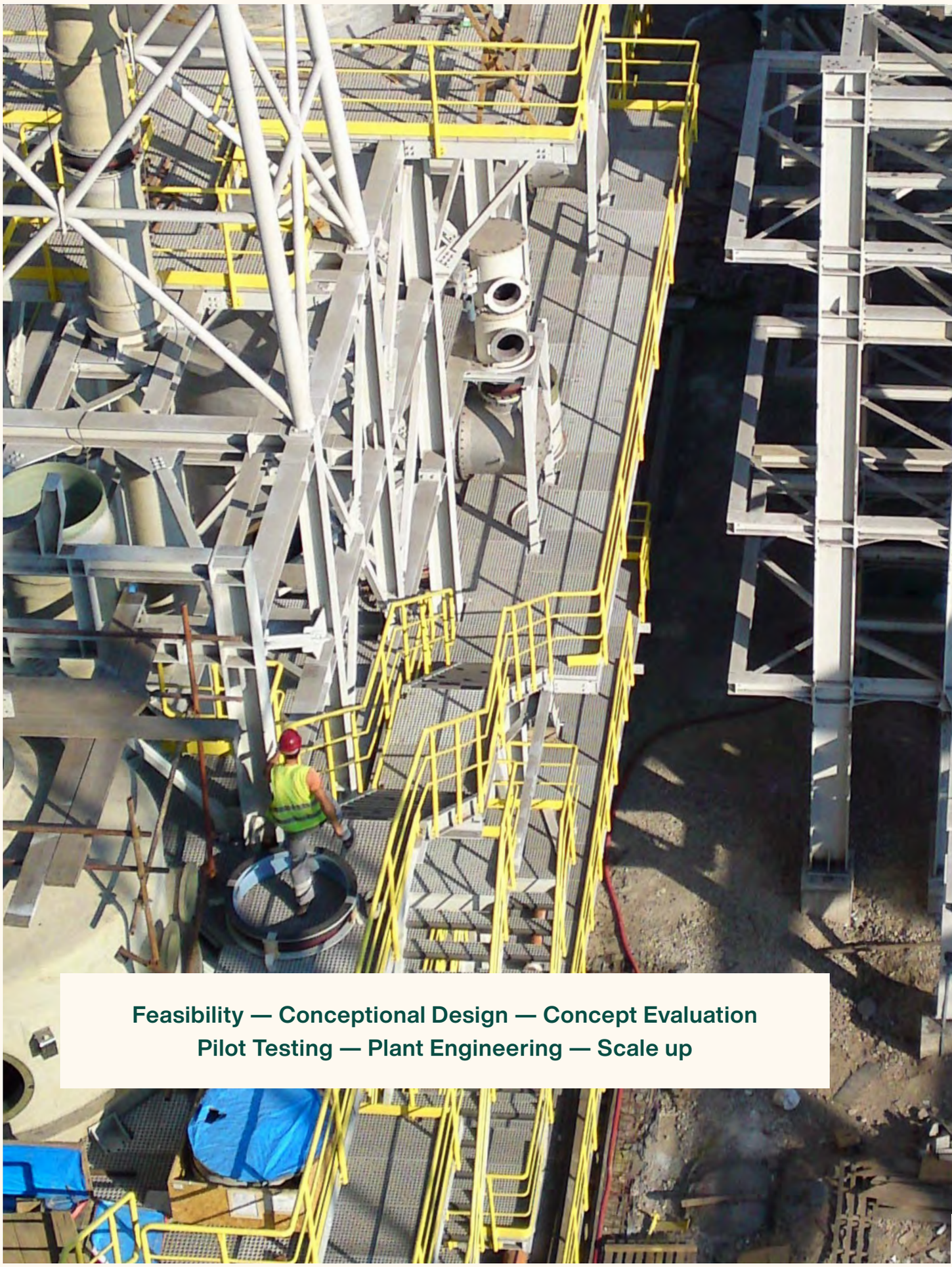
With the after-sale program the experienced KVT team offers support to our customers after the delivery, to ensure robust plant operations, like:

- Maintenance & Service
- Inspection & Optimization
- Revamp & Renewal Projects
- Reconstruction & Plant Extension

Project Management

Effective Project Management is one of the most critical success factors for every project. Within the project management we secure close cooperation and communication with our customers with:

- Cost Control & Commercial Management
- Site Coordination & Logistic Management
- Time Control & Progress Supervision
- Documentation & Communication



Feasibility — Conceptional Design — Concept Evaluation
Pilot Testing — Plant Engineering — Scale up

TAILORING SOLUTIONS

KVT provides customized solutions from feasibility to scale-up. Our engineering works are always focused on the individual aspects of our customers' needs.

We offer our customers the opportunity to develop customized and tailor-made processes in order to solve their individual problems and satisfy their needs. From tailored proposals, we start projects together with our customers in accordance with their requirements and ideas.

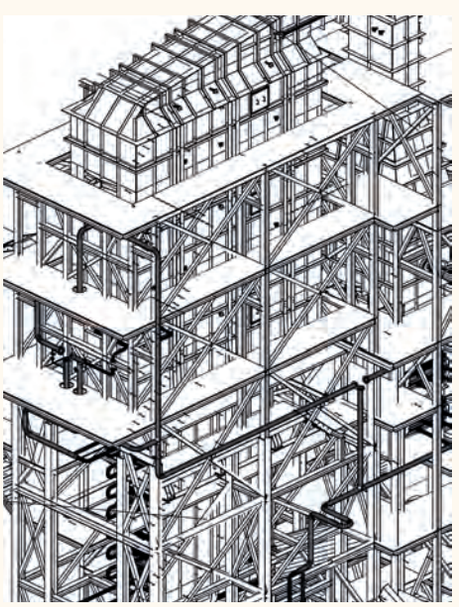
Our engineers provide support at every stage of the project, from the feasibility study, concept design and evaluation, pilot testing, plant engineering, scale up, construction, commissiong and start-up.

With our expertise we can deliver solutions for:

- Development of new products and processes
- Plant optimization
- Plant revamping
- Extension of existing plant
- Technology and efficiency upgrade

We believe in long-term relationships.
All of the company's activities are focused on maintaining long and trusting relationships with our customers.

Our goal is to create lasting solutions that benefit both, our customers and us.



SELECTED PROJECTS

project: glycerine distillation
installation: Germany
feed: crude glycerine
plant capacity: 40.000 t/y refined glycerine

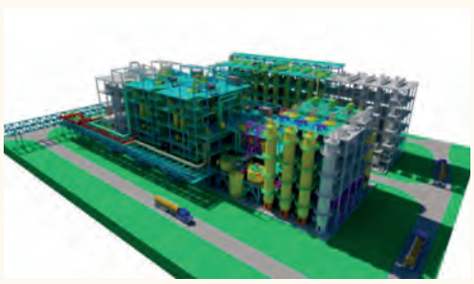
project: epichlorohydrin production
installation: Germany
feed: refined glycerine
plant capacity: 15.000 t/y epichlorohydrin
15 m³/h brine treatment

project: epichlorohydrin production
installation: China
feed: crude glycerine
plant capacity: 120.000 t/y refined glycerine
85.000 t/y epichlorohydrin
45 m³ /h brine treatment

project: brine Purification Plant
installation: China
feed: epoxy waste brine
plant capacity: 65 m³ /h brine treatment

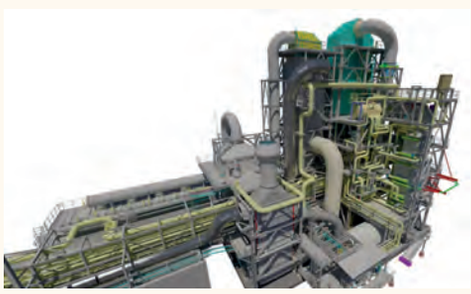
project: brine purification plant
installation: China
feed: epichlorohydrin waste brine
plant capacity: 70 m³ /h brine treatment

project: epichlorohydrin production
installation: India
feed: crude glycerine
plant capacity: 120.000 t/y refined glycerine
52.000 t/y epichlorohydrin
30 m³/h brine treatment

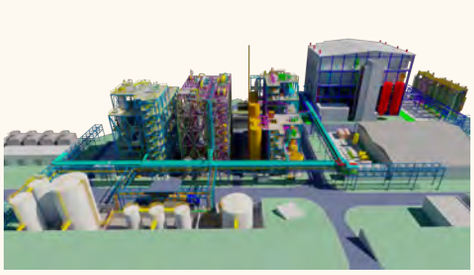


project: epichlorohydrin production
installation: China
feed: crude glycerine
plant capacity: 200.000 t/y refined glycerine
150.000 t/y epichlorohydrin
80m³/y brine treatment

project: lead smelter off-gas
installation: Bulgaria
feed: Dust, SO_2-gas
plant capacity: 50.000 Nm^3/h



project: sulfuric acid production by off-gas treatment
installation: Austria
feed: S, H_2S, CS_2-gas
plant capacity: 50.000 Nm^3/h



project: epoxy resin plant
installation: Türkiye
feed: crude glycerine
plant capacity: 27.000 t/y refined glycerine
25.000 t/y epichlorohydrin
32.000 t/y epoxy resin
30 m³/h brine treatment

We are engineers, always exploring and thinking ahead to find new and innovative solutions. KVT constantly invests in R&D activities, to develop and test new and innovative processes, improve existing technologies. We offer our customers more benefits in terms of efficiency, reliability, and competitiveness. Research and Development is the core department where new ideas are developed to meet the needs of our customers and meet new market demands.

RESEARCH & DEVELOPMENT

Since our foundation we have focused almost exclusively on environmental protection, closure of material cycles and chemistry based on renewable raw materials such as vegetable oils, sugars, or wood. During the last 30 years, KVT has successfully taken several different technologies from an idea to an industrial scale plant.

The focus of our technological developments is concentrated mainly in the fields of:

- Waste water treatment
- Waste gas cleaning
- Waste to energy
- Production of various chemicals based on glycerine and renewable raw materials
- Reuse of by-products and waste streams from industrial processes

Our R&D activities include the following tasks:

- Development of new and innovative technologies
- Development of customized special solutions
- Development of pilot plants
- Continuous improvement of KVT processes
- Development and optimization of Unit Operations

In addition, KVT operates a technology center in Merseburg, Germany, for specialized testing and the installation of pilot plants to develop and demonstrate the benefits and functionality of our processes. A lot of our development activities are realized in close cooperation with local academic institutions and industrial partners.

RESEARCH & INNOVATION CENTER

Innovation is considered a key factor and is being promoted in several areas. The R&D projects in our newly founded technology center in St. Radegund near Graz are our backbone.

Our R&D center is a specialized facility focused on the research and development of new chemical compounds, materials, and processes. Our team of chemists, scientists, engineers, and technicians works together to design, test, and optimize products and technologies that are used in a wide range of industries, including chemical, oil and gas, coatings, agriculture, energy, electronics, pharmaceutical and consumer goods.

The main objectives of our R&D center are to:

- Discover and synthesize new chemical compounds: Chemists at the R&D center work to create new molecules that have desirable properties, such as improved efficacy, reduced toxicity, or lower cost. They use a variety of laboratory-scale synthesis and purification techniques. Our research is focused on creating new chemicals based on sustainable raw materials with the advantage of using alternative sources with a better environment impact and economic efficiency.
- Developing new processes for manufacturing chemicals: Engineers at the R&D center scale-up and optimize chemical processes that can produce chemicals, with high efficiency and low waste on a large scale. They may use batch or continuous synthetic reaction technologies as well as separation techniques such as distillation, extraction and filtration.
- Perform analytical testing and characterization: Our scientists at the R&D center use a variety of analytical techniques, including chromatography, spectroscopy, and wet chemical methods, to analyze and characterize the physical and chemical properties of new compounds and materials.
- In our pilot plants we conduct tests for our customers to verify and ensure the feasibility of each requirement.
- Collaboration with industry partners and academic institutions: KVT frequently collaborates with other manufacturing companies, start-ups, technology partners and academic institutions to share knowledge, expertise, and resources to accelerate the pace of chemical innovation.

THIS IS
kvtgroup

kvt.technology

Founded in 1992, **Kanzler Verfahrenstechnik GmbH** operates in Graz, Austria, and Merseburg, Germany. We serve markets across Asia and Europe, maintaining full ownership. Specializing in technologies for the production of chemicals from renewable feedstocks, environmental protection and closure of material cycles, we offer comprehensive services, including technology development, scale-up, licensing, project execution, and plant optimization. Our core competencies lie in wet sulfuric acid processes, transforming glycerine into epoxy resin and brine purification. By focusing on innovative solutions and efficiency improvements, we strive to enhance environmental sustainability and industrial productivity, making us a trusted partner in the chemical engineering industry.

kvt.technology

KVT technology center: home of research and innovation

Founded in 2022, KVT technology's new R&D center is based in St. Radegund, Austria. Our primary focus is on development, application testing, and customization. We excel in technology development and customization, conducting laboratory experiments, pilot plant operations, and advanced analytics. Our comprehensive approach ensures innovative solutions tailored to meet specific client needs, making us a reliable partner in the chemical and industrial sectors. Through continuous development and rigorous testing, we strive to deliver high-quality, customized technological solutions.

biprotech

Founded in 2004 and based in Krakow, Poland, **BIPROTECH** has been integrated into the KVT Group in 2024. We serve the Polish and broader European markets with full ownership. Our services encompass engineering, project execution, and on-site services. We specialize in crude and waste oil treatment, refinery engineering, brine treatment, and the handling of inorganic acids. Additionally, we offer expertise in incineration and power boilers. Our comprehensive approach ensures high-quality solutions and efficient project delivery in the industrial and environmental engineering sectors.

kvtgroup

BDI
BioEnergy International

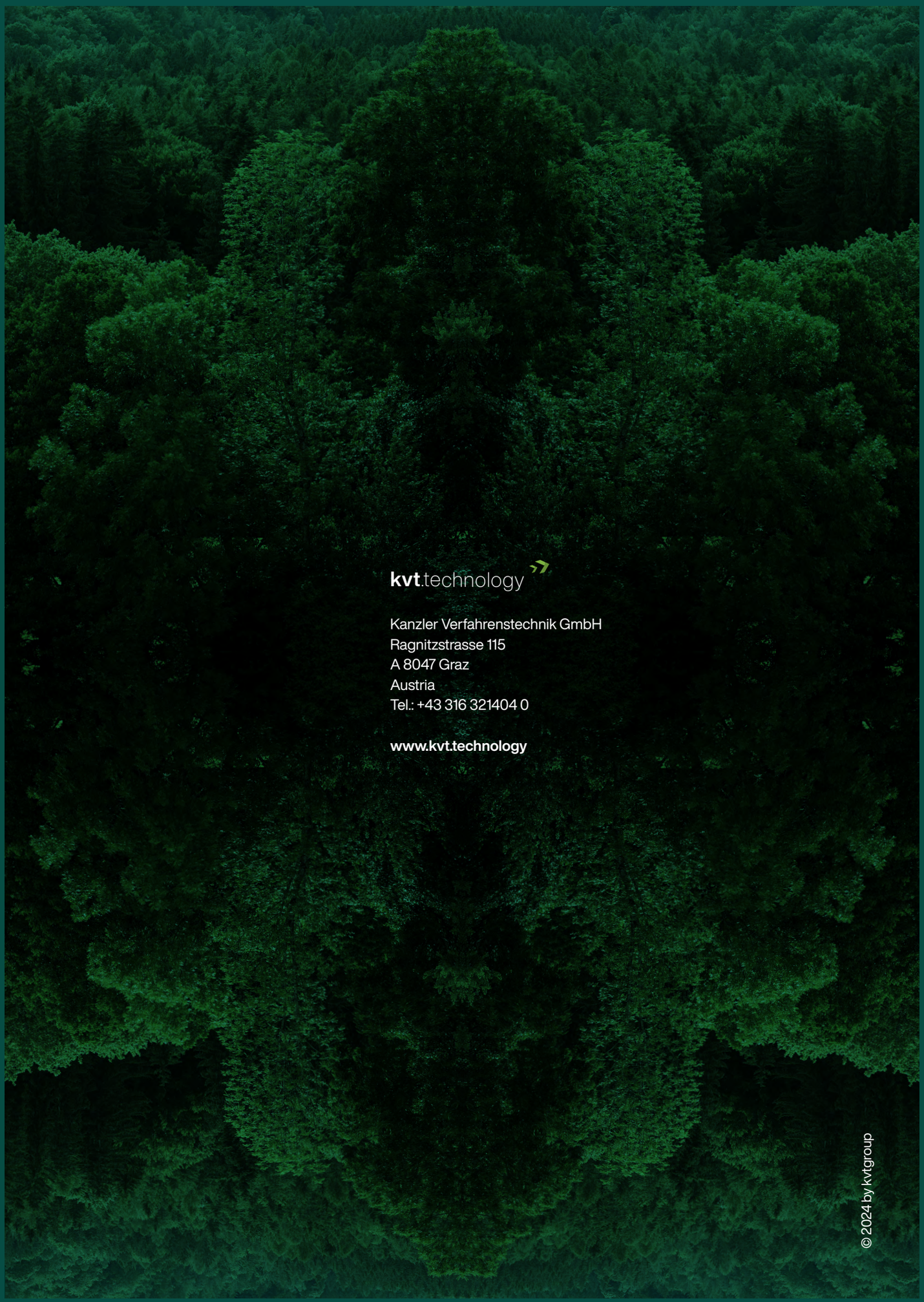
Founded in 1994 and based in Graz, Austria. **BDI** serves markets in Asia, Europe, and the USA, while KVT Group holding a 33.33% ownership share since 2024. Our services encompass engineering, project execution, and on-site services for upgrading residual and waste streams from various industries. Our core competencies include the treatment of waste oils, production of biodiesel and biogas, purification of pyro-oil and pyrogas, and the development of green tech solutions. By focusing on innovative and sustainable technologies, we aim to contribute to a cleaner environment and provide high-quality solutions to our customers in the renewable energy sector.

glaconchemie

Founded in 2004 and located in Merseburg, Germany **GLACONCHEMIE** serves markets across Asia, Europe, North, and South America, with full ownership by KVT Group. Our primary services include plant operation and product development. We specialize in producing pharma and cosmetic grade glycerine, technical grade glycerine, and glycafuel, a fuel additive). Our commitment to innovation and high-quality standards ensures that we meet the diverse needs of our global customers.

alteqo
renewable chemistry

Founded in 2020, **ALTEQO** operates in Delfzijl, Netherlands, and serves markets across Asia, Europe, North, and South America. With a 50% ownership share, we specialize in plant operations, focusing on the production of key products such as GLYCASOL (Solketal) and GLYCAMAL (glycerol-formal). Our commitment to excellence in manufacturing and market reach ensures that we provide high-quality chemical solutions globally.



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