

Selected References

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1 Hydrogen, Biogas, Biomethane, ATEX

client	Scope of activity	year
BE Energy, Eisenstadt	200 MW elektrolyzer for renewable green hydrogen production: <ul style="list-style-type: none"> Basic engineering Authority engineering 	2024-cont
AWV Knittelfeld	Co-Fermentation at a communal waste water treatment plant <ul style="list-style-type: none"> Basic, authority and detail engineering Tendering Building supervision Start-up 	2006 2010
Bioenerg d.o.o. Crnomelj, Slo	Detail engineering for hygienization unit and consulting for biogas installation utilizing organic waste (1.400 kW)	2010
Biofutura d.o.o., Slovenia	Evaluation of biogas project Ilirska bistrica	2008
Biogasanlage Echtsenbach	Building supervision for Biogasplant (500 kW)	2004
Biogas Möbling	Building supervision for Biogasplant Funder (250 kW)	2004
Biogas Pöchlarn	Building supervision for Biogasplant (500 kW)	2004
Biogaspark	Biogas from renewable primary products - framework contract (250 + 500 kW): <ul style="list-style-type: none"> Basic engineering Building supervision 	2003 2005
Biogaspark	Building supervision for 4 Biogasplants (2 * 250 kW, 2 * 500 kW)	2004
Biogaspark, Amstetten	Biogas from biowaste, kitchen slops and slaughterhouse waste: <ul style="list-style-type: none"> Feasibility study and consulting 	2004
Biopower, Austria	2 Biogas plants from renewable primary products Retz and Ziersdorf, each with an electric power of 1.500 kW: <ul style="list-style-type: none"> Basic, authority and detail engineering Tendering Building supervision and training of operators 	2006-07

client	Scope of activity	year
	<ul style="list-style-type: none"> • Start-up and guarantee check 	
COWI A/S, Danmark	Biogas from industrial and municipal organic waste (7.5 Mio m ³ biomethane):	2012
	<ul style="list-style-type: none"> • Feasibility study 	
EKOKEM Finland (as subcontractor of IG-IUT, Seebenstein)	Biogas from municipal sewage waste (1.200 kW):	2011
	<ul style="list-style-type: none"> • Basic engineering • Tendering 	
Energie Steiermark	Renewable Gasfield Gabersdorf (PV / Green-Hydrogen-production with PEM-Electrolyser / H ₂ -Storage, compression and dispenser / methanization of biogas):	2020-24.
	<ul style="list-style-type: none"> • Basic, authority and detail engineering • Building supervision • Start-up and guarantee check 	
Energienetze Steiermark, Graz	Biomethane compressor unit for injection in gas grid Leoben	2023
	<ul style="list-style-type: none"> • Building supervision • Start-up and guarantee check 	
Engineering company N.N.	Basic, Authority and Detailengineering for biogas plant processing organic waste material, expansion from 10.000 to 20.000 t/a	2010 – 2011
Energie Steiermark, Graz, Austria	Feasibility study for Biogas plant Knittelfeld 500 kW from organic waste and agricultural residues	2009
Energie Steiermark, Graz, Austria	Feasibility study for Biogas plant Auersbach 250 kW from organic waste	2011
Fetz, Biogasanlage	Document on dangers of Explosive atmosphere (ATEX)	2010
Hämmerle, Biogasanlage	Document on dangers of Explosive atmosphere (ATEX)	2010
Hofer, Biogasanlage	Document on dangers of Explosive atmosphere (ATEX)	2010
Hofer, Biogasanlage	Document on dangers of Explosive atmosphere (ATEX)	2010
Holding, municipality of Graz	Project move2zero: implementation of a hydrogen infrastructure for the communal H ₂ -busfleet Consulting during tendering process	2022
Holding, municipality of Graz	Consulting in the architectural competition for a bus station with hydrogen refueling	2023
KELAG Wärme	Consulting during maintenance of fermenters and expert opinion on energy efficiency	2017
MIT Plan / Ideal-Bau	ATEX document for a gas storage facility	2020
Municipality St. Peter o.J.	Document on dangers of Explosive atmosphere (ATEX)	2019

client	Scope of activity	year
Münzer	Biogas from biowaste (500 kW): <ul style="list-style-type: none"> • Feasibility study 	2001
NAWAROS	Building supervision for biogas plant St. Veit/Glan 1.000 kW	2002-04
Pilze Nagy, Hungary	Basic engineering for biogas plant 300 kW	2006
Rauch, Biogasanlage	Document on dangers of Explosive atmosphere (ATEX)	2010
Republic of Austria, BIG	Biogas plant Voitsberg 64 kW from organic waste: <ul style="list-style-type: none"> • Basic, authority and detail engineering • Tendering • Building supervision and training of operators • Start-up 	2011 - 2013
Planegger	Building supervision for Biogasplant (500 kW)	2004
Planegger	Concept for the modernization and extension of the biogas plant	2013
Planegger	Plant extension and methanization of biogas by membrane permeation system	2024
Verbund Green Hydrogen, Wien	200 MW elektrolyzer for renewable green hydrogen production: <ul style="list-style-type: none"> • Basic engineering • Authority engineering 	2024
Wucher, Biogasanlage	Document on dangers of Explosive atmosphere (ATEX)	2010

2 Industrial engineering and waste management

client	Scope of activity	year
ABRG Arnoldstein	Basic and authority engineering (AWG) for a hazardous waste storage building	1999
AE+E (as subcontractor of IG-IUT, Seebenstein)	Secondary fuel for a paper mill in Germany: detail engineering and documentation	2008 - 2010
AWV Knittelfeld	Solar drying of sewage sludge (Basic, authority and detail engineering, Tendering, Building supervision, Start-up) Optimization of sand recycling and disposal	2006 - 2008 2013
AWV Liezen and Government of Styria	R&D project: mechanical-biological waste treatment Liezen Characteristics of fuel made from household waste fraction > 80 mm	1997 2000
AWV Liezen	mechanical-biological waste treatment and biowaste <ul style="list-style-type: none"> • Basic, authority and detail engineering • Building supervision 	2002-07

client	Scope of activity	year
Energie Steiermark	<ul style="list-style-type: none"> Control of start up including performance tests E-Campus, Graz	2022-24
Entsorgt!	<ul style="list-style-type: none"> Authority engineering Permit for waste water disposal Tank and truck cleaning system: Basic, authority and detail engineering	2000-05
EPCOS, Deutschlandsberg	Development of a storage concept according to TRGS 510	2015
Feldbacher Fruitpartners	Pre-liminary, basic, detail engineering and tendering process for a new production site and head quarter	2013 - 2014
Integral ZT, Graz	Consulting during authority engineering and for improvement of waste water facilities for a slaughterhouse	2017 – lfd
Kohlroser Franz	Basic and authority engineering: <ul style="list-style-type: none"> Bioethanol production Treatment of residues of the biogas plant 	2007
LOBBE MTU	Hazardous waste treatment plant Werndorf/Styria/Austria	2002
	Basic, authority (AWG, GewerbeR, WasserR) and detail engineering	1997
	Building supervision	1996
	Start up	
Magna Heavy Stamping, Albersdorf	KTL painting plant <ul style="list-style-type: none"> Authority engineering (acc. to IPPC-regulation) Permit for waste water disposal 	2024-lfd
Municipality of Greinbach	Supervision for the communal landfill	2020-cont.
Municipality of Stubenberg	Supervision for the communal landfill	2020-cont.
Pichler Bau	Supervision for the communal landfill	2024-cont.
Schippinger ZT, Graz	Study on gas-emissions from the closed communal landfill Leoben	1995
Schippinger ZT, Graz	Study on decontamination of the Kiener Landfill, Bachmannig	1995
Schippinger ZT, Graz	Market survey of the Austrian waste management	2000
SDAG Austria (as subcontractor of IG-IUT, Seebenstein)	Feasibility study on pre-processing organic waste	2011
SDAG Slo (as subcontractor of IG-IUT, Seebenstein)	Feasibility study on implementation of an anaerobic MBT in Slovenia	2011

client	Scope of activity	year
Stadtgemeinde Frohnleiten	Supervision for the communal landfill	1996- cont.
VTU Engineering	ABRG Arnoldstein: hydrometallurgy <ul style="list-style-type: none"> • Basic, authority and detail engineering 	1996
WSA waste service austria	Project for a shredding plant for hazardous waste <ul style="list-style-type: none"> • Basic, authority and detail engineering 	2020-24
Zöchling	Feasibility study for the processing of industrial waste containing metallic components with the aim of producing und utilizing hydrogen	2019 – 2020
ZUSER Peggau	Supervision of the waste management site in Peggau	2012/15
ZUSER Peggau	Treatment plant for surface water of waste handling site <ul style="list-style-type: none"> • Pilot scale experiments • Basic, authority and detail engineering • Building supervision • Start up 	2016-20

3 Waste management, landfill Leachate

client	Scope of activity	year
AE+E through IG-IUT	EPS-processing plant LEIPA	2008-10
ASA Abfall Service Austria (today named FCC)	Landfill leachate plant Halbenrain/Steiermark/Austria <ul style="list-style-type: none"> • Pilot scale experiments • Basic, authority and detail engineering • Building supervision • Start up 	1992 - 1995
ASA Abfall Service Austria (today named FCC)	Landfill leachate plant Erzberg/Steiermark/Austria Basic and authority engineering	1993
ASA Abfall Service Austria (today named FCC)	Landfill leachate plant Köflach/Steiermark/Austria Basic and authority engineering	1994
Brantner Romania	Landfill leachate, landfill Turnu Severin, Rumänien Detail engineering	2009-10
Breitenfeld Edelstahl	Landfill leachate plant for slag landfill Basic and authority engineering, tendering	2000 - 2001

client	Scope of activity	year
Cevre Yönetim Merkezi Tasima; Ankara, Turkey through Rotreat, Austria	Landfill leachate plant Elazig/Turkey <ul style="list-style-type: none"> • Basic and detail engineering • Building supervision • Start up 	2012
Crystal Clear Membranservice	Landfill leachate plant Barcelona/Spain <ul style="list-style-type: none"> • Lab scale experiments • Basic and detail engineering • Process optimisation 	2005 - 2006
Hettegger	Landfill leachate plant Hettegger/Salzburg/Austria <ul style="list-style-type: none"> • Pilot scale experiments • Basic and detail engineering • Building supervision • Start up 	1994 - 1995
IRAB Innsbrucker Recycling und Abfallbetriebe, Innsbruck	Study to clean landfill leachate and ground water, landfill Ahrental/Tirol/Austria	1995
Komunala Slovenska Bistrica	Pilot testing of a landfill leachate treatment plant based on MBR technology	2020
LOBBE Abfallentsorgung	Landfill leachate plant Werndorf/Styria/Austria <ul style="list-style-type: none"> • Pilot scale experiments • authority and detail engineering • Process optimisation 	1998
Logambiente, Portugal im Wege Rotreat, Österreich	Landfill leachate plant Barlavento <ul style="list-style-type: none"> • Basic and detail engineering • Building supervision 	2019
MTU, Kirchberg	Landfill leachate plant Werndorf/Styria/Austria <ul style="list-style-type: none"> • Authority, basic and detail engineering • Building supervision 	1998
Novo Mesto/CEROD/Rotreat Slovenia	Lead engineer and supervision of engineering for leachate treatment plant	2011-15
RMVG, Eisenerz	Landfill leachate plant Landfill Erzeberg <ul style="list-style-type: none"> • Basic and detail engineering • Building supervision 	2013
Rotreat Abwasserreinigung	Landfill leachate plant Bergheim/Salzburg/Austria Basic and authority engineering	2001
Rotreat Abwasserreinigung	Landfill leachate plant Werndorf/Styria/Austria <ul style="list-style-type: none"> • Pilot scale experiments • Basic, authority and detail engineering 	2002

client	Scope of activity	year
	<ul style="list-style-type: none"> • Building supervision • Start up • Process optimisation 	
Rotreat Abwasserreinigung	Landfill leachate plant Erzberg/Austria Detail engineering for a sulphide stripper unit	2013
Sarajevo (municipality)	Feasibility study: revamping of an unfit leachate treatment plant	2016
Sarajevo (municipality)	Pilot scale experiments using MBR-technology	2018
Strabag, Deutschland through Rotreat, Austria	Landfill leachate plant Erzurum, Turkey <ul style="list-style-type: none"> • Basic and detail engineering • Building supervision 	2006
Strabag, Deutschland through Rotreat, Austria	Landfill leachate plant Kusadasi, Turkey <ul style="list-style-type: none"> • Basic and detail engineering • Building supervision 	2009
UEG, Neuseiersberg	Landfill leachate plant Targu Jiu, Rumania <ul style="list-style-type: none"> • Basic and detail engineering • Building supervision 	2008
VA Erzberg through Schippingner + Partner	Design of a leachate treatment plant as part of the general authority application documents (environmental assessment study)	2014
WTE Wassertechnik	Consulting for a landfill leachate plant in SE Europa	2011

4 Water and Waste Water

client	Scope of activity	year
Altenmarkt (municipality)	Consulting to solve a odour problem in the public sewer system	2013
Andritz, Graz	Expert opinion on the waste water treatment plant of the papermill Paloma, Slovenia	2017
AVL List, Graz	General waste water concept und authority engineering:	1996
AVL List, Graz	Optimization of water management: closing cycles and cooling/heating	1999
AVL List, Graz	Redesign of rain water system and engineering for new wells	2002-24
AVL List, Graz	Authority engineering for waste water and cooling water system	2022
AWV Laßnitz-Wildbach-Gamsbach	Future prospects and conceptual studies - WWTP Frauental	2019
AWV Mittleres Laßnitztal	Future prospects and conceptual studies - WWTP Zehndorf	2019

client	Scope of activity	year
AWV Neunkirchen	Design of a leachate treatment plant as part of the general authority application documents (environmental assessment study)	2014
Biodiesel Kärnten	Basic engineering, supervision of start-up and operational consulting for a MBR-waste water system for a biodiesel plant	2009
Breitenfeld Edelstahl	Project for landfill leachate (industrial site)	2000
Breitenfeld Edelstahl	Project for industrial waste water and water cooling concept	2001
District of Brcko, Bosnien	SWOT and PEST analysis of implementation of a communal waste water treatment system	2010
DARBO, Stans/Tirol	Consulting for cost optimization – waste water system	2002
Diary Freistadt	Basic, authority and detail engineering for industrial waste water system making us of membrane solutions, sewer drainage	2001
DS Smith Kalsdorf	General waste water concept und authority engineering: Optimization of water management: closing cycles	2020
ekos, Vahrn, Südtirol	MBR-plant for the treatment of liquid waste materials <ul style="list-style-type: none"> • Pilot testing • Basic and Detail engineering • start-up • commissioning 	2019-21
EPCOS OEG	Authority engineering for industrial waste water system, sewer drainage	1999
Deutschlandsberg		2011
Georg Fischer Altenmarkt	Engineering concept to eliminate an odour problem and preparation of authority engineering documents to obtain an renewed permit	2013 - 2014
GL Pharma Lannach	General waste water concept und authority engineering	2021
GL Pharma Lannach	Optimization of water management: closing cycles	2022
GL Pharma Lannach	Authority engineering for surface water discharge	2023
GL Pharma Lannach	Authority engineering for extension of surface water discharge	2025
Güssinger Garnelen	Consulting to optimize the operation and implementation of a denitrification	2021
Liezen (municipality)	Optimization and modernization of the aeration of the communal WWTP	2014
LOBBE MTU	Authority engineering for industrial waste water system making us of membrane solutions, direct drainage to river	1997

client	Scope of activity	year
MCT Ankara, Türkei	Basic engineering of a MBR-based containerized solution for waste water treatment for communities from 2.000 – 20.000 PE	2010
RINGANA Holding	General waste water concept und authority engineering: Basic and detail engineering, tendering, construction and start-up supervision, commissioning, consulting for legal contract with communal WWTP	2020-21
ROTO Frank Kalsdorf	MBR-Pilot plant operation	2017
ROTO Frank Kalsdorf	Basic and Detail engineering of a MBR-plant	2017
ROTO Frank Kalsdorf	Commissioning and Authority engineering of MBR plant	2019
ROTO Frank Kalsdorf	Basic and detail engineering for revamping the WWT-plant including the implementation of a ion-exchange plant	2021
Rotreat Abwasserreinigung, Graz	R&D project: Adaptation and optimization of a pond type communal waste water treatment plant, making use of membrane technology	1999
Rotreat Abwasserreinigung, Graz	Detail engineering of a MBR-containerplant and pilot-testing at ESAROM, Korneuburg	2007
Liezen (municipality)	Consulting for the communal waste water plants in respect to industrial waste water emissions (indirect discharger)	Since 1998 cont.
Weiz (municipality)	Consulting for the communal waste water plants in respect to industrial waste water emissions (indirect discharger)	Since 1999
St. Peter o.J. (municipality)	Adaptation and optimization of a pond type communal waste water treatment plant with 1.500 PE using MBR technology	2001-2004
St. Peter o.J. (municipality)	Consulting for the communal waste water plants in respect to industrial waste water emissions (indirect discharger)	2000-22
Saubermacher AG, Lenart, Slo	MBR-plant for the treatment of surface water <ul style="list-style-type: none"> • Feasibility study • Pilot plant operation • Basic, Detail, authority engineering • commissioning 	2017 2020
Saubermacher AG, Premstätten	Basic and Detail engineering, start-up and commissioning of a MBR-plant for the treatment of fluid waste materials	2016
Saubermacher AG, Premstätten	Feasibility study for the treatment of surface water	2022
Saubermacher AG, Trofaiach	Basic and Detail engineering, start-up and commissioning of a WWTP for the treatment of fluid waste materials	2018
Steinrieser Getränke, Styria	MBR-plant for treatment of effluent of soft drink production <ul style="list-style-type: none"> • Pilot plant operation 	2016–25

client	Scope of activity	year
	<ul style="list-style-type: none"> • Basic, Detail, authority engineering • commissioning • extensions 	
TDK, Deutschlandsberg	General waste water concept und authority engineering:	2020
	Basic and detail engineering, consulting during tendering, supervision, consulting for legal contract with communal WWTP	2021
VTU Engineering, Graz	Basic and authority engineering for biodiesel waste water unit – BDV	2006
	General concept, basic engineering and commissioning for highly loaded biodiesel waste water treatment plants	2007
Weiz (municipality)	Tendering process for a 30.000 PE communal waste water plant	2001
	Construction supervision	2003
ZUSER Peggau	MBR-plant for the treatment of surface water	2017
	<ul style="list-style-type: none"> • Feasibility study • Pilot plant operation • Basic, Detail, authority engineering • commissioning 	2019

5 Energy

client	Scope of activity	year
AVL List, Graz	Feasibility study and energetic optimization of internal processes	1998
AWV Knittelfeld	Optimization of energy consumption at the waste water plant	2013
LOBBE Werndorf	Feasibility study and energetic optimization of internal processes	1997
Stadt Liezen, Bauhof	Optimization of phosphate precipitation and wattless current compensation, production of renewable energy at the waste water plant	2009
Stadt Weiz und Land Stmk.	Optimization of energy consumption and production of renewable energy at the waste water plant	2010
Wopfinger Baustoffindustrie	Expert opinion on efficiency of a waste heat recovery system	2010

6 Safety analysis

client	Scope of activity	year
ABRG Arnoldstein	Safety analysis	1999
DSM Linz im Wege VTU	HAZOP for „building 700“	1998

client	Scope of activity	year
Energie Steiermark	HAZOP on interfaces as basis for a CE-declaration for the whole plant as part of the Power 2 Gas Projects Gabersdorf	2022-23
Energienetze Steiermark	Assessment on CE regulations for the Power 2 Gas project Gabersdorf	2022-23
Energienetze Steiermark	HAZOP for the project Hygrid	2023/24
LOBBE Werndorf	Safety analysis	1997
Schippinger ZT, Graz	Safety analysis for the waste treatment plant AWV Liezen	1996
Schippinger ZT, Graz	Safety analysis for the waste treatment plant RMVG Eisenerz	1995
VTU Engineering, Graz	Safety analysis for cement works Gartenau	1999
Zementwerkes Leube	Analysis of potential risks and dangers	2005/10/ 18
Zementwerkes Leube	HAZOP on interfaces as a basis for a conformity assessment of the oil circuit	2023-24

7 Other

client	Scope of activity	year
AWV Liezen	Tendering process for transportation of household waste and biowaste	2003 2010
AWV Knittelfeld u.U.	Tendering of engineering services for a canalization project	2009
AWV Murau	Tendering of logistic services for paper transportation	2013
Township of Knittelfeld	Tendering of engineering services for a canalization project	2013
Biodiesel Vienna	Tendering of waste management services	2007
Hans Hütter	Expertise on the characteristics of the product Renoxal	2002
MCI Innsbruck	Lectures at the University MCI Innsbruck	2008-09
ÖSB Unternehmensberatung, Graz	Lecture on regulations for operational facilities	1997
ÖWAV + LEA	Lectures at biogas operation course	2006-08
Philips Components Lebring	Expertise on compliance with the Austrian dissolvent regulation	1997
Rotreat Abwasserreinigung, Graz	Organisation of the congress „Optimierung von Kläranlagen durch innovative Membrantechnik“, St. Peter ob Judenburg	1998
Rotreat Abwasserreinigung, Graz	Organisation of the congress „1. österreichische kommunale Membrankläranlage“, Weiz	2002

client	Scope of activity	year
VTU Engineering, Graz	Consulting for process engineering and design of P&I Diagrams for DSM-Chemie, Linz	1998

8 Research Projects

client	Scope of activity	year
FFF & ÖKK, Land Steiermark	R&D project: optimization of Nitrate and Phosphorus removal for communal waste water treatment plants making use of membrane technology	1998
FFF & Stadtlabor Graz	Wastewater treatment for hybrid energy storage, energy supply and resource recovery – ARHES-B	2015
FFG & AEE Intec	Phase out of fossile gas for the manufacturing industry – Fossilfree4Industry - FFG-Nr.: 904652	2024-cont
FFG & SFG	R&D project: development of a novel membrane distillation process to recover valuable ingredients from waste water and biogas plants	2015
Government of Styria	R&D project: mechanical-biological waste treatment Hartberg	2000
IFA Tulln (co-ordinator)	Partner in EU Craft-Project „MESH - Integrated Wastewater Treatment Process using Mesh Filter Modules for Direct Activated Sludge Separation“	2006 - 09
Rotreat Abwasserreinigung, Graz	Collaboration FFG R+D project EnRecoTreat Application of membrane distillation for waste water treatment	2014
Rotreat Abwasserreinigung, Graz	Collaboration FFG R+D project GalvanoMD Application of membrane distillation in metal plating industry	2014
SFG Steir. ForschungsförderungsGes.	Application of membrane distillation for ammonia recovery in biogas plant – AMRE-MD	2014-16

9 Membership

- Chamber of Commerce, Styria
- Fachverband Biogas e.V., D
- Green Tech Valley - Styria
- Association of Certified Austrian Experts
- ÖWAV, Austria
- DWA, Germany