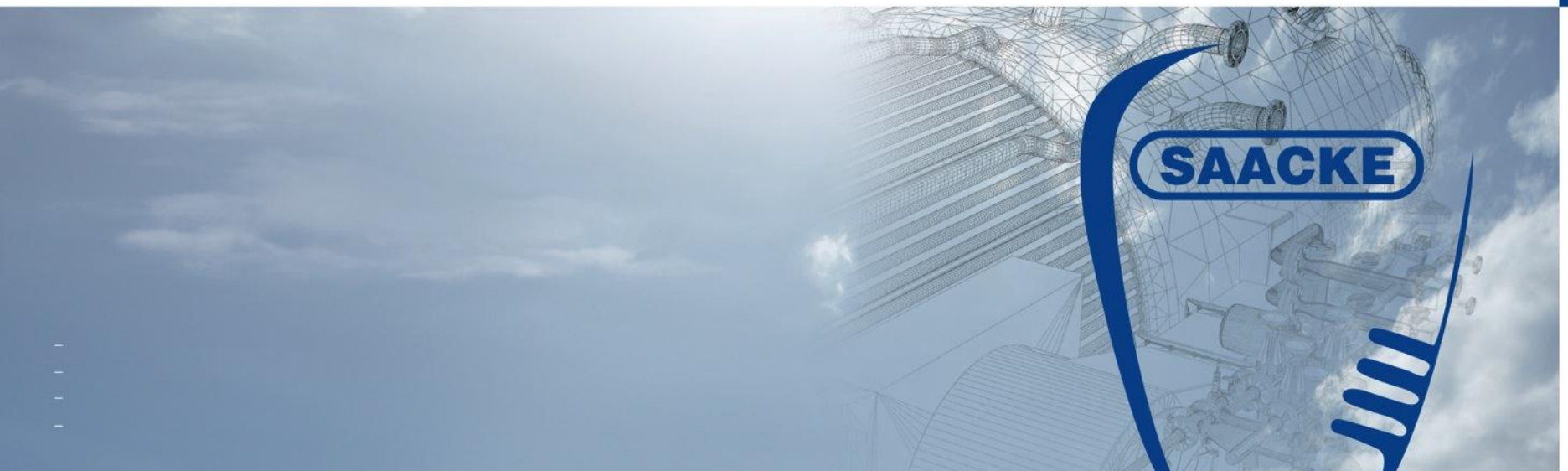




The international SAACKE Group Company Presentation





SAACKE GROUP a Family Company

- 1. **Generation** Carl Saacke, the founder (1931 – 1945)
- 2. **Generation** Dr. Herbert Saacke (1945 – 1964)
- 3. **Generation** Hans-Herbert Saacke (1964 – 2005)
- 4. **Generation** Henning Saacke, Angelika Saacke-Lumper

1931



Carl Saacke

1945



Dr. Herbert Saacke

1964



Hans-Herbert Saacke

today



Angelika Saacke-Lumper, Henning Saacke

SAACKE GROUP – Example developments

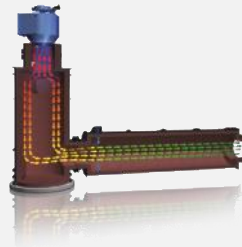
1934
Launch of SAACKE
rotary-cup atomizer technology



1979-1987

Launches of SKV monoblock rotary-cup atomizer series, external flue gas recirculation to reduce nitrogen oxides, SAACKE SKB carbon dust burners, gas turbine flue gas burners based on DDZ technology

1992
Launch of 2-stage
combustion technology



1999
SAACKE becomes a system
supplier for entire marine boiler
systems



2004
Commissioning of first furnace
gas combustion plant



2004
Launch of gas
combustion unit (GCU)



2008
Commissioning of the first combustion plant
for low-heat-value liquid fuels: molasses
incineration in Brazil



2011
Launch of se@vis
efficiency monitor





SAACKE – The Company

SAACKE GROUP HEADQUARTER

Bremen, Germany

WORLDWIDE REPRESENTED

In more than 50 countries

By subsidiaries

Distribution and service partners

Service centres

EMPLOYEES WORLDWIDE

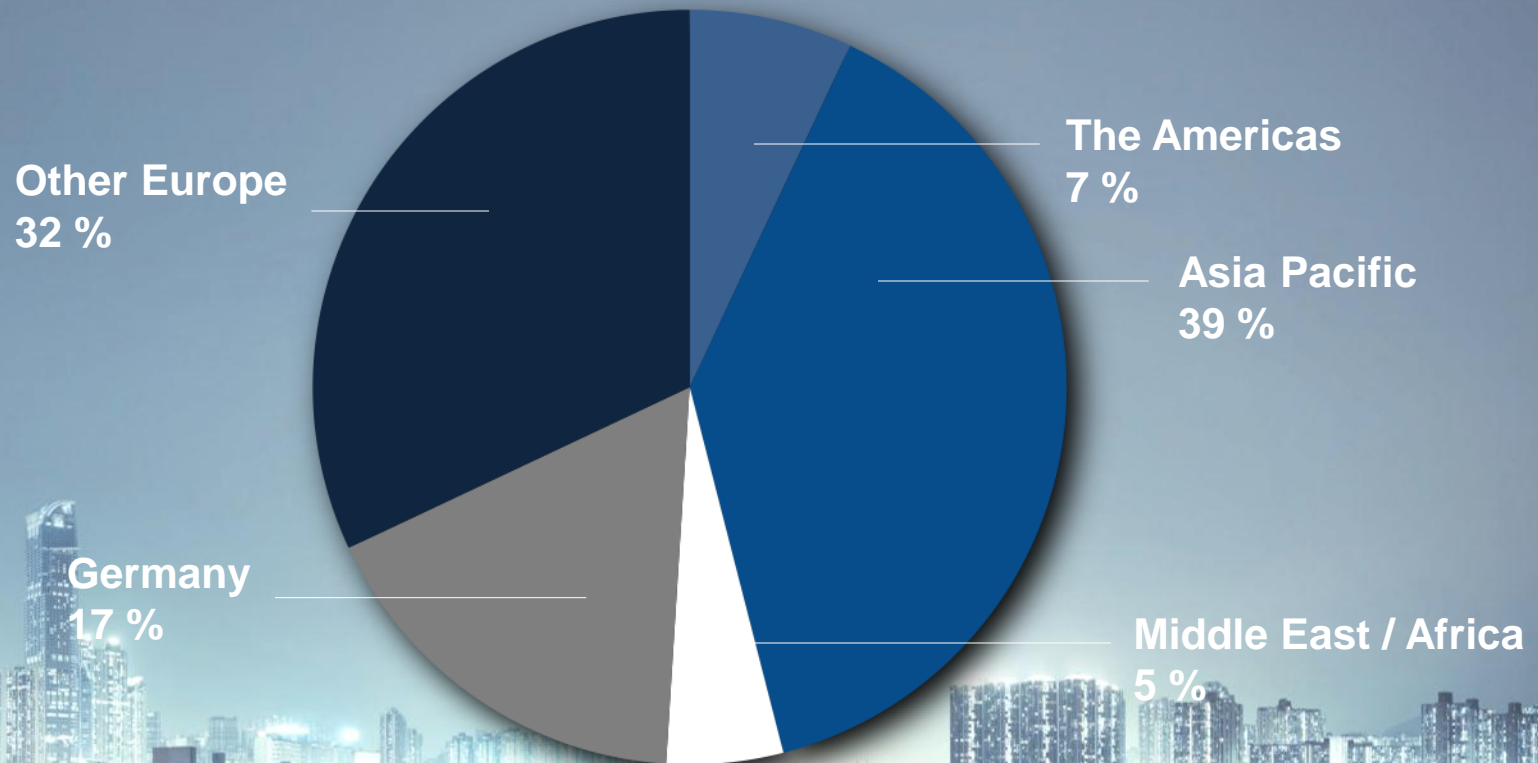
1,100

ENGINEERS

More than 300

SAACKE Group Turnover worldwide – 2011

Turnover of €184 million worldwide



SAACKE Group Companies, Subsidiaries Distribution and Service partners, Service centers



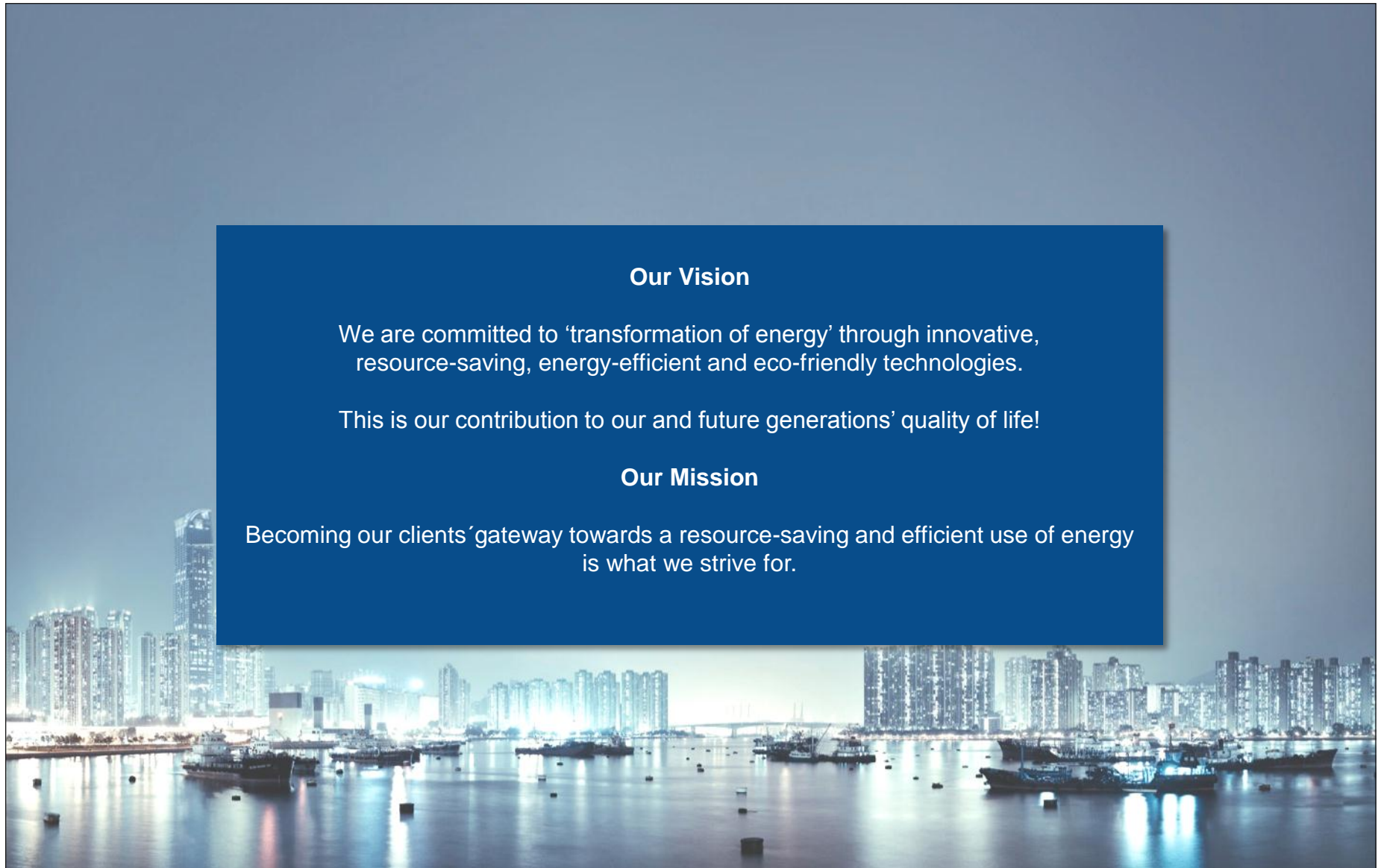
Our Vision

We are committed to 'transformation of energy' through innovative, resource-saving, energy-efficient and eco-friendly technologies.

This is our contribution to our and future generations' quality of life!

Our Mission

Becoming our clients' gateway towards a resource-saving and efficient use of energy is what we strive for.



SAACKE Group worldwide Applications Overview



Water-tube
boilers



Shell
boilers



Thermal
oil heaters



Drying
processes



Waste air
purification



Alternative
fuels



GTA additional
combustion
systems



Marine boiler
plants



Modernization
of plants



Plant
automation



Plant
construction
and
engineering

Industrial Sectors >>

Fuels >>

Modern low-NOx burners for almost every fuel

- Burners and firing plants for standard and special fuels
- For firing plants with minimum emissions
- Modernization of existing boiler plants
- Robust / long service life
- Fluctuating load conditions and capacity peaks



[Overview >>](#)

[Next Application >>](#)

SAACKE Group worldwide

Fuels Overview



Standard fuels



Low calorifique gases



Special gases



Low calorifique liquids



Special liquid fuels



Biofuels



Pulverized fuels

Applications >>

Industrial Sectors >>

Cornerstones of reliable and affordable heat supply

- Natural gas
- Liquefied gas
- Light oil
- Heavy oil



[Overview >>](#)

[Next Fuel >>](#)

Low heat value – great potential

- Lean gases: furnace gas, formalin gas, vent gas, corex gas and CO gas
- Steel production, chemical industry or in other processes
- Great challenges for firing systems



Overview >>

Next Fuel >>

Discovering alternatives and thermal utilization

In addition to the standard fuels there is also a series of liquid substances containing sufficient energy to make thermal utilization worthwhile

Animal fat, Canola oil, Soy oil, Palm oil/grease, Fish oil, Glycerin, Frying grease, Biodiesel, Sulfur, Silicon oil

Numerous unpurified by-products of the chemical industry such as biphenyl acetate (BPA), styrene and toluene



[Overview >>](#)

[Next Fuel >>](#)

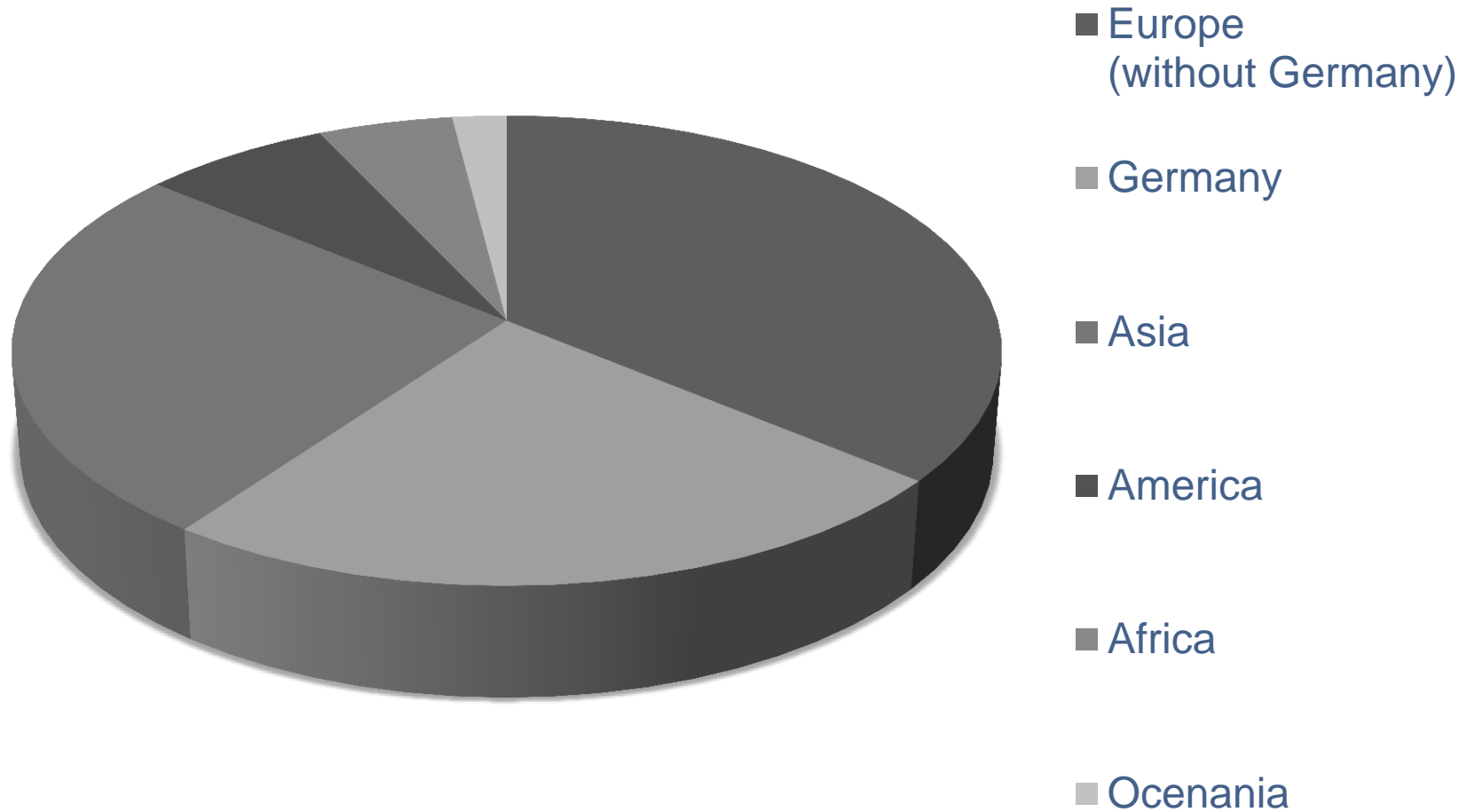
Energy from renewable raw materials

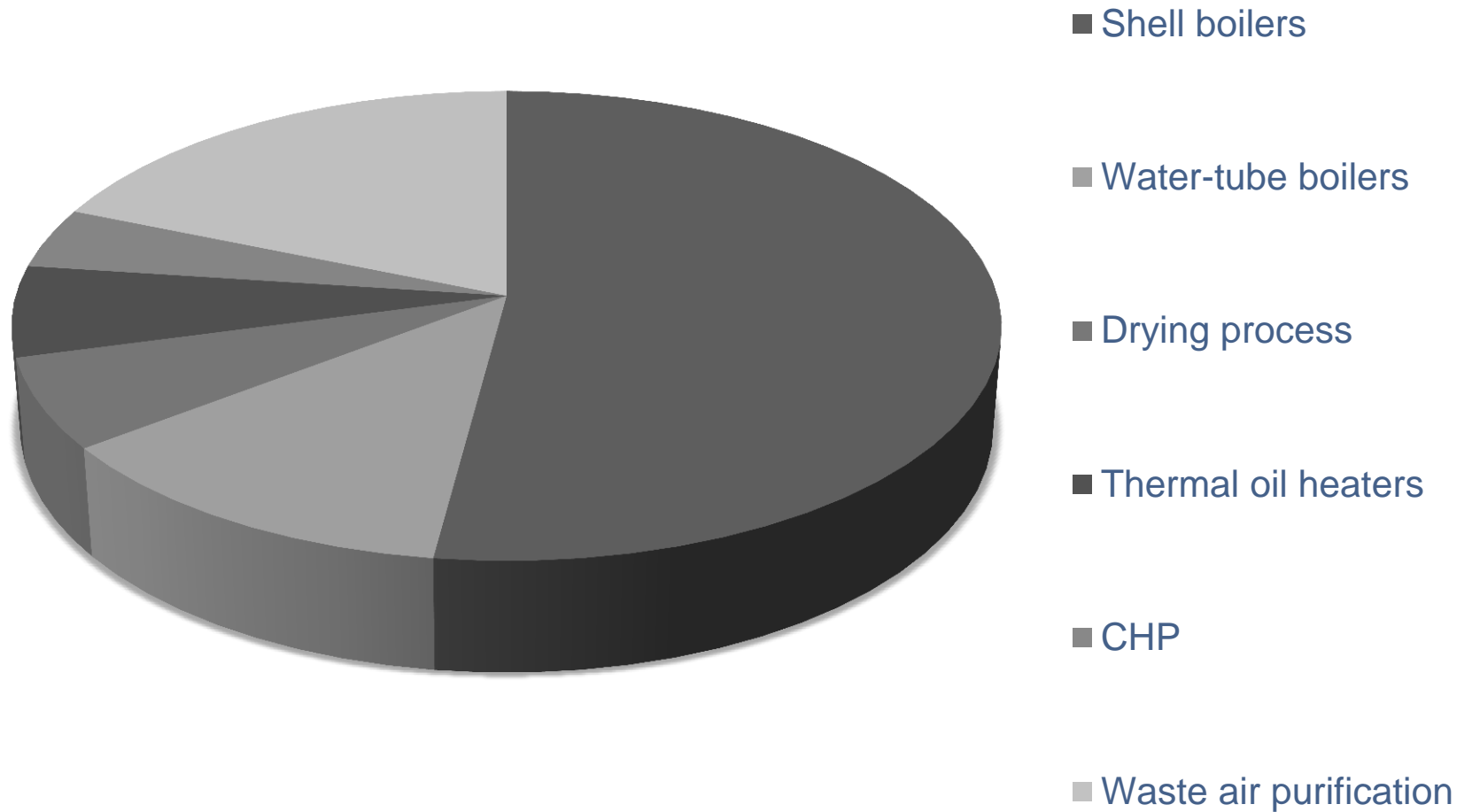
- Biogenic fuels are biological/organic in origin
- Typical biofuels include:
Canola oil, Soy oil, Palm oil, Biodiesel, Biogas, Bio natural gas, Sewer gas, Gas from biomass gasification, Wood dust
- high heat value of more than 15 MJ/kg (15 MJ/m³) and a CO₂ balance for combustion

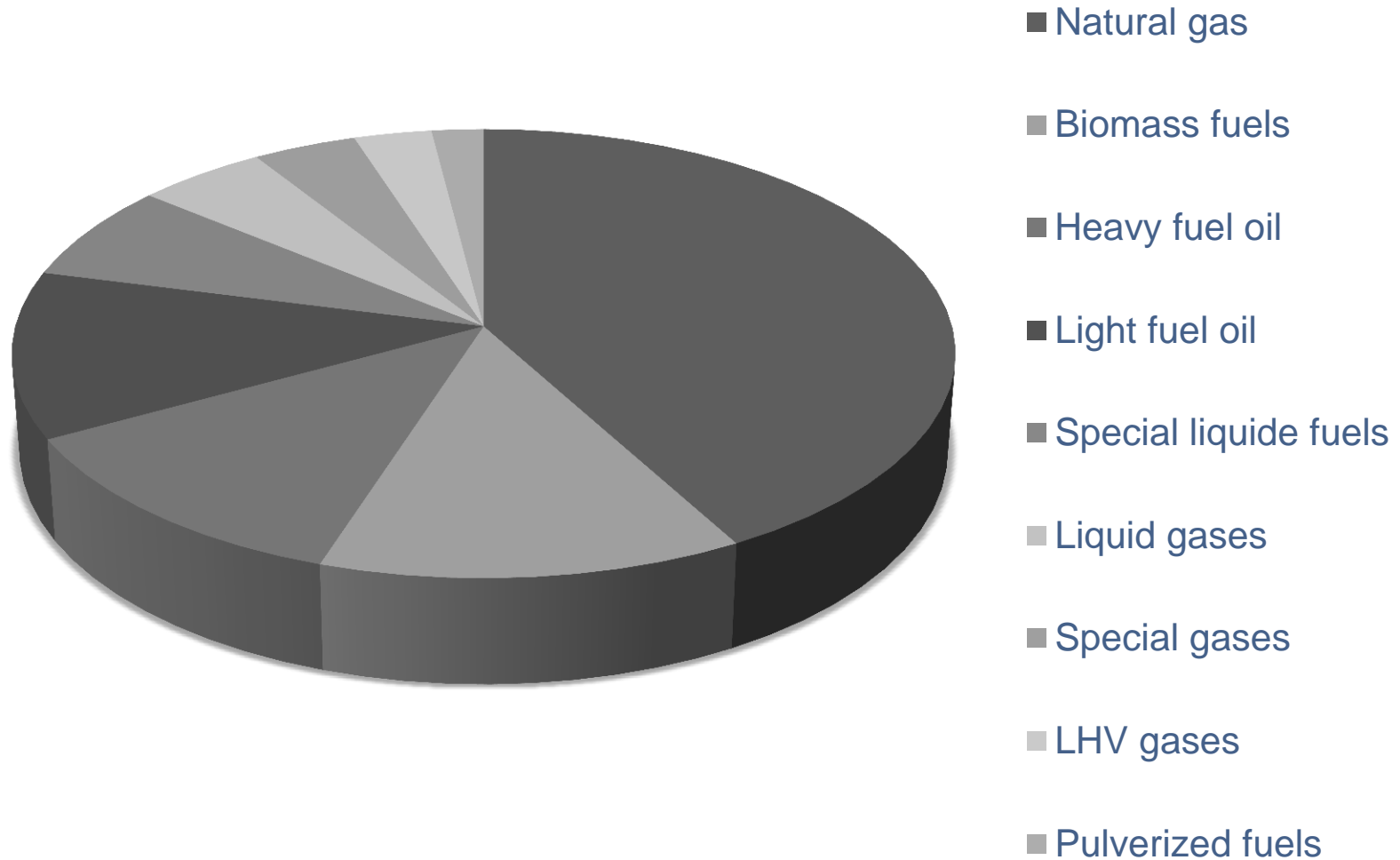


Overview >>

Next Fuel >>







Perfection for industry and the communal heat market

- Future-oriented combustion systems for boilers
- Cutting-edge technology for special process applications
- Burners -> Systems -> Plant engineering



[Overview >>](#)

[Next Area_>>](#)

ENERGY AND HEAT SUPPLIERS

Application fields

- Municipal utilities
- Power plants
- Heating plants
- District heating plants

Our customers



- Municipal utilities in Bremen, Düsseldorf, Erlangen, München, St. Pölten (A) et al.
- Power plants in Brunsbüttel, Philippsburg, Koeberg
- Nuclear Power Station (ZA)
- Heating plants in Mainz and Bamberg
- District heating plants Dresden Reick, Saarberg, Steag, Wien (A)
- BEW AG, EnBw, E.on, Vattenfall, RWE

[Overview >>](#)

[Next Area >>](#)

CHEMICALS

Application fields

- Paints
- Lacquers
- Pharmaceutical industry
- Fertiliser industry
- Soap industry
- etc.

Our customers



- BASF (RA)
- BAYER (RA)
- Dr. Madaus AG
- Knoll AG
- Merck Pharma
- Sandoz GmbH (AT)
- ANCAP (RDU)
- Degussa
- DSM (NL, CN)
- INEOS Taminco (B)
- Procter & Gamble (BE, MA, CN)
- ZTS Pustkow (PL)
- ADISSEO (FR)

[Overview >>](#)

[Next Area >>](#)

REFINERIES

- From modernization to turnkey plants
- from combustion chamber systems for CO boilers to low-emission plants for shared thermal use of multiple special fuels
- complete combustion of the CO gas so that it can be used thermally as steam in production

Our customers



- BP
- DEA Mineralöl AG
- Exxon Mobil (N)
- In-Salah Gas Refinery (DZ)
- Shell (RA)
- TOTAL
- Dow Chemical (NL, GB, D)
- Petrobras (RA)
- Petroquímica Cuyo (RA)

[Overview >>](#)

[Next Area >>](#)

FOODS

Application fields

- Breweries
- Distilleries
- Sugar and Beverage industry
- Milk processing plants
- Tobacco industry
- Fish and meat processing industry
- Animal feed industry

Our customers



- Amstel (NL),
- Backus & Johnston (PE)
- Bay. Staatsbrauerei Weihenstephan
- Brau Union Österreich AG (AT)
- Brauerei Beck & Co.
- Heineken (NL, ZA)
- Warsteiner Brauerei
- Conaprole (RDU)
- Nordmilch Zeven
- Südwestdeutsche Salzwerte AG
- Salzwerte AG
- Danisco (DK)
- Nord- AG
- Süd- AG and Westzucker AG
- ARLA Foods (RA)
- Bahlsen Snacks
- Cadbury-Stani (RA)
- DelMonte Fruit (ZA), Eckes
Granini GmbH, Haribo GmbH
- Nestlé (RA, ZA)
- IMASA (RA)
- Kraft Foods
- McCain (RA)
- Meica-Ammerländische
Fleischwaren-fabrik
- Saputo (RA)
- Unilever (World wide)
- Numerous Brandy and Whisky
production sites (ZA)
- Philip Morris GmbH

Overview >>

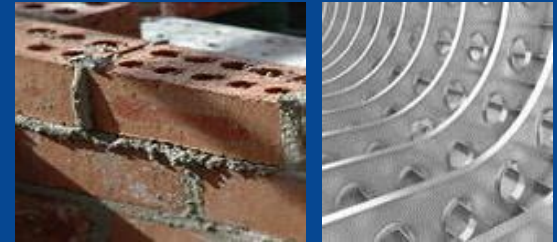
Next Area >>

BUILDING MATERIALS

Application fields

- Lime, sand-lime
- Brickworks
- Gypsum
- Tar
- Cement work

Our customers



- BPB Gypsum (ZA)
- Baustoffwerke Dummersheim
- Gipswerk Embsen GmbH & Co.
- Dolomitwerke GmbH
- Kalksandsteinwerk Amberg et al.
- Knauf (D, DK, UK, RA)
- Heidelberger Zement AG
- Portland Zement Werk
- Rigips GmbH
- Ytong GmbH & Co.

[Overview >>](#)

[Next Area >>](#)

SSB-LCG series combusts lean gases cleanly and efficiently

- Burners for coke gas, converter gas, corex gas, furnace gas, etc.
- Combustion plants that use gases with low heat values
- Combustion plants for auxiliary and secondary boilers
- Hot gas generators for drying
- Combustion systems for heating defrosting halls

Our customers



- Arcelor/Mittal
- Hydro Aluminium
- Thyssen Krupp
- Xstrata (ZA)
- Various steel and aluminium works in China

[Overview >>](#)

[Next Area >>](#)

WASTE INCINERATION

Application fields

- Waste incineration plants
- Animal waste processing plants etc.

Our customers



- More than 170 waste incineration plants worldwide, thereof 57 in France and 10 in China
- MHKW Bremerhaven, Pirmasens, Ulm et al.
- Fleischmehlfabrik Jagel
- Rotenburger Tierfrischmehle Fuchs
- TBA Berndt
- TBA Rivenich
- TBA Walsdorf

[Overview >>](#)

[Next Area >>](#)

WOOD PROCESSING

- SAACKE delivers both individual burners as well as complete turnkey plants for the wood processing industry
- Low-emission combustion of wood dust with the SSB-D series of swirl burners
- Pressure-surge-protected dust dosing plants for ATEX zones

Our customers



- sawmills
- furniture industries

[Overview >>](#)

- The only worldwide marine service network
- Assembly
- Commissioning
- Maintenance service
- 24-hour hotline
- Plant advice on energy efficiency,
- modernization, upgrade
- Training in Bremen and at customer location



SAACKE SERVICE

INDUSTRIAL SOLUTIONS Service-Portfolio



Installation



Consulting engineering
Plant consultation



Commissioning



Training



Inspection
Maintenance
Repair



24-hour Hotline



Spare parts

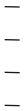


Service worldwide





SAACKE Product Portfolio



PRODUCTS



THE SIGN OF RESPONSIBLE ENERGY USE



CONTENT

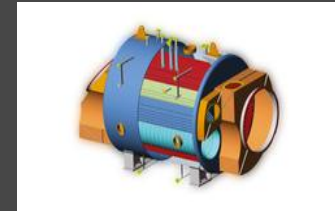
- Overview
- SIS-Burners
- SIS-Combustion chambers / hot gas generators
- SIS-Burner control systems
- SIS-Modernization modules
- Marine-Boilers
- Marine-Burners
- Marine-Scrubber
- Marine-Gas Combustion Unit



Burners



Combustion
chambers /
hot gas
generators



Marine boilers



Marine burners



GCU series
Gas Combustion
Unit



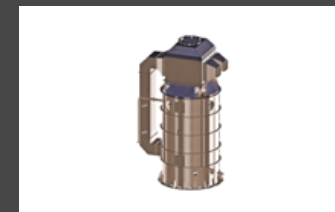
Burner control
systems



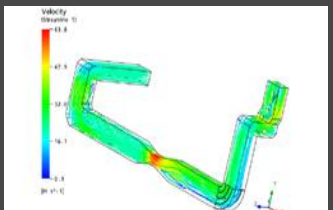
SEE
modernization
modules




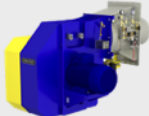
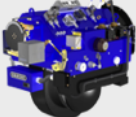

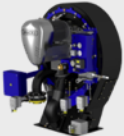
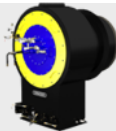
Fuel supply



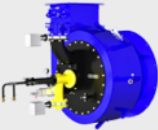
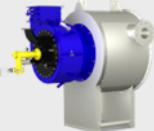


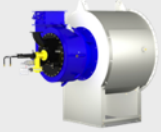




Exhaust Gas
Cleaning



Combustion
air supply
system

Burners	Product	Capacity Range	Fuel	Applications
	EUROTHERM	1 – 5 MW	Light oil, natural gas, liquefied gas	Almost all heat generators, compact process firing systems
	TEMINOX GLS	4 – 25 MW	Light oil, natural gas, liquefied gas, biogas and other special fuels	Shell boilers, water-tube boilers and thermal oil boilers with various geometries. Asphalt mixing plants and process plants
	SKVJ-M	1 – 6.5 MW	Heavy oil, bio oil and other high-viscosity liquids	Marine, flame tube and thermal oil boilers
	SKVG	1 – 55 MW	Standard fuels and virtually all gaseous and liquid special fuels	On ships and on land, both in standard and process applications
	SKVG-A	4 – 17.5 MW	Gas, light oil, heavy oil and bio oil	All commonly used heat generators and furnace geometries
	DDZG Steam pressure atomizers	10 – 80 MW	Light oil, heavy oil, gases (including special gases and process gases)	Water-tube boilers and thermal oil boilers with various geometries. Gas turbine flue gas burners in power plants, waste incineration plants

Burners	Product	Capacity Range	Fuel	Applications
	TF-DDZG	10 – 50 MW	Heavy oil, natural gas, light oil as well as gaseous and liquid special fuels	Water-tube boilers, thermal oil boilers and process plants of varying geometry
	Burners for gas turbine flue gas DDZG GT / GTA lance burners in register design	Heat capacity: 1 – 126.8 MW	Natural gas, biogas, special gases, fuel oil EL, fuel oil S, liquid special fuels	Waste heat and water-tube boilers, insulated combustion chambers with downstream flue gas heat exchangers, heating turbine flue gases in power plants, drying plants, heating process air
	Burners for gas turbine flue gas DDZG A / Lance burner with axial flow for installation in GTA channels	Heat capacity: 1 – 126.8 MW Flue gas mass flow: 4 – 100 kg/s	Natural gas, bio gas, special gases, fuel oil EL, fuel oil S, liquid special fuels	Waste heat and water-tube boilers, insulated combustion chambers with downstream flue gas heat exchangers, heating turbine flue gases in power plants, drying plants, heating process air
	GDG surface burners	Heat capacity: 1 – 50 MW	Natural gas, biogas, special gas	Waste heat and water-tube boilers, insulated combustion chambers with downstream flue gas heat exchangers, heating turbine flue gases in power plants, drying plants, heating process air
	SSB	1.5 – 90 MW	All liquid and gaseous fuels	Suitable for water-tube boilers, thermal oil boilers and combustion chambers in all mounting positions
	SSB-LCG	2 – 100 MW	Combusts gases with extremely low heat values from 2.5 MJ / m³ on without a support fuel	Suitable for all heat generators

Burners	Product	Capacity Range	Fuel	Applications
	SSB-LCL	2 – 50 MW	Liquids with extremely low heat values	Suitable for water-tube boilers, thermal oil boilers and hot gas generators
	SSB-D		For dust with a particle size < 0.5 mm and a heat value of 10 - 30 MJ/kg	Suitable for hot gas generators and water-tube boilers
Combustion chambers / hot gas generators				
	CCS-HT Combustion chambers for high-temperature applications	1 – 56 MW	Suitable for all standard fuels, low calorific liquids and gases as well as numerous of dusty fuels	For drying, calcination as well as heating and recovery of process gases
	CCS-LT Hot gas generators for low-temperature applications	2 – 90 MW	Suitable for fuel gases and fuel oil LFO according DIN 51603-1 and equivalent liquid fuels	For generating hot gas and disposing of gas and flue gas
Burner control systems				
	se@vis eco se@vis compact se@vis pro	Reliable, affordable burner control systems for all burners on land and sea		



WE ARE AS INTERNATIONAL AS OUR CUSTOMERS



Global and local

With service stations in more than 20 countries around the world, more than 70 international agents and a range of service centers in all of the key ports, we can be found wherever our customers need us.



Thank You for Your Attention.

