

UHDE AT A GLANCE 2009





WELCOME

With more than 2,000 plants to its credit, Uhde is one of the world's leading engineering companies in the design and construction of chemical, refining and other industrial plants.

We have subsidiaries and associates in all four corners of the globe. This world-wide network with over 4,900 employees is active in a number of different fields: fertilisers, electrolysis, gas technologies, oil, coal and residue gasification, refining technologies, organic intermediates, polymers and synthetic fibres as well as coke plant and high-pressure technologies. We offer our customers not only cost-effective high-tech solutions in industrial plant construction and the entire range of services associated with an EPC contractor but also comprehensive service packages for the entire life cycle of their plants.



Uhde GmbH, Dortmund, Germany, Head Office

CONTENTS

Welcome	— 02 / 03
High-tech engineering. Worldwide. Customised.	— 04 / 05
Range of services	— 06 / 07
Technologies	— 08 / 09
Uhde locations worldwide	— 10 / 11

HIGH-TECH ENGINEERING. WORLDWIDE. CUSTOMISED.

In the international plant construction industry, it is essential for companies to provide first-class processes which guarantee industrial plant operators an optimum in quality and operational economy. Not only does Uhde promise to meet these demands, we also orientate our strategy towards expanding our presence on international markets and to adopting innovative new processes to boost our existing technology portfolio.

ORGANISATION OF THYSSENKRUPP AG

Steel	Stainless	Technologies	Elevator	Services
		PLANT TECHNOLOGY		
		Uhde GmbH		
Steel		Capital goods	Services	

ORGANISATION OF UHDE GROUP

Business segments / Product divisions

Ammonia & Urea	Electrolysis	Refining technologies	Coke plant technologies
Hydrogen & Nitrates	Organic chemicals / Polymers	Gas technologies	Global Contracting / Biofuels

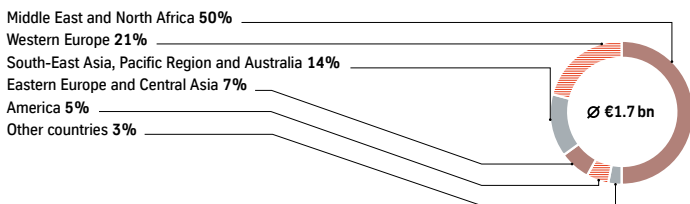
Subsidiaries and associates

Uhde India Mumbai, India	Uhde Fertilizer Technology Roermond, The Netherlands	Uhde Eng. Consulting Shanghai, PR China	Uhde Edeleanu Brno, Czech Republic
Uhde Johannesburg, South Africa	UHDENORA Milan, Italy	Uhde Engineering de México Mexico City, Mexico	Uhde Shedden Melbourne, Australia Bangkok, Thailand
Uhde Engineering Egypt Cairo, Egypt	Uhde Corp. of America Pittsburgh, PA, USA	Uhde Services Haltern, Germany	Uhde High Pressure Technologies Hagen, Germany
	ooo Uhde Dzerzhinsk, Russia	Uhde Inventa - Fischer Berlin, Germany Domat / Ems, Switzerland	

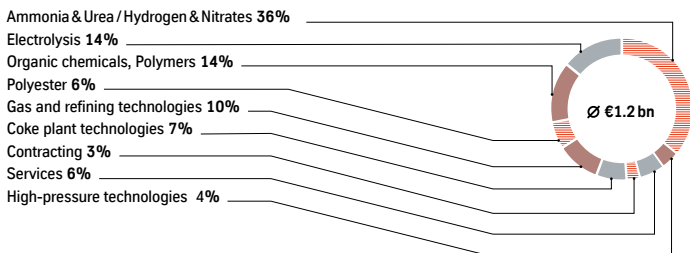
Sales and Project Execution Offices

Russia, Moscow	PR China, Beijing	UAE, Abu Dhabi	Vietnam, Hanoi	Canada, Calgary
-----------------------	--------------------------	-----------------------	-----------------------	------------------------

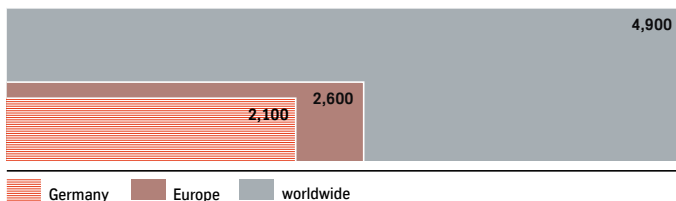
Ø ORDER INTAKE OF THE UHDE GROUP 2003/2004 – 2007/2008 acc. to plant location in %



Ø NET SALES OF THE UHDE GROUP 2007/2008 acc. to product group in %



WORKFORCE 2007/2008 including all subsidiaries and associates



RANGE OF SERVICES

Uhde provides its customers with the full range of services involved in the construction of industrial plants: from market studies to product marketing.

MARKET STUDY

We provide a full feasibility analysis – from infrastructure to finished products



ENGINEERING

We provide innovative engineering solutions – backed by experience and the most modern tools



FINANCING

We find the best financing solutions for your project – tailor-made and international



INTERNATIONAL PROCUREMENT

We undertake procurement services on a global scale – independently and at low cost



COMMISSIONING AND TECHNICAL ASSISTANCE

We ensure a perfect start – for commissioning and beyond



PROJECT MANAGEMENT

We coordinate the work in progress – efficiently and on time



CIVIL WORKS AND ERECTION

We turn your ideas into reality – on a turnkey basis



TECHNOLOGIES



AMMONIA & UREA

Synthesis gas generation

Steam reforming
Autothermal reforming
Combined autothermal reforming (CAR[®])

Synthesis gas products

Ammonia

Nitrogenous fertilisers

Urea



HYDROGEN & NITRATES

Synthesis gas generation

Steam reforming
Autothermal reforming
Combined autothermal reforming (CAR[®])

Synthesis gas products

Methanol
Hydrogen
Carbon monoxide
Oxo synthesis gas

Mineral acids

Nitric acid
N₂O/NO_x abatement (EnviNOx[®])
Phosphoric acid

Nitrogenous fertilisers

Ammonium nitrate /
CAN, UAN

Compound fertilisers

DAP, NP, NPK



ELECTROLYSIS

Electrolysis

Chlor-alkali electrolysis
HCl electrolysis
Chlorate electrolysis

Bleaching chemicals / Others

Chlorine dioxide (ClO₂)
Ferric chloride (FeCl₃)



ORGANIC CHEMICALS / POLYMERS

Organic chemicals

Ethylene dichloride (EDC)
Vinyl chloride (VCM)
Vinyl acetate monomer (VAM)
Ethylene oxide
Ethylene glycol
Oxo alcohols
Propylene oxide

Polypropylene

Homopolymers
Copolymers

Polyethylene

HDPE
LDPE
LLDPE
Copolymers

Polyvinyl chloride

S-PVC

Others

Styrene plastics
(ABS, EPS, GPPS/HIPS)
Carboxymethylcellulose (CMC)
Engineering plastics



REFINING TECHNOLOGIES

Oil refining

Crude oil processing
Atmospheric distillation
Vacuum distillation

Catalytic processing

Hydrotreating,
hydrodesulphurisation,
hydrocracking
Catalytic reforming
Fluid catalytic cracking
(FCC)
Isomerisation
Alkylation, dimerisation

Ethers

Methyl/ ethyl tertiary
butyl ether (MTBE, ETBE)
Selective hydrogenation
Oxygenate removal
Tertiary amyl methyl
ether (TAME)
Dimethyl ether (DME)

Other processes and offsites

Gas-to-liquids
(product upgrading)
Hydrogen / synthesis gas
Gas / LPG separation
Thermal cracking
Visbreaking
Bitumen and asphalt
Offsite facilities

Lube oil, waxes and white oil

Solvent extraction
Propane deasphalting
Solvent dewaxing
Wax deoiling
Lube oil hydrofinishing
Lube oil hydrocracking
Wax hydroisomerisation
Catalytic dewaxing
Wax / white oil
hydrogenation
Lube oil blending

Aromatics and derivatives

Extractive distillation
(BTX) using the
Morphylane[®] process
Reformate hydrogenation
Pyrolysis gasoline
hydrogenation
Coke-oven light oil
hydrorefining
Catalytic reforming
Xylene isomerisation
Disproportionation
Toluene dealkylation
Divided wall column
fractionation
Styrene extraction

Olefins and solvents

Alcohols
Isopropanol (IPA)
Secondary butanol (SBA)
Ketones
Methyl isobutyl ketone
(MIBK)
Methyl ethyl ketone (MEK)
Dimethyl ketone (DMK)
C₄ olefins
Butene concentration
(Butenex[®], Molsieve)

GAS TECHNOLOGIES

Gasification

Coal / petcoke
gasification (PRENFLO[™])
Oil / residue gasification
Biomass gasification
Partial oxidation

Synthesis gas applications

Gas treatment for
synthesis gas, hydrogen
Sulphur recovery
Coal-to-liquids
(methanol-to-gasoline,
Fischer-Tropsch)
Ammonia, methanol

Olefins

Propane
dehydrogenation
Butane dehydrogenation
(STAR process[®])

COKE PLANT TECHNOLOGIES

Coke oven batteries

Gas treatment plants

Coke quenching facilities

Coal / coke handling

Heat-recovery coke plants

Emission control systems

UHDE LOCATIONS WORLDWIDE



WESTERN EUROPE

01 — Uhde GmbH
Dortmund, Germany

02 — Uhde GmbH
Bad Soden/Taunus,
Germany

03 — Uhde GmbH
Ennigerloh, Germany

04 — Uhde High
Pressure Technologies
GmbH
Hagen, Germany

05 — Uhde
Services GmbH
Haltern, Germany

06 — Uhde GmbH
Leipzig, Germany

07 — Uhde
Inventa-Fischer GmbH
Berlin, Germany

08 — Uhde
Inventa-Fischer AG
Domat/Ems, Switzerland

09 — Uhde
Fertilizer Technology B.v.
Roermond,
The Netherlands

10 — UHDENORA S.p.A.
Milan, Italy

AMERICA

11 — Uhde Engineering
de México s.A. de c.v.
Mexico City, Mexico

12 — Uhde
Corporation of America
Bridgeville (Pittsburgh),
PA, USA

13 — Uhde
Corporation –
Canada Office
Calgary, Canada

CENTRAL AND EASTERN EUROPE

14 — ooo Uhde
Dzerzhinsk, Russia

15 — ooo Uhde
Branch Office Moscow
Moscow, Russia

16 — Uhde
Edeleanu s.r.o.
Brno, Czech Republic



**MORE INFORMATION ON OUR WORLDWIDE
LOCATIONS CAN BE FOUND AT**

www.uhde.eu

**CENTRAL AND
SOUTHERN AFRICA**

17 — Uhde, A Division
of ThyssenKrupp
Engineering (Pty.) Ltd.
Sunninghill
(Johannesburg),
South Africa

**MIDDLE EAST AND
NORTH AFRICA**

18 — Uhde Engineering
Egypt Co. s.a.e.
Cairo, Egypt

19 — Uhde Arabia Ltd.
Al Khobar, Saudi Arabia

20 — Uhde GmbH
Abu Dhabi
Abu Dhabi, UAE

**SOUTH-EAST ASIA, PACIFIC REGION
AND AUSTRALIA**

21 — Uhde
India Private Ltd.
Mumbai, Pune, India

22 — Uhde Beijing
Representative Office
Beijing, PR China

23 — Uhde Engineering
Consulting (Shanghai)
Co. Ltd.
Shanghai, PR China

24 — Uhde Rep.
c/o ThyssenKrupp ag
Rep. Office
Hanoi, Vietnam

25 — Uhde Shedden
(Australia) Pty. Ltd.
Melbourne, Australia

26 — Uhde Shedden
(Thailand) Ltd.
Bangkok, Thailand

Uhde GmbH
Friedrich-Uhde-Str. 15
44141 Dortmund, Germany
www.uhde.eu