

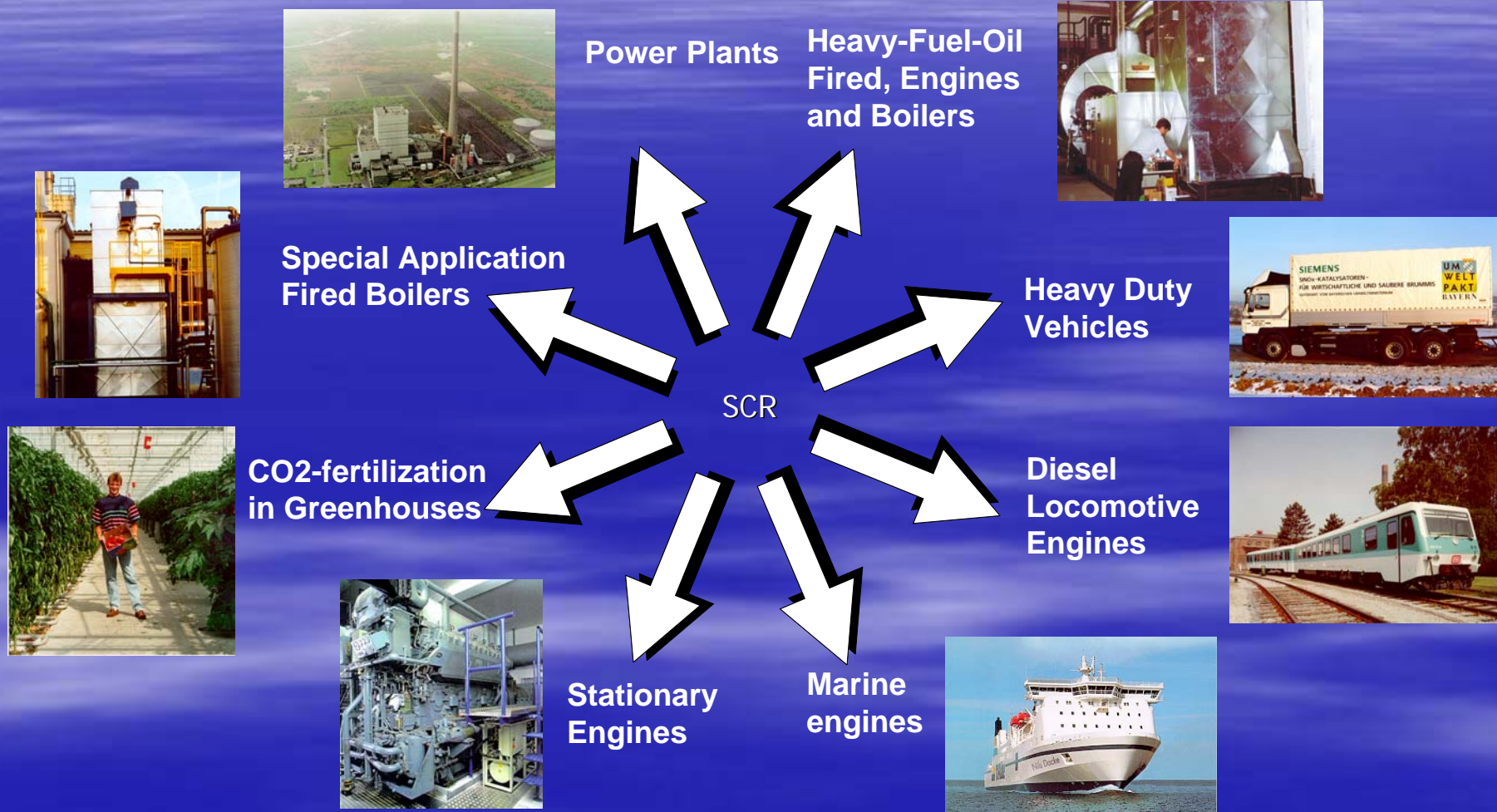
# TÄUBLER OY

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# TÄUBLER OY

- ✓ Perustettu vuonna 1990
- ✓ Itsenäinen suomalainen yritys
- ✓ Myy ja markkinoi edustamia tuotteita;
  - ✓ SIEMENS
  - ✓ H+H Umwelt- und Industrietechnik GmbH  
SCR - Katalysaattorijärjestelmät < 50MW
  - ✓ FISIA BABCOCK ENVIRONMENT > 50MW
- ✓ Palvelee asiakkaitaan ammattitaidolla ja kokemuksella
- ✓ Yli 30-vuoden tuntemus SIEMENS, H+H Umwelt- und Industrietechnik GmbH ja FISIA BABCOCK ENVIRONMENT tuotteista, palveluista ja järjestelmistä

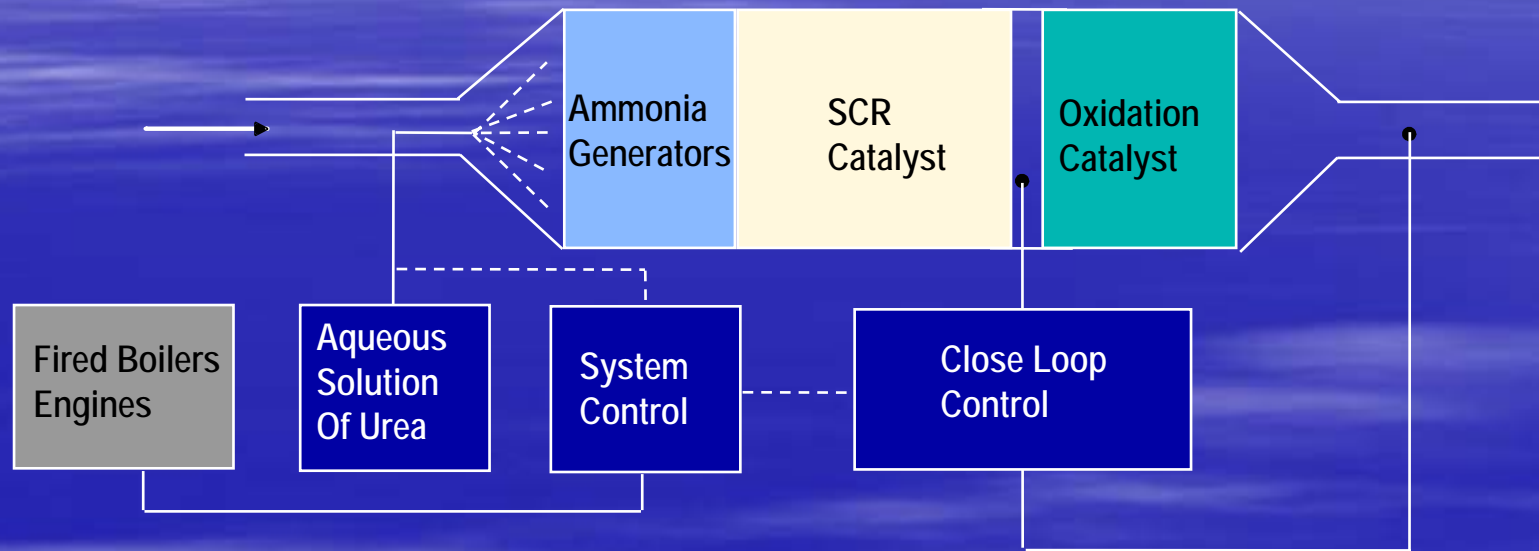
# SCR-Sovellutuskohteita



# SCR-Ympäristöpäästöjen Puhdistusjärjestelmä

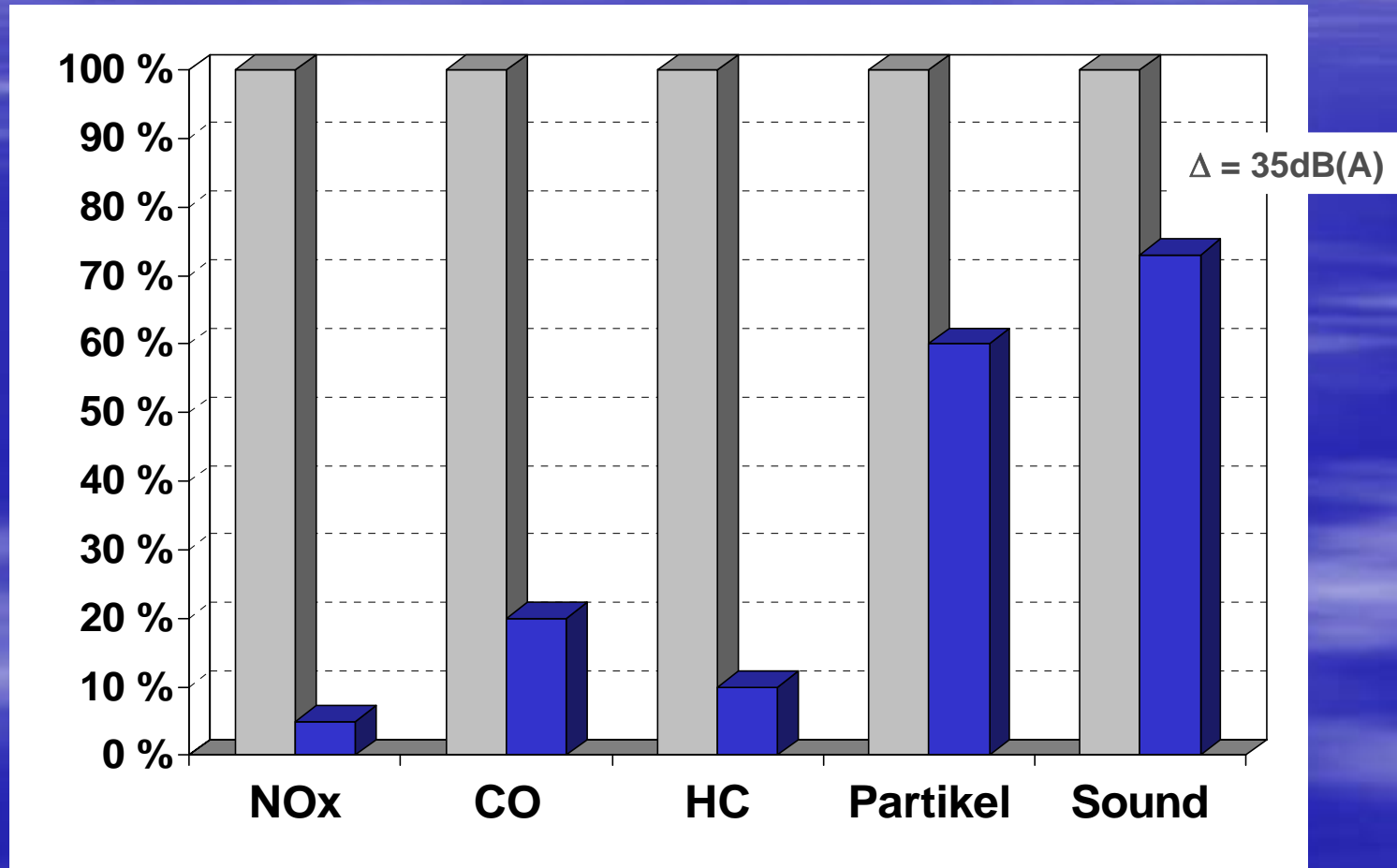
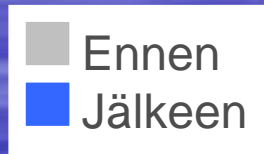
Catalysts and Systems									
Application Catalyst-Type	Fossil Power Plant	Incineration Plant	Combined Cycle power Plant	Industrial Boilers	Industrial Processes	Cogeneration Plant, Generator Sets	Diesel Ship Engine	Diesel Locomotive Engine	Automotive Application
Plate-Type Catalyst	SCR	SCR	SCR	SCR	SCR	SCR			
Honey-comb Catalyst	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR
		Diox			Diox				
		OxCat	OxCat	OxCat	OxCat	OxCat	OxCat	OxCat	
Pellets					OxCat				

# SCR-Ympäristöpäästöjen Puhdistusjärjestelmä



Ammonia Generator	CO(NH <sub>2</sub> ) <sub>2</sub>	H <sub>2</sub> O	NH <sub>3</sub>
SCR Catalyst	NOx	O <sub>2</sub> , NH <sub>3</sub>	N <sub>2</sub>
Oxidation Catalyst	CO	O <sub>2</sub>	CO <sub>2</sub>
	HC	O <sub>2</sub>	CO <sub>2</sub>

# Päästöjen suodatusarvot käytettäessä SCR-katalysaattoria



# Waste Incineration

## MVA Hagen, Germany

### Operator HEB GmbH



SCR first start-up: 1996

Reduction efficiency > 88 % (NO<sub>x</sub>)  
> 98 % (PCCD/PCDF)

Ammonia slip < 1.3 ppmvd

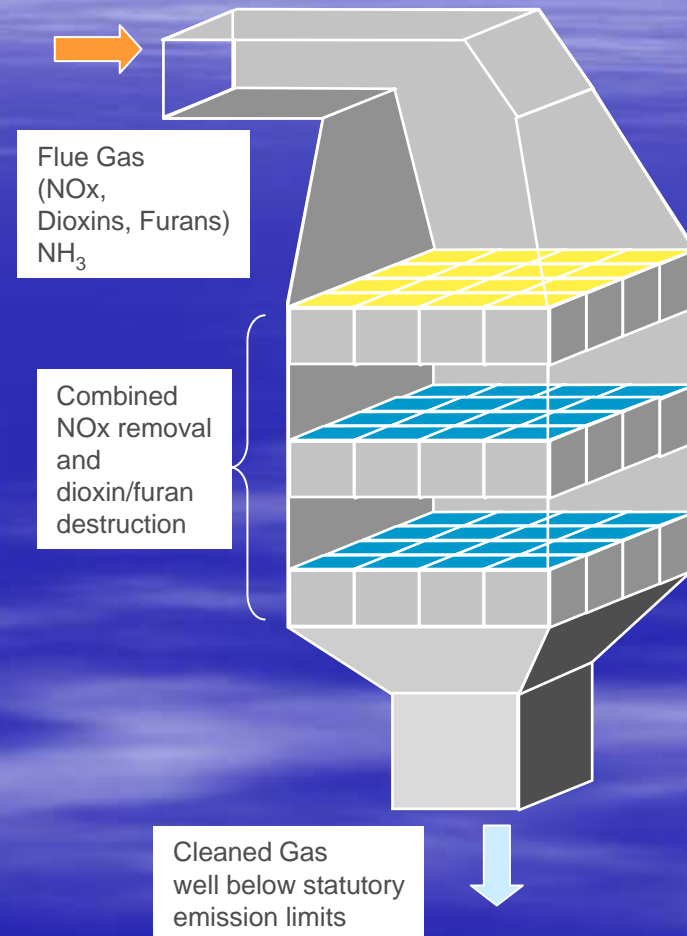
# SCR Jätevoimaloille

Combusted gases from waste incineration plants contain poisonous dioxins and nitrogen oxides.

We manufacture catalysts to reduce NOx as well as catalysts optimized to destroy dioxins and furans.

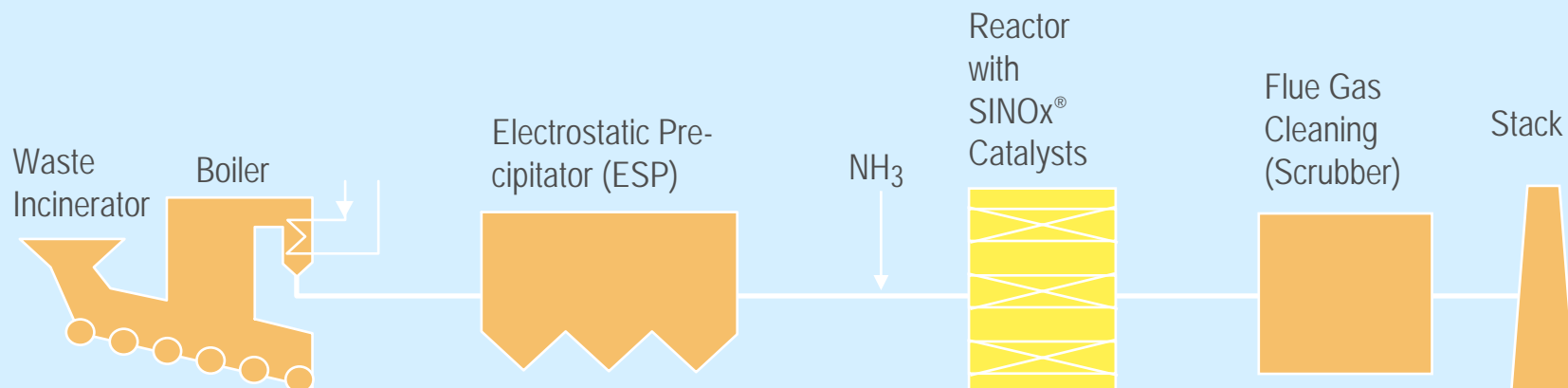
Both flue gas cleaning processes can be economically combined in the same reactor.

Typical operating temperature ranges:  
170°C - 300°C (335°F - 570°F)





# DeNOx on the "hot side," (SCR downstream ESP):

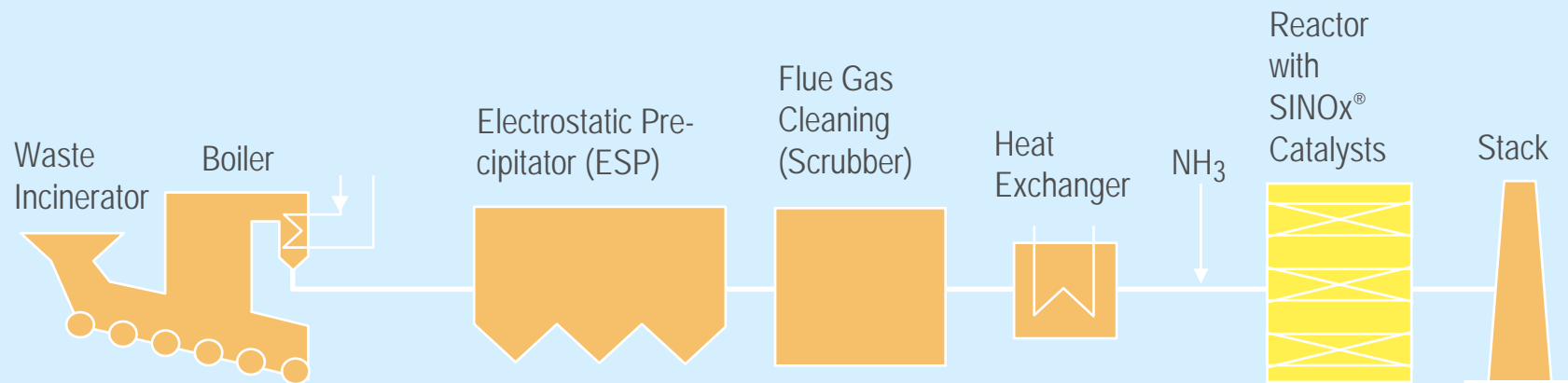


The flue gas from the boiler undergoes particulate dust removal with an ESP before

The advantage is an energy-saving process because the need for reheating is eliminated. The flue gas temperature is sufficient for the catalytic reduction.

We have gained significant positive experience with this configuration since 1998.





# DeNOx on the "cold side, (Tail End Arrangement):



The catalyst is placed at the very end of the flue gas cleaning equipment, after the ESP and flue gas scrubber. The flue gas has to be reheated to the proper catalyst operating temperature.

The advantage of this configuration is an extended lifetime and reduced volume of catalyst since the scrubbed flue gas at this point has few particulates.

# SCR References

SCR-products	Applications	References	Since
Plate and Honeycomb Catalysts	Coal, Oil and Gas Fired Boilers  	> 170	1987
	Waste Incineration Plants 	> 70	1992
	Gas Turbines 	> 20	1997
Complete Exhaust Gas Cleaning Systems	Stationary Diesel and Gas Engines	> 180	1992
	Marine Applications	> 60	1995