

ENGINEERING THE ENERGY TRANSITION

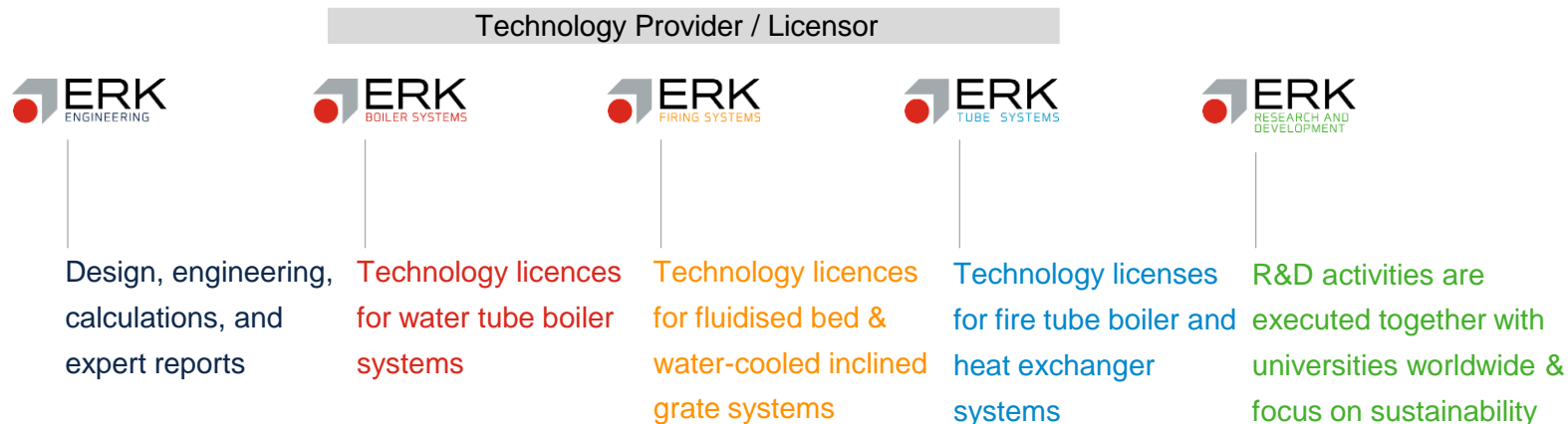
A close-up, high-speed photograph of water splashing into a pool of red liquid. The water is captured mid-fall, creating a vertical column of droplets. The red liquid below is turbulent and filled with white foam and bubbles. The background is dark and out of focus.

Introduction to biomass power plants

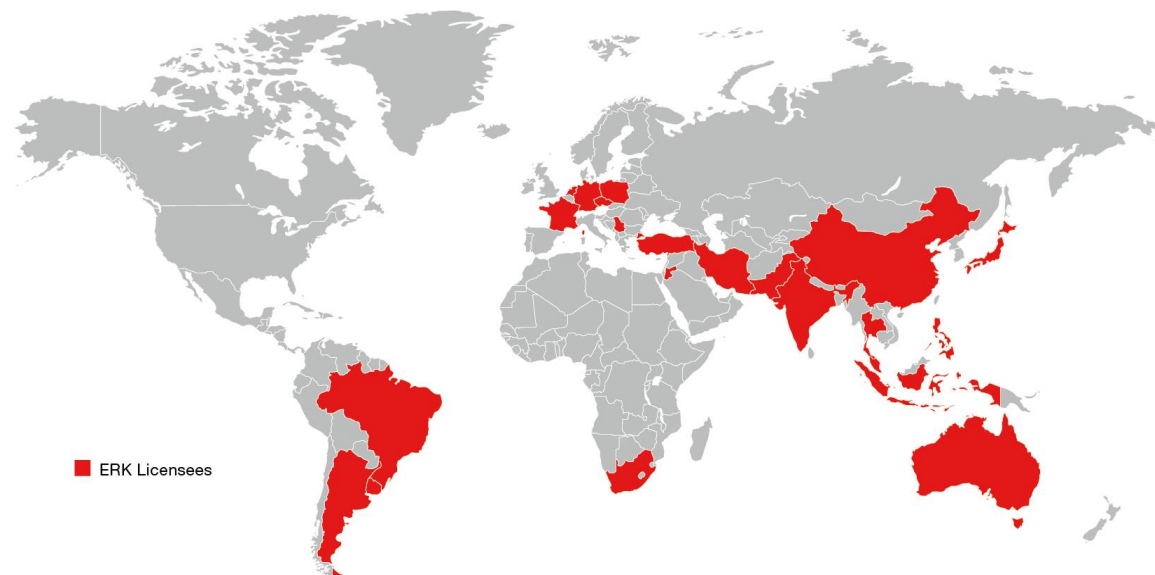
June 2018, Dr. Verena Streitferdt

COMPANY STRUCTURE

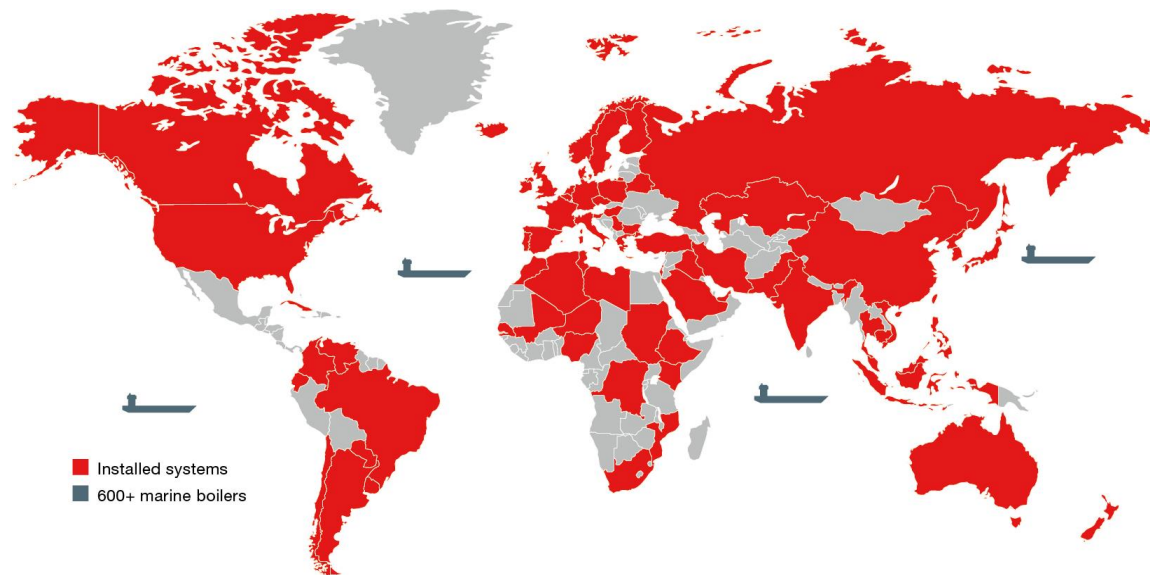
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ERK LICENSEES WORLDWIDE



6000+ INSTALLED REFERENCES WORLDWIDE

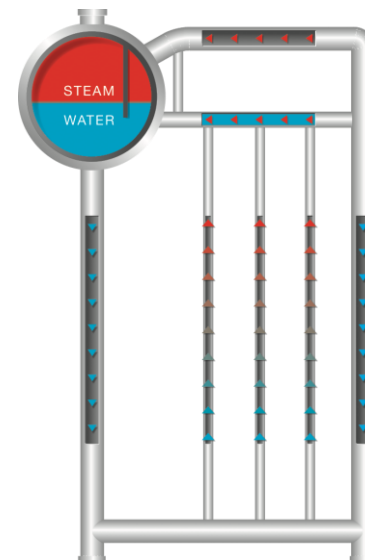


TECHNICAL CONCEPT OF THE ERK BOILER

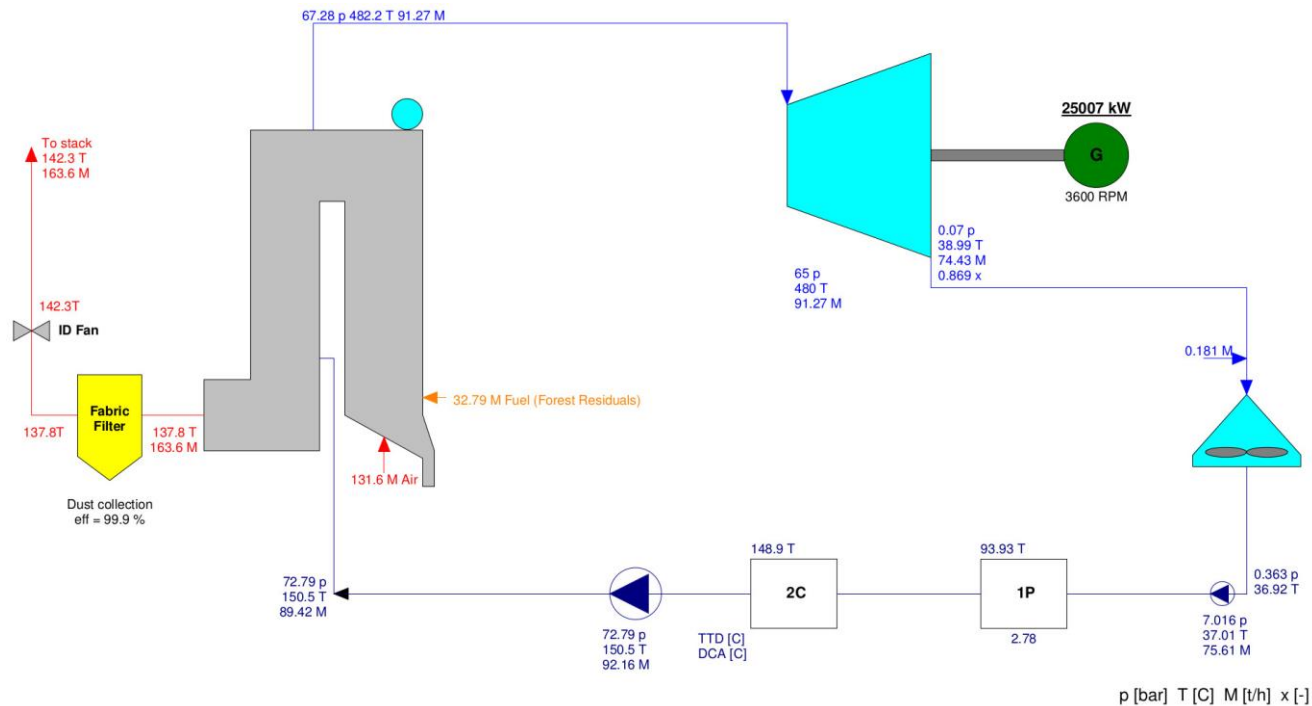
- Eckrohr industrial boilers for steam, hot water and thermal oil.
- Water tube boiler technology with natural circulation.
- Self supporting, robust and well proven design.

Reference parameters:

- Steam capacities: up to 160 t/h, larger units possible
- Hot water boilers: up to 70 MW
- Steam pressure: up to 150 bar
- Steam temperature: up to 535°C



CONCEPT OF BIOMASS PLANT





BIOMASS FIRED BOILER SYSTEMS

7

- Decades of experience with biomass fired boilers
- ERK ranks 3th technology provider for biomass fired boilers
- Installations for most biomass materials as well as fuel mixtures
- Multiple design options to maximise boiler availability, such as parallel flow and tailored designs, and efficiency requirements, e.g. combustion air preheating or flue gas condensation
- Over **40 biomass reference** projects in SEA

more than

380

REFERENCES

REFERENCE PARAMETERS			
MAX	160 MW	109 bar	540 °C
MIN	0,4 MW	3 bar	180 °C



BIOMASS FIRED BOILER INSTALLATION

Licencee: Berkes Ltda.



Uruguay

Thermal capacity **2x 12.6 MW**

Operating pressure **7 bar**

Water inlet temperature **130°C**

Water outlet temperature **160°C**

Application **Process heat**

SPECIAL FEATURE

Combi boiler (water wall furnace and fire tube evaporator)





BIOMASS FIRED BOILER INSTALLATION

Licencee: LAWI Engineering GmbH



Location:
Nabou of Viti Levu/Fiji



Thermal capacity	51 MW
Electrical capacity	12 MW
Fuel	Multi-fuel biomass
Operating pressure	36 bar
Feedwater temperature	130°C
Steam temperature	440°C
Application	Electricity generation for the Fiji Public Grid (FEA)



SPECIAL FEATURE

Patented LAWI EtaComb® is a multi-fuel combustion system for the reliable & efficient thermal utilization of a large variety of biomass fuels.



BIOMASS FIRED BOILER INSTALLATION

Licencee: Feida internatioanl Power Technology



Location
**Songkhla Province,
Southern Thailand**



Thermal capacity	42 MW
Electrical capacity	10 MW
Operating pressure	55 bar
Feedwater temperature	130 °C
Steam temperature	460 °C
Application	Rubber woodchip
	100% export power to the local grid



SPECIAL FEATURE

Robust base-load power plant design.



BIOMASS FIRED BOILER INSTALLATION

Licencee: Feida internatioanl Power Technology



Location

**Ayutthaya Province,
Central Thailand**



Feida
International
Power
Technology

Thermal capacity	32 MW
Electrical capacity	6 MW
Operating pressure	46 bar
Feedwater temperature	105 °C
Steam temperature	450 °C
Application	Process steam and power for factory usage

SPECIAL FEATURE

Co-generation using rice husk





BIOMASS FIRED BOILER INSTALLATION

Licencee: DGA Co. Ltd.



Location Thailand

Thermal capacity	42 MW
Electrical capacity	8.0 MW
Operating pressure	42 bar
Steam temperature	450 ° C
Steam quantity	46 tn/h
Application	Biomass power generation

SPECIAL FEATURE

The plant can use mixed biomass feedstocks, including corn cob, corn straw, bamboo knuckles, and rice husk



ERK ECKROHRKESSEL GMBH

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THANK YOU