



**RAN**  
GROUP

# OIL & GAS PROCESS EQUIPMENT FROM RUSSIA

REACTORS  
COLUMNS  
SEPARATORS  
HEAT-EXCHANGERS  
ABSORBERS  
STEAM GENERATORS  
PUMPS





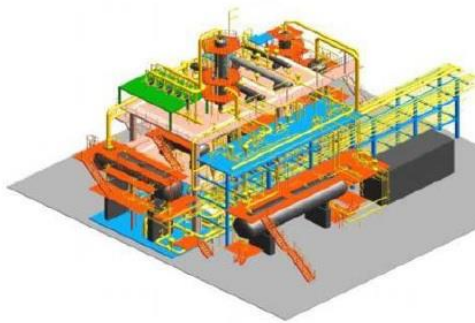
# WHO WE ARE

**We are Russian engineering company with 17-years experience in Oil & Gas business**

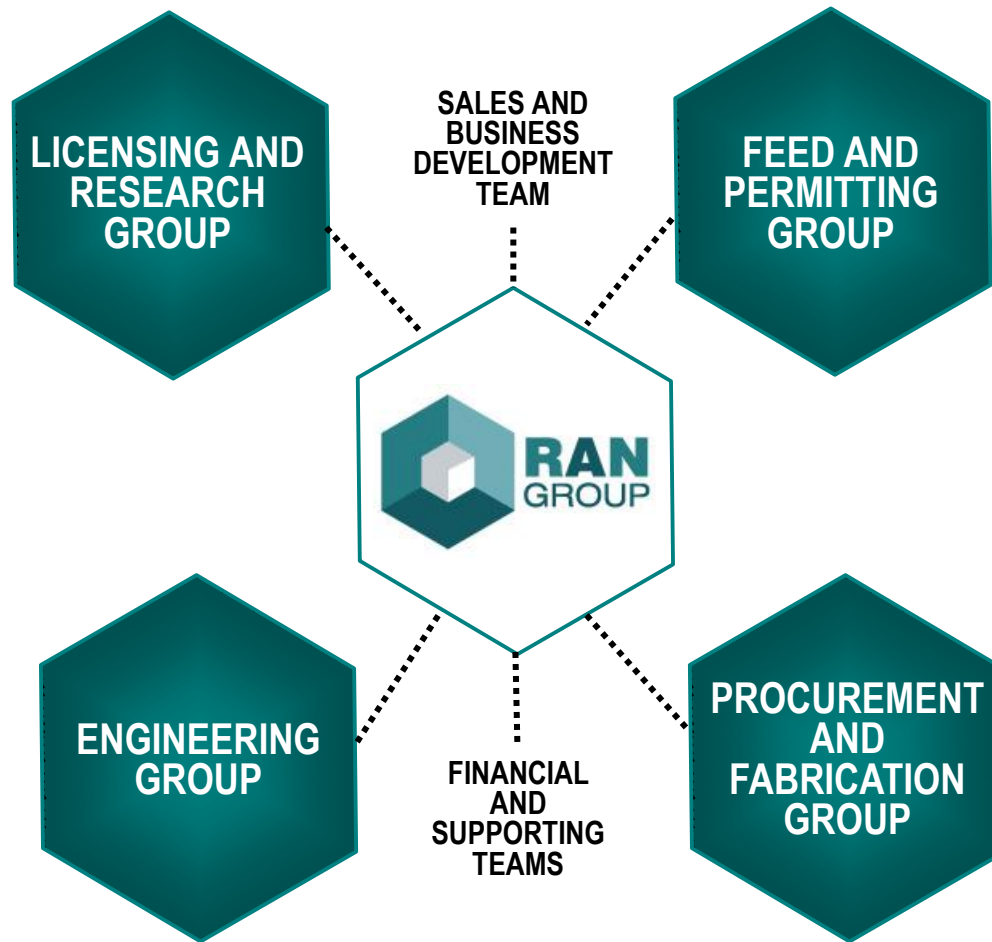
**We are client-oriented company focused on quality, on-time delivery and cost savings**

**We are the team of high-qualified mechanical and design engineers, researchers and experienced business-developers**

**We are provider of turn-key solution for your fabrication needs *including* mechanical design, process simulation, adaptation of local standards to International, order placement, QA/QC, delivery, erection and commissioning**



# CORPORATE STRUCTURE





# WHY WE ARE POSITIVE?

During 2012-2015 Russia had been actively modernizing its refineries to meet Euro-5 fuel standard



Most of the equipment for modernization programs supplied by local manufacturers

During 2014-2016 Russian Ruble exchange rate to USD/EUR dropped more than 2 times



As an exporter, we are pleased to present high-quality product with more attractive price

Most of our manufacturing partners are ASME-certified.



We supply steel plate and forgings to our partners. We know the quality

Russian process equipment production has long history, traditions and well equipped with state-of-art technologies



First Cr-Mo-V reactor had been produced in 1979

We adopt ASME to Russian standards and back



We understand what you need

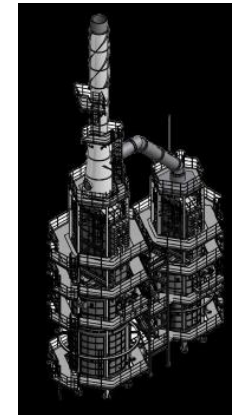
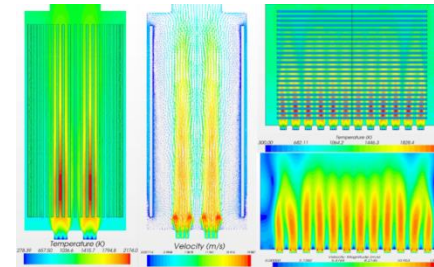
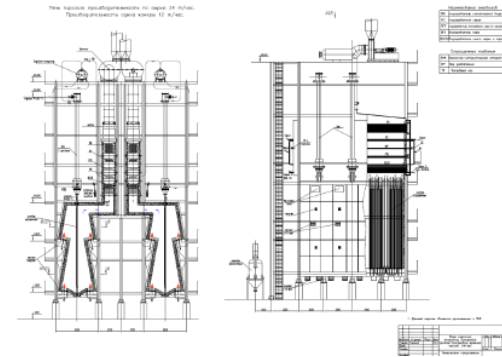
We know International Business practice



We deal with many suppliers from Europe and Asia

# WHY DOING BUSINESS WITH US?

- We know the market** → **We select the maker. And we motivate our selection for you.**
- We supply the materials** → **We know exactly what plate or piping will be used for fabrication of your equipment**
- We know the licensors. And they know us** → **Our licensor partners are: CLG, Axens, EMRE, UOP, WorleyParsons, Haldor Topsoe, DuPont**
- We employ high-qualified mechanical and process engineering team** → **The core of our engineering team is leading Russian Design Institute – the developer of local standards for process equipment fabrication**
- We know the standards** → **If you need equipment produced under ASME, API, EN, DIN or another standard – we can do**
- We do logistics** → **You don't need to worry about inside-Russia transportation. Need more? We can do CFR/DAP**



**We supply reactors (incl. heavy wall reactors) and removable internals.**

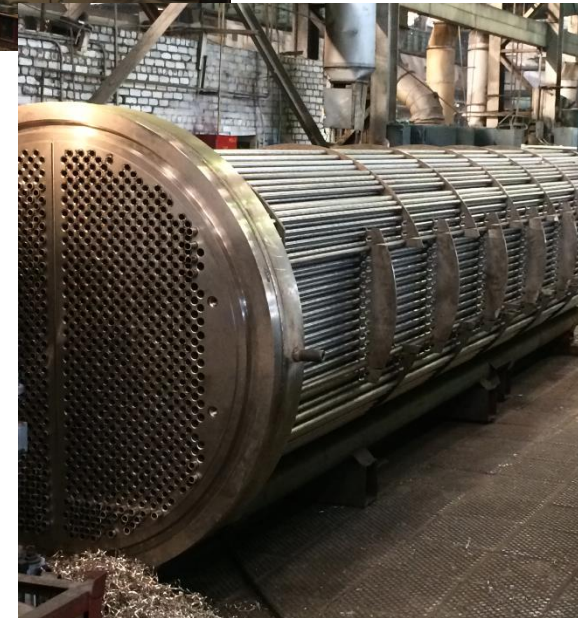
We supply reactors for:

- Hydrocrackers (HCR)
- Hydrotreaters (HDT)
- Heavy Resid Catalytic Crackers (HRCC)
- Catalytic Crackers including FCC facility
- Catalytic Reformers including CCR facility
- Hydrogen Unit
- RAN © Jet Reactor for Alkylation Unit



## We supply heat-exchangers

- High pressure heat-exchangers (up to 200 bar), including breech-lock h/ex for Hydrocrackers
- Feed/Effluent high leak proof heat-exchangers for Hydrotreaters
- Heat-exchangers with twisted strip
- Reboilers
- Plate heat exchangers



## COLUMN EQUIPMENT and removable internals

- Fractionators
- Separators
- Strippers
- Stabilizers
- Vacuum Distillation Columns
- Absorbers
- Deethanizers
- Scrubbers



For:

CDU/VDU • Hydrocracking • Hydrotreatment

Catalytic cracking • Catalytic reforming • Isomerization

Alkylation • TAME/ETBE/MTBE



### We do LOGISTICS \*



To Russian Sea ports (FAS/FOB):

- **Saint-Petersburg (Baltic Sea, North Europe)**
- **Novorossiysk (Black Sea, South Russia)**
- **Vladivostok (Sea of Japan, Far East)**
- **Astrakhan (Caspian Sea)**



\* - including oversized and overweight equipment up to 1200 ton (inland, river and sea transportation). CFR / DAP is available option



- Furnace equipment
- Air-Cooler Units (ACU) including high pressure ACU for the hydrocracking plants
- Tanks and vessels
- Equipment Modules / assembly units (separator, divider, degasifier, tank and fitting units)
- Compressors and Pumps
- CDU equipment

### We do EPC

#### Alkylation Unit (SAAU)

- Licensing
- FEED
- Detail Eng'g
- Procurement
- Construction
- Commissioning  
(2013)

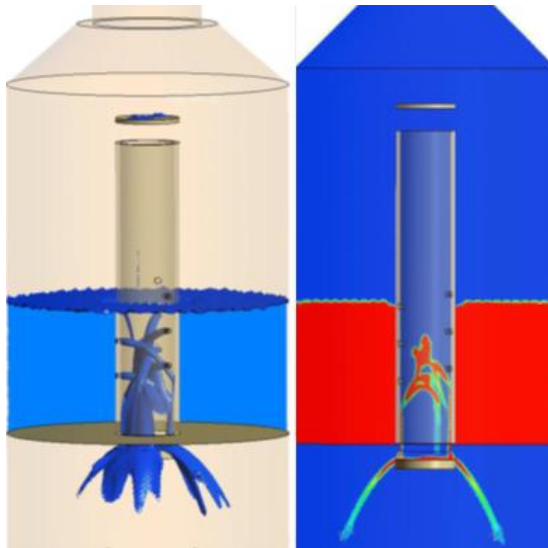


#### Furnace Unit

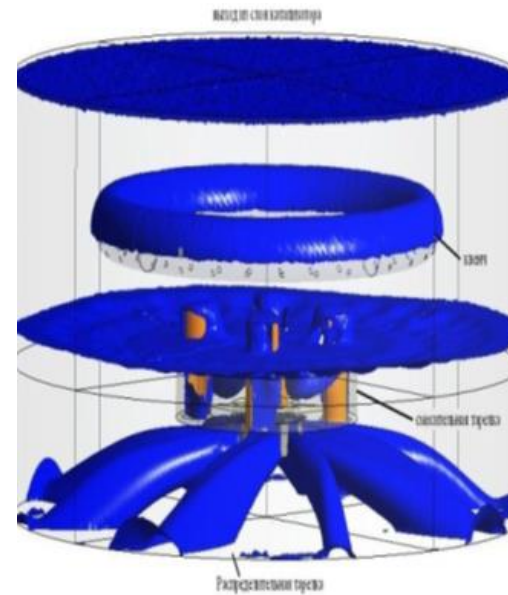
- Design
- Procurement
- Construction
- Commissioning  
(2014)



We do design of internals

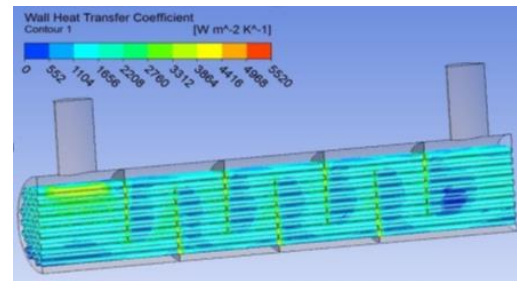
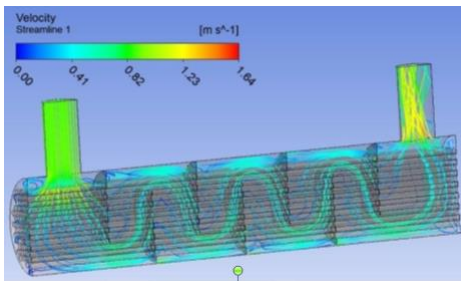


Distribution device

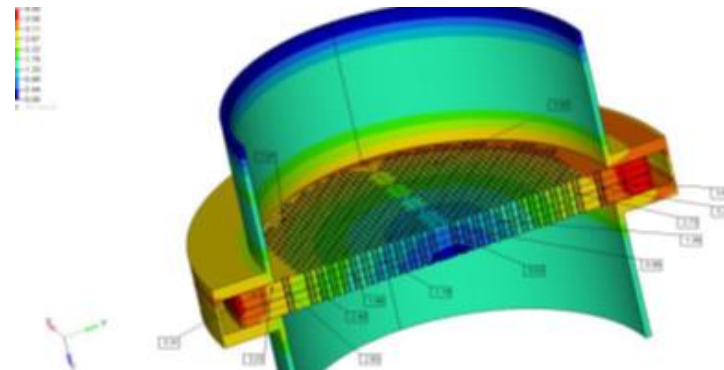
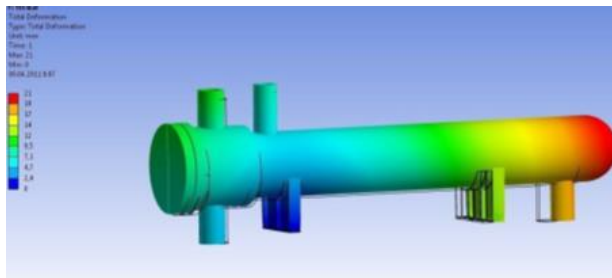


Quenching chamber

## We do math simulation of heat exchange process



## We do strength calculations





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