

# ExtrAkali®

Patented revamping module for  
NaOH & KOH concentration unit by  
Chem-Eng SASU and Wilk Graphite  
GmbH

*For Internal Use only*

# ExtrAlcali®

ExtrAlcali® is a brand born from  
fruitfull the collaboration of two  
internationally renowned  
companies



# ExtrAlcali®

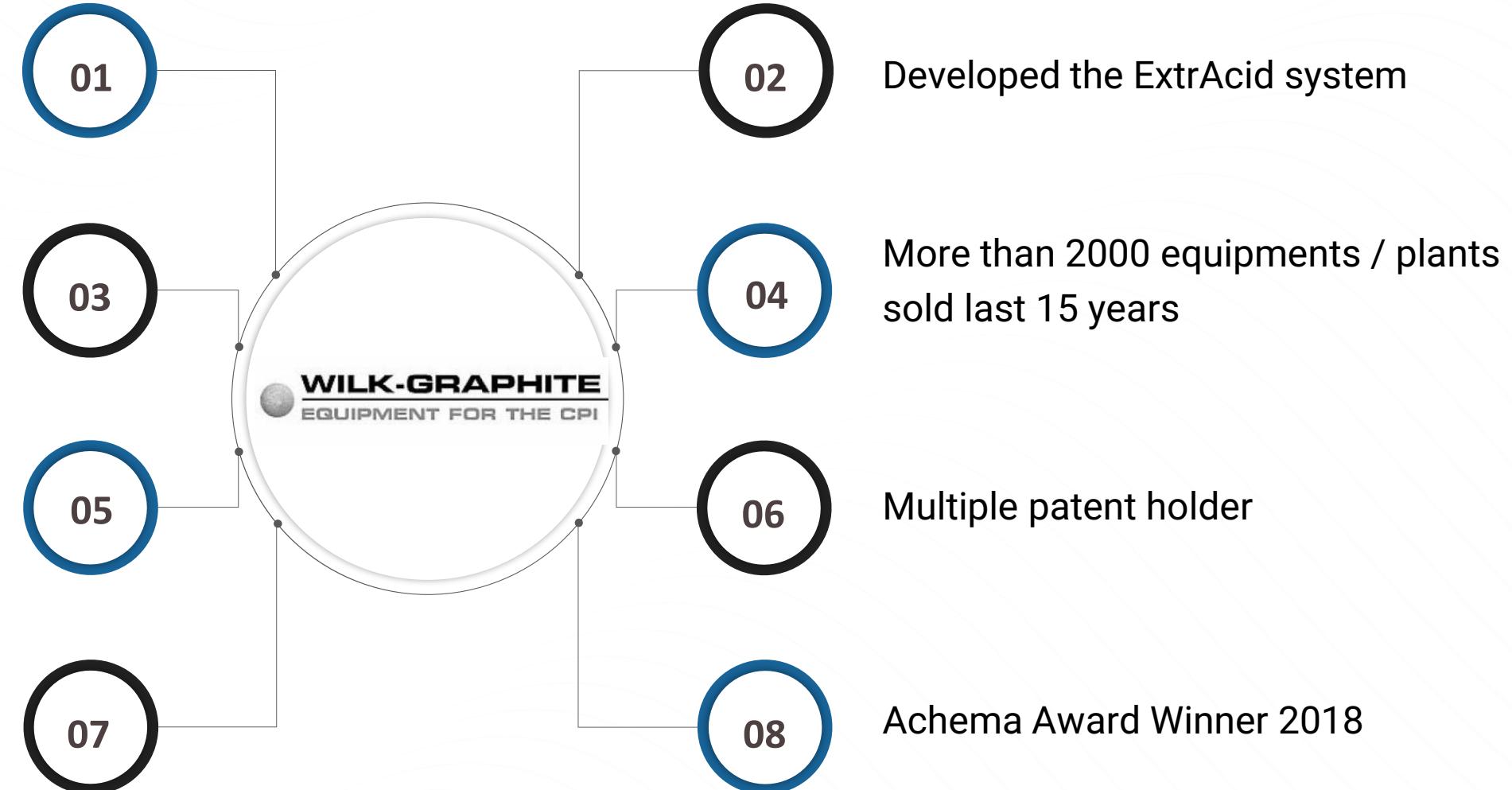
A brand for process solutions for the chlor-alcali industry such as:

- Caustic evaporation / flaking plant
- Sulfuric acid concentration plant
- HCl synthesis plant
- Calcium chloride production plant



# Presentation of Wilk Graphite.

World leading company for  
NoMoCorr SIC block heat exchanger



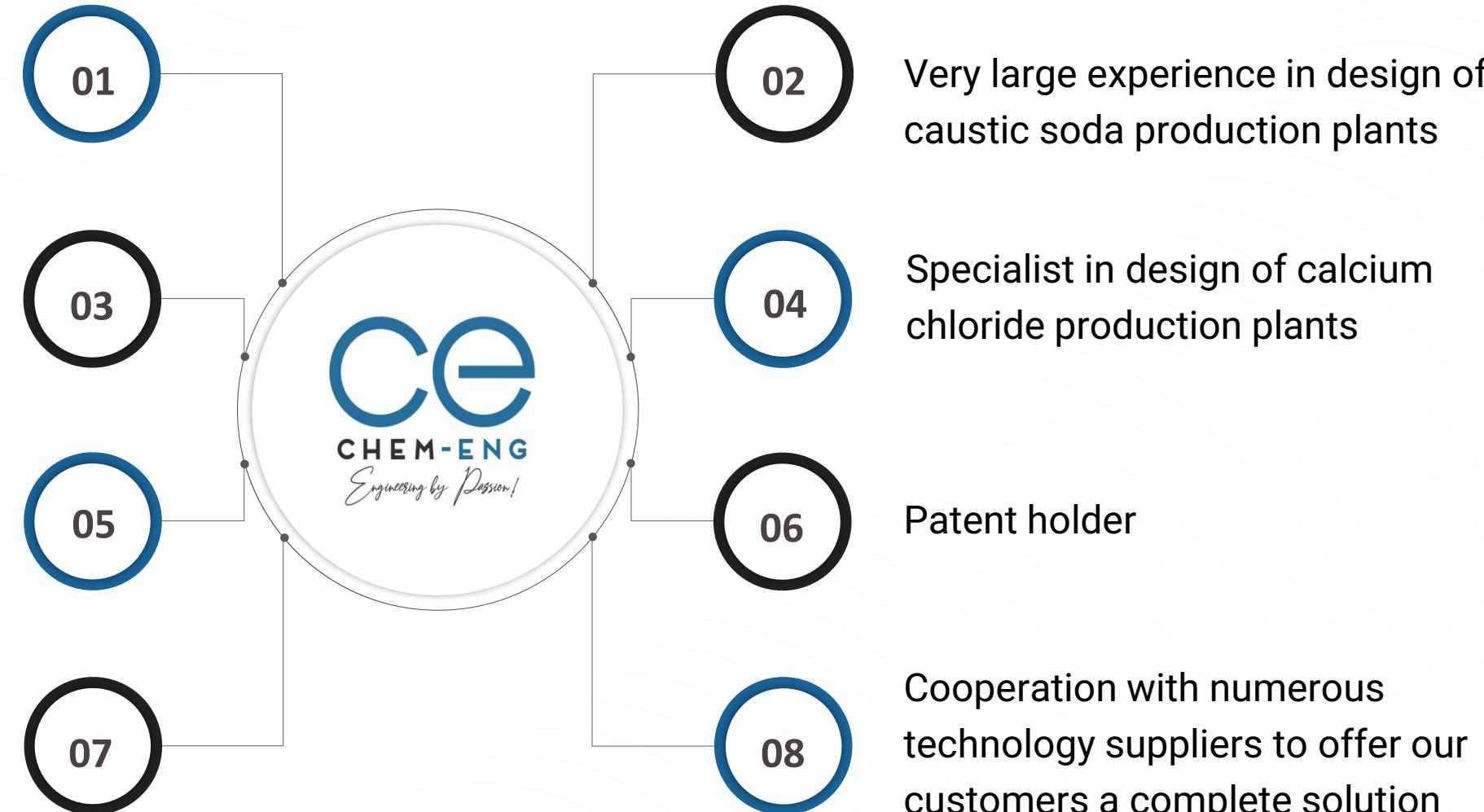
# Presentation of Chem-Eng.

15 years of experience in the chlor-alkali industry

Specialist in design of sulfuric acid concentration plants

Represented worldwide by a network of agents

Offices in France and Switzerland



# CAUSTIC REVAMPING UNIT



# ExtrAkali®

## Tailor made plant

- No standard concept – designed according to given situation using modules
- According available utilities on site (cooling water, steam, etc..)
- Optimizing OPEX according energy prices (gas, steam, etc...)
- CAPEX consideration

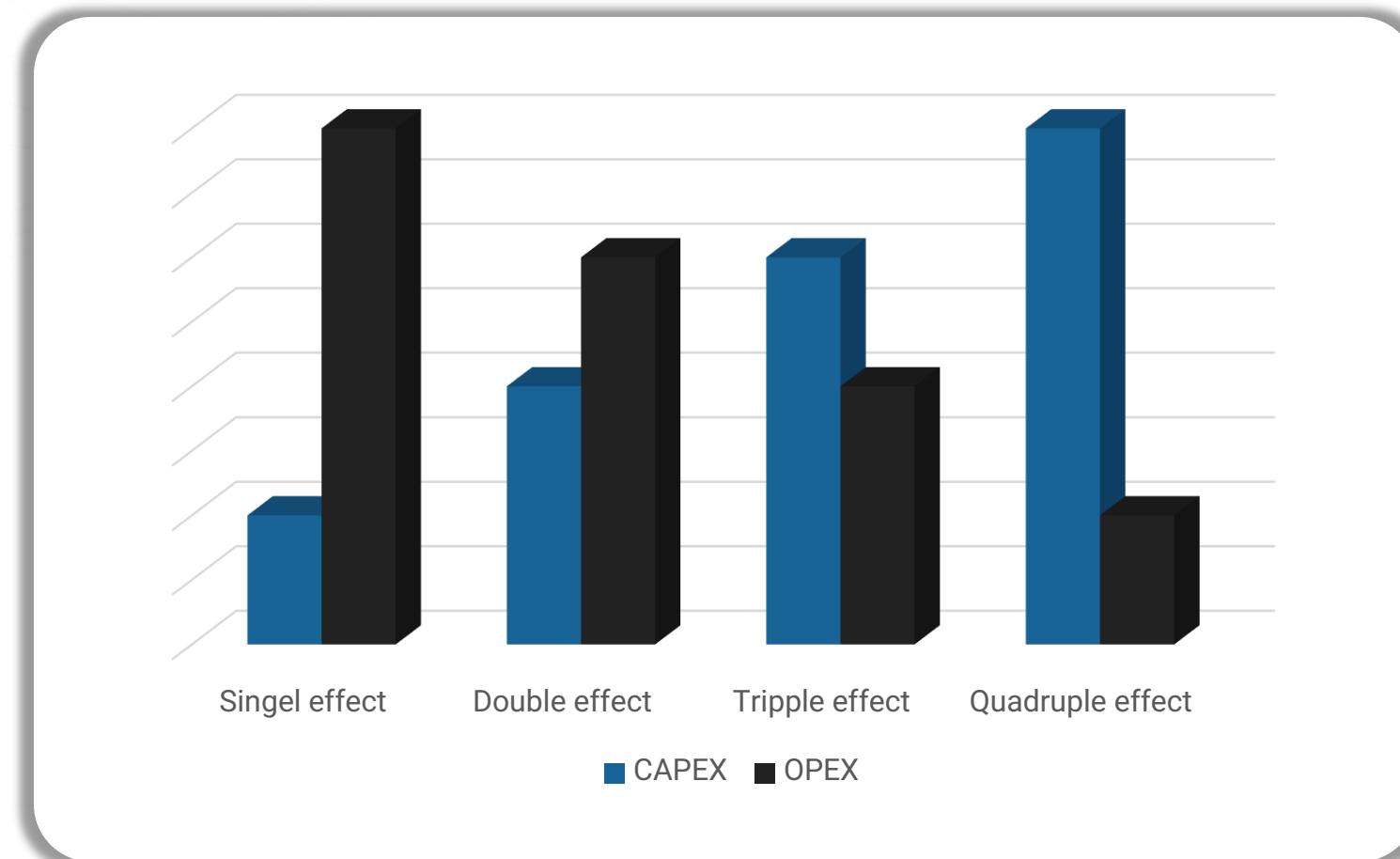




# Revamping module

- 1** Typical revamping: upgrade from a double or triple effect system to a quadruple effect system
- 2** By high temperature only use of SIC equipment to grant an excellent product quality (more or less no Ni pick up) and a long life of all equipment.
- 3** Up to 5 effects available to reduce energy consumptions / CO<sub>2</sub> emissions
- 4** ExtrAlkali is the only brand offering such plant concept.

# CAPEX / OPEX for Evaporation plant

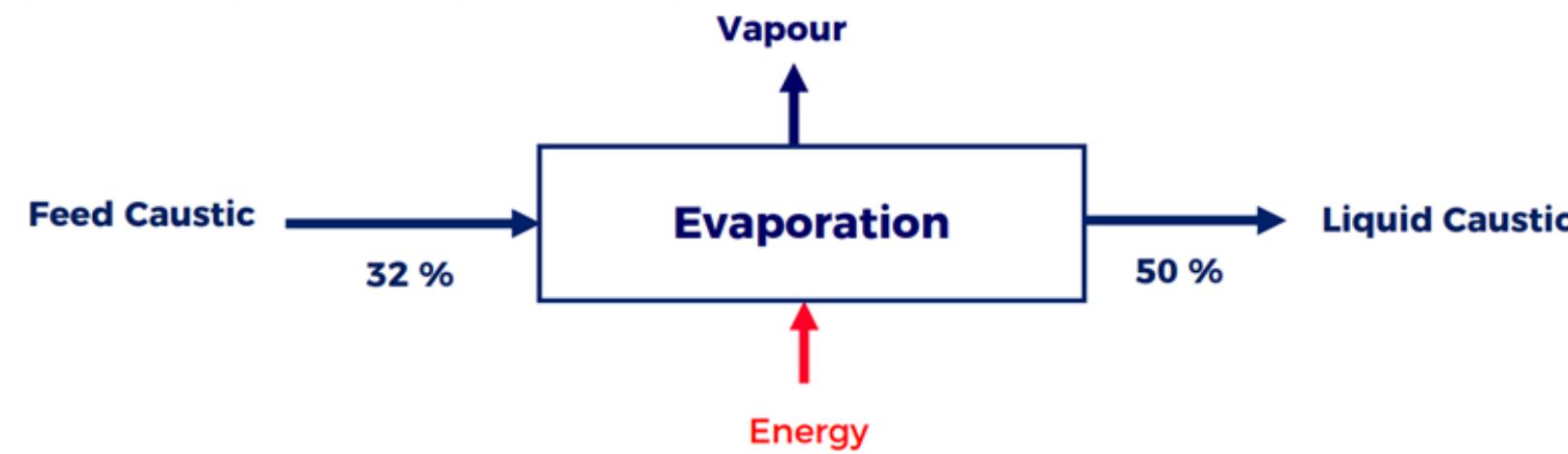


# Revamping

- 1 Possibility to revamp existing double effects or triple effects evaporation to a quadruple effects system (very low space requirement)
- 2 Payback **less than two years** even considering an additional thermal oil heating system
- 3 Attractive concept especially in country with high energy costs and CO2 emission taxes



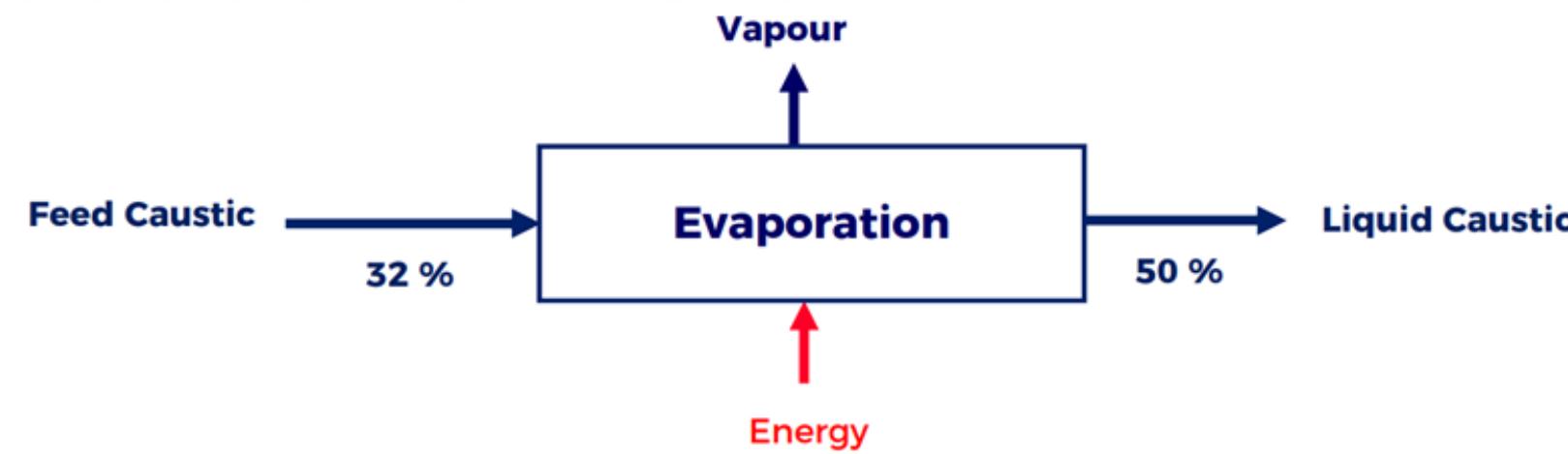
# Revamping



	Energy per ton of NaOH 100%		
	Steam consumption (kg)	Thermal oil consumption (kW)	CO2 emission (kg)
Single effect	1500	1020	220
Double effect	750	510	120
Triple effect	500	340	80
Quadruple effect	390	265	65

- 22%

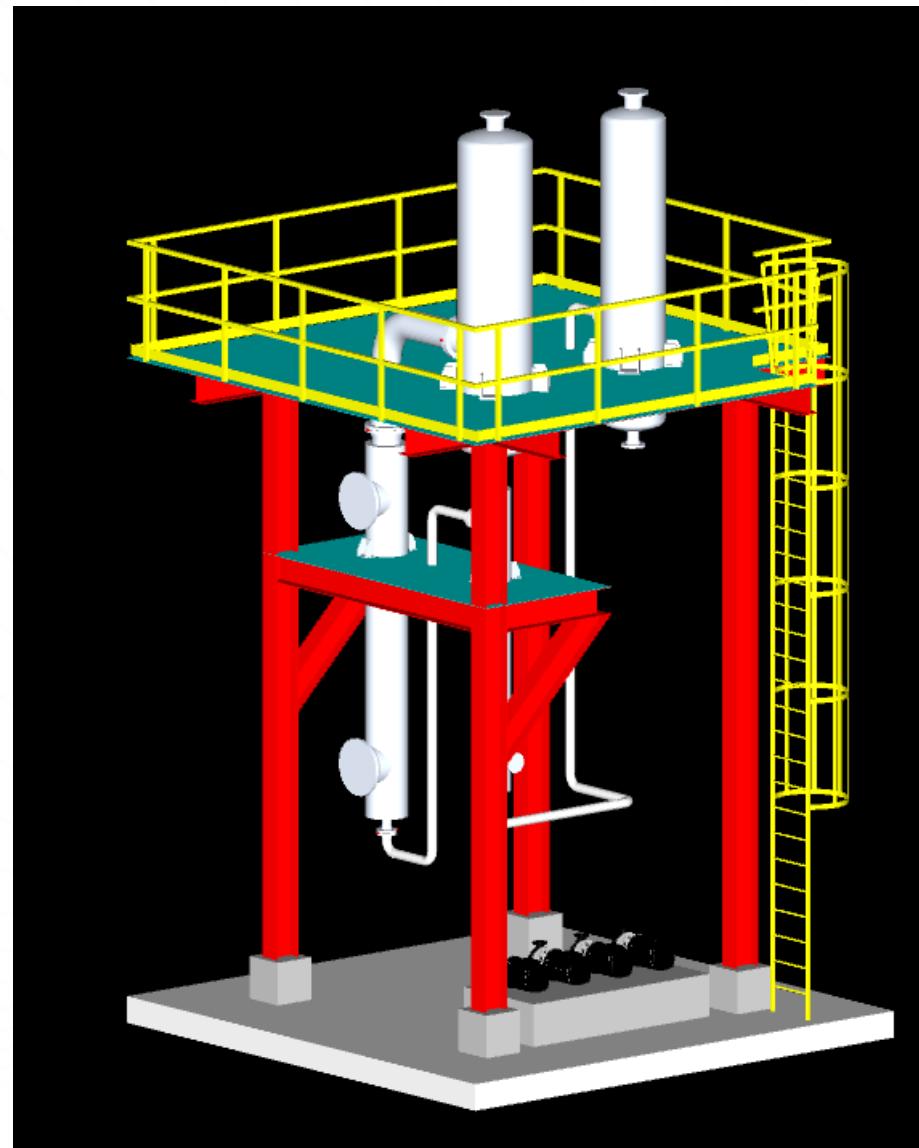
# Revamping



	Energy per ton of NaOH 100%		
	Steam consumption (kg)	Thermal oil consumption (kW)	CO2 emission (kg)
Single effect	1500	1020	220
Double effect	750	510	120
Triple effect	500	340	80
Quadruple effect	390	265	65

- 48%

# Revamping



- 1 Additional effect can be delivered SKID mounted and be installed next to the existing evaporation unit
- 2 Additional effect can be installed in the existing building (if space available)
- 3 Thermal oil heating unit is required

# QUESTIONS ?



## Contact Us



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