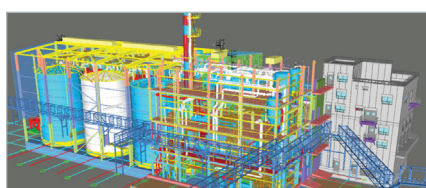


## BIOETHANOL 1<sup>ST</sup> AND 2<sup>ND</sup> GENERATION

**KOCH ENGINEERED SOLUTIONS, LLC (“KES”)** delivers customized, highly energy efficient and high quality bioethanol plants, equipment for thermal separation (e. g. column internals) and services. Leveraging the skills and knowledge of **JULIUS MONTZ GmbH (“MONTZ”)** around process design, thermal separation technology, column internals and services we are able to provide customers with favorable returns with reliable outcomes.



### Conceptual Design, Engineering

MONTZ and KES design and adapt processes considering the individual requirements and boundary conditions of our customers. Our aim is to provide the optimum solution with respect to economical efficiency and technical reliability.



### Delivery, Facility Construction

MONTZ and KES can deliver complete process plants on a lumpsum turnkey basis. We take on responsibilities regarding process design, project management, delivery, construction, installation and supervision.



### Commissioning, Operator Training

MONTZ and KES support our customers during commissioning and start-up of the plant to reach the best possible process performance and yield.

We will continue to be engaged after the transfer of the plant to maintain optimal performance.

## Partners of Choice

### GLOBAL SCALE

MONTZ + KES are affiliates of Koch Industries who has \$100+ billion<sup>1</sup> in revenues, global presence, investment grade credit

<sup>1</sup> As estimated by Forbes

### DECISIVE ACTION

Unrivalled ability to marshal resources to move decisively and with certainty when the right opportunities present themselves

### PRIVATE

KES' status as a private company and management philosophy allows partners to focus on capturing opportunity long-term

### MUTUAL BENEFIT

True partnership mentality. Expectation that KES will work to make partnerships as successful as possible

### KOCH LABS

**Experts:** Engage KES' internal subject matter experts to help better understand market and customer opportunities as well as solving technical challenges

**Develop:** Use KES and Koch-affiliate facilities and businesses as a test-bed for product development and proof of concept, allowing for quicker time to market and product design cycles

**Engage:** Opportunity to engage KES and Koch affiliates as a partner, customer, and a supplier

# Koch As a Favorable Proven Project Partner

## CERTAINTY OF FINANCIAL BACKING

Koch provides a significant balance sheet to ensure the delivery of the project. Koch's funding and oversight of the process technology should provide substantial comfort to capital providers.

## CERTAINTY OF MONTZ + KES ENGINEERED EQUIPMENT AND PROCESSES

MONTZ and KES equipment solutions:

- ▶ Koch-Glitsch and MONTZ column internals (trays, structured packing, liquid distributors etc.) are used in many world scale plants and provide superior characteristics and reliability with respect to thermal separation.
- ▶ MONTZ engineered column systems has realized many customized solutions to increase energy efficiency by heat recovery, combined multi-stage distillation systems and dividing wall columns.
- ▶ MONTZ process technology has over 20 years experience in building plants for potable alcohol and bioethanol with many successful and satisfied customers.
- ▶ Koch Specialty Plant Services is providing services for vessels, and mass transfer, mist elimination, combustion, and phase separation equipment.

## Selected Successfully Executed Projects

CLIENT	PLANT TYPE	PROCESS RESPONSIBILITY	SCOPE OF SUPPLY	FEEDSTOCK	YEARLY PRODUCT CAPACITY
AustroCel	2G Bioethanol Plant	Fermentation, distillation/rectification and dehydration, evaporation, peripheral installations	Engineering, process equipment, steel structure, mechanical installation, commissioning	Spent sulphite liquor	27 500 t/a
EAL	Beverage Alcohol Plant (ENA)	Grain handling, milling, liquifaction/ saccharification, fermentation, distillation/rectification, evaporation, DDGS-drying	Engineering, delivery of process equipment, signal processing/ PCS, MCC, installation/erection supervision, commissioning	Wheat	Confidential
Clariant	Sunliquid® 2G Bioethanol Demonstration Plant	Pre-processing, enzyme and yeast fermentation, ethanol fermentation, distillation/rectification and dehydration, tank farm, utilities and peripheral installations	Engineering, delivery of process equipment, signal processing/PCS, MCC, mechanical and electrical installation, commissioning	Straw	1000 t/a
Clariant	Sunliquid® 2G Bioethanol Production Plant	Distillation/rectification and dehydration	Engineering, delivery steel structure and process equipment, mechanical and electrical installation, commissioning ( <i>under construction</i> )	(Straw)	50 000 t/a
ESP	Bioethanol Plant	Pre-processing, fermentation, distillation/rectification and dehydration, evaporation, peripheral installations, utilities	Engineering, delivery process equipment, signal processing/PCS, MCC, mechanical and electrical installation, commissioning	Molasses	150 000 t/a

\* Information obtained on company websites.