

TRIPLAN AG with around 500 employees in the engineering service division offers high-tech engineering services for planning complex production plants all over the world. For more than 45 years TRIPLAN has supported its customers in projects ranging from on site operational management to comprehensive general contractor projects.

Experienced and knowledgeable staff - not only in the coking business but also in the general refining industry - is available to serve and understand our clients in all aspects of coker operation and related areas e.g. reliability and safety.

Project execution is performed in task-force mode with single-point responsibility, which assures an efficient and close contact with Clients and Engineering Contractors as well.

- Planning and Feasibility studies / consulting
- Concept Designs
- Extended Design Package
- Cost estimates at all stages
- Scheduling for Revamps
- Liaison & Coordination with Local Engineering Contractor
- Gate & Technical Reviews during Detailed Engineering Phase
- Manufacturing & Supply of proprietary equipment
- Construction Management
- Site Training
- Commissioning
- Start-up assistance
- Documentation



**We can give you
a fresh view into
the future!**

Even in the classical coker business there is room for an unbiased view into traditional operations.

In this way we have successfully eliminated the sometimes conflicting issues between environmental constraints and economic demands.

The Closed Coke Slurry System is an economical and environmental attractive option for PIT design for future coker projects as well as revamp of existing coker units.

Your contact for a fresh view into your coker operation:

TRIPLAN AG

Auf der Krautweide 32 · 65812 Bad Soden/Taunus · Germany · ccss@triplan.com · <http://ccss.triplan.com>

Ralf Gast

Division Manager of Refinery & Petrochemicals
Phone +49 721 83085-0 · ralf.gast@triplan.com

Contact for China-Market:

Zheng-Zhu Streich

Projekt Manager

Phone +49 6196 6092-132
zheng-zhu.streich@triplan.com

Contact for US-Market:

Artur W. Krueger

Senior Account Executive · CCSS-Technology

P.O.Box 19686 · Houston · Tx 77224 · USA
Phone +1 713 464 8711 or +1 713 320 3040
artur.krueger@gmail.com

Contact for India-Market:

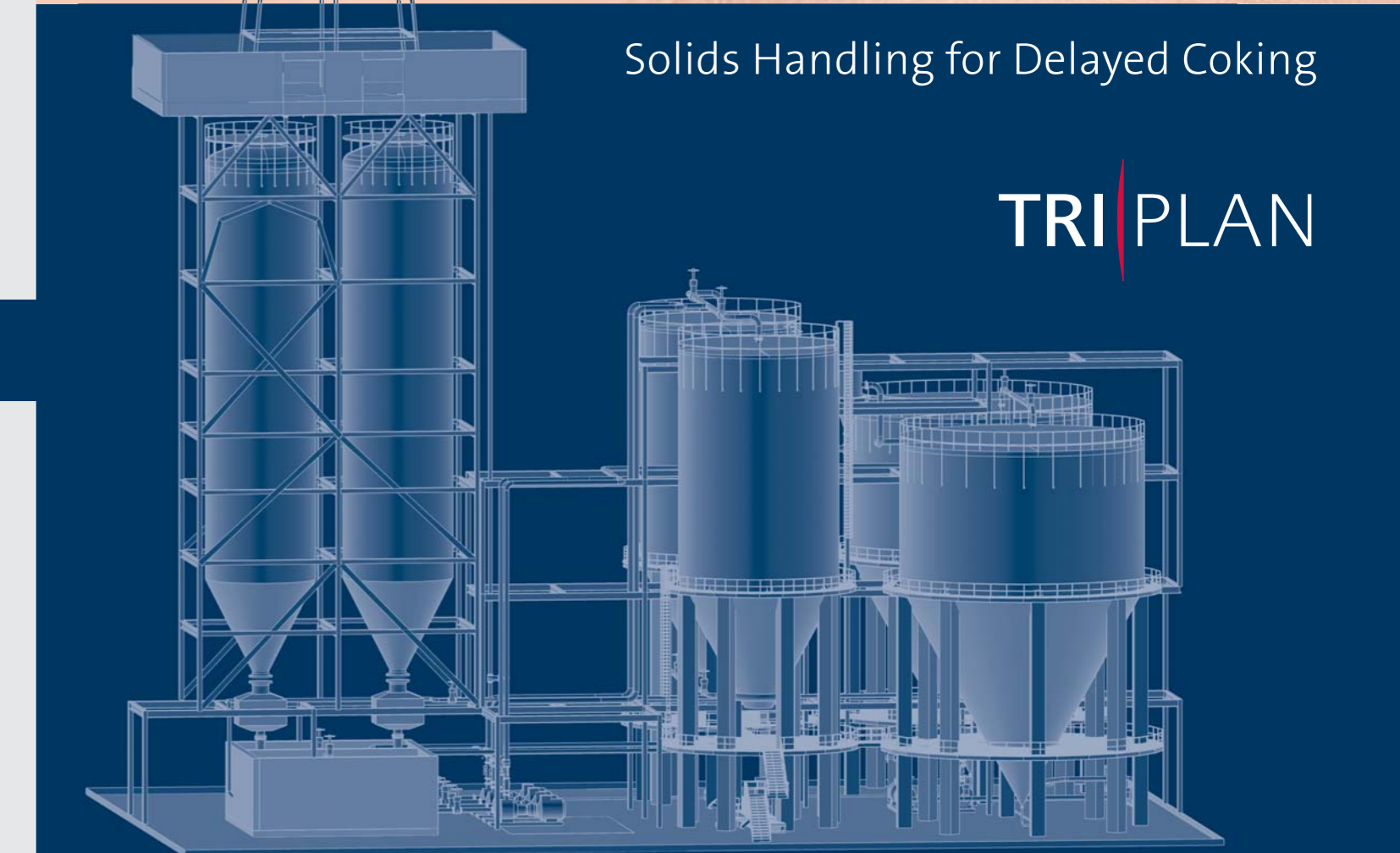
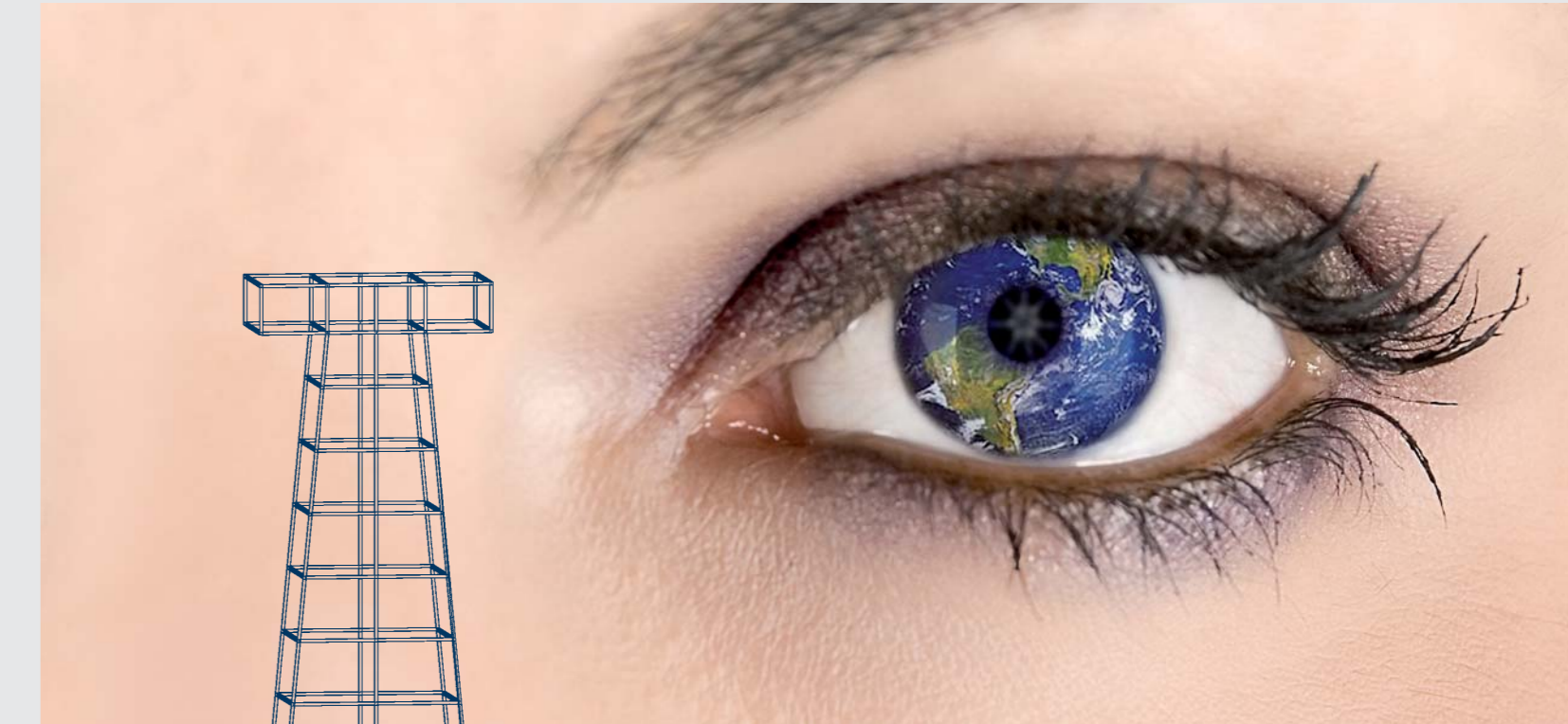
Sunil Kulkarni

Director TRIPLAN India Pv Ltd.

Phone +91 8380096315
sunil.kulkarni@triplan.com



Throw an Eye on Future Technology The Closed Coke Slurry System



Solids Handling for Delayed Coking

TRIPLAN

The Closed Coke Slurry System...

- benchmark as zero-dust-unit
- is a reliable & safe system
- routes crushed coke as slurry from cutting to load out
- eliminates fines & sludge handling
- performs without man power/fully automated
- Flexible Equipment Arrangement...
Dewatering bins could be located at load out point for commercially dry coke
- Flexible Pipeline Concept...
Slurry could be directly routed to end user e.g. as fluidized feed for power stations/gasification plants etc.

The TRIPLAN approach for your Coker: Closed Coke Slurry System

- Innovative ▶ sensible replacement for a constant source of problems
- Clean ▶ fully closed, environmentally sound, no steam plume, no dust
- Safe I ▶ eliminates exposure of Aerosols & Hydrocarbons to workers & neighbourhood
- Safe II ▶ improves fire accident records for coker units
- Economic ▶ reduces cycle time/reduces manpower and saves outage time
- Reliable I ▶ very robust design, consequent use of abrasive & corrosive resistant materials
- Reliable II ▶ unique & proprietary design features for crusher & pumps
- Effective ▶ sludge handling & coke fine separation provides excellent cutting water quality
- Smooth ▶ streamlined from quenching to discharging dry coke to loading
- Logical ▶ in-line crusher with maximum gravity flow
- Automated ▶ fully controlled operation through Instruments with DCS architecture
- Consistent ▶ size of crusher & equipment matches cutting capacity

