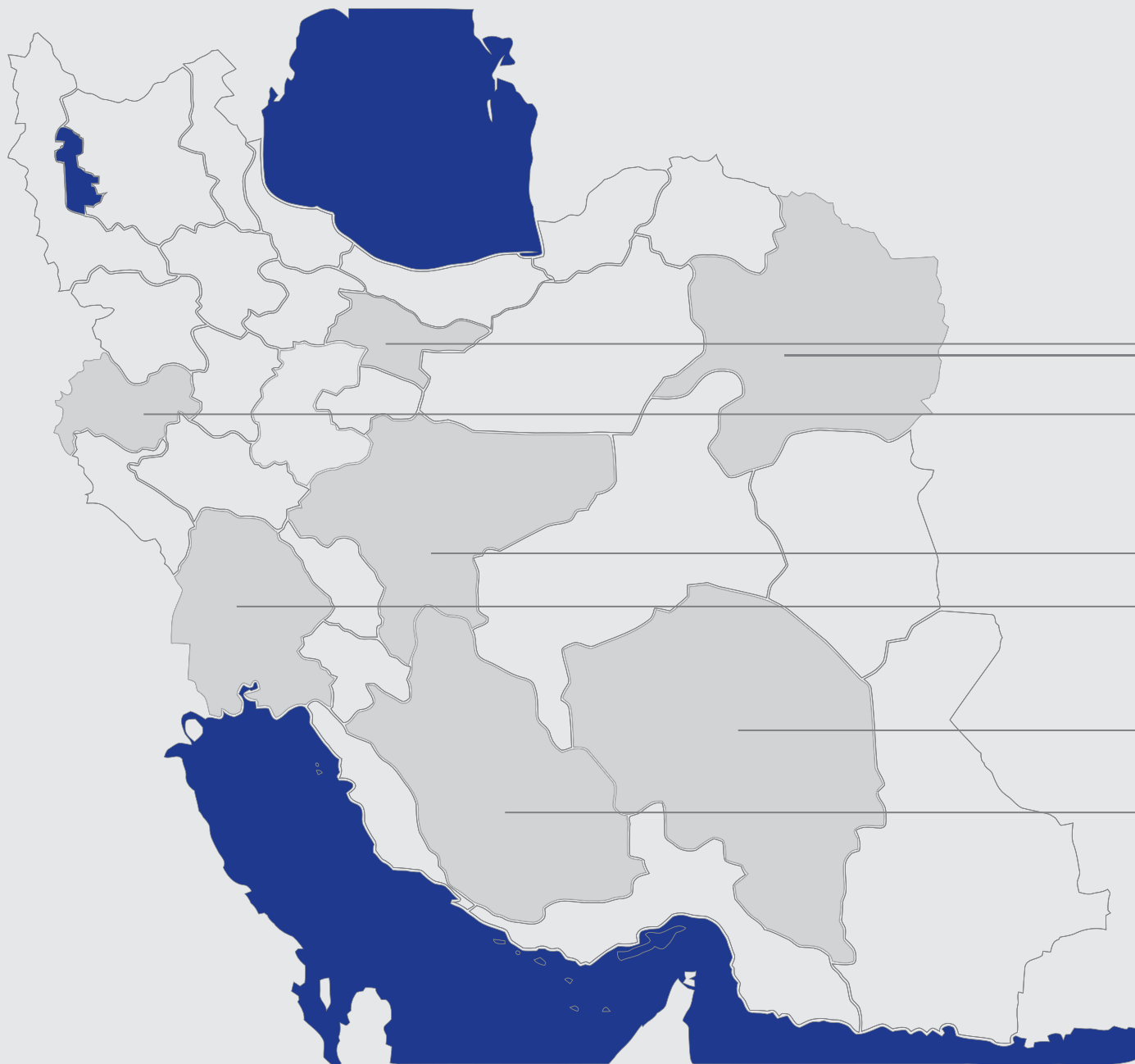


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OUR HISTORY





- FOUNDATION | AUG 2013
- FIRST DRI CATALYSTS SALES CONTRACT TO KSC | 2013
- FIRST “DRY REFORMING CATALYST” CHARGE IN KHOUZESTAN PETROCHEMICAL CO. | 2013
- “KNOWLEDGE BASED COMPANY” CERTIFICATE | 2014
- FIRST STEAM REFORMING CATALYST SALES CONTRACT TO KIPC. | 2015
- FIRST SULFUR REMOVAL ADSORBENT SALES CONTRACT TO KPIC. | 2015
- FIRST COMPLETE DRI MODULE IN MSC | 2015
- FIRST SULFUR REMOVAL ADSORBENT SALES CONTRACT TO A MEGA MODULE IN KOSAR | 2017
- FIRST CATALYST LOADING CONTRACT TO SABZEVAR STEEL CO. | 2017
- FIRST BASIC & DETAIL ENGINEERING OF A SULFUR REMOVAL SYSTEM IN A DRI PLANT WITH NGHSCO | 2018
- FIRST HYDROGEN PLANT CATALYSTS CONTRACT WITH MSC | 2018
- FIRST COMPLETE DRI MEGA MODULE IN PASCO | 2018
- FIRST HDS CATALYST CONTRACT WITH BISOTOON PETROCHEMICAL CO. | 2018
- “BEST INDUSTRIAL UNIT OF ALBORZ PROVINCE REWARD” | 2018
- “BEST TECHNOLOGIC COMPANY” | 2018
- “R&D FESTIVAL’S REWARD” | 2018
- “KHWARIZMI INTERNATIONAL AWARD” | 2018
- FIRST COMPLETE DRI MEGA MODULE CATALYSTS CONTRACT IN MSC | 2019
- FIRST HTS CATALYST SALES CONTRACT TO EORC | 2019
- FIRST SULFUR REMOVAL SALES CONTRACT TO EORC | 2019



ASSOCIATIONS & CHAMBERS

IRANIAN CATALYST & ADSORBENT MANUFACTURERS ASSOCIATION MEMBERSHIP	2014
SIPIEM MEMBERSHIP	2015
POLYMER ASSOCIATION MEMBERSHIP	2016
IRANIAN STEEL MANUFACTURERS ASSOCIATION MEMBERSHIP	2017
MIMT'S R&D CENTERS MEMBERSHIP	2018
IRAN CHAMBER OF COMMERCE MEMBERSHIP	2015
IRAN-CHINA CHAMBER OF COMMERCE MEMBERSHIP	2018
IRAN-FRANCE CHAMBER OF COMMERCE MEMBERSHIP	2019



STANDARDS

OHSAS 18001	2007
ISO 9001	2015
ISO 14001	2015
HSE-MS	
ISO/IEC 17025	2005
ISO/TS 29001	2010
ISO 10002	2014
ISO 10004	2012
ISO 10006	2003
ISO 21500	2012
ISO 31000	2009





KHWARIZMI

TECHNOLOGY DEVELOPMENT

Khwarizmi Technology Development Company was established on the basis of knowledge and experience of professional experts in the field of industrial heterogeneous catalyst production for petrochemical, refinery and chemical plants. The comprehensive and in-depth knowledge of industrial processes and effective parameters in the kinetics and mechanism of the reactions, proficiency in synthesis and production of the materials and utilizing the modern and up to date technologies in the field of industrial catalyst science are of distinctive features of this company. The recovery of base metals from spent catalysts using chemical and electrochemical techniques are our another specific characteristic of our activities. The outstanding property of Khwarizmi Technology Development Company is researchers, technical experts, skilled manpower of industry and elite graduated students of top universities.

Through identifying customer's need, employing innovative techniques, utilizing High-Tec experimental analysis and synthesis instruments, inventing new methodologies, continuous working on the improvement of catalyst performance, gaining knowledge through the state-of the art technologies for catalyst manufacturing/handling, we have successfully provided **TOTAL SOLUTION** for industrial plants in order to increase their productivity and profits.

OUR VISION —

Deploying Knowledge & Creativity to Make Innovative Products & Inventive Solutions



OUR **PRODUCTS**



DRI PLANTS



DRI High-Active
Reforming Catalyst



DRI Semi-Active
Reforming Catalyst



DRI Inert
Reforming Catalyst



Sulfur Removal
Adsorbent

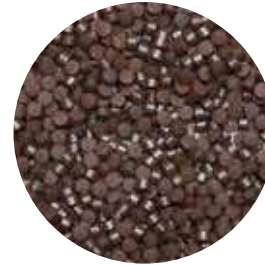
AMMONIA PLANTS

Hydro-desulfurization
Catalyst



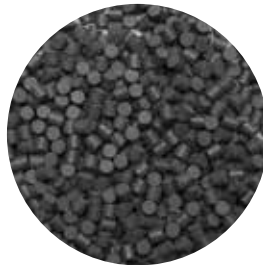
Secondary
Reforming Catalyst

Sulfur Removal
Adsorbent



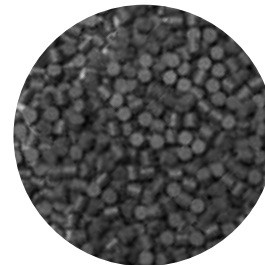
High Temperature
Shift Catalyst

Pre-Reforming
Catalyst



Low Temperature
Shift Catalyst

Primary Steam
Reforming Catalyst



Methanation
Catalyst

METHANOL PLANTS

Hydro-desulfurization
Catalyst



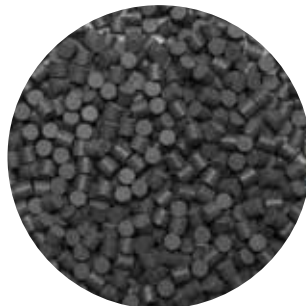
Primary Steam
Reforming Catalyst

Sulfur Removal
Adsorbent



Auto-thermal
Reforming Catalyst

Pre-Reforming
Catalyst



Methanol Synthesis
Catalyst

HYDROGEN & REFINERY PLANTS



Primary Steam Reforming Catalyst



Hydro-desulfurization Catalyst



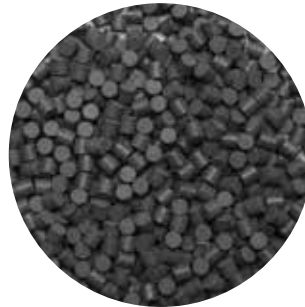
High Temperature Shift Catalyst



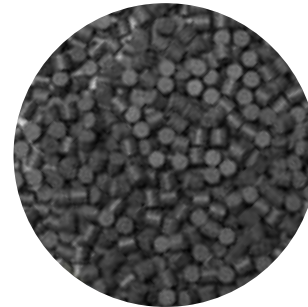
Sulfur Removal Adsorbent



Low Temperature Shift Catalyst



Pre-Reforming Catalyst



Methanation Catalyst





OUR **MISSION**



We in Khwarizmi Technology Development Company:

- Develop a complete range of products and services in each category and industry to serve our customers in a way that they get what they need
- Strive to be the industry standard in delivering reliable services and build on our history of product excellence and technology innovation to provide the highest-quality and most reliable products and services to our customers in different industries
- Do our best to become the largest manufacturer of a wide range of catalysts in the Middle East Region
- Maintain a superior level of integrity in interactions with business partners and associates
- Appreciate our achieved success
- Conduct our business as model corporate citizens.







OUR
**DIVISIONS
& SERVICES**





RESEARCH & DEVELOPMENT

Research & Development of industrial heterogeneous catalysts, adsorbents and activated clays

Synthesis and acquiring technical know-how for the manufacturing of advanced and High-Tech materials

Advanced CFD Laboratory for the modeling of the chemical reactions and innovations in the design of new catalyst shapes and reactor internals

Wet chemical laboratory and material preparation systems

Well-equipped analytical laboratory for the determination of physical and chemical properties of raw materials and final products



INSTRUMENTAL ANALYSIS LABORATORY

Refinery Gas Analyzer (RGA)
Inductively coupled plasma (ICP)

Physisorption & Chemisorption Analyzers
Flame Atomic Absorption spectroscopy

UV-VIS Spectrophotometer
Cold Crushing Strength





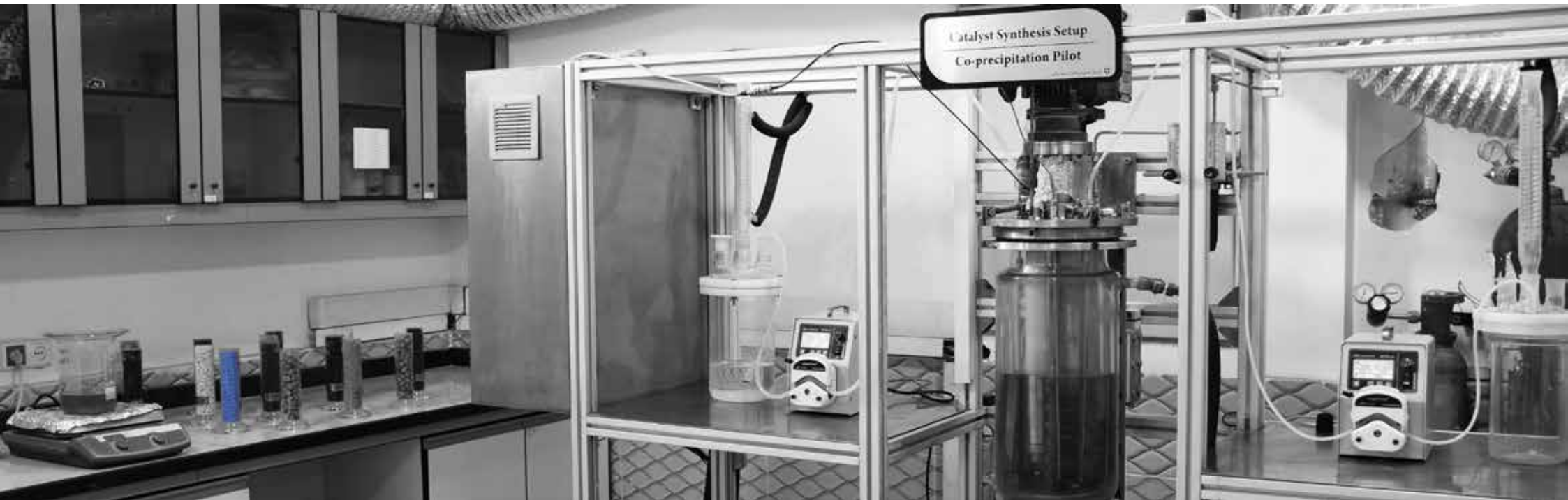
CATALYST SYNTHESIS & CATALYST REACTOR TESTING

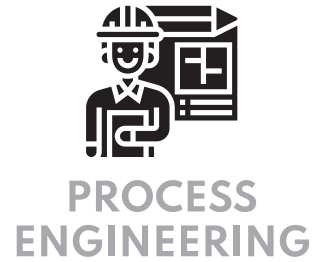
Advanced experimental catalytic performance testing units with capability of online monitoring and precise controlling the reaction parameters using dedicated software

Capability of performing catalytic activity and stability testing of versatile catalysts and adsorbents under harsh and accelerated conditions

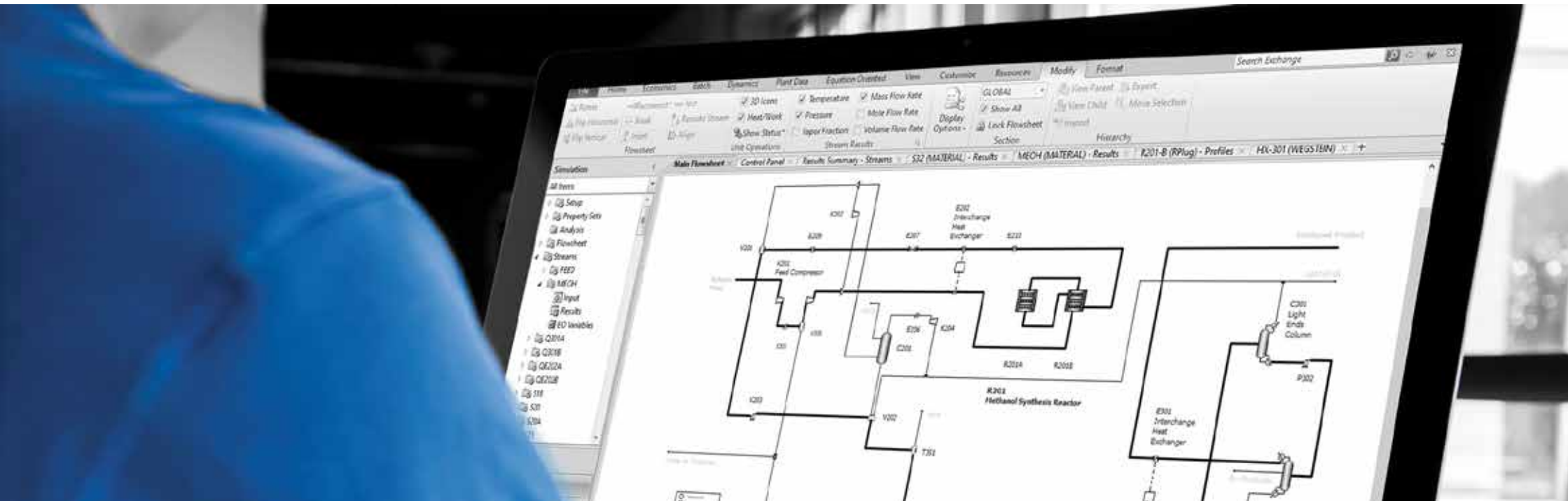
On-line and off-line compositional analysis of the liquid and gaseous samples using advanced Gas Chromatographs

Automatic catalyst synthesis pilots in laboratory and bench scales for the manufacturing bulk and supported catalysts





- Follow up, monitoring, evaluation and assessment of the catalyst performance in industrial plants
- Preparation of comprehensive catalyst evaluation reports for process engineers and managers of industrial plants
- Process simulation and reaction modeling of industrial reactors
- Application of CFD for the design of catalyst shape, catalyst handling and reaction modeling
- Development of the customized applications for the plant engineers as a facilitating tool in the engineering calculations
- Design, basic and detailed engineering of industrial units
- Performing feasibility studies and economic analysis of the chemical processes
- Providing consultation services to the industrial plants for the improvement of plant efficiency and throughput





RECOVERY OF BASE METALS FROM SPENT CATALYSTS

Recovery of base metals (Nickel, Copper, Zinc, Aluminum, Molybdenum and cobalt) from different types of spent catalysts

Production of base metal ingots with high purity using special technologies

Production of highly pure oxide, hydroxide and crystal of base metal salts



CATALYST HANDLING

Sock & dense loading of catalyst and adsorbents using manual and automatic systems under inert or air atmosphere

Catalyst screening

Catalyst skimming under inert and air atmosphere

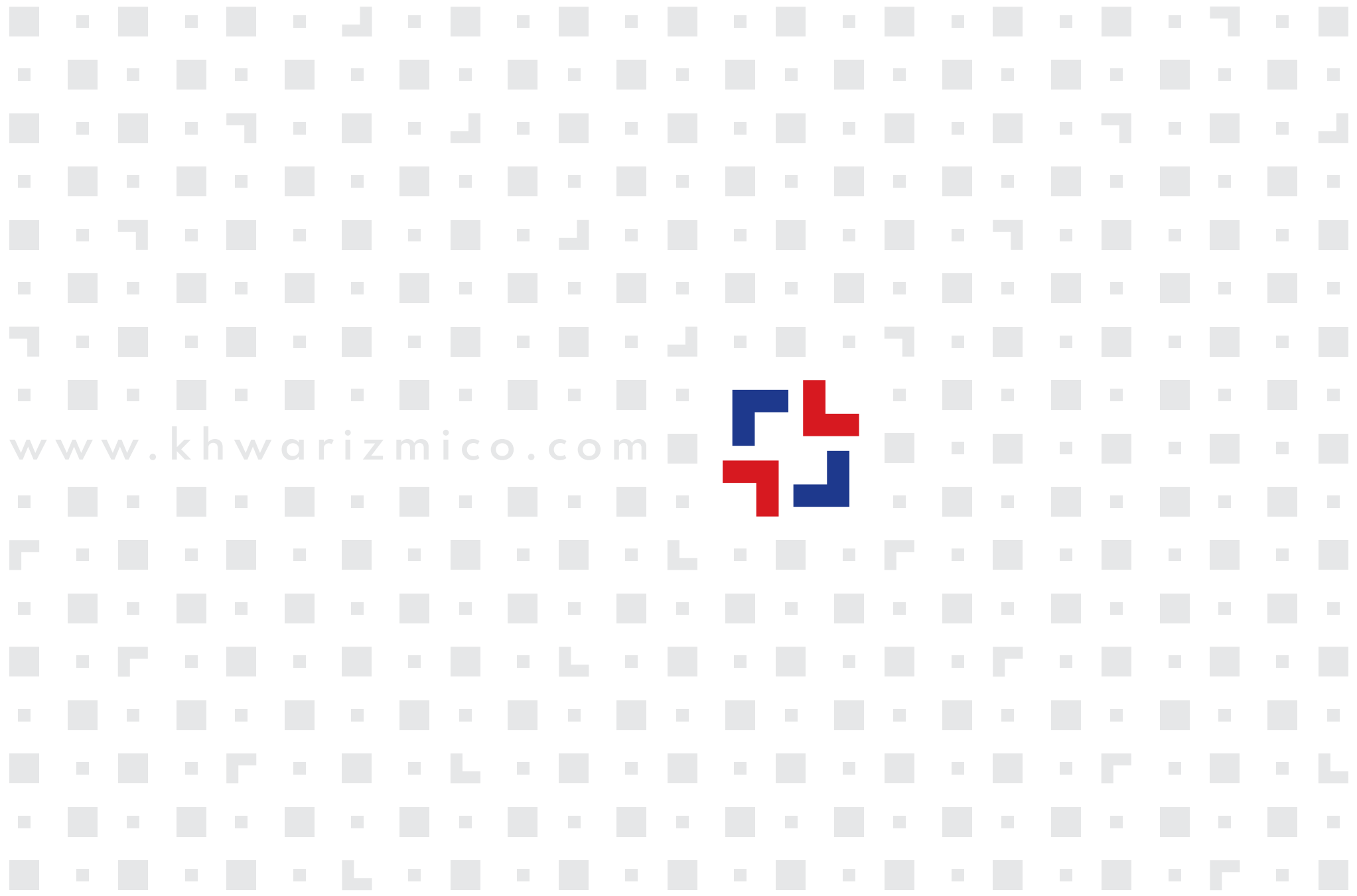
Unloading using vacuum unloader machines

Reactor mechanical and visual checking using advanced inspection systems

Reformer services like Pressure drop measurements for checking the loading quality

Design of advanced datasheets for cata-test inlet - outlet stream analysis





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Address: No. 46, 4th Kuhak
St., Amirkabir Blvd., Garmdareh,
Makhsos Rd., Alborz, Iran

Postal Code: 31648 - 83171

Tel: +9826 - 36108309
+9826 - 36108317
+9826 - 36108122

Fax: +9826 - 36108128

Central Office Address:
No. 71, North Sheikhhahayi
Ave., Sheikhhahayi Sq., Tehran,
Iran.

Postal Code: 19958 - 54371

Tel: +9826 - 36108309

Website: www.khwarizmico.com
Email: info@khwarizmico.com

