

Creating a particle of difference.

Where common challenges meet shared solutions

ExxonMobil™ helps refiners and petrochemical manufacturers increase capacity, lower costs, improve margins, and operate safe, reliable and efficient facilities. In our commitment to helping customers implement best practices and achieve better results, we provide cutting-edge proprietary catalysts and license advantaged process technologies for refining, gas and chemical needs.

Advantaged chemical technologies

ExxonMobil licenses a range of petrochemical technologies for alkylation, olefin removal and aromatics treatment as well as xylene processes such as isomerization.

Benzene alkylation - enabling entrance into the styrenics and phenolics value chains

ExxonMobil zeolite catalysts and Badger Licensing, LLC. process innovations upgrade benzene and olefin feedstocks into higher value aromatic derivatives, ethylbenzene and cumene, for the advantaged production of polystyrene and polycarbonates.

Xylenes – improving profitability of aromatics operations

ExxonMobil licenses a number of technologies which improve yields, reduce operating and capital costs, and increase production in both existing and new facilities including the PxMax™ (selective toluene disproportionation), EMTAM™ (toluene alkylation with methanol), XyMax™-2 and LPI (xylenes vapor and liquid phase isomerization), TransPlus™ 5 (aromatics transalkylation), and Olgone™ (aromatics treatment) processes. These processes are also available for license by our alliance partner, Axens, as part of the ParamaX® technology suite for grassroots aromatics complexes.

Technologies for license



Chemical

- Alkylation
- Xylenes



Refining

- Fuels
- Resid upgrading
- Lubes



Gas

- Gas treating
- Synthetic Fuels



Catalysts

- Zeolite catalysts

Advantaged refining technologies

ExxonMobil offers a portfolio of refining technologies for fuels and lubricants production, gas treating, resid upgrading and synthetic fuels.

Fuels – producing high quality transportation fuels

Processes include MIDW™ dewaxing technology, BenzOUT™ benzene reduction technology, SCANfining™ hydroprocessing technology and Sulfuric Acid Alkylation technology which result in additional value from every barrel of crude oil used.

Nebula® and Celestia™ catalysts are commercially proven, bulk-metal catalysts.

Nebula catalyst has been successfully applied in many commercial applications since 2001. Celestia catalyst has the highest activity of any catalyst in the hydroprocessing industry, allowing increased feed rate and cycle length, and improved product quality. Celestia and Nebula catalysts are often deployed in

stacked configurations leading to significant performance improvement over other supported catalysts.

Resid upgrading – converting heavy oils to more environmentally friendly lighter products and flexigas

FLEXICOKING™ technology converts low-cost feeds — such as deep-cut vacuum resid, atmospheric resid, oil sands bitumen, heavy whole crudes and deasphalting unit, fluid catalytic cracking and ebullated-bed bottoms — to higher-value products.

Lubes – providing manufacturing technologies for base stocks

MSDW™ dewaxing technology, MAXSAT™ hydrofinishing technology and MWI™ technology provide optimum value through exceptional process performance for yields, run lengths and better tolerance of feed upsets. Our zeolite catalysts are designed to isomerize n-paraffins and saturate aromatics with maximum selectivity to lubes and minimal cracking to fuels.

Advantaged gas technologies

ExxonMobil gas technologies offer cost-effective, low-risk solutions for H₂S cleanup and syngas production.

Gas treating – removing H₂S at low solvent circulation rates

FLEXSORB™ gas treating technologies and absorbents selectively remove hydrogen sulfide (H₂S) in the presence of carbon dioxide (CO₂) using proprietary severely sterically hindered amines.

Synthetic fuels – converting natural gas into high quality clean-burning transportation fuel

The latest generation Methanol to Gas (MTG) process produces fuel that is virtually identical to conventional gasoline except that MTG fuel has ultralow sulfur levels.

Specialty zeolite catalysts

Our high-performing zeolite catalysts improve operational efficiency and production capacity. They are backed by leading technology and a commitment to strong customer relationships.

Zeolite catalysts – facilitating technological developments

ExxonMobil zeolite catalysts are used in over 150 commercial facilities around the world. ExxonMobil provides the catalysts as well as providing or facilitating the licensing of our process technology, including services such as start-up support, troubleshooting and process control.

We offer for license the same proprietary catalysts and advantaged process technologies that we use in our own facilities.



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