

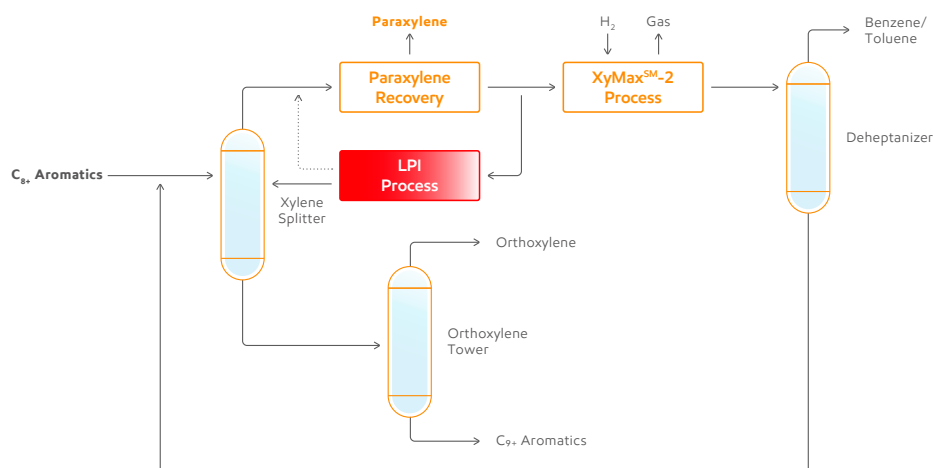
# Maximize xylene loop profitability

## Capture significant energy savings/debottleneck your facility

The liquid phase xylenes isomerization (LPI) process is the latest generation of liquid phase isomerization technology and is available for license by ExxonMobil directly, as well as by Axens as part of the ParamaX® technology suite for grassroots aromatics complexes.

### LPI flowscheme

The following simplified flowscheme shows the LPI process in a typical fractionation and recovery section of an aromatics complex.



### Key benefits



#### Reduced capital costs

- Smaller vapor phase isomerization unit – grassroots
- Simpler unit configuration



#### Long catalyst cycles

- Consistent with modern turnaround schedules



#### Inexpensive debottlenecks



#### Improved process performance

- Significant energy savings
- Low temperature operation
- Ultra-low xylenes losses
- High PX selectivity

## LPI process: significant energy savings, ultra-low xylenes losses, inexpensive debottlenecking

The LPI process is the latest addition to ExxonMobil's portfolio of xylenes isomerization processes available for license. The technology operates at low temperature with xylene losses less than the best performing vapor phase isomerization technology, the XyMax<sup>SM</sup>-2 process. The LPI process can be deployed in parallel with vapor phase isomerization units in existing plants, yielding both energy savings and debottlenecking opportunities. Because of its very low ethylbenzene (EB) conversion per pass, the LPI process is often operated in combination with a vapor phase isomerization process, where most EB removal is achieved. However, in situations where the C8 aromatics stream to be isomerized contains very low EB, xylenes isomerization can be carried out via the LPI process only, and EB purge is managed by other means.

### The LPI process offers the following advantages:

- Significant energy savings
  - Low temperature operation
  - Elimination of two costly steps - (1) raffinate vaporization and (2) isomerate condensing
  - Reduced traffic through the high temperature vapor phase isomerization unit
- Ultra-low xylene losses
- Low catalyst costs
- Low metallurgy costs
- Debottlenecking opportunity for existing plants or significant reduction of the vapor phase isomerization unit size in grassroots facilities
- High paraxylene selectivity
- Long cycles consistent with modern aromatics complexes turnaround schedule

### Support from initial consultation throughout the life of the operation:

- Initial discussions to confirm client objectives and tailor the solution
- Detailed yield estimate
- Feasibility study
- Commercial proposal
- Process design package
- Technology transfer, training, catalyst loading and start-up support
- Technology improvement
- Performance monitoring and technical assistance throughout the life of the catalyst

Significant energy savings are demonstrated at multiple deployments of the LPI process



Have a technical question?

Connect directly with our technical experts at [exxonmobilchemical.com/AnswerPerson](https://exxonmobilchemical.com/AnswerPerson)

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