



Integrated Refinery and Petrochemical Services

Optimizing efficiency and asset potential

Today's complex operational challenges demand optimum plant efficiency. At Intero we ensure it with an essential range of dedicated services that meet your safety and regulatory requirements. And maximize your asset potential.

Throughout your facility's lifetime, Intero can deliver vital services like state of the art innovative industrial, environmental and inspection technologies, plus advanced data management solutions. Together with our integrated single contractor turnkey approach, it means the support you need can be customized and combined. Ensuring optimal solutions are delivered – every time.

Reducing Downtime Without Risking Safety or the Environment

Meeting The Challenge

Across the globe, no two refineries are the same; with different configurations serving different markets. Despite this, there are common challenges in areas such as safety, quality, reliability, and the environment. Intero has over 35 years of global experience, so we understand those challenges and provide essential support that ensures efficient asset optimization, responsible use of natural resources, and operational safety.

We listen and work closely as business partners with our customers, and we have created an extensive service portfolio. We are able to effectively provide a single contractor, turnkey solution. For you, this results in more efficient communication, smooth project execution, plus lower costs and downtime. Success is further assured by our dedicated and experienced on-site teams who support each unique service package.

At Intero, we are committed to always delivering the essential support you need, at every phase of your facility's lifetime. From new construction through to start-up, as well as maintenance to decommissioning.

New Construction / Startup

Whether constructing or starting up a new refinery or chemical plant, efficiency and safety are vital. At the commissioning / start-up phase; testing, cleaning, leak detection, and emission management are key. Our highly qualified experts in the fields of chemical cleaning, pigging, flushing, air blowing, LDAR (Leak Detection and Repair), and post start-up emission management can support customers at every stage. These services, plus our advanced project management capabilities, ensure assets stay clean and tested as well as deliver a safe and trouble-free start-up.

Maintenance / Turnaround

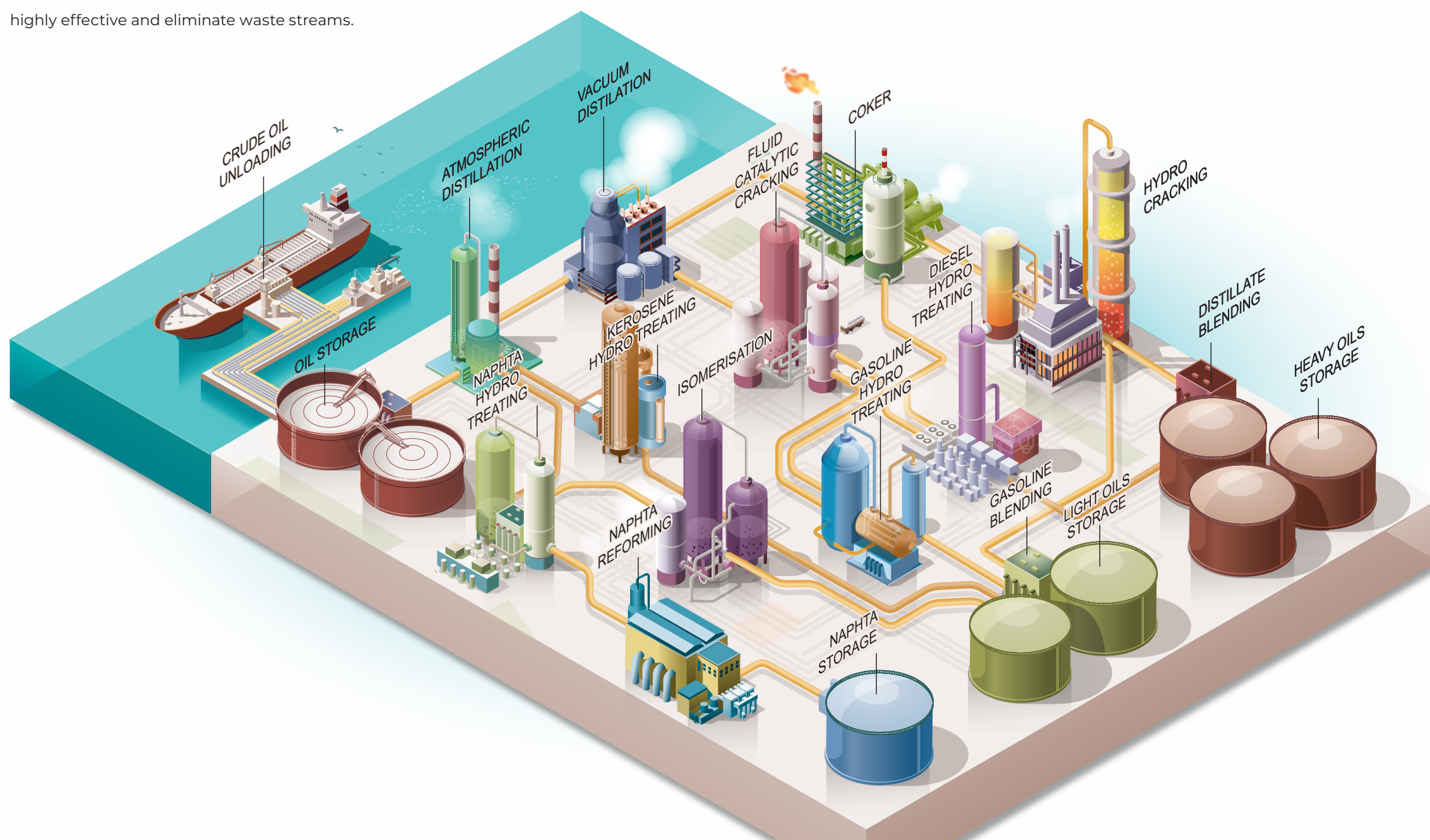
Turnarounds are known to have condensed periods with extreme high activity. This must be appropriately anticipated and managed to avoid delays and safety risks. Intero's experience means that we have the right operational know-how and expertise plus a range of smart services to support your needs. This means turnarounds are handled efficiently and with minimal downtime.

During every shutdown, efficient (chemical) cleaning and decontamination services are critical. To meet these demands, we developed innovative, environmentally friendly "green" chemical cleaning products that are highly effective and eliminate waste streams.

Another key element in minimizing downtime during turnarounds is the way heaters are cleaned and coke is removed. Our integrated, single contractor approach allows us to clean and inspect heater tubes using ultrasonic techniques, to inspect even the most complex furnaces and obtain detailed data for accurately assessing remaining lifetime.

Intero's fleet of inspection tools can inspect pipelines or process piping during the turnaround for corrosion, such as Corrosion Under Insulation (CUI) and provide customers' inspection departments with highly accurate data to support accurate decision making.

For a range of process steps during turnarounds, such as purging and drying, high volume nitrogen supply may be required. For these needs, Intero can provide accelerated controlled reactor cooldown services that ensure downtime is cut to the bare minimum. Nitrogen can also be used to simulate operating conditions during pre-start-up and pressure tests, thus preventing loss of valuable production time and time lost due to unanticipated leak repairs.



Our Turnkey Solutions Support You In Your Challenges

Reducing Downtime

- Nitrogen cool down
- Pre-turnaround robotic tank inspection and intelligent pigging
- Heating and cooling services
- Integrated furnace decoking and inspection
- Accelerated controlled reactor cool down services
- Leak detection
- Sniffers' Emission Management Software SFEMP

Risk Management

- PRIMS risk management software
- Environmental program development
- UT in-line inspection
- Furnace cokescan inspection
- Furnace UT in-line inspection
- Robotic tank inspection
- Corrosion growth and remaining life assessments

Energy Savings

- Vent and flare loss monitoring
- Thermographic surveys
- Compressed air and vacuum leak detection

Emission Reduction

- Leak detection and repair plus quantification
- Smart LDAR – optical gas imaging
- Sniffers' emission management software SFEMP
- Environmental program development
- Training and competence development
- Benchmarking emission performance

Cleaning Assets

- Nitrogen sand jetting
- Heating services
- Pipeline pigging
- Air blowing
- Chemical decontamination
- Chemical cleaning
- Reactor hot stripping
- Purging and drying (nitrogen)
- Intero Decoking Services (IDT)

Project Management

- Engineering and preparation
- Planning, logistics and transport
- Site project management
- Reporting

Main Services

Services Executed During Turnaround / Out of Service

- Purging and drying
- Cleaning and flushing
- Cooling and heating
- Leak and pressure testing
- Project management
- Support services
- Pipeline inline inspection
- Furnace decoking and inspection
- Tank inspection

Services Executed During In-Service Purging and Drying

- Emission reduction
- Energy savings
- Pipeline integrity





Intero Integrity Services

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Elevating the Standard for Refinery Inspection

Intero Integrity Services is the leading specialist for keeping complex oil, gas and petrochemical facilities clean, safe, well maintained and highly productive. Our unique range of industrial, inspection, and environmental services maximizes your asset availability.

Turnkey. Innovative. Optimized. We listen to customers constantly, so we understand what's important to them: highest possible performance, protection, and predictability.

Ever-evolving solutions 