



# Fabrication & Plant Upgrade Services



## YOUR CHALLENGES

Whether you are planning to increase capacity, add a new process or simply modernise your plant, it is often necessary to team up with a reliable local partner who can support all phases of the project from engineering through to commissioning and ongoing maintenance.

## OUR FABRICATION & PLANT UPGRADE SERVICES

We have dedicated workshops for fabricating structural and carbon steels separate from stainless steel and special alloys, to avoid cross-contamination. Through constructability reviews, we can maximise the early installation of structures and new equipment pre- turnaround, whilst the facility is online, reducing schedules and peak numbers during the subsequent outage.

## HOW WE SUPPORT YOUR BUSINESS

We are experienced at providing comprehensive fabrication and plant upgrade projects and, together with our technical partners, can support clients with all aspects covering engineering, construction, commissioning and project management. Often these projects coincide with planned shutdowns and turnarounds, which we can undertake in addition to the fabrication and plant upgrade, improving safety, eliminating interface issues and minimising cost.

Our fabrication and plant upgrade teams are spread across the region and provide general mechanical and maintenance services to all our customers. They are qualified experts, with internationally recognised certifications and take pride in delivering our full range of services to the highest standards.

## THE CR3 DIFFERENCE

CR3's large in-house team of highly trained technicians is subject to regular audits and a stringent safety passport scheme. We invest heavily in the latest equipment and SMART systems to maintain our reputation as the region's leading one-stop provider of specialised maintenance services.



### Advanced equipment and technology

CR3 has unparalleled access to the latest equipment and technology from around the world ensuring our customers always benefit from the latest solutions and ways of working on any given project. Our Innovation Program provides an opportunity for all stakeholders to participate in our continuous improvement and drive enhanced safety, improved efficiency and productivity, support our sustainability aspirations and deliver increased value for all.

### Exceptional service

CR3 consistently delivers the highest standards of safety, efficiency, productivity and customer satisfaction. We optimise projects through meticulous planning, exceptional program management, proactive procurement, easy-to-use systems and an experienced and multi-skilled workforce.

## YOUR BUSINESS BENEFITS

**Increase productivity** – with our workflow management systems that improve transparency of available resources and allows us to track compliance with operational and contractual KPIs and assist in delivering significant productivity gains for our customers.

**Save time and money** – with our multi-disciplinary approach and project management capability that eliminates interface issues and minimises costs to deliver your projects safely, on time and on budget.

**Ensure high safety standards** – by working with a partner that offers regular training and safety awareness programs to maintain a strong safety focus and excellent safety culture.

CR3 is a leading provider of energy engineering solutions. Established in 1991, we provide specialised maintenance, plant upgrade, revamp and engineering services with a sharp focus on **Energy Efficiency, Engineering Excellence, and Sustainable Solutions.**

**To learn more, visit CR3.Group**

This can be further enhanced with our in-house scaffolding services to provide a suitable access solution to maximise utilisation by follow-on trades.

### Outstanding QHSE performance

Our investment in training, equipment and SMART systems combined with our focus on rigorous planning, preparation and execution of work ensures we can deliver a best-in-class performance that continually exceeds our clients' expectations for safety and quality.

### Unrivalled experience

Our teams of engineers, planners, procurement personnel and technicians combined with our regular investments in the latest equipment, tools and systems maintain our reputation as the region's leading provider of fabrication and plant upgrade services.



## OUR SOLUTIONS

- Basic and detailed engineering services via specialist partners
- Dismantling, demolishing and removal of redundant equipment and piping
- Fabrication, installation and modification of structural steel including platforms and structures
- Fabrication, installation and modification of all pipework and piping systems including stainless steel and special alloys
- Provide specialist support for construction / constructability reviews
- Scaffolding and installation of safe work platforms
- Specialist cold cutting methods including: Diamond Wire, high-pressure water and pneumatic clamshell sever & prep
- Lift studies, safe rigging and installation of equipment and piping systems in live plant
- Rotating equipment installation and alignment
- Non-destructive testing (NDT)
- Associated civil works
- Painting and protective coatings
- Insulation / refractory

## CR3 IN ACTION

### The challenge

Fabricate and install 140 tons of structural steel around live refinery in SE Asia, including 620 tie-ins, 27 new rotating and static equipment items and several km of new pipe.

### The solution

Separate carbon/structural steel & stainless steel/Hastelloy workshops were established to avoid cross contamination. Major temporary support structures were fabricated and installed to facilitate, the replacement of heavy equipment.

### The outcome

Reduced the turnaround duration substantially, as most of the major equipment was installed pre-event whilst the plant was online.

## Leading one-stop provider of specialised maintenance services

CR3 supports your business with extensive contracting experience in the delivery of catered service packages, 'blind to blind' jobs and turnkey maintenance services during major shutdowns and turnarounds. Our business upholds a culture and track record of integrated management systems that are certified to multiple international standards.

## Our Solutions

We offer a comprehensive portfolio of maintenance services that are grouped into six business lines. Our experts deliver these services – onshore and offshore – on time and on budget.

Our complete 'blind to blind' solution ensures more streamlined and efficient projects, as we maintain direct, single-source control of all critical path elements. We cater to projects of widely varying scope and complexity, and can deliver multiple shutdowns concurrently.

### Related services:

- Static & Rotating Equipment Maintenance
- Industrial Scaffolding
- Mechanical Services
- Column Modifications & Repairs
- Total Heat Exchanger Maintenance
- Flare Tip Replacements & Repairs
- Cleaning & Decontamination Services
- Mercury Management Services
- Catalyst Handling Services
- Nitrogen Services
- Waste Handling
- Decommissioning Services
- Insulation Services
- Valve Maintenance
- Storage Tank Cleaning & Maintenance

Our experts meet your demands for shorter change-outs, leaner project teams and superior quality standards for all reactor types with end-to-end solutions that reduce downtime and increase profitability.

### Related services:

- Catalyst & Adsorbent Handling Services
- Tubular Reactor Services
- Dense Loading
- 'Blind to Blind' Mechanical Services
- Reactor Internals Replacement & Repairs
- Nitrogen Services
- Waste Handling

We clean and inspect virtually all plant vessels, columns, drums and piping systems, both onshore and offshore, with services that can be tailored to requirements.

### Related services:

- Pre-Commissioning & Commissioning Services
- Nitrogen Services
- Pipeline Cleaning (Chemical & Mechanical)
- Pipeline Flooding
- Pressure Testing
- Dewatering
- Drying
- Purging

We deliver projects safely, on time and on budget by ensuring single-source control through our multi-disciplinary approach and project management capability.

### Related services:

- Process Revamps, Rejuvenations & Retrofits
- Construction & Constructability Reviews
- Engineering, Procurement & Commissioning Services
- Operations & Maintenance
- Dismantling, Demolishing & Removal of Equipment
- Fabrication of structural, Carbon Steels & Pipe Systems
- Fabrication of Stainless Steels & Special Alloys
- Installation of Large Equipment & Pipe Systems
- Welding
- Hot & Cold Cutting
- Scaffolding & Insulation

Our investment in training, equipment and SMART systems combined with our focus on safety and rigorous planning, preparation and execution of work underpins our track record as a leading provider of mechanical & plant maintenance services.

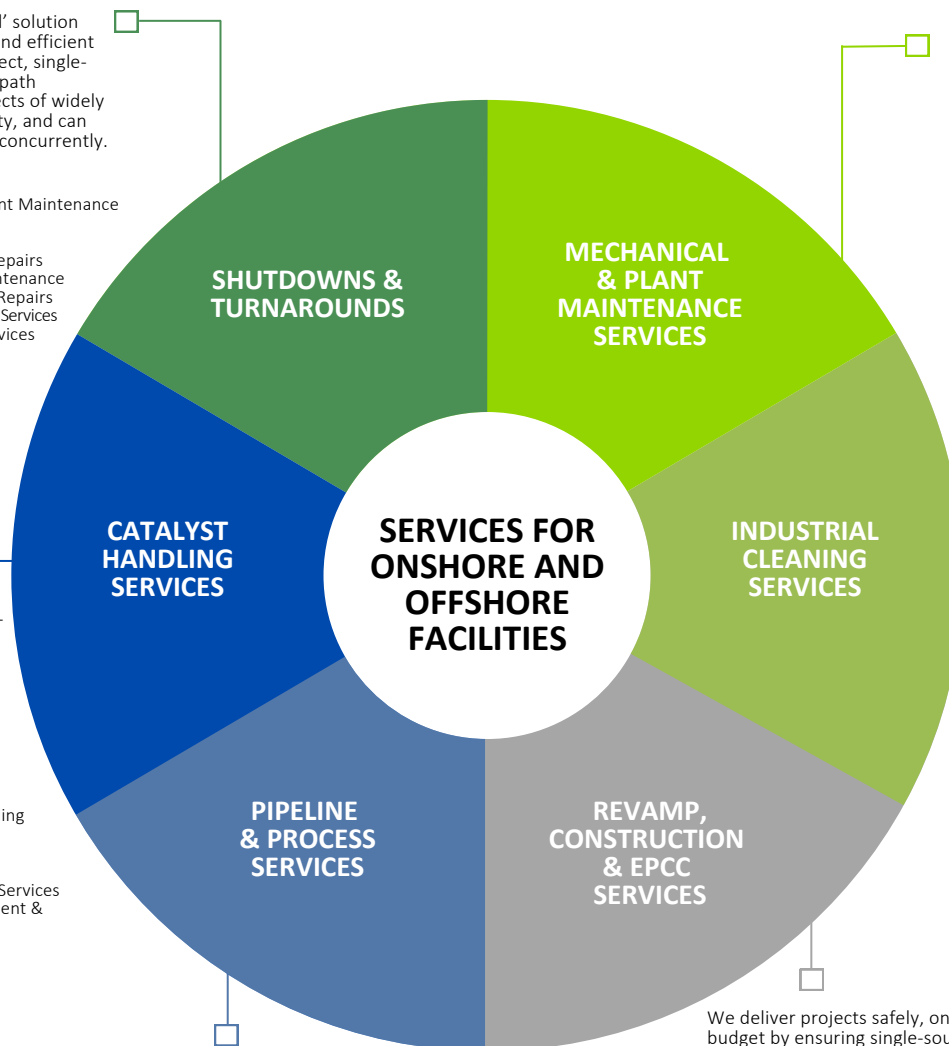
### Related services:

- Static Equipment Maintenance
- Rotating Equipment Maintenance
- Specialist Cutting Services
- Online Leak Sealing
- Controlled Bolting
- Reactor Repairs & Maintenance
- Plant Change & Piping Modifications
- In-situ Flange Facing & Machining
- Industrial Scaffolding
- Insulation Services
- Valve Maintenance
- Continuous Plant Maintenance
- Storage Tank Cleaning & Maintenance

Our extensive portfolio of cleaning services sets the benchmark in terms of technical, environmental and safety standards.

### Related services:

- Chemical Cleaning Services
- Mercury Management Services
- Fin Fan Optimisation
- Hydro Jetting Services
- CR3 Decoking Technology (CDT)
- Decontamination Services
- Waste Handling





CR3 is a leading provider of energy engineering solutions. Established in 1991, we provide specialised maintenance, plant upgrade, revamp and engineering services with a sharp focus on **Energy** Efficiency, **Engineering** Excellence, and Sustainable **Solutions**.

### Contact us today to learn more

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