

Crane & Engineering Services



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Crane & Engineering Services was established in 2009 as an independent business created from the Technical Services Department of APM Terminals, one of the world's leading container terminal design, management and operating companies.

The CES headquarters is located in Shanghai, home to some of the world's leading manufacturers of harbour cranes and related equipment, many of which are long-time business partners of APM Terminals. The CES team will continue its responsibility for crane engineering, quality assurance, commissioning supervision and crane assessments for the APM Terminals Global Port, Terminal and Inland Services Network while also serving new external clients.

A 60-person staff, led by Managing Director Halfdan Ross, represents the combined hands-on experience of over 300 years in crane engineering and procurement procedures in over 50 ports and 22 countries on five continents. Technical functions include specialists for all relevant disciplines, including mechanical, structural and electrical engineering. Experienced mechanics, electricians, technicians, supervisors and maintenance engineers have been added to the CES team as the business unit has expanded its scope and capabilities.

Maintenance and repair services for cranes and cargo handling equipment are also offered, enabling CES to offer a unique all encompassing service scope to our clients.

Over the past seven years the CES staff has been responsible for the successful delivery of more than 150 STS cranes and more than 300 RTGs to over 30 facilities around the world, including some of the industry's newest, largest and most technologically advanced containerports and terminals.

Let us put this experience to work for you.

Services offered:

- Assistance in the generation of technical specifications and tender documents;
- Proposal evaluation and recommendation of potential suppliers;
- Support during contract negotiations;
- Development of Functional Descriptions;
- Project Management from awarding of the contract to crane commissioning;
- Engineering design review;
- Electrical, structural and mechanical inspections throughout manufacturing process at the manufacturing facility;
- Commissioning supervision at both the manufacturing site and the destination terminal;
- Maintenance and repair of cranes and other cargo handling equipment;
- Renovation of cranes and crane parts;
- Emergency and warranty-related repairs;
- Inspections and assessment of existing cranes.

Management

CES provides independent service as crane engineers and third party inspectors with the unique qualification of operational experience in over 50 terminals around the world. We currently maintain offices in Shanghai, Hong Kong, Berlin and The Hague, with additional representation in South America and South Africa.

The business philosophy of CES centers on value: that a project's overall cost calculation must encompass not only initial capital expenditure, but must also consider the direct cost benefits of increased productivity through equipment availability, reliability, maintainability and reduced unscheduled downtime and injuries.

CES project management delivers a substantial contribution to overall crane value not only by reducing the total cost of crane ownership through detailed technical specification, but also by closely monitoring the design, construction and commissioning of the cranes from the start of the manufacturing process to the final hand-over at the terminal.

By closely monitoring every phase of the project's processes, any defects or sub-standard procedures can be immediately addressed and corrected. This service can mitigate the risk potential of lower-cost suppliers who may be lacking adequate in-house quality assurance programs.



Keld Pedersen
Terminal
Management

Port Of Tanjung
Pelepas, Malaysia

“CES continues to deliver the professional technical services required for our business. The composition of highly competent people with diverse, yet aligned, technical background and knowledge has been of great benefit to Port of Tanjung Pelepas”.

Project Management



The CES Project Manager serves as the central coordinator and single point of contact between the Customer and Manufacturer. This system assures the highest standards of efficiency throughout the Project Management process from the pre-contract stage to the final handover. All of the CES Engineering, Quality Assurance and Commissioning functions and milestones are reported directly to the Customer through the Project Manager as per the project schedule.

The Project Management function is critical to meeting the time, quality and cost parameters of any Project, and it is crucial that appropriate actions are identified and undertaken to guarantee on-time, on-budget performance.

Project Management responsibilities include:

- Coordinating the technical-commercial process before contract awarding;
- Coordination and monitoring of all Project interfaces;
- Arrangements for review and approval of Vendor drawings;
- Coordination of Design Review Meeting;
- Distribution and approval of Vendor inspection programs;
- Monitoring of Project schedule and milestones;
- Fabrication site visits to monitor construction progress;
- Monitoring commissioning and testing of equipment at Vendor facility;
- Coordination and monitoring of shipment from the manufacturing facility and final destination delivery;
- Issue of bi-weekly reports of Project progress;
- Maintaining all project-related document files;
- Inform Customer of payment milestones;
- Project invoicing and cost control.



Subir Mehrotra
General Manager-Engineering

APM Terminals
Pipavav
Port of Pipavav,
Gujarat, India

assurance support provided by your organization for the entire project has ensured timely availability of the cranes with no compromise to quality.

Post delivery and commissioning support extended by your team for all your projects was carried out in a very professional manner.

“As General Manager Engineering, APM Terminals Pipavav-India, I convey my appreciation and thanks for the impressive inspection work done on Project PPV01, PPV02, PPV03, and PPV04. The regular follow-up and quality

From the experience of inter-acting with your team for the past all projects I am very satisfied with your support and services. Your dedication and deep participation to ensure Customer satisfaction is highly appreciated.”



Engineering

CES' engineers have several hundred years of collective experience in crane equipment, whether container cranes, other container handling equipment or bulk cargo handling equipment.

With the purchase of new cranes, CES applies the vast engineering experience to draft technical specifications for tendering and procurement, ensuring that the equipment purchased will meet the intended purpose, performance and operational lifetime.

Upon execution of a crane equipment purchase, CES further provides Design Review, ensuring that the manufacturer's equipment design meets all specifications. For the Design Review, CES has established a standard list of submissions to review, encompassing more than 500 drawings and calculations. The Design Review includes:-

- structural;
- mechanical;
- electrical;
- quay interface;
- sea fastening and unloading aspects.

CES' engineers also apply their expertise and experience to technical review of new technologies and innovation with particular focus on environmental performance, safety in operation, productivity and reliability.



José Luis Soares,
Equipment and Maintenance Director
Libra Terminalis
Brazil

“In July 2009 Grupo Libra decided to invest in two new quay-side container cranes for our Terminal 37 in Santos, Brazil, to be manufactured by ZPMC in China. In order to assure that these cranes would fully meet our expectations we contracted

with APMT Cranes & Engineering Services (CES) as a third party inspection company.

After the successful handover of these cranes we can conclude that we were working with a highly professional, well organized team with excellent crane specialists in all functions from project management, through engineering and inspection, to commissioning supervision. During this process Libra relied upon CES for all monitoring functions, and it was clear that they were always acting in our very best interest. We had worked with other companies before, but this was the best experience we have ever had.”

Quality Assurance



The CES Quality Assurance team is comprised of highly qualified crane specialists covering each of the three engineering disciplines involved with crane fabrication and installation:

- Structural
- Mechanical
- Electrical

These experienced specialists are part of the CES team, dedicated to maintaining the quality defined in the company's Standard Operating Procedures. A CES Quality Assurance Manual has been established to serve as a detailed guide defining processes, interfaces and responsibilities. CES has also developed in partnership with the crane manufacturer an Inspection & Test Program (ITP), as well as a comprehensive Electrical Installation Manual. These documents serve as the foundation of our work, which is continuously monitored to consistently maintain the highest quality standards on every Project. Aggressive quality assurance during the crane manufacturing and commissioning process is directly correlated to reduced costs of overall crane ownership and operation.



Sarath Yahampath
General Manager,
Engineering
Services
South Asia
Gateway Terminal
Colombo,
Sri Lanka

“On behalf of SAGT, I would like to express our gratitude to the team at CES for services rendered from the stage of defining specifications to finalizing and signing the agreements, reviewing the design, ensuring quality throughout the process, commissioning, shipping and rectification of issues.

The experience and dedication of the CES team contributed immensely in meeting our objectives of this project and making the project a success.”



Commissioning Supervision

The Commissioning team is staffed by highly experienced crane specialists with expertise in all electric power systems and crane operations. Complete familiarity with all aspects of crane functionality and features as well as drives and control logic provide the background necessary to oversee and supervise the complete commissioning process.

A comprehensive reference manual prepared by CES, "Commissioning Routines", has established clearly defined roles for the Commissioning Team for every project with all processes, interfaces and responsibilities addressed. CES has also developed a very comprehensive Commissioning Report which ensures that no function or safety measure is omitted, and that all parameters of the specification are met. The Team will attend the commissioning at the manufacturer's location, as well as at the final destination for the final hand-over of the cranes, assuring a smooth transition to operational status.



Michael Knight

Technical Manager

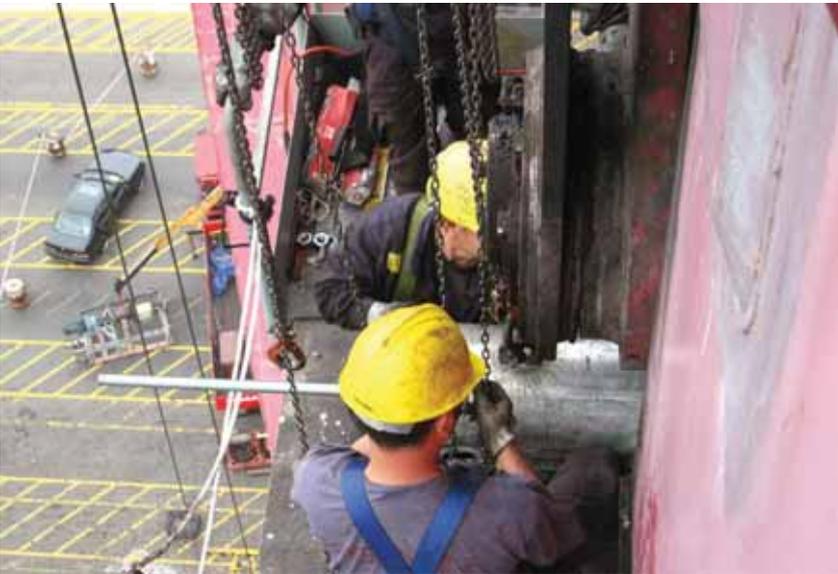
APM Terminals
Tangiers SA

Tanger-Med Port,
Morocco

"APM Terminals Crane & Engineering Services accompanied our technical department through the entire procurement process of 8 Quayside STS Cranes plus 26 ECO-RTG's from 2005 through 2008.

I am happy to confirm that we received excellent service from that team, who displayed a very high degree of technical competence and dedication to our project. We are convinced that due to their efforts with regard to design review, continuous manufacturing inspections and commissioning supervision, they helped us to obtain cranes superior to any others delivered by the same supplier. In particular I want to thank the dedicated commissioning supervisors who worked at our terminal, coping very well with the local culture and working long hours and weekends when required. We were very satisfied with their performance."

Maintenance & Repair



CES is now able to offer Maintenance & Repair services to our customers.

With more than 20 years experience in the crane maintenance and repair business, the CES M&R team is globally recognized as a quality service provider.

CES M&R services are available at varying levels and scopes, ranging from staffing to complete outsourcing of technical management, and from off-site overhaul of individual crane components to complete on-site crane refurbishment. Based in Hong Kong and Shenzhen, CES maintenance teams are available globally both for long-term service agreements and urgent emergency repairs.

CES employs highly-skilled and experienced maintenance engineers, supervisors and specialists in all relevant areas of expertise, including automation, electrical, hydraulic, mechanical, and marine engineers, registered electricians, welders, machinists, mechanics, fitters, and riggers. All staff is fully certified.



CES M&R Scope of Services and Experience:

- Structural repairs of cranes
- Shift-duty crane engineers for STS and RTG cranes
- Crane drive system and PLC upgrading
- Gear box overhaul (main hoist/gantry /trolley)
- Crane height and lift extension
- Overall refurbishment of reach stackers and ECHs.
- E-RTG conversions
- Engine and generator-set overhauls
- Wire rope change
- Crane lighting system upgrades



Suhas Karandikar
General Manager-Engineering

Gateway
Terminals India
Mumbai, India

“Since 2005, GTI has been receiving regular assistance from Crane & Engineering Services

in various areas, including the framing of proper technical specifications for various

container handling equipment, Project Management, and liaison with equipment

manufacturers for after-sales support. CES’s highly technically and professionally-experienced team has always helped GTI in addressing major technical issues with equipment manufacturers whenever such need has arisen.”



Training

Our experience has demonstrated that proper, rigorous and continuous training of terminal employees in crane safety, usage and crane maintenance is an essential component of improved productivity and reduced workplace risk.

CES offers on-site crane training for customer personnel in the safe use and maintenance of cranes and all related equipment. We provide tailored training solutions and refresher crane training for port and terminal team leaders and maintenance personnel.

Successful training will result in:

- Enhanced competence and confidence for operations and production teams who benefit from greater working knowledge of crane safe usage and crane maintenance;
- Fewer Lost-Time Injuries and associated equipment down time, encouraging employee wellbeing and productivity;
- Reduced overall crane maintenance and replacement costs;
- Increased ability of Operators to more effectively identify potential hoist and crane failures before breakdowns can occur.

Internally, CES maintains the highest standards of professional performance within our own staff through continuous training and development, keeping abreast of all technological and operational advances in the industry. We are able to respond to any technological innovations and changing trends through robust in-house staff training curricula in addition to specialized training courses provided by equipment manufacturers.



Mohammad Ragaey
Senior Project Engineer

Suez Canal
Container Terminal
Port Said East,
Egypt

“We are using CES for various projects at the Suez Canal Container Terminal, Egypt. In my opinion, what distinguishes CES is the dedication and responsiveness of its team. Although we have had many pre- and post- contract requests, the CES team has adapted to these changes to achieve what we can call “Customer Satisfaction”. The Inspection team is technically-expert, yet carefully selected for smooth communication flow with both the Manufacturer and the Customer; which was a challenge in the past. Applying high HSE standards and maintaining the cost-quality-time triangle is the key to success in any project and CES has excelled in that.”

Crane Assessment & Inspection



To protect your crane investment, it is essential to perform regular inspections - whether on existing cranes in operation or as due diligence when buying additional cranes and container handling equipment.

CES provides crane assessment and inspection of your cranes in operation with the dual goal of assuring both productivity and safety, while maintaining the quality of the equipment during operation. "Regular crane examinations will in the long term save downtime and money. It makes economic sense. But more importantly it will save lives."

Director of Global Risk Assessment TT Club

For buyer's of second-hand equipment, receiving an independent assessment on equipment condition is an invaluable advantage. Having design, quality, operational, functional and maintenance expertise on crane equipment, CES is able to cover all aspects of crane assessment.

CES' crane assessment and inspections are performed by experienced crane engineers covering areas such as:-

- structural integrity
- safety functions
- mechanical function
- electrical systems
- operational performance

For this purpose, CES has developed standard inspections check lists at different levels of detail and scope suiting different needs. CES is also participating in an international workgroup aiming at developing an universal safety inspection standard for container cranes.



David Hanafi
Meratus Line
Indonesia

"Meratus Lines has engaged CES for RTG QA and commissioning and for crane inspections.

We are pleased to note that the services provided by CES have been very professional and that their team has many years of very valuable experience in the crane industry. Their attention to quality has resulted in excellent equipment handover, and given critical input for important decisions. We are extremely satisfied with the performance of CES and look forward to working with them again in future projects."



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