

Ports

Connecting land and water

CESEL S.A. is a consulting company with more than 40 years of experience in developing engineering with several integrated disciplines. Its headquarters are located in Peru and it has branches and offices in several Latin American countries. CESEL develops studies, designs and engineering projects; studies, works and assembly supervision; factory inspection; environmental studies and comprehensive management of engineering and construction projects through its twelve operating divisions and six technical departments. The Ports Division is described as follows:

Services

- Materials balance.
- Energy balance.
- Project description.
- Preliminary equipment design.
- Preliminary design.
- Preliminary program.
- Preliminary estimation.
- Basic engineering.
- Pre-feasibility.
- Feasibility.
- Detail engineering.
- Work and equipment and facilities assembly supervision.
- Project management (EPCM).

Areas

Inland waterways and ports - Planning

- Inter-modal systems.
- Seaport and fluvial ports installation viability.
- Specialized docks for hydrocarbons, minerals, fishing, among others.

Ports and facilities - Design

- Mooring system: dolphins and mooring posts.
- Submarine line shipyard and sincro lift.
- Mooring posts and defense system.
- Piles and metal structures cathodic protection system.

Dredging

- Dredging preliminary plan, depth and viability study.
- Dredging equipment and volume calculation - Selection.

Work protection

- Dam design.
- Slopes protection.
- Rock selection.
- Layer thickness: filter, transition, armor.
- Possible quarries location study.

Works retainment - Dams

- Backfill material determination (rock or hydraulic backfill).
- Dam plant and typical section designs.
- Possible quarries location study.

Container yard - Facilities

- Pavement selection.
- Pavement layer thickness (sub-base, base and wearing course).
- RTG facilities.

Miscellaneous

- Buildings, electric and communication networks.
- Water and sewage.
- Water system for fire control.
- Port equipment.



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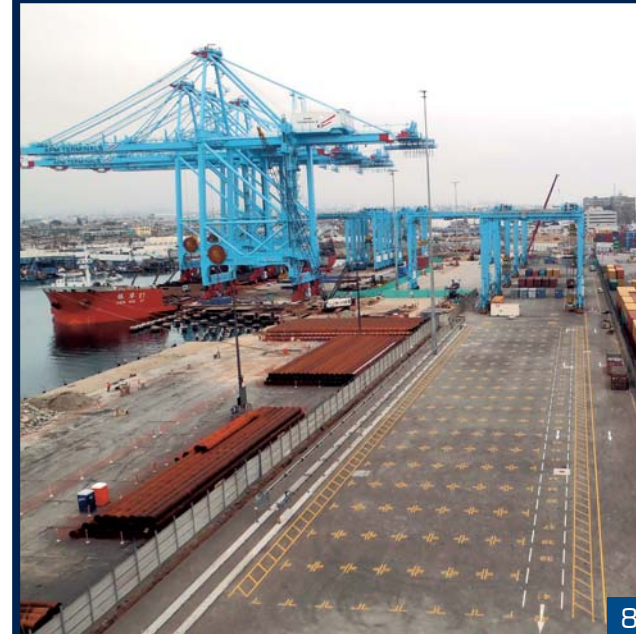
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Projects

- Callao Port extension and modernization. Master plan revision, basic and detail engineering development of the first stage of the extension of the main seaport of Peru. Callao, Lima; Peru.
- New container terminal in the southern area of Callao. Technical file revision and work and equipment implementation supervision. Callao, Lima; Peru.
- North multipurpose terminal modernization of Callao Port. Supervision for the first and second phase regarding works and equipment. Callao, Lima; Peru.
- Liquid load dock, Talara refinery. Detail engineering and construction methods revision. Dock construction supervision. Piura, Peru.
- Paita, Ilo and Pisco ports. Determination of the existing ports infrastructure and equipment needs. Piura, Moquegua and Ica; Peru.
- Pucallpa fluvial port. Construction design, detail engineering and supervision. Ucayali river, Ucayali; Peru.
- Iquitos fluvial port. Work design, detail engineering and supervision. Amazonas river, Loreto; Peru.
- Pijuyal port. Infrastructure installation final study. Amazonas river, Loreto; Peru.
- Morro Sama fishing port, stage I. Work supervision. Tacna, Peru.
- Saramiriza port. Infrastructure feasibility study. Marañon river, Loreto; Peru.