

PORTFOLIO



INGEDISA
INGENIERÍA & DISEÑO



WE BELIVE IN A WELL DONE JOB FROM THE BEGINING

INGEDISA is a civil and electrical engineering services company dedicated to the design, consulting and auditing of engineering projects with emphasis on:



DESIGN



SUPERVISION



STUDIES



ADVISORY

- Transmission lines
- Electrical Substations
- Steel structures
- Environmental studies
- Archeology
- Geotechnical studies
- Power systems studies
- Industrial instalations



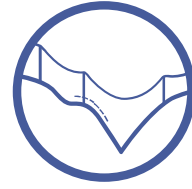
INGEDISA
INGENIERÍA & DISEÑO



WE WORK IN PROJECTS AROUND 15 DIFFERENT COUNTRIES

- Colombia
- Brasil
- Perú
- Ecuador
- Chile
- Bolivia
- Panamá
- Guatemala
- Nicaragua
- República dominicana
- Trinidad y Tobago
- Costa Rica
- Mexico
- Paraguay
- Angola

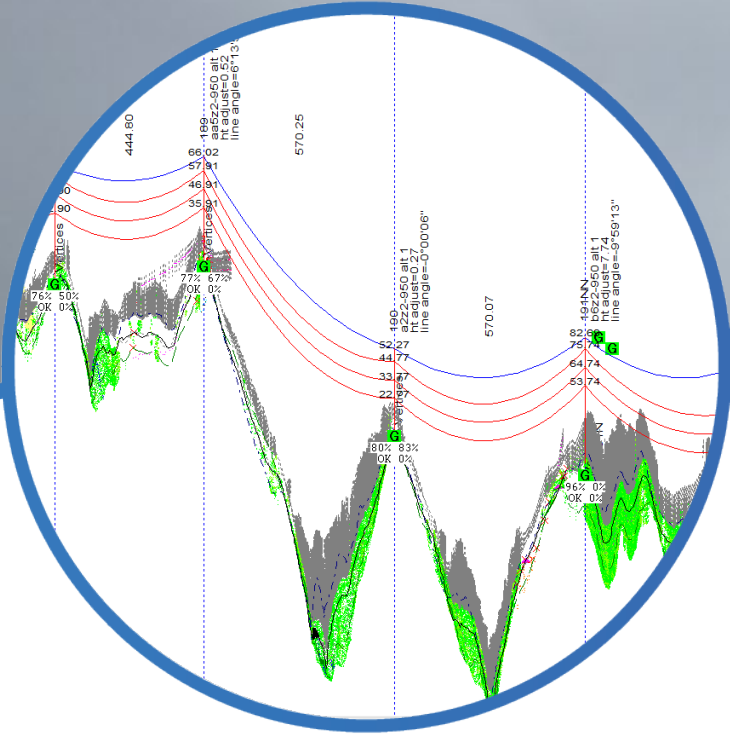




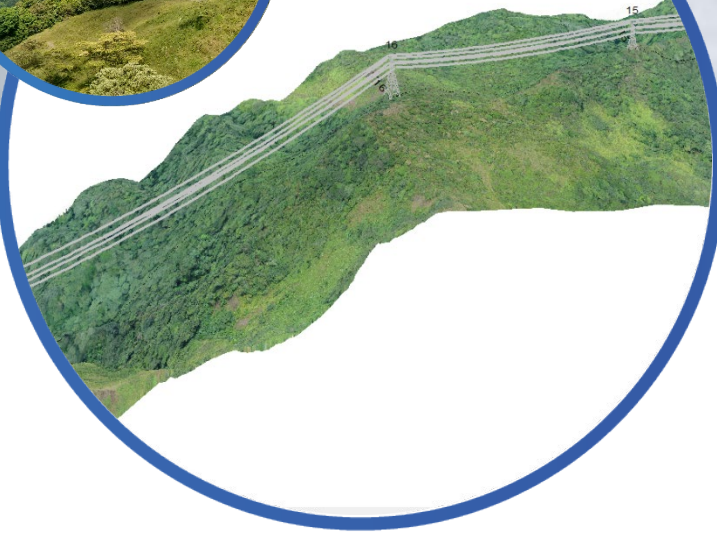
TRANSMISSION LINES

- Route selection and survey
- Topography, Staking and Geotechnical studies
- Electromechanical, civil and structural design
- Conductor selection and wire shield
- Lean Concrete base studies and location structure optimization
- Insulation coordination
- Electrical studies
- Supervision of designs and construction
- Underground transmission lines
- Advice and specialized design criteria
- Environmental and Archeology studies





Detailed civil and electromechanic engineering, detailed design of metallic structures: UPME 07-2016 - Electric reinforcement eastern area: La Virginia-Nueva Esperanza transmission line 500 kV (Colombia) - Client: TCE - TRANSMISORA COLOMBIANA DE ENERGIA S.A.S



Detailed civil and electromechanic engineering, electrical studies and preventive archeology: La Reforma-San Fernando transmission line ECOPETROL 230 kV, in partnership INGEDISA-DESSAU-ANTEA (Colombia) - Client: EEB - EMPRESA DE ENERGÍA DE BOGOTÁ S.A. ESP



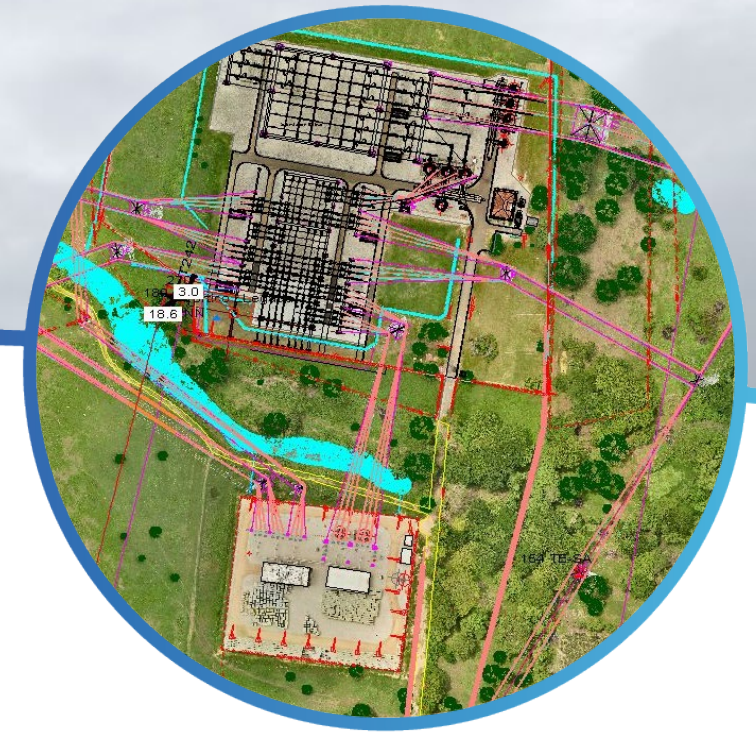
Detailed civil and electromechanic engineering: Associated transmission lines Hydroelectric Power Plants Gualaca, Lorena y Prudencia. Variant Mata del Nace-Veladero transmission line 230 kV (Panamá) - Client: IDC S.A.



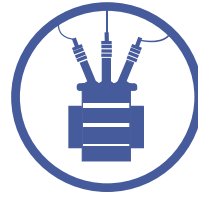
Detailed civil and electromechanic engineering, environmental management plans and archaeological prospecting: Transmission lines Zipaquirá-Ubaté and Muña-Sauces 115kV (Colombia) - Client: ENEL - Year: 2020



Detailed civil and electromechanic engineering, environmental impact study, preventive archeology and detailed design of metallic structures: UPME STR 06-2016 - Electric reinforcement of La Guajira: Riohacha - Maicao and Riohacha - Cuestecitas transmission lines 110 kV (Colombia) - Client: CONSORCIO CDEM



Detailed civil and electromechanic engineering and fieldworks: Process UPME 05-2018 transmission lines Chinú-Tolúviejo AND Tolúviejo-Bolívar 220 kV (Colombia) - Client: CELSIA - Year: 2019



ELECTRICAL SUBSTATIONS

- Physical Equipment layout
- Single-line diagrams
- Electrical studies
- Insulation and Electrical shielding coordination
- Conductor selection and guard wire
- Grounding mesh and External lightning
- Topography, Staking and Geotechnical studies
- Site preparation
- Electromechanical, civil and structural design
- Detailed engineering, control, protection, measure, telecommunications
- Design and construction supervision
- Environmental and Archeology studies





ELECTRICAL SUBSTATIONS



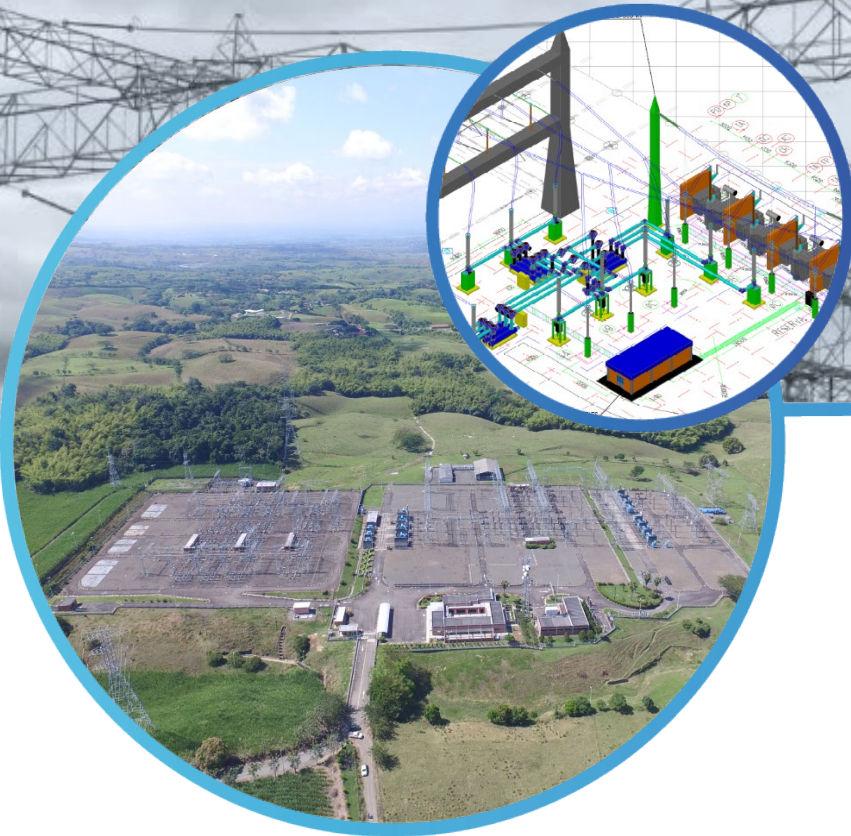
Detailed civil and electromechanic engineering:
La Reforma substation Extension (3x50 MVA),
230/115/13,8 kV (Colombia) - Client: SIEMENS S.A.



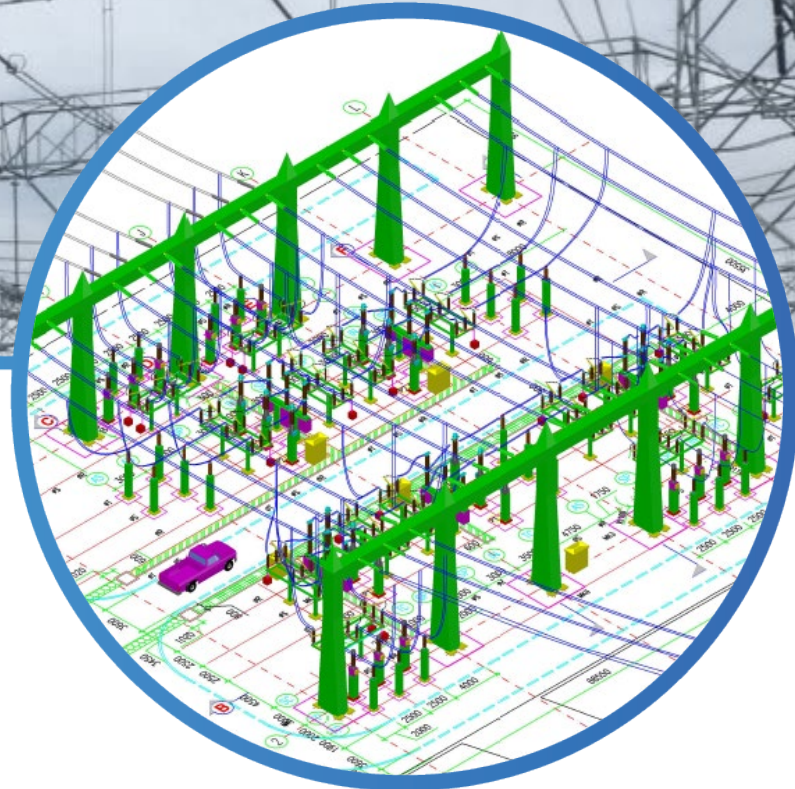
Construction supervision: Electrical substation
Altillanura a 115/34.5 kV enlargement - Proyect
parque solar llanos 1,2 and 3. (Colombia)
Client: TRINASOLAR - Year: 2020



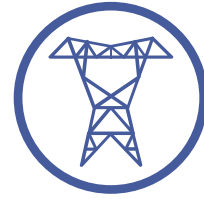
ELECTRICAL SUBSTATIONS



Detailed civil, electromechanic engineering and electrical studies: La Virginia and Nueva Esperanza electrical substation 500 kV (Colombia) - Client: ABB



Detailed civil and electromechanic engineering and electrical studies: Gecelca and Cerromatoso substations 110/500 kV (Colombia) Client: JE JAIMES INGENIEROS S.A.



STEEL STRUCTURES

- Transmission lines steel structures and Electrical substation
- Special steel structures
- Industrial facilities steel structures
- Grillage Steel foundations
- Telecommunication tower
- Design, assembly and testing supervision
- Support and Supervision in loading tests
- Structural verification of existing constructions





Lattice Steel structure design: Yaguacua-Villa Montes-
Camiri transmisión line 230Kv. Client: ENDE



Design steel structures: UPME 06-2017 Towers
transmission line Colectora-Cuestecitas-La
Loma 500 kV (Colombia) - Client: GEB - GRUPO
ENERGÍA DE BOGOTÁ S.A. ESP - Year: 2019



Aesthetic structural tower design: Riohacha –
Cuestecitas, Riohacha – Maicao Transmission line 110
Kv. (Colombia) Client: CONSORCIO CDEM



**Detailed civil and electromechanic engineering
and electrical studies:** Tuluní connection Betania -
Mirolindo transmission line 230 kV (Colombia) -
Client: TUPROJECT S.A.S. ESP



ENVIRONMENTAL STUDIES

- Environmental Pefeasibility
- Environmental diagnosis of alternatives – DAA
- Environmental impact studies – EIA
- Management Plans – PMA
- Environmental Licensing Management
- Social Management and Relations with Communities
- Lifting ban process
- Reserve Subtraction
- Public audiences
- Previous consulting
- Supervision of elaboration and implementation of Environmental Studies





Environmental impact study and preventive archeology: UPME STR 06-2016 - Electric reinforcement of La Guajira: Riohacha - Maicao and Riohacha - Cuestecitas transmission lines 110 kV (Colombia) - Client: MORELCO

Technical, environmental and archaeological supervision: Transmission lines of metropolitan area of Bucaramanga, Ocaña-San Alberto, Barranca-Puerto Wilches and Rio Frio substation 115 kV (Colombia) - Client: ESSA - ELÉCTRICADORA DE SANTANDER S.A. ESP

Detailed civil and electromechanic engineering , environmental impact study, preventive archeology: San Gil - Barbosa transmission line and connections 115 kV (Colombia) - Client: ESSA - ELÉCTRICADORA DE SANTANDER S.A. ESP



Rescue of flora and fauna and forest inventory:
Project Porce III, Section 2 Transmission line Río Magdalena – Sogamoso 500kV (Colombia) -
Client: FERTECNICA S.A. - Year: 2018



Environmental impact study and archaeological prospecting: Electrical substations Barzalosa, Ceiba, Occidente and associated transmission lines (Colombia) - Client: ENEL - Year: 2019



ARCHEOLOGY

- Archaeological prospecting
- Archeology Laboratory
- Implementation of Archaeological Management Plans (Supervision, Rescue and Laboratory)
- Public archeology





ARCHEOLOGY



Implementation of archaeological management measures: Project Yulimar-Tercera Salida Manantiales circuit and Expansion of primary infrastructure system Itagüí-Manzanillo-Ajzjal (Colombia) - Client: EPM - EMPRESAS PÚBLICAS DE MEDELLÍN - Year: 2019

Archaeological management plan: Nueva Esperanza 500 kV (Colombia)
Client: CONSORCIO NUEVA ESPERANZA

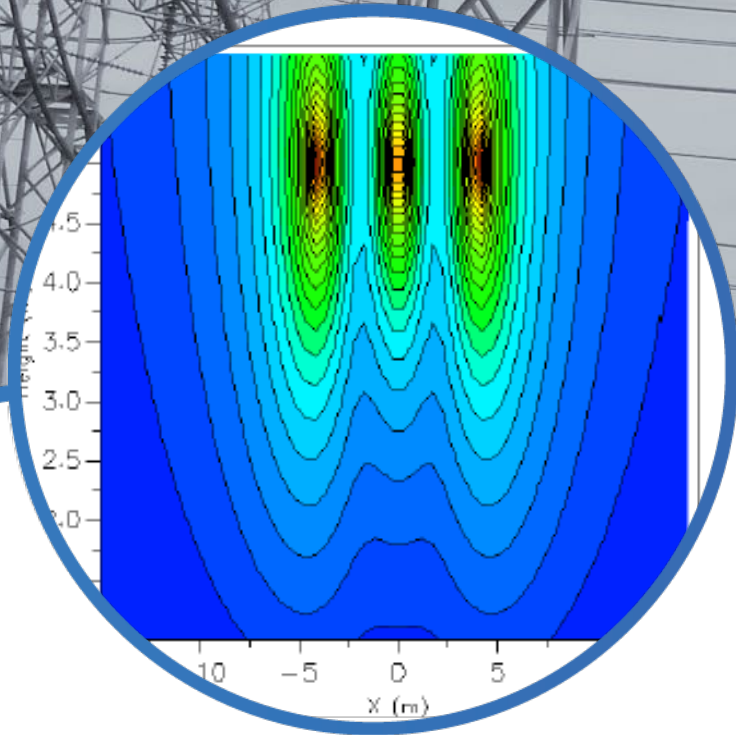
Archaeological rescue: Nueva Esperanza Substation 500 kV. rchaeological prospection, archaeological rescue, laboratory and monitoring: La Virginia substation and La Virginia-Nueva Esperanza transmission line 500 kV (Colombia) - Client: TCE - TRANSMISORA COLOMBIANA DE ENERGIA S.A.S



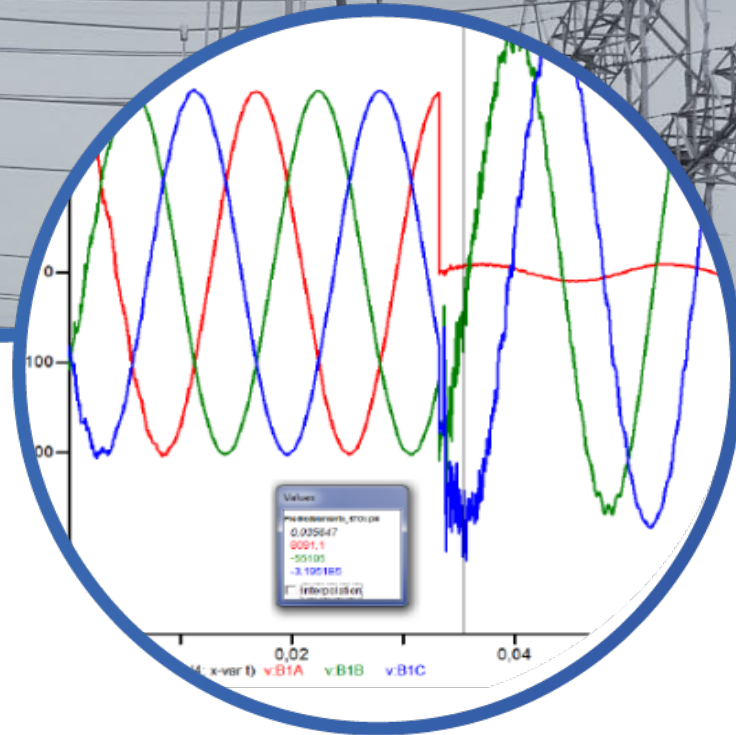
POWER SYSTEM STUDIES

- Transmission Isolation and Shielding Coordination
- Loading flow and deadshort circuit studies
- Protections Coordination
- Stability and Reliability, Electric Arc
- Electric and Magnetic Fields
- Power Quality Studies: Reactive and Capacitive Compensation, Harmonic Analysis, Reactor Sizing, Capacitors and Filters
- Transformer parallelism
- Electromagnetic Transients





Detailed civil and electromechanic engineering and electrical studies:
Extension Chinú substation 500/110 kV
(Colombia) - Client: ABB



Detailed civil and electromechanic engineering and electrical studies: La Reforma substation Extension 230 kV
(Colombia) - Client: SIEMENS S.A.



Detailed civil and electromechanic engineering and electrical studies: San Fernando and La Reforma substations 230 kV
(Colombia) - Client: JE JAIMES INGENIEROS S.A.



GEOTECHNICAL STUDIES

- Geotechnical risk assessment and management
- Geotechnical exploration
- Soil survey
- Threat assessment by mass removal movements and undermining
- Geotechnical stability analysis and protection and/or stabilization works
- Advice and specialized design criteria



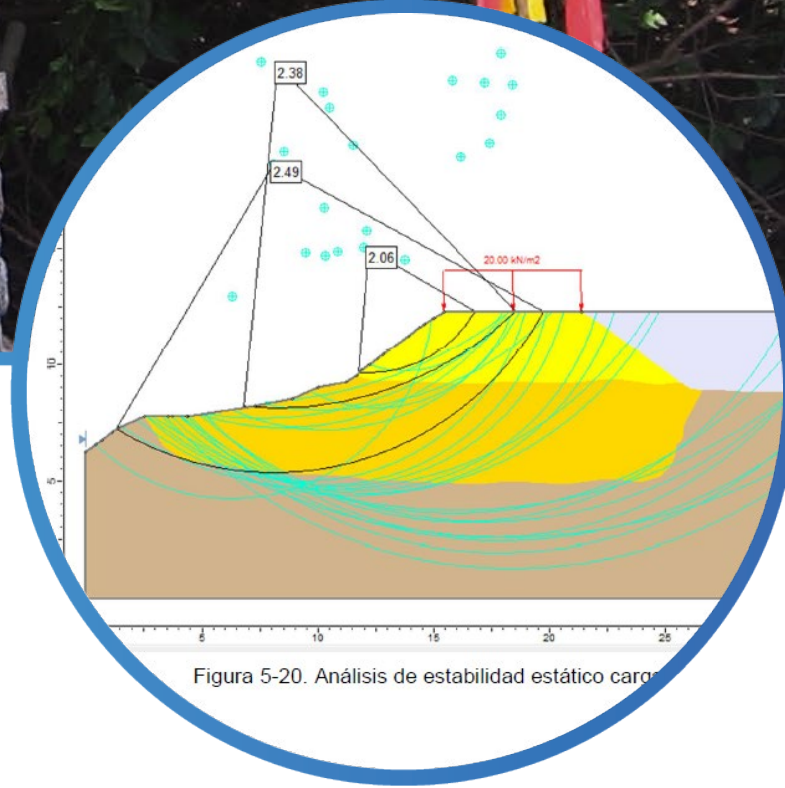


Figura 5-20. Análisis de estabilidad estático cargada

Geological, hydrogeological and geotechnical studies: Tower sites 43AN, 44N, 44AN, 45N y 45AN
Transmission line Norte-Bacatá 230 kV, UPME 03 –
2010 (Colombia) - Client: GEB - GRUPO ENERGÍA DE
BOGOTÁ S.A. ESP - Year: 2019

Detailed Engineering: Cartagena-Bolivar 220 Kv
Underground transmission lines. Client: EBB



INDUSTRIAL INSTALATIONS

- Telecommunications Infrastructure
- Industrial electrical installations
- Cable railway
- Conveyor belts
- Silos
- Control and Automation of Industrial Processes
- Earthing Systems and Protection Against Discharges
- Advice and specialized design criteria
- Advice construction and commissioning





Design Electrical Networks and lighting: Itagüí stadium (Colombia) - Client: INSTELEC S.A.

Detailed design of the civil Works related to the volatile ashes extraction system: via seca 1,2, 3, and 4 units in the thermica central Martín del Corra, owned of EMGESA S.A. ESP. Client: ALSTOM POWER COLOMBIA S.A.

Design supports conveyor belts and transfer towers: BAYANO Concrete plant (Panamá) - Client: H.L INGENIEROS S.A.

SOME OF OUR CLIENTS



¡Contact us!

iydcomercial@ingedisa.com

Phone: (+57 60 1) 611 46 67

www.ingedisa.com

Bogotá, Colombia



INGEDISA

INGENIERÍA & DISEÑO