



## The challenge of a multidisciplinary service

We are a group of interdisciplinary businesses that comprise different aspects of engineering in a comprehensive way. We deal with different fields related to this area, which has allowed us to participate and advise different projects of investment within the industry. Our continuous and distinguished work is based in a big internal team, design high quality and a personalized service to our clients.



We are a company capable to perform a comprehensive consulting and carry out a complete administration and management service before the inclusion of different disciplines, that allow us to perform a valuable engineering work to our clients relying in our professionalism and experience.

## Adding value to the market...

Deliver concrete support to our clients through managing knowledge, innovation, engineering and use of information technologies to enhance the performance of the organization. This is based in the creation of valuable services focusing on consultancy considering the knowledge of our work team, our compromise and supporting the strategies of our clients. Part of our support to the market is the capability of carrying out multipurpose projects with social responsibility and care for the environment.

# HOLDING COMPANY SERVICES

Our businesses group interaction allows us to deliver different kinds of services such as:



Building

Civil engineering, Architecture, Auditing, and Administration Services.



Energy

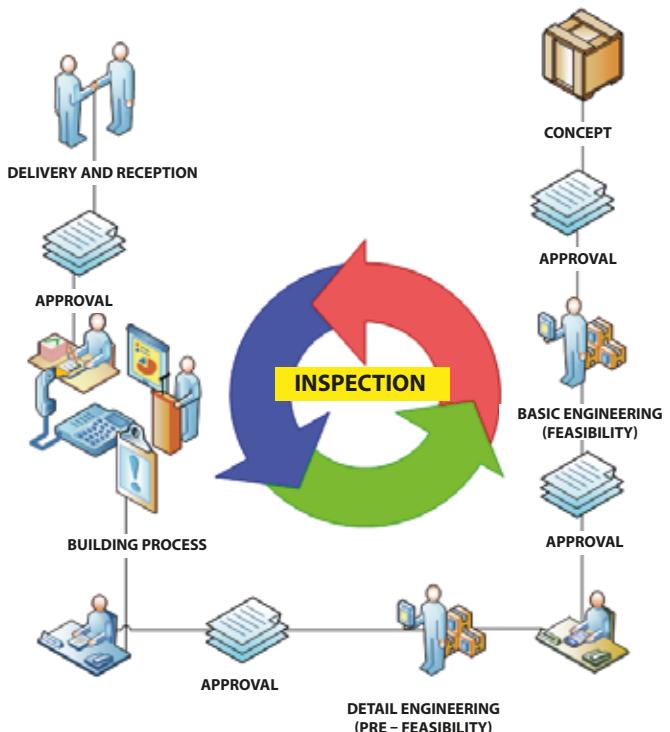
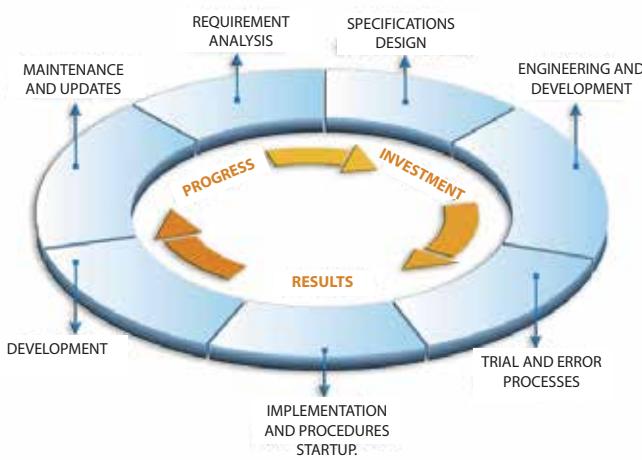
Electrical Engineering Services and Projects; Consultancy, Management, Standardization, Control and Instrumentation. Equipment Mounting and Supply.

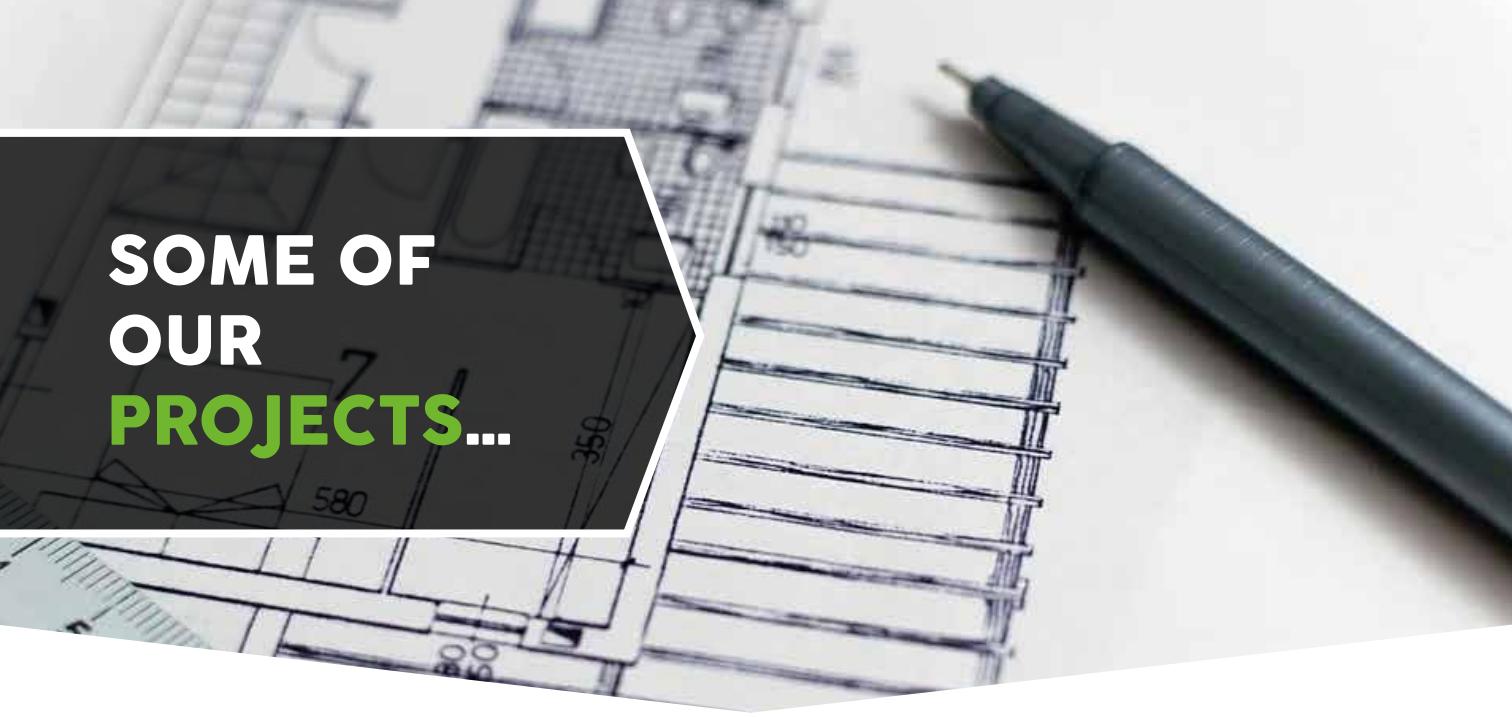


Technology



# LIFE CYCLE SERVICES AND PROJECTS





## SOME OF OUR PROJECTS...

### CONTROL ROOM RENOVATION PROJECT FOR MELON FLEET/COMPANY

3D Architectural development, room's renovation (furniture design, wiring, communication networks installation, data points, civil works and monitoring unit's installation).

End user: Melón company

Period: 2012-2013

### UNITS REPAIR SERVICES IN MINOR WORK - MAQSA-SALFA

Volume repair works of electric panel on site and standard, switchboards, radio sets).

End user: MAQSA company SALFA group

Period: 2012-2013

### WI-FI NETWORK PROJECT CAMPUS UNIVERSIDAD ALBERTO HURTADO

Development of RF engineering, installation, setting up and execution of MESH WI-FI platform for 5.000 students and administrative personnel

End user: Universidad Alberto Hurtado

Period: 2013-2014

## AND MANY MORE...



# LIST OF EMBLEMATIC PROJECTS AND SERVICES 1.0

**Period:** 2006 to 2007

**Company:** Termelec Ingeniería (LCR holding company as subcontractor)

**Work:** 5 MVA substation Quebrada Camarones - EnorChile S. A.

**Scope:** Electrical detail engineering, new 5 MVA substation, power system protection settings, electrical busbar design, conductor and substation calculation.

**Period:** 2007-2008

**Company:** Termelec Ingeniería (LCR holding company as subcontractor)

**Work:** Mine interior electrification in Agua Fría - Minera Florida Ltda.

**Scopes:** Electrical detail engineering, mine interior electrification, electric conduits/piping design, conductors calculation, mesh grounding systems, substations calculation and light system

**Period:** 2007

**Company:** SIGA Ingeniería (LCR holding company as subcontractor)

**Work:** Water pumping in Potrerillos - Codelco DSAL.

**Scopes:** Electrical detail engineering, control and instrumentation, pumps feeding, control system and remote telemetry for water pumping system.

**Period:** 2009-2010

**Company:** Anglo American Chile.

**Work:** Deep well pumping system - AACCh

**Scopes:** Electrical detail engineering, Control and instrumentation, pumps feeding, light systems, protective earthing design, PCL design, electric conduits/piping system, control elemental diagrams, interconnection networking.



# LIST OF EMBLEMATIC PROJECTS AND SERVICES 1.2

**Period: 2009-2010**

**Company:** SIGA ingeniería (LCR holding company as subcontractor)

**Work:** Planta de Residuos (waste plant) Quilicura - Gersa S.A.

**Scopes:** Electrical detail engineering, medium voltage splice, outdoor electric conduits/piping systems, outdoor and indoor lighting, interior outlet distribution, load charts.

**Period: 2011-2012**

**Company:** SIGA Ingeniería (LCR holding company as subcontractor)

**Work:** Depósitos de Relaves (mine tailing deposits) Planta Matta - ENAMI

**Scopes:** Electrical basic engineering, control and instrumentation, medium voltage line, medium voltage splice, substation calculation, electric conduit/piping systems, low voltage distribution, outdoor lighting, control systems, PLC design, elemental diagram and interconnection.

**Period: 2010-2011**

**Company:** SIGA Ingeniería (LCR holding company as subcontractor)

**Work:** Depósitos de Relaves (mine tailing deposits) Planta Matta - ENAMI

**Scopes:** Electrical basic engineering, control and instrumentation, medium voltage line, medium voltage splice, substation calculation, electric conduits/piping systems, low voltage distribution, outdoor lighting, control systems, PLC design, elemental diagram and interconnection.

**Period: 2012-2013**

**Company:** SIGA Ingeniería (LCR holding company as subcontractor)

**Work:** Depósitos de Relaves (mine tailing deposits) Planta Tal Tal - ENAMI

**Scopes:** Electrical basic engineering, control and instrumentation, medium voltage line, medium voltage splice, substation calculation, electric conduit/ piping systems, low voltage distribution, outdoor lighting, control systems, PLC design, elemental diagram and interconnection.



# LIST OF EMBLEMATIC PROJECTS AND SERVICES 1.3

**Period:** 2012-2013

**Company:** SIGA Ingeniería (LCR holding company as subcontractor)

**Work:** Planta Separadora de Gases (gas separation plant) - ALCH

**Scopes:** Electrical detail and mounting engineering, control and instrumentation, medium voltage line, medium voltage splice, substation calculation, electric conduit/piping systems, low voltage distribution, outdoor lighting, control systems, PLC design, elemental diagram and interconnection.

**Period:** 2014-2015

**Company:** LCR Group holding company

**Work:** Auditing of electrical rooms División Los Bronces y Las Tórtolas - AACCh

**Scopes:** Electrical Auditing in areas such as; units, light system, mesh grounding system, personal protection equipment (PPE), electric conduit/piping system, fire extinguishing and detection, Arc-flash, delivering of a document regarding an action plan and recommendations.

**Period:** 2014-2015

**Company:** LCR Group holding company

**Work:** Mesh grounding system measures - AACCh

**Scopes:** Measure of 25 mesh grounding system units in El Soldado mining. Turnkey service.

**Period:** 2014-2015

**Company:** LCR Group holding company

**Work:** Auditing Arc-flash electrical room (pilot project) - Minera Centinela.

**Scopes:** Pilot project carried out for the kilocalorie calculation of medium and low voltage equipment, developing a report. Room classification (NFPA 70-E), Room's PPE and hallway delineation.



# HOLDING COMPANY LCR GROUP

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