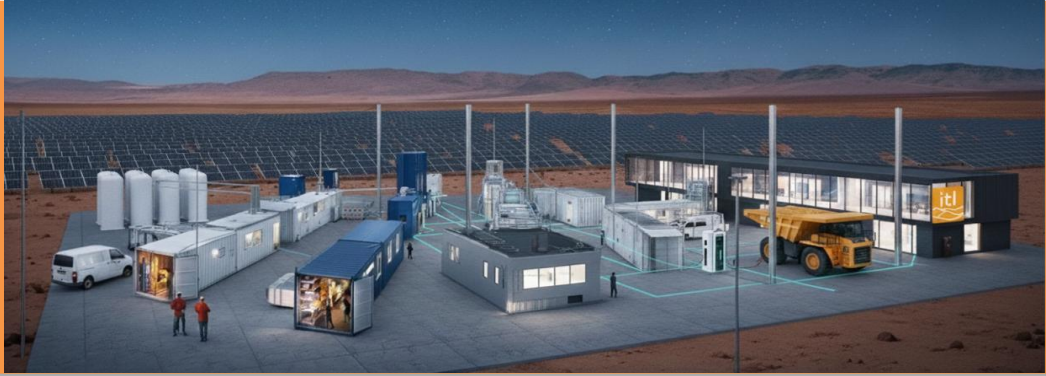
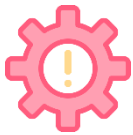




Energy Test Bed: Experimentation Center for National Electrical Grids

Development Area: Renewable Energies / Electrical Energy

Problem:



The national **electrical grid suffers from instability** due to its decreasing inertia, caused largely by the penetration of renewable energies, which threatens the productive system. Additionally, there are gaps in technologies that can provide stability to the grid and that can be validated with real, reliable, and safe advanced infrastructure.

Solution:



Install and operate a test bed for the National Electrical System (SEN) and other industrial electrical grids that allows testing, validating, and accelerating the adoption of technological innovations in a simulated, safe, and reproducible real-world environment. This will reduce integration times and risks, generating standardized safety protocols without compromising process operations.

Expected Impact



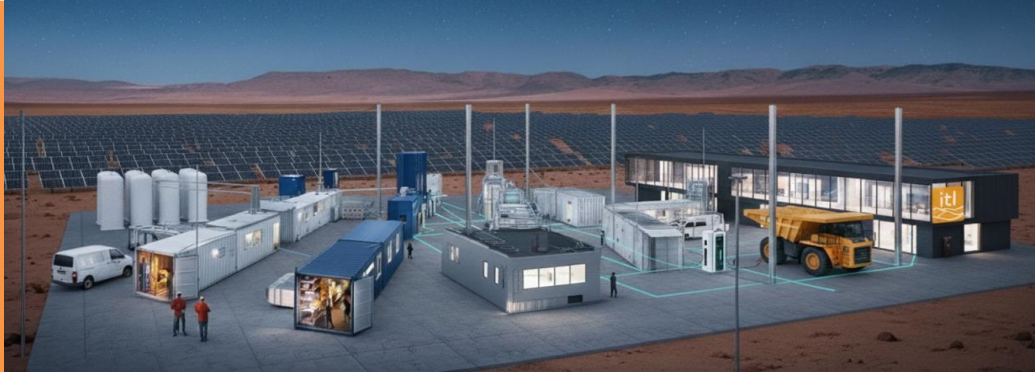
- Generation of **advanced infrastructure** that facilitates the adoption of new technologies for electrical grid stabilization.
- Development of **advanced simulation systems** that allow understanding the dynamics of the electrical grid in an environment with high NCRE participation.
- **Development, testing, and validation of new electrical grid control strategies** in an environment with high distributed generation, electromobility, and NCRE.



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Test Bed Projects



Test Bed Services:



- **Technical Services:** Certification, testing, prototyping, and validation of technologies for integration into the electrical grid and incorporation into industrial processes.
- **Digital Services:** Access to advanced simulations, digital twins, generation of software licenses, access to monitoring platforms, and development of control strategies.
- **Commercialization and Technology Transfer:** development of new technological innovation initiatives.
- **Human Capital Development** through participation in course and diploma programs in conjunction with the academic community.
- Provision of evidence for the **development of sector regulations and standards**.

Benefits for Associates:



- **Preferred access to technical data and unique infrastructure** in Chile to reduce investment risks.
- **Participation in the definition of regulatory standards** that will impact the entire industry.
- Possibility of **co-investment in technologies with licensing and scaling potential**.
- Provision of **unique capabilities to enable the entry of technologies** into the national and international market.

Progress Status:



- Initiative at the **pre-investment stage**.

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