

# Leading Electricity and Telecommunications



GRUPPO



# Credits

## ***Coordination and Editing***

Randall Sáenz.

## ***Design, layout and illustration***

Kenneth Arroyo.

## ***Content***

Division of Electricity.

Division of Telecommunications.

Compañía Nacional de Fuerza y Luz.

Radiográfica Costarricense.

Division of Communications and Corporate Identity.

## ***Translation:***

Marta Mesén, Andrés Castaño.

## ***Cover picture:***

Photoshop by Kenneth Arroyo (based on Shutterstock images).

## ***Pictures:***

Directorate of Communications and Corporate Identity.

Tatiana Reyes.

Jimmy Arriola.

Shutterstock.

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*A production of Directorate of Communications and*

*Corporate Identity.*

*San José, Costa Rica.*

An aerial photograph of a large concrete dam with a reservoir. The dam is a long, narrow structure with a walkway on top. Several yellow construction vehicles are visible on the dam's surface. The reservoir is a calm, greenish body of water. In the background, a large, forested hillside rises under a blue sky with scattered white clouds. The overall scene is a mix of natural beauty and industrial infrastructure.

***Technological Development***  
with Social-Environmental sense



- ICE Group is a Costa Rican government company that is vital for the social-economic development of the country, thanks to its leading electric and telecommunication services.
- It is one of the biggest corporations in Central America on its field.
- Since its creation in 1949, ICE (currently part of the ICE Group along with other four companies) incorporates environment protection and social balance in all its operations and projects.
- Regarding power generation, ICE uses 99% of clean and renewable resources such as hydropower, geothermal, wind and solar.
- The national energy coverage is 99.7%.
- Its robust and trustful network has allowed the country to become an attractive destination for high technology and health companies.

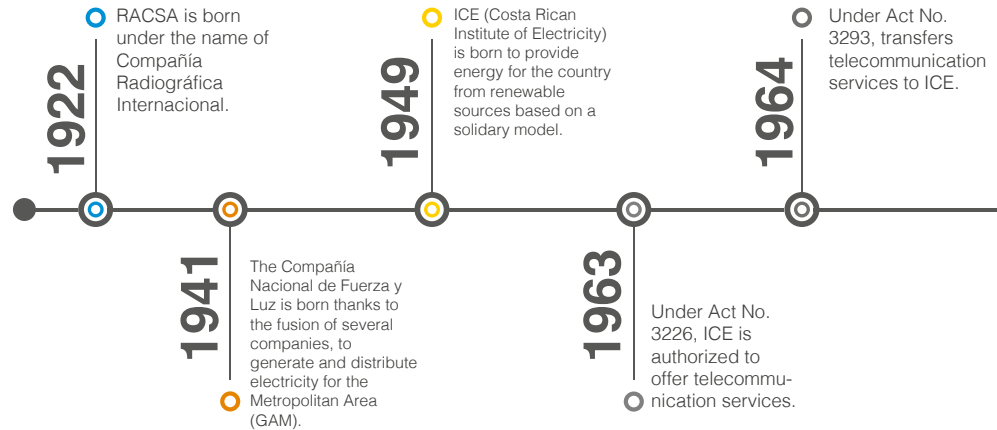
The processes of ICE Group are certified according to **ISO Standards:** 9001(**quality**), 14001 (**environment**), 17025 (**calibration**), and OHSAS 18001 (**security**).

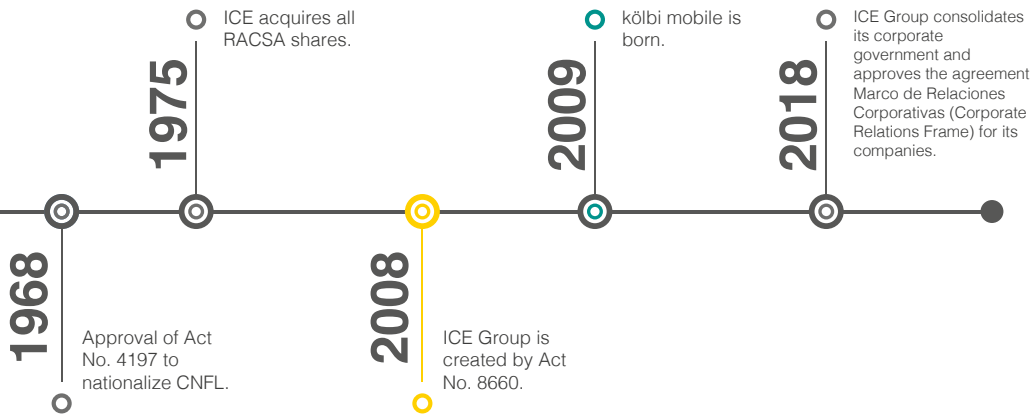
# Centennial

knowledge and experience

ICE, as it is nowadays, began forging in 1922, when the Compañía Radiográfica Internacional (current RACSA) was born to offer telegraphic and telephone services from the State.

RACSA as well as Compañía Nacional de Fuerza y Luz (CNFL) were integrated years later





In 1884, San José became the third electrified city in the world, right after New York and Paris. Five years later, San José inaugurated its electric tram.



# The ICE Group Family

## ● Costa Rican Institute of Electricity

Was founded in 1949 and is the Head Office of ICE Group. It was required by Law to electrify the country using renewable sources. This philosophy lasts until the present and has given the group worldwide recognition. Since the 1960s, ICE Group scales up its range into the telecommunication field.

## ● Compañía Nacional de Fuerza y Luz

Was born in 1941, and 98% of its shares belong to ICE Group since 1968.

This Company distributes energy for the Metropolitan Area (GAP) in the country.

It supplies 45% of the national electricity demand in a served area of 954 km<sup>2</sup>.

## ● RACSA

Was born 96 years ago and is part of ICE Group since 1964. This company offers telematics and information technology (IT) solutions.

Has paved the way to technological leaps through its telex, fax, and satellite services; the international connection via undersea cable and the Internet.

## ● Collection Management

Began operations in October 2017 with the aim to manage administrative and judicial collections for the corporation.

At the present, this company is in charge of an average of 5000 administrative collections per month.





# *First World solutions and infrastructure*

- ICE Group does research, plans, and develops electricity and telecommunication projects.
- It generates, operates, transports, distributes, and markets power.
- Develops and Manages the State National Electric System and Telecommunications.
- Designs its own electrical grid and telecommunication services development based on diverse models and financial schemes.
- Focus its management on the environment protection and social balance.
- For 40 years now, it has done research and developed geothermal projects, whose knowledge is exported to Latin America.
- Recently, ICE Group built the Reventazón plant in Costa Rica, the biggest infrastructure project in Central America, after the Panama Canal.





# ***A Solid Corporation***

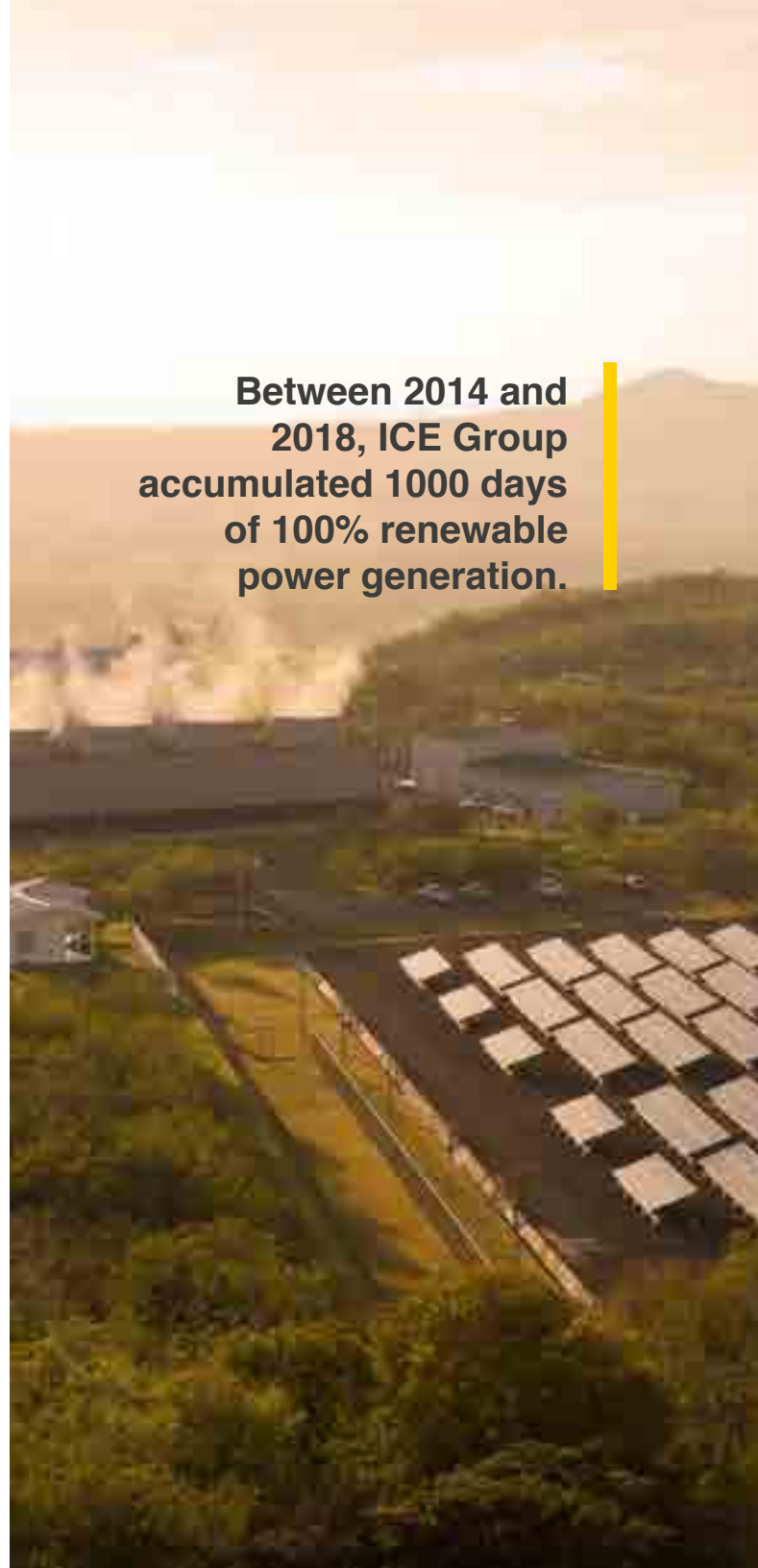
- ICE Group is an autonomous company that belongs to the Costa Rican Government.
- ICE reported incomes for 1.357.934 million colones (US \$ 2.380 million).
- This year, the operating profit reached 147.365 million colones (US \$ 258 million).
- Its total assets were 6.034.273 million colones (US \$ 10.577 million).
- It was rated by Fitch Ratings AAA (cri) at the local level and BB+ at the international level.
- Its economic activities equate to 4.2% of the National Gross Domestic Product (GNP).
- Its nature allows administrative, legal and financial autonomy to implement projects and to invest inside and outside the country.

*Source: ICE Group audited financial statements,  
December 31th, 2017.*

# ***World Power in Renewable generation***

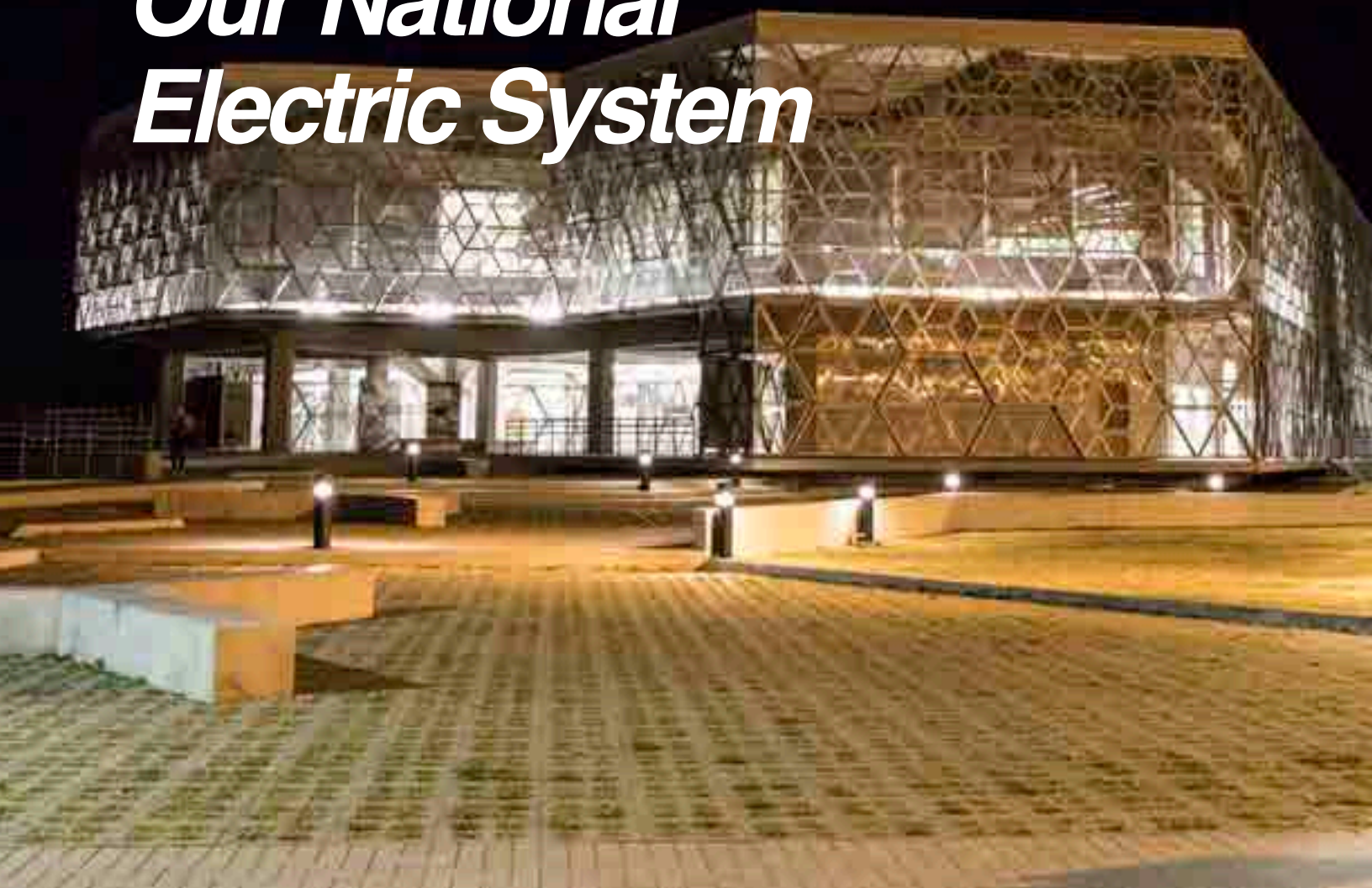
- Costa Rica is a world reference in power generation based on clean energy.
- Its matrix is based on hydropower energy and it incorporates supporting sources such as geothermal, and additional ones such as wind and solar.
- Likewise, the seasonal regulation reservoirs of the hydropower plants allow the transfer of surplus water from the rainy season to the dry season.
- This transfer promotes quality and continuity unique in Central America.
- For 5 consecutive years (2015 to 2019), electricity generation with renewable energy in Costa Rica has exceeded 98%.
- By not generating with fossil fuels, Costa Rica has saved US \$482 million in the last 20 years.
- This system based on clean energy benefits 1.6 million homes, 295 businesses and 9 thousand industries.
- In geothermal energy, Costa Rica ranks third in America and twelfth in the world.


**Between 2014 and 2018, ICE Group accumulated 1000 days of 100% renewable power generation.**



*In November 2017, ICE Group  
inaugurated its National Center of  
Energy Control (CENCE), the latest  
in Central America.*

# ***Our National Electric System***





*The National Electric System (SEN) added, in 2016, the Reventazón Hydropower Plant, with a capacity of 305.5 megawatts.*

- Group ICE has **24** hydropower plants, 7 geothermal, 6 thermoelectric, 2 wind and 1 solar.
- It has **1500 solar panels** installed in places where the electric grid has no access, such as national parks and indigenous communities.
- The two electricity companies of ICE Group (ICE and CNFL) generate 69.9% of the national power.
- Both companies provide energy for **77.57%** of the country and together serve more than 1.300.000 customers.
- The street lighting network counts with **295.000 luminaries** all over the country.
- The ICE Group's installed generation capacity is **2.480.529,05 kW**. The National Electric System for its part, has a capacity of **3.573.505 kW**.
- The grid interconnects with Central America through the Central American Electric Interconnection System (**SIEPAC**).
- At the present, ICE and CNFL have **105 smart meters installed** (for the remote metering, connection and disconnection) on its electric grid.
- By 2021, the Electricity Business from ICE Group projects to have 385.000 AMI (*Advanced Metering Infrastructure*) meters installed.



# *Engine for electric mobility*

- ICE Group has become positive catalyst of electric mobility in the country.
- One of its first contributions was the technical support to create the “Ley de Promoción e Incentivos al Transporte Eléctrico” (a Costa Rican Act to promote electric transportation).
- This Act was ratified in January 2018 by the Costa Rican president.
- ICE and the CNFL work on the development of a network of charging points for electric vehicles in their served area, which, by 2020, would be around 30 points.
- ICE Group also acquired **100 electric vehicles** to substitute its combustion unities in order to reduce, even more, the carbon footprint.
- Those 100 vehicles will prevent the emission of **350 tons of greenhouse gas** in a year.

# ***Beyond our borders***

- Thanks to a partnership with Enatrel, ICE Group entered the Nicaraguan market with **Tecomunica** to offer high quality wireless Internet, digital TV and business services.
- ICE works, together with the Comisión Ejecutiva Hidroeléctrica del Río Lempa (CEL) to extend the **5 of November and Chaparral power plants.**
- ICE is working currently on creating partnerships to offer services in **Bolivia, Honduras, El Salvador, and Panama.**





# *World Class* Telecommunications

- ICE Group is the leader in network building and operation for all the last generation **telecommunication services in the country**.
- Its infrastructure includes **IP, 4.5 G mobile services and undersea cables**; all this is interconnected by fiber optic networks and last generation DWDM technology equipment that connect us with the world by means of a high-speed data highway.
- At the present, there are more than **20.500 km of fiber optic installed** all over the country.
- Its portfolio includes business services, land lines, broadband, mobile services, fixed wireless services, Wi-Fi connection, paid phone services, Data Center services, TV services, managed services, business connection, and global communication.

## *Home and Business kölbi*

- The fixed Internet "*kölbi Hogar*" reaches a speed of 300 MB and is available to 50% of the household customers.
- We possess the biggest fiber optic network in the country; we reach more than 70 locations with a transportation network that covers the whole country.
- The *kölbi* Business network services are used by 67.5% of large companies, 71.20% of medium-scale enterprises, 74.30% small businesses, and 67,30% of micro businesses.
- The ICE's Data Center counts with the Colocation services with 85% of occupancy and Hosting services for (SMEs) and the Government.





# kölbi TV

## HD Multiplatform

- The *kölbi TV* brand has a 5.9% of participation in the national market and it's growing.
- Today, *kölbi TV* offers a variety of 100% digital and high definition (HD) television plans.
- It developed a video and audio **streaming** solution that operates from a private cloud. This allows to manage customers from several platforms using STB hybrid (IP/RF) devices, in order to take advantage of the service integration.
- This content is also available in multi devices (tablets, smart phones and computers) on the domestic network environment.
- *kölbi TV* aims to offer 100% digital TV to all its customer base, using high quality services and competitive rates, available for the local market.
- Among the most representative virtues of this innovative service are:
  - Last generation user interface that allows an easy and user-friendly navigation.
  - A video-library with more than 3.000 titles, including HD and 4K content.
  - Consistent interface during the multi-screen experience.
  - Interactive applications (recording, reminders, reproduction lists, children content) and mobile apps.



# *Info communication* with a solidary spirit

- Costa Rica holds one of the highest penetrations in the landline market in Latin America (13.2 lines for each 100 people).
- ICE Group operates with the lowest rates for land lines and mobiles in Latin America.
- ICE Group has won 18 public competitions to offer, using the Fondo Nacional De Telecommunications, FONATEL, Internet and land line services to more than 400.000 Costa Ricans in 2.092 communities from 20 cantons with high social-economic vulnerability.
- The purpose of FONATEL is to reduce the digital access gap that exists in some regions in the country that lack telephone and Internet services. To do this, ICE Group becomes the strategic partner, developing works with commitment and excellence in order to improve the life quality of these communities and the country.



# *kölbi, leading brand*

- In 2009, after the opening of the telecommunication market, ICE Group launches its new trade- brand, *kölbi*.
- Almost one decade after this, *kölbi* is the leader brand in the mobile market of Costa Rica.
- Since 2011, the *kölbi* 's mobile phones customers base has grown to 600.000. Today, we offer the ultimate in service to more than 4.2 million customers out of the 7 million on the market.
- For 4 consecutive years, *kölbi* has positioned as a **Lovemark** (a brand admired by Costa Ricans). We take great pride in this prize because it represents our customers love and preference.
- *kölbi* is consider an international successful case because is one of the few government operators that continue working on the open market.
- In January 2018, ICE through its brand *kölbi*, launched the first **4.5 G** network in the region. A huge achievement to offer our customer the best technology and feel that we are by their side.



# Concrete Steps towards Smart Cities

- ICE Group, in a process led by RACSA, has an everyday leading role in the development of **smart cities**.
- Today, it leads civilian safety projects, video surveillance, Internet in parks and LED illumination in seven cantons of the country: Tibás, Alajuela, Grecia, Montes de Oca, Mora, Pococí, and Moravia.
- RACSA has **8 business lines**, focused on the creation of smart spaces and services for business, institutions and local governments.

#### Among these services are included:

- Business connectivity.
- Citizen services.
- Logistics and operations.
- Infrastructure management.
- Digital files management.
- Communication services.
- Managed services.
- Creation of smart cities.

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Leading  
**Electricity and  
Telecommunications**



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