

# Argentine National Atomic Energy Commission (CNEA)

Involvement in HECAP projects



Comisión Nacional  
de Energía Atómica

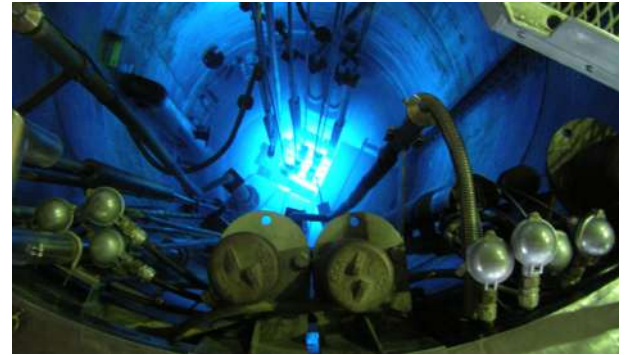
# Organization

- **Autonomous body** under the jurisdiction of the Office of the Cabinet Chief of Ministers.
- **Headquarters in the city of Buenos Aires** with presence in different regions of the country.
- All its activities are framed within the **peaceful uses of nuclear energy**.
- More than **74 years of history**.



# Organization

- Three **Atomic Centers** (build, operate & maintain reactors for research).
- Three **Academic Institutes** (linked to National Universities).
- Approximately **3,000 employees**.
- **2024 total budget ARS 113.641.438.450** (~117 MUSD)



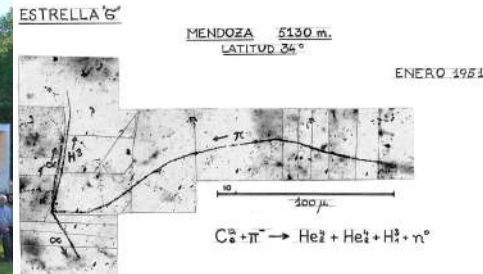
# The High Energy connection

- **1954:** Installation of **observatories to measure cosmic radiation** began in the country, creating a network that included Jujuy, Buenos Aires, Tierra del Fuego and Antarctica.

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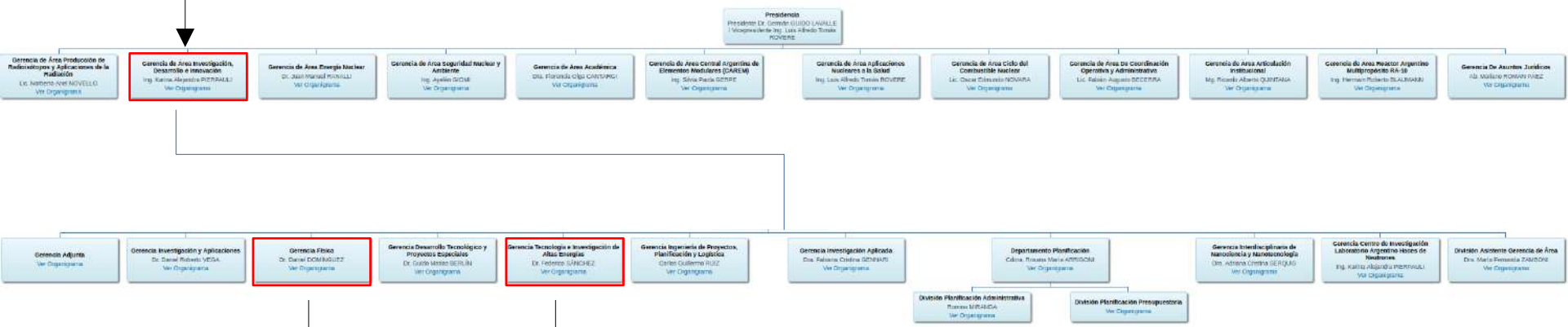
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- **1995:** Pierre Auger Observatory



# CNEA organizational chart

## Non-nuclear projects managed by R&D Department



## Departments involved in HECAP projects supported by CNEA

- In 2024 a budget of ARS 1.190.206.394 (1,2 MUSD) to develop the project in which the institution is involved
- More than 70 people (scientist, technicians, students)

# HECAP projects in Argentina

Mendoza



Ultra-high Energy Cosmic Rays

AUGER

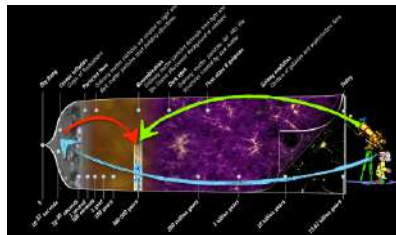


Multi-purpose Underground Laboratory

Salta



QUBIC



Observational Cosmology

San Juan



ANDES

Future: HERON/GRAND (High-Energy Neutrinos)



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# Highly qualified human resources



**UNSAM**  
UNIVERSIDAD  
NACIONAL DE  
SAN MARTÍN

**HELMHOLTZ**  
RESEARCH FOR GRAND CHALLENGES



## Double Doctoral degree in Astrophysics (DDAp)

- Since 2015
- 18 graduates (9 at KIT & 9 at UNSAM)
- 19 ongoing students (6 at KIT & 13 at UNSAM)

## Double Doctoral degree in Engineer & Information Technology (DDEIT)

- Since 2020
- 1 graduate (at UNSAM)
- 6 ongoing students (5 por UNSAM y 1 por KIT)



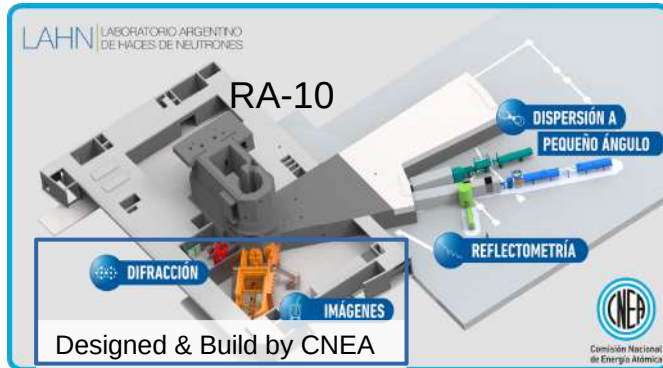
# LAHN: Argentine Neutron Beam Laboratory

- Use of high-intensity beams at nuclear reactors (RA-10)
- Large-scale open and user-oriented facility



Foreseen instrumentation for:

- Neutron diffraction
- Neutron imaging
- Neutron stress & strain scanning
- Inelastic neutron scattering
- Small-angle neutron scattering
- Neutron reflectometry



There is room for other instruments & partnerships



# Financial engineering



Ahuekna took over from FOPAA (Fundación Observatorio Pierre Auger de Argentina) in May, 2015.

CNEA is a funding member of Ahuekna

Money flow plays an utmost important role

Since 2015 for Auger:

- Expanded financial services to include foreign trade
  - On average, €1.500.000 of operating budget per year.
  - On average, 35 personnel per year
  - €5.000.000 investment in the upgrade (AugerPrime)
  - €2.500.000 in procurement and purchases for the installation of the Radio Detector.
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  - +80 imports for Auger since 2015
- Number of imported units +18.000

Similar strategy for QUBIC

# Conclusions

## **CNEA contribution to HECAP objectives:**

- Several projects in the region are within the strategic plan of the Institution for the following years (decades).
- More than 20 years of support to the Pierre Auger Observatory.
- Paved road to other projects in the region (QUBIC, ANDES, CTA, SWGO, HERON/GRAND).
- CNEA will strongly support hosting project in Argentina.
- New large-scale & world-class facilities for research in neutron science under development.
- Full commitment in the continuous strengthening of qualified human resources.



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