



RSNA[®] 2021

REDEFINING RADIOLOGY

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First experience with a centralized regional clinical and dose management system

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7 high impact milestones



Alternative to
radiation
diagnosis

Priority to
pediatric
radiology
replacement

Regulatory
regulations

Reimaging CT

Dose Task
Group

Dose
management

Research lines

Energy footprint project figures

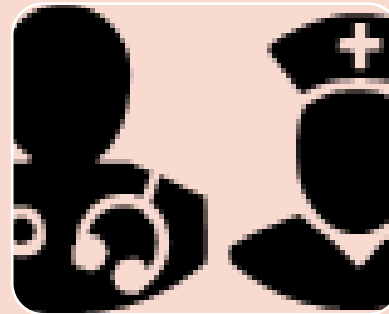


**Biggest and
populated region
in Spain**

8.3 M habitants



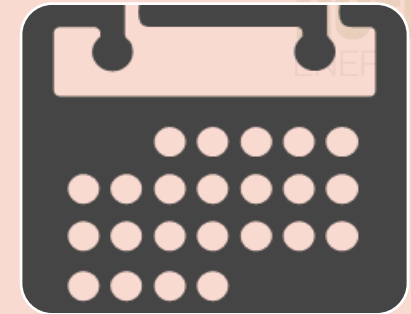
**68 new CTs
Installed in a 6
month period**



**Teaching program
for
2500
radiographers
400 Radiologist
100 medical
physicists**



**Lung screening
and Ictus
diagnosis in
every center**



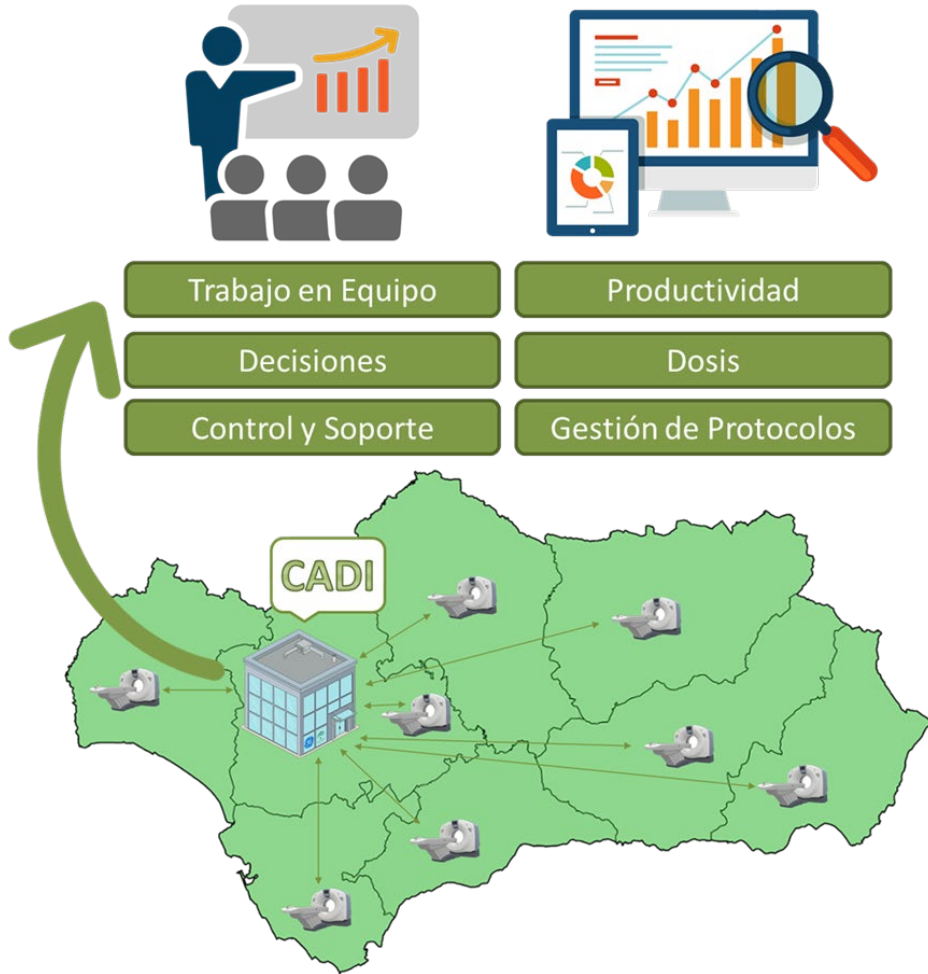
**8y high
disponibility
contract**



Energy footprint: Objectives

- 1. Improve diagnostic capacity** and increase the efficiency in the realization and interpretation of CT images.
- 2. Reduce Radiation Dose** received by patients ("Energy footprint" within the framework of the Patient Safety Strategy)
- 3. Rationalize and standardize patient examination protocols** in accordance with the best available evidence and the comprehensive evidence

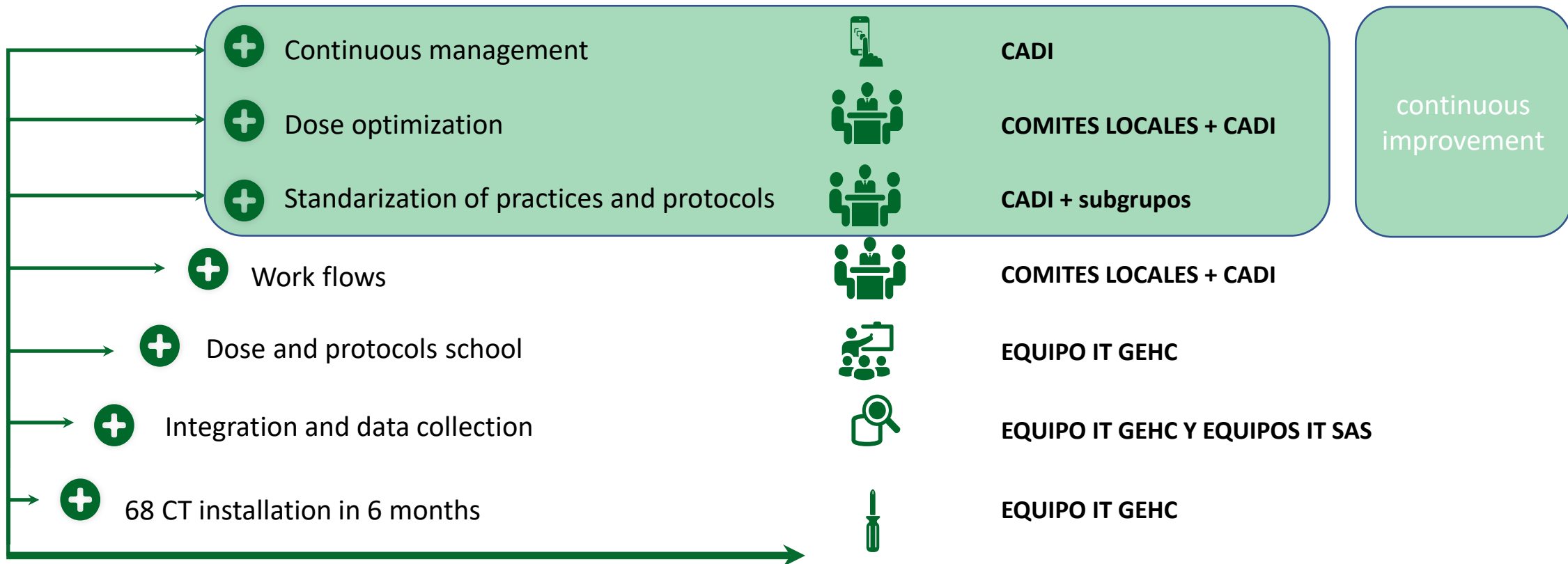
ADVANCED CENTER FOR IMAGE DIAGNOSIS (CADI, Centro Avanzado de Diagnóstico por Imagen)



ETAPAS DEL PROYECTO



HUELLA
ENERGÉTICA



Main task groups:

Main task groups are established at regional level:

- **TG Protocols:**

- Define the clinical protocols to build a corporate standard library to be installed on the equipment, based on the best scientific evidence available and existing in our centers (corporate benchmarking).

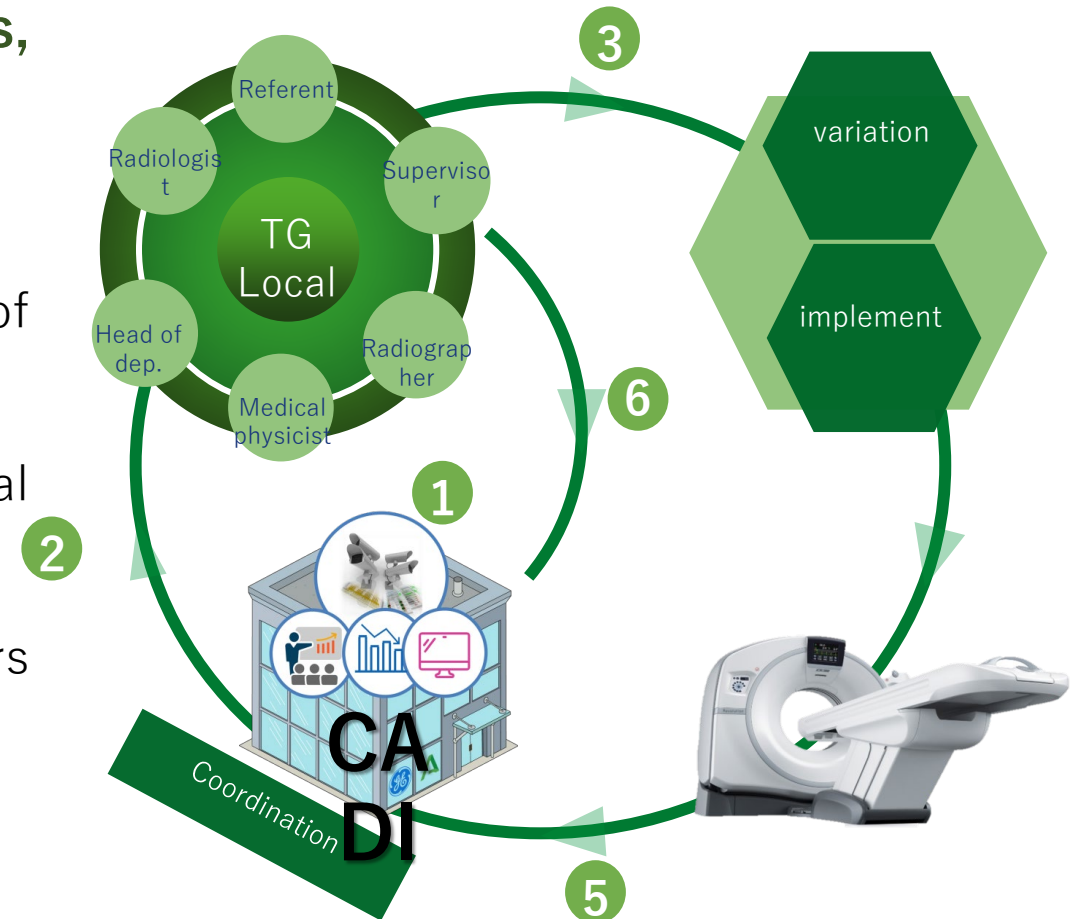
- **TG Dose management**

- Define the configuration of the dose management platform and the procedure for optimizing the technical protocols.
- Establish regional Dose Reference Levels as the main dose optimization tool.

Local task groups

28 local task groups:

- multidisciplinary teams (physicists, radiologists, radiographers, IT...)
- Tasks
 - Locally coordinate the implementation of clinical protocols
 - Work locally on the optimization of technical protocols
 - Analyze and assess local actions, indicators and incidents.



Results



HUELLA
ENERGÉTICA

Installations

- 63 CTs connected to CADI command center
- Real time data update (dose, productivity, clinical studies)

Dose management

- Evaluated the impact on the dose (in the most common protocols) of the technology change as a first step to obtain a picture of the current state and establish initial regional dose reference levels: mean dose reduction of 26% from baseline

Uptime

- Real time monitoring of CT uptime: actual value better than 99.5%

Training

- The initial **online** training program has been accredited and has already been carried out by about 1200 professionals, following an **on-site** training after the start-up of the CTs in the centers in which almost 400 professionals have participated. In addition, the project includes **continuous training** that extends to 8 years later

Conclusions

1. It is a unique improvement project in terms of the number of patients benefited and the professionals involved.
2. It involves a change in the way of working, sharing experience and benefiting from the best of our health system.
3. Analysis with Artificial Intelligence will allow us to easily detect areas for improvement

