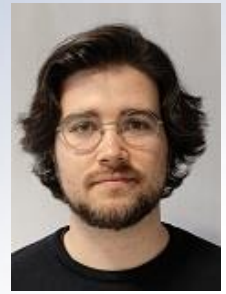
ALBA Synchrotron Light Source

Jaume Casanova

Linac Group



Since Sept-2021: Pulsed elements at Linac Group

- *Operation and Maintenance of ALBA pulsed magnets*
- *ALBA II injector elements definition*

Pablo Lengua

Operations Group

Raquel Muñoz

Linac Group Head

Foto Sergio Ruiz

ALBA is the Spanish Synchrotron Radiation Facility

Public institution with funding 50/50 from the **Spanish** *Ministerio de Ciencia e Innovacion* and the **Catalan** *Department de Recerca i Universitats*

National and international (28%) staff

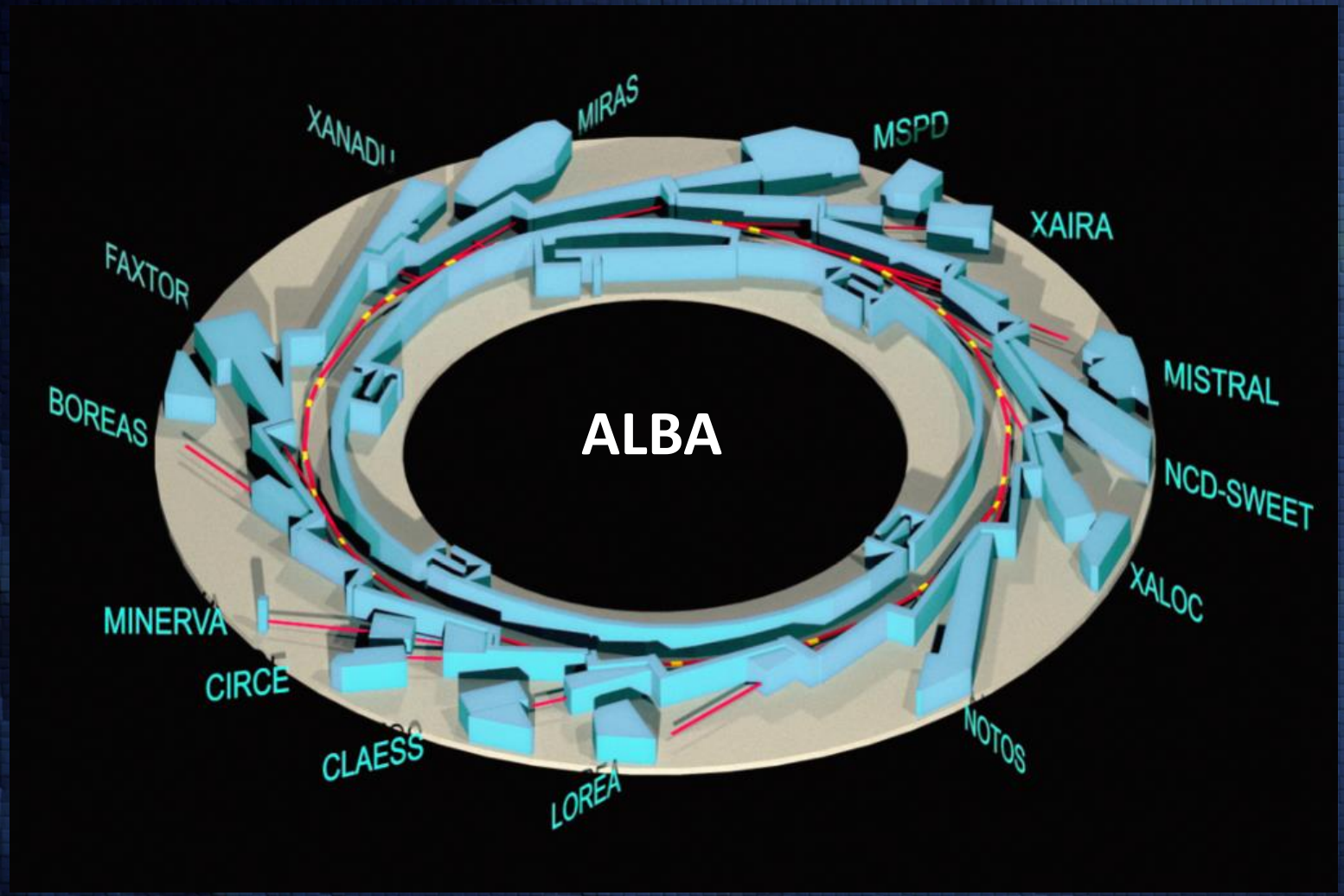
National and international (35%) users

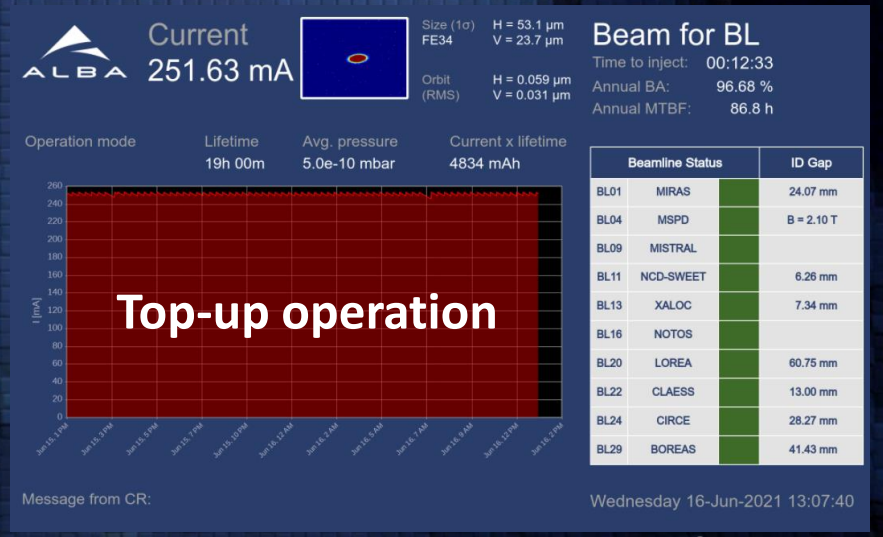
National and international collaborations

ALBA key parameters

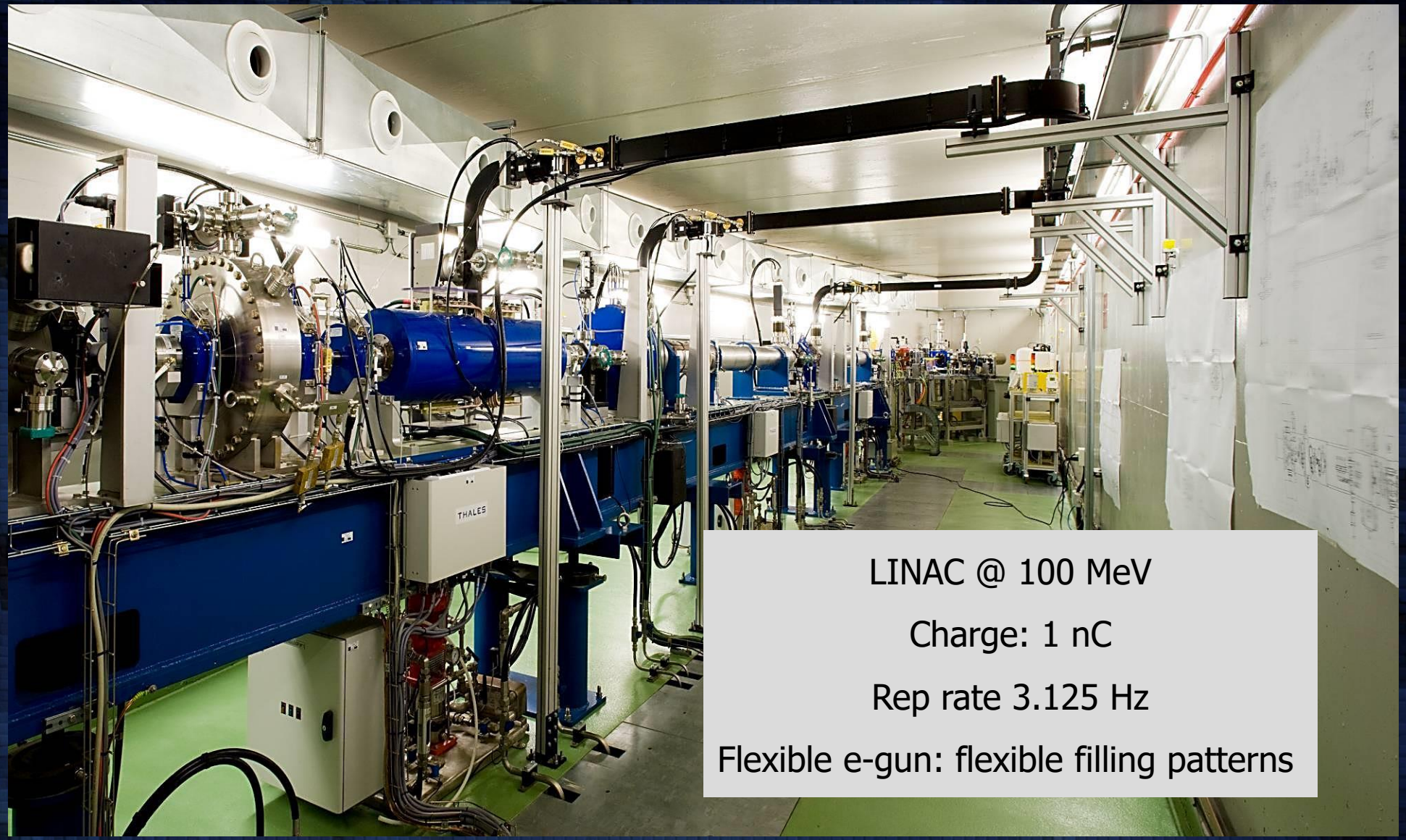
e- Energy = 3 GeV
C = 270 m
Emittance = 4.5 nmrad

12 operating BLs
2 in construction
1 for acc. diagnostics





100 MeV LINAC



LINAC @ 100 MeV

Charge: 1 nC

Rep rate 3.125 Hz

Flexible e-gun: flexible filling patterns

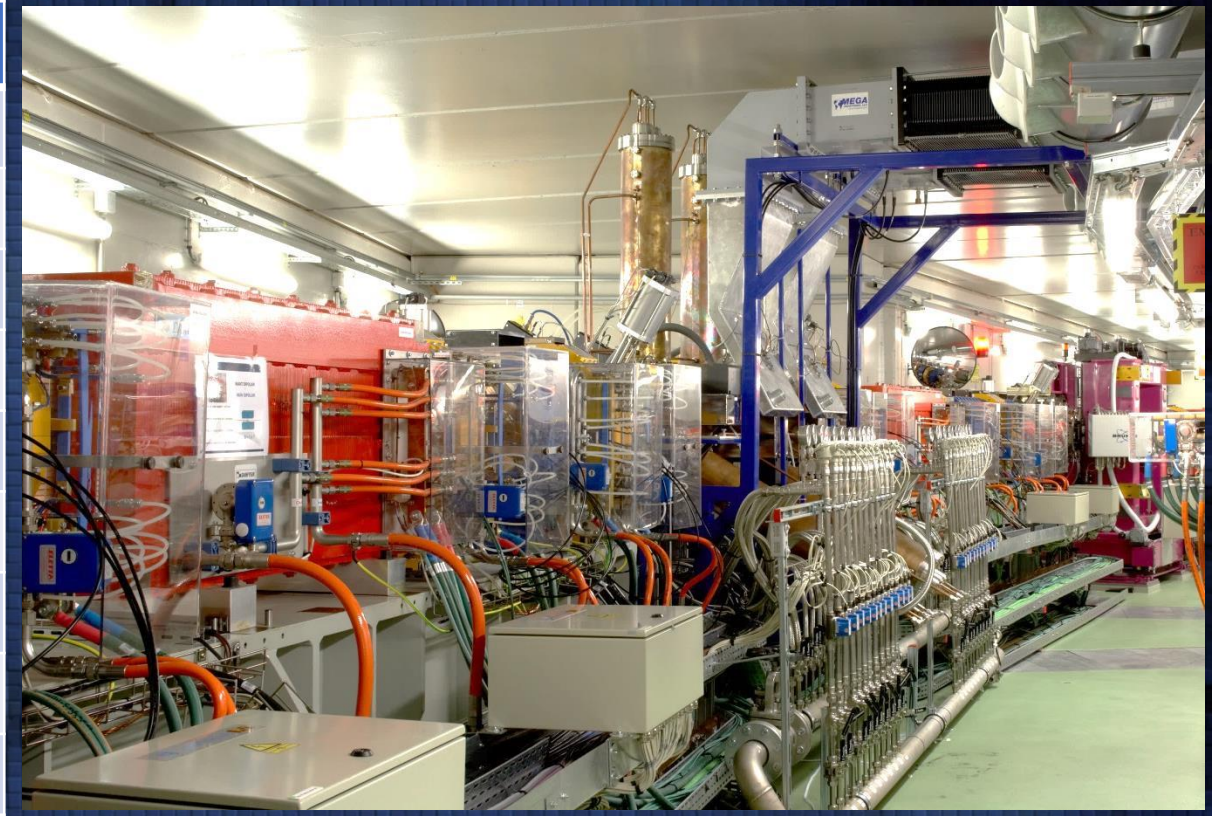
BOOSTER

Parameter	Value
Nominal inj E	100 MeV
Minimum inj E	60 MeV
Nominal ext E	3 GeV
Circumference	249.6 m
Emittance	10 nm·rad
Nominal Current	1 mA
Rf frequency	500 MHz
# cavities	1
In the same tunnel as the SR	

Extraction

STORAGE RING

Parameter	Value
Energy	3 GeV
Circumference	269.9 m
Emittance	4.5 nm·rad
Nominal Current	250 mA
Rf frequency	500 MHz
# cavities	6
Long straights	4 (8 m)
Medium straights	12 (4 m)
Short straights	8 (2 m)



Poster: *Operation and Reliability of the ALBA Kicker Magnets*

ALBA History and Future

2003 Project approval

2006 Construction start

2012 Operation start

Phase I: 7BLs

2014 Phase II starts

2016 8th BL in operation

Phase III starts

2023

12 Operating BLs

2 BLs in construction

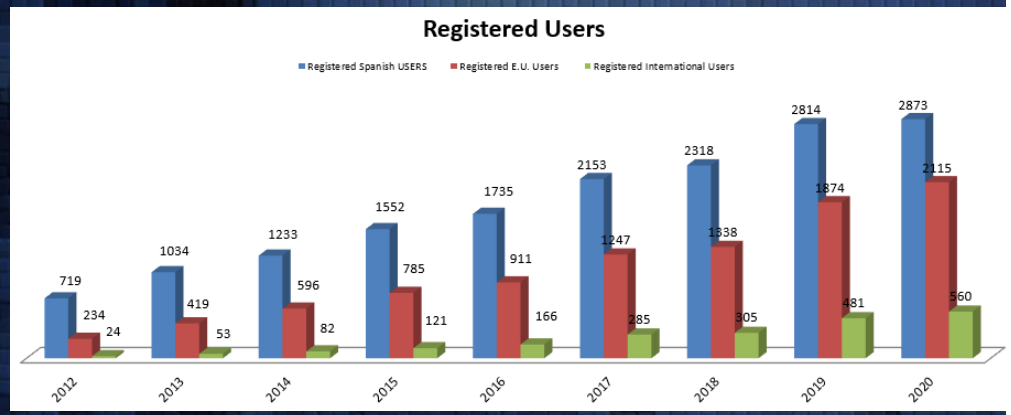
Design — *Construction & commissioning* — *Operation consolidation* — *Expansion*

12h30 Talk

A Double Dipole Kicker for ALBA II

First proposal for building a synchrotron in Spain: in the '90s

10 Years for the approval - 10 Years up to the operation



2021

10 Operating BLs

3 BLs in construction

Next decade fully exploiting the initial infrastructure by increasing number of BLs and add additional platforms (as Advanced Microscope Center)

2030

ALBA II

2021-2024 Strategy Plan

Upgrade to more brilliant source

Foto Sergio R