



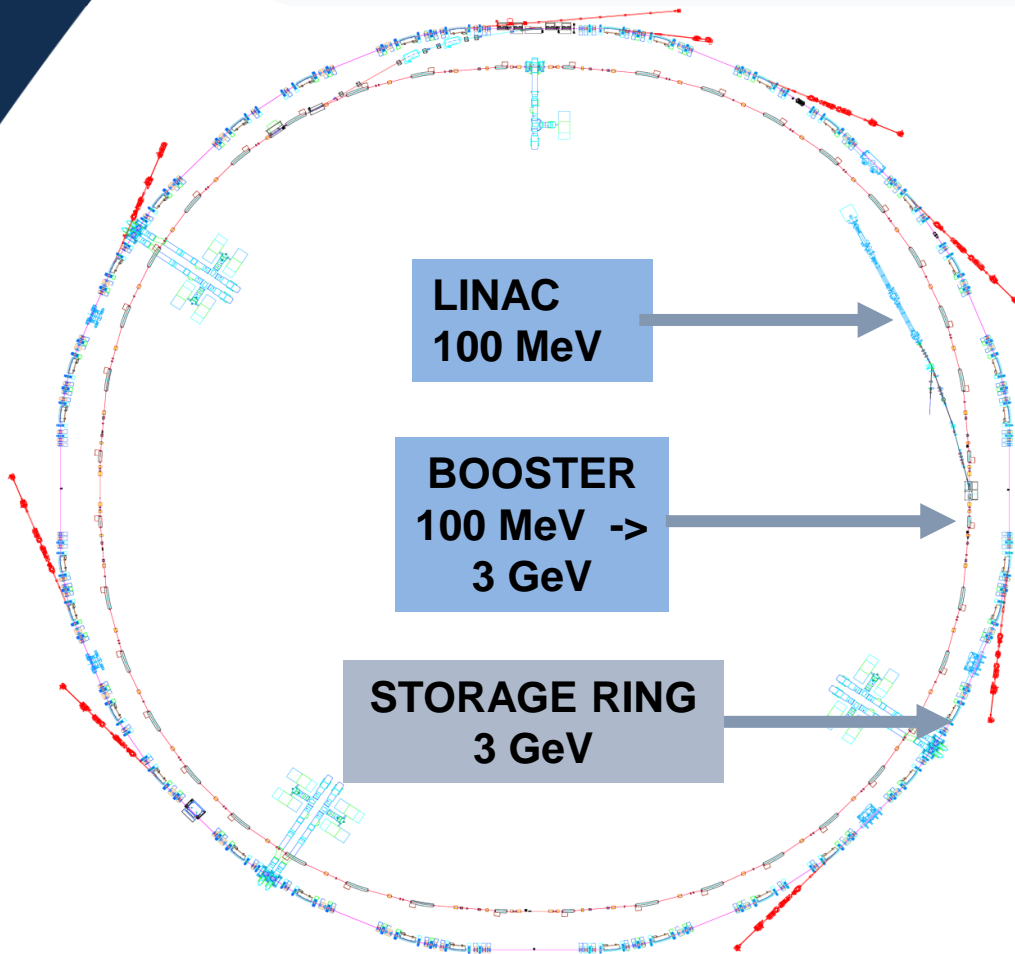
ALBA synchrotron operation during Covid-19 pandemic

October 6th, Workshop on Accelerator Operations 2021

Montse Pont and Ferran Fernandez

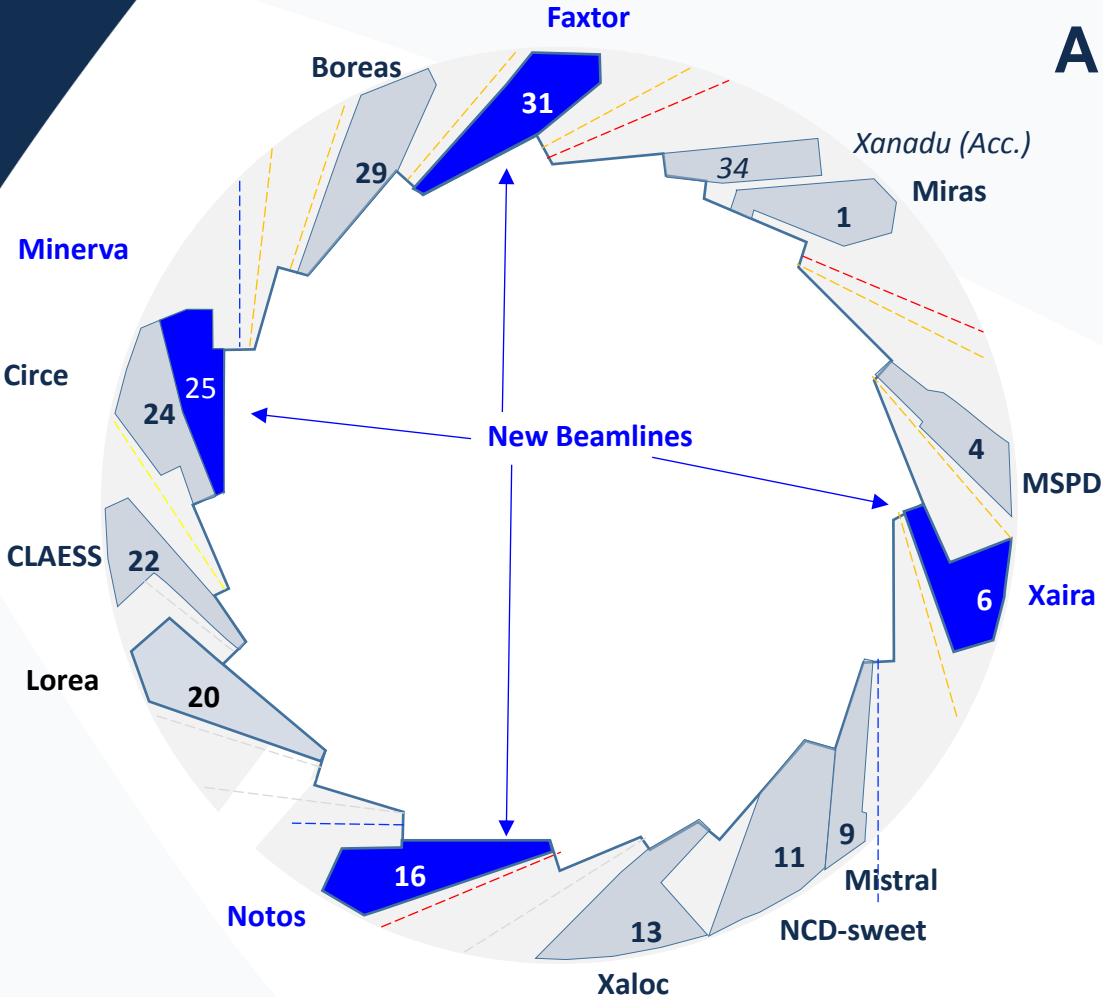
- Introduction
- Covid-19 pandemic phases @ ALBA
 - First reactions & confinement
 - Step-by-step re-opening
 - Operation during pandemic
 - New-normality
- Operating the facility along the pandemic
 - Keeping the Control Room a safe space for operators
 - “No nights” issues
 - “Low presence” issues

ALBA Layout



Parameter	Value
Energy	3 GeV
Circumference	268.8 m
Emittance	4.5 nm·rad
Current	250 mA
Rf frequency	500 MHz
# cavities	6
Long straights	4 (8 m)
Medium straights	12 (4 m)

ALBA Beamlines



- Operating for users since 2012
- 6000h/year
 - 4750h for users
 - 1250h for machine
- Operating 9 beamlines
- Building/commissioning 4 new ones

Covid-19 impact on 2020 Operation

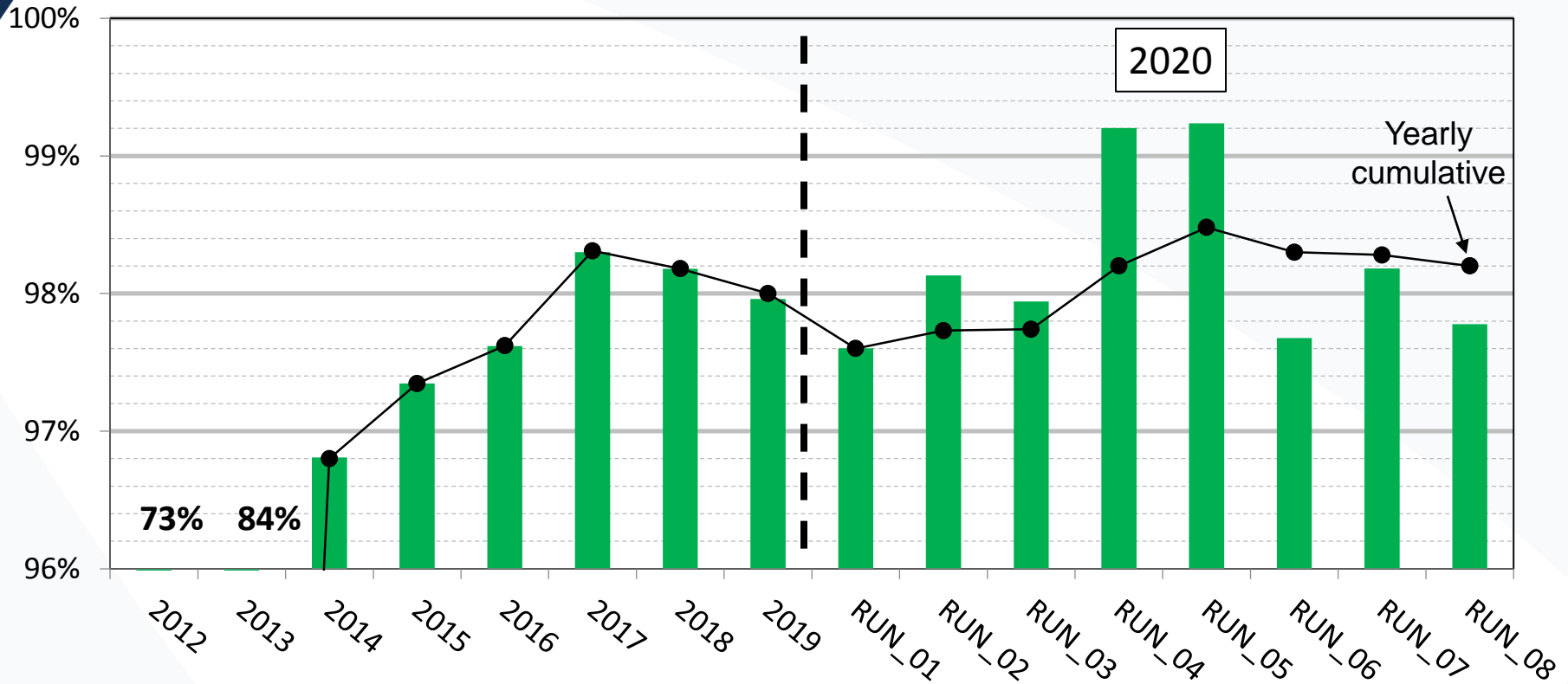


Weekday	JANUARY				FEBRUARY				MARCH				APRIL				MAY				JUNE				JULY				AUGUST				SETEMBER				OCTOBER				NOVEMBER				DECEMBER			
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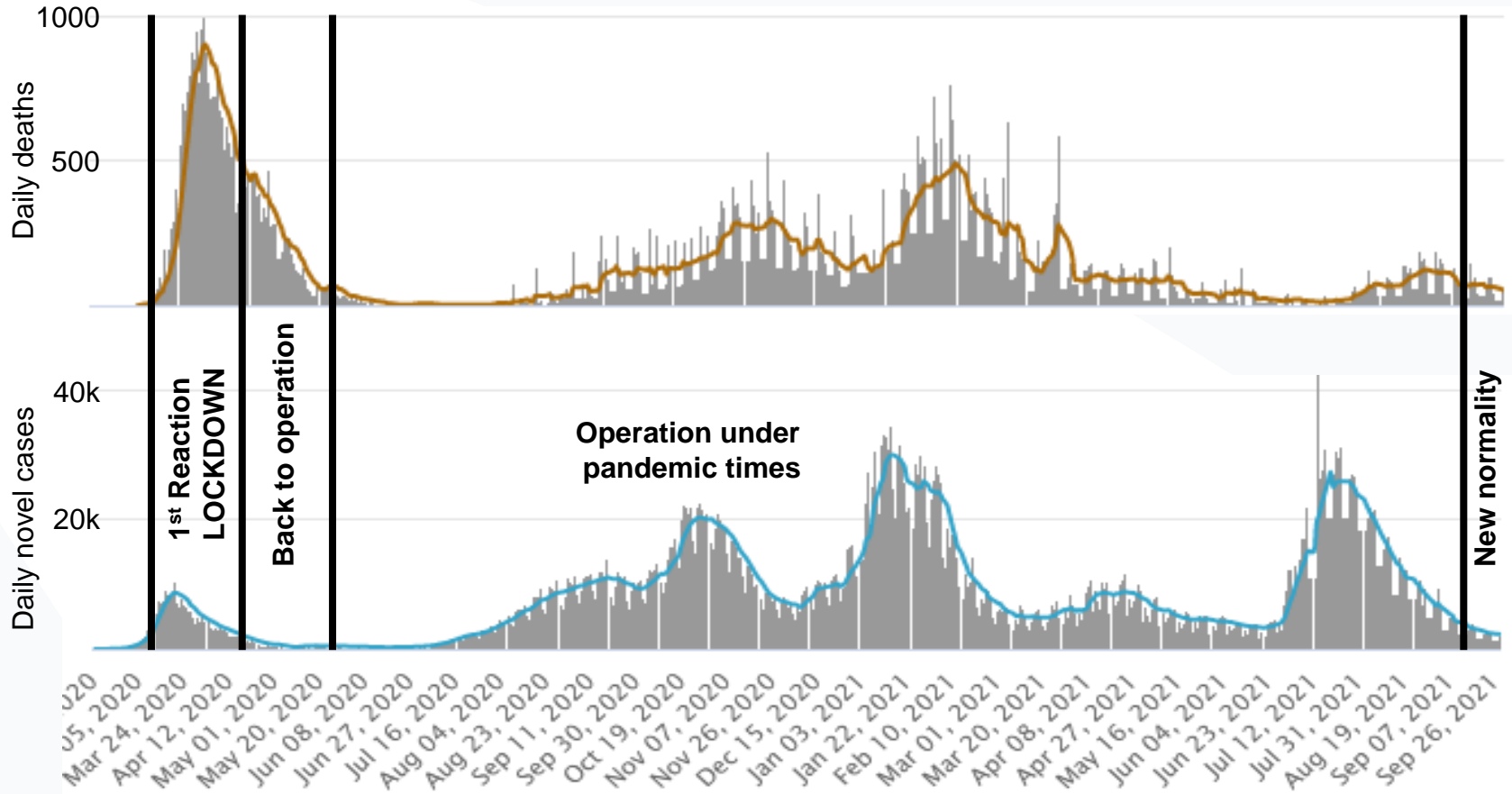
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	Pre-Covid	Post-Covid
BL	4680	3698
M	1192	952
SPR	8	48
CSN	0	0
TOTAL	5880	4698 (80%)

Beam Availability 2020 = 98.2%

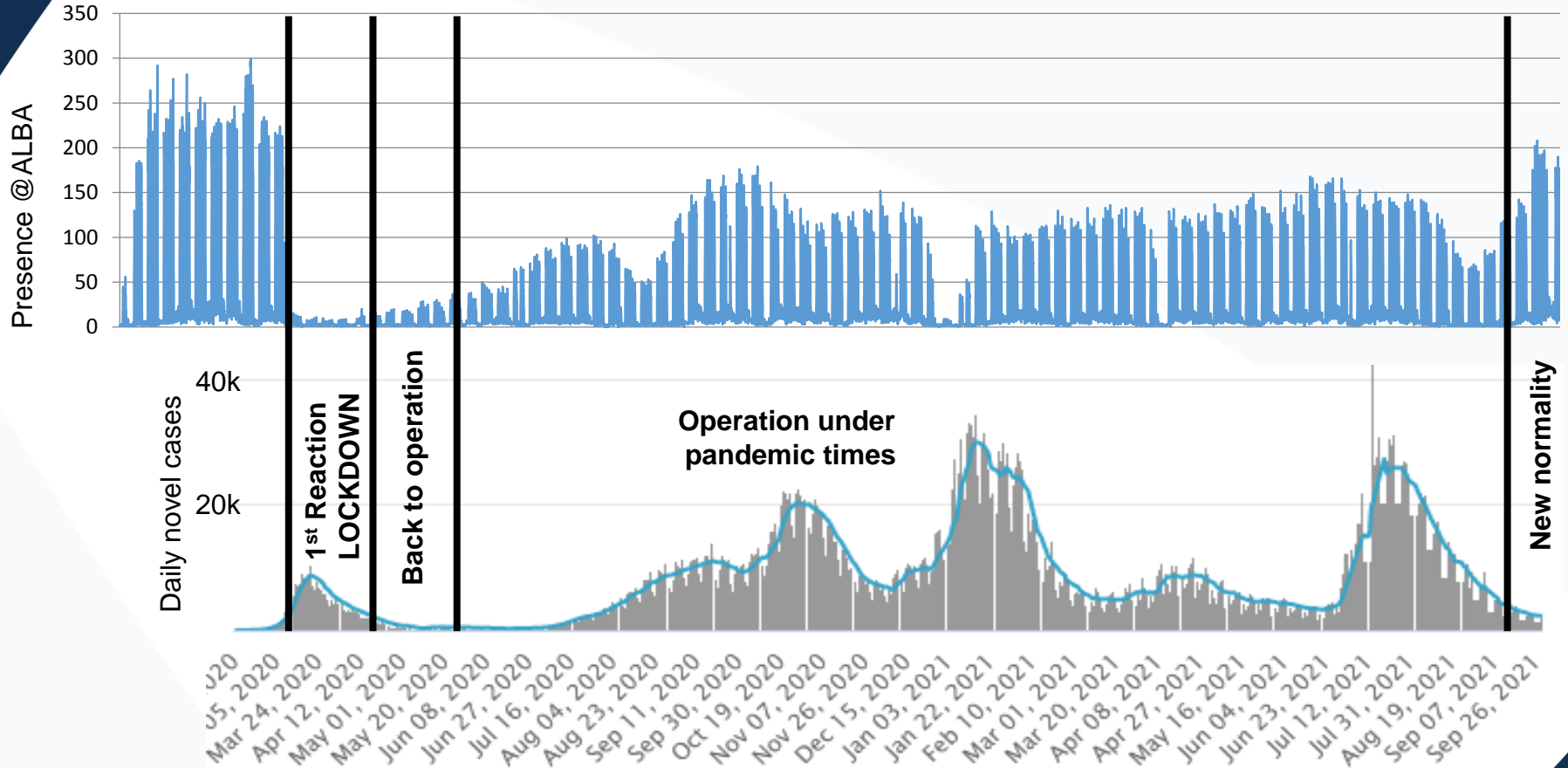


Covid-19 pandemic phases @



<https://www.worldometers.info/coronavirus/country/spain/>

Covid-19 pandemic phases @



Covid-19 pandemic phases @



- March 12th 2020 (1 day before Spain lockdown)
 - Creation of the *Emergency committee* @ALBA
 - Minimum Services
 - Telework + Flexible working time
 - No face-to-face meetings
 - No trips + No visits
 - Special treatment of “sensitive workers”

Covid-19 pandemic phases @



- March 13th 2020 (Spain lockdown)
 - Operation stopped
 - Systems and subsystems stopped “summer-like”
 - Shifts until Easter cancelled (17 days)
 - 95% of staff teleworking
 - 5% of staff at ALBA (logistics & infrastructure)

Covid-19 pandemic phases @



Operation and installation phases defined by the Emergency committee

OPERATION mode	Accelerator	Beamlines	Users	Shifts/day
3.1 - COVID-19	Nominal Parameters	Only those used for COVID-19 experiments	Remote access	1
3.2 - Soft Mode	Nominal Parameters	Beamlines entering in operation progressively	Commissioning and in-house	1/2
3.3 - Medium Mode	Nominal Parameters	All Beamlines	Commissioning, in house and mail-in samples	3
3.4 - Full Mode	Nominal Parameters	All Beamlines	In-house, mail-in samples and external users	3

Covid-19 pandemic phases @



Operation and **installation** phases defined by the Emergency committee

INSTALLATION mode	Max n of people/task	Workspaces
2.1 - Small Installation Tasks	1, or 2 if within safe distance	Defined by the possibility of working alone or large enough for 2 people
2.2 - Allow small teams	Up to 5	Ensuring security distance. If one member of the team gets sick, the whole team is confined for 14 days
2.3 - External companies	Also external companies can work with small teams (up to 5)	Ensuring security distance. Minimize contact with the external company
2.4 - Almost normal work	Allow everybody going to ALBA	Whole facility. Maintain risk mitigation according to existing risk and guidelines from public authorities

3.1

- April 15th 2020 –Beamtime for Covid-19 related experiment
 - Industrial user
 - Shifts covered in a voluntary basis
 - Only office time (no night shifts, nor weekends)

3.2 & 2.1

- April 27th 2020 – Soft restart of operation
 - Only office time (no night shifts, nor weekends)
 - BL commissioning & in-house research

Covid-19 pandemic phases @



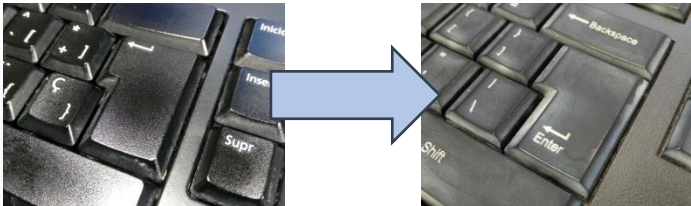
3.3
&
2.3

- May 25th 2020 – Users operation with restrictions
 - 3 shifts/day
 - Mail-in samples
 - Small installation teams
 - External companies allowed

3.4
&
2.4

- May 17th 2021 – Full Mode
 - 3 shifts/day
 - Allow external users
 - Installation activities fully resumed

- Minimizing the risk at the Control Room
 - Mandatory cleaning surfaces and equipment (start/end shift)
 - Mandatory use of masks
 - Increasing fresh air renovation + filtering



Operating under the pandemic



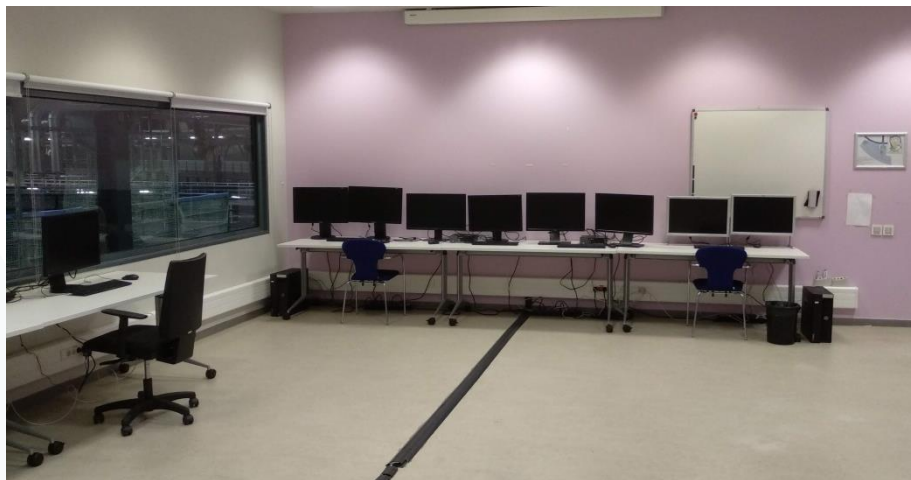
- Minimizing the risk at the Control Room
 - Minimizing occupancy
 - Max number of people
 - Avoid interventions that can be done remotely
 - Keep track of staff in the Control Room other than the shift team

CONTROL ROOM
WORK (>15min) REGISTER
Please, fill in if you work longer than 15min in Control Room
Data to be used to track contacts in case of Covid-19 positive

Name	Date	Entry time	Exit time
[Redacted]	23/08	9:00	17:30
[Redacted]	24/08	9:30	16:00
[Redacted]	25/08	9:00	16:10
[Redacted]	24/08	9:30	17:00
[Redacted]	25/08	9:00	17:00

Operating under the pandemic

- Minimizing the risk at the Control Room
 - Backup Control Room (BCR)

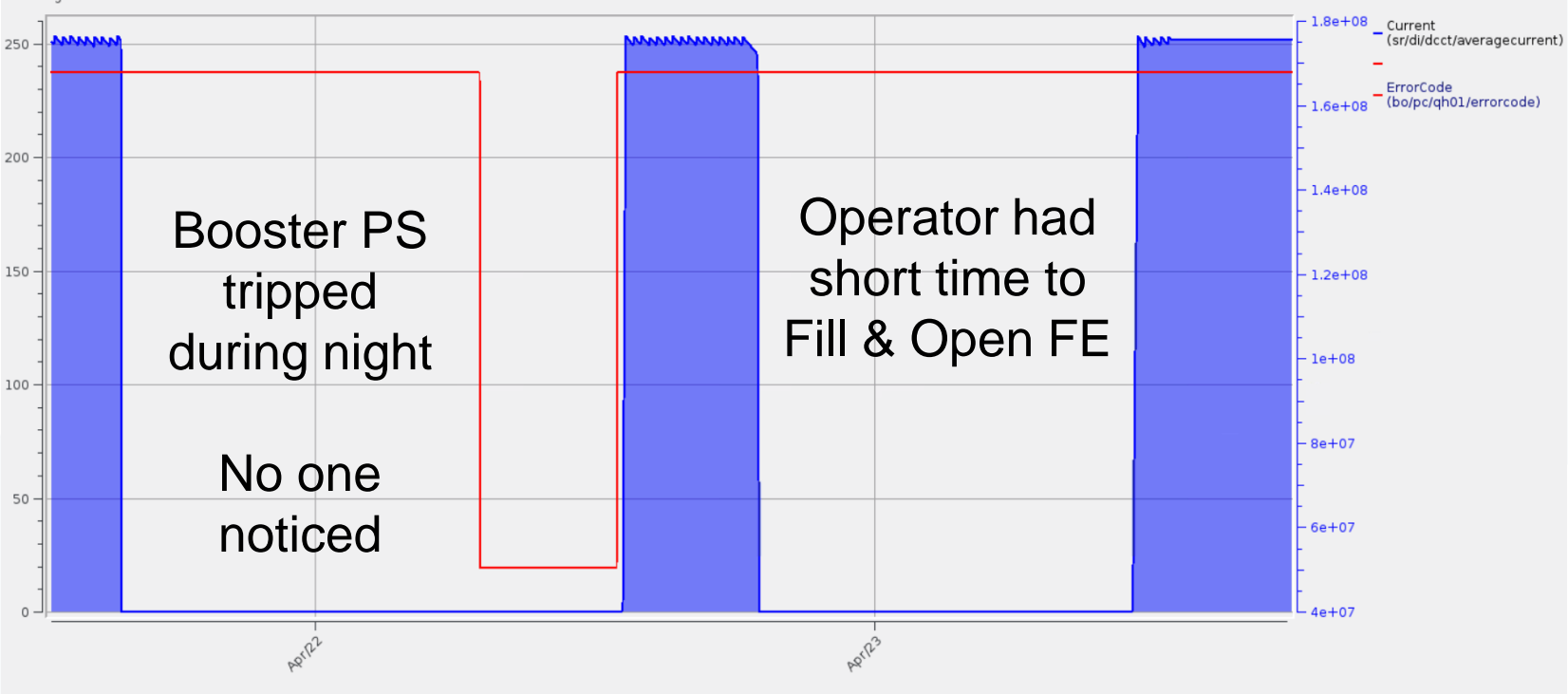


- Workplace of 2nd shift member moved to BCR

Operating under the pandemic



- “No nights” related issues



- Low presence issues
 - On Call service takes longer
 - More difficult to reach / interact with subsystem experts
 - Operators almost alone in the facility
 - No cafeteria/restaurant
 - Extra-duties not related with operating the accelerator
 - Loneliness

**Still, 98.2%
availability**

THANKS FOR YOUR ATTENTION

and keep safe!