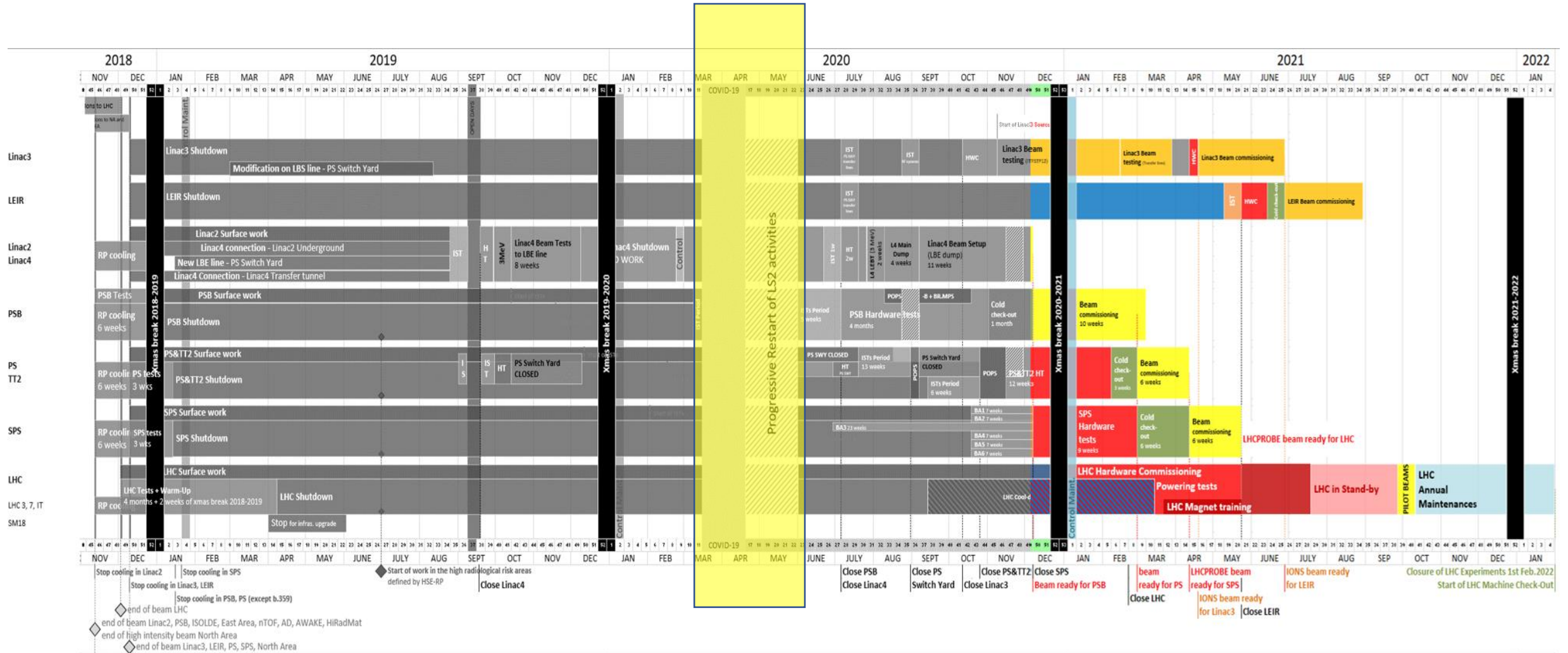




Coordinator's report
ISCC 90
Karl Johnston

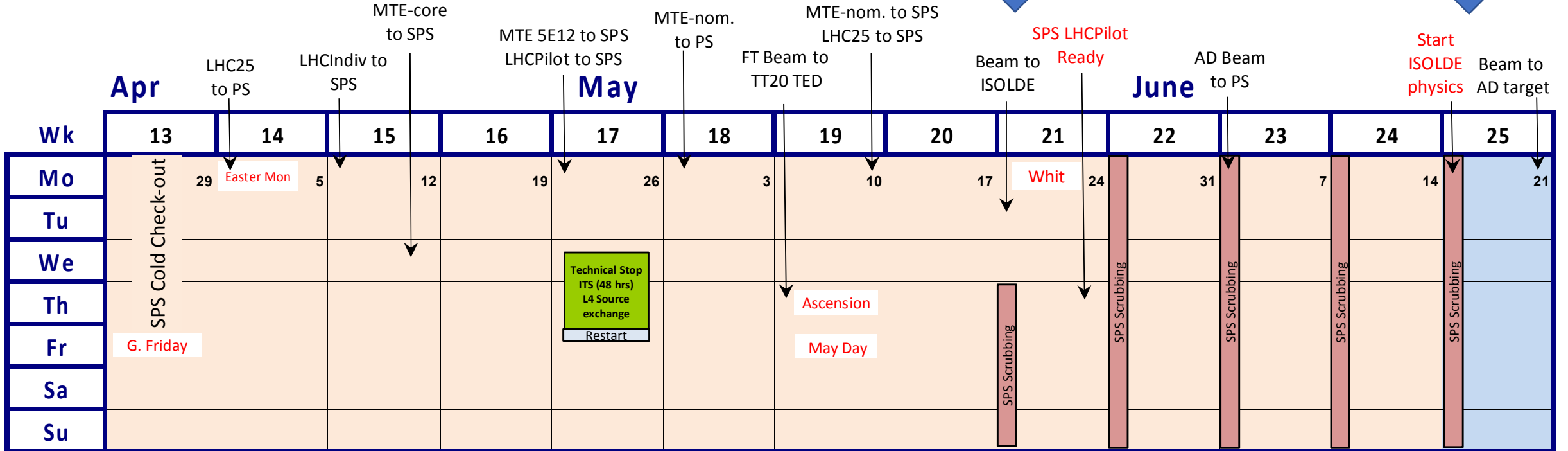
- Schedule 2021
- Beam requests
- Training and running experiments in 2021
- Update from the hall
- Publications

Modified schedule due to covid restrictions



Shift of ~3 months with knock-on effect for physics this year. ISOLDE relatively spared

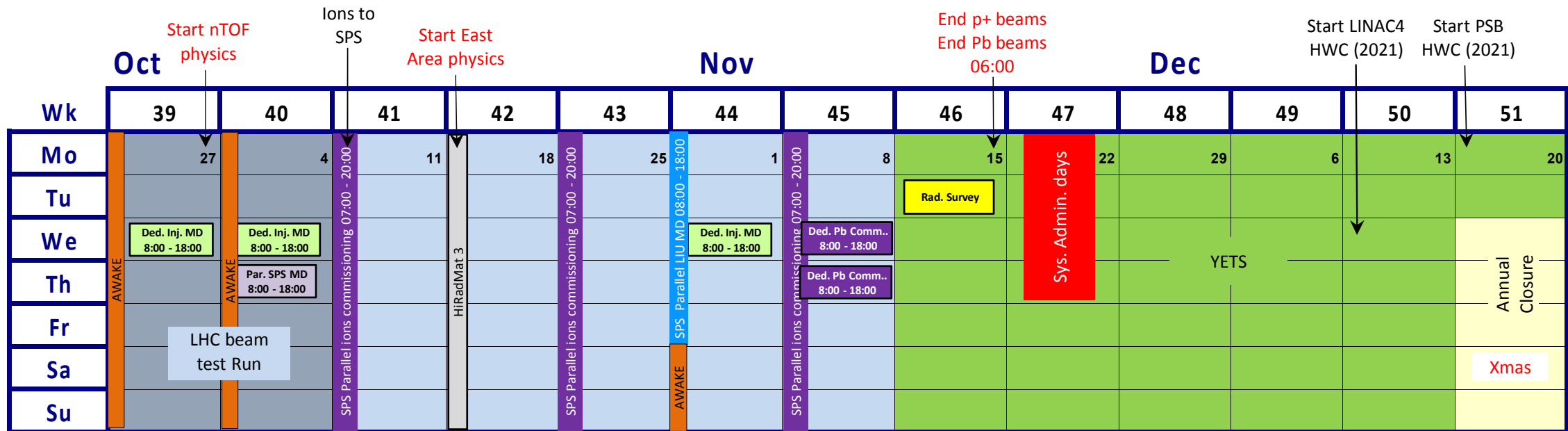
Schedule 2021 – Q2



- Wk 17: 48 hours Linac 4 source exchange beam to beam & Injector Technical Stop (duration tbd)
- Wk 21: LHCPilot beam ready on 27 May out of SPS – *LIU milestone*
- Wk 21 – 25: Scrubbing run SPS interleaved with commissioning activities and COLDEX running
- Wk 25: Parttime beam delivery to SPS-NA for setting-up
- **Wk 25: 21 June start ISOLDE physics (140 days from today!)**
- Wk 25: Beam to AD target for new target area commissioning (2 weeks)

Schedule 2021 – Q4

Winter physics ?



- Wk 46: Monday 15 Nov. at 06:00 Stop of all beams
- Still 3-4 weeks for a winter physics run before (short) YETS starts
- LHC hopes to start early in 2022, ISOLDE could potentially also profit
- **Could be especially beneficial for HIE-ISOLDE experiments as Miniball is not running in 2021. If HIE can be kept cold would be a boon to deal with the backlog.**

Present Physics Accounting

Experimental facility	Start Physics	End Physics	Duration [days]*
ISOLDE	21.06.2021	15.11.2021	147
SPS North Area p ⁺	12.07.2021	15.11.2021	125
ELENA	23.08.2021	15.11.2021	98
nTOF	27.09.2021	15.11.2021	49
PS East Area	18.10.2021	15.11.2021	56
SPS North area Pb ions	-	-	0
AWAKE	-	-	51
HiRadMat	-	-	21

+ winter run

- MDs,TS, reduced duty cycles, etc. are not taken into account
- Note there will be a full revision of the schedule in March 2021....
- Using 2018 as a guide (a good year): 300 shifts could be feasible in 2021...

	Jan				Feb				Mar				
WK	2	3	4	5	6	7	8	9	10	11	12	13	14
Mo	4	11	18	25	1	8	15	22	1	8	15	22	29
Tu													
We													
Th													
Fr													Good Friday
Sa													
Su													

	Apr				May				June				
WK	15	16	17	18	19	20	21	22	23	24	25	26	27
Mo	Easter	12	19	26	3	10	17	Whit Monday	31	7	14	part of professor physics	28
Tu													
We													
Th							Ascension						
Fr							Official holiday						
Sa				Rest of May									
Su							Whit Sunday						

	July			Aug			Sep						
WK	28	29	30	31	32	33	34	35	36	37	38	39	40
Mo	5	12	19	26	2	9	16	23	30	6	13	20	27
Tu													
We													
Th										Service Geneva			
Fr													
Sa													
Su													

	Oct			Nov			Dec						
WK	41	42	43	44	45	46	47	48	49	50	51	52	1
Mo	4	11	18	25	1	8	15	22	29	6	13	20	Special day
Tu													
We												Special day	
Th												Christmas Eve	Last Day of the Year
Fr												Christmas Day	
Sa												Christmas Day	
Su												Boxing Day	

Official Holidays (5d 0h) Physics run (1d 0h)

- ISOLDE schedules now integrated into ASM
- Export to excel view, weekly, monthly and annual schedules etc....
- <https://asm.cern.ch/schedules/calendar?type=ISOLDE&schedule=ISOLDE%20HRS&version=1.0&state=Draft&view=year>

Summary from last three meetings (INTC 63 summarises the status report review)

Row Labels	Sum of Shifts remaining for Run3	Count of experiments for run3
INTC 63	485	34
INTC 64	285.5	18
INTC 65	245	14
Grand Total	1015.5	66

NOTE: 266 shifts requested at this week's INTC. Eligible for beam in 2021 but lower priority, but if can be e.g. combined with other runs, they could be scheduled.

Quite a few LOIs at this INTC meeting. Need for a GUI soon to set priorities for development

Row Labels	Sum of Shifts remaining for Run3	Count of Shifts remaining for Run3_2
biophysics	9.5	1
COLLAPS	35	2
Collections: 163Ho	6	1
CRIS	99.5	4
Gandalph	8	1
HIE	371	20
IDS	97	8
IDS/ISOLTRAP	6	1
IDS/VANDLE	18	1
in-source / IDS	10	1
ISOLTRAP	42	4
MIRACLS	17	1
SSP	116	9
TAS	17	2
TISD	11	2
Travelling Setup	24	2
Travelling Setup; ECSLI	11	1
VITO	29	1
Windmill/IDS	22.5	1
Collections: 108Ag	30	1
PAC nuclear moments	12	1
WISARD	24	1
Grand Total	1015.5	66

Row Labels	Sum of Shifts remaining for Run3	Count of Shifts remaining for Run3_2
ISS	53	3
HIE	53	3
IS674	18	1
IS676	16	1
IS679	19	1
Miniball	236	14
HIE	236	14
IS483	11	1
IS553	6	1
IS556	36	1
IS557	10	1
IS563	12	1
IS566	10	1
IS587	15	1
IS591	21	1
IS595	21	1
IS597	12	1
IS618	24	1
IS646	21	1
IS654	22	1
IS656	15	1
N/A	644.5	46
XT03: Actar	28	1
HIE	28	1
IS581	28	1
XT03: Corset	12	1
HIE	12	1
IS550	12	1
XT03: Edinburgh	42	1
HIE	42	1
IS543	42	1
Grand Total	1015.5	66

Beam requests 2021

- Beam requests were sent to users on Dec 11
- Earlier than usual deadline of 27 January 2021 (to allow preparation of targets etc)
- Requests currently being analysed, semi- raw data opposite
- 2021 likely to be a light year for HIE-ISOLDE, with no Miniball. Of the received requests only 5 for HIE-ISOLDE.
- (hence the pressure to restart in 2022 for HIE)
- 2021 will favour local groups and those able to run at least partly remotely.
- Hands-on experiments e.g. solid state may be harder to run than others....
- Schedule likely to be released in 2 parts e.g. June – Sept ; Sept – Nov.
- With likely early start in 2022, beam requests for at least part of next year to be sent out October/Nov 2021.

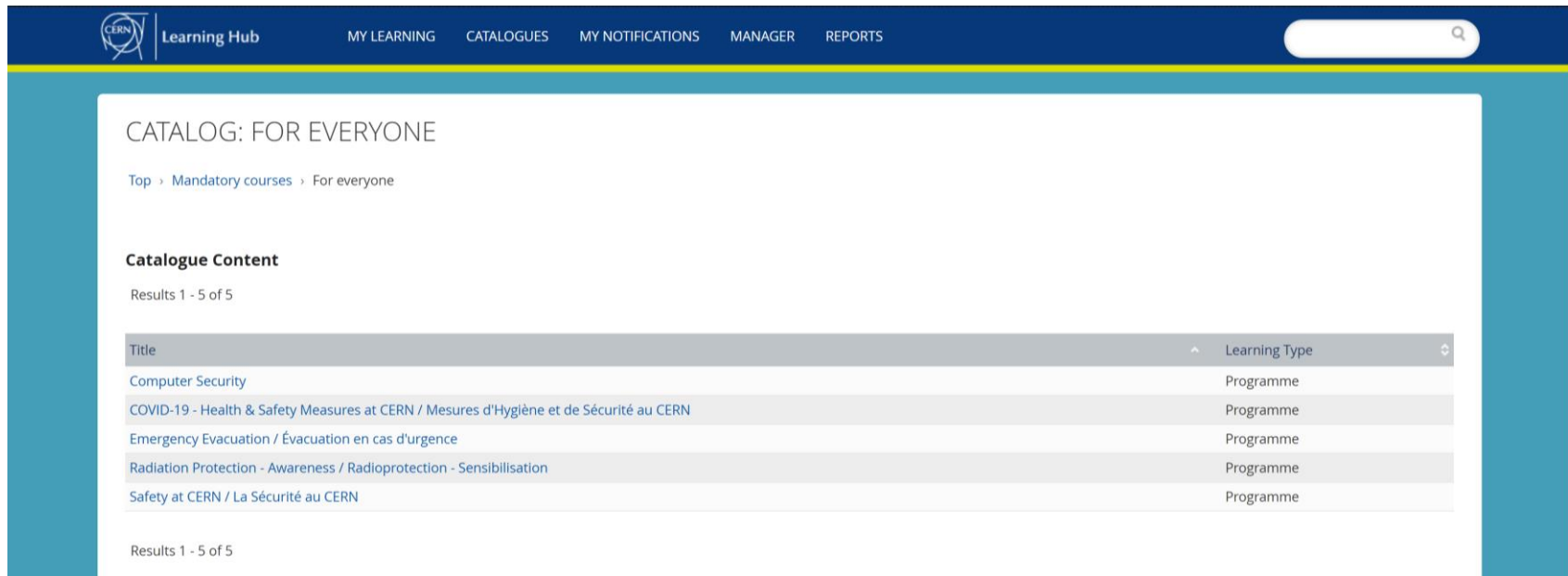
Row Labels	Sum of Requested shifts	Count of Experiment
UC	3	1
UC/Ta/Ti	7	1
CaO	1	1
LaC	4	1
LaCx	15	1
Metallic Th or U	6	1
Molten Sn	16	3
nano-CaO	24	1
SiC	13	1
Ta	10	2
ThC	12	2
Ti	24	4
Ti (48Sc: Ta)	2	1
Ti (49K,26Na)	0	1
UC	367.501	42
UC	12	1
used UC/Ta/Ti	3	1
ZrO2	20	2
ZrO2-felt	12	1
(blank)	14	4
Grand Total	565.501	72

One line summary: we would like to run from September...

Access to CERN, trainings etc

Tele-working is encouraged for all who currently can...likely to remain in place for most of the Spring

Users can still come to CERN, hostel is open. Following courses are now mandatory for access to the site:



The screenshot shows the CERN Learning Hub interface. The header includes the CERN logo, 'Learning Hub', and navigation links: MY LEARNING, CATALOGUES, MY NOTIFICATIONS, MANAGER, and REPORTS. A search bar is located on the right. The main content area is titled 'CATALOG: FOR EVERYONE' and shows a breadcrumb trail: Top > Mandatory courses > For everyone. Below this, the 'Catalogue Content' section displays 'Results 1 - 5 of 5'. A table lists the following courses:

Title	Learning Type
Computer Security	Programme
COVID-19 - Health & Safety Measures at CERN / Mesures d'Hygiène et de Sécurité au CERN	Programme
Emergency Evacuation / Évacuation en cas d'urgence	Programme
Radiation Protection - Awareness / Radioprotection - Sensibilisation	Programme
Safety at CERN / La Sécurité au CERN	Programme

Results 1 - 5 of 5

Hands-on courses are currently on-request mode for the moment....(not usual trainer...me)

People over 65 need special autorisation to come on site (from EP dept head).

- Would be nice to have some sort of remote separator course later in the year.
- Remote access/control for setups is recommended as we don't expect all collaborations to be able to travel easily in 2021. Other labs e.g. TRIUMF have been running with local groups and remote assistance monitoring from users.

Row Labels	Count of Name
MSU, Michigan, USA	1
CNS, Tokyo	1
Comenius University in Bratislava	3
Ghent University	1
Grupo de Física Nuclear & IPARCOS, Universidad Complutense de Madrid, 28040 Madrid, SPAIN	1
GSI, Darmstadt, Germany	1
IEAP CTU Prague	5
IFIC-CSIC (Valencia)	1
IFIMUP, Fac. Ciências, Univ. Porto, P-4150 Portugal	2
IFIMUP, Fac. Ciências, Univ. Porto, P-4150, Portugal	3
INFN LNL	3
Institute of Materials Physics, University of Münster	1
Institute of Semiconductors and Solid State Physics, Johannes Kepler University, 69 Altenbergerstrasse, 4040 Linz, Austria	1
Instituto Superior Técnico, Univ. de Lisboa, Portugal	2
IPEN - Brazil	8
IPEN - Brazil	1
JGU Mainz, CERN	1
JLU Giessen, Germany	1
Joint Institute of Nuclear Research, Dubna,	3
Joint Institute of Nuclear Research, Dubna, Russia	7
KU Leuven	3
.....	..

MPIK	1
National Superconducting Cyclotron Laboratory	1
ORNL	4
Peking University	5
Russia	
School of Physics and State Key Laboratory of Nuclear Physics and Technology, Peking University	2
TRIUMF	1
TRIUMF,	1
TU Darmstadt	10
TU Vienna	1
UCM Madrid, Spain	1
UFPA- Brazil	1
Università Padova	1
University of Athens	1
University of Liverpool	2
University of Manchester	2
University of Massachusetts	1
University of Naples, Italy	1
University of Warwick	1
University Torino	5
Universtiy of Jyväskylä, Finland	1
UTK	6
(blank)	
Argonne National laboratory	1
FRIB/NSCL Laboratory, Michigan State University,	2
Lawrence Berkeley National Laboratory	1
Grand Total	125

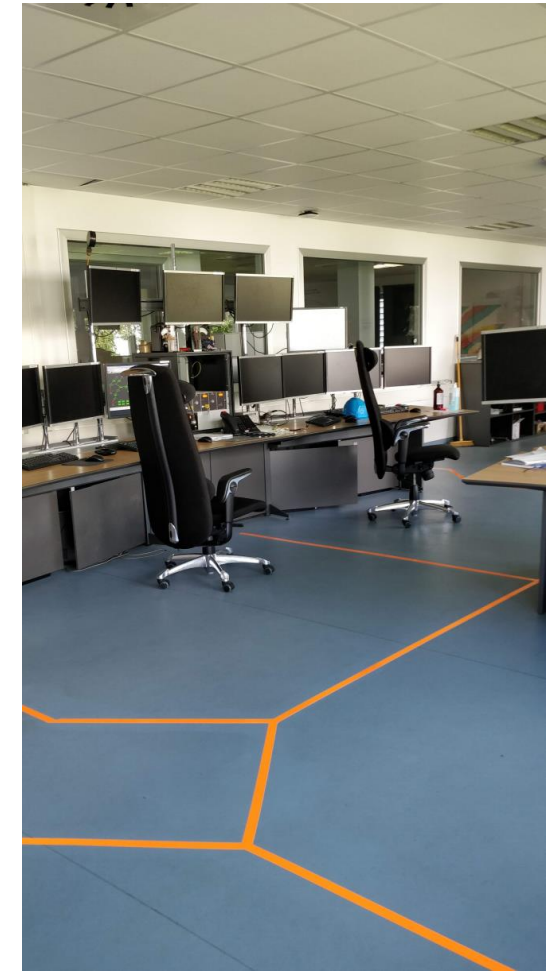
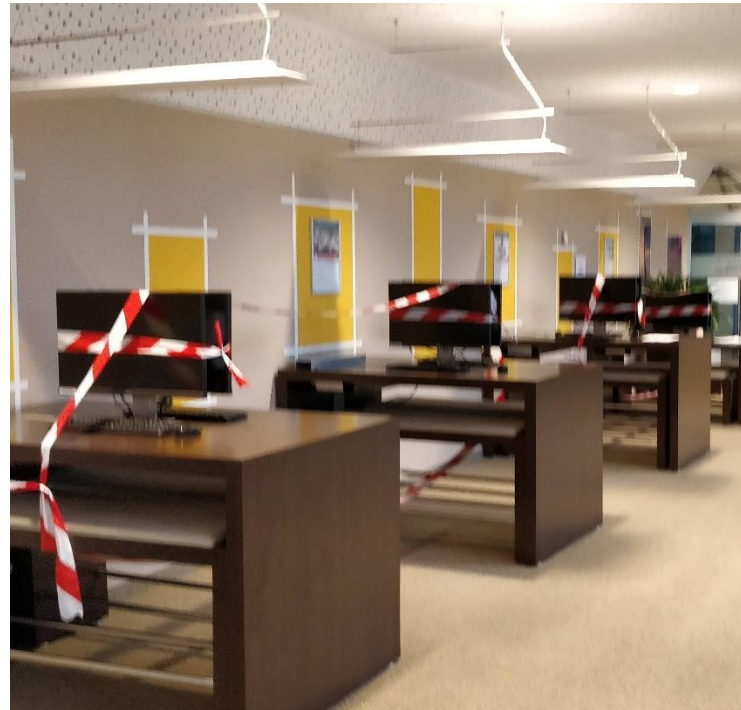
- Request for training with beam requests: so far could expect ~125 new users to be trained...
- This will be used to discuss how to arrange training given the various restrictions likely to be in place for a large part of 2021
- Remote sessions are probably going to be needed

Mandatory from
~March onwards for
everybody on
site....CERN proximeter

- Will record close contacts and keep records for 2 weeks then data deleted.
- will vibrate to warn its carriers when they move to within two metres of each other for more than 30 seconds
- About the size of a dosimeter...
- Will be mandatory until end of pandemic
- Can be collected at B. 55, dropped off after leaving



If measures continue...running experiments will not be straightforward.



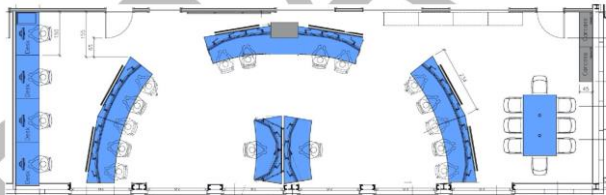


Figure 5: Layout and maximum occupancy of the ISOLDE control room in its pre-COVID configuration.

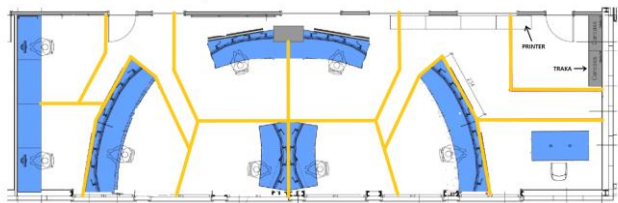
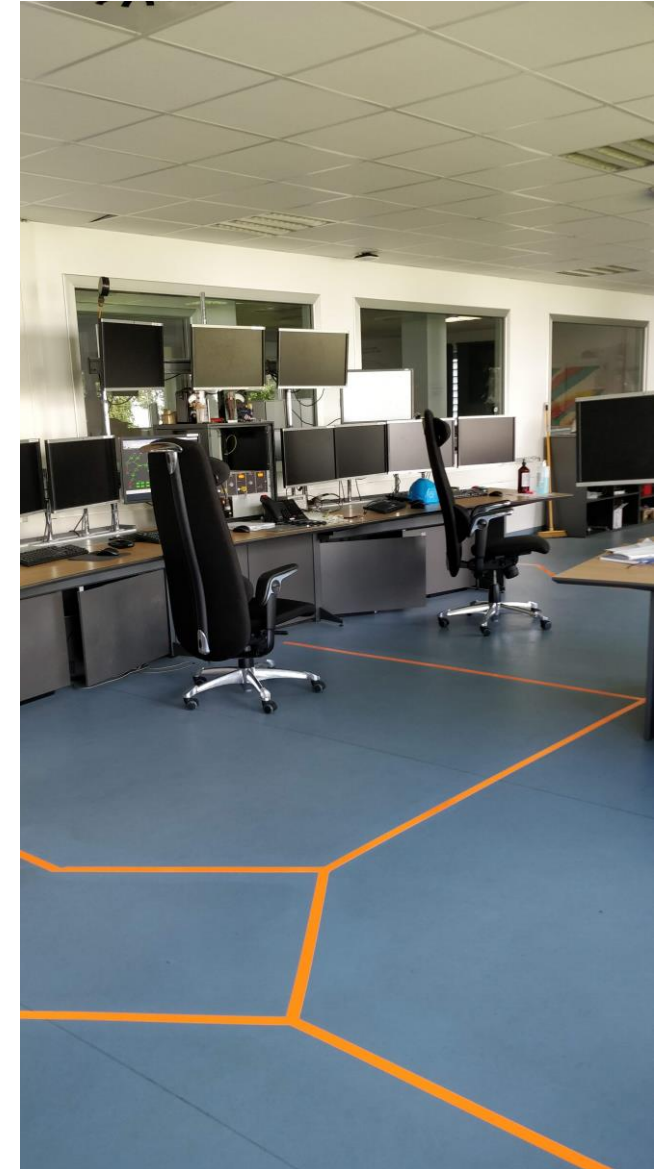


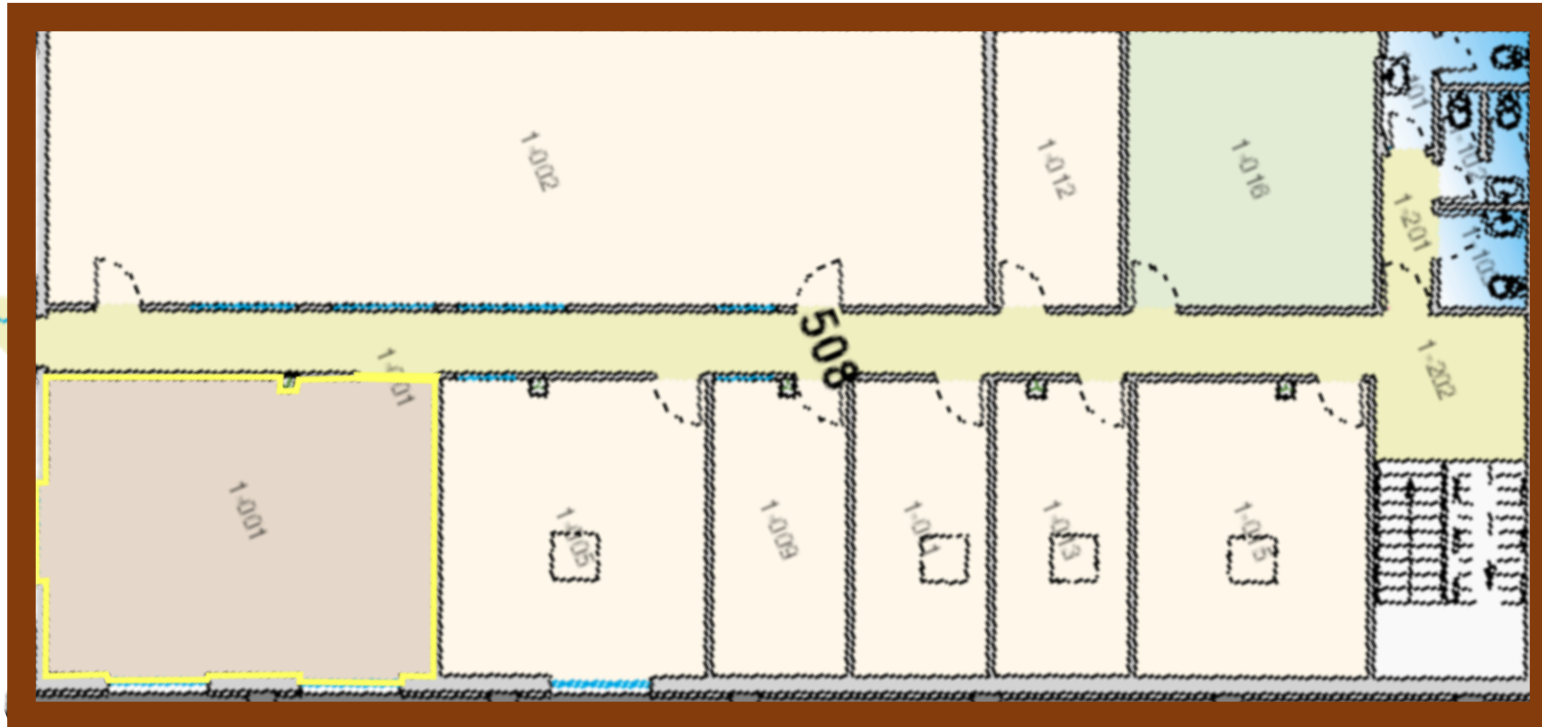
Figure 6: Layout and maximum occupancy of the ISOLDE control room in its Covid configuration. Working areas and entrance area for TRAKA box and printer marked in orange and red.





- 1-002 → Control room (291 m³)
- 170 m³/h
- 6 people

- 1-016 → Kitchen (77 m³)
- Vent?
- 4 people



- 1-001 → Visitors room (130 m³)
- 310 m³/h
- 6 people

- 1-015 → RILIS DAQ (76 m³)
- 196 m³/h
- 4 people

- 1-005 → ISOLDE DAQ (87 m³)
- 232 m³/h
- 4 people

- 1-009 → ISOLTRAP DAQ (44 m³)
- 176 m³/h
- 2 people

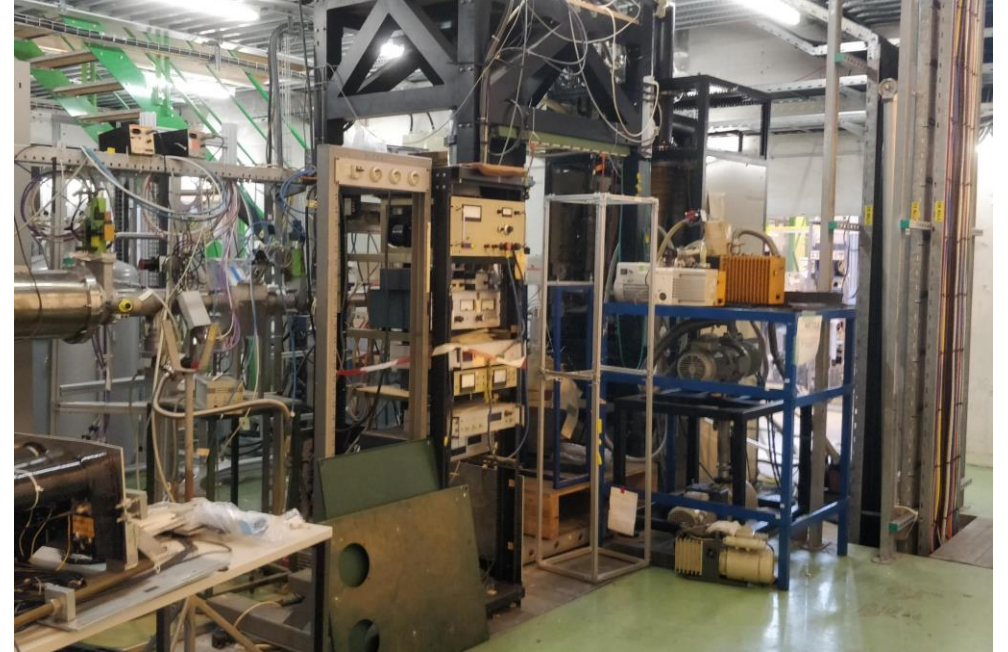
- 1-011 → xx (44 m³)
- Vent?
- 4 people

- 1-013 → xx (42 m³)
- Vent?
- 2 people

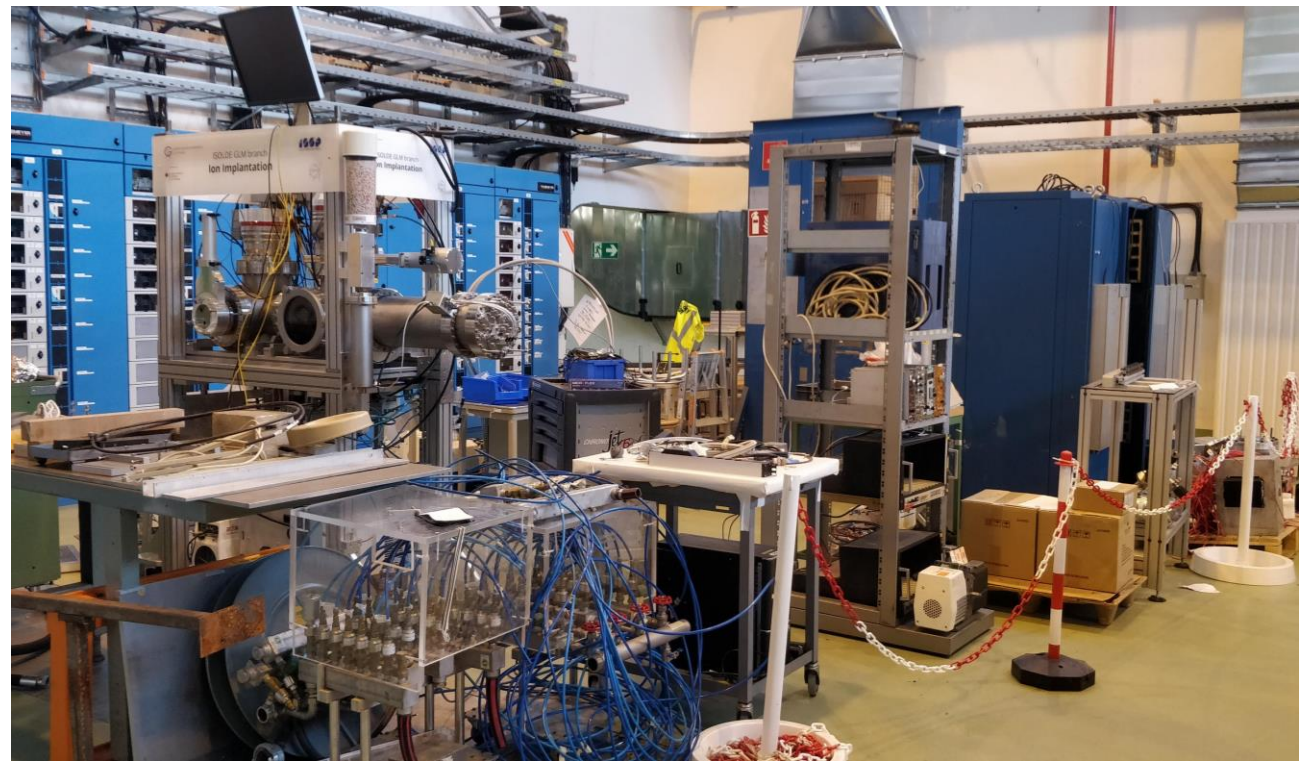
Use old control room, DAQ and visitors space more optimally to allow for more distancing/zoom conferencing



With OP, additional control terminals...OP working on means to allow monitoring e.g. for advanced users at home/office



Removal of NICOLE: slower than desired progress, installation of equipment at GLM blocked removal of storage area, final water lines put in last week. Old doors and technical equipment should move out this week...





VITO: plates installed for easy moving of superconducting magnet. Due to arrive in March to hall

WiSard Crane installed in past weeks



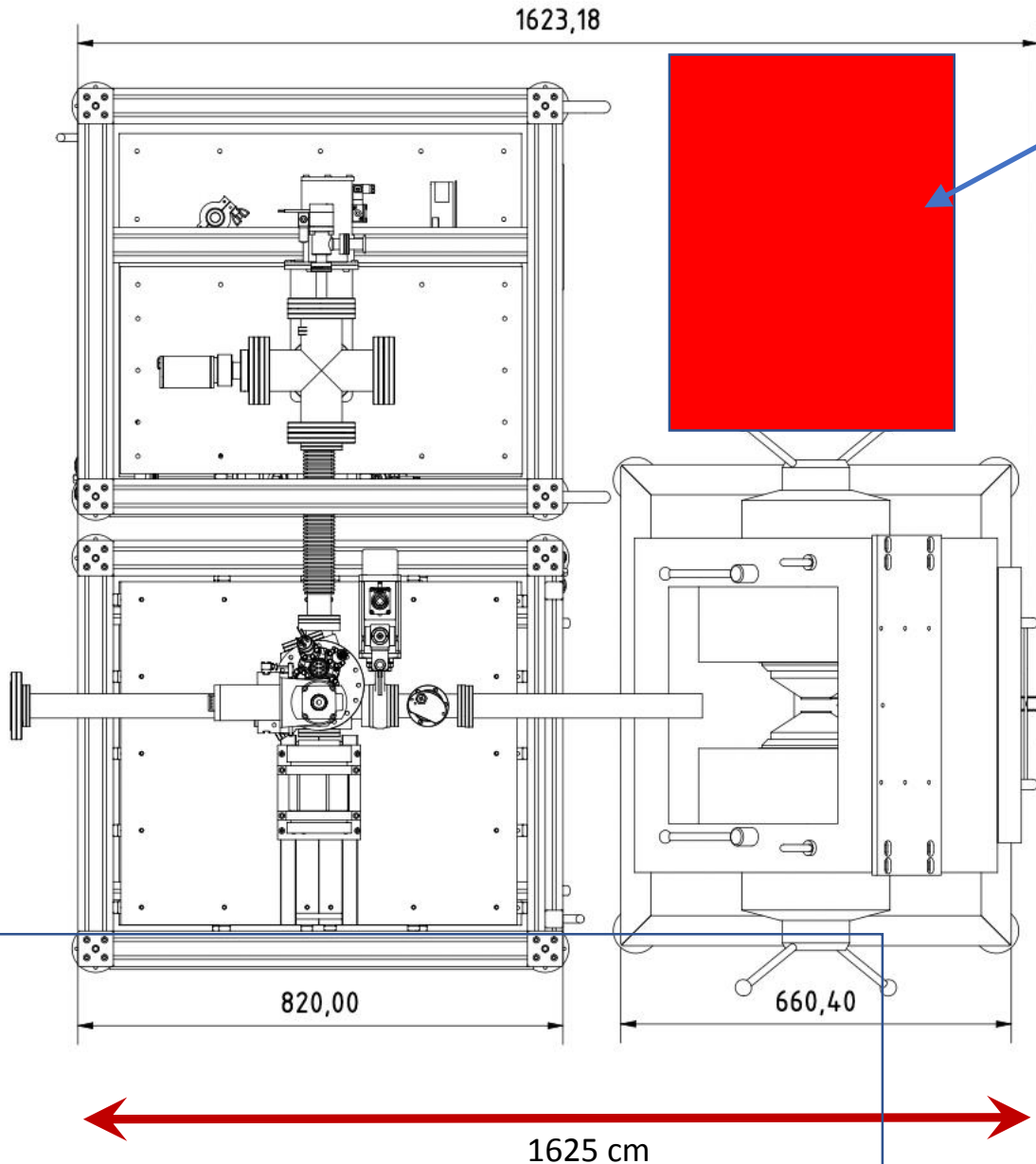
Lights in the hall also being explored for exchange

Will allow for more precise manoeuvring of inner trap



New outlet for lasers from COLLAPS laser lab for LA2 (see Stephen's talk)

Update on new setups: EMMA



Control Unit

800 x 400



CERN-INTC-2020-008 / INTC-I-211

08/01/2020

Letter of Intent to the ISOLDE and Neutron Time-of-Flight Committee

eMMA - Development of an emission Mössbauer apparatus at ISOLDE for the investigation of magnetic materials

[8.01.2020]

Original design was an add-on to GLM, but removeable. Current design would require part of the setup to remain in place for relatively long time....needs to be re-evaluated by ISCC

B. 275 being overhauled for mote optimal use, adapting to AD needs and more relevant storage



Publications

~130 publications during LS2

29 PhD theses defended

Reminder about CERN's policy on open access: many new arrangements with publishers. CERN can also assist with costs if there are CERN authors present:
<https://scientific-info.cern/submit-and-publish/how-and-where-publish/arrangements-with-publishers>

Arrangements with publishers

CERN has agreements with several publishers. Those agreements are detailed below. If you want to know where to easily publish in open access by discipline, please have a look at the following pages: [Accelerators](#), [Instruments](#), [Physics](#), [Other disciplines](#), [Conference Proceedings](#).

Frontiers

All articles with at least one CERN-affiliated author are eligible for central CERN funding to cover the APC under this agreement. Before submission, please send a message to open-access-questions@cern.ch to start the administrative procedure for the payment.

Please make sure also that 'European Organization for Nuclear Research (CERN)' is selected as institutional payer in the invoice section when submitting your article to Frontiers (this is particularly important if the CERN Author is not the submitting author). Frontiers will then verify the eligibility with CERN and, if confirmed, the APC (minus the discount) will be paid by CERN upon acceptance.

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- [Frontiers in big data](#)
- [Frontiers in physics](#)
- [Frontiers in artificial intelligence](#)
- [Frontiers in materials](#)
- [Frontiers in mechanical engineering](#)

[Elsevier](#)

Check for updates

OPEN

Charge radii of exotic potassium isotopes challenge nuclear theory and the magic character of $N = 32$

Á. Koszorús^{1,17}, X. F. Yang^{1,2}, W. G. Jiang^{3,4,5}, S. J. Novario^{3,4}, S. W. Bai², J. Billowes⁶, C. L. Binnersley⁶, M. L. Bissell⁶, T. E. Cocolios¹, B. S. Cooper⁶, R. P. de Groot^{7,8}, A. Ekström⁵, K. T. Flanagan^{6,9}, C. Forssén⁵, S. Franchou¹⁰, R. F. Garcia Ruiz^{11,12}, F. P. Gustafsson¹, G. Hagen⁴, G. R. Jansen⁴, A. Kanellakopoulos¹, M. Kortelainen^{7,8}, W. Nazarewicz¹³, G. Neyens^{1,12}, T. Papenbrock^{3,4}, P.-G. Reinhard¹⁴, C. M. Ricketts⁶, B. K. Sahoo¹⁵, A. R. Vernon^{1,6} and S. G. Wilkins¹⁶

PHYSICAL REVIEW LETTERS **126**, 032502 (2021)

Laser Spectroscopy of Neutron-Rich ^{207,208}Hg Isotopes: Illuminating the Kink and Odd-Even Staggering in Charge Radii across the $N = 126$ Shell Closure

T. Day Goodacre^{1,2,3,*}, A. V. Afanasjev⁴, A. E. Barzakh⁵, B. A. Marsh², S. Sels^{2,6}, P. Ring⁷, H. Nakada⁸, A. N. Andreyev^{9,10}, P. Van Duppen⁶, N. A. Althubiti^{1,11}, B. Andel^{6,12}, D. Atanasov^{13,†}, J. Billowes¹, K. Blaum¹³, T. E. Cocolios^{1,6}, J. G. Cubiss⁹, G. J. Farooq-Smith^{1,6}, D. V. Fedorov⁵, V. N. Fedosseev², K. T. Flanagan^{1,14}, L. P. Gaffney^{6,15,‡}, L. Ghys^{6,16}, M. Huyse⁶, S. Kreim^{13,2}, D. Lunney^{17,§}, K. M. Lynch^{1,2}, V. Manea^{13,§}, Y. Martinez Palenzuela^{6,2}, P. L. Molkanov⁵, M. Rosenbusch^{18,||}, R. E. Rossel^{2,19}, S. Rothe², L. Schweikhard¹⁸, M. D. Seliverstov⁵, P. Spagnoletti¹⁵, C. Van Beveren⁶, M. Veinhard², E. Verstraelen⁶, A. Welker^{2,20}, K. Wendt¹⁹, F. Wienholtz^{2,18,¶}, R. N. Wolf^{13,18,**}, A. Zadornaya⁶ and K. Zuber²⁰