

Assemblée Générale de l'Association des Retraités de l'ILL

Grenoble, 23 novembre 2018

Bilan de l'année 2018

- L'année 2017 était marquée par la fin des travaux post Fukushima qui confère au réacteur un niveau de sûreté de référence mondial
- Exercice national de crise (aspect sûreté)
- Trois cycles de fonctionnement en 2018 et les cycles à venir
- La fin du programme Millenium
- La poursuite du programme Endurance
- L'avenir de l'ILL

Exercice de crise nationale (validation de notre organisation et robustesse du PPI)



ATTENTE DES ASSOCIES

PROGRAMME ENDURANCE

PROGRAMME SCIENTIFIQUE

- Optimiser le nombre de jour.experiences et donc du fonctionnement réacteur
- Maintenir un bon niveau de publications (600)
- Réaliser le programme Endurance dans un délai « acceptable » pour un retour sur investissement (2018 à 2023) (sous réserve validation complète du programme)
- Maintenir un bon taux de disponibilité de nos instruments

2018	2019	2020	2021	2022	2023
3 CYCLES	3 CYCLES	2 CYCLES	$\frac{3}{4}$ CYCLES	3 CYCLES	3 CYCLES

Programme Millenium

Fin du programme Millenium avec le début des essais sur WASP



First neutrons on a sample on WASP



“Green light” for WASP
commissioning



Nouveau programme Endurance 2



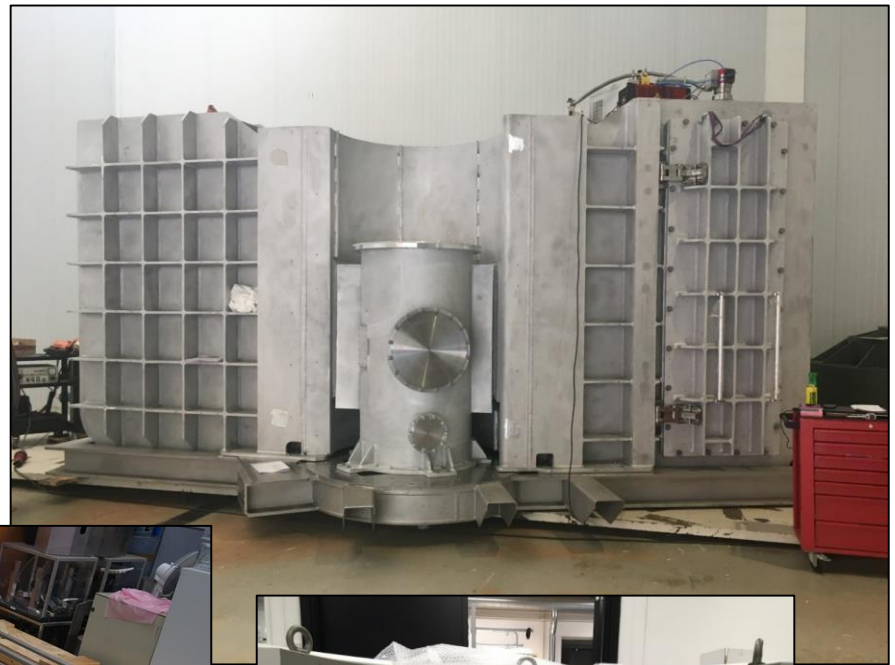
REFIT

MILLENNIUM

ENDURANCE 1

ENDURANCE 2

PANTHER: 60X THE PERFORMANCE OF IN4



THE EUROPEAN NEUTRON SOURCE

SUPERSUN: Delivery 2019 (phase1)

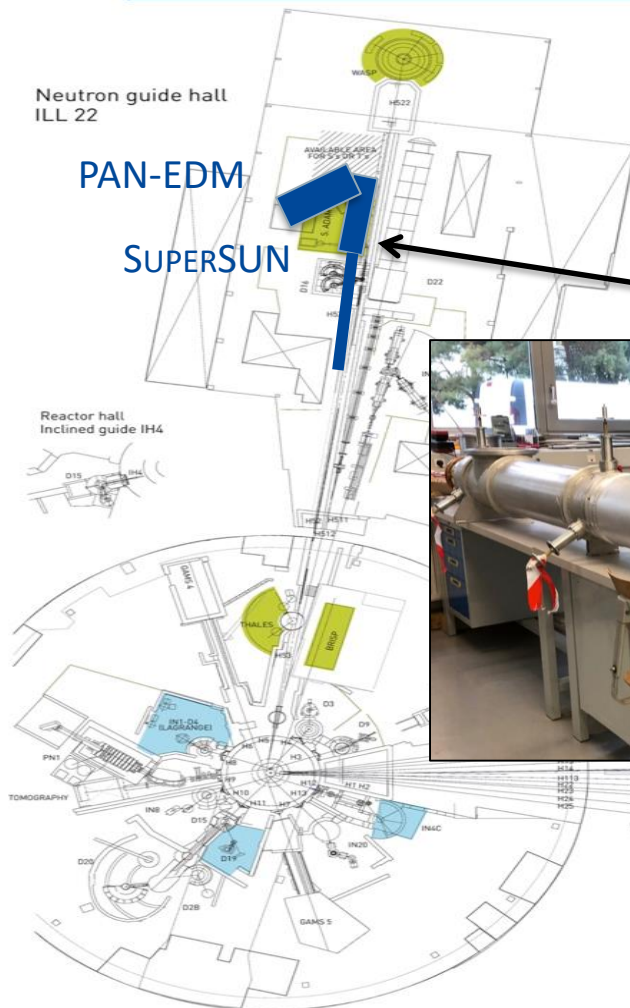
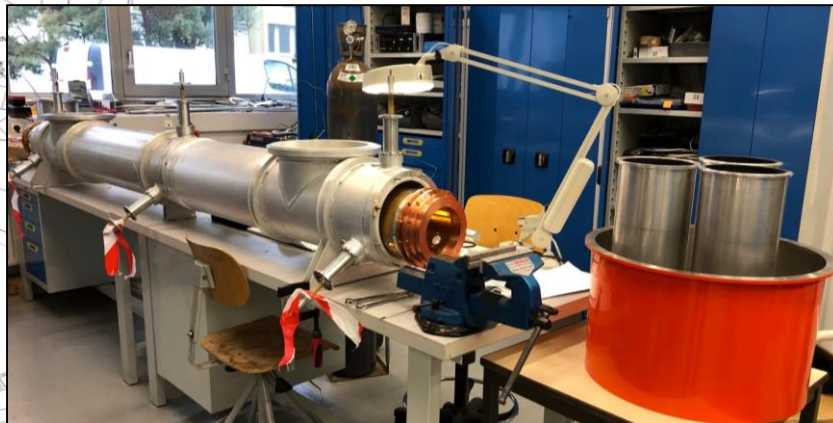
- 2019 UCN's (no magnetic trap)
→ Begin PAN-EDM

Neutron guide hall
ILL 22

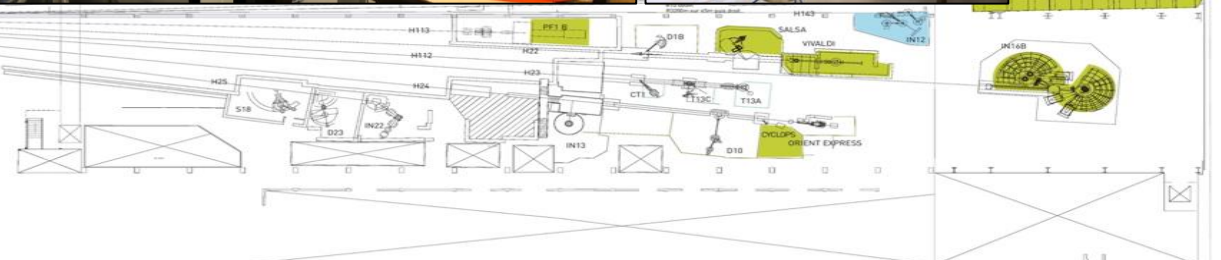
PAN-EDM

SUPERSUN

Reactor hall
Inclined guide IH4

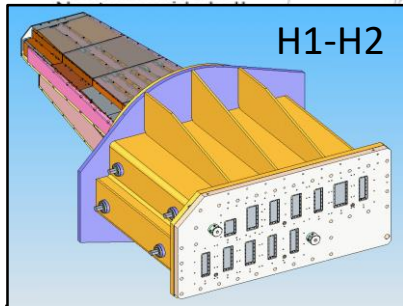


Reactor hall ILL5
Experimental level (C)

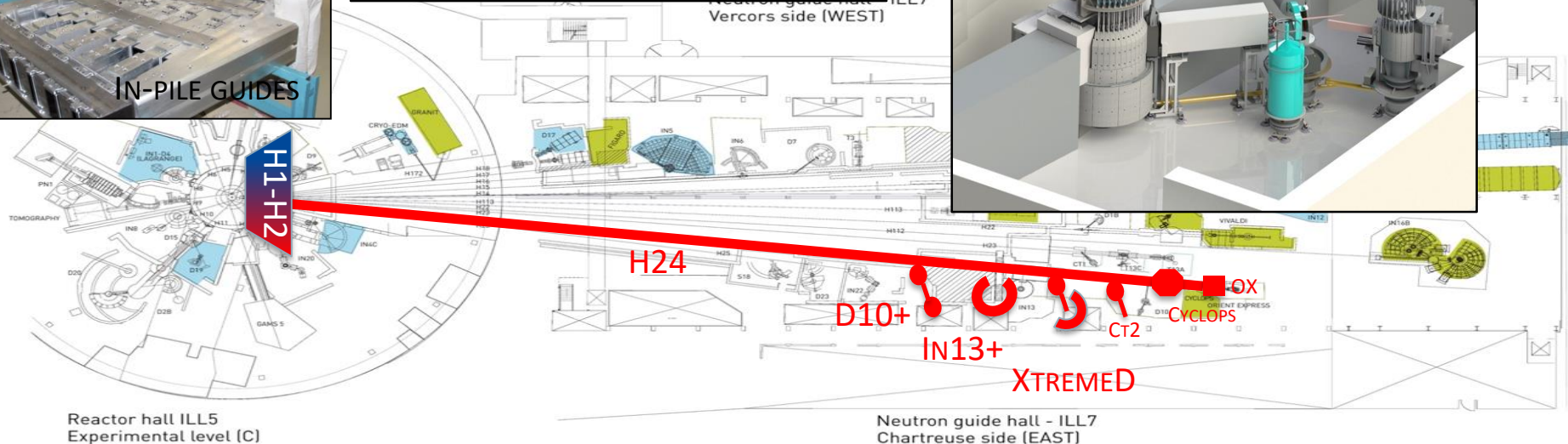
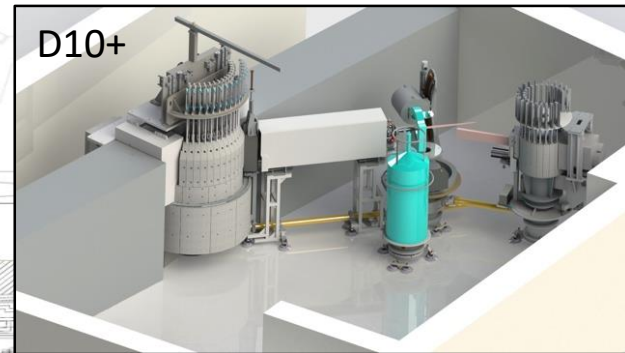
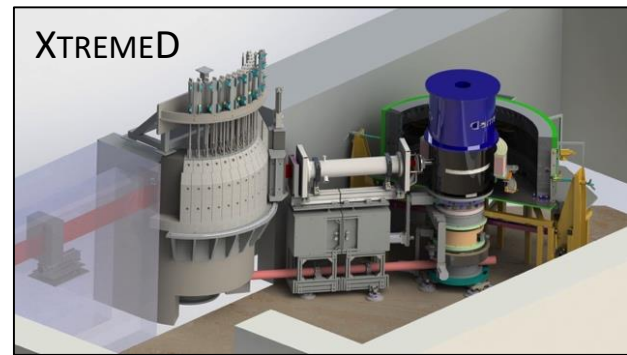


Neutron guide hall - ILL7
Chartreuse side (EAST)

THE LONG SHUTDOWN: 2019-2020 - H24 'CHARTREUSE' PROJECTS



MODIFIED INSTRUMENTS



Neutron guide hall
ILL 22

IN5+: Delivery 2019

- H16 renewal
- Optimised elliptical focusing beam optics -> $\sim 3\times$ flux

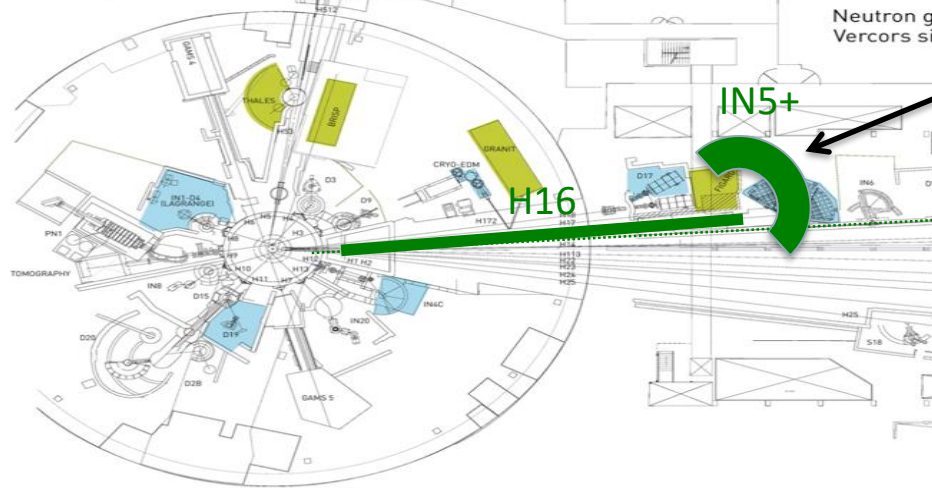
Reactor hall
Inclined guide IH4

Connection
building

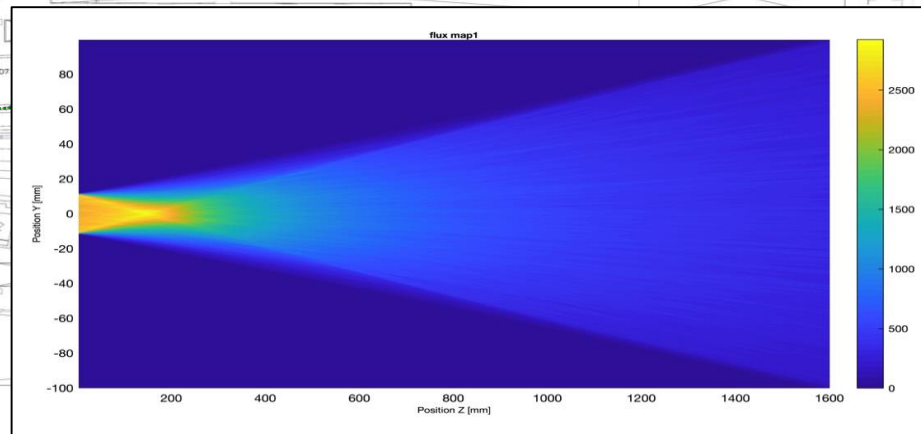
Neutron guide hall
Vercors side (WEST)

IN5+

H16



Reactor hall ILL5
Experimental level (C)

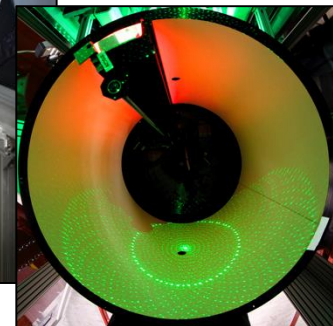


ENDURANCE PHASE 2 : 2019

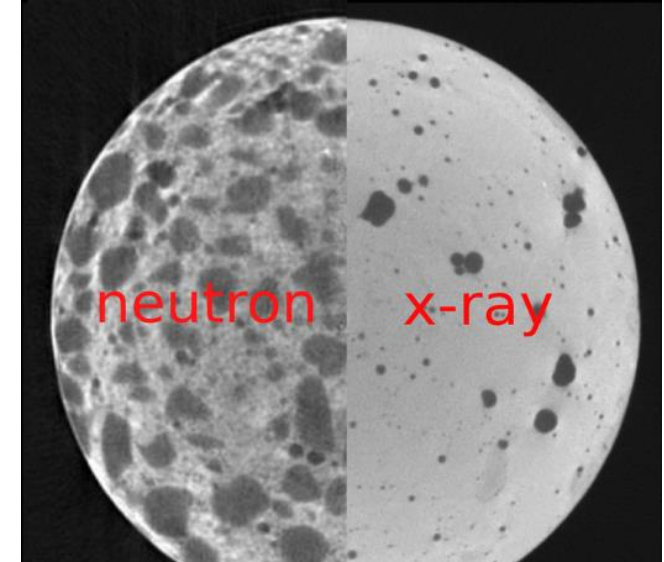
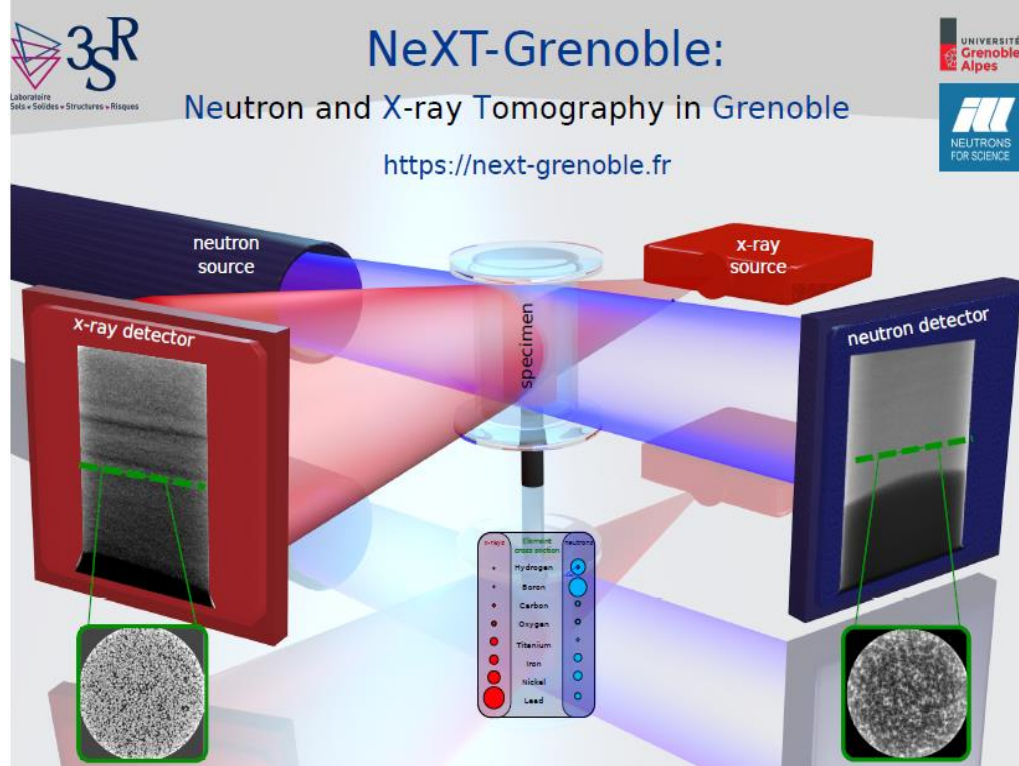
PROJECT	DESCRIPTION	DELIVERY
D11	Large area detector	2021
D22++	Wide angle detector	2021
D16	Wide angle detector	2021
D20c	Replacement detector	2021
IN20	Monochromator and multianalyser/detector	2021
LADI-B	Second protein crystallography station	2019
NeXT / IM2020	Public imaging beam line	2020
H15	Guide design	2019
NESSE2	Sample environment equipment	2019 - 2023
BASTILLE2	Data treatment software	2019 - 2023



VIVALDI (thermal)
-> LADI-B (cold)



New detector for
D11
(picture V4 HZB)



Acta Geotechnica
<https://doi.org/10.1007/s11440-018-0639-4>

RESEARCH PAPER



Liquid water uptake in unconfined Callovo Oxfordian clay-rock studied with neutron and X-ray imaging

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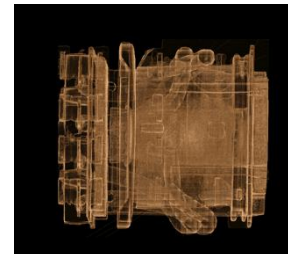
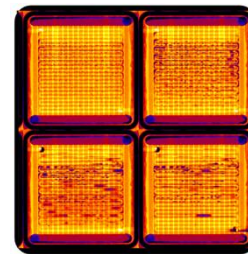
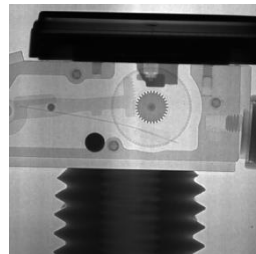
Abstract

The Callovo Oxfordian clay-rock (COx) is studied in France for the disposal of radioactive waste, because of its extremely

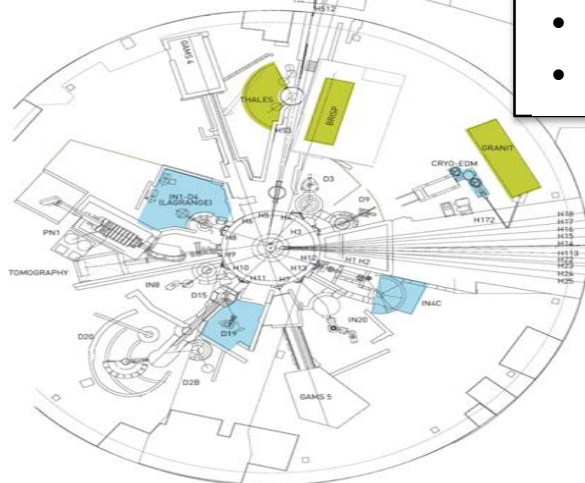
Neutron guide hall
ILL 22

IM2020

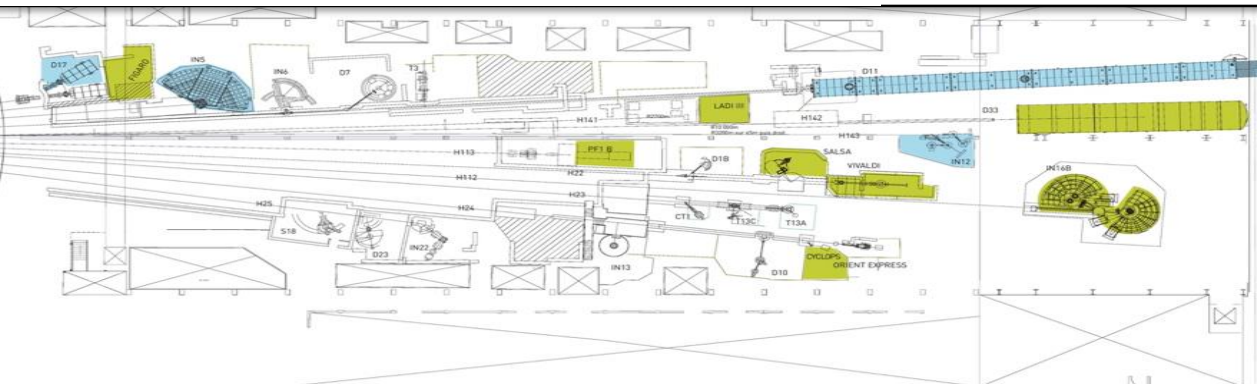
IM2020: 'NEXT' - Neutron Imaging Facility



- Full-time public instrument
- Engage expertise from previous D50 experience
- Collaboration with HZB – expertise & material
- Delivery 2020



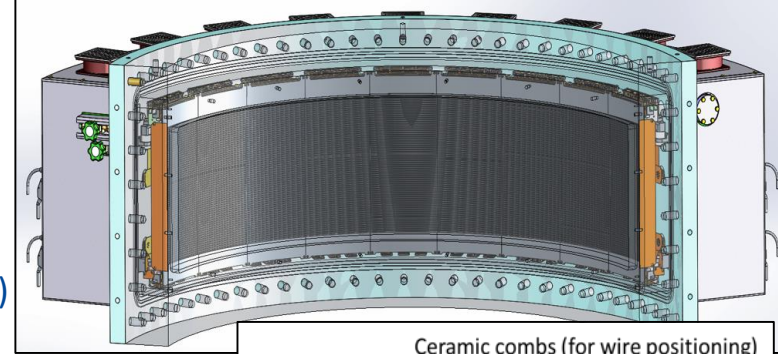
Reactor hall ILL5
Experimental level (C)



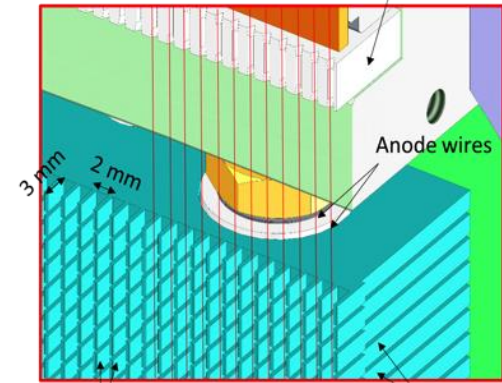
Neutron guide hall - ILL7
Chartreuse side (EAST)

ENDURANCE 2: DETECTORS

- Trench-MWPC detectors - XtremeD type (D16, D19, D20)
- Mono-block – D17, Figaro, D33 type (D3-Liquids)
- ^3He gas-tubes – Reuter-Stokes D22 type (D11, D22)
- Other ^3He tubes (Marmot, IN20, Wasp)



Ceramic combs (for wire positioning)



Spark-eroded teeth

Aluminium plates (cathode electrodes)

		2018				2019				2020				2021			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
D10	fab commissioning	JFClergeau	JFClergeau														
PANTHER	fab setting up in the instrument & commissioning	JFClergeau/JCBuffer/JIPentenero/JSuccaro					JFClergeau										
XtremeD	fab setting up in the instrument & commissioning	JMarchal/JCBuffer/JIPentenero/JTechnician/COD						JMarchal									
D3	study fab setting up in the instrument & commissioning	JCBuffer			JCBuffer/JSuccaro/JTechnician/COD/JIPentenero			JCBuffer/JFClergeau									
D16	pre-study study call for tender & fab setting up in the instrument & commissioning	JCBuffer/JBGuérard/BE			JCBuffer/JBGuérard/BE/JMarchal			JMarchal/JIPentenero/JCBuffer/JTechnician/COD					JMarchal				
D11	Reuter-Stokes PSDs pre-study study fab setting up in the instrument & commissioning		JBGuérard													SCI	
D22	Reuter-Stokes PSDs pre-study study fab setting up in the instrument & commissioning		JCBuffer/JBGuérard/BE		JCBuffer/JEngineer/COD			JCBuffer/JIPentenero/JSuccaro/JEngineer/COD/JTechnician/COD									
D20	pre-study study call for tender & fab setting up in the instrument & commissioning	JCBuffer/JSuccaro/JFClergeau/JBGuérard/BE			JCBuffer/JFClergeau			JCBuffer/JSuccaro/JIPentenero/JFClergeau/JTechnician/COD					JFClergeau				
D19	call for tender & fab setting up in the instrument & commissioning												JMarchal/JCBuffer/JIPentenero/JTechnician/COD			JMarchal	

ILL – ENDURANCE: SUMMARY

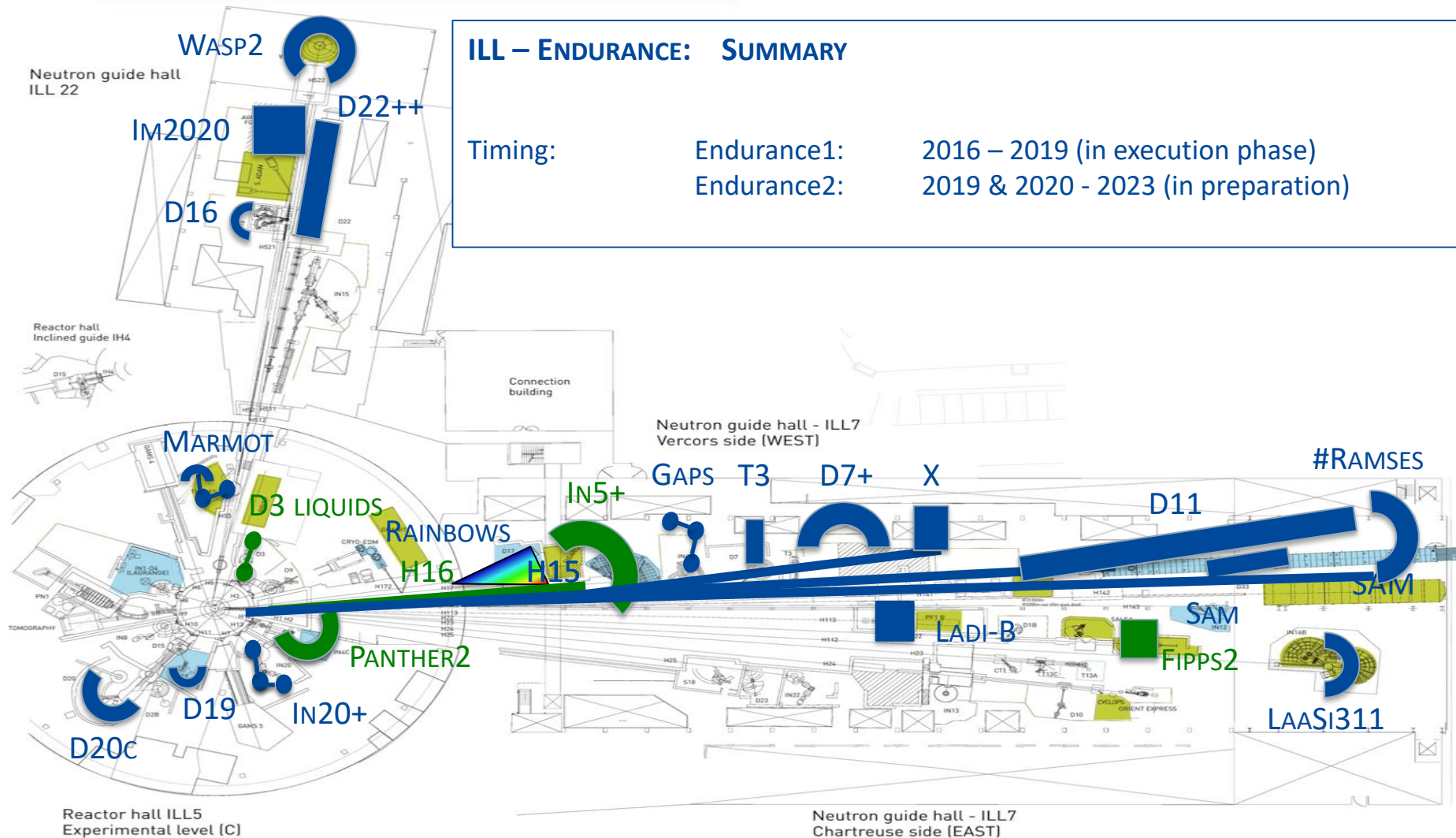
Timing:

Endurance1:

2016 – 2019 (in execution phase)

Endurance2:

2019 & 2020 - 2023 (in preparation)



AVENIR DE L'ILL



APPROVISIONNEMENT
COMBUSTIBLE



RENOUVELEMENT
PROTOCOLE



RELATION AUTORITE
DE SURETE

REEXAMEN DE
SURETE

Merci beaucoup
pour votre attention

Grenoble, 23 novembre 2018

