



1 July 2014 – SAC18

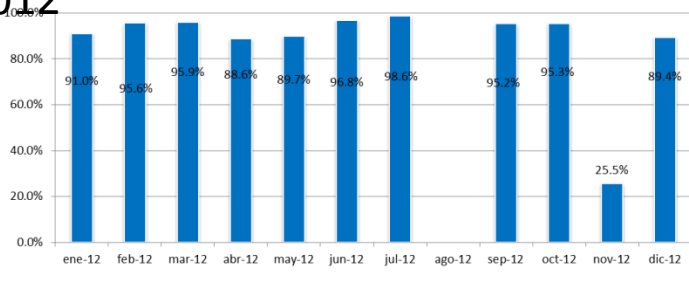
Operation, Staff, Users

2013 Operation Summary

(compared with 2012)

2012

Beam availability

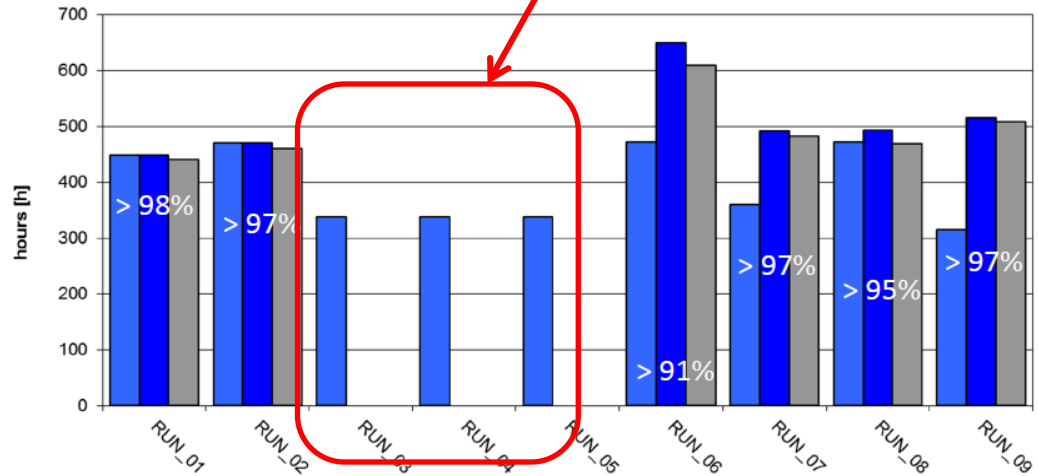


85 % average

94 % average without vacuum incident

Beam availability in 2013

Long shutdown due to cooling system unavailability

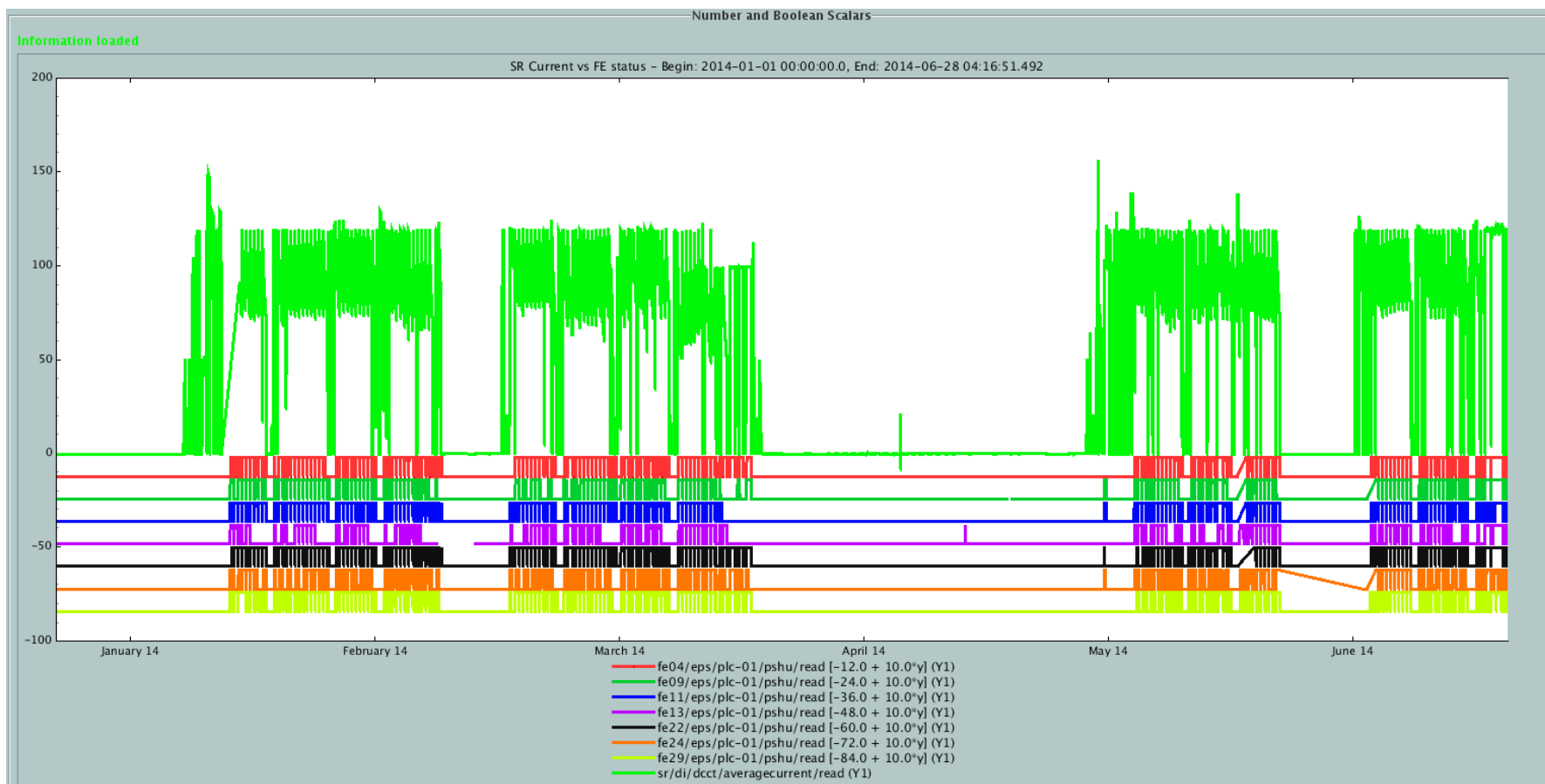


83.8 % average over initial schedule

96.8 % average over revised schedule

137 days for BLs

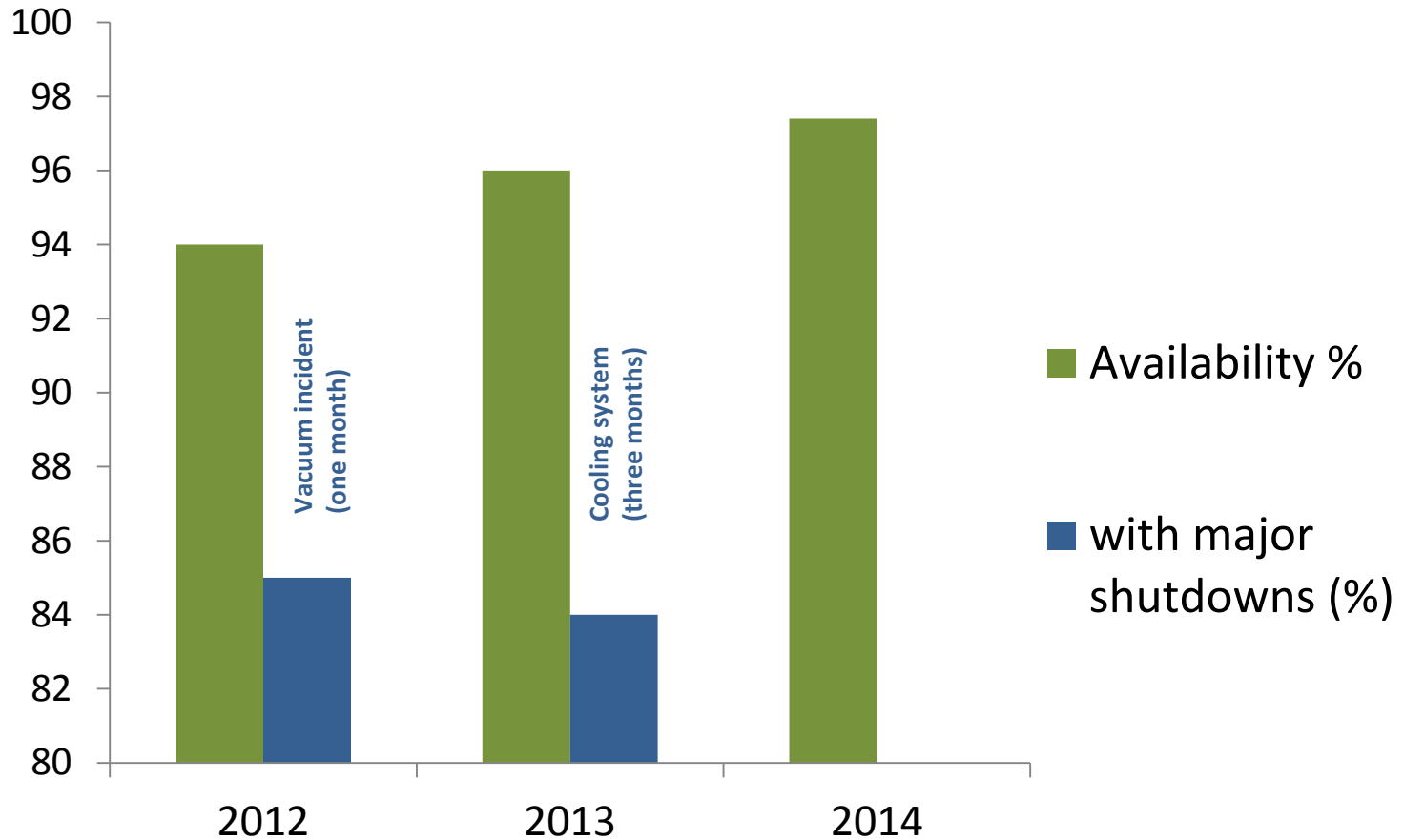
Operation 2014, RUN_01&02&03&04



Beam availability:

RUN_01	96.7 %
RUN_02	97.1 %
RUN_03	97.6 %
RUN_04	98.0 % (until 28/06/2014)

Availability



Top-Up

(more on Perez talk)

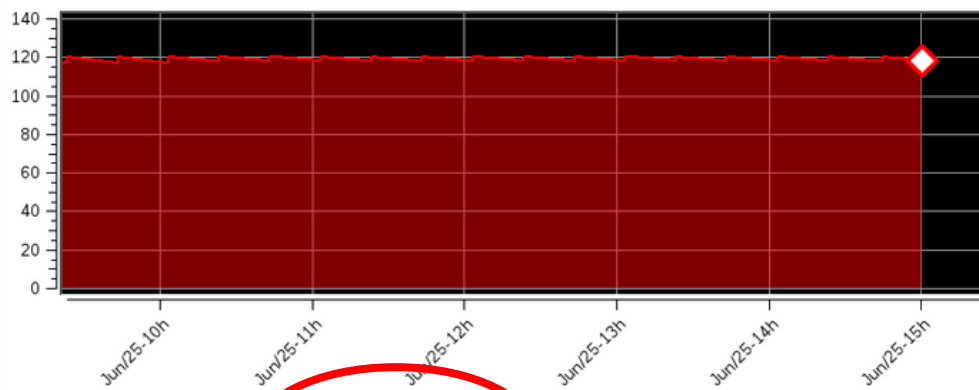
Current 118.503 mA

Life Time 19h 35m (2302.4)

Pressure 4.65e-10 mbar



Current

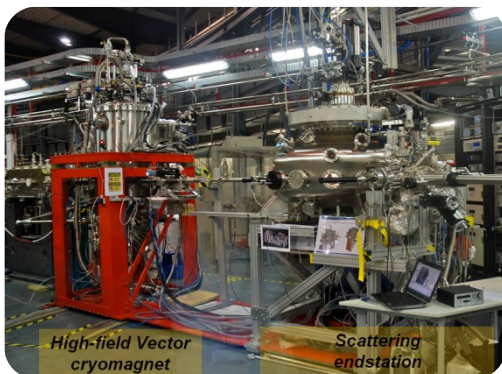


Wednesday 25-Jun-2014 15:00:33

Beam for BLs. Top-up mode tests.

MSPD	FE04 Open	SCW30 B = 2.101 T
MISTRAL	FE09 Open	BEND
NCD	FE11 Open	IVU21 5.80 mm
XALOC	FE13 Open	IVU21 6.35 mm
CLAESS	FE22 Open	MPW80 13.00 mm
CIRCE	FE24 Open	EU62 37.57 mm
BOREAS	FE29 Open	EU71 43.08 mm

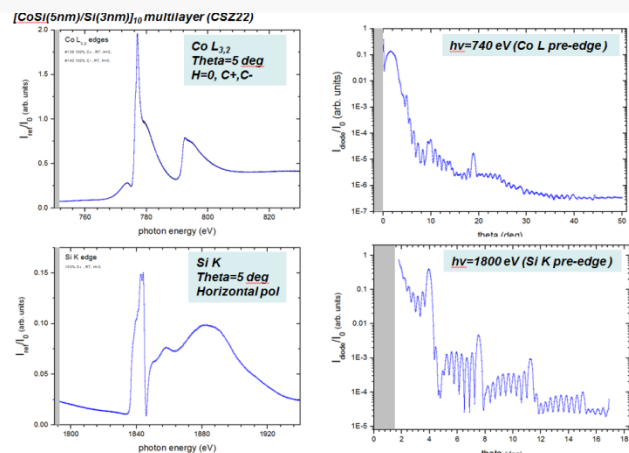
MARES at Boreas



Ready for users on next cycle starting Jan'15

N.B: Ready For resonant scattering with 20K sample cryo-cooling, UHV in-situ preparation/evaporation; magnet or special detectors will be made available when ready along the year (related hardware by Eng. Div. and cabling is pending)

First tests with beam of the *MaReS* scattering endstation checking a CoSi/Si 10-period multilayer, last March. Test demonstrate excellent data quality, reproducibility in 5-6 orders of magnitude for continuous spectra and reflectivity even at high photon energies.



Left: Reflectance resonant spectra.

Right: extended angle specular reflectivity at "magnetic atom" energies, and at rather exclusive high energy (Si K edge)

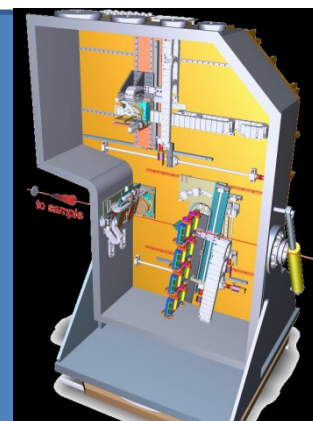
CLEAR at CLÆSS

CLEAR installation on CLÆSS - April 2014



CLEAR
x-ray emission spectrometer
(2-22 keV)

In commissioning from May 2014



First analyzer prototype ready for users on **Dec. 2014**



Operation calendar 2014 – 5250 hours

ALBA Operations Calendar, January 2014-December 2014

BL operation	BL users and commissioning
Start-up	Start up of accelerators with beam
Warm-up	W warm-up time Linac & RF & magnets & sub-systems optimisation
Shutdown	Off Civil Engineering, Accelerators and BL maintenance with no beam, installations and upgrades
Public & CELLS holiday	

	January	February	March	April	May	June	July	August	September	October	November	December
Weekday	Day Week	Shift	Day Week	Shift	Day Week	Shift	Day Week	Shift	Day Week	Shift	Day Week	Shift
Mo	1											
Tu												
We	1	W W W										
Th	2	W W W										
Fr	3	W W W										
Sa	4	W W W	1	BL BL BL	1	BL BL BL	5	W W W	2	OFF OFF OFF	1	BL BL BL
Su	5	W W W	2	BL BL BL	2	BL BL BL	6	W W W	3	OFF OFF OFF	2	BL BL BL
Mo	6	2	3	6	3	10	7	15	4	37	4	50
Tu	7	W W W	4	BL BL BL	4	BL BL BL	8	W W W	5	BL BL BL	5	BL BL BL
We	8	W W W	5	BL BL BL	5	BL BL BL	9	W W W	6	BL BL BL	6	BL BL BL
Th	9	W W W	6	BL BL BL	6	BL BL BL	10	W W W	7	BL BL BL	7	BL BL BL
Fr	10	W W W	7	BL BL BL	7	BL BL BL	11	W W W	8	BL BL BL	8	BL BL BL
Sa	11	W W W	8	BL BL BL	8	BL BL BL	12	W W W	9	BL BL BL	9	BL BL BL
Su	12	W W W	9	BL BL BL	9	BL BL BL	13	W W W	10	BL BL BL	10	BL BL BL
Mo	13	3	10	11	10	11	14	16	11	33	11	46
Tu	14	W W W	11	BL BL BL	11	BL BL BL	15	W W W	12	BL BL BL	12	W W W
We	15	W W W	12	BL BL BL	12	BL BL BL	16	W W W	13	BL BL BL	13	W W W
Th	16	M M M	13	BL BL BL	13	BL BL BL	17	W W W	14	BL BL BL	14	W W W
Fr	17	M M M	14	BL BL BL	14	BL BL BL	18	W W W	15	BL BL BL	15	W W W
Sa	18	M M M	15	BL BL BL	15	BL BL BL	19	W W W	16	BL BL BL	16	W W W
Su	19	M M M	16	BL BL BL	16	BL BL BL	20	W W W	17	BL BL BL	17	W W W
Mo	20	4	17	8	17	12	18	25	18	34	18	47
Tu	21	M M M	18	W W W	18	BL BL BL	19	BL BL BL	19	BL BL BL	19	BL BL BL
We	22	BL BL BL	19	W W W	19	BL BL BL	20	BL BL BL	20	BL BL BL	20	BL BL BL
Th	23	BL BL BL	20	W W W	20	BL BL BL	21	BL BL BL	21	BL BL BL	21	BL BL BL
Fr	24	BL BL BL	21	W W W	21	BL BL BL	22	BL BL BL	22	BL BL BL	22	BL BL BL
Sa	25	BL BL BL	22	W W W	22	BL BL BL	23	BL BL BL	23	BL BL BL	23	BL BL BL
Su	26	BL BL BL	23	W W W	23	BL BL BL	24	BL BL BL	24	BL BL BL	24	BL BL BL
Mo	27	5	24	9	24	13	25	31	25	35	25	48
Tu	28	BL BL BL	25	M M M	25	M M M	26	BL BL BL	26	BL BL BL	26	BL BL BL
We	29	BL BL BL	26	M M M	26	M M M	27	W W W	27	W W W	27	W W W
Th	30	BL BL BL	27	BL BL BL	27	BL BL BL	28	W W W	28	W W W	28	W W W
Fr	31	BL BL BL	28	BL BL BL	28	BL BL BL	29	W W W	29	W W W	29	W W W
Sa												
Su												
Mo												
Tu												
We												
Th												

23.10.2013 v01
04.02.2014 v02

changed SPR on 27/03. Now split in 2 days



BL operation	BL users and commissioning
Start-up	Start up of accelerators with beam
Warm-up	warm-up time Linac & RF & magnets & sub-systems optimisation
Shutdown	Civil Engineering, Accelerators and BL maintenance with no beam, installations and upgrades
Public & CELLS holiday	

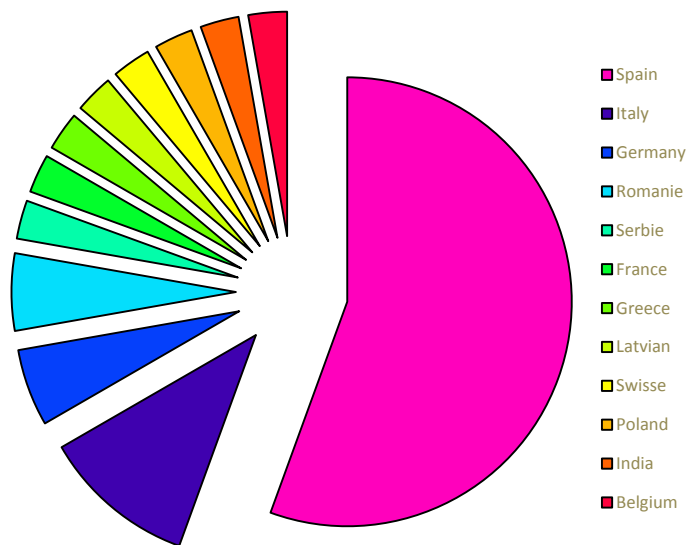
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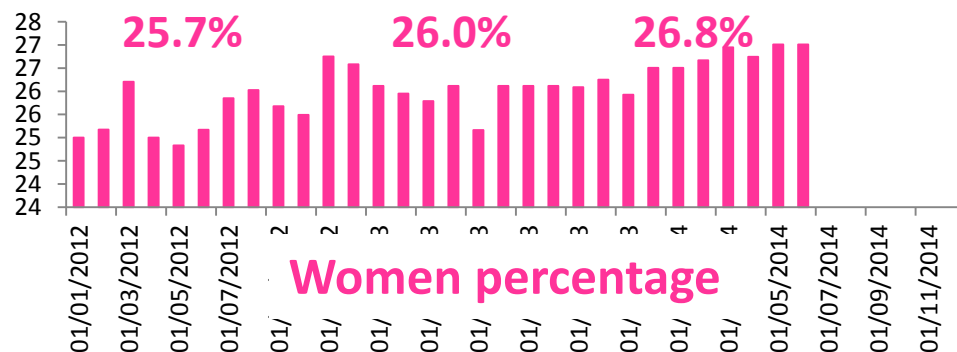
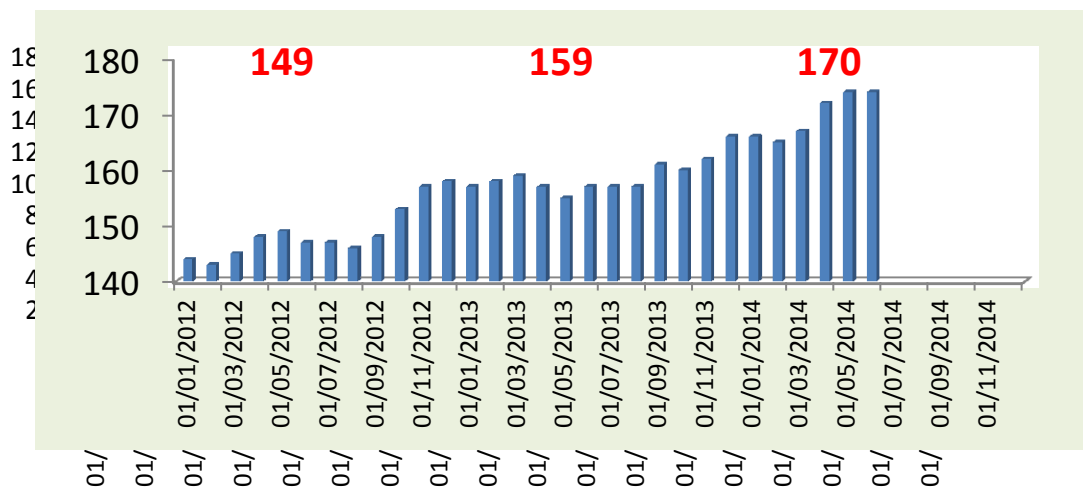
- 4 people left in first 6 months of 2014 (24 in all 2013)
- Increasing the staff (174 at end of June, including PostDocs and external funds)
- 9 extra positions already approved
- Average age: 37 years

Experimental Division

48 % International (18% on total staff)
28% female (27% on all staff)

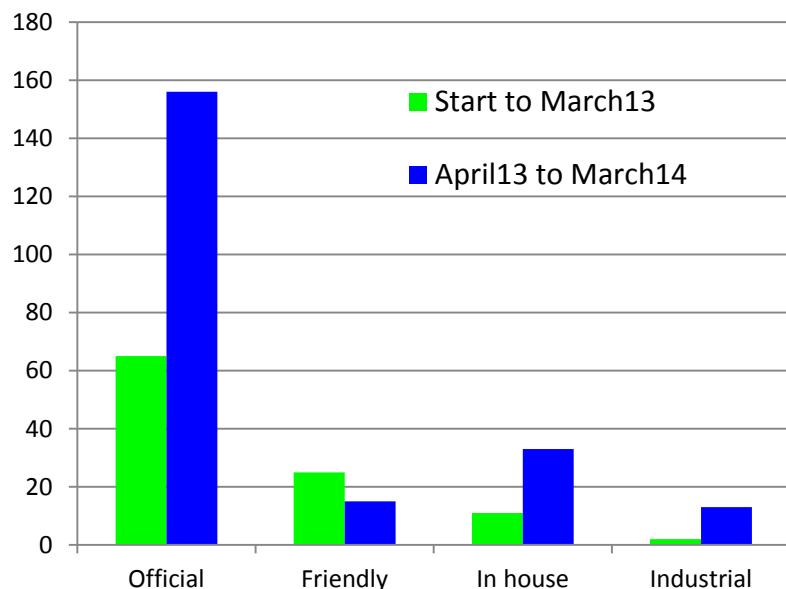


Total Staff - average

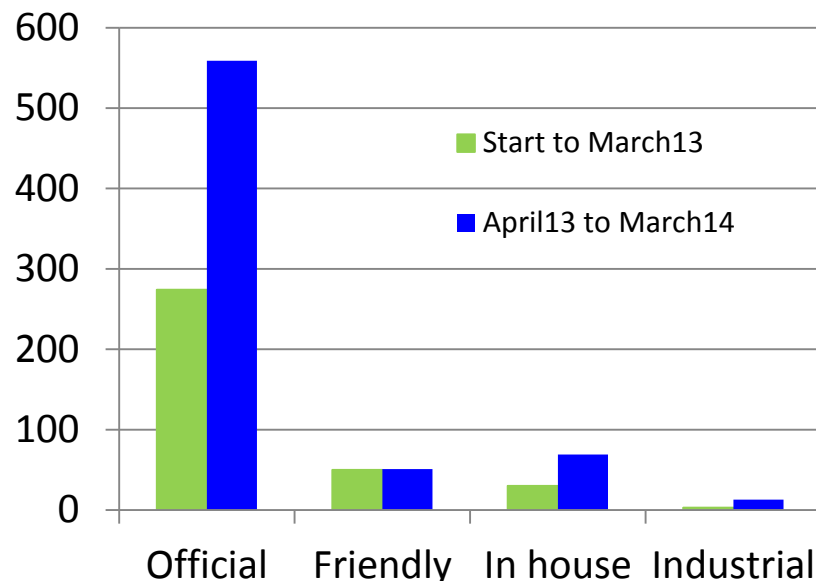


Experiments performed until April 2014

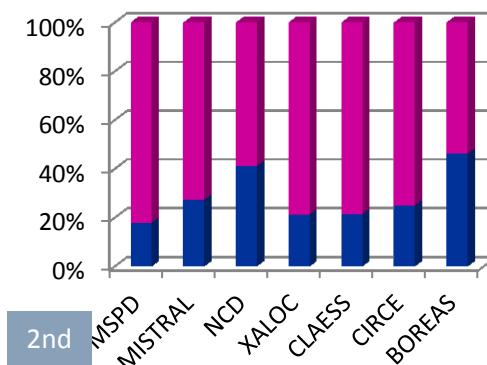
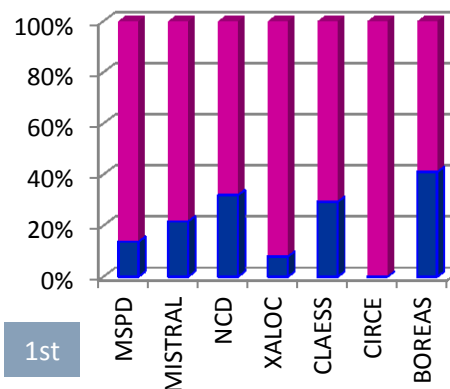
USERS



VISITS



3rd call experiments started in May 14
Run May-Dec 2014
From 2015 two user calls per year
4th user call is open until 7th July

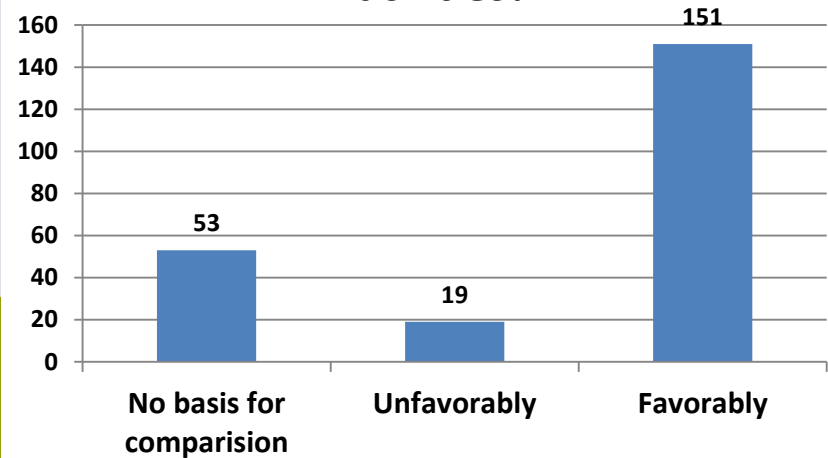


National / International Beamtime

Users feedback received during 2013

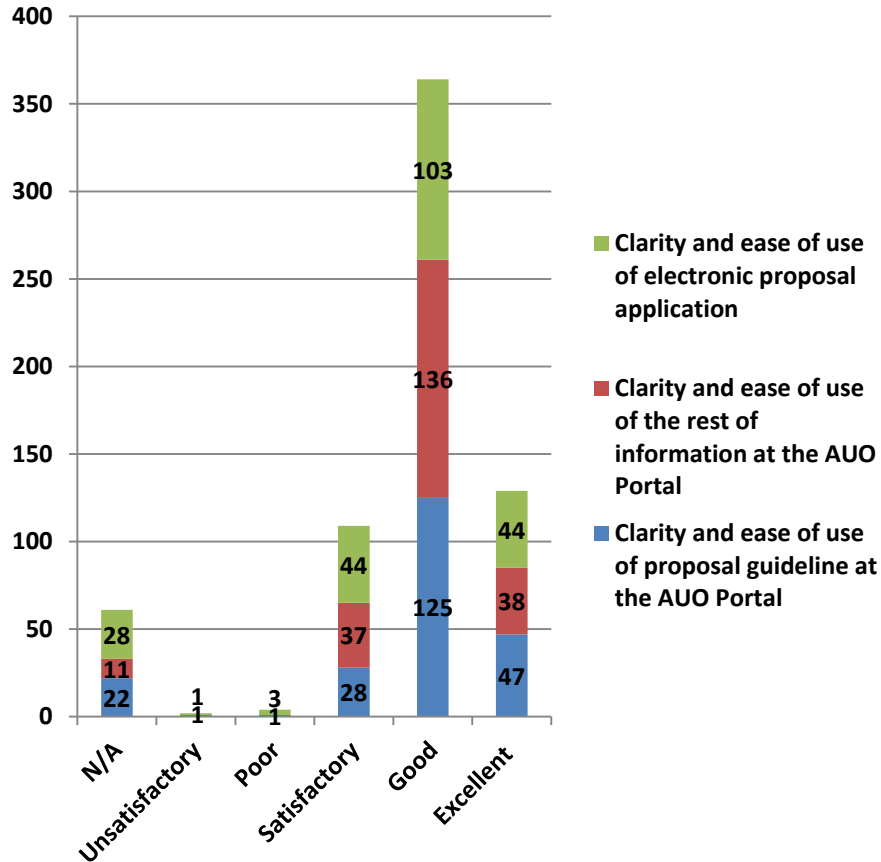
- Not all users answer feedback
- In the same group of users: sometimes different opinions (some users more critical, some users always nice)
- Therefore: these results should not be taken like absolute truths, but very 'relative'.

How does the user environment at ALBA compare to that of other facilities?

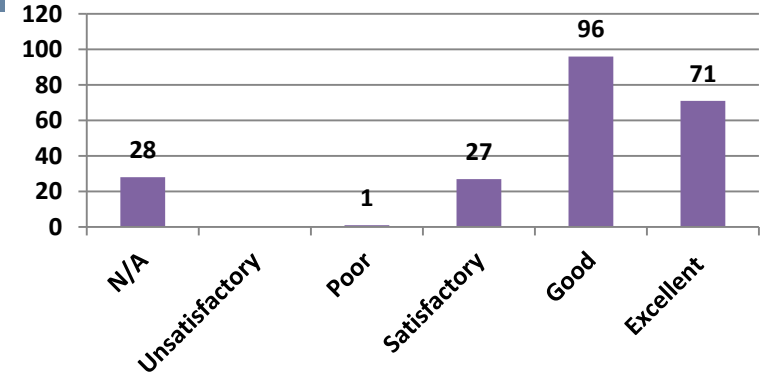


Histograms contain absolute number of answers during this period

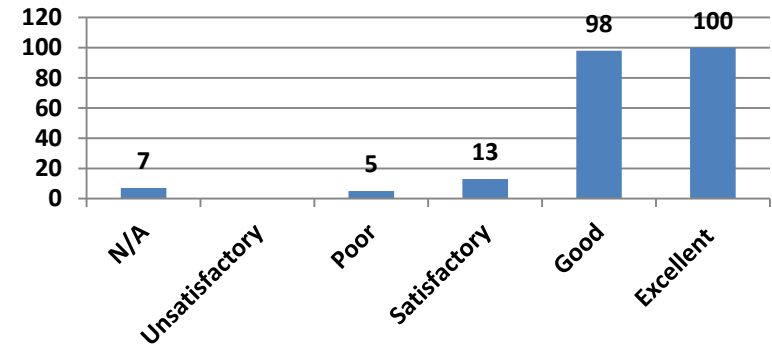
ALBA USER OFFICE PORTAL



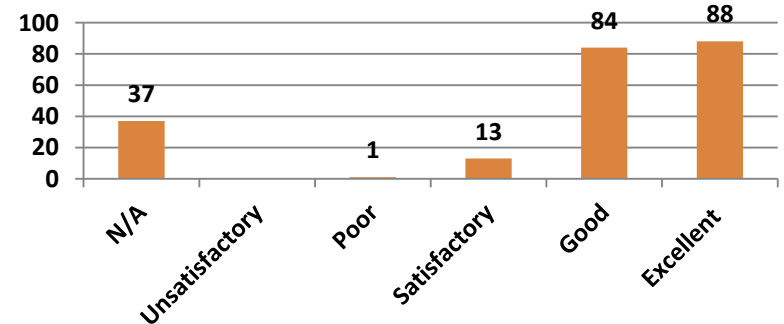
Application support



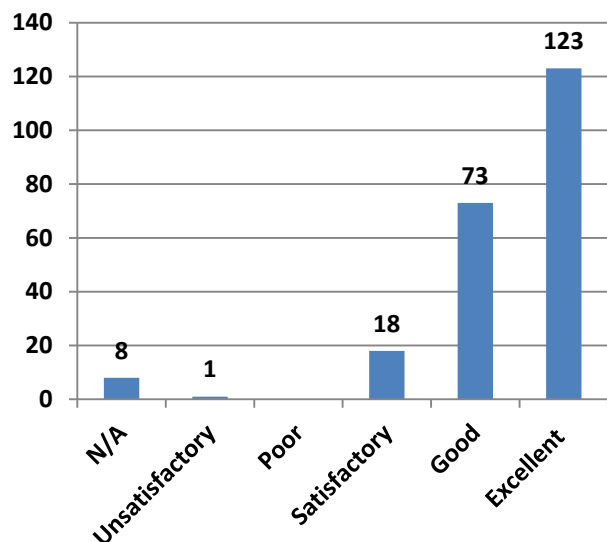
Network access



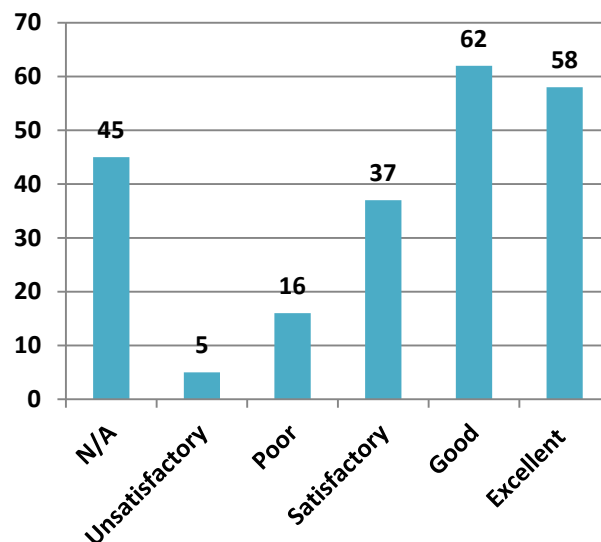
Technical support



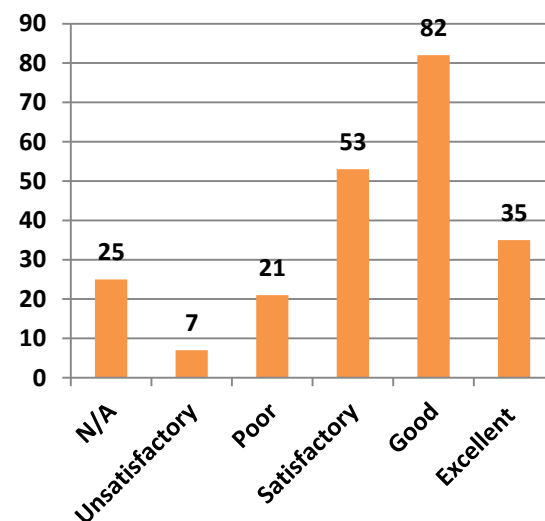
Support received from User Office staff



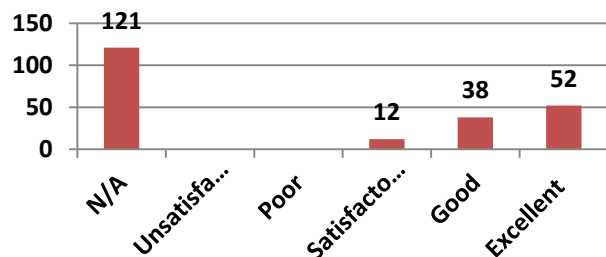
Restaurant services at Hotel Campus



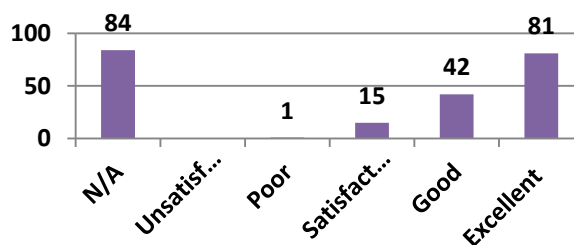
ALBA Cafeteria services



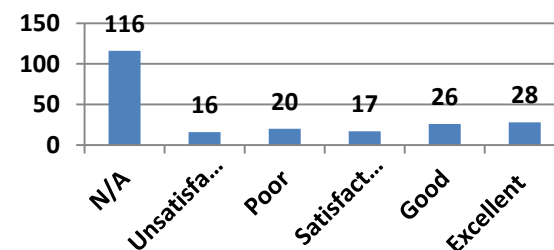
Travel agency services (Halcón Viajes)



Accommodation at Hotel Campus



Transport Vila Universitaria - ALBA



- Checking if the safety declaration from the user home institution 'could be skipped or simplified significantly':

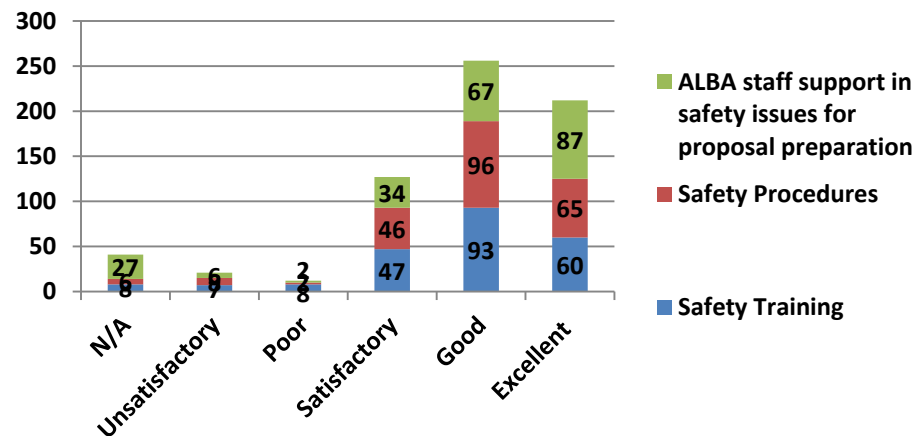
Checked with local authorities (Departament de Treball de la Generalitat), with UAB, UPC and CSIC H&S responsible. All checks up to now confirm the necessity of such form. In spite of this we are still investigating the possibility to have agreements with some of the institutions to get a single safety declaration for all their users.

Thanks to this form, we were able to not accept a user last month, for health reasons

- It is suggested that substances disallowed for user experiments should be defined and that information should be available before submitting a proposal. This would prevent "black" signed proposals. Examples are: radioactive or high bio safety level samples like Ebola virus.

This list has not been created yet, however in the biological case it is clear from the proposal template that the maximum biohazard level allowed is 2.

User feedback - Safety



- 
- The risk assessment of the proposed experiments is to be done by the safety group. The BL-responsible opinion about the safety is also welcome, even if the beamline staff may be not competent or impartial for this task.

Since the first call, all the user proposal (in-house included) have been checked and approved by the H&S group.

- The safety paper work should be incorporated as much as possible in the online training: The users should sign after this training (and online test) that they are capable to do the experiments, that they will take care about the experiments and their safety, that they know the general information about emergencies (which should be the same at every beamline) and that they understand the warning signs, ie knowing about not removing radiation shielding and that they will operate the experiment/beamline only after an introduction by the local contact.

The on-line training include all aspects related with conventional (an general) H&S issues and radioprotection ones. All the specific aspects: beamline PSS, gas handling, biosafety, etc... are controlled under check list risk assessment signed by the user, local contact and H&S.

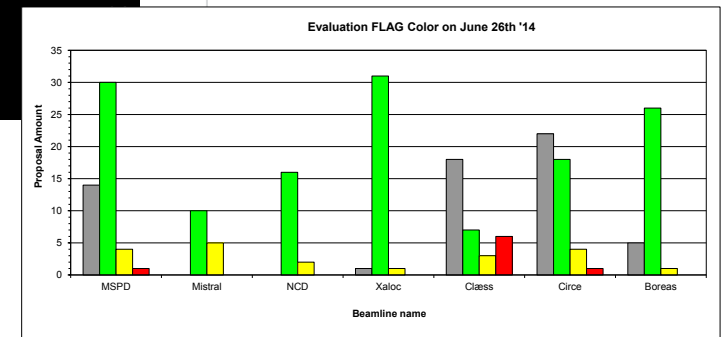
- The introduction to the beamline and BL Personal Support System ('PSS') should be done by the Local Contact and should be documented ie via an ALBA approved template. Both user and local contact should sign a list clearly displayed at each beamline so that the ALBA safety section staff can confirm that this has been done

The user PSS training has been done by the Local Contact, only in the case that the LC is very new at ALBA, H&S gives this training.

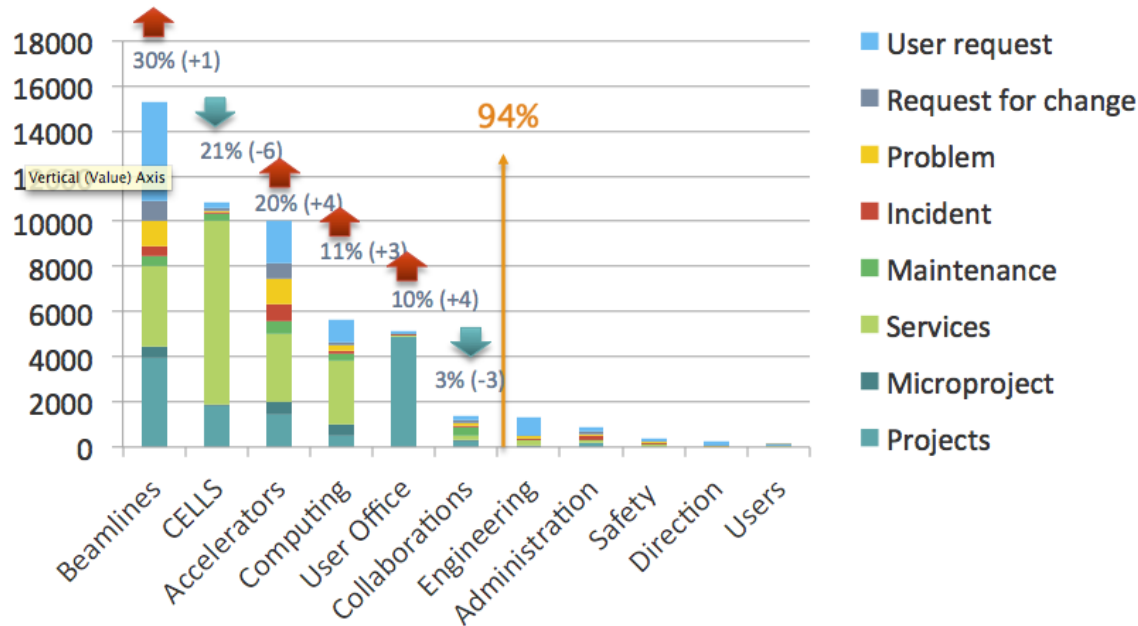
- It is highly recommended for experiments with yellow or red flags that the ALBA Safety Section advise the users in doing a safe experiment and be responsible for the final check of the experimental setup prior to the start of the experiment. This procedure would also apply in the cases whenever the local contact and/or the beamline controller state that they do not have the expertise for checking all the safety aspects of a given experiment.

For yellow and red experiments the H&S group prepare a specific document, where it is specified all the risk assessment found during the proposal risk assessment stage, to record that the user and local contact are informed about the risks, and H&S has checked the state of the experiment before starting. Checking the starting conditions is not enough to assure that the experiment will be done under safety conditions; it is important that Local Contacts know how to safely hand the experiments. Collaboration between H&S and BL scientists has constructively developed during last runs.

Evaluation FLAG Color on June 26th '14											
		Grey	%	Green	%	Yellow	%	Red	%	Black	%
BL04	MSPD	14	28.6%	30	61.2%	4	8.2%	1	2.0%	0	0.0%
BL09	Mistral	0	0.0%	10	66.7%	5	33.3%	0	0.0%	0	0.0%
BL11	NCD	0	0.0%	16	88.9%	2	11.1%	0	0.0%	0	0.0%
BL13	Xaloc	1	3.0%	31	93.9%	1	3.0%	0	0.0%	0	0.0%
BL22	Clæss	18	51.4%	7	20.0%	3	8.6%	6	17.1%	1	2.9%
BL24	Circe	22	48.9%	18	40.0%	4	8.9%	1	2.2%		
BL29	Boreas	5	15.6%	26	81.3%	1	3.1%	0	0.0%		
		60	26.5%	138	61.1%	20	8.8%	8	3.5%		



Computing & Controls general activity highlights



First priority: **Services: 6327 tickets in 2013** (requests, changes, incidences, problems).

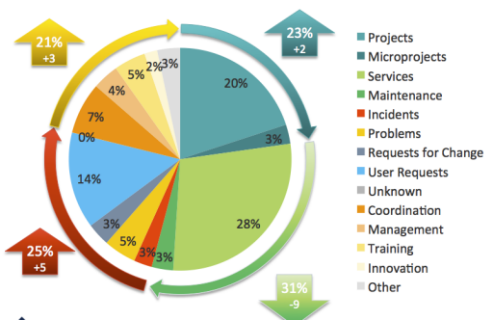
Second highest priority: **Projects**: new Beamlines, experimental stations and generic transversal projects:

Authentication, **remote access** and high performance computing environments

Central Authentication System

User office continuous improvement, Budget Management, **new WEB ALBA-CELLS**, Document management system being evaluated;

Harmonization of data acquisition. Common data formats and metadata management.

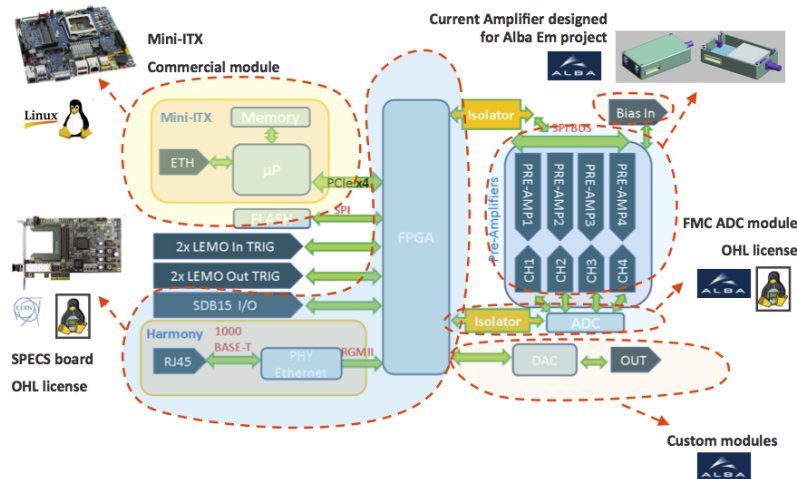


Computing & Controls general activity highlights

Generic **continuous scans**, implementation of **fast orbit feedback** and **Top-up** in good progress. Use of metadata through **ICAT**, adaptation to **Sardana**.

New electrometer project: Upgrades the performances: up to 4 channels 18 bits ADCs 400kS/s. Conceived for integration in continuous scans.

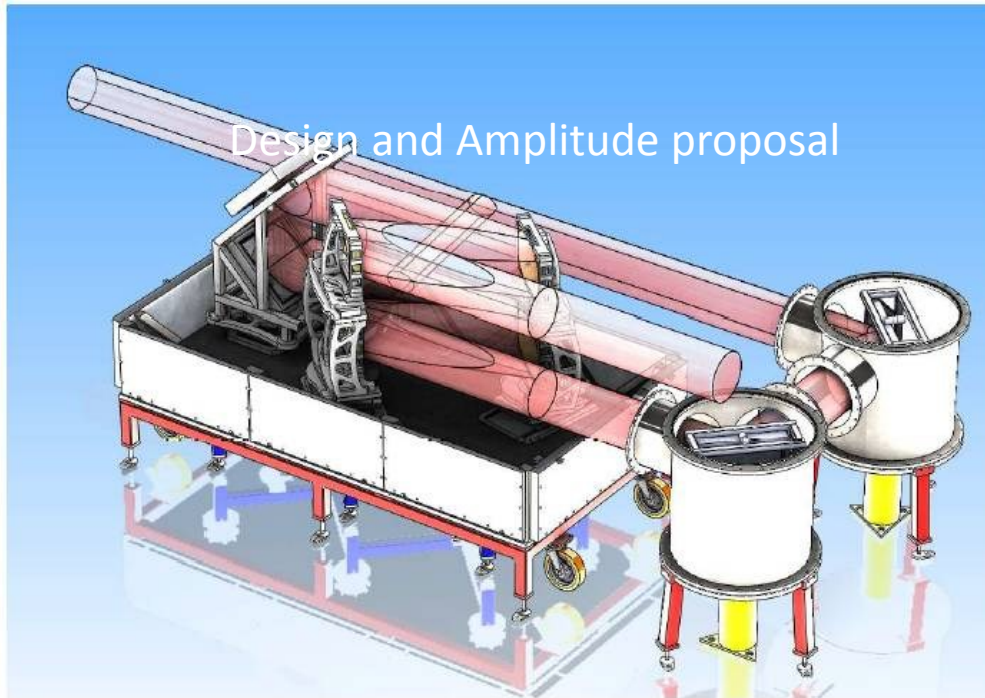
2014... Alba Em# Project



Developments in detectors for diagnostics: In collaboration with CNM, first prototypes and characterization of thin silicon (10 μm) and SiC transmissive diodes.

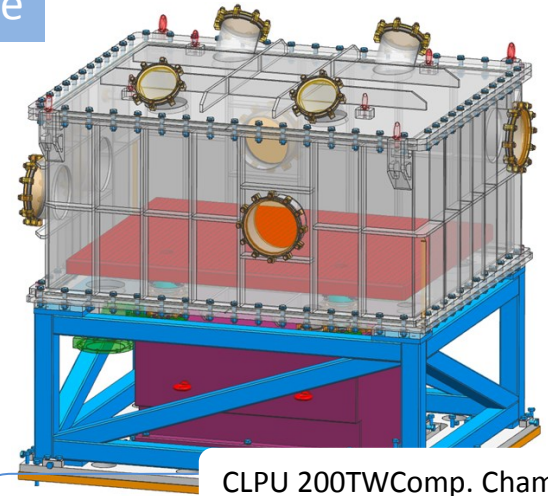
1 PW Laser CLPU chamber

NEW



- One FTE on CLPU funds

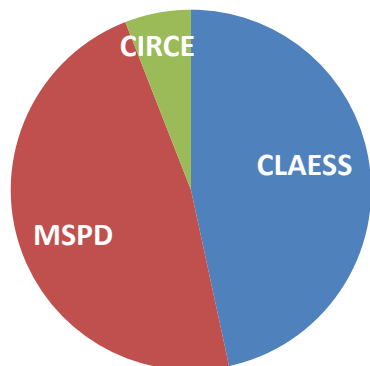
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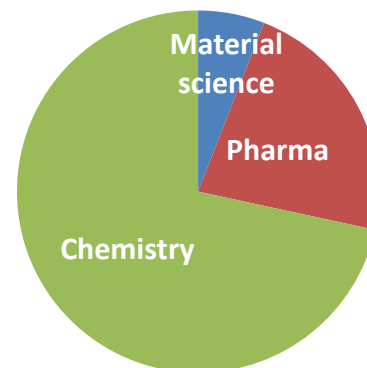
INDUSTRIAL USERS

(more on Sanchez talk)

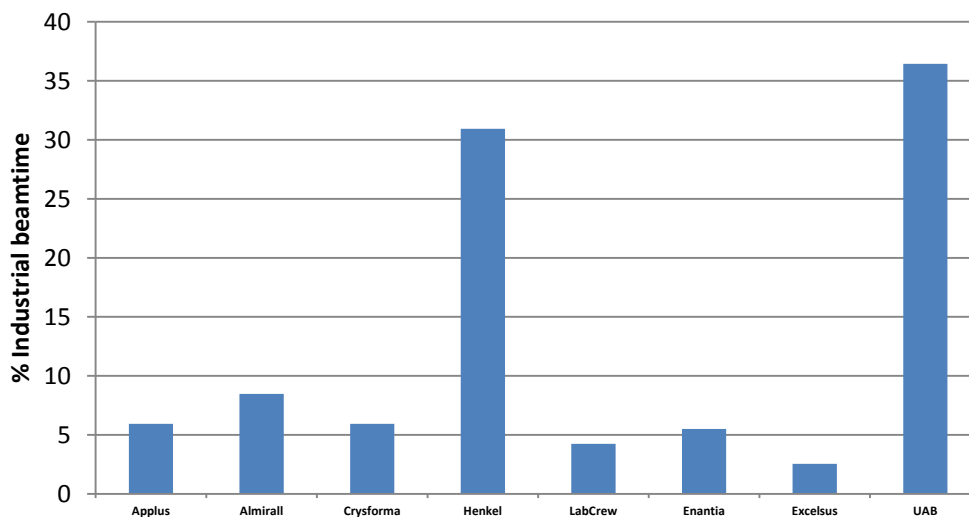
% Industrial beamtime / Beamline
Period 2013+2014 (until June 2014)



% Beamtime / industrial sector
Period 2013+2014 (until June 2014)



% Industrial beamtime / company Period
2013+2014 (until June 2014)



- Contacts and collaborations with several companies



ineustar
Asociación Española de la Industria de la Ciencia

Fco. Javier Cáceres Director General fjaceres@ineustar.com

Polígono Industrial SIGMA, C/ Xixilión 2, 1ª planta, Oficina 5ª
Elgoibar 20870 Gipuzkoa –ESPAÑA–
+34943201836 www.ineustar.com

- First patent being prepared
- Licensing negotiations for in house developments



Highlight on Collaborations with other institutions

Mexico -Turkey

Mexico

2011: MOU between Ministerio de Ciencia e Innovación de España and Consejo Nacional de Ciencia y Tecnología (CONACYT) de México for scientific and technological collaboration.

2012-2013: Grants from MINECO to two Mexican researchers to be trained in Alba

2014: Preparation of a feasibility study of a synchrotron light source in the state of Morelos. Collaboration of ALBA with UNAM which is charge of the study.

Proposal of several PhD grants from Mexico to carry out research in Alba.

Turkey

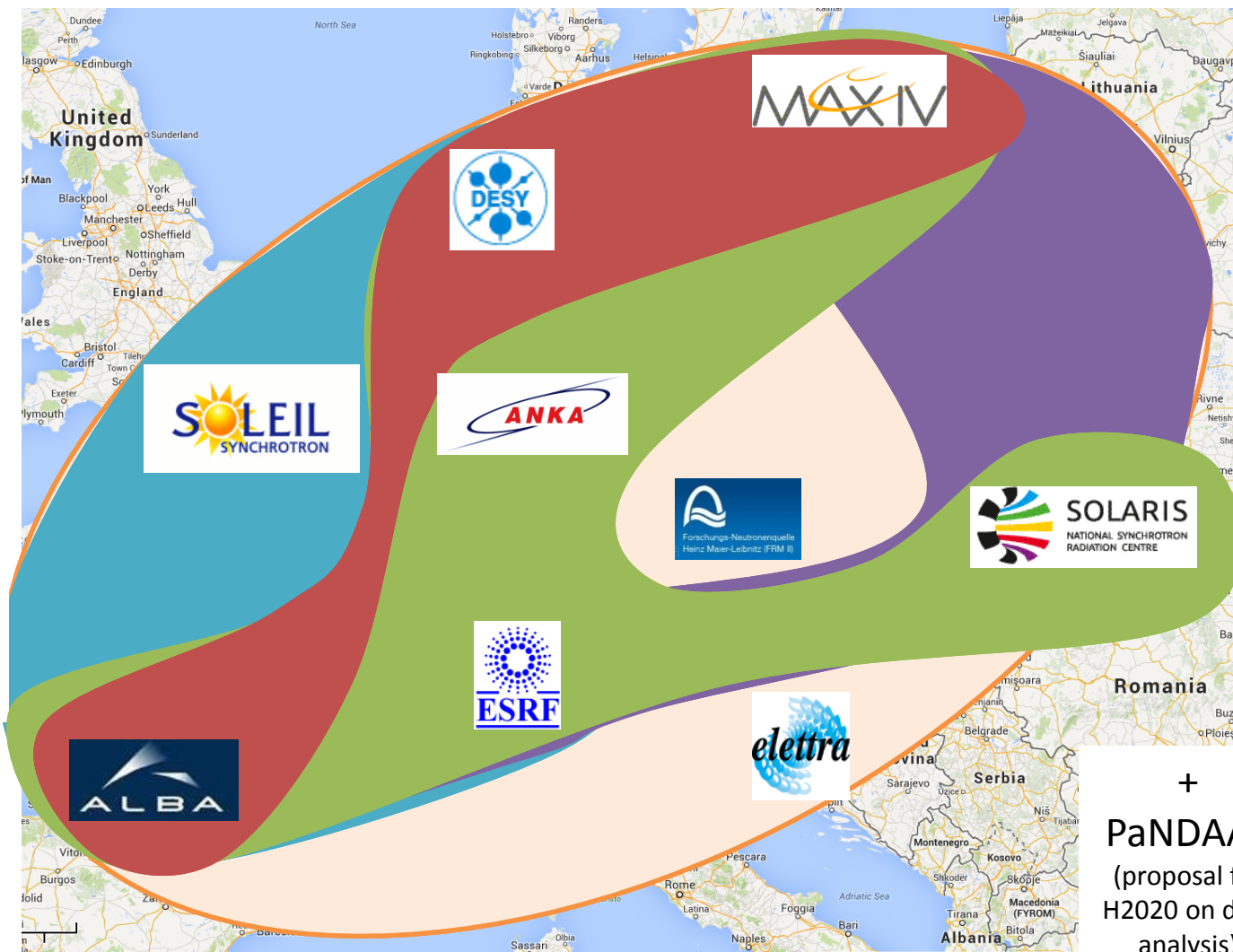
Different Research Institutions and Universities are evaluating the possibility of constituting a consortium to build a Turkish PBL in Alba, based on Turkish Structural Funds

07-07-14 : Workshop in ALBA to discuss the project - Attendance of seven Turkish researchers from different Universities, including people presently at DESY and HZB



C. Biscari

C&C Main Collaborations



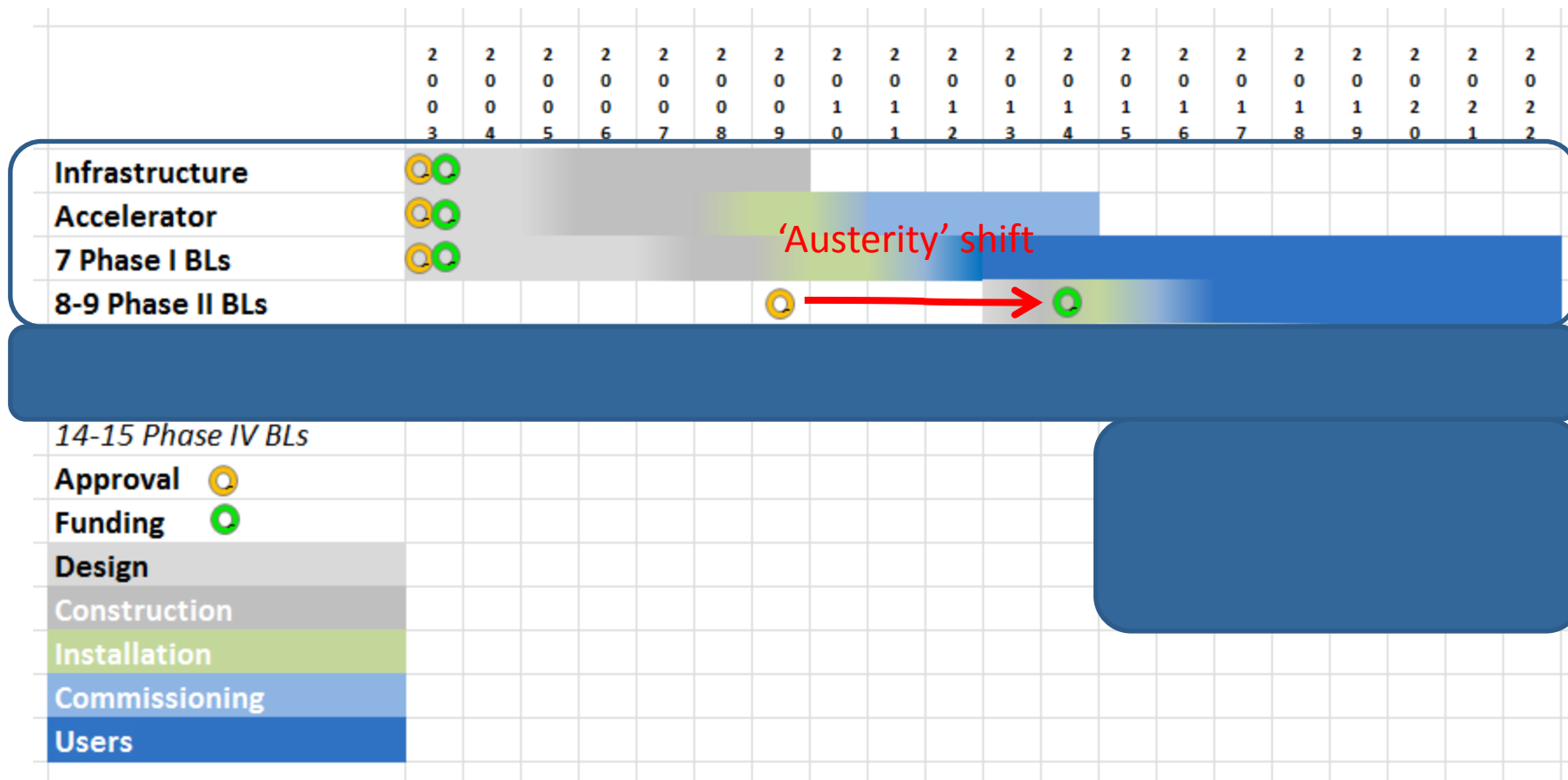
+
PaNDAAS
(proposal for
H2020 on data
analysis)



- SESAME -- dipoles measurement (Prototype in September at Alba)
- CERN: FCC (Future Circular Collider) and CLIC
- CIEMAT – IFMIF rf cavity tests (in progress) + future magnetic measurements
- Contact with IRAN Synchrotron Light Source team – Possibility of a PhD Student
- ELI-NP Gamma System – Agreement with E-Gamma Consortium for *Magnet simulations and measurements, Beam diagnostic testing, Operation training and participation in commissioning*

Looking towards the future

ALBA Simplified time schedule

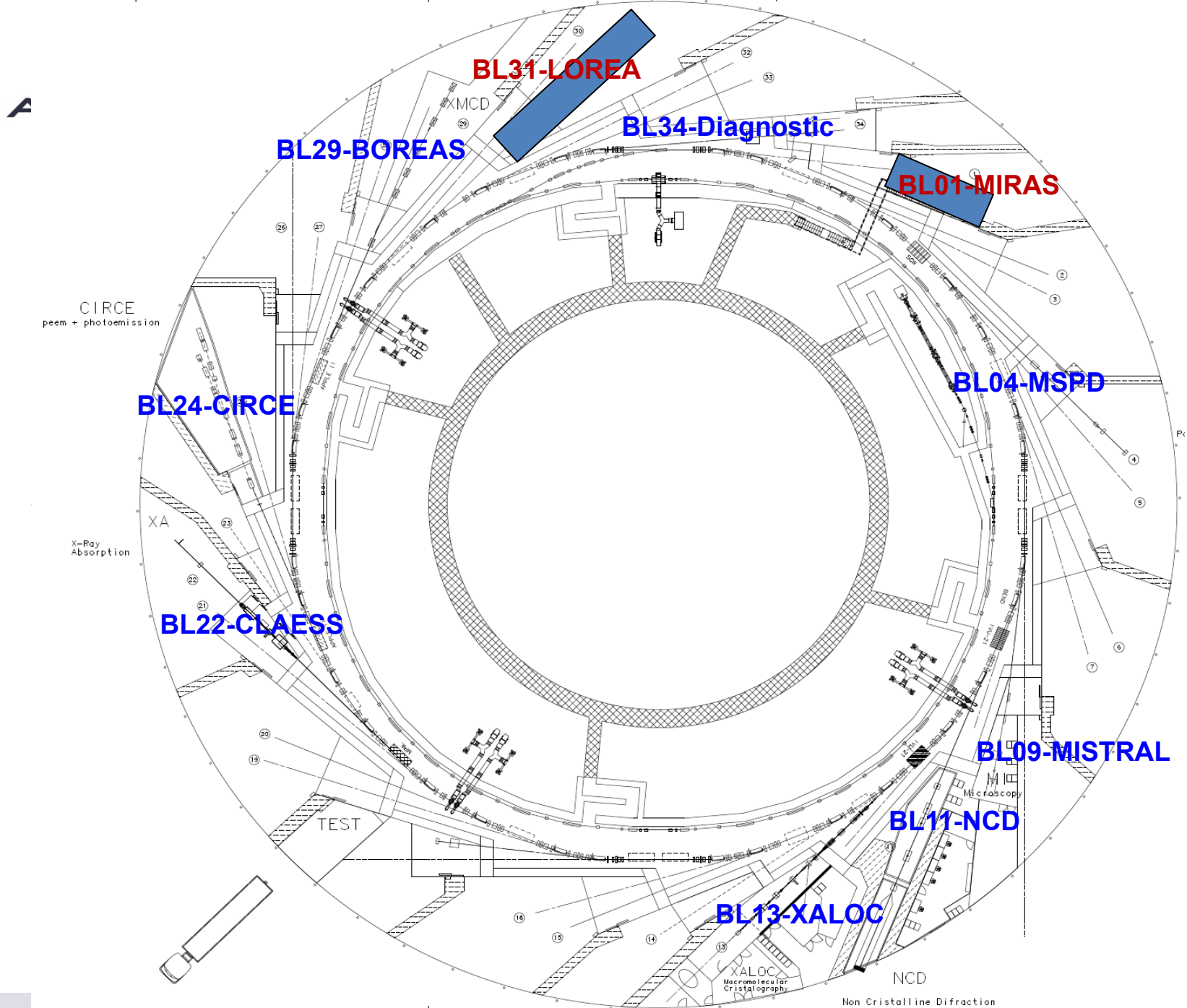


Phase II BLs: MIRAS and LOREA

(more on Garcia-Nicolas talk)

- Approved by CE in 2009
- Project Coordinator: Gaston Garcia, Josep Nicolas as deputy
- Initial team: 20 people working part-time
- Two Positions for BL responsible already open – 20 candidates (one for MIRAS and one for LOREA)

Interviews for BL responsables are being performed





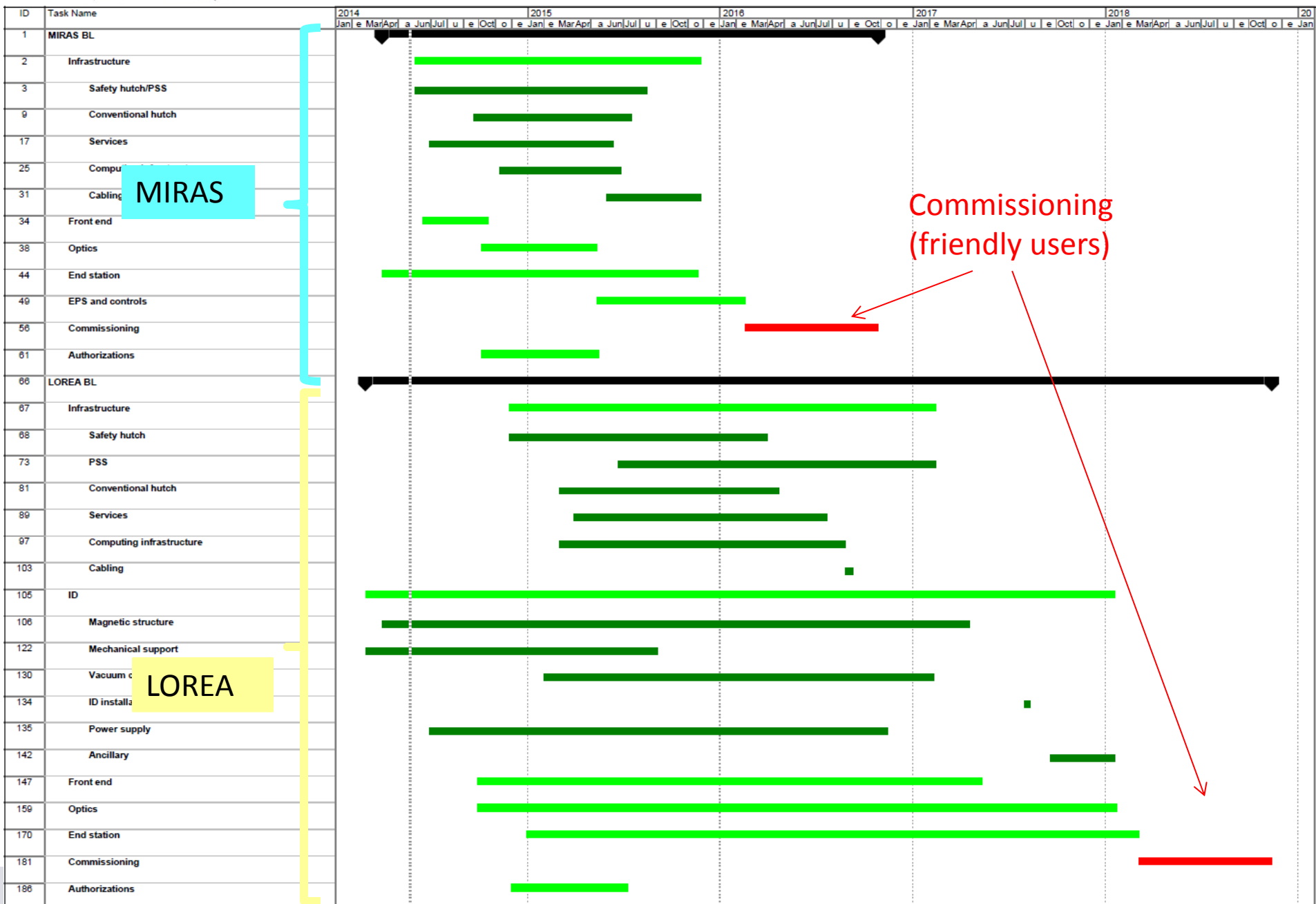
2014

2015

2016

2017

2018





Designing ALBA's future

ALBA Phase-III workshop

10 April 2014
ALBA Synchrotron

- For each phase-III beamline proposal a presentation is expected including: I) Person or group of at most three persons, who would lead the proposal in case it was pre-selected; II) User groups supporting the proposal; III) Preliminary brief scientific case; IV) Connection between the scientific case and the priority lines of Horizon 2020; V) Possible synergies with the techniques and human resources currently available at ALBA; VI) Possible returns of the beamline investment to society (commercial use, regional development, ...); VII) Any other relevant features.
- Presentations shall be done by the person (or team) leading the proposal and will be available to ALBA for further analysis

Once the pre-selected proposals are known, the scientific-technical projects and associated budgets shall be elaborated. This document, a full ALBA phase-III beamline proposal, shall be submitted in electronic format to the ALBA SAC in October 2014. Beamline proposals shall be presented and defended before the ALBA SAC on its meeting to be held in November 2014.

The ALBA SAC shall make a prioritized and justified recommendation for approval of ALBA phase-III beamlines.

- **1. Microfocus diffraction beamline for macromolecular crystallography**
Spokesperson(s): **Núria Verdaguer** (IBMB-CSIC, Barcelona); **Maria Solà** (IBMB-CSIC, Barcelona,); **Isabel Usón** (IBMB-CSIC, Barcelona); **Jeronimo Bravo**, IBV)
ALBA-spokesperson: Jordi Juanhuix
- **2. Submicrometer-beam diffraction, fluorescence and absorption beamline**
Spokesperson (s): **Adela Muñoz** (Universidad de Sevilla); **Gema Martinez Criado**. (ESRF)
ALBA-spokesperson: Josep Nicolas/Laura Simonelli
- **3. High-energy imaging beamline**
Spokesperson (s): **Juan Gómez Barreiro** (Universidad de Salamanca), **Federico Sket** (IMDEA Materials Institute - Madrid)
ALBA-spokespersons: Xavier Turrillas/Eva Pereiro
- **4. Surface-interface diffraction beamline**
Spokesperson(s): **Xavier Torrelles** (ICMAB-CSIC)
ALBA-spokesperson: Salvador Ferrer (ALBA)
- **5. Skiron: Chiroptical spectroscopy beamline**
Spokesperson(s): **Salvador Ferrer (ALBA)**
- **6. Instrument development and Innovation beamline**
Spokesperson(s): **Miguel A. G. Aranda (ALBA)** **Josep Nicolas (ALBA)**

Next steps

- Phase III proposals being prepared
- End of September 2014 delivered to SAC
- December 2014 presented to SAC in meeting at ALBA
- End 2014: SAC Priority List
- End 2014: ALBA management decision

In the hypothesis that four Phase III BL will be started in 2015 and 2016 (funds are still to be secured)

Conclusions

ALBA 1000th User on 11/06/14
Starting Top-up with users
Phase II BLs in construction
Phase III BLs program in preparation



ALBA SYNCHROTRON – A modern snail-shaped building located in a strategic area

EVENTS

JUL 02
15:30

Synchrotron Radiation
Macromolecular
crystallography:
instrumentation, methods and
applications
Maxwell Auditorium
- ALBA Synchrotron
28th SOFT 2014
San Sebastian,
Spain

SEP 29
08:30

Thank you
for your
attention



GATEWAYS

- _ PUBLIC
- _ ACADEMIC USERS
- _ INDUSTRIAL USERS
- _ JOURNALISTS
- _ JOB CANDIDATES
- _ STUDENTS
- _ CALL FOR TENDERS
- _ ALBA STAFF

USER OFFICE

+ 2015-I CALL IS OPENED

- Opening: June 5th, 2014.
- Deadline: July 7th, 2014, 23:59 GMT+2

To receive future call notifications,
please register on:

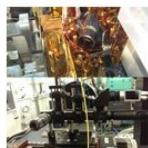
+ ALBA USER OFFICE PORTAL

NEWS



JUN 19, 2014

PRESENTED THE ALBA EXPERIMENTS AWARDS OF 2013
The ALBA Synchrotron has given
two awards to the best in-house
experiment and instrumental
development of 2013.
More...



JUN 18, 2014

NEW CALL FOR 2015 EXPERIMENTS
Till July 7th a new call for
proposals of the ALBA
Synchrotron is opened. These
experiments will be developed
from January to June 2015.
More...



JUN 17, 2014

FESTIVAL OF SCIENCE AND TECHNOLOGY OF BARCELONA
Last June 14th the ALBA
Synchrotron took part for the
first time in the Festival of
Science and Technology with a
demonstration about how to
create a homemade particle ...
More...



TOP LINKS

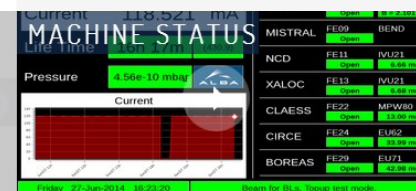
- _ ALBA NEWSLETTER
- _ OPERATIONS CALENDAR
- _ COMING TO ALBA?
- _ VISIT ALBA
- _ ALBA VIDEO TOUR
- _ PHONEBOOK



2014 ALBA OPEN DAY – Coming soon

OPERATIONS CALENDAR

HANDS-ON COURSE ON PAIR
DISTRIBUTION FUNCTION 12-14th
November 2014



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