

TA advancement and statistics

TA review – 2023.03.21

<https://indico.cern.ch/event/1256685>



Outline

- ❑ Statistics up to call #7

- ❑ Advancement as of 2023.04.30
 - ❑ Overall
 - ❑ Cancellations
 - ❑ WP9-10
 - ❑ Beam type

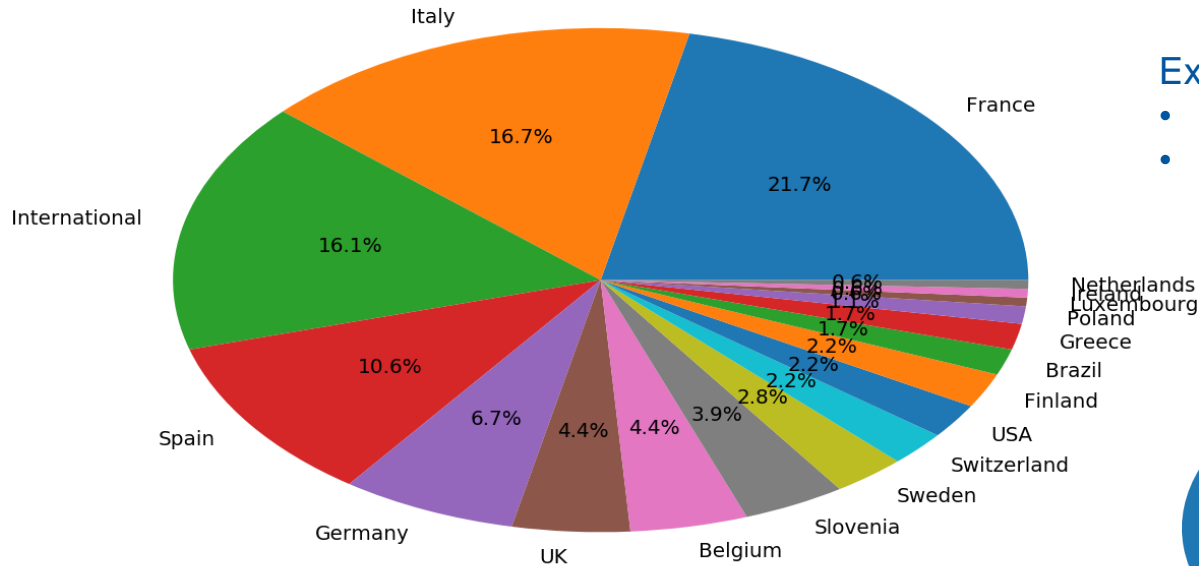
- ❑ Forecasts

Statistics up to call #7

RAD
NEXT

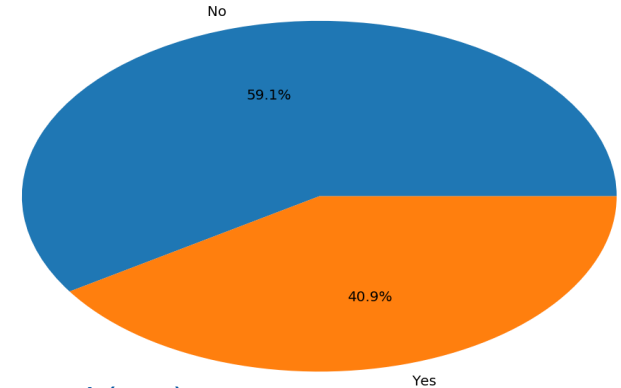
The logo for RAD NEXT. The word "RAD" is in a light blue, sans-serif font. The word "NEXT" is in a dark blue, sans-serif font. The letter "X" in "NEXT" is stylized with a light blue circular graphic element on top, resembling a camera lens or a sensor.

Submissions by country



Extra-EU

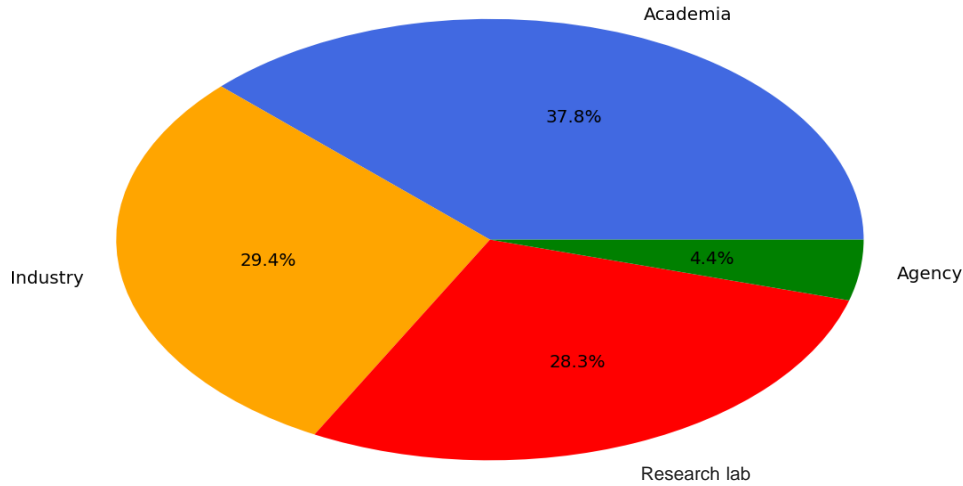
- Assigned: 9%
- Delivered: 7%



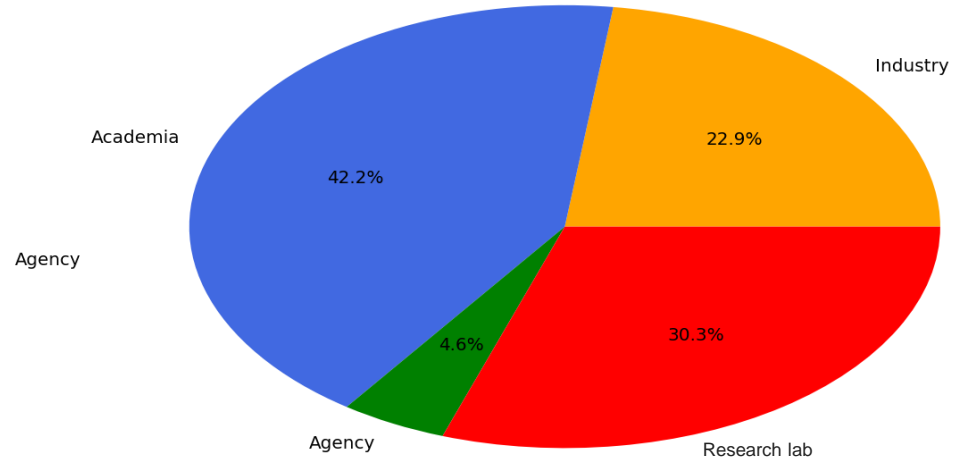
All information based on Principal Investigator's nationality and affiliation

RADNEXT internal (yes)
vs. External users (no)

Submissions by business type

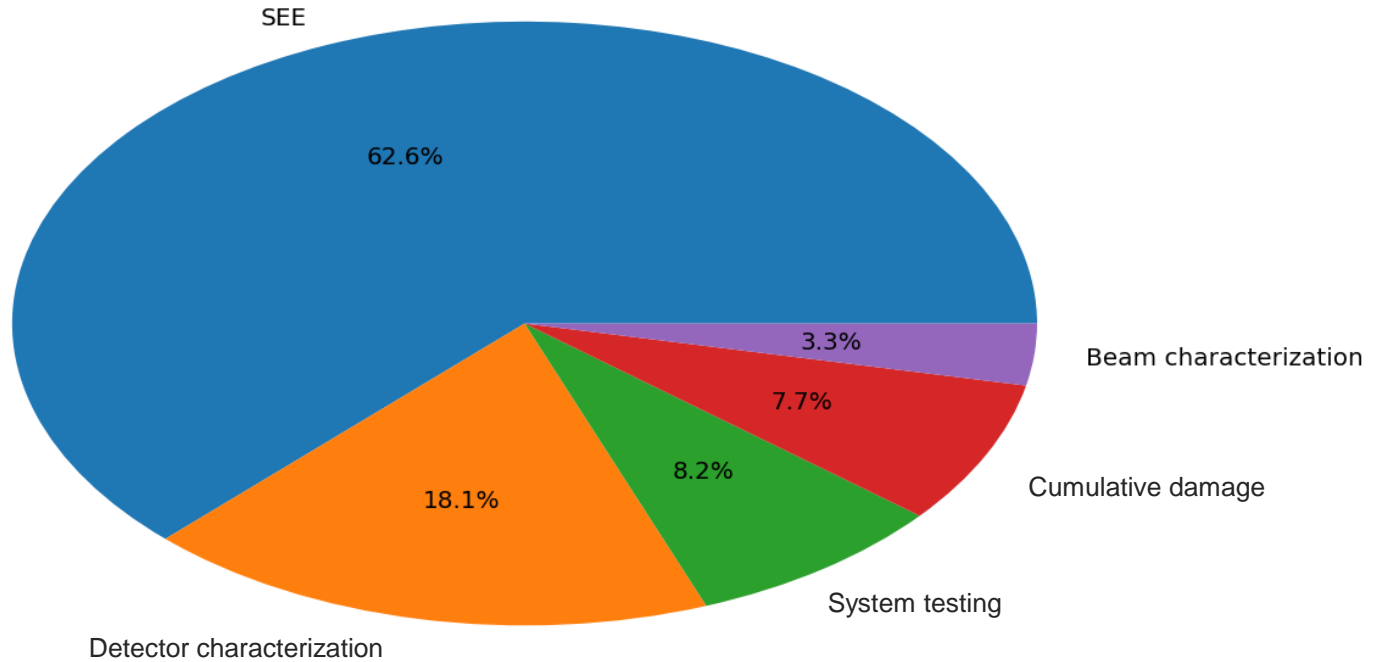


All submissions

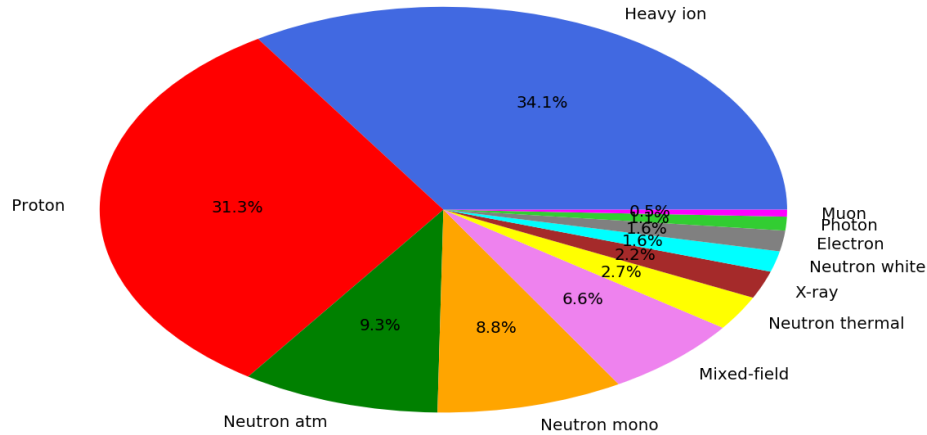


Accepted submissions

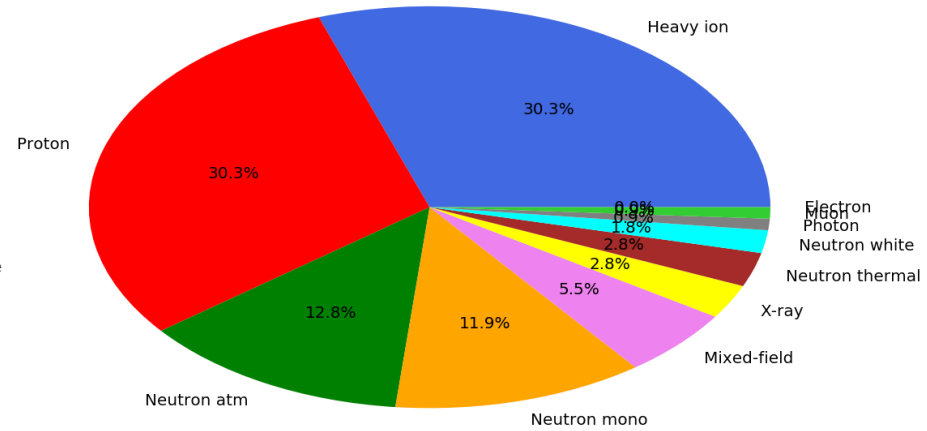
Submissions by test type



Submissions by beam type

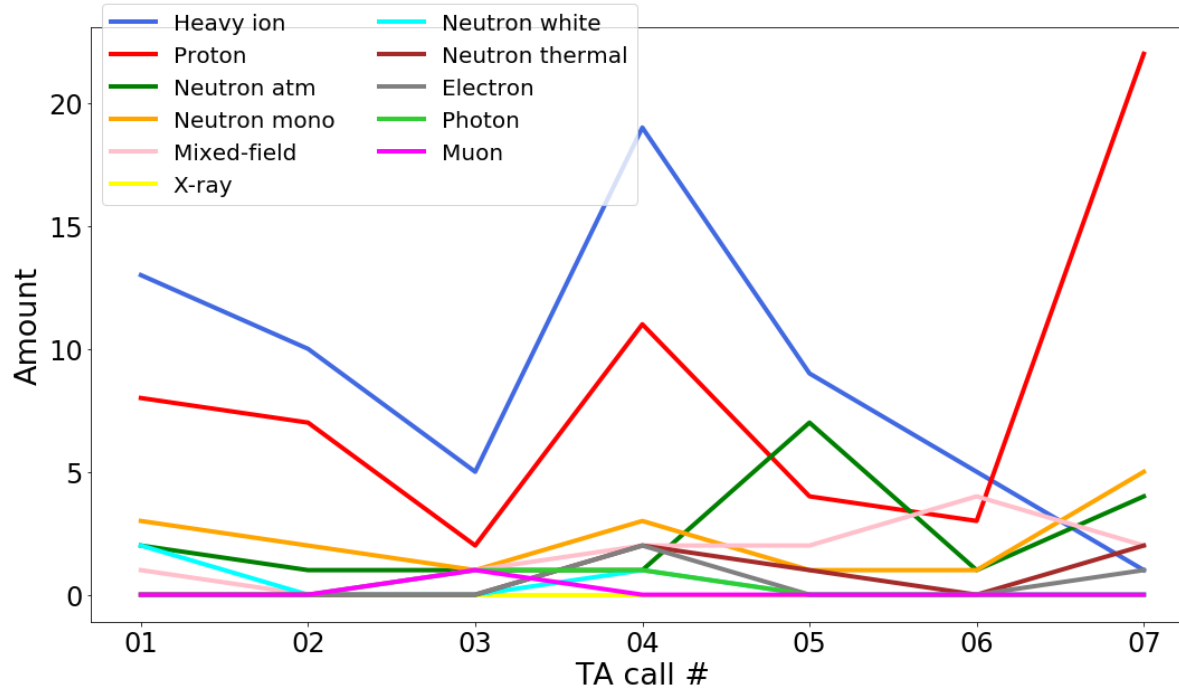


All submissions



Accepted submissions

Submissions by beam type



In call #7 apart from 3-4 proposals that may have been better suited with ions (IMO), all other proton proposals are targeting protons specifically

Advertisement of beam opportunities

Available beam types and list of facilities for each beam type

- E.g., no ions
- E.g., Facility removed if fully in shutdown in the next 9 months

Detailed communications

RADNEXT About Transnational Access Work Packages Partners Blog Links Contact

Facilities

Neutrons [10 facilities] +

Protons [7 facilities] -

Institute / Organisation	Facility	Country	Beam type
TRIUMF	BL18	Canada	Protons
University Medical Center Groningen (UMCG)	PARTREC/AGOR cyclotron	Netherlands	Protons
Centro Nacional de Aceleradores (CNA)	Tandem / Cyclotron	Spain	Protons
Paul Scherrer Institut (PSI)	PIF	Switzerland	Protons
Consortio del Centro de Láseres Pulsados (CLPU)	VEGA	Spain	Protons (laser)
Helmholtz-Zentrum Dresden-Rossendorf (HZDR)	DRACO	Germany	Protons (laser)
Nuclear Physics Institute of the CAS	CANAM	Czech Republic	Protons

Heavy ions [0 facilities] +

Others [7 facilities] +

Notice: Due to lack of heavy ion beam time availability in several facilities, RADNEXT will not be able to accept proposals targeting heavy ions during the 7th TA call in January 2023. Heavy ion proposals will be accepted again as of the 8th TA call in May 2023.

Notice: For proposals targeting high-energy X-rays at ESRF, it is necessary to submit a second proposal to the local **proposal review committee** of ESRF before the 1st of March in order to receive the beam in autumn 2023.

Advancement as of 2023.02.28



Overall advancement summary

	Total	TA01	TA02	TA03	TA04	TA05	TA06	TA07
Total submissions	186	32	22	12	43	25	14	38
Accepted	109	14	19	10	16	14	13	23
Rejected	58	9	2	0	22	9	1	15
Rejected and resubmitted	19	9	1	2	5	2	0	0
To be defined	0	0	0	0	0	0	0	0
% Accepted	59%	44%	86%	83%	37%	56%	93%	61%
% Rejected	31%	28%	9%	0%	51%	36%	7%	39%
% Rejected and resub	10%	28%	5%	17%	12%	8%	0%	0%
Beam units assigned	2905	254	280	418	634	344	577	422*

- Proposal acceptance rate is at 60%
- The number of resubmissions upon rejection has been lowering
- Amount of beam time assigned has been increasing (thanks to CHARM assignments)
- * Only 14 experiments have declared amount of hours on the portal

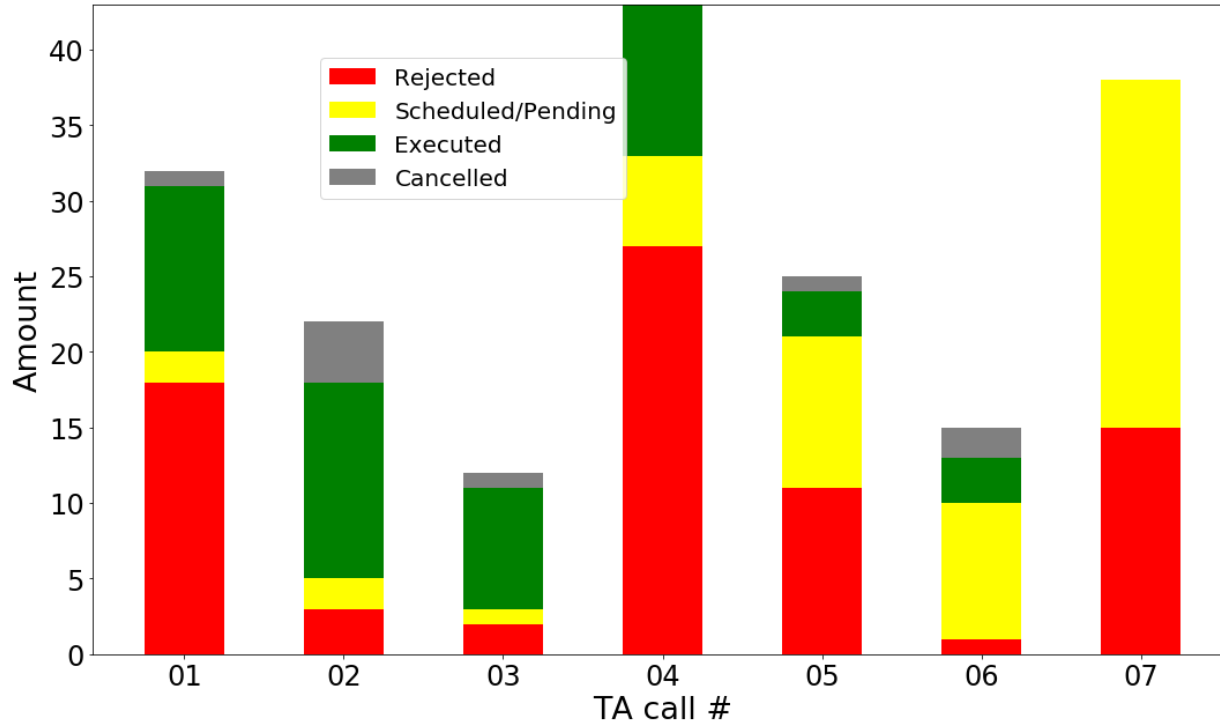
Overall advancement summary

	Total	TA01	TA02	TA03	TA04	TA05	TA06	TA07
Accepted by USP	109	14	19	10	16	14	13	23
Cancelled	9	1	4	1	0	1	2	0
Tests scheduled	57	11	13	8	12	6	5	2
% Scheduled	57%	85%	87%	89%	75%	46%	45%	9%
Tests executed	48	11	13	8	10	3	3	0
% Executed	48%	85%	87%	89%	63%	23%	27%	0%
Test reports	38	10	9	7	7	3	2	0
% Reports	38%	77%	60%	78%	44%	23%	18%	0%
Publications	12	4	5	1	1	1	0	0
% Publications	12%	31%	33%	11%	6%	8%	0%	0%

Bottleneck at test scheduling level

- Facilities not available (either too busy or with limited amount of availability during one year)
- Users not ready to pick up the beam within 9 months from call opening
- There is a 50-50 balance between the two reasons currently
- The low amount of cancellations (8%) is possible only because experiments exceeding the 8 months limit are not cancelled (at the moment there is a **limitless slot available**, but this is expected to disappear as we move towards the end)
 - Were we to cancel all experiments **not done by the first 8 months**, **45%** of experiments would have been cancelled

Overall advancement by call



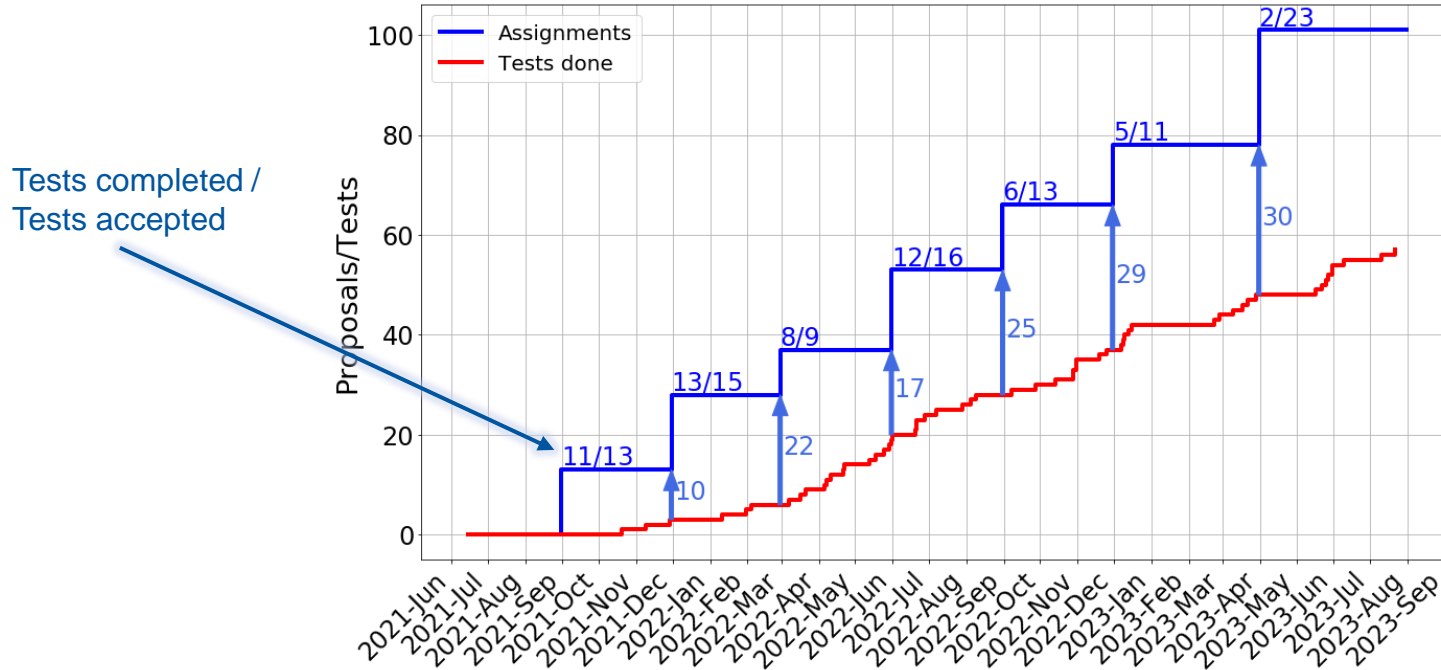
Each 3 months up to call #6, now each 4 months

Figures to keep in mind

Data up to 2023.03.31

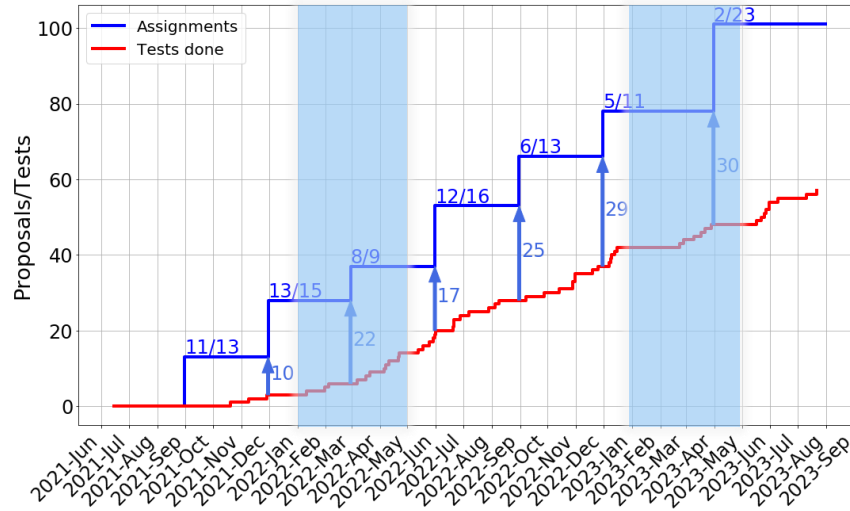
- 58% of the calls is completed (7/12 calls)
 - -> assigned hours should be close to 58%
 - 7th call proposals not yet fully assigned
- 44% of the time in which we can deliver the beam time has elapsed (20/45 months)
 - -> 44% of the beam time should have been delivered by now to users
 - One may consider removing another 6 months from both TA time elapsed and total, in that case 34% of the time is elapsed

Overall advancement in time



We seem to accumulate increasing backlog for the amounts of tests that are pending from one call to the next

Inflation/deflation exercise (2022 vs. 2023)



Jan-Apr 2022: 11 experiments accomplished

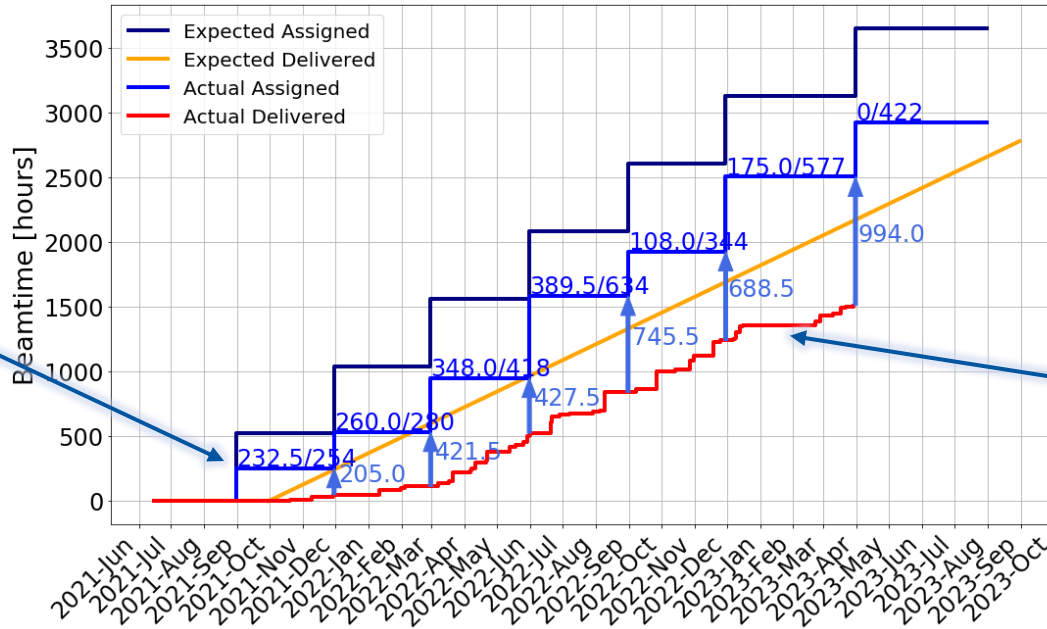
- However, during 2022 we had half (26) pending experiments than now (52)
- The WP10 experiments from TA calls 2-3 were left unassigned for $\frac{3}{4}$ of this period
- There were more facilities in shutdown in 2022 than 2023

Jan-Apr 2023: 7 experiments accomplished

- Deflation of -36%

Overall advancement in time

Hours delivered /
Hours awarded



It is a bit discomfoting to see that we just went through the longest period of inactivity for beam delivery > 60 consecutive days without a single test

- By end of March we expect to still be below 25% of the overall beam time provision (1400 hours delivered over 6260 available)
- The slope of the red line will indicate 3550 hours (57%) delivered by 2025.05.31

Overall advancement in time

- Total TA quota budget is € 2'011'774
- Budget spent at 2023.04.30 is € 527'335
- Currently committed after call 7: € 959'652
- TA units conversion table
 - Based on GA unit cost
 - 10 hours taken from facility in the bottom corresponds to different amount of hours along the column for all other facilities

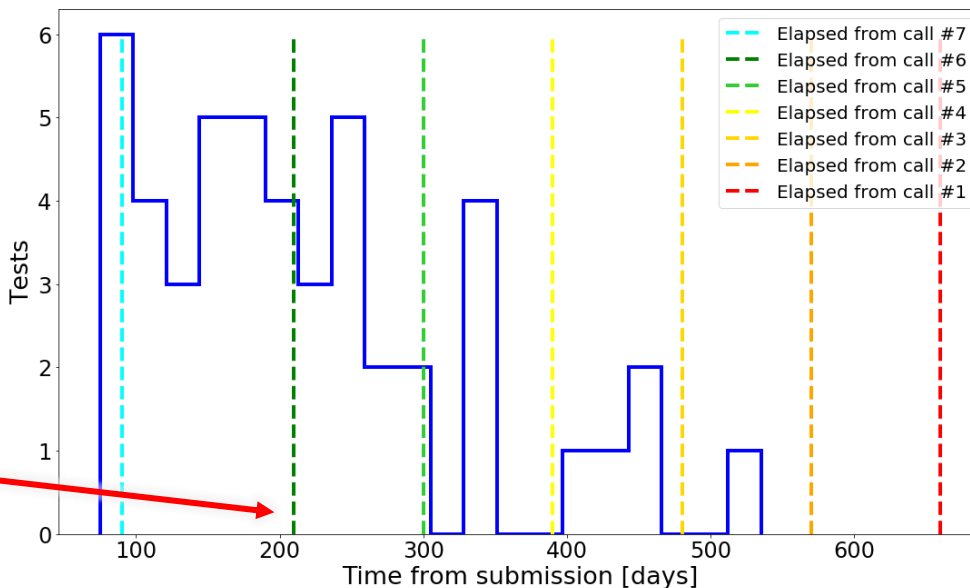
ESRF	19	45	72	43	18	25	35	21	16	21	24	13	35	28	45	21	30	56	38	16	6	33	10
VEGA	5	13	21	13	5	7	10	6	4	6	7	3	10	8	13	6	9	16	11	4	1	10	3
CNA	30	71	113	67	29	40	55	33	25	33	38	20	55	44	71	33	47	87	60	25	10	51	15
DRACO	12	28	45	27	11	16	22	13	10	13	15	8	22	17	28	13	18	35	24	10	4	20	6
PSI	5	11	18	11	4	6	9	5	4	5	6	3	9	7	11	5	7	14	10	4	1	8	2
TRIUMF BL1B	3	8	12	7	3	4	6	3	2	3	4	2	6	5	8	3	5	10	6	2	1	5	1
NPI-CAS	6	15	23	14	6	8	11	6	5	6	8	4	11	9	15	6	10	18	12	5	2	10	3
EMMA	9	21	34	20	8	12	16	10	7	10	11	6	16	13	21	10	14	26	18	7	3	15	4
ILL	4	9	15	9	4	5	7	4	3	4	5	2	7	6	10	4	6	12	8	3	1	7	2
NESSA	6	16	25	15	6	9	12	7	5	7	8	4	12	10	16	7	10	19	13	5	2	11	3
FNG	5	13	20	12	5	7	10	6	4	6	7	3	10	8	13	6	8	15	10	4	1	9	2
LPSC	14	35	55	33	14	19	26	16	12	16	18	10	26	21	35	16	23	42	29	12	4	25	7
PTB	7	18	29	17	7	10	14	8	6	8	10	5	14	11	18	8	12	22	15	6	2	13	4
CHIPIR	9	21	34	20	8	12	16	10	7	10	11	6	16	13	21	10	14	26	18	7	3	15	4
TRIUMF TNF	12	28	45	27	11	16	22	13	10	13	15	8	22	17	28	13	18	35	24	10	4	20	6
RIKEN-RAL	9	21	34	20	8	12	16	10	7	10	11	6	16	13	21	10	14	26	18	7	3	15	4
UMCG	5	13	20	12	5	7	10	6	4	6	7	3	10	8	13	6	8	15	10	4	1	9	2
GANIL	7	17	28	16	7	10	13	8	6	8	9	5	13	11	17	8	11	21	15	6	2	12	3
RADEF	10	24	38	23	10	13	18	11	8	11	13	6	18	14	24	11	16	29	20	8	3	17	5
GSI UNILAC	4	10	16	10	4	5	8	4	3	4	5	3	8	6	10	4	6	12	8	3	1	7	2
GSI SIS18	2	6	10	6	2	3	4	2	2	2	3	1	4	3	6	2	4	7	5	2	0	4	1
UCL	4	10	15	9	4	5	7	4	3	4	5	2	7	6	10	4	6	12	8	3	1	7	2
ELBE	10	23	37	22	9	13	18	11	8	11	12	6	18	14	23	11	15	29	20	8	3	17	5
ELBE		UCL																					
			GSI SIS18																				
				GSI UNILAC																			
					RADEF																		
						GANIL																	
							UMCG																
								RIKEN-RAL															
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																		TRIUMF BL1B					
																			PSI				
																				DRACO			
																					CNA		
																						VEGA	
																							ESRF

Time from submission to test

	Total	TA01	TA02	TA03	TA04	TA05	TA06	TA07
Average time to test from submission deadline	230	233	280	173	240	243	170	165
Tests scheduled	57	11	13	8	12	6	5	2
Tests missing	43	2	2	1	4	7	6	21
First 4		122.5	173.75	100	122.5	186.25	150	

Average time to test is 7.5 months, median is 6.5 months (we are targeting beam time allocation between 2 and 8 months from deadline)

Time elapsed considered at 2023.30.04



Average beam time and tests to complete quota

Facility	Users with awarded beam time	Average beam time per awarded user	Users required to meet quota with this average
CERN ions	1	102	4
UCL	12	14	8
GSI SIS18	1	16	3
GSI UNILAC	3	13	7
RADEF HI	8	19	5
GANIL HI	5	8	15
UMCG HI	1	24	5

Facility	Users with awarded beam time	Average beam time per awarded user	Users required to meet quota with this average
TRIUMF BL1B	1	12	7
PSI	5	11	7
DRACO	0	?	6*
CNA	1	40	4
VEGA	1	48	2
RADEF P	2	22.5	0
UMCG P	6	18	12
NPI-CAS p	1	3	10

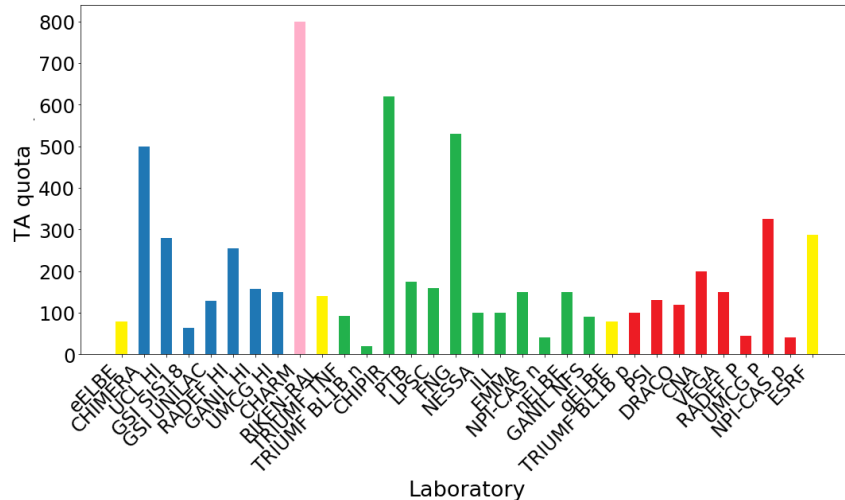
* With no experiment completed, the number of users expected at the beginning of the project is used

Facility	Users with awarded beam time	Average beam time per awarded user	Users required to meet quota with this average
TRIUMF TNF	2	12	6
CHIPIR	6	42	9
PTB	3	32	3
LPSC	1	?	6*
FNG	6	37	8
NESSA	0	?	4*
ILL	1	24	3
EMMA	1	48	2
NPI-CAS n	2	11	2
nELBE	0	?	6*
GANIL NFS	1	12	7

Facility	Users with awarded beam time	Average beam time per awarded user	Users required to meet quota with this average
eELBE	0	?	4*
CHARM	5	140	1
RIKEN-RAL	1	70	1
gELBE	1	72	0
ESRF	1	36	6

Average beam time and tests to complete quota

Beam type	Users with awarded beam time	Average beam time per awarded user	Users required to meet quota with this average	Accepted call #7
Proton	19	16.2	48	14
Heavy Ion	33	17.5	47	0
Neutron	24	30	56	8
Mixed-Field	5	140	1	0
Others	4	53.5	11	1



Need to have 28 new experiments per call in the remaining 5 calls

User cancellations

- TA01-29 (TRIUMF BL1B): Travel problems related to Covid entry to Canada, users did test in a facility outside RADNEXT
- TA02-10 (UCL): User cancelled the beam time (about 2 months before, replaced by a RADNEXT user from UMCG)
- TA02-11 (LPSC): User late cancelled the beam time (about 1 month before)
- TA02-17 (UNILAC): Unavailable beam and loss of relevance when beam back in 2024
- TA02-20 (VEGA): Unfeasible experiment
- TA03-07 (UMCG->CERN): Target facility was GSI SIS-18, unavailable, sent to UMCG, which was unfeasible (user poor communication), sent to CERN cancelled for ESA conflict
- TA05-102 (UMCG): User cancelled the beam time (a test date was never scheduled)
- TA06-132 (GANIL): User late cancelled the beam time (about 1 month before)
- TA06-139 (CHARM): Test performed before USP acceptance

Cancellations sum up to 120 hours (excluded 02-20, not quantifiable, and 06-139, done before USP acceptance) of beam time lost (8% of what was delivered up to now)

Not easy at supervision level to understand reasons for cancellations or continuous postponements, information is typically kept at user-facility exchange

User cancellation policy

- There is no policy that has been established
- Terms and conditions of access (up to now not clearly stated anywhere on the websites):
 - 'the advised time window for RADNEXT proposals to exploit the beam is 2-8 months from the call deadline'
- Cancelling definitely or rescheduling has:
 - Huge impact for a facility (not easy to find a user replacement in a short time, even outside RADNEXT)
 - Impact on the RADNEXT project and its objectives
 - Impact on the other RADNEXT users who could have taken the beam

What we can do externally

- Users are taken as liable for their cancellations (in particular late cancellations)
 - Their beam is cancelled and removed from the RADNEXT TA
 - No other proposal from the user will be accepted in the future
- Also, not scheduling the test within the 9 months having received opportunities from the facilities to do so, may be considered as cancelling to some extent

What we can do internally

- We have managed to implement once with success RADNEXT user reassignment to cover for a RADNEXT user cancellation, to mitigate the problem for the facility and the project overall

Facility cancellations

- We may not have this fully covered in a transparent way
- Late facility cancellations can have a big impact on users:
 - They may have sustained non-reimbursable costs for travelling and lodging already
 - Rescheduling at a different date has an impact on their activity
 - Several months -> loss of relevance
 - One or few weeks -> users may have other commitments on the short term

Policy

- Facility liability should be recognized and user should be reimbursed if they experienced costs through the user access budget of the facility (no hours can be charged to the project)

What we can do internally

- Try to reschedule the test to another facility providing the most similar beam in a swift manner
- This may also apply to users that are ready, but for which the facility keeps postponing the test scheduling

WP9-10 analysis

	Total	TA01	TA02	TA03	TA04	TA05	TA06	TA07
WP9 accepted	39	6	3	4	6	7	5	8
WP10 accepted	70	8	16	6	10	7	8	15
WP9 scheduled	20	5	2	3	4	4	1	1
WP10 scheduled	36	6	11	5	8	2	4	0
WP9 executed	16	5	2	3	3	2	1	0
WP10 executed	32	6	11	5	7	1	2	0
WP9 cancelled	2	0	1	0	0	0	1	0
WP10 cancelled	7	1	3	1	0	1	1	0

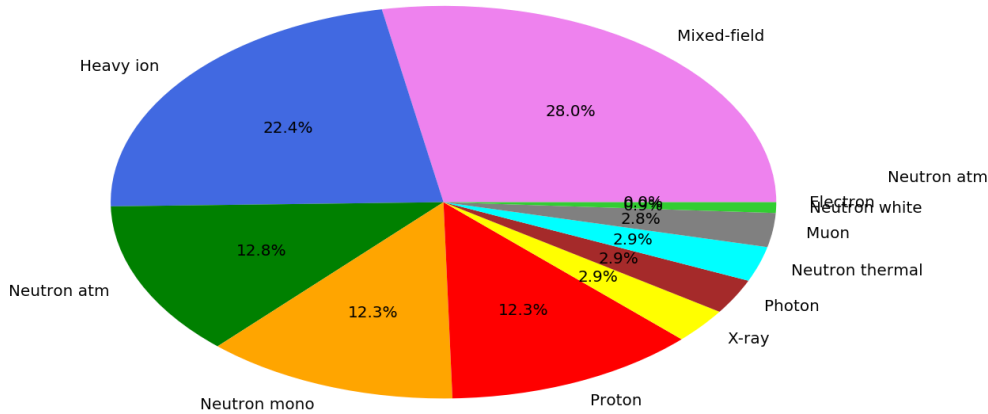
WP9-10 analysis

WP	TA hours available	Experiments	TA hours assigned to facilities	TA hours delivered to users	Assigned Advancement	Deviation from expected assignment after 6/12 calls	Delivered Advancement	Deviation from expected used after 19 months
WP9	3167	31	1492	792	47%	-6%	25%	-41%
WP10	3093	55	1027	711	33%	-34%	23%	-46%

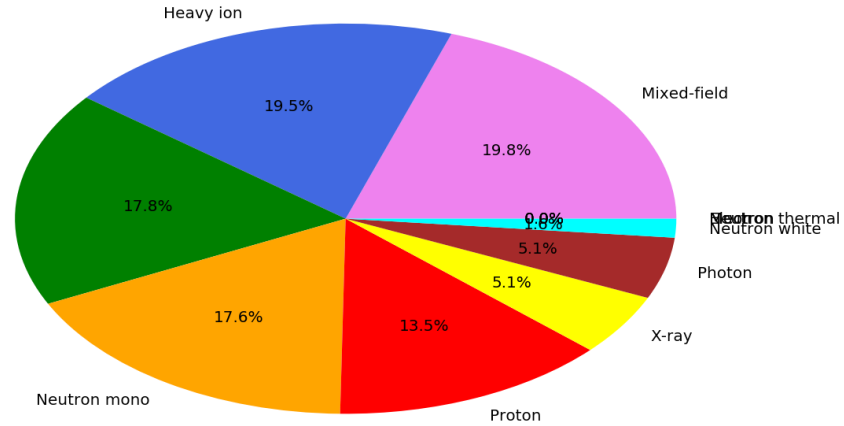
- WP10 receives 2/3 of the submissions and roughly the same % of accepted proposals
- Beam time per proposal has definitely been lower for WP10 than WP9
 - half of WP9 is CHARM, though

Beam type analysis

Beam type distribution in amount of hours

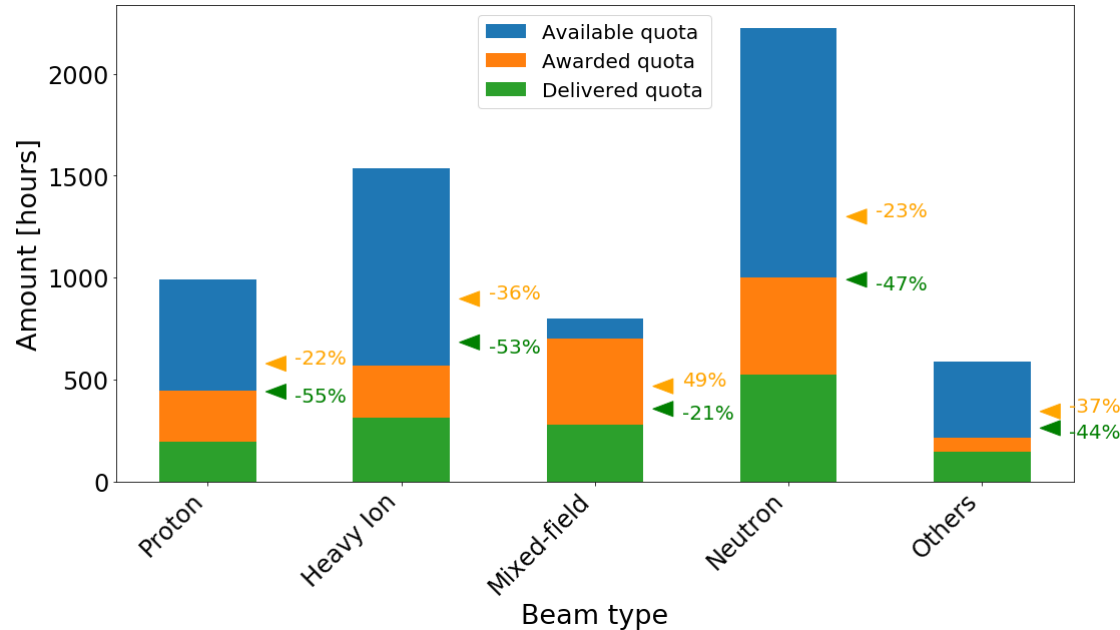


Assigned



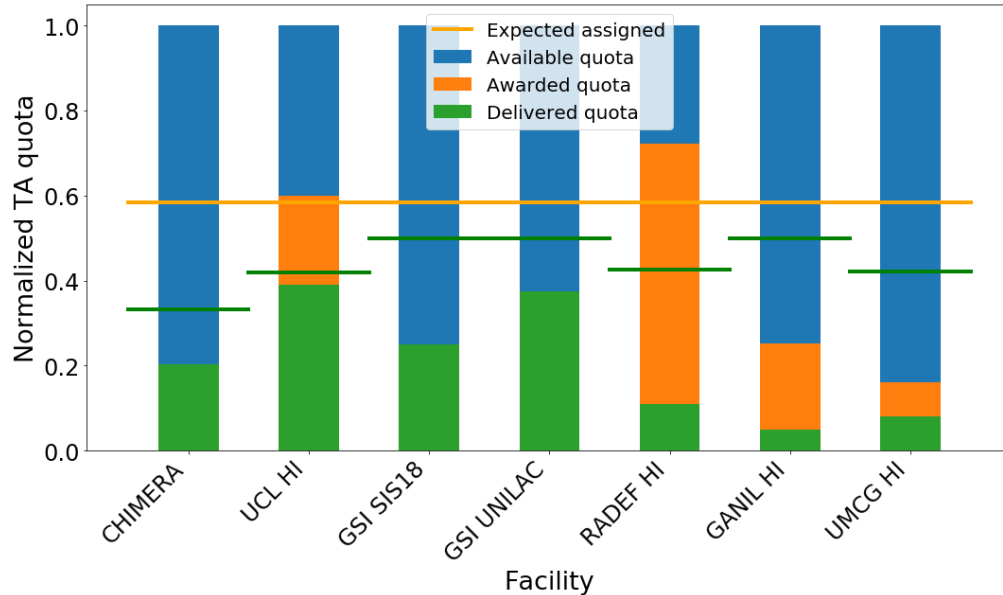
Delivered

Beam type analysis



- We've generally assigned 33% less beam time that we should have had after 6 calls
- We've delivered 40-50% less beam time that we should have had after 18 months
- There does not seem to be an evident beam type dependency

Heavy ion analysis



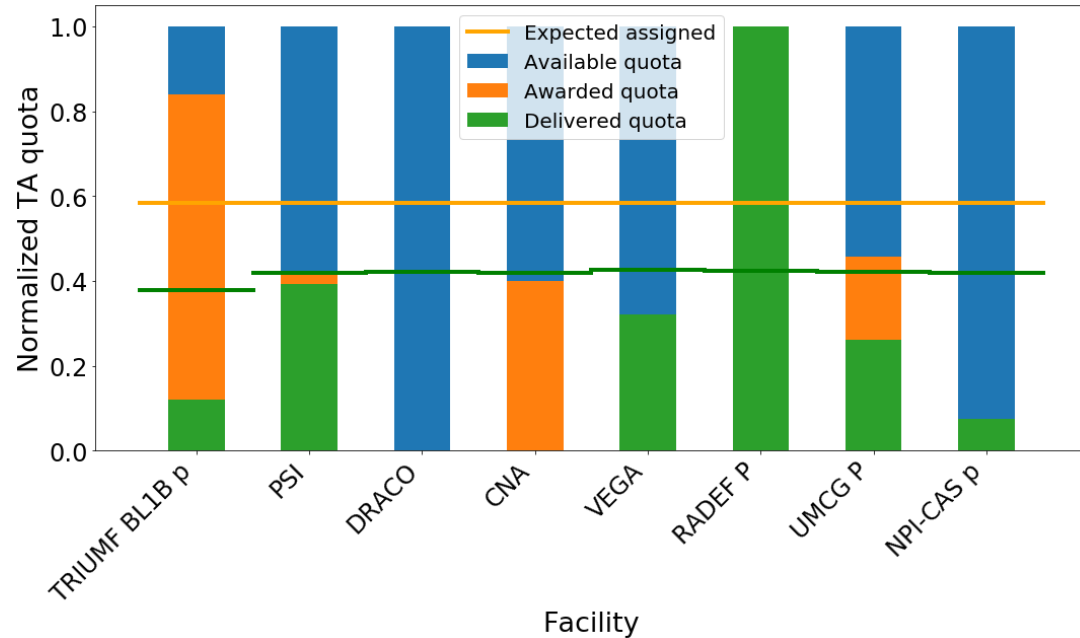
- Extra assignments for UCL and RADEF at this stage -> If the situation does not change excluding ions from calls for proposals may become more frequent
- All facilities are late in beam time delivery, only UCL is basically above half of what was expected up to now
- It seems RADEF has problems (due to users) in delivering the beam time that we assigned them

Heavy ion analysis

Facility	Beam type	TA hours committed	Users	TA hours assigned to facility	TA hours delivered to users	Assigned wrt total commitment	Deviation from expected assignment after 6/12 calls	Delivered wrt total commitment	Deviation from expected used after 19 months
HZDR eELBE	Electrons	80	0	0	0	0%	-100%	0%	-100%
CHIMERA	Heavy ions	500	2	96	102	19%	-62%	20%	-52%
UCL	Heavy ions	280	12	168	109	60%	20%	39%	-8%
GSI SIS18	Heavy ions	64	1	16	16	25%	-50%	25%	-41%
GSI UNILAC	Heavy ions	128	3	40	48	31%	-38%	38%	-11%
RADEF HI	Heavy ions	255	9	184	28	72%	44%	11%	-74%
GANIL HI	Heavy ions	158	5	40	8	25%	-49%	5%	-88%
UMCG HI	Heavy ions	150	1	24	12	16%	-68%	8%	-81%

- UMCG could not accelerate 30 MeV/n ions in the last year -> we needed to reassign elsewhere almost all of their users
- GANIL did not deliver beam to RADNEXT in 2022 due to accelerator issues. There is no plan to extend the per year offer to RADNEXT to recover the year lost
- GSI is currently undergoing an almost 2 years long shutdown (will end 2024.02.01)
- CHIMERA -> CERN ions, CHIMERA not available for routine operation, North Area availability for 2023 TBC

Proton analysis



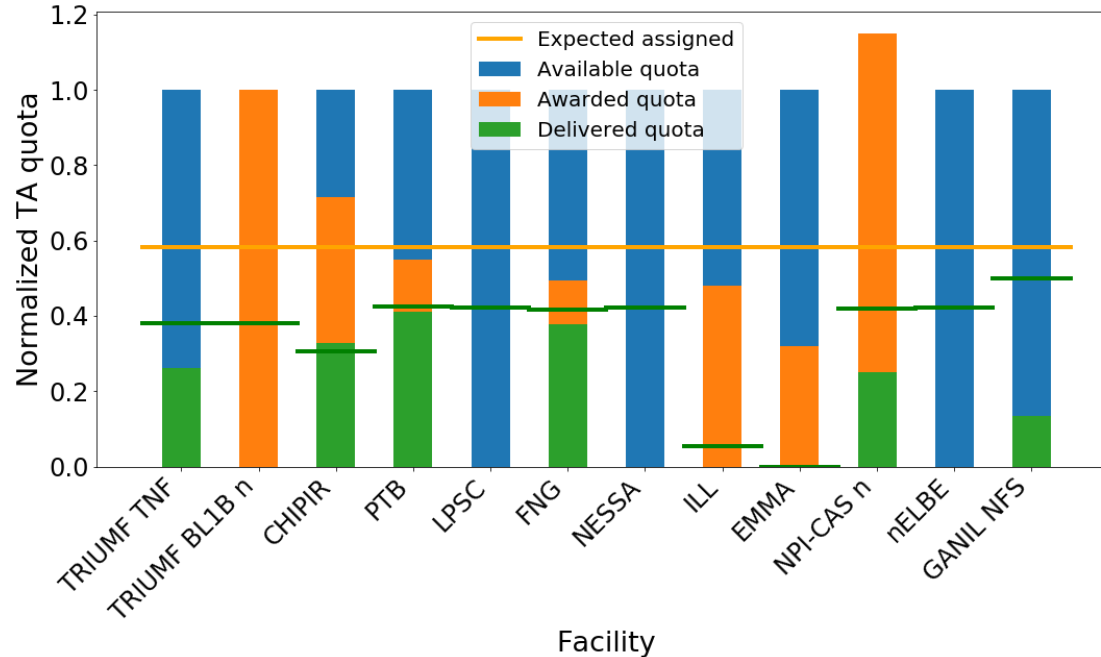
- We're basically using only PSI and UMCG
- After call #7 TRIUMF will grow sensibly

Proton analysis

Facility	Beam type	TA hours committed	Users	TA hours assigned to facility	TA hours delivered to users	Assigned wrt total commitment	Deviation from expected assignment after 6/12 calls	Delivered wrt total commitment	Deviation from expected used after 19 months
TRIUMF BL1B P	Protons	100	5	60	12	60%	20%	12%	-72%
PSI	Protons	130	8	55	51	42%	-15%	39%	-7%
HZDR DRACO	Protons	120	1	0	0	0%	-100%	0%	-100%
CNA	Protons	200	2	80	0	40%	-20%	0%	-100%
CLPU VEGA	Protons	150	2	32	48	21%	-57%	32%	-24%
RADEF P	Protons	45	2	45	45	100%	100%	100%	137%
UMCG P	Protons	325	11	149	85	46%	-8%	26%	-38%
NPI-CAS P	Protons	40	2	2	3	5%	-90%	8%	-82%

- CNA and NPI-CAS low-energy beams are in low demand
- We don't know how to exploit DRACO (beam delivered in fs spills)
- VEGA has same issue as DRACO + low-energy only

Neutron analysis



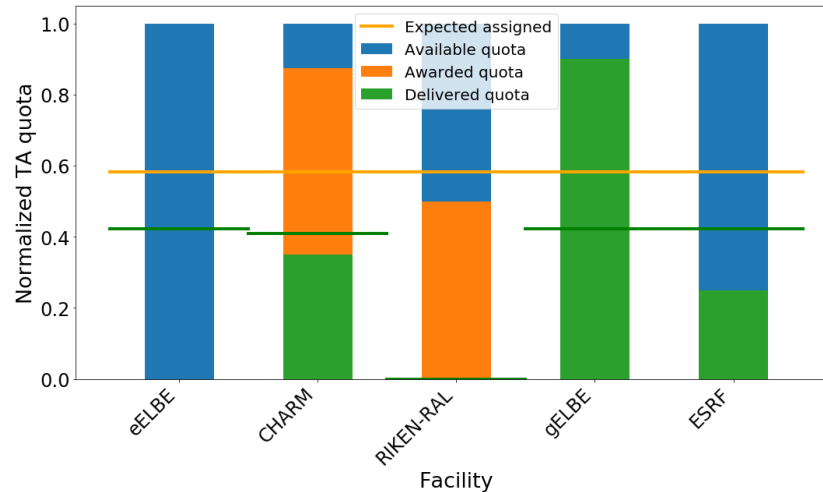
- There is some asymmetry for intermediate energy neutron facilities (PTB and FNG good, LPSC, NPI-CAS, NFS not)

Neutron analysis

Facility	Beam type	TA hours committed	Users	TA hours assigned to facility	TA hours delivered to users	Assigned wrt total commitment	Deviation from expected assignment after 6/12 calls	Delivered wrt total commitment	Deviation from expected used after 19 months
TRIUMF TNF	Neutrons atm	92	2	24	24	26%	-48%	26%	-38%
TRIUMF BL1B N	Neutrons atm	20	1	20	0	100%	100%	0%	-100%
CHIPIR	Neutrons atm	620	10	444	204	72%	43%	33%	-22%
PTB	Neutrons mono	175	3	96	72	55%	10%	41%	-3%
LPSC	Neutrons mono	160	2	0	0	0%	-100%	0%	-100%
FNG	Neutrons mono	530	7	262	200	49%	-1%	38%	-11%
NESSA	Neutrons mono	100	0	0	0	0%	-100%	0%	-100%
ILL	Neutrons thermal	100	2	48	0	48%	-4%	0%	-100%
EMMA	Neutrons thermal	150	1	48	0	32%	-36%	0%	-100%
NPI-CAS N	Neutrons White	40	3	46	0	115%	130%	0%	-100%
HZDR nELBE	Neutrons White	150	0	0	0	0%	-100%	0%	-100%
GANIL NFS	Neutrons White	90	1	12	12	13%	-73%	13%	-68%

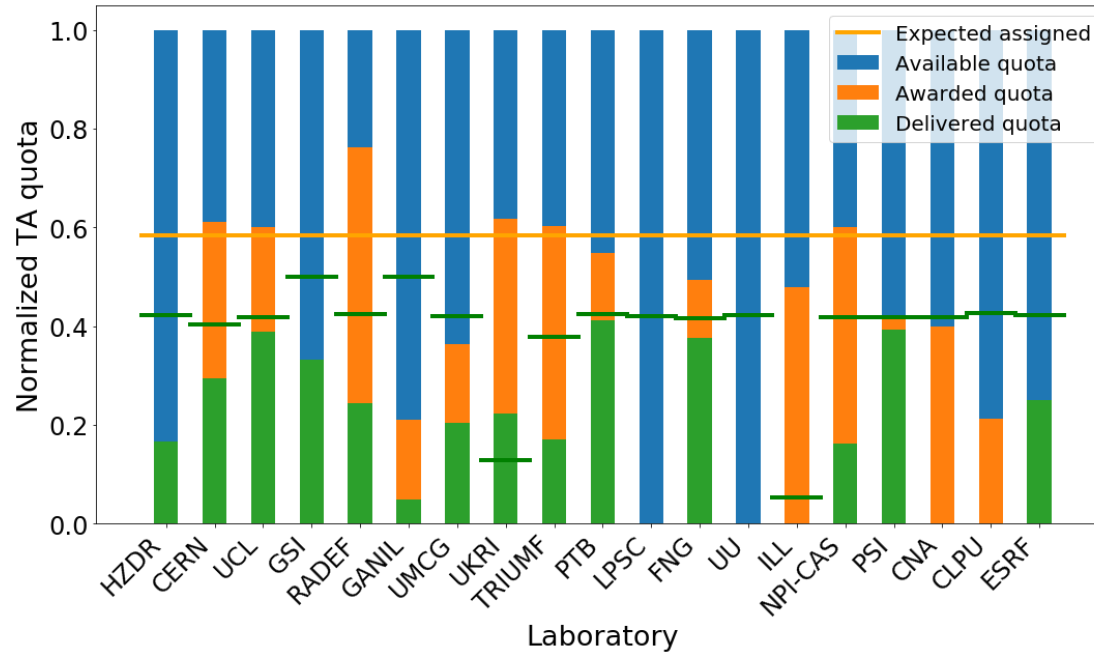
- ILL and EMMA are in low-demand (thermal neutrons)
- Atmospheric neutrons are slightly behind schedule
- Also the use of nELBE is not that evident?
- NESSA never commissioned

Other beams analysis



Facility	Beam type	TA hours committed	Users	TA hours assigned to facility	TA hours delivered to users	Assigned wrt total commitment	Deviation from expected assignment after 6/12 calls	Delivered wrt total commitment	Deviation from expected used after 19 months
HZDR eELBE	Electrons	80	0	0	0	0%	-100%	0%	-100%
CHARM	Mixed-field	800	5	700	280	88%	75%	35%	-17%
RIKEN-RAL	Muons	140	1	70	0	50%	0%	0%	-100%
HZDR gELBE	Photons	80	1	72	72	90%	80%	90%	113%
ESRF	X-rays	288	3	72	72	25%	-50%	25%	-41%

Summary by partner



- Only 3 facilities (PSI, FNG and PTB) have delivered what was expected up to now
- However, only PTB is over-assigned, along with UCL, RADEF and CERN facilities

Possible performance limitations

- There is a lot of beam time in facilities that:
 - We don't know how to exploit for purposes of electronic testing
 - Can provide only low demand beams for which no dramatic rise in demand shall be expected
 - Are available only for a very small portion of the year (very hard to plan tests there, all users must be ready together)
 - Have had problems delivering the beam
- We're a bit polarized at all levels
 - RADNEXT WP leaders, Facility coordinators, USP, Users
 - We know very well some facilities and we haven't made the effort of being inclusive with the less common facilities
 - Certainly at advertising
 - But also in beam assignment there is too much emphasis on sticking exactly to the requirements set by the user
 - Are the other facilities just not interesting for radiation effects testing?
 - We will end up consuming all the beam time only at the most known facilities
 - We have definitely tried to make room in facilities for which reaching 100% assignment won't be missed by 2025.05.31

From the facility survey

We've got 12 answers from the expected 19

- Reasons for delay/postponements/cancellations
 - 58% of facilities reported **user readiness** issues
 - Only 25% of the facilities said that **RADNEXT users are less ready** to take the beam than general users
 - 83% of facilities say **users would be ready to pick up the beam within 8 months from assignment**
 - 42% of facilities reported **facility unavailability** as an issue in delivering the beam
 - 92% of the facilities reported that the current amount of users coming from RADNEXT represent **< 10% of the total users** they manage
- Average time to test
 - 6/12 facilities reported just 3-6 months, which is contradiction with the actual data (maybe it takes into account that users would be ready, but facility is not)

From the facility survey

We've got 12 answers from the expected 19

- Reasons for underperformance
 - 42% of facilities report the **low demand** in RADNEXT for their facility as a cause
 - 42% of facilities also reports that **users are not ready** as a cause
 - 33% of facilities reported **shutdowns/facility not ready at the beginning of the project** as a cause
 - 25% of facilities reported **technical issues at the facility** as a cause
 - 17% of facilities reported having a **too busy schedule** with commercial users as a cause
- Forecast by 2025.05.31
 - 7/12 facilities expect to reach 90-100% of the quota
 - CNA, UCL, ILL, UMCG, GSI, STFC, PTB
 - 2/12 facilities expect a slight underperformance (75-90%)
 - RADEF, FNG
 - 3/12 facilities expect a deep underperformance (< 50%)
 - LPSC, CLPU, GANIL
 - 7 institutions did not answer
 - CERN, TRIUMF, PSI, ESRF, HZDR, NPI-CAS, UU
- Only 3/12 facilities have reported that they can **increase their TA quota** (if 1 year extension is granted), however none of these facilities is currently oversubscribed and in most of the cases their beams are in low-demand

Status of the portal

Based on facility coordinators responses as well as monitored activity

- Only 7/19 facility coordinators provide updates whenever something major occurs (beam scheduled, postponement, test executed)
- 5/19 facility coordinators provide updates on the portal only if triggered by a WP9-10 leader email
- 5/19 facility coordinators only access the portal whenever a new proposal is assigned to them (and often they don't even formally accept the proposal on the portal)
- 2/19 facility coordinators never had to use the portal so far

If it will be increasingly hard to manage the RADNEXT TA if there is not a **prompt and spontaneous communication** between the facility coordinators and the RADNEXT WP9-10 leaders

- We need to have **all experiments assigned to a facility before the next call opens**
- We need to know **the amount of hours for each experiment** (assigned/delivered to keep track of advancement, being able to establish which facilities to include in the various calls, being able of transferring beam time from one partner to another)
- We need to know when **the test is scheduled/cancelled/done** (to apply mitigation action on cancellation, to follow up with the users for the test report)
- In any case, no facility coordinator shall **exceed their quota without previous approval from the TA coordination**

Forecasts

RAD
NEXT

The logo for RAD NEXT is displayed in a blue, sans-serif font. The word "RAD" is positioned on the top line, and "NEXT" is on the bottom line. The letter "X" in "NEXT" is stylized, featuring a circular graphic element within its upper loop.

Hitting a huge Bottleneck!



52 experiments already in the RADNEXT backlog

60 experiments done at same pace
Let's assume we do better, e.g., 75



Then, on top of the 52 we have, we can only accept an additional 23 (i.e., less than 5 per call, when average is 16)

If we keep average 16 acceptance, 83 new tests, we have 135 tests in the log



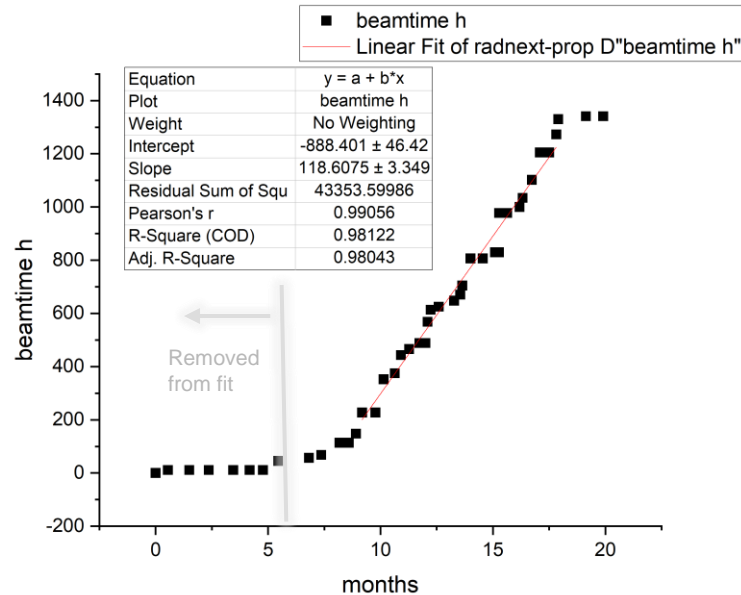
About 60 experiments will still be in the backlog on 2025.05.31 and will get cancelled, this is 1/3 of all the proposals accepted in RADNEXT

Let's assume 10 more user cancellations, then 125 experiments in the log



Facilities need to increase their pace by +110% to have 0 experiments in the backlog at 2025.05.31

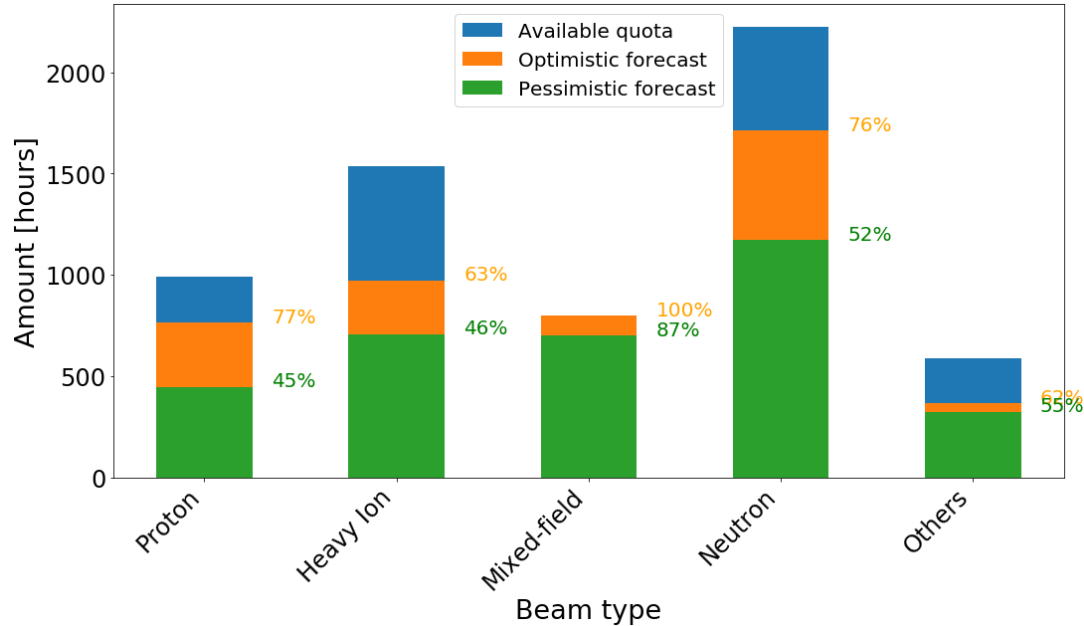
Overall forecast



@Carlo

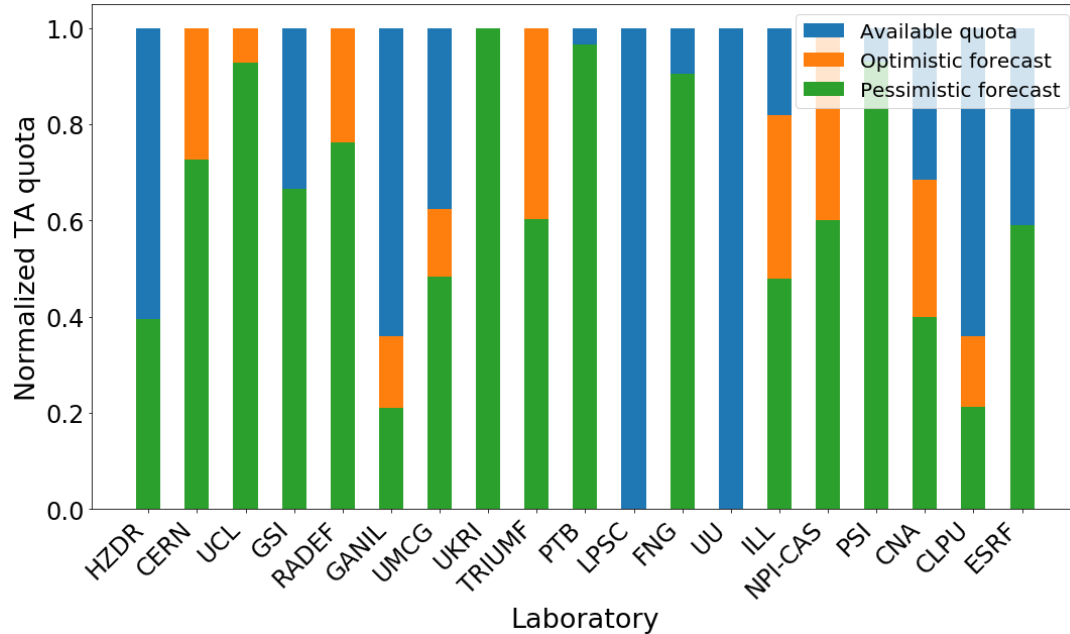
- Excluding the first 9 months of TA provision (elapsed months: 14, total months: 39), the linear fit will give 4600 hours (75%) by 2025.05.31
- No accountancy of what has been done so far by each facility and what can be done next

Beam type forecasts



- Coming back to 20 months elapsed and 45 months total
- Forecasts are based on what facilities were capable of delivering (green) or have got as assignment (orange) so far extrapolated to the end of the project
- Does not account for shutdowns, but isolates facilities that won't be able to provide their full contribution
- **Green predicts 4200 hours (67%), Orange predicts 5000 hours (80%)**

Partner forecasts



- If facilities keep the same pace as the first 20 months (pessimistic) only PTB, PSI, FNG, UKRI and UCL will finish their quota by 31.05.25
- Considering the high demand and, if they manage to deal with it, also CERN and RADEF may finish their quota by 31.05.25

Thanks for your attention!



Image Source: CERN