Recommendations of the 100th Physics Research Committee

11/12 November 2025

General information and main recommendations

At its **100th meeting** on 11-12 November 2025, the PRC reviewed all groups, projects and activities of particle physics at DESY. The occasion of the 100th meeting of the committee was marked by a **celebratory colloquium** featuring former DESY Directors and PRC chairs.

The **LHC and the ATLAS and CMS experiments** have performed exceptionally during 2025 data taking, surpassing the 2024 integrated luminosity despite a shorter proton run. Exciting new physics results continue to come from the DESY groups, including the observation of tWZ associated production at CMS and a recent ATLAS result on di-Higgs production analysing more than 300 fb^{-1} of data.

In Japan, the **SuperKEKB collider** has just restarted after targeted improvements to the accelerators, with the goal to complete a 1 ab^{-1} dataset for **Belle II** by summer 2026.

The **HL-LHC upgrades** continue to make progress. However, recent problems observed in an on-detector DC-DC converter circuit (bPOL12V) designed by CERN, and used on the tracker and calorimeter modules, threaten the progress made in the local module construction and generally pose a significant risk to the LHC upgrade projects. While investigations continue at CERN and elsewhere of the failure causes (e.g. radiation effects, temperature levels, operation modes), the impact on the DESY construction projects is unclear, and module production has been halted or is being delayed. It will be very important to monitor the developments closely, assess the specific implications for the DESY projects, and prepare mitigation and recovery plans, including adjustments to technical staffing.

Concerning **axion physics**, the readying of the first ALPS II publications is an important milestone. The PRC have also noted the strong support to grow the DESY axion programme expressed by the German particle and astroparticle communities in their respective ESPPU inputs. Such a strong, leading, non-collider programme and associated infrastructure complement the DESY collider-based activities. BabyIAXO is making progress on funding: it is urgent to define the construction model for the BabyIAXO magnet. A new location for BabyIAXO has recently been identified, and the PRC endorses this new choice, which offers clear advantages. MADMAX is targeting an installation at the HERA-North site with an intermediate magnet, currently under tender, around 2030. Both projects need now to develop their planning for installation and operation at DESY.

With the **ELBEX EU grant** for an extraction beamline from the European XFEL, the **LUXE experiment** continues to make progress towards its realisation. As for the axion experiments, the next implementation steps are urgent, including being able to provide clear plans to the collaboration. The PRC encourages the LUXE and ELBEX teams together with the DESY and European XFEL managements to ensure this project can proceed expeditiously.

Related to the implementation of the projects above, the committee welcomes the creation of a **Project Advisory Board (PAB) and Project Support Office** as an important step towards stronger coordination of local projects and follows with interest their development. The committee believes that DESY must clarify and communicate soon the *modus operandi* of these new structures, ensuring that project pathways, timelines and responsibilities are well understood by all stakeholders. The interplay of the scientific review role of the PRC with the new bodies should also be clarified.

Other highlights comprise the following:

- The testbeam facility has again performed well in 2025 with a wide user community. The future of the facility in the PETRA IV era should be secured, given its importance for DESY's own R&D activities and also for the European and wider international landscape.
- The extension of the "Quantum Universe" cluster by another 7 years is a great success, both for DESY as a whole as well as specifically for the DESY Theory group (which contributes an impressive fraction of 5 of a total of 25 PIs).
- The DESY theory group continues to perform excellent research. It also provides direct support and conceptual framing for DESY experiments and attracts top international researchers to Germany.
- The FH platforms for detector R&D and for scientific computing are in operation. Their value in setting priorities across FH activities is recognised by the PRC.

Staffing reductions and hiring restrictions are currently the greatest concern; they have impacted and increased risks in many activities. A notable example is that the staffing for key enabling work of importance to a wider community is at a critical level. In several areas, **lower numbers of doctoral and postdoctoral researchers** lead to reductions in scientific output. In some cases, the retirements of people with long-standing key expertise bring the danger that capabilities are lost completely. Since 2021, FH has reduced and reorganised its workforce in particle physics research, leading to an overall reduction of 5% (in FTE), dominated by the reduction in non-permanent scientific personnel of -20% (in FTE). Especially in view of this situation, the PRC is pleased to see success in attracting third-party funds in different areas. However, the committee notes that this can bring its own risks, especially where base funding has become marginal.

ATLAS

Findings

Contribution to the ATLAS experiment by the DESY group, in the broad area of the operation of the detector, physics analysis and the upgrade, has been significant and well recognised. Members of the group are holding several leadership positions in diverse areas of the experiment, including upgrade, operations, computing, and analysis. While overall the group size has remained roughly stable, it should be noted that doctoral and postdoctoral researchers have frequently been replaced with Master students and HiWis.

Comments

The group has started to address previous PRC comments and slightly reduced the number of different analysis topical areas to a more focused set, for example, by reducing contributions to the jet/ETmiss performance group. Expertise in object reconstruction is being leveraged in related analyses. The danger of losing people with specific technical skills in the upgrade seems to be well managed and for the most part overcome.

Identification of critical issues

While the current technical personnel status is adequate for the ongoing ITk upgrade work, it is at the borderline so that any unforeseen incident that leads to a reduction of personnel will create a serious delay in the upgrade schedule. The group needs to make sure to move ahead with the upgrade, fully utilizing their technical staff at both sites, even when facing the current crisis of the bPOL12V chip. It is advised to keep a close eye on the developments at CERN and elsewhere concerning potential solutions, so that the situation can be handled in an optimal way without too much waste of components and person power. There is some difficulty to fulfil the non-upgrade obligations in ATLAS due to reduced person power. In particular, there is a worry that the reduced availability of fellows could lead to a reduction in critical competences in areas like b-tagging and e/gamma reconstruction.

Specific recommendations

- While the committee understands that the needs on technical personnel from other projects such as Ultrasat and PETRA IV will increase, it is recommended that the lab ensure necessary resources for the upgrade efforts at both sites.
- It is recommended to develop a laboratory wide strategy for future collider efforts. Once the upgrade is finished, scientific staff, postdocs and students should increase their efforts in data analysis as well as for future colliders.

CMS

Findings

The DESY CMS team is focussing its effort increasingly on the phase-II upgrades, with progress in many areas. Until the characteristics of the bPOL12 failures, and mitigations, are better understood, schedules for both endcap calorimeter (HGCAL) and outer tracker (OT) are uncertain, with delays being accrued. Substantial progress has nevertheless been made on both projects. On the HGCAL, tile wrapping and QC is in production, with QC sampling fractions being reduced as production proceeds. The needed rates for full production are within reach. Assembly of tileboards and modules is paused until there is more clarity on the bPOLs. On the OT, much was learnt from the pipelined production test, and production procedures have been streamlined. Module production has halted, due to continuing hybrid contamination and delamination problems noted at previous PRCs, and the bPOL problem. There are also risks in the industrial hybrid production organisation and schedule. New hybrids with different spacers are being produced which should solve the contamination issues – a few test modules will be assembled with these at DESY.

The situation regarding technical and engineering staff has stabilised, following agreement that the existing posts may be extended as required to complete production. Effort remains tight. More analysis-oriented members of the CMS team are engaging. For the endcap OT structures work proceeds well. The group's staff and student numbers continue to decline: the group is now slightly smaller than the 20% cut foreseen three years ago.

Comments

The recent news around bPOLs has thrown the upgrade projects back into major schedule uncertainty, with potential requirements for increased staffing to maintain

schedules, and/or longer construction timeframes. The PRC welcomes the progress in understanding the hybrid contamination problem, but notes that delamination continues to be a problem – this has been the case for many months now. The willingness of DESY management to continue contracts of essential technical and engineering staff is applauded.
Overall staff reductions have an impact: while critical roles have been replaced, the focus required on existing commitments including upgrades will reduce the output of DESY CMS results in the next years. Further engagement of group members oriented towards analysis and operations will be needed to deliver the upgrades successfully and quickly.
The committee recognises that the physics programme for the CMS group in the HL-LHC era: including di-Higgs production, measuring SM parameters with unprecedented precision, and using both Higgs and top as a probe of new physics, is a key component of the PoF V MU-FPF strategy.

Identification of critical issues

The bPOL failures impact both HGCAL and OT work, with the potential for serious delays. The OT tracker hybrid delamination is also not fully solved. While these are external components, the schedule slippages will require maintaining effort on upgrade projects for longer, and risk increasing non-staff costs as well. Full engagement across the whole group will be essential.

Specific recommendations

- Engagement of analysis-oriented group members in upgrades needs to increase as module production finally ramps up.

Belle II

Findings

In the absence of significant signal of physics beyond the standard model at the energy frontier, the importance of precision studies to guide future directions has become increasingly evident. Flavour physics of quarks and leptons is a key element in the recently released *Physics Briefing Book* for the 2026 update of the European Strategy for Particle Physics. The Belle II experiment provides a unique opportunity in this area, provided that sufficient data are collected.
Over the summer, the Belle II collaboration has been actively consolidating the detector in preparation for the newly started run. In parallel, the machine teams have been working to improve SuperKEKB and its injector complex. The DESY team, in collaboration with the machine group and machine-learning expertise from Hamburg University of Technology, is making crucial contributions to both efforts, as recommended in the last PRC meeting. The groups achievements in physics analysis are impressive, with a new result on $|V_{ub}|$ reported at this meeting. The upgrade plan for the Belle II detector, including the new final superconducting focusing quadrupoles, is progressing well. Possible construction of new silicon-strip tracker layers for the upgrade may provide a route to a stronger and more synergistic DESY contribution together with the German university groups, which is in line with the recommendation from the last PRC meeting.

Comments

Reaching the goal of doubling the integrated luminosity to 1 ab^{-1} and achieving an instantaneous luminosity exceeding 10^{35} cm^{-2} s^{-1} is crucial to maintain the physics potential of SuperKEKB and to sustain the long-term effort of the collaboration. The committee understands that KEK is committed to making its utmost effort, working together with experts from CERN and DESY. The current timescale for the planned Belle II upgrade is rather tight and will require focused, coordinated effort. The elucidation of the key physics goals of the group for the coming years is acknowledged and supported.

Identification of critical issues

The performance of SuperKEKB remains a major concern. Sudden beam losses have prevented not only the full operation of the Belle II detector, particularly the PXD2, but also stable machine studies. Although the main cause of this phenomenon appears to have been identified and mitigated during the summer shutdown, it may persist for other reasons, possibly at a reduced frequency but still limiting stable operation. Some hardware improvements have been made in the injection chain; however, radiation exposure of the Belle II detector remains a concern, especially as beam currents increase to achieve higher luminosities.

Specific recommendations

- The current effort by the DESY group to contribute to collaboration-wide issues beyond its original commitments, such as studies on radiation damage to the drift chamber, is highly commended and should be further supported.
- In addition to the immediate improvement of SuperKEKB performance, long-term considerations for both SuperKEKB and the injection system will be necessary. Alongside intensified efforts by the DESY Belle II team on detector upgrades, opportunities for mutual benefit and collaboration between DESY and KEK in accelerator-related work should be explored further.

DESY Axion Programme – General Comments

With the (currently three) axion and dark matter search experiments ALPS II, BabyIAXO and MADMAX, DESY is putting a strong axion physics programme into life. While ALPS II is up and running, BabyIAXO and MADMAX are still further down the road and depend critically on additional funding sources to be found.

The collaborations, in general, would like more clarity on what type of information and documents are needed on what timeline for the PAB and the subsequent timeline for decisions from the PAB. These open questions lead to concerns about DESY's commitment to the axion programme.

ALPS II

Findings

The data analysis of the first ALPS II science campaign was completed and will be published in two papers. No new physics were found, but the sensitivity in the axion-photon coupling constant was improved by a factor of 20. The ALPS group is working on 10 publications in parallel, showcasing high scientific productivity.

The source of extra losses in the 250 m cavity was identified as a mismatch in the radius of curvature of the cavity mirrors. A three-field measurement technique was demonstrated to suppress common-mode noise, improving sensitivity by an order of magnitude. The Central Optical Bench (COB) alignment setup was recommissioned, and the alignment procedure is underway.
Concerning activities at the cryo-platform, the analysis of the first Transition Edge Sensor (TES) direct dark matter run was completed and published. Over 80% efficiency has been achieved in detector systems, with improved measurement reproducibility and lower uncertainties. The collaboration installed and tested a new module, successfully detecting 1064 nm light pulses.
The collaboration has designed and constructed the ALPS cryo-platform subcooler box (ACPS), a state-of-the-art system for subcooling supercritical helium. The site acceptance test (SAT) for the ACPS was successfully completed and a new cold-water supply system was installed. A chip-scale nano-mechanical silicon nitride membrane sensor for gas pressure measurement has been developed, achieving a 10-decade pressure measurement range.

Comments
The PRC recalls that ALPS II provides a unique probe of the QCD axion, whether or not the axion is a significant component of dark matter. This provides key leadership for the DESY programme.

Identification of critical issues
Once again, the PRC notes that the subcritical level of optical expertise available to the experiment has not improved since the last PRC meeting and is getting worse. As a byproduct, the collaboration is unable to produce any credible timeline at this point. The work force issue extends to the ability to produce scientific results. The feasibility of achieving the scientific and technical goals with the current or projected team size is dubious.
Additionally, the report emphasizes the urgent need to upgrade the quench-protection system for the magnet string and the ambitious plans for commercializing optomechanical sensors, but it does not clarify how these activities will be resourced given the personnel and funding constraints elsewhere in the project.

Specific recommendations
- The PRC recommends that the collaboration works to recruit staff from within DESY and bring on other university groups to bring expertise in more classic particle physics techniques and provide general workforce for experiment.
- The PRC recommends that the DESY management works with the collaboration to develop a new model for staffing the experiment. This may involve engineers and specialized technical support while involving staff, students and postdocs for less technical shift work and the production of physics results.

BabyIAXO
Findings
The PRC notes. BabyIAXO has continued its steady progress since the last report. Most importantly perhaps, on the magnet project, the two German cluster of excellence

proposals (UHH/DESY, UBo/UDo/USi) have been successful; the decision on the DFG "Large Equipment" application (6.5 M€) is expected for spring 2026. The CDR feedback has been positive, and 1 km of Nb-Ti Rutherford cable have been produced and validated. Discussions with CERN on the magnet construction have moved ahead and are positive.
Further positive developments include the X-ray optics (the NuSTAR glass is validated at SOLEIL, and the 10-layer prototype assembly is planned for the first half of 2026), the low-background detectors (one IAXO-D1 Micromegas detector has been installed and commissioned; the background levels were shown to be reduced by a factor of two), the infrastructure, the radio-purity measurements, the extension of the technical team, and the finalization of the "easy-to-read" document and other outreach activities.

Comments
BabyIAXO has a large potential impact. It covers a sizeable region of the ALP parameter space and touches the vanilla "QCD axion band" at high masses. It also serves as a critical demonstrator for the full IAXO program. Thus, it provides an outstanding program targeting beyond standard model physics and addressing the puzzle of the strong CP problem.
The PRC is pleased to note that the BabyIAXO project has achieved significant milestones in magnet development, X-ray optics, detector performance, and collaboration. These successes position the project well for future phases, despite ongoing challenges in resource allocation.
On the location issue, the PRC supports the selected choice of the surface site between buildings 1 and hall 2, so as to proceed with the preparations towards a magnet-less commissioning, which is vital to keep the collaboration engaged and together.

Identification of critical issues
The largest uncertainty is the funding of the magnet (decision spring 2026) and the subsequent procurement and fabrication. This is limiting the planning for the rest of the program.

Specific recommendations
- Assuming magnet funding is secured, site preparations must begin precipitously in 2026 to maintain the commissioning schedule and the delivery of physics.
- The DESY management should clarify the decision timelines and the type of documentation and materials to be presented to the new PAB (Project Advisory Board).
- The PRC would appreciate if the discussions between the managements of DESY and CERN clarify soon the level of CERN's involvement for the BabyIAXO magnet.

MADMAX
Findings
The MADMAX collaboration has continued on a good path. Their first result on dark matter search have been published in Physical Review Letters. They have also achieved boost factors of ~1000, having successfully configured CB200 with 10 disks. The intermediate 4T, 60 cm magnet is now in tendering phase, with expectations to be ready

by 2030. The use of the Morpurgo magnet during CERN LS3 is now approved, with plans for a tunable OB300 booster.
The cryostat has been installed in SHELL and the commissioning is underway. Some issues with the cooling power have been identified and solutions are being implemented. The collaboration has also developed TWPA and OMT for noise reduction, and they keep exploring graphene single photon detectors. On data acquisition, DAQ has been upgraded for higher resolution and synchronized two-channel readout.
The collaboration has significantly widened its expertise, with Harvard University and Northeastern University having joined as associated member.
The management has committed to secure the infrastructure of DESY's cryo-platform and iron yoke to be deployed at Hera North hall for 2030, as soon as the collaboration secures the magnet, which is at present undergoing a tendering process.

Comments
The PRC appreciates that the DESY management re-expressed its commitment to host the MADMAX magnet and provide the plans and resources in the time frame needed, assuming that the collaboration successfully completes the present tendering process for the magnet.

Identification of critical issues
- There are several concerns of technical nature, e.g. the cryostat leak and heat load, calibration uncertainties, magnet availability, and achieving the sensitivity goals.
- The cryo-platform is not fully functional due to funding cuts, and the removal of the H1 experiment's infrastructure is pending. Without these resolved, the installation and operation of the intermediate magnet could be delayed or even become impossible.
- The collaboration is growing, but the funding impasse and the need to hire a successor for a key role (A. Caldwell) could slow progress.

Specific recommendations
- The DESY management. The PRC encourages DESY management to clarify the type of information and documents needed on what timeline for submissions to the Project Advisory Board (PAB), and the subsequent timeline for decisions/answers from the PAB.
- Clear commitments, planning and prioritisation is required from DESY management to solve the overstretched situation of the technical infrastructure support groups.

LUXE
Findings
The collaboration now has around 100 members and held a successful collaboration meeting in Warsaw (September 8-10, 2025).
The JETI40 laser (10 TW) was transported from Jena to DESY and is being set up in HERA hall West, with a clean room prepared for its operation. The laser is expected to be operational in early 2026. The interlock system for the laser is currently being set up, and the team is discussing potential commissioning and additional experiments.
Concerning the ELBEX infrastructure, the European XFEL hired a coordinator, and a 0.5 Ph.D. position is starting in December 2025. DESY is also hiring an engineer for the project. The team is preparing a Conceptual Design Report (CDR) for the new location in

XTD8, aiming for approval by the XFEL council in June 2026. ELBEX is partly financed by an EU Infrastructure grant, which provides a solid foundation for the project.
The PRC congratulates the team on the very significant NP-QED ERC Synergy grant that was approved very recently and that provides a major opportunity for LUXE and an influx of funding for strong-field QED instrumentation.
A successful combined test campaign for the LUXE high-rate electron detection system (scintillator+camera and Cherenkov straw tube detector) was conducted at E-320 (FACET-II, SLAC). The team observed edges from non-linear Compton scattering in the scintillator screen data.

Concerns

The starting point for LUXE in DESY's new approval process is unclear, creating uncertainty about the requirements for CD2 approval. It is also not clear how LUXE's current CD1 status maps to the new process, which could lead to delays.

Specific recommendations

- Define LUXE's position in the PAB process, including for CD2 approval, finalise the DESY-European XFEL MoU, and align LUXE and ELBEX timelines to avoid conflicts.
- Pursue the resources needed for LUXE's updated design and construction, leverage the NP-QED grant to attract additional personnel and funding, and establish a clear third-party funding strategy with appropriate support letters from DESY and European XFEL.

FTX

Findings

The number of students and postdocs in the FTX group with its five subgroups is still going down and asked to cut further, leaving only 1-2 students in several areas, and it is hard to reduce even further without losing technical and science capabilities. Beyond the R&D topics and operation and programmes at testbeam and plasma facilities within the group, FTX has important roles in coordinating scientific computing and detector R&D that are crucial for lab-wide strategy and future opportunities. Engineering resources are shared with other groups, such as ALPS, ATLAS, CMS, and Belle II. Several key ESPPU papers have been produced with important contributions and leadership from the group. Members have also been part of the physics preparatory group.

Comments for sub-group

- For SLB 2026 is expected to see only 3.6 FTE, which is close to sub-critical and in particular threatens future collider studies.
- New 2.5M Euro funding has been secured through an NP-QED-ERC SyG award.
- For SFT the personnel situation seems stable at the moment, but might become critical by next summer. Much of the funding comes from AI/ML, but not many people can fulfill ML and standard software deliverables, such as key4hep.
- The test beam facility utilization is again on course to the usual >400 users per year also in 2025. About 45% of the users are from DESY and almost half of the users are students. The students and postdocs working to support the testbeam will leave by next summer.

- We would like to stress the importance of the DESY electron test beam for the national and international community. The lab should put high priority on making sure this or a similar facility will exist also in the PETRA-4 era.
- The AST and FLASHForward maintain a stable personnel situation and effective collaboration with the M-division. An R&D project is considering EuXFEL for plasma wakefield experiments in collaboration with ELBEX.
- Calorimeter R&D, specifically the development of SiPM-on-tile calorimeters for CMS HGCAL, is progressing well (see CMS report). The experience from the HGCAL project is expected to benefit the R&D branch CALICE, now in the framework of DRD6.

Critical issues

FTX's diverse expertise is essential for strategic planning and work for future projects, such as LUXE, ELBEX and Higgs factory project studies, including HALHF. The test beam facility remains critical for a wide international and national community, and also for outreach. In general, staffing levels are very low in several areas, most critically for core software and future collider studies. DESY has an important mandate to provide support to German universities working in these fields.

Recommendations

- Adequate staffing should be ensured, especially at the postdoc and Ph.D. levels, to sustain community-wide activities related to future collider and core software, as well as testbeam operation and infrastructure. All of these "community" services need stability and long-term commitment.
- There is a need to develop a few concrete future scenarios for the test beam facility in collaboration with the M division.

Detector R&D Platform

Findings

None given.

Comments

We are glad to see that it is planned to resubmit the DDL proposal (within the context of the Hightech Agenda Germany – Helmholtz Technology Innovation Hub) after updating it with potential feedback that has been received and in light of the new landscape and outcome of the update process for the European strategy for particle physics.

Specific recommendations

- Due to the structuring of the personnel into different groups (FTX, ATLAS, CMS, Belle-II, Detector Platform), we recommend that enhanced coordination and communication between the groups is sought in order to enable strategic planning for future collider efforts at DESY, for example through a cross-cutting oversight group, or annual retreats, etc.
- A clear plan needs to be made to maintain the expertise and personnel built through detector developments for HL-LHC for detectors for future colliders.

Theory

Findings

The DESY Theory group continues to produce first rate science in key scientific areas such as lattice gauge field theory, strings theory and mathematical physics, cosmology (including gravitational waves) and particle phenomenology (including axions, LHC searches, QCD). The report on recent developments in formal theory presented to the PRC emphasized the particularly impressive track record of this part of the group in attracting top young researchers with their own funding. Moreover, formal theory plays central roles in the CRC "Rethinking Quantum Field Theory", in the ongoing wider effort to strengthen ties with mathematical physics and mathematics at Hamburg University, and in the "Quantum Universe" excellence cluster. Very intriguing implications of recent theoretical progress for black hole physics and strongly coupled quantum field theoretic systems were highlighted.

The 3rd-party funding in the Theory group has remained high, exceeding the base funding by factors of more than two and more than 1.5 in the categories Ph.D. students and postdocs respectively and approximately equalling it in the "junior staff" category.

The positions available continue to systematically decrease due to rising on salary costs in combination with a flat budget. This causes considerable uncertainty and stress within the group.

The process towards the new WPC building is now moving ahead more or less on schedule and is overall under control. The renegotiations regarding the rent seem to also be on a good track.

Comments

The WPC is of strategic importance, well beyond simply housing theorists. It offers tremendous new potential for DESY and the Science City, as was very clearly emphasized in 2020 by the reviewers of the strategic proposal. The PRC appreciates the efforts of the DESY management concerning the WPC building. Overall, the process appears to be under control and good progress is made. To a large extent, this is due to the significant efforts of the DESY management.

The succession of Andreas Ringwald remains open. This hire is crucial as it is intimately connected to DESY's bid to become the world-leading axion center.

Identification of critical issues

The continued decrease of the number of base-funded positions for Ph.D. students, postdocs and junior staff in DESY Theory has reached a level that threatens the scientific productivity of the theory group, would the present very successful third-party funding dwindle. This development increasingly threatens the capacity of the group to produce world-leading research as well as its moral well-being.

Specific recommendations

- Maintain the present momentum in the process of completing the WPC. In particular the re-negotiation of the rent should be brought to a successful end and any further delay should be avoided.
- Work proactively on ensuring an excellent replacement of Andreas Ringwald. If needed and possible, consider the option of a shared position with ALPs or other experiment in that domain.

IT

Findings

The PRC finds that the infrastructure activities (IDAF and Tier-2) are generally under control and executing well; the transition of German Tier-2 infrastructure is also progressing well. The extra resources to LHCb will be well appreciated.
Many of the non-HEP activities in Helmholtz are widely appreciated, otherwise not specifically addressed by the PRC. Hosting ICCS and ISPDC in 2026, are excellent for DESY (and IT) visibility.
The continued attention to group-internal alignment over the past years is bearing fruit and helps with the challenges brought by budget reductions.

Comments

The different timelines of the lab-wide AI/ML strategy discussed in PRC99, the PoF process, the IT implementation strategy, together with the high velocity of AI/ML developments in general give challenges; effective communication amongst parties is needed to enable alignment.
The PRC appreciates the activities in IT to study user access patterns, and their implications for IOps and CPU utilization. These become important with the emergence of new data formats for HEP, analysis facilities, a more diverse user population, and especially the large increase of scale expected for HL-LHC.

Identification of critical issues

[None given]

Specific recommendations

- Communication between IT and other relevant (DESY, Helmholtz) players on the AI/ML strategy.
- Continue efforts to make the scientific computing platform effective for physics by counteracting silo-forming in the research computing efforts of DESY.
- DESY management should apply constant pressure towards convergence on and construction of the new computing center.
- Given the high cost of AI-enabled hardware, IT should keep the cost/benefit of application in mind.

Scientific Computing Platform (SCP)

Findings

The scientific computing platform has undertaken a number of activities in the past year, aimed at increasing coherence between the various research computing groups at DESY (FH and IT). Based on this experience the mandate has been refined, which is appreciated.

Comments

There is a mismatch between what is being asked of the SCP, and the position it has in the organization. DESY (like many large labs) has a strong group structure, and groups are generally unwilling to relinquish some autonomy, even though that is part of the deal when it comes to harmonization and breaking down silos. Management should ensure that the SCP has a sufficient mandate to provide real change.

A number of topics, for example data access patterns and sustainable computing, deal with phenomena that do not follow the neat organization of "IT" vs "FTX" vs "physicist user". An example is sustainability - IT's modulation of worker node count vs demand is an effective approach, and so is an effort to increase the events simulated per benchmark power unit by a factor of three.

Identification of critical issues

Research computing is, at the moment, resource-limited, and given the number of (important!) projects being supported, some of them (an example from the previous PRC is key4hep) are being resource starved.

Specific recommendations

- Management should make clear choices on which projects should survive and to arrange the relevant support, even if this means terminating some other projects.