

Questionnaire concerning realization schedule of the **PANDA Slow Control**

The questionnaire has two parts.

We request a response time until April 30 for questions 1-6, compiled in part 1. For the rest of the questions, part 2 of the questionnaire, we ask a response until May 20.

The scrutiny group, appointed to review the project status and make physics-driven suggestions for a possibly stretched installation schedule towards the full PANDA detector, has worked out this questionnaire. This includes an understanding of the current status and progress of all PANDA components. In order to establish and maintain a high quality standard of the PANDA Slow Control (SC), some of our questions are directed towards the level of communications between all PANDA subgroups and the SC coordinator.

Please understand the following:

- Depending on the progress you have achieved some of the questions may appear obsolete and some of the answers may appear evident. Anyhow, in order to get a complete overview, we ask your brief answers which may be amended with your special notes.
- None of the following questions is intended to question your expertise. On the contrary we trust and rely on your qualified response. If any of the wordings is not to your liking, take our sincere apologies. The questions are meant and designed to scrutinize the progress of PANDA.
- You may not feel like answering all questions because sometimes several questions may touch upon the same issue, as you understand it. In these cases, just indicate briefly where you put the information.
- While some of the questions may be perceived as very demanding by your group, we feel that most information is not different from what you might provide with a TDR, a funding application or the like. If you think that some of our requests are not necessary, just let us know and please add a brief explanation of your views.

Thank you for the cooperation and your valued input to the process needed to consolidate PANDA.

Part 1

SC system manager(s):

1. Status of TDR for the SC system:
 - When do you expect a draft for the SC TDR?
 - Are the basic prototype test results available for your TDR?
 - Do you plan additional reports (e.g. technical readiness report) beyond the TDR?
2. List manpower and research groups collaborating to realize the SC system:
 - How many persons (FTE) in which groups are engaged in SC developments for PANDA?
 - List the cooperations within or outside of FAIR:
3. How have the research groups involved in SC developments documented their progress and disseminated relevant information?
 - SC relevant papers
 - contributions to specialized conferences (e.g. IEEE)
 - availability (e.g. PANDA wiki) of internal (technical) reports (PANDA notes)
4. Have you exploited synergies to achieve the most efficient progress?
 - On which level have you sought synergy within various PANDA SC implementations?
Example: joint modules, software.
 - On which level have you sought synergy with other FAIR systems?
Example: joint developments of electronics modules
5. Financing of manpower and investments:
 - What is the total budgeted amount (% of needed) for the SC system:
 - amount of money already spent by 1.1.2014
 - amount of money available to be spent now
 - amount of money secured by firm commitments (define “firm”)
 - amount of money applied for at which agency
 - amount of money intended to be asked from which agency?
 - possible sources of additional funding needed
 - Please attach a graph of the funding profile (2014-2019).
 - Please attach a graph of the manpower profile (2014-2019).
6. Slow control system design:
 - Are the PANDA Standards of the SC system clearly defined?
 - How are the PANDA Standards of the SC system documented?
 - Is the responsibility for the slow-control of all PANDA (sub-)systems clearly assigned? (To whom in which group?)

Part 2

7. Timelines of work packages for the SC system:

- Please provide the resource-loaded schedule (cf. attached example).
- What are the shortcomings on FTE or other non-invest resources?
- Which time-consuming part could be shortened by distributing work, e.g. to companies (added expenses?)?
- Which time-consuming workpackage could be accelerated with additional money?

Explanation: Please provide the tables as an attachment. An example for a toy project is attached. If you feel that any of the suggested ways of compiling these tables are too fine or too coarse (e.g. the time bins), please use your project's native granularity!

8. Availability of key components:

- Have the key components for the SC system been developed to satisfy your needs?
 - What is the schedule for additional developments?
- Is there a (at least 1) manufacturer who can deliver required modules?
- Are you in contact with alternative manufacturers?
- What may be possible risks of delivery?

9. Technical feasibility of the SC system:

- Is sufficient lab equipment available for system evaluation?
- Are results available from prototype studies? (attach key results)
- What is the manpower available for system tests at FZJ in 2015/16?
- Will you be able to setup the complete SC system until 1.1.2018?
 - Which companies are involved?
 - Which research labs are involved?

10. Risk assessment:

- When were possible risks signaled?
- Which of the risks may prevent a completion before 2018?
- Which measures were already taken to counteract possible risks?
Example: explore alternative manufacturer.
- Which additional measures are envisaged?
Example: alternative software tools, user interfaces.

Explanation: We will make use of risk tables collected by the Technical Management. However, the input here may serve to judge the situation of the Slow Control like other particular sub-system as a whole. We need to see the status of the risk evaluation and whether counter-measures have already been initiated.