

# **TRT**

## **Tasks/Responsibilities/Manpower issues.**

## Critical areas not covered or require more experience people.

### ***TRT SW convener.***

The TRT SW conveners have to keep an eye on the different systems that use the TRT. This means: attending the TRT operations meetings, participation in the e-gamma and the ID tracking meetings – reporting on TRT issues and giving progress reports. In the ID Tracking meeting, a SW convener should also report on Savannah bugs which were fixed or which are supposed to be fixed, and on the preparation for new releases and ongoing studies/improvements.

A TRT SW convener also reports in the Data Preparation Coordination meetings and Data Quality meeting concerning improvements and issues. All of the above requires the SW conveners to determine and prioritize what needs to be studied and improved, as well as keeping an eye on database coordination.

Another part of the job is to fix software that has no active people assigned to it, or to try to find people to take responsibility for those packages. This happens whenever changes are made in Athena, or when external packages to the TRT packages are modified. Also, the TRT SW convener has to advise and comment when other groups want to make changes that affect the TRT.

The TRT SW conveners organize weekly TRT SW meeting in which they report important news from the previous week, other SW group members give progress updates, and action plans are made. Also part of the job is to follow up with qualifiers doing offline software tasks and with people getting OTP credit for SW development. This involves having regular meetings with them, discussing status, plans and how to proceed.

During data taking, on top of the other tasks, the SW conveners have to make sure that all offline infrastructure is running properly (Calibration, DQ, etc) and fix or contact people to fix problems promptly.

## Critical areas not covered or require more experience people.

### ***TRT online monitoring expert. Very urgent!***

The TRT Online Monitoring Expert takes care of the setup and operations of the TRT online monitoring, specifically the Athena monitoring jobs and the automatic checks that evaluate the monitoring histograms. The automatic checks are configured and tuned such that operational problems with the TRT can be detected and understood reliably. The monitoring results are investigated and shifter reports from the ACR are followed up.

Detector problems are discussed with the TRT Run Coordinators, the TRT Offline DQ and Calibration Experts, and possibly Inner Detector Run Coordination. The job involves close collaboration with other experts from the Inner Detector Online Monitoring, with the ATLAS Data Quality Group and the (future) ATLAS Online Data Quality Coordinator, and also with the TRT DAQ and DCS Experts. Topics of broader scope should be discussed with the TDAQ Monitoring Working Group and the ATLAS Global Monitoring group.

The task of the TRT Online Monitoring Expert includes on-call shifts, either as the ID Online Monitoring On-Call Expert or as a dedicated TRT Online Monitoring On-Call Expert. Full-time presence at CERN is not strictly mandatory, but at least part-time presence is favorable.

Previous knowledge on a basic level about Athena, ROOT, the ATLAS Data Quality Framework, and ATLAS Run Control are very helpful. All operations happen on Scientific Linux systems, the main programming language is C++. To get started it is advisable to take a series of shifts or shadow shifts in the ACR.

## TRT Tasks (continuously reviewed)

<https://twiki.cern.ch/twiki/bin/viewauth/Atlas/TrtTasks>

### Highlights: more most important not covered tasks

- TRT Ar/Xe geometry and physics: require close contact with physics groups, which very often complain that TRT community should do corresponding effort. Large area to be covered by experienced people (Ximo did an excellent work but we have to continue).
- GeoModel & tracking geometry (very important for Mixed mode of the TRT operation)
- Back tracking (Common with ID performance. What is required form our side?)
- All aspects of PID at different conditions require good coordination and involvement of experienced people (can not be done only by qualifiers)
- Run coordination: deputy/co-coordinator in 2015?

All these positions require at least PostDoc level of involved personal with commitment of >2 years.

More Post docs will join our community in a coming year.  
It will require a while to become the expert in certain area.

**It would be great to select the candidates aiming them for a certain responsibility in a future!**

**Absolute priority: Online monitoring expert and SW conveners!**

## TRT active members

<https://twiki.cern.ch/twiki/bin/viewauth/Atlas/TrtActiveMembers>

9 countries, 20 institutions

**It is highly important that each institute takes a major responsibility!**

Without this we cannot carry on our activity.

Institute  
responsibility



Active members  
(low involvement  
threshold now)



Personal activity area  
(corresponding to TRT tasks)



Institute and Group Leader	Institute responsibilities	Active members	Personal involvement
<b>CERN</b>			
<b>CERN</b> <a href="#">Christoph Rembser</a>	Project management, TTC	Christoph Rembser Peter Lichard Philippe Farthouat Hans Danielsson	Project management TTC support TRT infrastructure TRT serv. support
<b>Canada</b>			
<b>Montreal</b> <a href="#">Claude Leroy</a>		Diane Shoaleh-Saadi	QT: Ar-gas sim. and digit implementation.
<b>Vancouver UBC</b> <a href="#">Colin Gay</a>	RODs	Colin Gay	ROD, DAQ
<b>York (Toronto)</b> <a href="#">Wendy Taylor</a>		Wendy Taylor Jorge Benitez Joany Gabriel Palacino	FastOR ? FastOR digi tuning FastOR

Denmark			
<a href="#">NBI</a> <a href="#">Peter Hansen</a>	SW coordination, TRT Calibration, TRT drift circle tool	Alex Alonso (PostDoc) Dines Hansen Peter Hansen Troels Petersen Ask Emil Lovschall-Jensen	TRT calibration, SW coordination ? TRT Calibr., DB, TRT drift circle tool PID tools, Com. <a href="#">D3PDs</a> and tools Common <a href="#">D3PDs</a> and tools
Germany			
<a href="#">Bonn</a> <a href="#">Klaus Desch</a>	Monitoring?		
Poland			
<b>Cracow IFJ PAN</b> <a href="#">Jolanta</a> <a href="#">Olszowska</a>	DCS, DCS infrastructure	Jolanta Olszowska Elzbieta Banas Zbyszek Hajduk All	DCS DCS DCS TRT infrastructure
<b>Cracow</b> <b>AGH-UST</b> <a href="#">Tadeusz</a> <a href="#">Kowalski</a>	GGSS	Bartosz Mindur Tadeusz Kowalski	GGSS
Sweden			
<a href="#">Lund</a> <a href="#">Torsten Akesson</a>	TRT calibration, TRT drift circle tool	Jenny Ivarsson  Oleksandr Viazlo (PhDst)	TRT drift circle tool, Validity gate studies ROD/offline level Ar-mixture studies and simulations
Turkey			
<a href="#">Bogazici</a> <a href="#">Serkant Cetin</a>	Simulation and digitization, offline monitoring	Andrew Beddall  Enis Yazici	SW coordination, simulation and digitization Offline monitoring

Russia			
<a href="#">Lebedev</a> (Moscow FIAN) <a href="#">Alevtina</a> <a href="#">Shmeleva</a>	HV, Gas system, TRTViewer	Vladimir Tikhomirov Konstanin Zhukov Serguei Konovalov Ruslan Machinistov	TRTViewer HV system, Gas system Gas system TRTViewer
<a href="#">MEPHi</a> (Moscow) <a href="#">Anatoli</a> <a href="#">Romaniouk</a>	TRTViewer, Gas studies, DB, Run coordination, Project management	Alexey Antonov Dimitriy Krasnopevtsev (PhDst.) Anatoli Romaniouk Serge Smirnov Vadim Kantserov Konstantin Vorobev (PhDst.) Mikhail Borodin Evgeny Shulga (PhDst.)	TRT performance in HI Tracking in jest at high OCC Project management TRTViewer HV system Gas studies Condition DB TRT performance in HI
<a href="#">MSU</a> (Moscow) <a href="#">Lidia Smirnova</a>	Gas quality monitoring	Alexey Boldyrev Viktor Kramarenko Artem Maevskiy (PhDst) Natalia Korotkova	Garfield simulations Gas monitoring and studies QT: PID in Ar/Xe operation mode Performance in HI
<a href="#">PNPI</a> (St. Petersburg) <a href="#">Oleg Fedin</a>	DB explorer	Mike(Misha) Levchenko Serguei Katunine Serguei Kovalenko	QT: Digitization tuning Gas system upgrade DB explorer
<a href="#">JINR</a> (Dubna) <a href="#">Vladimir</a> <a href="#">Pechekhonov</a>		Vladimir Mylkovski	?

**USA**

<a href="#"><u>Duke Seog Oh</u></a>	TMS calibration tool	Doug Benjamin Ryan Stribley (UnderGr.)	TMS calibration tool HL at high Occ.
<a href="#"><u>Hampton Vassilios Vassilakopoulos</u></a> ?			
<a href="#"><u>Indiana Hal Evans</u></a>	TRT documentation, HW interlock, HL calibration and monitoring	KyungEon Choi (PhDst) Hal Evans Fred Luehring Harold Ogren Ximo Poveda (PostDoc) Ben Weinert Paul Smith Daria Zieminska Narei Lorenzo	QT:!(FastOR, digi tuning) FastOR HW interlock TRT documentation Aging/dE/dX tool DAQ, FastOR, Ar/Xe performance HL Thr. monitoring & calibration HW interlock ToT and dE/dX HL calibration and monitoring
<a href="#"><u>Penn Hugh Williams</u></a>	DAQ, DAQ infrastructure, Alignment	Kurt Brendlinger (PhDst) Sarah Heim (PostDoc) Paul Keener (DAQ/Comput Expert) Joe Kroll (faculty) Jon Stahlman (PhDst.) Jamie Saxon (Stud.), Bijan Haney (Stud.) Khilesh Mistry (Stud.) Mitchel Newcomer All	Alignment DAQ+electronics HL calibr. DAQ, compression Alignment DAQ DAQ DAQ DAQ TRT electronics TRT infrastructure
<a href="#"><u>Yale Paul Tipton</u></a>	Run coordination	Andrey Loginov (PostDoc) Jared Vasquez (Stud.)	Run coordination, DAQ



**We just started the experiment and many problems to be solved in coming 10 years!**

**Please define institute responsibility if not done yet!**

***Check the list of people their status (postdocs & students) and activity assigned.***

***It would be great to have from each institute plan for postdoc and student positions for next 5 years, preferable area of involvement and percentage of time for the TRT related work.***

**This would help very much to avoid crisis situations like we have now.**