

ALICE Service Work

This document describes how service work is organized in ALICE.

Preamble

In order to ensure the full success of ALICE operation and data taking during LHC Runs 3 and 4, a list of tasks identified as service work is established and maintained, which concerns detector maintenance, operation, calibration, quality control, data processing and outreach, as well as coordination and managerial roles in ALICE.

The ALICE service work proposal received a unanimous vote by the ALICE Collaboration Board on August 30, 2019. Service work is part of the [ALICE constitution](#). The allocation key is the number of M&O-A members in a team or cluster. The proportion to the M&O-A contribution defines:

- (1) The CPU & disk resources for grid operation and data processing & analysis each funding agency must provide (Memorandum of Understanding, [CERN-C-RRB-2005-01](#), and Annexes 1-11).
- (2) The contribution to the ALICE M&O-A budget each funding agency must provide (Memorandum of Understanding, [CERN-RRB-2002-034](#)).
- (3) The amount of experimental shifts in the ALICE Run Control Centre (ARC) and on-call shifts each team or cluster must provide (ALICE constitution)
- (4) The amount of service work each team or cluster must provide. (This statement shall become part of the ALICE constitution).

Moreover, each doctoral student must provide a workload of 6 months full time equivalent (0.5 FTE years) of service before graduating (ALICE constitution). As a result, doctoral students provide a substantial amount of service work already. The maximum amount of service work performed by an individual doctoral student and credited to their team is capped at 6 months FTE. Exceptions are to be discussed in the Service Work Board upon request by the Team Leader, e.g. in case of fully technical theses.

1. Definitions

Service work classes

At present, experimental shifts and on-call shifts (see (3) above) are treated separately from service work (see (4) above). However, the Service Work Board is considering merging experimental shifts and on-call shifts into the service work to allow more flexibility for teams or clusters to fulfill their respective allocations. For this purpose, three different classes of service work are defined as follows:

class 1 Experimental shifts in the ALICE Run Control Centre at P2 and online.

class 2 On-call shifts.

class 3 All service work that is not part of classes 1 or 2. This includes detector maintenance, operation, calibration, quality control, data processing and outreach as well as coordination and managerial roles in ALICE.

Service work classes 1 and 2 are handled by Run Coordination and are accounted for separately in the ALICE shift management system (SAMS).

Service work class 3 is handled by the Service Work Board and is accounted for in the Service Work System based on GLANCE.

Amount of service work per M&O-A member

Each team or cluster must provide service work in proportion to their M&O-A contribution. The total amount of service work is expressed in Full Time Equivalent (FTE) units. Most service work is credited with the actual workload. However, some managerial roles are credited as service work neutral, even though they may require a large fraction of the working time of the appointed person.

In order to quantify what the expression **service work neutral** means, the following definitions are used:

- T is the overall amount of service work in a fiscal year expressed in FTE units excluding roles that are service work neutral.
- M is the overall number of M&O-A team members of the ALICE Collaboration.
- P is the overall number of FTE units paid by M&O-A funds.
- κ is the average share of service work in a fiscal year per M&O-A team member.

Service work that is paid for by M&O-A funds is not credited to any individual nor any team.

A specific service work/role can be credited as service work neutral, i.e. it is credited κ FTE units; with:

- N being the overall number of service works/roles credited as service work neutral, the value for κ can be conveniently expressed as:

$$K = \frac{T - P}{M - N},$$

since the quantities T , M , N and P are determined in advance for each fiscal year.

Upgrades

The introduction of service work ensures that ALICE is operated successfully in LHC Runs 3 and 4. Resources for the construction of upgrades must come from additional sources.

Construction work on upgrades is not credited as service work. However, in case a doctoral student devotes a substantial part of their thesis to an approved (e.g. an Lol exists, i.e. ITS3, FoCal) upgrade Project, the obligation of 6 months of service work is waived in individual cases at the request by the respective Project Leader to the service work board.

When a Letter of Intent (Lol) towards an upgrade is prepared, the Service Work Board evaluates in close collaboration with the Project Leader how much service work is required for maintenance, operation, calibration, quality control and data processing as well as coordination and managerial roles by the collaboration once the upgrade detector is installed in the ALICE cavern.

Once installed in the ALICE cavern, maintenance, operation, calibration, quality control and data processing as well as coordination and managerial roles of an upgrade detector become service work of classes 1-3.

Outreach

ALICE has about 12000 visitors per year with about 1000 guides. For each guide, 2h of service work per visit are credited to their team. The list of visits will be extracted by the CERN central visits database and inserted in GLANCE in an automated procedure in order to be accounted for as service work. Master classes are also credited.

Managerial roles

Managerial roles are highly rewarding, personally as well as for the team of the person being appointed. While some of these roles are potentially full-time appointments, they are credited as service work neutral.

Service-work neutral roles are defined and regularly evaluated by the Service Work Board, approved by the Management Board and regularly presented to the Collaboration Board.

Juniors

The Juniors have 3 representatives in the Collaboration Board and 3 Junior Committee members. Their service work is reviewed by the Service Work Board and credited according to the actual workload.

Analysis trains

In each Physics Working Group (PWG), up to 3500 analysis trains are run per year. Train operation is largely executed by doctoral students as service work. For each train, a workload of 15 minutes is credited in an automated procedure. The actual expected workload in terms of FTE is estimated in advance by Physics Coordination.

2. Modus Operandi

Service Work Board members

The Service Work Board consists of the Service Work Coordinator, Technical Coordinator, Run Coordinator, Resource Coordinator, the Spokesperson and their deputies, the Collaboration Board Chairperson and their deputies, a representative from the Collaboration Board, and a representative from the juniors. (This statement shall become part of the ALICE constitution.)

Service Work Board meetings

The Service Work Board meets quarterly. The workload of the past quarter is subject to minor adjustments reflecting the actual work done. The planning of service work is updated in close collaboration with the Project Leaders and Coordinators once a year. The service work is approved by the Management Board and regularly presented to the Collaboration Board.

Assignment

Service work tasks are made available to all ALICE members by August 1, 2020 through the Service Work System based on GLANCE. Team Leaders contact the respective Project Leader/Coordinator with their request in order to reach an agreement. The Project Leader/Coordinator assigns a service work task to a team member. The affiliated team or cluster receives the credit. In case of more than one affiliation, the Team Leaders have to agree on how the credit is shared amongst the teams.

The minimum duration of an assignment of a specific task is one year or the entire duration of this task. Long term engagement of teams or clusters to a specific task is strongly encouraged.

In case a team or cluster encounters difficulties in being assigned their service work quota, the Team Leader(s) shall contact the Service Work Board.

In case a Project Leader/Coordinator encounters difficulties in the fulfilment of a particular service task, they shall contact the Service Work Board.

Accounting

In case a team or cluster does not comply with providing its assigned fraction of service work of class 3, the same sequence of actions is used as when a team or cluster does not fulfil its shift duties. This is followed up by ALICE Management and Collaboration Board Chairs.

Start of service work

Service work starts on January 1, 2021.