DSS BI Description

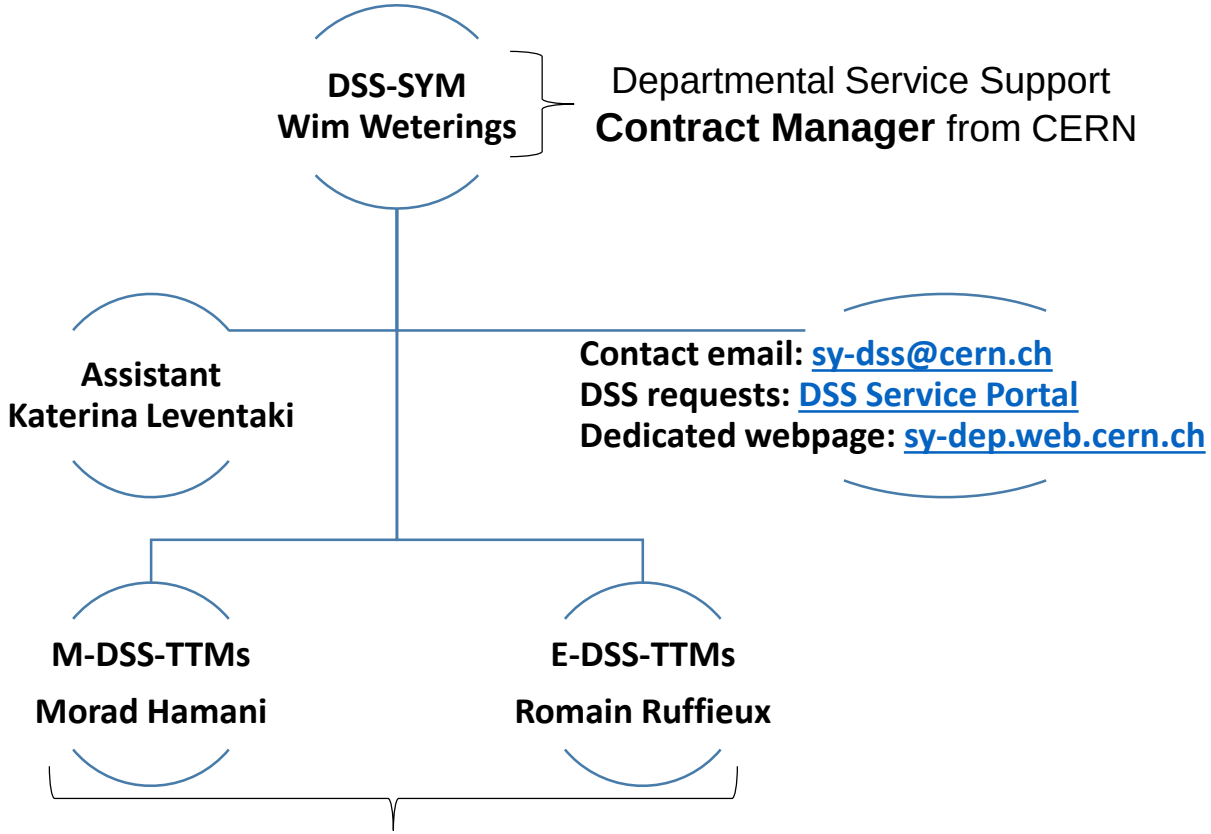
The applied service "FSU" will become the Departmental Service Support (DSS) as of July 1st.

The main change in this new structure is that all work requests will be made using a SNOW form so that no work can be requested directly by the company staff!

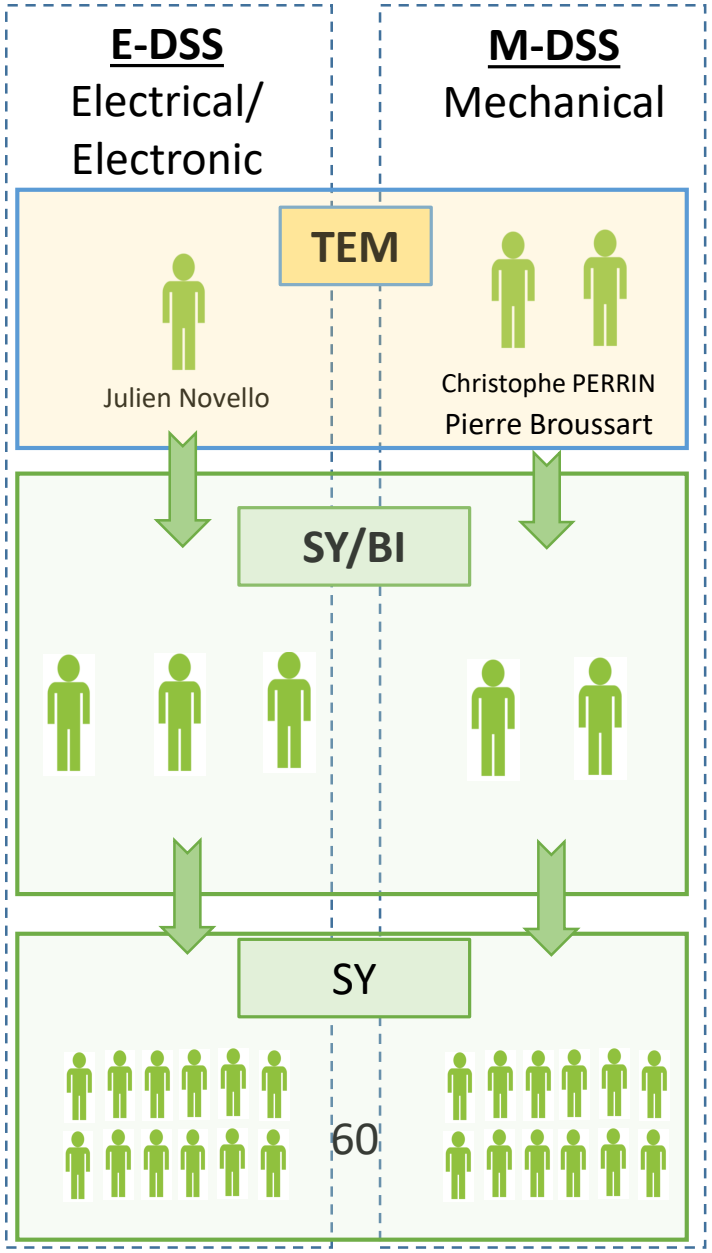
A new structure has been created within the department to manage the operation of the new contract on the CERN side.

- Central DSS contact: sy-dss@cern.ch
- Dedicated information page on: sy-dep.web.cern.ch

SY/BI Department Organisation



Organization of the contractor (INTERTEC – B&S France)



The new DSS contract is divided into two different parts based on compentencies: Electronic / Electrical & Mechanical

For each part a technical manager of the company (TEM) is responsible for the coordination and the execution of the different works that will be requested by CERN through SNow tickets

For BI the estimated equivalent hours correspond to 5 full time people.

For this beginning of contract we will have three different profiles:
An electronic technician(EC3 EE3), two cable workers(EC1,EC2,EE1,EE2) and two mechanics(MM1,MM2,MM5 ,MC1).

According to BI requests an average of five people will be attributed in the different BI workshops according to the type of request.

The DSS contract has about sixty people with different technical profiles, this is to enable a greater diversity of work to BI

4 out of 5 FSU personnel form BI are going to the new DSS contact.

Job Request Workflow

- *Detailed job description*
- *Requested Quantity*
- *If needed, Indication of required hours*
- *Deadlines*

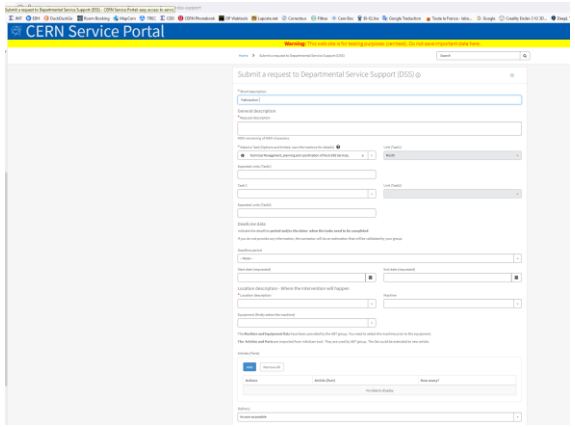
*Via **SNow** ticket the request for Services can be made.*

Communication between the client and TEM in the ticket in case of additional request or other

Evaluates Job request

- Assessment of requirements
- Estimation of required hours
- Assignment of resources

Client (CERN)



TEM

Technical Manager Contractor

TTM

CERN Task Technical Manager

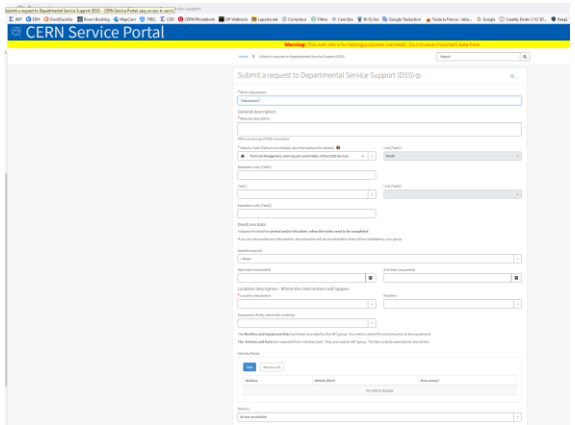
Job Request Workflow

Client (CERN)

Once everything is OK the client writes (just for BI)

"Job to run"

*in **SNow***



TTM

CERN Task Technical Manager

After OK TTM, Automatic Job creation in **JMT** (EDH routing), and extraction for planning for COM.

TEM

Technical Manager Contractor

SNow supporters' tool for TEM-TTM agreement on estimation, planning, and resources.

TTM

CERN Task Technical Manager

Quality control by the client

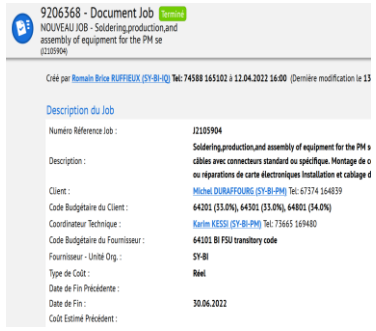
*writes in **SNow***

"Job finished"

before validation by TTM in JMT for invoicing

Acceptance in JMT by TTM

*Client will close **SNow** ticket and monthly invoice via **JMT***

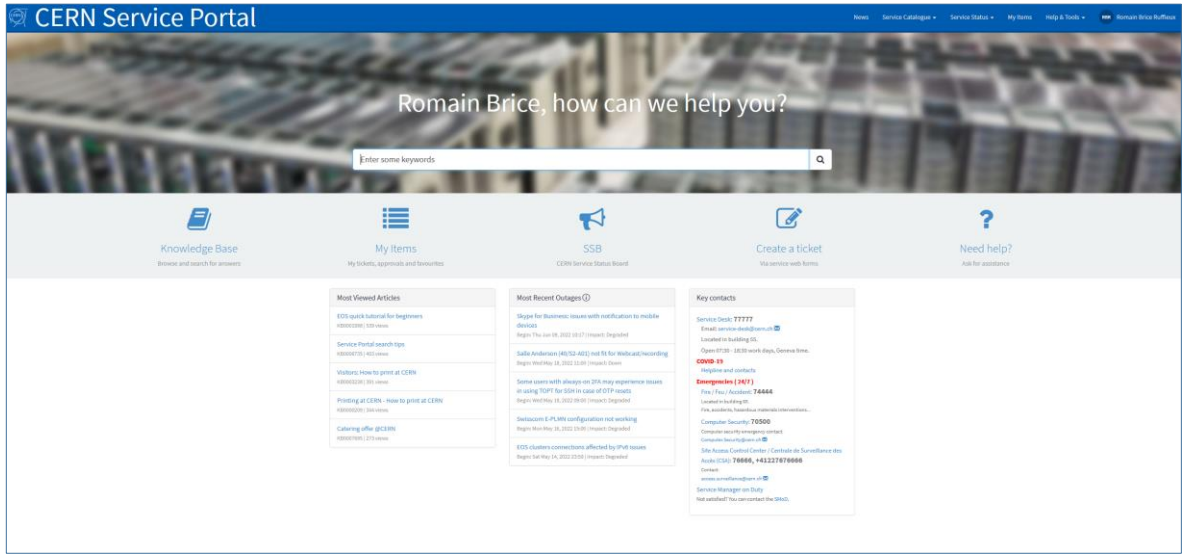


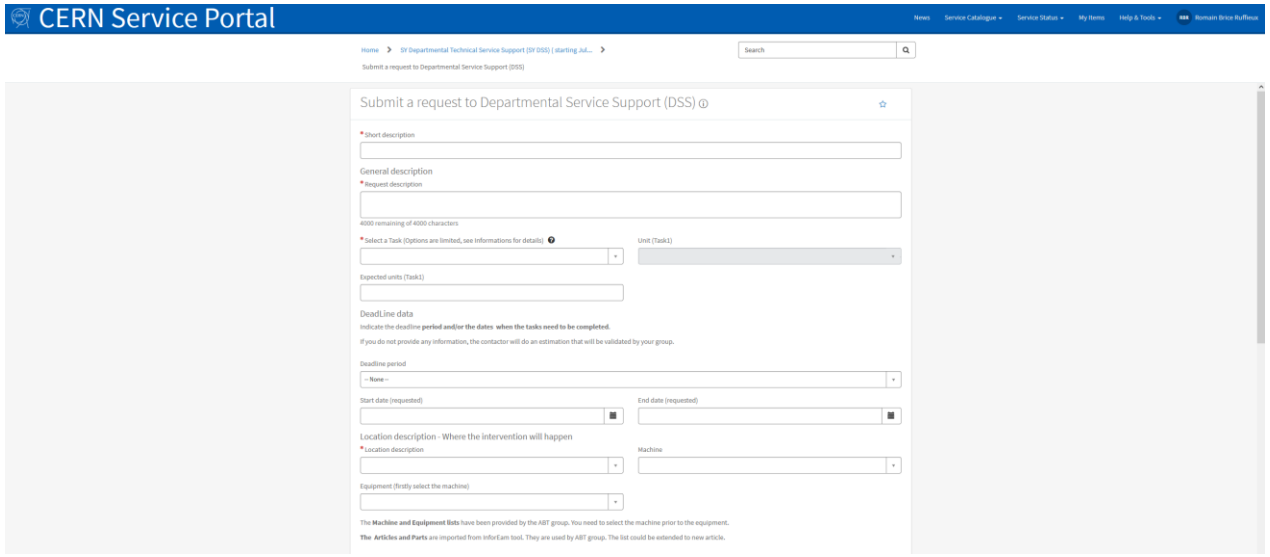
Submit a request to Departmental Service Support (DSS)

The job application is now done on the CERN Service Portale on the link:

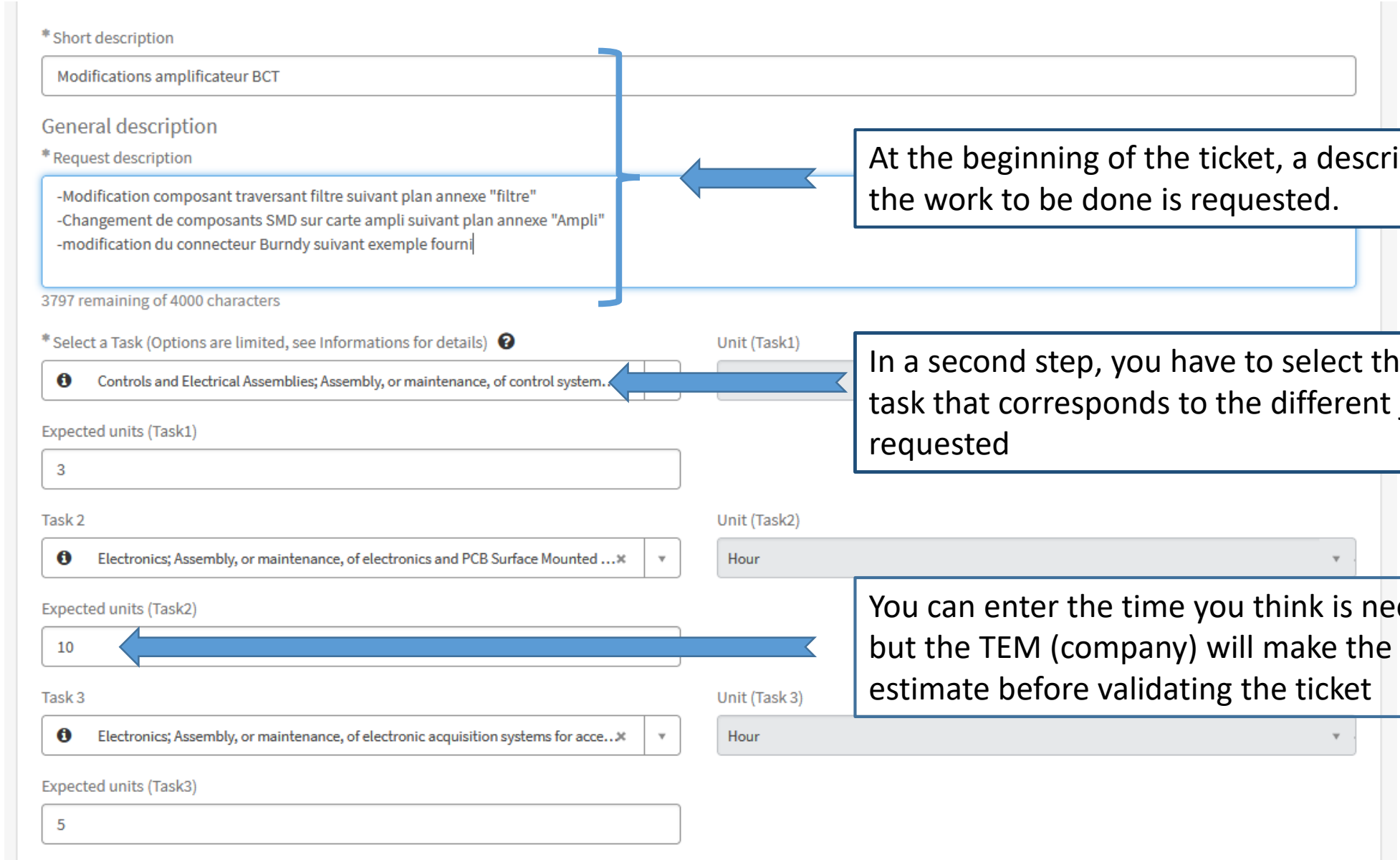
https://cern.service-now.com/service-portal?id=sc_cat_item&name=dss-support&se=beam-technical-support

Like any other request: electrical problem, computer problem ...





Description of the jobs in SNow



At the beginning of the ticket, a description of the work to be done is requested.

In a second step, you have to select the type of task that corresponds to the different jobs requested

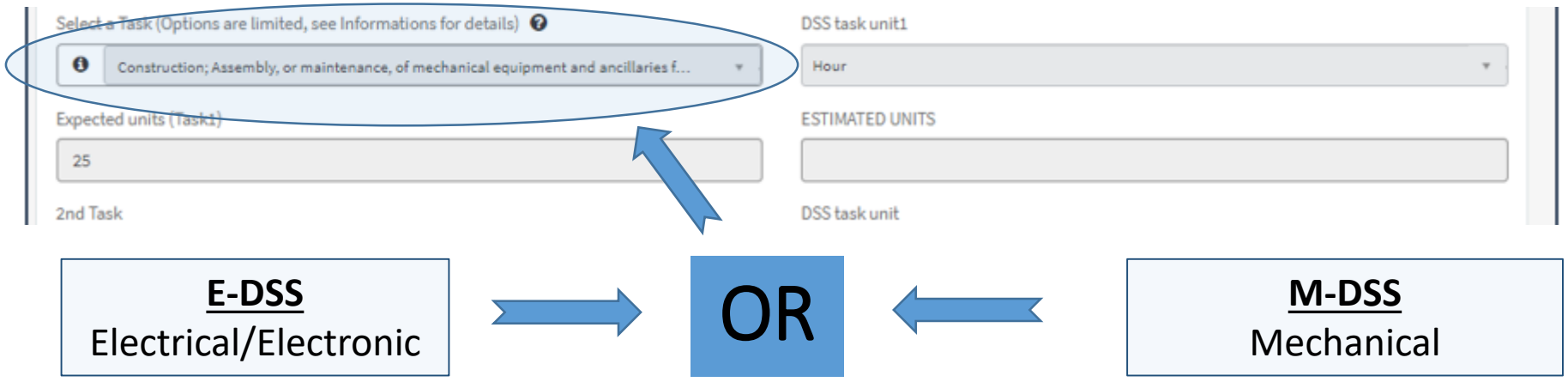
Max 3 tasks per ticket

You can enter the time you think is necessary, but the TEM (company) will make the final estimate before validating the ticket

Tasks descriptions

For each of the two parts mechanical and electronic /electrical it is necessary to create a separate request.
For each of the two parts different types of work requests are described in order to cover CERN's needs.

The machine installation part is covered by most of the E-DSS and M-DSS activities, more details in the appendix of this presentation.



Activities	Services	Description
Controls & Electrical Assembly assembly, electrical cabling, maintenance and installation of control chassis, racks and electrical installations	EC1	Controls Systems Assembly
	EC2	Controls Systems Wiring
	EC3	Testing and debugging
	EC4	Electrical Assembly
Electronics assembly, maintenance, installation, measurements and testing of electronics components and printed circuit boards	EE1	Acquisition Systems
	EE2	PCB & SMD work
	EE3	Testing and debugging
Other Activities logistics, inventory, spare parts management, documentation and test bench preparation	EO1	Logistics, Inventory & Storage
	EO2	Test Benches & Instrumentation
	EO3	Documentation

Activities	Services	Description
Manufacturing machining, turning and milling with traditional and CNC machines, sheet metal work, welding and fitting of (stainless) steel, copper, brass and non-metallic materials	MM1	Conventional Machining
	MM2	Non-Conventional Machining
	MM3	Sheet Metal Work
	MM4	Joining Techniques
	MM5	Work-shop supervision
Construction assembly, maintenance, and installation of a large variation of accelerator technical systems	MC1	General Assembly
	MC2	Cleanroom Assembly
	MC3	Electro-Mechanical Assembly
Other Activities logistics, inventory, test bench preparation and Ultra High Vacuum (UHV) related activities	MO1	Logistics, Inventory & Storage
	MO2	Test Benches & Instrumentation
	MO3	Vacuum Activities
Supervision	DSS-TEM	Technical management of the DSS

Budget codes

The budget codes are divided into two parts:

the standard operational codes:
Subdivided into four separate codes, to be used for all operational-related requests depending on the machine:

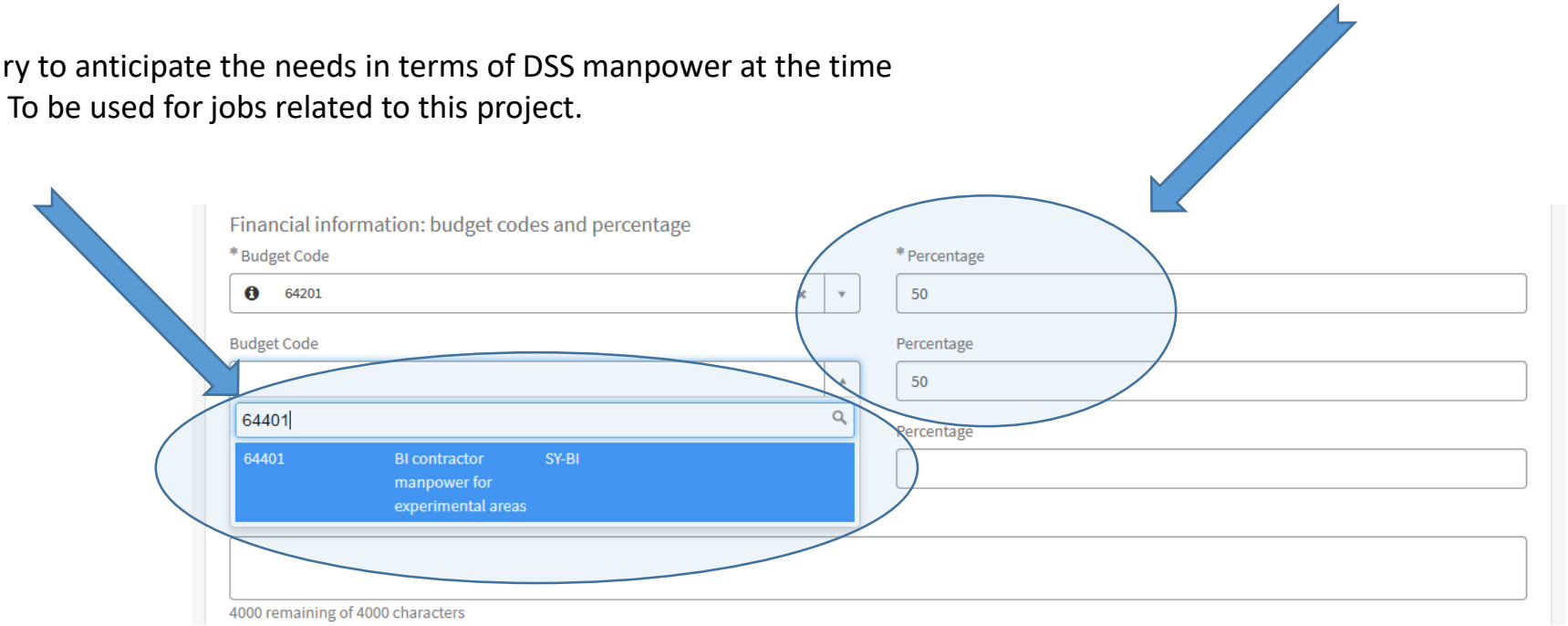
- **64201** BI contractor manpower for **PS**
- **64301** BI contractor manpower for **SPS**
- **64401** BI contractor manpower for **experimental areas**
- **64801** BI contractor manpower for **LHC**

Project codes:

It will be necessary to anticipate the needs in terms of DSS manpower at the time of their creation. To be used for jobs related to this project.

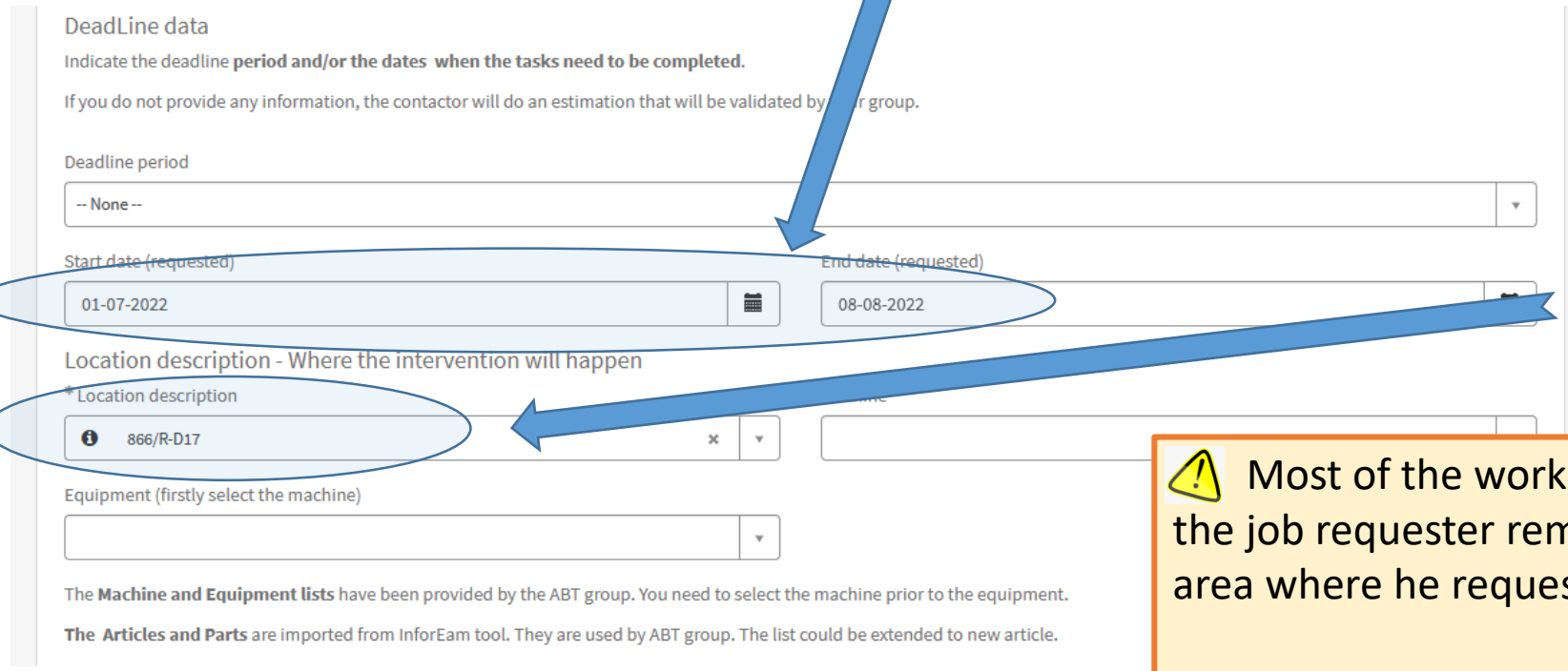
Several codes can be used for the same job if it is used for jobs covering several machines (Max 3 codes)

The percentage allows to define in which proportion they will be invoiced



Date and place

The *Start date* and *End date* boxes will be used by the company to plan the different jobs. If on your side everything is ready to start but the *Deadline* is still, e.g. a few weeks/months away, do not hesitate to set the starting date as soon as possible to give more flexibility to the TEM to plan. A job can stay open for a 'long time' and can also be split in multiple stages.



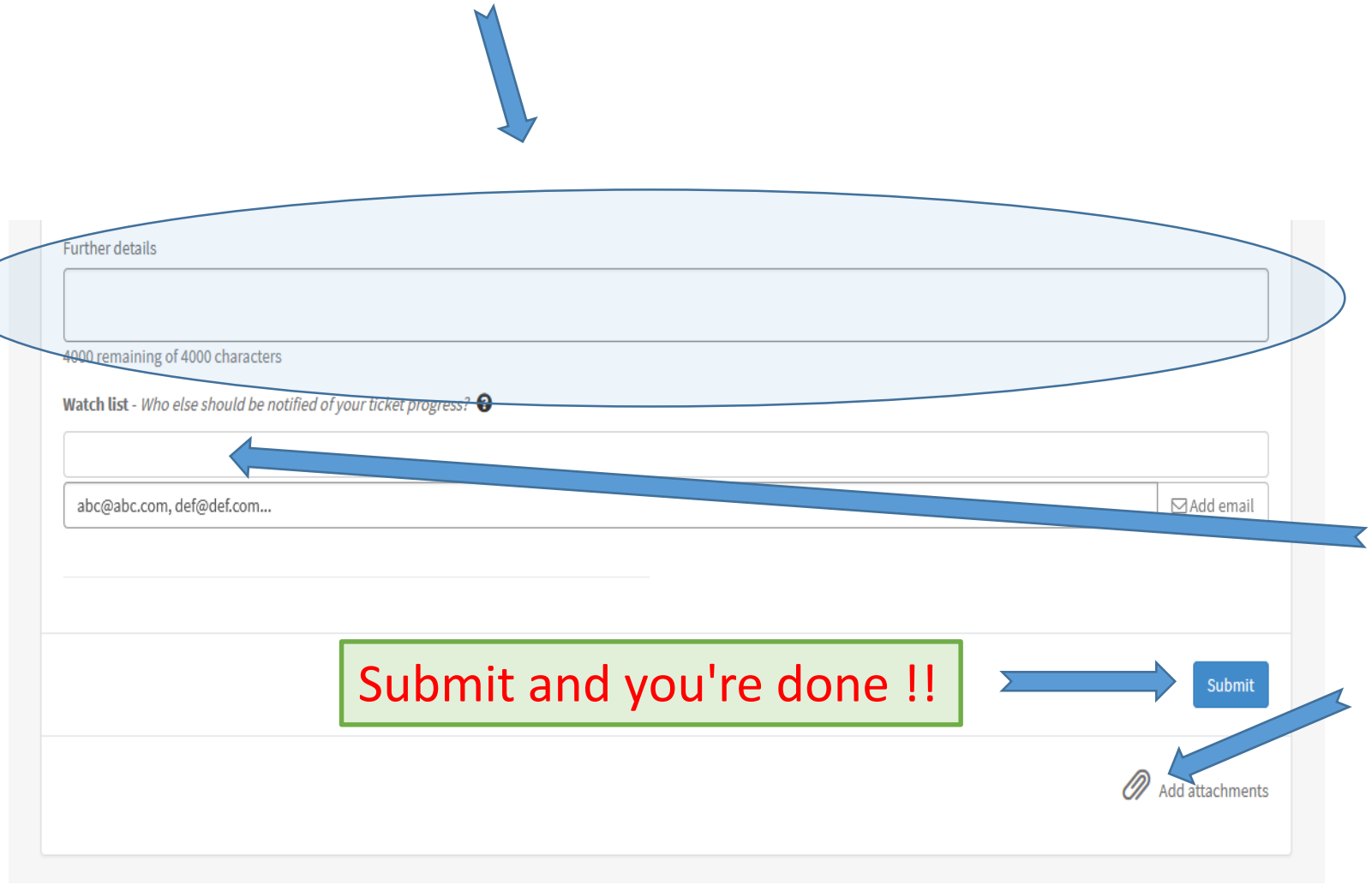
- The DSS staff can work in any lab of the department as well as in all CERN accelerators
- For the wiring work of the group the two labs of 866/R-D17 and 865/1-A10
- For the mechanical work the workshop 865/R-B12 and the radioactive workshop 867/R-V17 are to be preferred

⚠ Most of the workplaces are covered by a PDP (HSE) but the job requester remains the guarantor of the security in the area where he requests a job.

In some cases a VIC may be necessary !

Additional information

It is possible to add additional information to the request in the Further details cell.



The addition of the technical documents necessary for the completion of the work is available at the bottom of the page, as well as adding a person to the watch list for the follow-up of the document.

MM1.
On the basis of drawings or sketches, machine or modify (assembly and adjust) components of mechanical sub-assemblies as part of equipment from accelerators or physics experiments, by using various types of Conventional fixed or portable machine-tools. Most frequently used raw materials are Stainless Steels (316LN and other grades), Copper and various alloys of Aluminium.

MM2.
Or as described above, by using Non-Conventional machine-tools (milling, turning, CNC 3-axis, additive manufacturing, etc.). Used raw materials can be more specialized such as refractory metals (W/Nb/Ta).

MM3.
Manufacture or modify, according to drawings or sketches, items belonging to the domains of fine metal work by use of various processes applied in thin sheet-metal work such as shearing, folding, rolling, drawing, spinning and unfolding.

MM4.
Manufacture or modify, according to drawings or sketches, items by using techniques belonging to the domains of high-quality welding and joining using various welding processes such as ARC, MIG, TIG and Plasma, as well as brazing and soldering. The welder must be in possession of at least 2 qualifications according to EN-ISO 9606-1 to obtain CERN's accreditation.

MM5.
Work-shop supervision, follow-up of the machine-tool maintenance, conformity checks and requirements for specific tooling.

MC1.
Assembly, or maintenance, of mechanical equipment and ancillaries for accelerator technical systems, often requiring Ultra High Vacuum (UHV) expertise.
Typical systems can be, but are not limited to, beam instrumentation, beam intercepting devices and radiofrequency equipment.

MC2.
Assembly of mechanical equipment and ancillaries for accelerator technical systems, requiring ISO 6 to 8 cleanrooms experience or accreditations and expertise in assembly of Ultra High Vacuum (UHV) equipment.
Typical systems can be, but are not limited to, High Voltage (HV) beam deflectors, beam intercepting devices, radiofrequency fundamental (FPC) and higher order mode (HOM) power couplers, and other UHV and HV related accelerator beam line equipment.

MC3.
Assembly, or maintenance, and electrical cabling of electro/mechanical equipment, hydraulic circuits, and ancillaries for accelerator technical systems, requiring the minimum electrical Accreditations of B1V, BR H1V. For some of the tasks the electrical accreditationsof, B2V H2V, shall be required.
Typical systems can be, but are not limited to, power converters, High-Voltage transformers, power compensators in (partial outside) HV areas, amplifiers for radiofrequency equipment and pulse forming networks with dedicated switches.
All abovementioned tasks can also include small mechanical work as well as reporting and documentation of the performed Services and the installation of the equipment and ancillaries in a wide range of environments such as technical buildings, underground accelerator tunnels or experimental caverns.

MO1.
Reception of components, verification of conformity and update of the inventory with keeping of accurate records of stock. Process orders and organise the dispatch and delivery of material and components. Controlling and monitoring the safe storage and movement of all inventory items and ensures that they are available when required.

MO2.
Preparation and maintenance of test benches and instrumentation for accelerator technical systems.

MO3.
Follow up of vacuum related activities, such as closing of vacuum vessels, pump down, bake out preparation and leak detection.

EC1:
Assembly, or maintenance, of control systems, chassis, racks and electrical cabinets, installations or electro/mechanical equipment for accelerator technical systems. This activity also includes small mechanical work for these systems

EC2:
Wiring control systems, chassis, racks and electrical cabinets, for accelerator technical systems, as well as the cabling of dedicated connectors for these systems.

EC3:
Testing and debugging of the cable connections and connectors of the above-mentioned equipment and ancillaries.

EC4:
Maintenance of electrical equipment, consisting of disassembly, cleaning, rebuilding and testing.
Typical systems can be, but are not limited to, RF amplifiers and ancillaries

EE1:
Assembly, or maintenance, of electronic acquisition systems for accelerator technical systems.

EE2 :
Assembly, or maintenance, of electronics and PCB based on Surface Mounted Device (SMD), Ball Grid Array (BGA) and Through-Hole Technology (THT). This includes assembly techniques with and without lead based soldering.

EE3 :
Testing, calibration and debugging PCB and electronic modules for accelerator technical systems.

EO1 :
Reception of components, verification of conformity and update of the inventory with keeping
of accurate records of stock. Process orders and organise the dispatch and delivery of material
and components. Controlling and monitoring the safe storage and movement of all inventory
items and ensures that they are available when required.

EO2 :
Preparation and maintenance of electrical test benches for accelerator technical systems.

EO3 :
Management and archiving of operational documentation of installed equipment.