

Milestone 4.1: Tool for estimating the necessary capacity at the Central Facilities

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|-------------------------|---|
| Work package no | WP4 |
| Deliverable no. | MS4.1 |
| Lead beneficiary | INOE |
| Deliverable type | <input checked="" type="checkbox"/> R (Document, report) <input type="checkbox"/> DEC (Websites, patent filings, videos, etc.) <input type="checkbox"/> OTHER: please specify |
| Dissemination level | <input checked="" type="checkbox"/> PU (public) <input type="checkbox"/> CO (confidential, only for members of the Consortium, incl. Commission) |
| Estimated delivery date | M3 |
| Actual delivery date | 30/03/2020 |
| Version | Final |
| Reviewed by | Sanna Sorvari Sundet |
| Accepted by | Sanna Sorvari Sundet |
| Comments | |

Contents

| | |
|--|---|
| Milestone 4.1: Tool for estimating the necessary capacity at the Central Facilities..... | 1 |
| 1. Purpose of the tool..... | 3 |
| 2. Structure of the tool..... | 3 |
| 2.1 Consortium tab | 4 |
| 2.2 Instruments/Variables tab | 4 |
| 2.3 Activities tab..... | 5 |
| 2.3 General plan tab..... | 5 |
| 2.3 Institution plan tab..... | 6 |
| 2.3 Reports tab..... | 7 |
| 3. Status of the tool | 7 |

This tool is designed to collect as accurate as possible quantitative information regarding the Central Facility (CF) plan for the years 2020-2025. Both implementation and pre-operation tasks are considered. The tool also calculates the costs associated to the plan, based on the actual use of resources at each participating institution.

This new version keeps only the crucial information, by this simplifying significantly the process. In addition, it has a structure that can be easily exported to be integrated into a database and allows an increased flexibility for the institutions to describe their resources and costs. The increase of the number of National Facilities during the 2020-2025 timeframe is also considered for a more realistic planning of the activities and of the capacity.

The tool contains 1 Readme tab, 4 input tabs for describing the activities and the responsibilities of the CF, 15 tabs for describing the specifics of each participating institution, and 1 tab for extracting the reports. Automatic formulas, lists and conditional formatting guides the user of the tool. Tabs are protected to avoid human errors.

[illegible]

Figure 1 Readme tab: colour codes guiding the user of the tool

2.1 Consortium tab

In this tab the CF should list the institutions contributing to the activities (including the contact of the Unit Head), along with the main features of their accounting system: number of paid months per year, average number of working days per month, and rule for the calculation of indirect costs. This data is used: a) in the tab “Instruments/variables” to create the drop-down list of institutions; b) for automatic renaming of the *Institution* tabs; c) in the *Institution* tabs for calculation of the costs.

| | A | B | C | D | E | F | G |
|----|--------------|---------|---------------------|-------------------------------------|---------------------------|---------------|---------------------|
| | Institutions | Contact | Payed months / year | Average no. of working days / month | Option for indirect costs | Flat rate (%) | Annual amount (EUR) |
| 1 | | | | | | | |
| 2 | Inst 1 | | | | | | |
| 3 | Inst 2 | | | | | | |
| 4 | Inst 3 | | | | | | |
| 5 | Inst 4 | | | | | | |
| 6 | Inst 5 | | | | | | |
| 7 | Inst 6 | | | | | | |
| 8 | Inst 7 | | | | | | |
| 9 | Inst 8 | | | | | | |
| 10 | Inst 9 | | | | | | |
| 11 | Inst 10 | | | | | | |
| 12 | Inst 11 | | | | | | |
| 13 | Inst 12 | | | | | | |
| 14 | Inst 13 | | | | | | |
| 15 | Inst 14 | | | | | | |
| 16 | Inst 15 | | | | | | |
| 17 | | | | | | | |
| 18 | | | | | | | |
| 19 | | | | | | | |
| 20 | | | | | | | |
| 21 | | | | | | | |

Figure 2 Consortium tab

2.2 Instruments/Variables tab

In this tab the CF should list the instruments / variables covered (maximum 25), and the expected number per year. A certain number of instruments/variables covered for the international networks is also considered, however as a constant over the years. In case the maximum capacity of the CF is exceeded, a warning is displayed in pink color, both on the “Maximum capacity” field, and in the corresponding year.

For each instrument/variable, the CF has to select the contributing institutions from the drop-down list (previously defined in the tab “Consortium”).

The list of instruments/variables, participating institutions, and the numbers introduced here are used to: a) create a pre-defined list as a drop-down in tab “General plan”; b) notify on the need for support, specific to each instrument/variable, in tab “General plan”; c) notify by colored cells (white cells) which institution should be involved in a task related to the corresponding instrument/variable, in tab “General plan”.

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y |
|----|----|---------------------|---------------|----------|----------|----------|----------|----------|----------|------------------------------------|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|
| | | | No. | No. | No. | No. | No. | No. | No. | No. | | | | | | | | | | | | | | | |
| | ID | Instrument/Variable | Max. capacity | Nfs 2020 | Nfs 2021 | Nfs 2022 | Nfs 2023 | Nfs 2024 | Nfs 2025 | No. Users (International networks) | Lead | Partner 2 | Partner 3 | Partner 4 | Partner 5 | Partner 6 | Partner 7 | Partner 8 | Partner 9 | Partner 10 | Partner 11 | Partner 12 | Partner 13 | Partner 14 | Partner 15 |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 6 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 14 | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 16 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 23 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 29 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | | | | | | | | | | | | | |

Figure 3 Instruments/Variables tab

2.3 Activities tab

In this tab the CF should list the activities envisaged (max. 25). It will create a pre-defined list for further use in the tab “General plan”.

| | A | B |
|----|----|----------|
| | ID | Activity |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
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| 25 | | |
| 26 | | |
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| 31 | | |
| 32 | | |
| 33 | | |
| 34 | | |
| 35 | | |
| 36 | | |

Figure 4 Activities tab

2.3 General plan tab

In this tab the CF should describe, in an organized manner, each task of each planned activity, for each year (2020 up to 2025). There are 199 possible tasks for each year. Tasks should be introduced for 2020, for the other years the information is automatically filled.

Lists defined in tabs “Consortium”, “Instruments/variables” and “Activities” are displayed here as drop-downs. The quantity of support needed for each task and each year is automatically displayed (from the tab “Instruments/variables”) but the CF can adjust it by typing directly in the cell. Out of the total quantity envisaged by the CF, parts should be allocated to the institutions participating to that particular task. These partial quantities will be transferred to the *Institution* tabs for further calculations.

In addition to the tasks associated to a certain instrument/variable, the tool allows to input tasks for general support, e.g. management or developments that have to be done regardless of the number of NFs and users. In this case, the tool automatically allocates the quantity “1”. This pre-defined value can be changed by typing directly into the cell.

Tasks are described by: a) their association to a certain activity; b) their characteristics (Implementation or Pre-operation); c) their association to a certain instrument/variable (Focus of the task); d) how their results are measured (Measure of quantity); e) how many results they produce in a certain year (Quantity). The CF should distribute this quantity to the institutions participating in the task, according to the capacity and involvement of each.

Sum of costs per each participating institution for each task is at the end displayed in this tab (Cost). The cost of one result is calculated by dividing the total cost to the quantity (Cost/quantity).

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y |
|----|-------|------|----------|------|------------------|-------------------|---------------------|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|------------|-----------------------|
| 1 | ID | Year | Activity | Task | Type of the task | Focus of the task | Measure of quantity | Quantity | Inst 1 | Inst 2 | Inst 3 | Inst 4 | Inst 5 | Inst 6 | Inst 7 | Inst 8 | Inst 9 | Inst 10 | Inst 11 | Inst 12 | Inst 13 | Inst 14 | Inst 15 | Cost (EUR) | Cost / quantity (EUR) |
| 2 | Total | 2020 | All | All | All | All | All | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 1 | 2020 | All | All | All | All | All | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |
| 34 | | 2020 | | | | | | | | | | | | | | | | | | | | | | | |

Figure 5 General Plan tab

2.3 Institution plan tab

The tool accommodates 15 identical tabs for max. 15 institutions contributing to a CF. Each tab is automatically renamed with the name of the institution, as listed in the tab “Consortium”. Each Institution tab contains 3 tables:

Available resources

Activity plan

Cost Book

[illegible]

Figure 6 Example of an Institution tab

2.3 Reports tab

This tab displays Pivot tables and charts summarizing: a) quantities of results planned for each year, for all activities or separately; b) total costs incurred each year, for each activity or separately. Implementation and pre-operation activities are calculated and displayed separately.

3. Status of the tool

The tool is finalized and available for use on the ACTRIS internal website.