

Skore Quantify Module - User Guide

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This guide will explain to you the new changes to our Quantify Module and how to get the most out of the features available.

It is often valuable to know **how much it costs** and **how long it takes** to operate a process. This is the heart of the Quantify module. Skore provides the tools to make it easy to understand this data, find bottlenecks and simulate different scenarios.

The *Quantify module* of Skore helps you to:

- Understand **how long** and **how much** it costs to perform a process
- Understand **roles utilisation**: time, costs or FTE (Full Time Equivalent)
- **Identify bottlenecks** in your process (time, FTE or costs)
- **Simulate volumes** of activities and FTE availabilities for a given role
- Simulate different **scenarios** (e.g., as-is, to-be)
- Configure work conditions (number of working hours per day and per week) for your simulation

We have also created three videos that explain the contents of this guide.

Duration, volume and scenario <https://www.youtube.com/watch?v=XtxP5WhqTT0>

Compare scenario <https://www.youtube.com/watch?v=rOFCxpzal2A>

Team sizing with FTE <https://www.youtube.com/watch?v=P01U0dNxw14>

This guide is relevant for the “new” Quantify module, released in November 2020.

Use cases - Why Use the Quantify Module?

To create a business case for change

- A process is too slow or too expensive. Identify the most expensive activities, activities that take the longest or cause the most delays. Identify costs of roles and / or fixed costs.
- What are the roles involved and how much time do they dedicate to a process and/or how much does it cost?

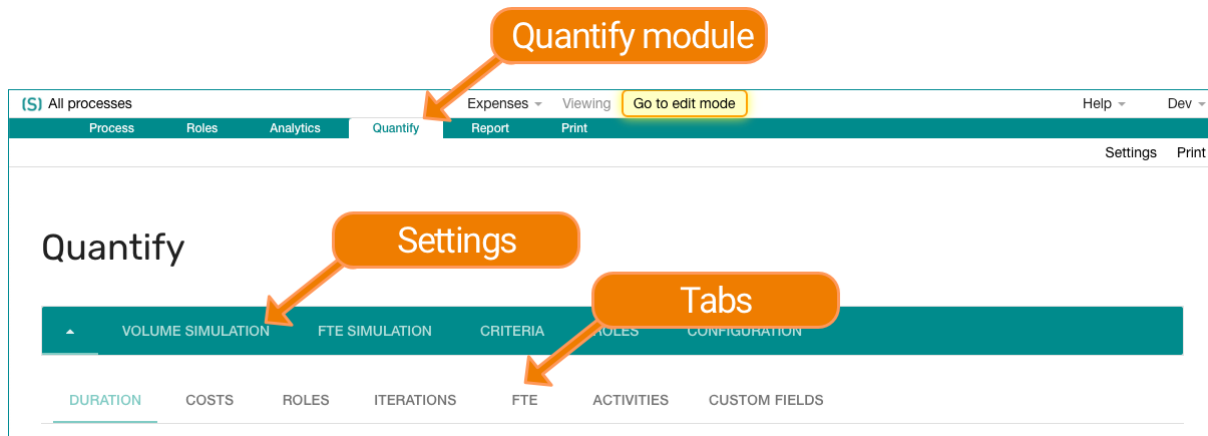
For resource planning

- I am about to hire 10 people, how much more work can I really achieve?
- We won 10 projects, how many people do I need to hire to deliver them?

Quantifying a process

This step-by-step guide assumes that you have already mapped a process. If you haven't then please take a look at this process mapping video

<https://www.youtube.com/watch?v=0JfDuwUU0QQ&t=7s>



Duration: How long does my process take?

This is the simplest way to get started with the Quantify module.

Firstly

On each box of your process, in the attachment panel, capture the "duration" field

In the example below, the duration of the activity is 20 min. Other fields are left in their default state.

Scan receipts	
Attachments (1)	
Responsibilities (1)	
Quantify	
Duration	
0h 20min 0s	
Volume (unit)	
1	
Wait	
0h 0min 0s	
Direct costs (cost / unit)	
0	

Open the **Quantify module** and stay on the **Duration tab**

Each tab of the Quantify panel has visualisations at the top, and the tabulated data lower down the page.

Here is what you can learn from the Quantify Module:

- Time utilisation, **processing** time and **lead** time (see below)
- What **roles** dedicate the most time to this process
- What **activities** take the most time

Lead time = processing time + waiting time.

In a typical office project environment, the activities of a given process are not always performed one after the other. There is often a “waiting time” in between activities. This is the difference between processing time and lead time.

Processing time is the time actually spent working on progressing the work.

Lead time includes all the waiting time in between activities.

When to use waiting time?

For example, a manager only approves a request once a week. Therefore, the average waiting time when a request is submitted is half-a-week, or 20h (for a 40h work week). A waiting time can be added if an activity is not performed immediately after the previous one.

When attempting to make a process faster, you shouldn't only look at the processing time. Sometimes, finding a way to reduce the waiting time may have much more impact with less effort. To build on the example above, having the manager approve requests every other day (instead of once a week) would make an average waiting time of 8h (1 day) instead of 20h. This results in a 60% improvement of the lead time.

Customizing length of workday & work week

By default, a workday is 7h and a work week is 5 days.

These settings can be modified in the **Settings panel > Configuration**.

When setting the default workday duration, take into account that employees are probably not working 100% of the time. Meetings, administrative overheads, breaks and holidays must be accounted for. From our experience, large organisations account for an average of 6.5 to 7h per day when sizing their teams. If you map processes for work performed for longer hours, e.g. a call centre that is open 13 hours a day, or a factory that runs 24 hours a day, this is the place to change the settings.

VOLUME SIMULATION	FTE SIMULATION	CRITERIA	ROLES	CONFIGURATION
Operating hours per day	Operating days per week		Hours per day for a FTE	Days per week for a FTE
8	5		8	5
8 hours * 5 days = 40 operating hours per week, 260.89 days per year				
<input checked="" type="checkbox"/> Display "human" times (Hours, Days, Months, etc.) E.g. 1.5h → 1 hour and 30 minutes				
<input checked="" type="checkbox"/> Use real work day length to show duration E.g. 8h → 1 day and 1 hour (For a workday of 7h)				

Customize how durations are displayed

In the same place, the way durations are displayed can be customized. By default, all durations are displayed with "human times". You can disable this option and all time will be displayed in hours using a decimal number. 1.5h means 1 hour 30 minutes.

It is also possible to account for the actual workday and work week durations when displaying numbers. If an activity takes 8h and the workday is 7h, the duration will read 1 day and 1 hour.

This is a good feature when demonstrating how long it really takes to get something done. This option is disabled by default.

Volume simulation

We have seen how long it takes to perform the process once. Let's simulate an increase in volume.

When capturing the information against each box, the default volume is 1. Meaning that the duration entered is for 1 item being processed.

To simulate your duration (and costs) for more than 1 item, you can change the volume in the **settings panel > volume simulation**.

VOLUME SIMULATION		FTE SIMULATION	CRITERIA	ROLES	CONFIGURATION
How often is the process executed ?			What is the time frame for calculations?		
Iterations desired	per			Show result per	
10	week			Month	
43.48 iterations per month					

The above configuration can read:

*Simulate the process **10 times per week**, and I want the calculations to be shown per **month**.*

- **Iterations:** how many times do you want / need to simulation the process for
- **Frequency:** what is the frequency of the iterations?
- **Timeframe:** how do you want to see the results?

When you change these values, all the calculations will be updated accordingly.

Waiting time & volume simulation

When changing the iterations / frequency of your simulation, keep in mind that the waiting time is also multiplied by the number of iterations. This may lead to incorrect insights into your process. In our scenario, the manager approves any number of requests once a week. It is not correct to assume that the waiting time will grow with the number of iterations. In this case, we recommend removing the waiting time from your boxes.

Activity that doesn't happen every time, branches in processes

Your process may “branch” into different scenarios and some boxes are not performed 100% of the time. Examples: different project or request types, exception management, rework, escalation processes, etc.

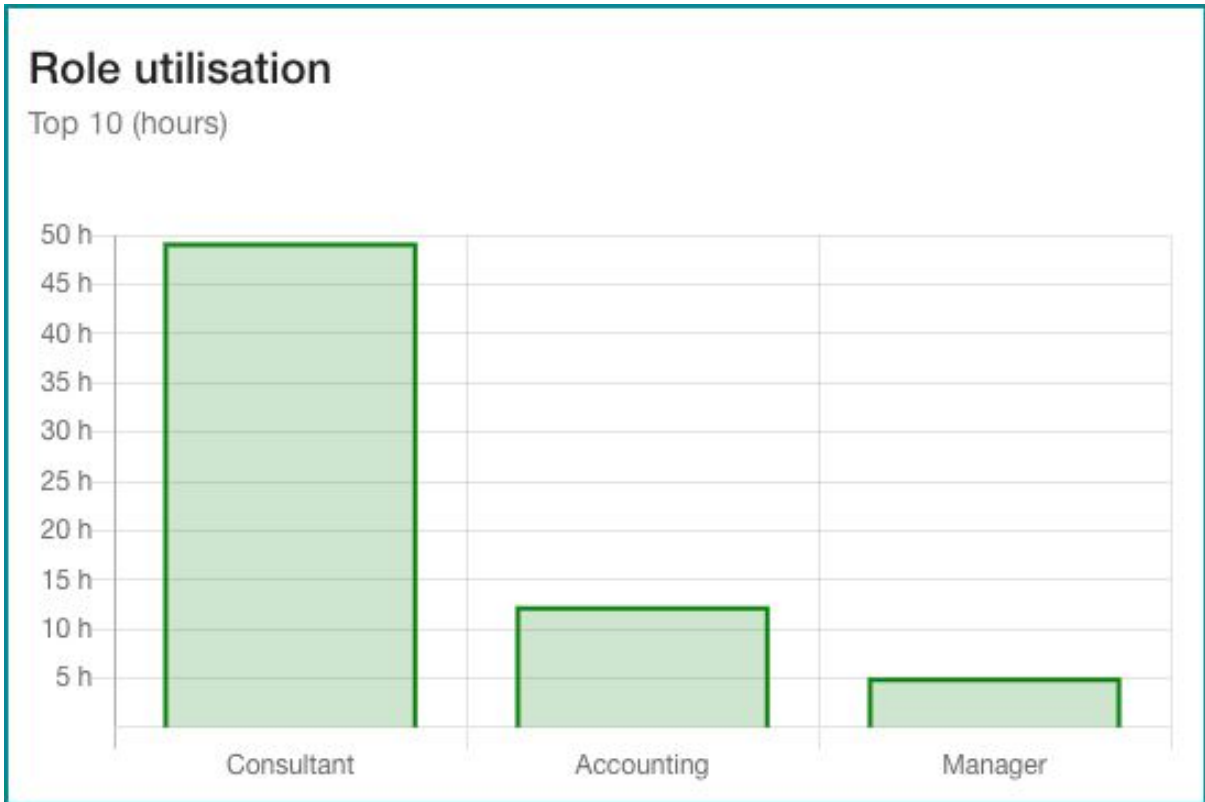
Use the **volume field** on a box to reflect this situation. You can input a decimal number. If an activity is performed 10% of the time, type in 0.1.

Resolve issues
Attachments (2)
Responsibilities (3)
Quantify
Duration
0h 20min 0s
Volume (unit)
0.1
Wait
0h 0min 0s
Direct costs (cost / unit)
0
Activity time
0

Above: the activity takes 20 minutes but is only performed 10% of the time.

Role utilisation

At this stage, you can switch to the **role tab** and see how each role is involved in the process.



In this example above, the consultant is indeed the most utilised role in the process.

Select which roles are involved

In the **Settings panel > Roles**, you have control over which roles are involved in the calculations for Quantify.

VOLUME SIMULATION
 FTE SIMULATION
 CRITERIA
 ROLES
 CONFIGURATION

Select roles included for costs calculation ?

First role only
 All roles
 R
 A
 T
 S
 I

In this example, all roles are considered for the calculations. Roles matching **at least one** of the conditions will be selected for Quantify.

VOLUME SIMULATION
 FTE SIMULATION
 CRITERIA
 ROLES
 CONFIGURATION

Select roles included for costs calculation ?

First role only
 All roles
 R
 A
 T
 S
 I

In this example, the first (topmost) role of a box will be selected, and, also, roles with an A tag. (the process use RATSI as a responsibility matrix)

What bottlenecks can you immediately find?

You can immediately identify 3 potential bottlenecks in your process

- What activities stand out in terms of **processing time**?
- Or **Waiting time**?
- What **roles** are the **most / least involved** in your process?

Costs: How much does my process cost?

Now that we understand the time it takes to run a process, let's look at the costs.

Costs are calculated in 2 different ways:

- Fixed costs per activity. Is there a cost associated each time an activity is performed.
- Cost of the roles. By entering the hourly cost of a role, we can now calculate how much a process costs based on how long it takes.

Add costs to role

Go to the **Role Manager** and add the hourly cost for each role (you must be in edit mode).

Then switch back to **Quantify Module > Costs tab**. You will see how much it costs to run your process. You can keep simulating the volumes from **Settings panel > Volume Simulation**.

Information in the **Costs tab**

(These numbers are impacted by your volume simulation settings)

- Total cost of the process: costs of roles + fixed costs
- Split of fixed vs. roles costs
- Most expensive activities
- Most expensive roles

Additional information will now be available in the **Roles tab** of the Quantify module.

- Most expensive roles for the process
- Most utilised roles for the process
- Total FTE equivalent
- Total costs of the roles
- Number of roles involved

Finding bottlenecks when you have the costing information

Once you see the costs of your process you can identify the following bottlenecks:

- What activities are the most expensive?
- What roles are the most expensive for this process?

Is it in line with your expectations?

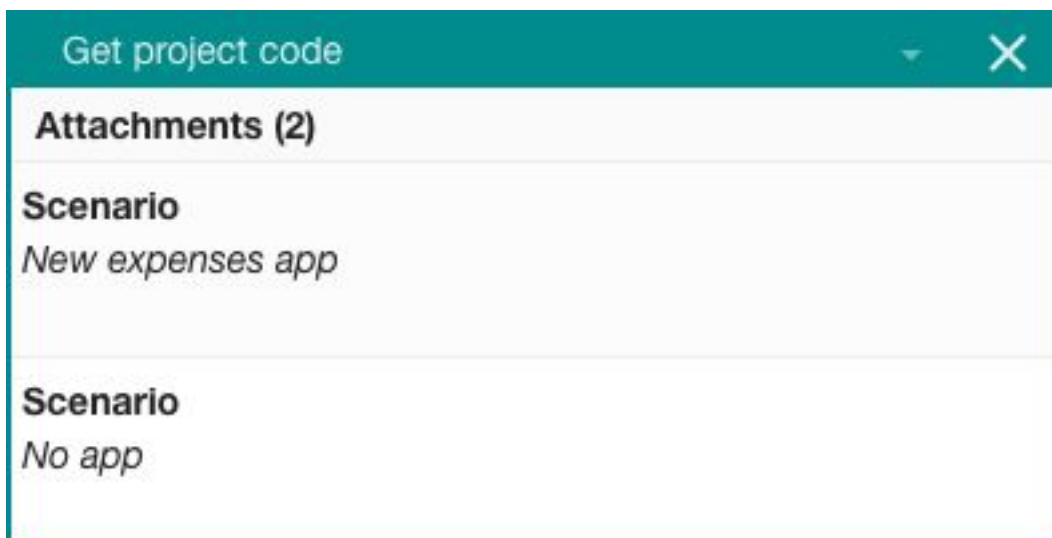
Scenario comparison

There are two approaches to compare different *Quantify* scenarios in Skore.

- **Compare 2 different processes**, e.g., as-is and to-be: the best approach is probably to have 2 different processes in your workspace so that work on one process does not affect work on the other.
- **Compare variations within a process**, e.g., scenario A and B of an otherwise very similar process. This is what we cover here.

With Quantify, it is possible to select which boxes are taken into account in the calculations. To do so, add *custom field* to your activities to mark activities that are part of 1, or more, scenario.

For example, below, this activity is part of scenario “new expenses app” and also scenario “No app”.



Note: the custom field's name & grouping can be whatever you want.

Once you have “tagged” your activities, you in the **Settings panel > Criteria** to select which custom fields to include.

[VOLUME SIMULATION](#)
[FTE SIMULATION](#)
[CRITERIA](#)
[ROLES](#)
[CONFIGURATION](#)

Select criteria (custom fields) to select the whatbox for simulations.

All boxes [?]
 Filter
 Use custom fields to filter boxes [?]

Scenario

Scenario New expenses app

Scenario No app

Scenario (No grouping)

It will select boxes matching all the criteria selected (“AND” operator).

The **Custom Field tab** allows you to see a summary, side by side, of each scenario defined by custom fields

Capacity planning with Quantify

Let’s now enter a totally new area of capability for the Quantify module: Capacity Planning.

The ambition is to answer question such as

- How many FTEs do I need to deliver 10 projects
- or-
- I have 10 FTEs, how many projects can I deliver?

We can answer the first question (“How many FTEs do I need”) without additional work.

Switch to the **Iterations tab**.

<p>Iterations desired</p> <p>43.48 / month € 9 022 / month</p>	<p>Iterations possible With current FTEs availabilities [▲]</p> <p>Infinity / month € Infinity / month</p>	<p>Investment necessary To reach optimal number of FTEs for 43.48 iterations / month</p> <p>€ 9 022 / month</p>																														
<p>Iterations analysis per role For 43.48 iterations per month.</p> <table border="1"> <thead> <tr> <th>Role</th> <th>Possible iterations [?]</th> <th>FTE required [?]</th> <th>available [?]</th> <th>needed [?]</th> <th>Possible investment / saving [?]</th> </tr> </thead> <tbody> <tr> <td>Accounting [▲]</td> <td>∅</td> <td>0.06</td> <td>∅</td> <td>+0.06</td> <td>€ 1 087 / month</td> </tr> <tr> <td>Consultant [▲]</td> <td>∅</td> <td>0.27</td> <td>∅</td> <td>+0.27</td> <td>€ 7 174 / month</td> </tr> <tr> <td>Manager [▲]</td> <td>∅</td> <td>0.03</td> <td>∅</td> <td>+0.03</td> <td>€ 760.90 / month</td> </tr> <tr> <td>Total</td> <td></td> <td>0.37</td> <td></td> <td>0.37</td> <td>€ 9 022 / month [▲]</td> </tr> </tbody> </table>			Role	Possible iterations [?]	FTE required [?]	available [?]	needed [?]	Possible investment / saving [?]	Accounting [▲]	∅	0.06	∅	+0.06	€ 1 087 / month	Consultant [▲]	∅	0.27	∅	+0.27	€ 7 174 / month	Manager [▲]	∅	0.03	∅	+0.03	€ 760.90 / month	Total		0.37		0.37	€ 9 022 / month [▲]
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- Iterations desired is the number you have entered in **Settings > Volume Simulation**. In the example above, we have set it to 43.48 iterations of my process. (This is equivalent to 10 iterations per week, as there is a little more than 4 weeks in a given month. Namely, 4.348 weeks on average per month #PubQuiz)
- Below, you can see how much FTE of each role is necessary to execute these 43.48 iterations of the process per month.

Some cells of the table are highlighted in yellow, this means some of the information needed is missing to continue the calculations. This is what we are about to do.

What is the real volume of work my team can absorb?

We will now input our own number of FTE available for each role, so that we can find out what is the real capacity of the team to deliver the work.

This can be done directly from the **Settings panel > FTE Simulation**.

VOLUME SIMULATION	FTE SIMULATION	CRITERIA	ROLES	CONFIGURATION
Role count : 3				
Consultant	Accounting		Manager	
10	1		1	

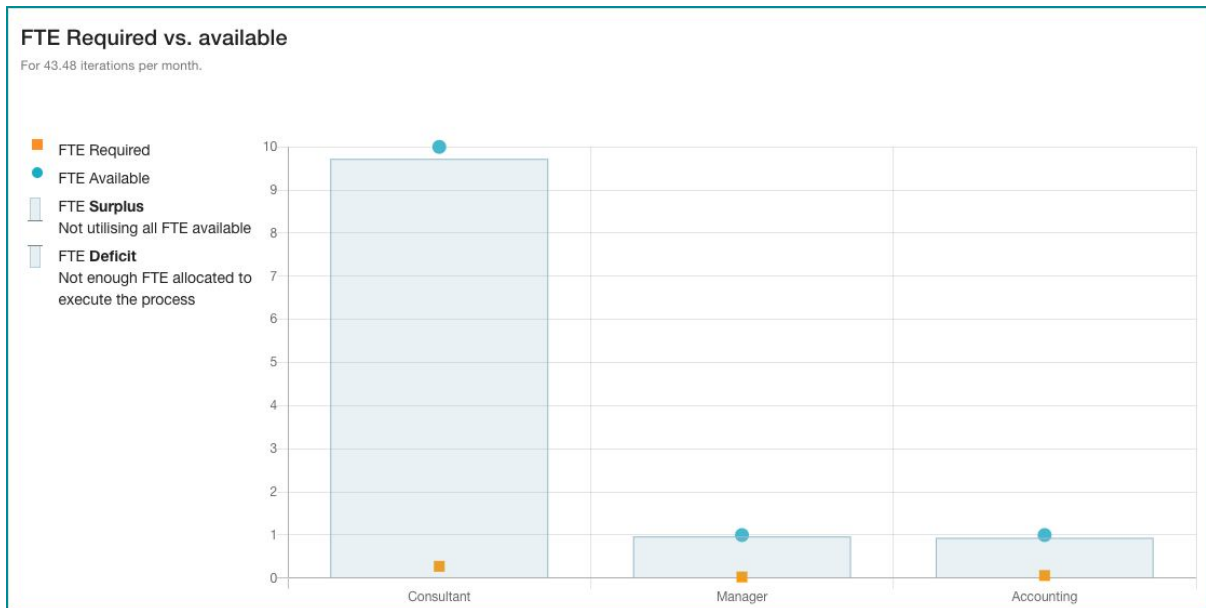
FTE : 10 consultants, 1 accounting, 1 manager

In the **Iterations tab**, we will now be able to assess our capacity to deliver the volume desired.

- What roles are in **surplus**: not all the FTE is needed
- or **“deficit”**: more FTEs must be added to be able to complete the desired volume of activity.
- Skore will then calculate the **possible saving or investment** necessary to be able to meet your desired volume.
- And also what is the maximum volume the team can absorb with the constraints.

This allows you to find the **roles acting as bottlenecks** to your process. Which is even easier to do with a nice visualisation.

Switch to the **FTE tab**.



The size of the blue bar shows how much surplus (if pointing upward) or deficit (pointing downward) a given role has. This is the difference between the FTE required (orange square) and the FTE Available (Blue dot)

The thinner the bar, the closer the resource is to capacity.

The bigger the bar, the more the resource is not allocated properly (deficit or surplus)

Upgrade to New Quantify

For users of the pre-November-2020 edition

Upgrade guide

Technically *New Quantify* is backward compatible with *“Old” Quantify*. Still, your numbers may look different. You can review these conceptual changes to understand why.

Conceptual change 1: Roles considered for calculation

You will have better control over which roles of a box are used.

New Quantify gives you the choice of which role to include. By default, it will select ALL ROLES of an activity. You can change this setting in the configuration panel.

Old Quantify had some rules about which activity to pick. If you were using RACI, roles with R tags. With RATSI, roles with T. And, if you were not using any responsibility matrix, the first role of the list.

Action required

In the Settings panel > Roles tab. **Select** which roles are included in your calculations.

Conceptual change 2: Volume simulation

There is now a real way to simulate how many iterations of the process you want to see. At the process box level, we recommend normalising the volume field to 1. Once done, in the settings panel, you can dial up and down the number of iterations.

Action required to simulate different volumes of activity

- **Review** each box volume information, normalise to 1 for the most straightforward cases.
- **Familiarise** yourself with the Settings Panel > Volume simulation tab. Adjust the volumes, frequency and timeframes.

New: FTE, Full Time Equivalent

Beyond role utilisation, *New Quantify* now also computes the number of FTE. You will immediately see how many FTEs are required to perform your process. Then, you can add your own FTE availability per role and compare. This way you will be able to find bottlenecks.

Action required to make the most out of FTE calculations

- **Review** the FTE default settings (35h per week) in the Settings > Configuration
- **Add** the FTE availability per role in the role manage OR in the Settings > FTE Simulation tab

New: Scenario simulation

The most advanced feature of New Quantify: select which boxes are included in the calculation. This is done via the custom fields.

In the Settings > Criteria, select which custom fields (name + grouping). It

Note: a box must match **all** custom fields selected to be taken into account (“AND” operator)

Action required to start comparing different scenarios

- None until you are ready
- Mark activities

Appendix

FTE

- FTE is not headcount. A given person may not be 100% dedicated to a given process. When populating the FTE available for each role, take this into account.

- It is possible to configure independently the working hours and the FTE hours. For example, a call centre is opened 15 hours per day, but a FTE is 7h per day.

Technical details on duration calculation

We had fun with “humanizing” the duration (e.g., for a workday of 7h, a total duration of 8 hours will be displayed as 1 day + 1 hour). Here is the baseline for the conversions:

- 1 year = 365.2425 days
- 1 month = $365.2425 / 12$ months = 30.43 days
- Week per month = $365.2425 / 12 / 7$ days = 4.34 week per month
- Days per week = user provided, default 5
- Hours per day = user provided, default 7
- Days per month = computed, default $365.2425/12 = 30.43$