

QTRUCK

BALANÇAS MARQUES



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QTRUCK Overview

INTRODUCTION

QTRUCK is a weighing management software developed by Balanças Marques for freight vehicles. All of the information related to this weighings is articulated between this platform and the Marques equipment, from which documents can be produced.

It is also possible to manage the weighings of multiple operating centres through a separate piece of software: QTRUCK CMS. Using a remote network connection, QTRUCK CMS brings together the information and documentation generated by the associated operating centres, allowing for a remote management.

LICENCES

QTRUCK LOCAL is available on two different licences: **BASE** and **PREMIUM**. It is also possible to acquire a **SOLAS** pack, which provides an easy feature to comply with the international protocol with the same name regarding cargo intended for maritime transportation.

Licences are attributed and managed on the **QLOUD** platform, for which there must be an active account. The procedure that leads to the activation of a license is a two-step one:

LICENSE MANAGEMENT

CHECK THE LICENSE | On the QLOUD platform, check whether the license has already been assigned. In the same screen, you can also consult the activation data.

ACTIVATE THE LICENSE | On QTRUCK, one should go to the license configurations and input the activation data collected in the previous step.

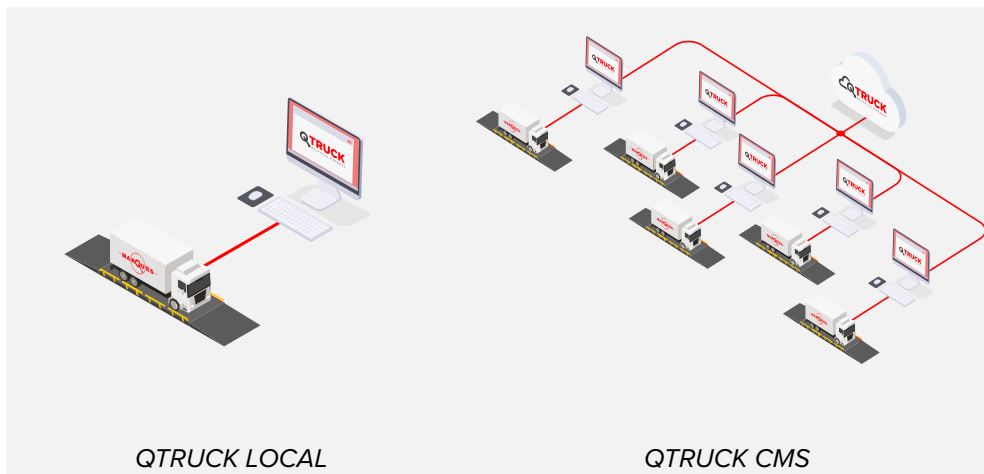
OPERATING MODE

As seen, QTRUCK has two distinct branches: LOCAL, which manages the weighing performed by the operating centres, and CMS, which allows for the coordination of the information generated by multiple operating centres.

QTRUCK has two operating modes:

AUTONOMOUS | when a QTRUCK LOCAL operates without a connection to a server.

NETWORK CONNECTION | when a QTRUCK LOCAL operates while connection to a server.



These operating modes are selected in the initial wizard. However, in case this needs to be changed, there is an option in the side menu indicating the current operating mode that allows for that.

The necessary information to connect a **QTRUCK LOCAL** to a CMS server is located in the CMS itself, under the authentication section (side menu), namely the server address, username and password.

QTRUCK LOCAL's operating mode itself doesn't change, the only difference is that now the information processed on the QTRUCK LOCAL is being shared with the CMS that it connected to.

QTRUCK LOCAL User Guide



START

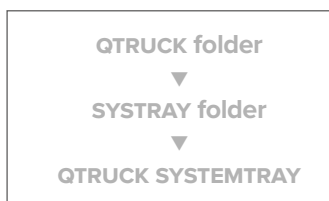
The software starts after clicking the icon placed in the desktop. It is also programmed to start the services in the background along with the operating system, when the computer is turned on.

Clicking the icon in the taskbar with the right button of the mouse, we can see the stop, restart and start options; they allow to control the background service and check whether it is running, based on what options are disabled: if the service is running, the start option will be greyed out, and vice-versa.

It is then necessary to start the services before starting the platform itself, in case it didn't start with the operating system - this should be the first situation to check in case there is a problem starting the program.

In case the service has been stopped and the icon is not shown in the taskbar, it becomes necessary to run it manually in order to get the option to start or stop the QTRUCK service. This is done by going into the folder in which QTRUCK is installed, and following the path described on the left.

When it is run, the program opens automatically in the window of the preset browser.

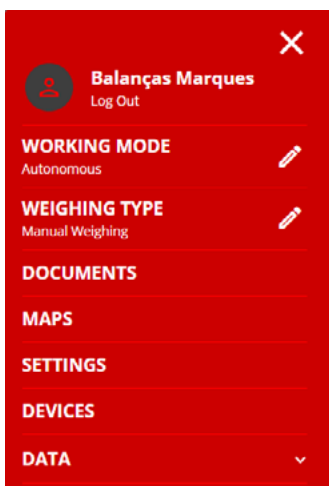


INTRODUCTION TO THE PLATFORM

QTRUCK is a platform that allows one to manage everything related to the weighing of vehicles in weighbridges, namely managing user access to the Operating Centre, controlling weighing processes, managing data (like vehicles, entities and articles, so on...), producing documents based on the weighing and the data inserted, and the visualization of statistical maps.

Two components of the interface allow to navigate between different features:

SIDE MENU | The button in the top right-hand corner opens side menu with the options to access the different working areas; it may also display a yellow notification symbol, meaning the platform wants to draw the attention of the user (for instance: for a software update).



Side Menu



HEADER | Displays relevant information and/or to the page being viewed:

- ◆ In the weighing view, it provides shortcuts for some operations (such as changing the weighbridge on screen, or viewing both weighbridges side-by-side);
- ◆ In case we left the weighing screen, a button allows the user to go back to it at any time.

WEIGHING

QTRUCK provides two weighing modes: **AUTOMATIC** and **MANUAL**. The main difference between the two resides precisely on the required amount of operator intervention, as the manual mode requires an active engagement on their part, whereas the automatic mode can work under simple supervision.

There is also the **SOLAS MODE**, a subsection of the manual mode that allows to comply with the legal requirement for maritime transportation of containers.

Regardless of mode, it is only possible to weigh a load when the weighbridge detects a vehicle above the minimum weight, which is 400 kg.

At the moment of the weighing, as soon as it is triggered by the system, an editable document is automatically created, with a series of information that can be added to it. On this screen, on top of the information related to the document, it is possible to:

- ◆ Add the vehicle being weighed to the database;
- ◆ Print the document and see its activity;
- ◆ Create a new document;
- ◆ Reuse the current weighing.

With each vehicle added to the database, it is necessary to set it as either a loading or unloading vehicle. It can also be loading/unloading or external.

EXTERNAL | With an external vehicle, the platform can process a weighing that is not taken into account for statistical purposes.

LOADING OR UNLOADING VEHICLES | Allows to weigh a vehicle only once, assuming the vehicle has its tare set and the feature of **TARE IN MEMORY** is on.

LOADING/UNLOADING VEHICLES (SET BY DEFAULT) | This type of vehicle can either perform a loading or unloading. In this case, the order in which the vehicle is weighed will determine whether it is dropping off or picking up a load.

The system allows the setting of tares (in kilograms), so as to ascertain the weight of the intended load, by automatically removing the weight of the recipients and/or vehicles carrying it.

VEHICLE TARE | Actual weight of the vehicle, unloaded. This allows to skip one of the weighings, provided the vehicle is set as either loading or unloading, on the **VEHICLE DATA**, and the function of **TARE IN MEMORY** is active.

PRODUCT TARE | The weight of the container in which the product is transported. This makes it possible to calculate the actual weight of a product by automatically removing the amount of the tare. In order to attach a tare to a product, it is necessary to create the tare itself; this allows it to be attached to several items.

WEIGHING MODES



MINIMUM WEIGHT

VEHICLES



TARES



AUTOMATIC WEIGHING

AUTOMATIC WEIGHING



With automatic weighing, the procedure is mainly managed by the settings with which the devices were installed; however, the supervision by an operator at all times is strongly advised.

The typical process follows these steps, with the respective message on the mupi:



Example of a mupi message

The weighbridge is empty, and all devices are operational;	
The vehicles proceeds to the weighbridge, which detects it when it reaches the minimum weight;	<i>Go ahead</i>
The vehicle is detected by the first sensor;	<i>Keep going slowly</i>
The vehicle is detected by the second sensor; the weighing is processed after it stops.	<i>Please stop. Weighing...</i>
Vehicle is weighed, and is told to proceed from the weighbridge;	<i>Safe travels or Proceed for loading/unloading</i>
The vehicle leaves the weighbridge and the weight goes back to zero.	

Despite the automation, there might be situations that, for one reason or the other, demands the intervention of an operator, which might be required after the weighing. A common case concerns the recognition of license plates. Due to external factors, it might not be read by the automatic system. In these instances, it is possible to input the information manually on the platform, or edit the document afterwards (this option needs to be activated in the **SETTINGS**).

There are other possible manual operations in the automatic mode which can facilitate the weighing process:

- ◆ Adding detailed information to the weighing in specific, like a license plate not in the database, or the driver's information, etc.;
- ◆ **REUSE** the amount of the second weighing of the most recent document as the value of the first weighing of a new document. This option allows the skipping of identical weighings in case a vehicle is loading/unloading several items to be detailed in the documentation.

EXAMPLE I weighing three different steel bars, separately:

Doc 1	Weighing 1: full load 27 000 kg	Weighing 2: T and U bars 22 000 kg	
Doc 2	<i>Weighing 2 (reused)</i> 22 000 kg	Weighing 3: T bars 17 300 kg	
Doc 3	<i>Weighing 3 (reused)</i> 17 300 kg	Weighing 4: no load 13 000 kg	

The system now possesses a feature allowing the use of a theoretical weight to be compared to the net weight when being weighed. The theoretical weight can be used when the load has an expected (or pre-calculated) weight, with the purpose of checking whether the actual weight of the load on the vehicle is within the expected amount.

EXAMPLE I It is intended to weigh 200 steel bars, knowing each weigh 7 kg; we can expect the weight of the load to be 1400kg.

At the moment of the configuration of the **THEORETICAL WEIGHT**, it is possible to also determine a **MARGIN OF TOLERANCE**, establishing the acceptable limits for the theoretical weight. For several reasons, there might be some fluctuation in the gross weight; therefore, a margin of tolerance is needed, so that even if the weight does not match exactly what was set in the file, it can still be considered within what is expected.

The platform displays a visual indicator of the comparison between the net weight and the set margin of tolerance along with the theoretical weight, in the weighing panel - see to the right.

In the middle, we see the theoretical weight and, signalled in yellow, the set limit values for the margin of tolerance. In case the net weight is outside the margin of tolerance, the bar is coloured in red; if it's inside, it is coloured in green. Furthermore, when the net weight sits outside the margin of tolerance, the platform indicates it with an error display, both in the weighing screen and in the document list.

THEORETICAL WEIGHT



Indicators of theoretical weight; above, the theoretical weight is inside the margin of tolerance, and is shown in green; underneath, it's outside and is shown in red.



Warning sign.

The screenshot shows the QTRUCK weighing interface. At the top, it displays 'DOCUMENTO N.º 81243 | ABERTO | AUTOMÁTICO'. Below this, there are fields for 'DADOS GERAIS' and 'DADOS AUXILIARES'. The 'DADOS GERAIS' section includes fields for 'MATRÍCULA' (AT48CD), 'SEMI-REBOQUE', 'TARA', 'EMPRESA' (9876 Lorem ipsum, SA), 'TRANSPORTADORA', and 'DESTINO'. The 'DADOS AUXILIARES' section includes '1.ª Pesagem' (38.080 Kg), '2.ª Pesagem' (24.580 Kg), 'Data' (2022-02-11), and 'Hora' (08:34). A red warning box is displayed, showing a yellow triangle with an exclamation mark and the text '13.500 Kg' and 'O peso líquido está fora da tolerância do Peso Teórico admitido: 12.600 a 13.360kg.' Below the warning box is a red button labeled 'APROVAR'. At the bottom, there is a table of 'PESAGENS REALIZADAS' with columns for '# Art.', 'Descrição', 'Tara', 'Qtd.', '1.ª Pesagem', '2.ª Pesagem', and 'Líquido'. The table shows one entry: '81234 Gordura Animal Cat. 3' with a liquid weight of 13.500. Below the table, it says 'Peso Líquido Total: 13.500 Kg'. At the bottom of the interface, there are buttons for '< VOLTAR', 'ANULAR', 'ATIVIDADE', 'IMPRIMIR', 'AGRUPAR', and 'GUARDAR'.

Weighing screen with a theoretical weight warning.

When that happens, there are two options:

◆ **REPEAT THE WEIGHING:**

- When the system detects that the theoretical weight sits outside the set margin of tolerance, it doesn't close the document after the 2nd weighing, which allows for a re-verification of the cargo and re-do the weighing.

◆ **APPROVE** the net weight of the problematic weighing:

- With an **APPROVE** button, available in the weighing view of the document, it is possible to accept the net weight as the correct weight, even though it sits outside the margin of tolerance.
- When the weight is validated, the warning signs disappear, being replaced by a symbol signalling that the document has a theoretical weight attached that needed to be validated, and the weights go back to being shown in green.

SETTING THEORETICAL WEIGHT

The **THEORETICAL WEIGHT** is set via a file usually exported from an external software, pasted on a specific folder where QTRUCK is installed. Only the amount of the theoretical weight and the margin of tolerance are mandatory, but the file can set the following items, in this order:

- ◆ the branch;
- ◆ the license plate of the vehicle;
- ◆ the cargo;
- ◆ the calculated weight; and
- ◆ a margin of tolerance (in kg).

```
F, 302001
M, 1967BM
C, GR
P, 20
T, 1
```

Example of the format of a theoretical weight file

In the file, these elements are identified by the initial they refer to (in Portuguese) - F (branch), M (licence plate), C (cargo), P (weight), T (margin of tolerance) – in this order. These should be separated from the numeric value by a comma and a space, like in the example on the margin.

When this feature is on, the system will not let a weighing be completed without associating a vehicle to it. Thus, when the weighbridge detects a weight above the minimum and the document does not have a valid vehicle, a window will pop up warning the user that a manual insertion of a license plate will be required.

This way, the system can detect the theoretical weight that might be attached to that vehicle and perform the weighing taking it into account.

MANUAL WEIGHING

MANUAL WEIGHING



In manual weighing, like the name indicates, these automated procedures are replaced by a direct, manual intervention from the operator. This way, the different steps in the weighing are entirely controlled by the operator in the platform. Given that it is manually performed, the order with which the steps in the operation are taken is free; they are as follows:

- ◆ Adding the license plate of the vehicle to be weighed;
- ◆ Save the tares of the vehicle in the weighbridge (if empty);
- ◆ Edit the information to be attached to the document;
- ◆ Process the amounts of the two weighings;
- ◆ Review the lines related to the products and their tares.

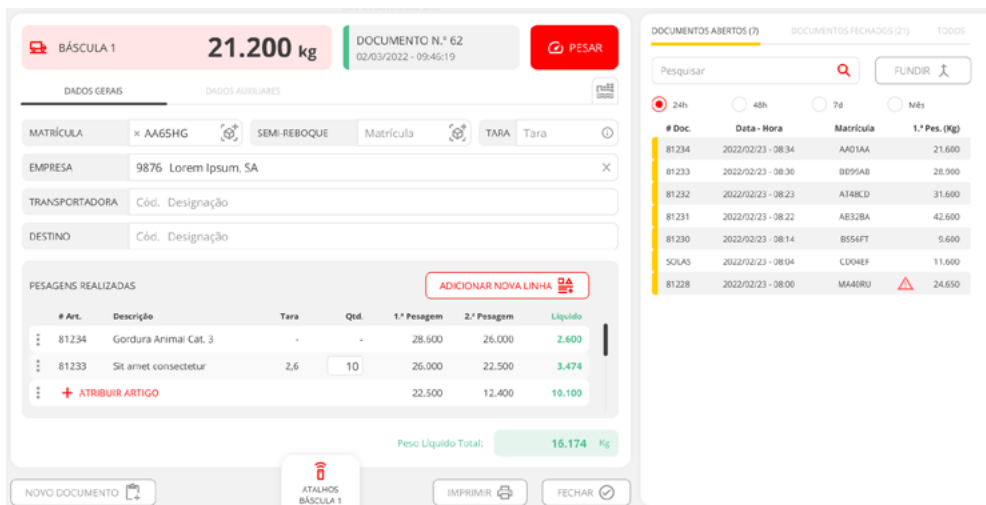
Before a weighing, the fields are empty. As soon as the license plate of the vehicle to be weighed is input, a document is automatically created. This document is considered **OPEN**, until it is decided to be **CLOSED**, by clicking the button on the bottom right corner.

Before a document is closed, multiple weighings can be performed attached to the same vehicle; by associating an item to each weighing, we create a **MULTI-ITEM DOCUMENT**. This is relevant in case there is a need to detail a number of different product being loaded/unloaded when a vehicle arrives.

If there is an open document with a specific vehicle attached, whenever we select that vehicle, the open document comes up, and a new weighing can be added to it. If we want to create a new document for a new weighing for that vehicle, it is necessary to close any open documents under that vehicle.

We can see more about editing and managing **DOCUMENTS** ahead.

MULTI-ITEM DOCUMENT



The screenshot displays the QTRUCK interface for a weighing operation. The top section shows the scale name 'BÁSCULA 1' and a weight of '21.200 kg'. A document number 'DOCUMENTO N.º 6Z' is also visible. The main area is divided into two sections: 'DADOS GERAIS' (General Data) and 'PESAGENS REALIZADAS' (Weighings Performed).

DADOS GERAIS:

- MATRÍCULA: AA65HG
- SEMI-REBOQUE: SEMI-REBOQUE
- EMPRESA: 9876 Lorem Ipsum, SA
- TRANSPORTADORA: Cód. Designação
- DESTINO: Cód. Designação

PESAGENS REALIZADAS:

# Art.	Descrição	Tara	Qtd.	1.ª Pesagem	2.ª Pesagem	Líquido
81234	Gordura Animal Cat. 3	-	-	28.500	26.000	2.600
81233	Sit amet consectetur	2,6	10	26.000	22.500	3.474
				22.500	12.400	10.100

The total liquid weight is 16.174 Kg.

DOCUMENTOS ABERTOS (7):

# Doc.	Data - Hora	Matricula	1.ª Pes. (Kg)
81234	2022/02/23 - 08:34	A401AA	21.600
81233	2022/02/23 - 08:30	B099AB	28.900
81232	2022/02/23 - 08:23	A14BCD	31.600
81231	2022/02/23 - 08:22	AE32BA	42.600
81230	2022/02/23 - 08:14	B554FT	5.600
SOLAS	2022/02/23 - 08:04	CD04EF	11.600
81228	2022/02/23 - 08:00	MA46RU	24.650

SOLAS MODE was specifically conceived to handle the weighing of containers meant for maritime transportation, so as to comply with the SOLAS (Safety of Life at Sea) convention. According to it, it is necessary to obtain a certification of the Verified Gross Weight (VGW) of the container to be transported.

SOLAS requires the input of the required information for the documentation in the **SETTINGS** before being used; without it, the platform will not process the weighings and returns an error message.

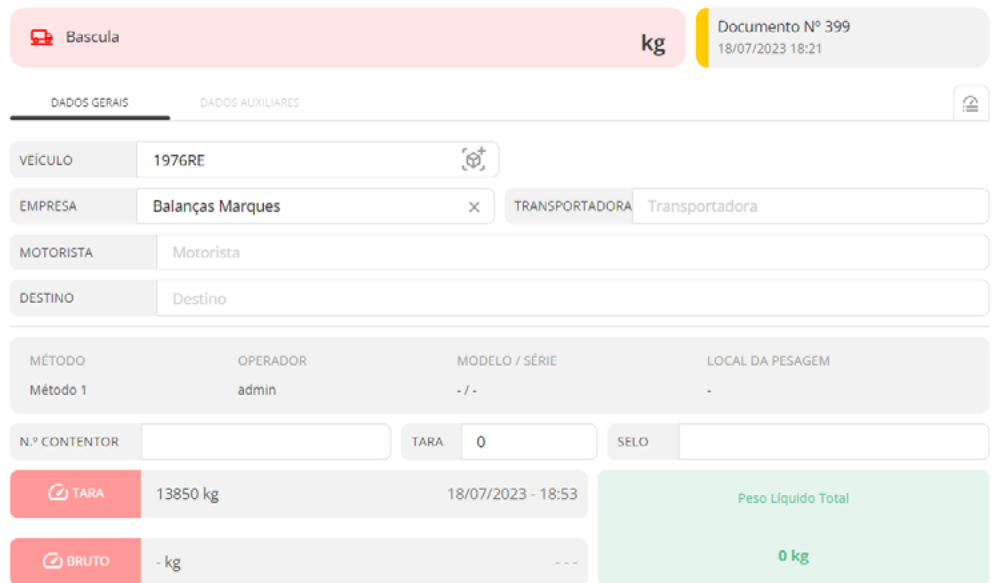
Just like in the manual weighings, the VGW is calculated through two weighings: one with the cargo, and one without. Because this weighing only gives us the weight of the cargo itself, in order to get the weight of the loaded container, we need to add in the weight of the empty container itself. By adding the net weight provided by the two weighings to the weight of the container, we get the VGW necessary to comply with SOLAS.

To access SOLAS mode, there is a button for that on the left-hand side of the manual weighing screen. The view of the SOLAS mode is slightly different, but the procedure is largely the same as in the manual weighing:

- ◆ Selecting the vehicle;
- ◆ Perform both weighings for **VEHICLE TARE** and **GROSS WEIGHT**;
- ◆ Adding the specific information regarding the container;
- ◆ Review and generate the relevant documentation.

SOLAS MODE





Documents generated by this feature comply with the legally required.

Please note that the layout of these documents, like with other modes of weighings, should be set previously in the panel of the **PRINTING SETTINGS**.

DATA

The data section is where all the information to be used by the system for document generation is located. Depending on the type of document, different information can be used to be summoned to be integrated in the information to be displayed in the document. The goal is to facilitate inputting the information.

All types of data require a unique **CODE** by which to be identified, along with a **NAME** to attach to it and serve as a reference to be displayed in the documents — for **VEHICLES** and **SEMI-TRAILERS**, the **LICENSE PLATE** will serve as both code and name. Other types of data will require other information to be input in the platform - for instance, in order to assign tares to articles, it is first necessary to create tares. Below we see a table of dependencies between different data.

AUXILIARY DATA



Besides the types of data set by default, conceived as part of the structure of the system, it is possible to add personalizable fields, in the section auxiliary data. Here it is possible to add specific fields not already provided by the system.

The types of auxiliary data that can be created are as follows:

- ◆ Number - only accepts numeric characters;
- ◆ Text - 20 characters tops
- ◆ List - allows to create a list of items from which to select one.

The way to the items in each data type is through the side menu, clicking on **DATA**; a list of data types will come up, and we can select one of those.

ADD ITEMS | The button to add items will come up on the top right-hand side of the listing page, except for auxiliary data, in which case it will be in the bottom left corner.

DELETE ITEMS | The rubbish bin button will come up when the cursor hovers above the item we wish to delete.

Type	Required information	Other information
Vehicles	Company	Tare and Tare Date
	Carrier	Entrada/Saída de produto
	Type of Operation	
Semi-trailer	Company	Tare and Tare Date
Articles	Article Tare	
	Family	
Companies		Fiscal number
	Destination	Contacts
		Location
Carriers		Fiscal number
		Contacts
		Location
Families (articles)		
Article Tares		Tare
Destinations		
Drivers		
Auxiliary Data		

Table with different types of data, detailing which information is cross-referenced by each.

DOCUMENTS

Documents are the main interface for the weighing process. The weighing screen is just a preparation for the document to be created, where we can input all the data necessary; in the right-hand side, there is a panel with the most recent documents created.

LINES



PESAGENS REALIZADAS							ADICIONAR NOVA LINHA 
# Art.	Descrição	Tara	Qtd.	1.ª Pesagem	2.ª Pesagem	Líquido	
81234	Gordura Animal Cat. 3	-	-	28.600	26.000	2.600	
81233	Sit amet consectetur	2,6	10	26.000	22.500	3.474	
+ ATRIBUIR ARTIGO				22.500	12.400	10.100	

Detail of the list of articles; in this case, there is a weight without an article to be assigned; this way, the button to attribute an article comes up.

Until one **CLOSES** the document, it is considered **OPEN**, and additional weighing can be performed on it. Data can be added to a document regardless whether it is closed or open.

A document can have several items attached to it, from each weighing. When the document is open we can use the **ADD NEW LINE** and **ATTACH ARTICLE** to each of those lines.

It is possible to find a list of documents on the side panel; in yellow are open documents, and in green, closed ones. In this panel several information related to the documents can be found: at the top there is a sum-up of the documents created during the day and, below, the chronological list of those documents, identified by the attached **VEHICLE** and **COMPANY**.

- A** | Info on the current weighing
- B** | Info of the document and the livestream of the vehicle
- C** | Information regarding the weighings being conducted
- D** | Feed in real time from the mupis
- E** | Preview panel of the most recent documents

The screenshot shows the QTRUCK interface. At the top, there's a header with 'QTRUCK' and navigation options like 'SEBOL 1' and 'PESAGEM AUTOMÁTICA'. Below the header, there's a main section for 'BÁSCULA 1' showing a weight of '28.800 kg' and two camera feeds (T1 and T2). To the right of the main section is a green button labeled 'AVANÇAR LENTAMENTE'. Below the main section is a document information panel with fields for 'Documento N.º' (81234) and 'Matrícula' (AA65HG). To the right of the document panel is a 'DOCUMENTOS ABERTOS (7)' and 'DOCUMENTOS FECHADOS (21)' section. This section includes a search bar, filter options (24h, 48h, 7d, Mês), and a table of documents. Below the document list is a 'Peso Líquido' section with a 'NOVO DOCUMENTO' button and a printer icon. At the bottom right, there's a 'ATALHOS BÁSCULA 1' section.

# Doc.	Data - Hora	Matrícula	1.º Pes. (KG)
81234	2022-02-23 - 05:34	CAM_230220 063054	28.800
81233	2022-02-23 - 08:30	8895AB	28.900
81232	2022-02-23 - 08:23	A748CD	31.600
81231	2022-02-23 - 08:22	AB328A	42.600
81230	2022-02-23 - 08:14	B556FT	5.600
SOLAS	2022-02-23 - 08:04	CD04EF	11.600
81228	2022-02-23 - 08:00	MAN8RU	24.600

Above the list there are some options which allow for viewing and manage different documents, along with a search bar, which can be used for a quick search.

FILTER | displays documents according to different criteria, like vehicle, time interval, used weighbridge, articles included in the document, movement and status.

- ◆ only documents fulfilling **all** the selected criteria will be shown.

EXPORT | option to print a document in .pdf format.

PRINT | prints the document in the preset printer.

GROUP | allows the grouping of closed documents to group related weighings.

- ◆ this option allows to group related documents through the **REUSE** of consecutive weighings, resulting in a single document with different lines, related to the different weighings.
- ◆ only documents under the same vehicle can be grouped.

MERGE | by selecting two open documents under the same vehicle and merging them, we merge the information of both weighings.

- ◆ When there is a mistake in the reading/insertion of the license plate in the second weighing, the system creates two different documents; given they should be the same document, this option allows for the correction of that situation and merge the documents.

It is possible to access the history of a document via the activity button, in the bottom ribbon on the document view; here the date and time in which it was created are displayed, along with every change made to it since.

All documents processed by the platform are saved, which makes it possible to collect all of that information and display it in a visual way. This is available in the **MAPS** section, from the side menu.

MAPAS

In this section we can see the information already processed by the platform, organized in time periods of months or years. There are three types of maps:

DOCUMENTS | collect the number and type of documents processed.

WEIGHTS | show the sum of the weights processed by the weighbridge(s).

DURATION | aggregate the time the weighings took.

When opening the maps section, a synthesis of some of the information immediately comes up, summing up the information of the documents, weights and duration of weighings processed by the operating centre in the last months.

Selecting a specific map from the side menu, then one must choose the time period to which the information we want to consult pertains; first, if monthly or yearly, then which month or year in specific. The map will open as soon as the time period is selected.


After the map comes up, a map with filters is displayed, in which it is possible to select whether we wish to filter the information by article, vehicle and/or company, thus providing this information in a much more detailed way. There it is also possible to select a different time period without leaving the window.


Having selected the time periods and desired filters, we can also obtain maps in three different ways: summarized, detailed or ranking.

ACTIVITY



STATISTICS

 DOCUMENTS

 WEIGHTS PROCESSED

 WEIGHING TIMES

Side menu with the different maps

Settings

SETTINGS

GENERAL

USERS

PRINT

IO'S MANAGEMENT

SOLAS MODE

OPERATIONS CENTER

DATA SENDING

DATA BASE

LICENSE

ABOUT THE SOFTWARE

After the initial wizard, which is detailed in the **INSTALLATION GUIDE**, it is possible to check other settings. We can reach the platform settings panel via the side menu. A second menu comes up, with the different areas of settings.

In **GENERAL** we find overall settings for the platform itself:

LANGUAGE | Sets the language for the mupis and documents;

- ◆ the language of the platform itself takes the language of the browser

EMAIL CLIENT | Allows the insertion of an email address to be used in case of an eventual necessity to retrieve a lost or forgotten password.

This panel also displays several parameters related to the everyday management of the weighing process:

Prefix in the docs ID	What the prefix for the documents ID should be (Ex.: with the prefix DOC, it generates DOC1234)
Enable REUSE WEIGHING button	Enable or disable the REUSE button on the weighing screen (see WEIGHING section).
Semi-Trailer	Makes it possible to add semi-trailers to documents
Tare in Memory	Use preset tares in the weighing process
Allow Manual License Plate	Enable adding license plates on documents manually
Negative Net Weight	Accepts negative weight when processing an unloading
Allow Manual Weight	Makes it possible to manually add a weight value on a document
Create vehicles automatically	When a vehicle not on database is detected, the system adds it there automatically

USERS

QTRUCK enables the creation of distinct users for each operator, which can have different permission levels. This allows for a more hierarchical management of the platform, as it makes it possible to have an operator be able to create and close a document, but require a higher-ranking operator to validate it. Here's the main type of permissions:

- ◆ Admin
- ◆ Change data (information on the database)

- ◆ Open documents
- ◆ Access **SETTINGS**

It is also possible to deactivate or reactivate a **USER** to stop it from accessing the platform temporarily, without erasing it from the database.

In order to delete a user, however, we must first select the user and then press delete, on the bottom of their page.

MANAGE USERS

PRINTING

In the printing section there is the possibility of personalizing the header of the documentation generated by the program, as well as manage the printers connected to the system. These are separated in two tabs:

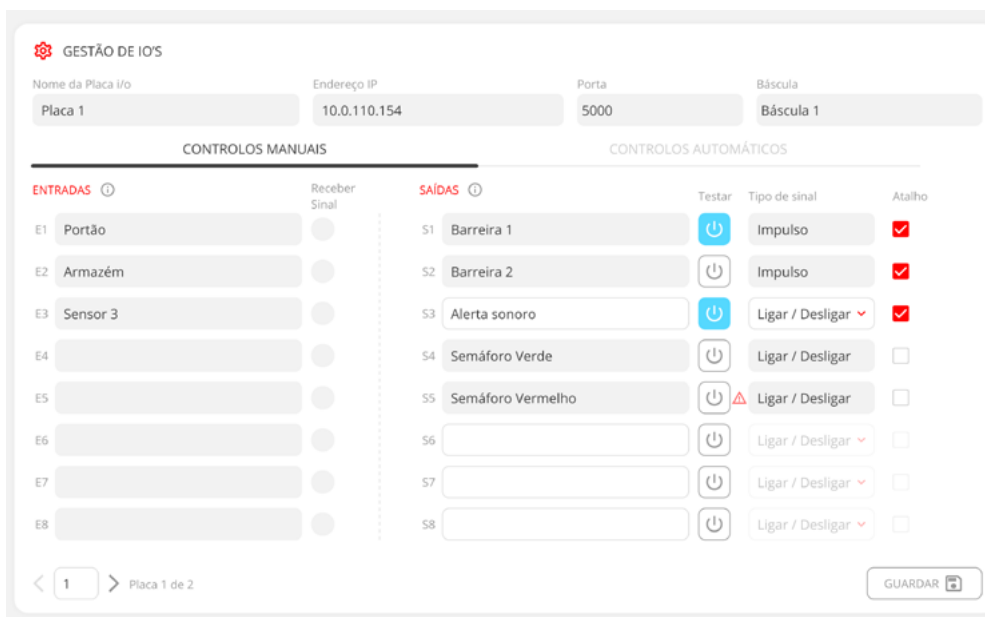
DOCUMENT | Insert the logo to be present in the documentation, and build a header of up to 8 lines.

PRINTERS | Adding printer(s) to the platform, each with the following settings:

- format (A4 or ticket);
- number of copies;
- communication system;
- when it should print (when closing the document / weighbridge).

Please note the system imports the printers already on the operating system of the machine in which QTRUCK is running.

I/O MANAGEMENT



GESTÃO DE I/O'S

Nome da Placa I/O: Placa 1 | Endereço IP: 10.0.110.154 | Porta: 5000 | Báscula: Báscula 1

CONTROLOS MANUAIS		CONTROLOS AUTOMÁTICOS			
ENTRADAS	Receber Sinal	SAIDAS	Testar	Tipo de sinal	Atalho
E1	Portão	S1	Barreira 1	Impulso	<input checked="" type="checkbox"/>
E2	Armazém	S2	Barreira 2	Impulso	<input checked="" type="checkbox"/>
E3	Sensor 3	S3	Alerta sonoro	Ligar / Desligar	<input checked="" type="checkbox"/>
E4		S4	Semáforo Verde	Ligar / Desligar	<input type="checkbox"/>
E5		S5	Semáforo Vermelho	Ligar / Desligar	<input type="checkbox"/>
E6		S6		Ligar / Desligar	<input type="checkbox"/>
E7		S7		Ligar / Desligar	<input type="checkbox"/>
E8		S8		Ligar / Desligar	<input type="checkbox"/>

< 1 > Placa 1 de 2

GUARDAR

Manual control panels for the I/O box

TYPES OF I/O BOX SIGNALS

I/O (input/output) boxes manage the communication with the system devices (sensor, traffic lights, mupis, etc). The management of this communication is done in this panel, where it is also possible to test if the signal are sent and received without issues.

There are three types of signal:

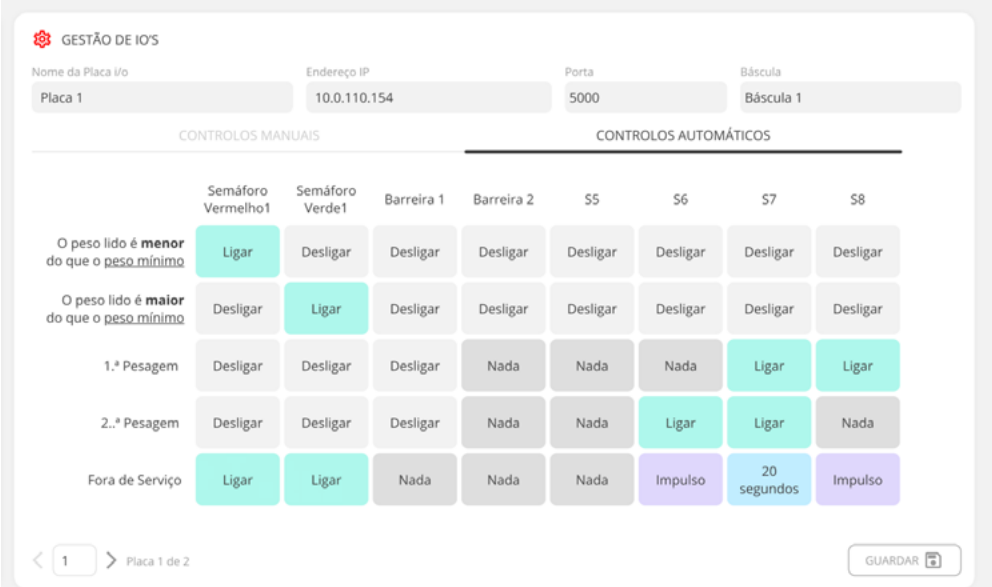
PULSE I the output is turned on for a second and it's turned off immediately; for example, to control a barrier or gate.

ON/OFF I the output is turned on permanently until it is manually turned off.

TIMED I the output is turned on for a set amount of time.

In regards to the input, after inserting a name for the existing connections, it's possible to invert the logic of the incoming signal, via a checkbox option in each of the input lines. This enables the operator to more closely manipulate the way the system handles the information it receives from the devices.

In terms of manual controls, we can test if the I/O box receives and sends information without any issues, and we can still manage the kind of signal that is sent to specific devices.



	Semáforo Vermelho1	Semáforo Verde1	Barreira 1	Barreira 2	S5	S6	S7	S8
O peso lido é menor do que o peso mínimo	Ligar	Desligar	Desligar	Desligar	Desligar	Desligar	Desligar	Desligar
O peso lido é maior do que o peso mínimo	Desligar	Ligar	Desligar	Desligar	Desligar	Desligar	Desligar	Desligar
1.ª Pesagem	Desligar	Desligar	Desligar	Nada	Nada	Nada	Ligar	Ligar
2.ª Pesagem	Desligar	Desligar	Desligar	Nada	Nada	Ligar	Ligar	Nada
Fora de Serviço	Ligar	Ligar	Nada	Nada	Nada	Impulso	20 segundos	Impulso

Automatic control panels for the I/O box

SOLAS

The parameters of SOLAS weighing are mandatory, and the system will not process any weighing until they are set. This panel will only appear if there is a valid SOLAS license. The parameters are:

- ◆ weighbridge model;
- ◆ weighbridge serial number;
- ◆ weighbridge metrological certificate number;
- ◆ location where the weighing is performed.

AUTOMATIC WEIGHING

The location for the parameters of the weighing process when on Automatic Mode. This is where we can set:

- ◆ Whether the system waits for the weight to be stable before processing the weighing.
- ◆ What's shown on the mupis:
 - Weight: to show or not.
- ◆ The sounds that are played:
 - When a vehicle is detected;
 - In case there's an error message.
- ◆ LPR cameras:
 - Whether it is possible to insert a license plate number manually in case it is not recognized.
- ◆ Interface related:
 - Enable the the **WEIGH** button during automatic weighing;
 - Enable comparison between real and theoretical weights.

In case this last option is enabled, it becomes necessary to have a file with that information exported from an external software. More details on the **THEORETICAL WEIGHT** section.

OPERATION CENTRE

Area to input and edit the name and logo of the Operation Centre.

ENVIO DE DADOS

The data sync settings refer to the communication with external software. This section is of particular importance in case a connection between QTRUCK and a management software, for instance, is needed.

These syncs are meant to be automatically performed by the system when triggered by an action. This action depends on a condition and, when that condition is met, it then triggers the sync.

The information required to create a data sync is as follows:

Condition	The necessary conditions for the transmission to be triggered: <ul style="list-style-type: none"> • Weight 1 lesser than Weight 2 (Loading) • Weight 2 lesser than Weight 1 (Unloading)
Destination URL	The address to which the data should be sent
Data to be sent	The data that is supposed to be sent, by order. These can be synced with the destination system, by establishing a one-to-one relation.

Authentication Type

The type of authentication to be used, in case it is necessary; if not, choose **NONE** from the authentication type menu.

Authentication URL

The authentication URL address.

Access Credentials

Username and password to access the destination software.

Settings panel for the data to be sent, and each possible correspondent in the destination software.

Selecionar dados a enviar	Dados selecionados para envio	Obrigatório	Variável correspondente
<input checked="" type="checkbox"/> cod_doc	cod_doc	<input checked="" type="checkbox"/>	<input type="text"/>
<input type="checkbox"/> cod_tipo	cod_user	<input checked="" type="checkbox"/>	<input type="text"/>
<input checked="" type="checkbox"/> cod_user	nome_user	<input checked="" type="checkbox"/>	<input type="text"/>
<input checked="" type="checkbox"/> nome_user	nome_empresa	<input type="checkbox"/>	<input type="text"/>

DATABASE

The actions regarding the database are as follows:

DELETE | completely erases the whole of the information on the platform; after erasing, the system will reboot as if new.

IMPORT | import a .bak file into the platform

EXPORT | export the current information into a .bak file

ERASE DOCUMENTS | enables the operator to erase only the documents from the database; by erasing the documents, the maps also go back to blank, as their information is fed from the documents.

LICENCE

Section regarding license managing:

- ◆ Email and software authentication key;
- ◆ License status;
- ◆ Activating a new license;
- ◆ Password.

ABOUT

Area with information about the QTRUCK software, including the installed version. It is also possible to download an updated version from here, when available.

QTRUCK CMS User Guide

INTERACTION WITH QTRUCK LOCAL

Ligação com o Servidor
Introduza os dados de acesso ao servidor para testar a ligação

Endereço do servidor

Utilizador

Palavra-passe

LIGAR

A sample of the documents panel in a QTRUCK CMS system with several Operating Centres connected.

In green, those which are online and, in red, those offline.

QTRUCK CMS behaves like the central server of several Operating Centres (OC), each with their QTRUCK Local; that way, it's possible for a QTRUCK CMS operator to access the different QTRUCK LOCAL platforms.

Linking an Operating Centre to CMS is done on the QTRUCK LOCAL of the Operating Centre to be connected. When selecting **NETWORKING** on the side menu, a window pops up asking for the server information. On the CMS side, these can be found on the side menu as well, under **AUTHENTICATION**.

Given QTRUCK CMS works like a central server, it is possible to access the information of the QTRUCK LOCAL to which it is connected, namely documents and maps. This information can be accessed as a whole, grouping it from all or some of the available Operating Centres, or by accessing a specific OC in order to consult information only pertaining to it, for instance regarding settings or data.

The controls which allow to select the information to be shown at this level are found in the header, where we can also more easily access either documents or maps; next to those buttons, there is a drop-down menu that tells us which operating centres are being shown. Clicking on it, we can add or remove COAs, or select "all" on top. This information will be applied to both documents and maps.

AUTHENTICATION

Where the information to access CMS is found. This is the information that must be provided to OCs meaning to join the network:

- ◆ Server address;
- ◆ Username, and
- ◆ Password.

OPERATING CENTRE SETTINGS

Besides being able to access information of the OC weighings and documents, QTRUCK CMS is also able to access specific settings of each OC. On the side bar, we can see **LOCAL SETTINGS** and **SERVER SETTINGS**.

SERVER SETTINGS | Specifically for the settings of the CMS software:

- ◆ Setting the CMS users;
- ◆ Managing the CMS license and see the authentication key; and
- ◆ Consult information regarding the software.

LOCAL SETTINGS | Allows us to access the settings of specific OCs. The OC is chosen from a list that pops up when we select this option. Then we can see the settings of that OC in the same fashion as if we were working on the QTRUCK LOCAL directly.

Glossary

OPERATING CENTRE	The place to which a QTRUCK LOCAL is allocated, where the weighings of the transportation vehicles are performed and managed. Each QTRUCK LOCAL should be attached on only one operating centre.
SOLAS	<i>Safety of Life at Sea</i> Name of the international treaty that establishes safety standards for the operation of merchant ships; in that context, there are mandatory practices in terms of handling shipping containers which require a document stating the weight of the container. QTRUCK can produce documentation that complies with those standards, via the SOLAS mode.
WEIGHBRIDGE	The device that weighs the vehicles.
LPR	<i>Licence Plate Recognition - Reconhecimento de Matrículas</i> The specific type of cameras used for automatic recognition of license plates.
I/O	In/Out It refers to the bidirectionality of the communication between the devices. The I/O Box gets the name from the fact that information can both come in and out of it: for instance, it gets information from the sensors, and it sends information out to the mupis.
GROSS WEIGHT	The actual weight of the cargo, including the vehicle and the recipient in which it is to be transported.
NET WEIGHT	The real weight of the product to be considered, without taking the recipient or the vehicle in which it is transported into account.
THEORETICAL WEIGHT	The expected weight of a given load. This refers to a specific feature of the platform, which allows the comparison of a theoretical weight of a load (from a file exported from a different software) with the weight being processed in the weighbridge.
TARE	The static weight assigned to a container in which a product is usually transported, so as to be able to automatically calculate its net weight without the need for a second weighing.
VEHICLE TARE	The same concept applies, but to the vehicle that transports the cargo to be weighed.

Frequently Asked Questions

HOW CAN I ACTIVATE A LICENSE?

The licenses are assigned and managed in the **QLOUD** platform.

SEE LICENCE INFORMATION | On the QLOUD, using the QLOUD account email and password.

ACTIVATION | On QTRUCK, navigate to **LICENCE SETTINGS** and inputting the activation information: email and password of the QLOUD account and the activation key consulted in the previous step.

HOW CAN I CHECK WHETHER THE SOFTWARE IS UP TO DATE?

SIDE MENU > SETTINGS > ABOUT

Here it is possible to consult the information about the version currently installed, and the option to update it. Whenever a new version becomes available, a button to perform the update will come up on the right hand side of the header bar.

WHAT IS THE PROCEDURE FOR UPDATING THE SOFTWARE?

ON THE PLATFORM | Quando a plataforma se encontra numa versão desatualizada, surgirá do lado direito da barra superior um atalho para a secção de atualização; aí, terá a opção para atualizar o software.

MÉTODO ALTERNATIVO | descarregar a nova versão diretamente do nosso website, e correr o programa instalador do QTRUCK.

HOW IS QTRUCK STARTED?

The system requires that the QTRUCK service is running in order to start. In the case that the platform doesn't open on the browser when one clicks to open it, the first step should be to check whether the service is running. This can be done on the icon on the system tray bar.



Right-clicking it, a menu will come up with the options to start, stop or restart the service; if the option to start is greyed out, that means it should be running; if it's clickable (in black), it means the service was not running, which could be the root of the problem.

IS IT POSSIBLE TO CONNECT A WEIGHBRIDGE WITH NO WIFI?

Yes, it is possible to connect to a weighbridge via serial-port; when installing it, the platform allows the connecting via IP address or via a serial-port (RS232). It is, however, necessary to check whether the communication protocols are set in a compatible way, and that the machine in which QTRUCK is installed has the appropriate drivers.

CAN I CONNECT A QTRUCK LOCAL TO A QTRUCK CMS?

Yes, it is possible to switch working modes, from autonomous to networking and vice-versa. The procedures to do so can be found in the [INTRODUCTION](#).

WHERE CAN I FIND THE IP FOR THE MUPIS?

Mupis run an Android operating system, but aren't touchscreen; thus, it is necessary to use a mouse and keyboard to work with them.

The device IP can be found under **SETTINGS > ABOUT > DEVICE**.

HOW DOES ONE MAKE THE INITIAL SETTING OF THE CAMERAS?

The LPR cameras require specific settings in order to be used with QTRUCK. There is a series of steps that need to be taken for that configuration, which are detailed in the [INTERNAL CAMERA SETTINGS](#) of the [INSTALLATION GUIDE](#).