

T-LAB SOFTWARE FOR MATERIALS TESTING AND LABORATORY DATA MANAGEMENT

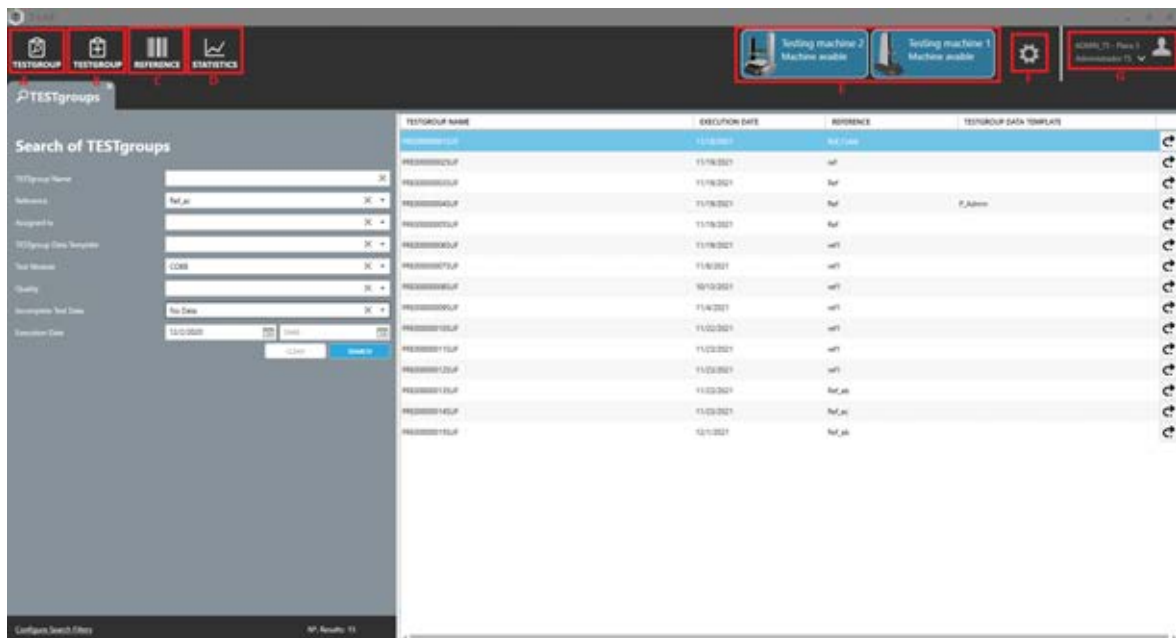
Materials testing software and data management generated in the research and quality control laboratory.

TECHLABSYSTEMS

GENERAL INFORMATION

Advanced system to automate the acquisition of data in real time from material testing equipment and its subsequent comprehensive management. With complete statistics (Gaussian Bells, Tendency, SPC ...), report printing (includes creation of PDF files, Historical ...)

- ❑ Open and configurable
- ❑ Modular and easy to use
- ❑ Role-based permission management. configurable on installation.
- ❑ You can control more than one testing machine from one station
- ❑ Configuration of Test Groups "TESTgroup"
- ❑ Creation of Templates, References, User Profiles, Formulas
- ❑ Statistics (bar graphs, tendencies, Gaussian bells)



On the main screen, there is a menu to create a TESTgroup search. In addition, you can see 7 upper buttons marked in red that are explained below:

- A. **Search for TESTgroup:** in this section you can search for the different TESTgroups that exist.
- B. **Create TESTgroup:** this button allows you to create new TESTgroup.
- C. **Reference:** in this option you can create and view the available references.
- D. **Statistics:** in this section you can configure and view the statistics.
- E. **Machine module:** test / measurement machine that is connected
- F. **System configuration:** this button accesses the configuration of the T-LAB program.
- G. **User Profile:** this option allows you to see the options to reset a user's password.

* If you log in without the administrator role, some options will be disabled.

BASIC CONCEPTS OF T-LAB SOFTWARE:

Attribute: To facilitate the creation / filtering of the TESTgroup, the attribute field is defined allowing users to create different tests simply by changing the corresponding field.

These attributes can be from the supplier of the material to the way in which the tests are executed (horizontal, vertical ...).

Reference: The references are the names of the different products for which the user is going to carry out the different TESTgroup.

For example: the reference 'Cardboard Box B1' is the name of the product available for testing.

Qualities: Quality is the degree to which the product meets the design specifications. The specifications are the values chosen by the user whose function is to mark the limits of the test results. There are two types of quality, the first of 3 values and the second of 5.

For example, the quality of 3 values: a maximum and a minimum will be defined, after performing the tests the color of the results will vary depending on the defined values. If it is higher than the maximum of one color, if it is lower than the minimum of another and if it is between the two, it will be a third color.

Specimen: specimens are the samples of the different materials used in the tests. For each test a different type of sample will be used, changing the material or even the shape.

Test modules: Test modules are the tests that are available to test materials. These can be manual modules, where users can enter the data manually through the PC keyboard, or machine modules where the data is obtained automatically from the testing or measuring machine because it is directly connected to the PC and T-LAB Software.

TESTgroup: A TESTgroup is the set or group of test modules that allows the user to carry out a test of specific and defined characteristics.

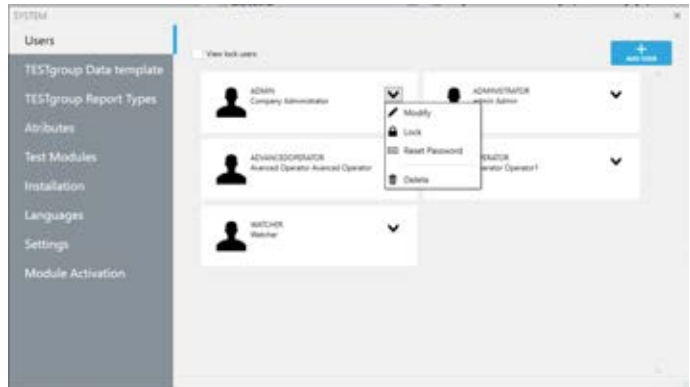
Such as: a TESTgroup to obtain the adherence of a material will have the modules available for it.

Data template: Data templates are a set of attributes predefined by the user to facilitate the classification of a TESTgroup and its subsequent search. You can create a data template for 'Paper Reels' where the following data is grouped: Size, Weight, Manufacturer, Manufacturer Code, Internal Code, Observations ...

Role or permission: Roles or permissions are the different types of users available in the **T-LAB**. The administrator role will have full access to the entire application, on the other hand, the operator role will have more limitations, it will only be able to access the TESTgroups already defined, it will not be able to create or modify them and it will not be able to access the program settings.

Users

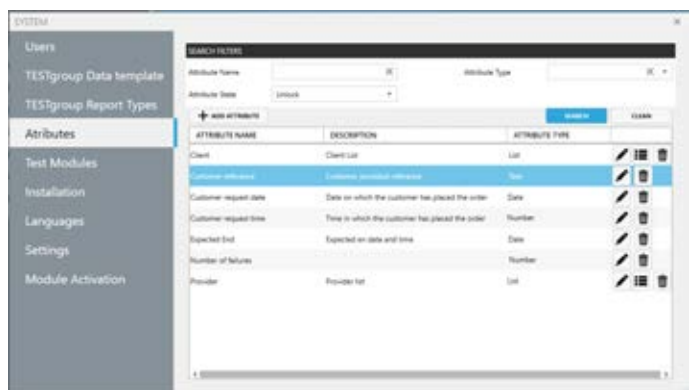
In this section the users of the application are managed. Allowing to generate / modify and eliminate the different users. Each user can have one or more roles, these roles will determine the permissions that the user will have in the application



Attributes

In this section, the attributes that can later be selected using the data templates are configured.

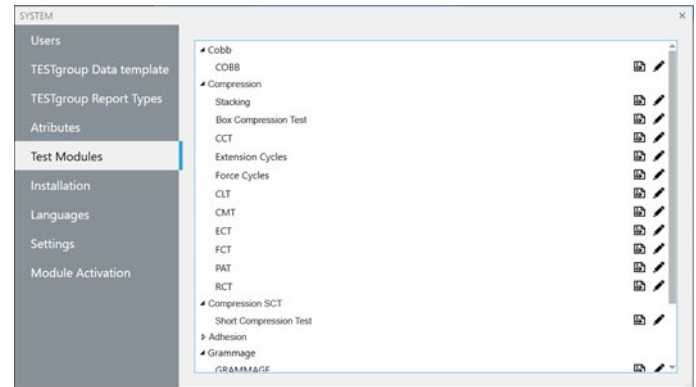
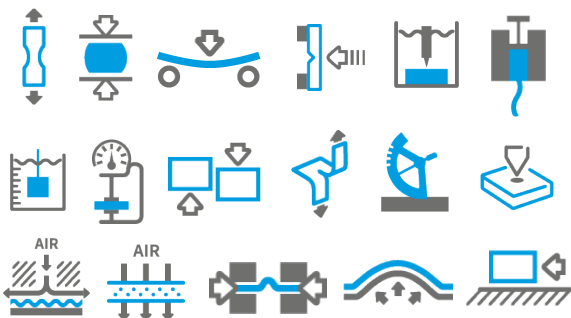
The name of each attribute will be unique and a small description can be added, as well as its type (check, date, list, numeric / text). Depending on the type of attribute selected, new data to be entered will be displayed.



Test Modules (Machine)

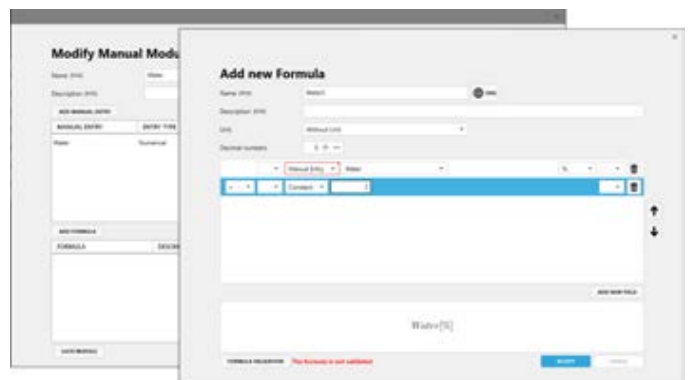
In this section you configure the different machine modules that are available and that by configuration can be added to the TESTgroup.

Easy identification of Test Modules by icons:



Test Modules (Manuals)

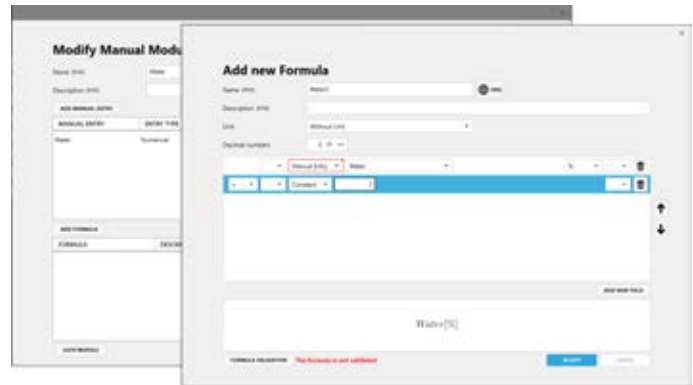
In this section the different manual modules are configured (data entry manually via PC keyboard). You can also add the corresponding formulas for the calculations that need to be applied.



- **Formula generation**

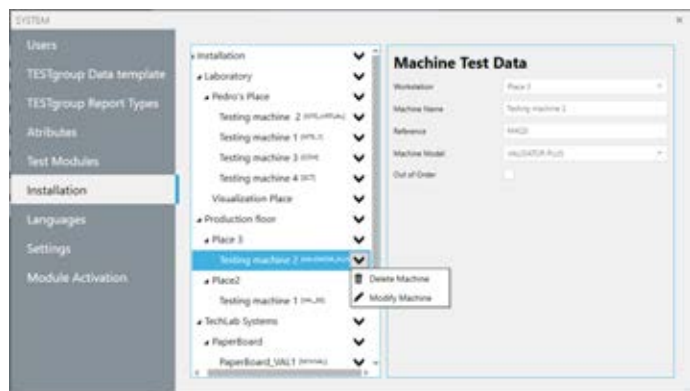
Each new formula will have its corresponding name, a short description, the type of unit with its corresponding decimal places.

They are mainly used in the creation and use of manual modules, since the test modules (machine) already incorporate their own calculations and standardized formulas.



- **Installation**

In this section the structure of the laboratory will be defined. Defining the jobs and assigning the different machines.



- **Languages**

In this section the different languages that will be used in the program are configured.

Working language: They are the list of languages in which the application can be translated.

Translation language: These are the languages into which the reports can be translated.



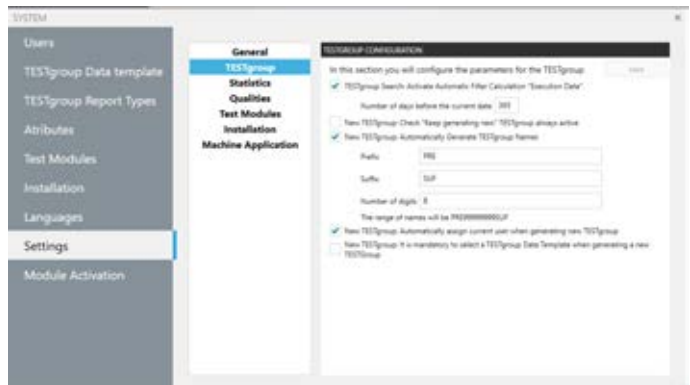
- **Setting**

In this window the main characteristics of the TESTgroup will be configured.

General: In this section the general parameters of the application are configured.

TESTgroup: In this section the parameters of the different TESTgroup will be configured

Statistics: In this section you can select the statistics that will be visible in the TESTgroup.



Qualities: In this configuration the user is allowed to choose between the different quality values for the TESTgroup data

Test modules: In this section the measurement units of the specimens and the maximum number of decimals of the dimensions that they are going to have are configured.

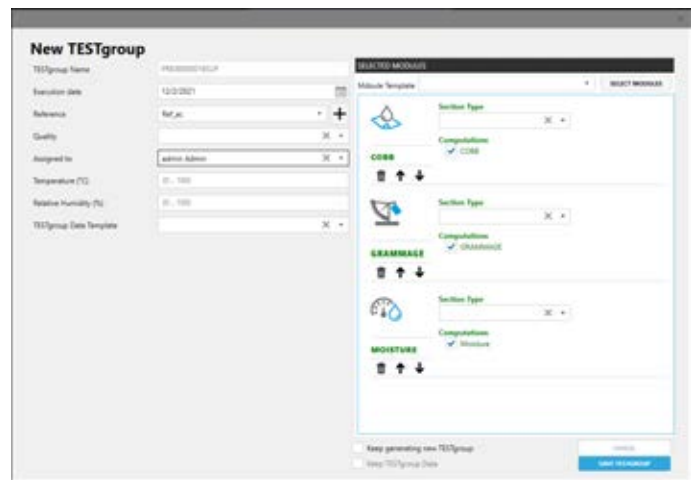
Installation: In this section you configure the startup parameters of the DataHawk

Machine Application: In this section you configure the parameters for the Machine Application



- **TESTgroup**

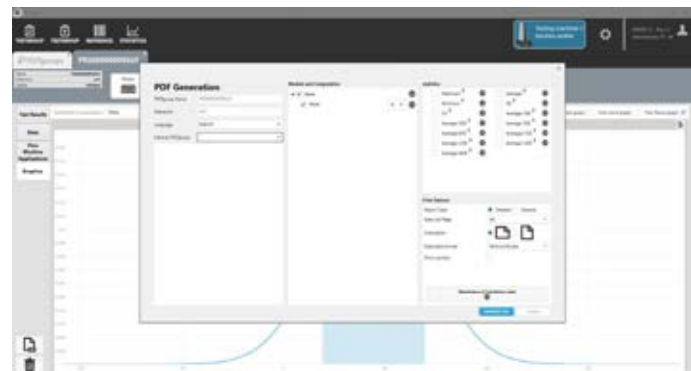
Set of test modules that allows the user to make a test of certain characteristics.



- **Generation of a PDF**

In the drop-down menu of the report TESTgroup allows you to select the reports created. Depending on the report chosen, a list will appear in the lower box with the data of the TESTgroup that are chosen in that report.

In this section it allows the user to select the modules that will be displayed in the final report.



- **Statistics**

In this window there are 3 types of graphs. (Bars - Tendency and Gaussian Bell)

In them appear the results of the module that is chosen in the upper left part of the tab. In addition, each graph has an icon in the upper right with which it is possible to save it to the clipboard and use it in an external document.



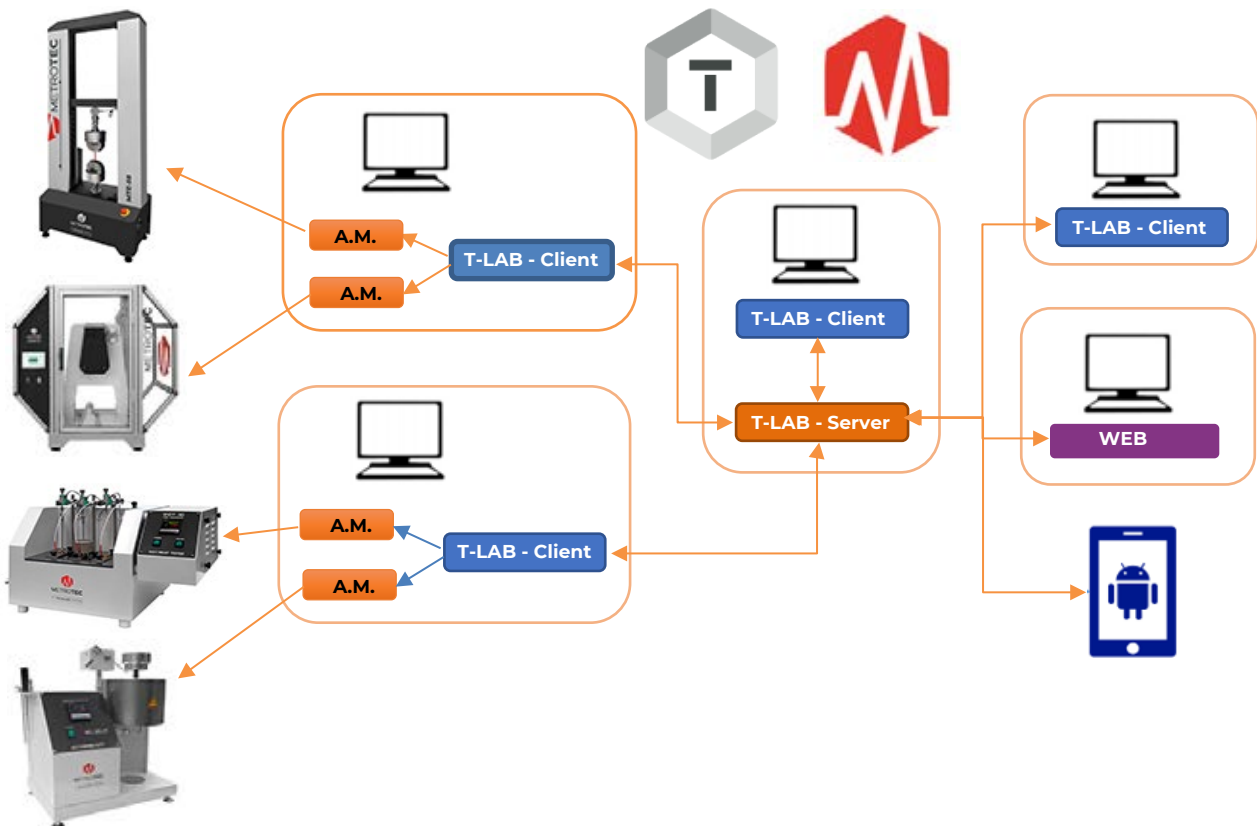
THE T-LAB SOFTWARE ORIENTED TO IMPROVE THE USABILITY OF THE SYSTEM

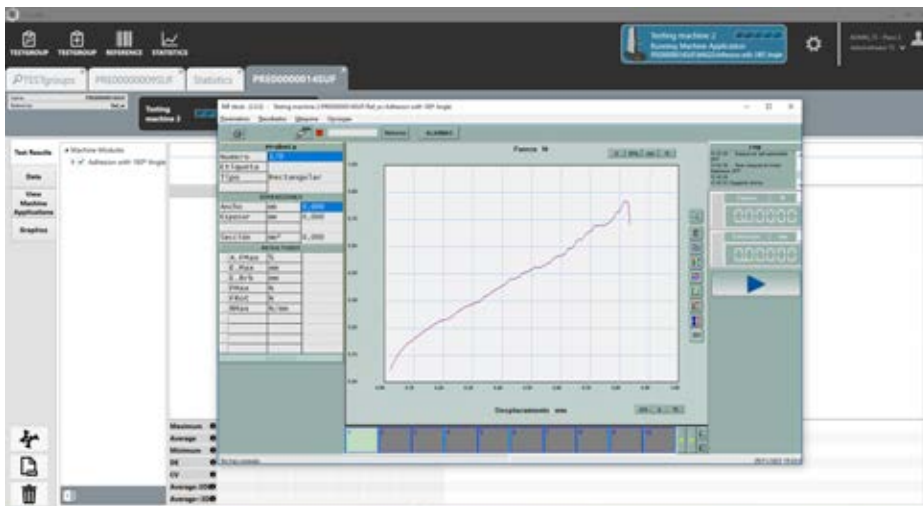
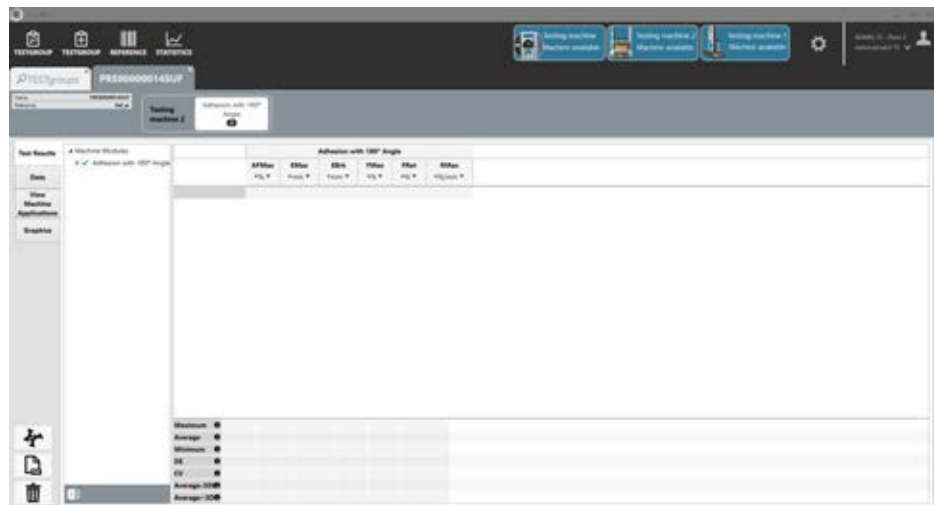
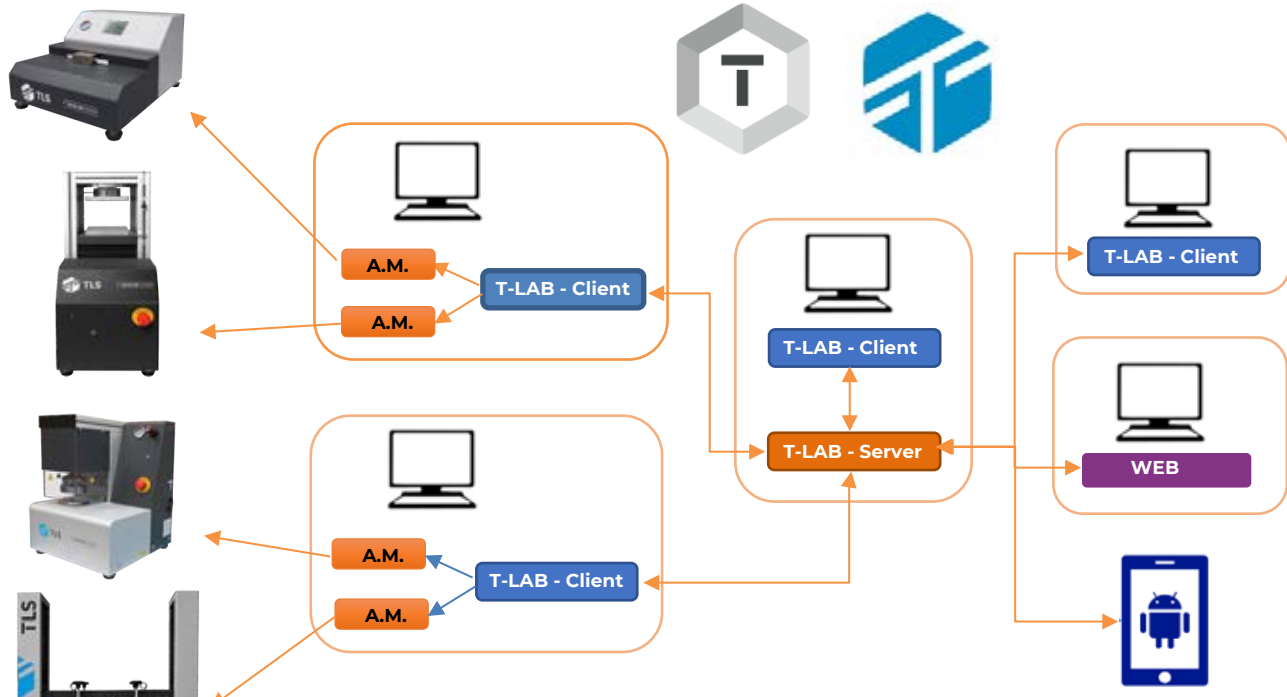
- ❑ **Multi-language system configurable by the user**
The user will be able to add all the languages he needs and the translations of the system elements will be allowed to be stored. All this aimed at printing reports.
- ❑ **Execution of tests without system blocking**
While a test is running, the client application will remain active and other types of work can be carried out in the same position.
- ❑ **Application designs oriented to the introduction and visualization of data**
The screens have been designed to facilitate the daily work of the operators.
- ❑ **Management of multiple qualities by reference**
It allows managing multiple qualities by reference and selecting which one is applied in each TESTgroup

ARCHITECTURE “CLIENT/SERVER”

A new architecture has been implemented aimed at providing better service:

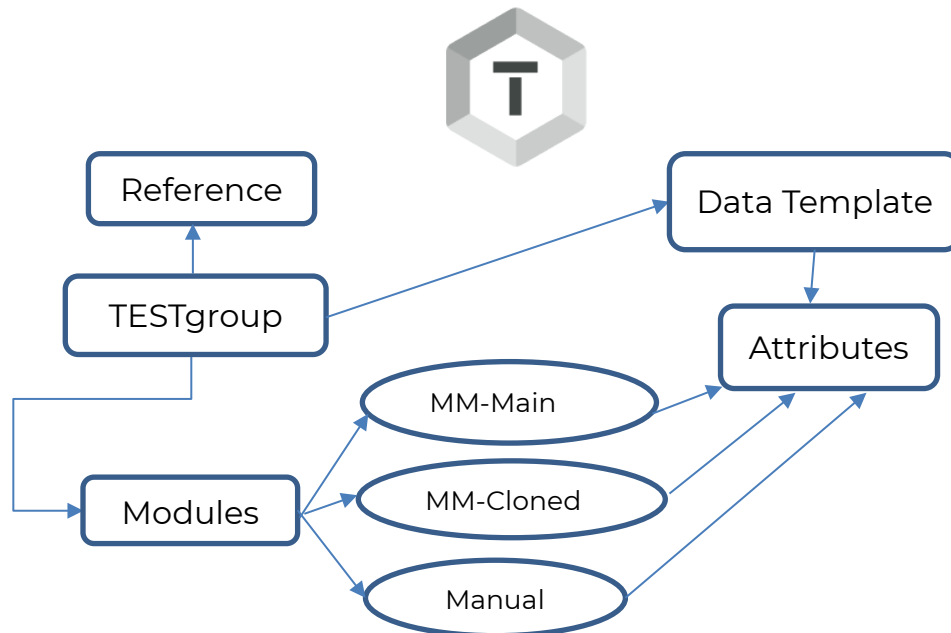
- ❑ **Performance improvement**
 - Powerful database
 - Communications by HTTPS instead of direct connections to DB
- ❑ **Security enhancement**
 - All information will be centralized on the server
 - Client positions can be replaced quickly
- ❑ **Resource optimization**
 - The execution of tests does not block the use of the position
 - More than one testing machine may be connected to a workstation
 - The status of the tests can be viewed from any other position in the system.





Machine Menu
DataHawk

The T-LAB Software is an open system and allows you to configure the information stored in the TESTgroup through attributes.



CUSTOM DATA TEMPLATES

- ❑ **The data templates allow you to configure the data** with which the application works depending on the user's needs
- ❑ **The system allows multiple templates** to be able to store different data depending on the needs of the types of tests
- ❑ **Each template allows you to manage data of different types and formats** to facilitate its introduction and handling::
 - Item List → Combo
 - Numeric → Text box that only supports numbers
 - Dates → Date selection control
 - Text → Text box to add plain text

EXAMPLE OF THE USE OF DATA TEMPLATES IN THE "TESTgroup"

The client has the need to store different information depending on the use to be made of the information obtained in the different types of tests:

- ❑ **Internal control:** Types of tests carried out to verify the quality of production. The data is for internal use.
 - Delivery deadline
 - Machine
 - Process

- ❑ **Supplier control:** Types of tests aimed at verifying the quality of raw materials received from suppliers
 - Delivery deadline
 - Supplier
 - Supplier reference

- ❑ **Customer control:** Type of tests aimed at verifying the quality required by different customers
 - Delivery deadline
 - Customer
 - Customer reference
 - Urgency

- ❑ **Competition control:** Types of tests aimed at making comparisons of their own product with those of the competition
 - Delivery deadline
 - Competitor
 - Competitor reference

CONTENTS OF THE STANDARD SUPPLY:

* T-LAB Laboratory Testing and Data Management Software with the specific and requested Testing Machine Modules*.

** They are optional since the base system does not include modules for connection to testing machines.*