Software *for* **Architecture**, **Engineering** *and* **Construction**

Arquimedes and Job Control

The versatile program for Project Management

The most complete tool for Project Management: bills of quantities, project certifications and specifications.

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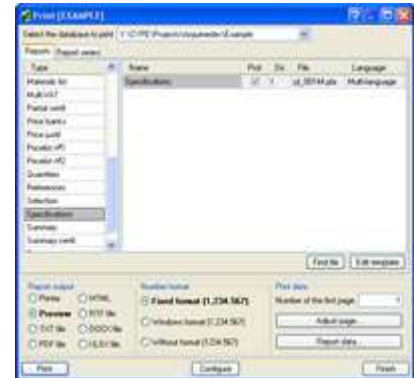- Arquimedes versions and modules

Conventional price banks in FIEBDC-3 format

Work with **parametric price banks** (including those compiled in DLLs), with **multiple prices** (prices for labour, materials, etc.,), and with **specifications** (if the price bank you are working with includes them). **Includes a dictionary** to quickly locate concepts based on key terms. Associates **graphics** to job items, chapters and unit prices.

Specifications of conventional price banks in FIEBDC-3 format

Some conventional price banks (parametric or not) in FIEBDC-3 format contain specifications which are available for construction management programs, including Arquimedes, to read and print.

CYPE cannot ensure these specifications are adapted to the corresponding code, and it the responsibility of the creators of these price banks to update their products and indicate whether the specifications are updated or not.

To print these specifications, Arquimedes has a report template which the user can select within the Specifications template group (File menu > Print > Print report).

Price modifications

Arquimedes allows for prices, yield rates, etc., to be updated immediately with respect to price banks and other bills of quantities.

The budget can be adjusted to the Material Execution Budget (MEB) and Contract Execution Budget (CEB), and to any selected chapter or job item.

Quantity adjustments and certification adjustments are possible, including any details used.

Percentage increments can also be carried out.

Users have up to 5 different types of marking available to clearly identify those job items which are pending revision.

Multiple prices

General concepts

A unit concept (labour, machinery, material, unclassified unit or unjustified job item) can have multiple prices, i.e. can contain several process which depend on the value of a parameter selected by the user. For example, a database (price bank or bill of quantities) can have the category City as a parameter, so the user can choose the desired city. Each city will have a price for each unit concept which has multiple prices.

In Arquimedes, unit multiple prices can already be included in a database when it is opened or can be created by the user based on a simple price.

Creating multiple prices

To change the simple price of a unit concept into a multiple price, the user must, first of all, create a job parameter which will allow for the value of the multiple prices to be selected from the database. Having done so, a price table must be created for each unit concept which is to be changed into a multiple price.

- **Job parameter for multiple prices**
  Using the **Job parameters** option (Show > Job parameters) a parameter can be created for multiple prices to be introduced. Upon selecting this option, the program will reply in one of two different ways:
  - o **If there are no existing parameters**, the program requests the user confirm it be generated. The user then introduces the name of the parameter (e.g. City) and the names of the different values the parameter can have (names of several cities).
  - o **If the parameter has already been generated**, the program displays the Job parameters dialogue box, where the user can change the value of the parameter (change the city). The data defining the parameter can also be edited (e.g. change the text: City to State, add or delete cities, or modify their names).

  Using the **Job parameters** option, prices for each unit concept are not introduced, it is only used to configure the structure of the parameter. To introduce prices, use the Price table option.

- **Price table**
  Each unit concept to which the user wishes to assign a multiple price, must have a price table in which the prices of the defined parameter are introduced (for example, for the unit concept: labour cost of the bricklayer, a table must be defined which contains the prices for each city that has been defined). Each price table is created or modified using the **Price table** option located in:
  - o Show > Price table. Displays the price table of the selected concept.
  - o Context menu which appears upon selecting it from the options that appear upon clicking on a concept, with the right mouse button, within the Decomposition tree view.
  - o Price table button which appears below the Decomposition tree view when the price or cost of a unit concept is selected. This button does not appear when the selected unit concept is an unjustified job item.

  If the **Price table** option is executed when the selected concept is a unit concept with a simple price, the program requests the user to confirm the creation of the price table of that unit concept. If affirmative, the table appears with all the prices equal to the simple price which is going to be converted into a multiple price. If the selected concept is a unit concept with a multiple price, its price table is displayed on screen.

  The user can modify the price of each parameter value included in the price table of a unit concept (change a multiple price into a simple price). It is not possible to select the value of the parameter used by the database (selected city) or change the text of the parameter of

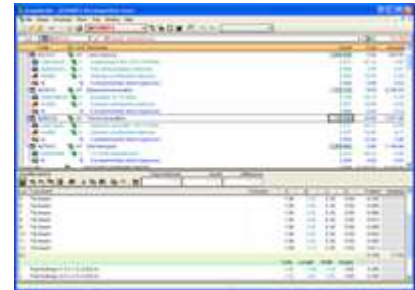**Software** *for* **Architecture**, **Engineering** *and* **Construction**

the text of its values. These structure changes are carried out using the Job parameters option described above.

If the Price table option is executed when the selected concept is a decomposed price and a multiple price exists within its decomposition, a price table is displayed with the prices resulting from the price or multiple price variance of its decomposition. Logically, nothing can be changed in this table, as its prices are the result of its decomposition and their variance depends on the variance of the multiple prices it may contain. If the selected decomposed price does not include a multiple price, the program will inform the user that the concept does not have a price table.

Quantity tables

Quantities can be introduced using details tables and subtables. Mathematical formulae can be introduced within these tables.

These quantity tables can be linked in such a way that any modifications carried out in one will cause any other tables it is linked with to be automatically updated.

Arquimedes also allows for detailed quantities to be imported using one or more FIEBDC-3 files, into the current bill of quantities. Additionally, if there are any new concepts, these are added to the existing bill of quantities. Using the Automatic quantity import from drawings and link with CAD programs module, quantities can be imported from Allplan, ArchiCAD and +Extended (AutoARQ).
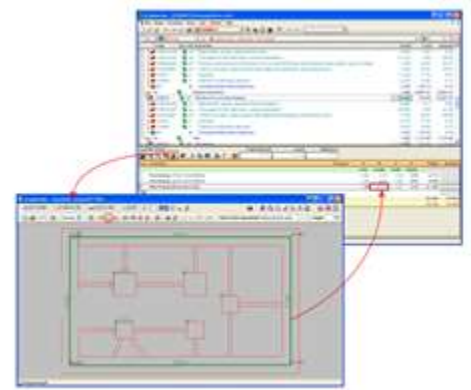
Automatic quantity import from drawings and link with CAD programs

Using this module, quantity lines can be obtained from DXF or DWG files. Quantities which can be imported include: counted amounts of elements, linear lengths, polygonal lengths, circular perimeter lengths, rectangular areas, polygonal areas, etc.

The resulting quantity tables, after the import of data from these programs, can contain many quantity lines belonging to the same element. Arquimedes can group these quantity lines depending on the dimensions of the elements they represent. For example, all the

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measurements carried out by Allplan of a wall which has constant height and thickness can be grouped together in a single quantities line.

This results in a considerable reduction in the total number of quantity details lines. The program has a serried of predefined grouping conditions. The user also has the option to create new grouping rules, to group table quantity lines in accordance with the user's own criteria.

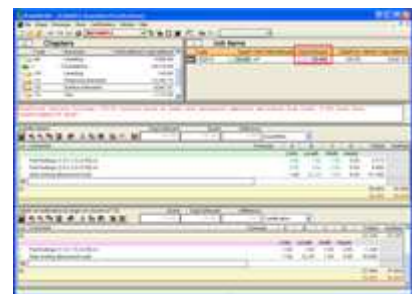## Study of indirect expenses

Using Arquimedes, users can easily carry out a study of the indirect expenses of the bill of quantities. To do so, the program offers a list of elements which could possible make up part of this study. Elements can be deleted, added, copied and reorganised within the list. The user decides which components of the list intervene in the study, indicating their quantities and price. Arquimedes offers the possibility to create an indirect expenses chapter or calculate the percentage of indirect expenses of the budget which will be included in the decomposition of all the job items.

Certifications

The program **stores the certifications** as the job proceeds.

Certifications can be with **quantities to origin** or **partial quantities**.

- **Certifications with quantities to origin.** Each closed certification contains the quantities used since the start of the job.
- **Certifications with partial quantities**. Each closed certification only contains the quantities certified for the month the certification refers to.

Certifications can be carried out by applying a **percentage** to the project quantities be it to chapters or job items.

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Users can, at any time, print or view the closed certifications belonging to the entire job, a chapter or a job item.

Arquimedes can **generated a file in HTML format** with any of the closed certifications (with quantities to origin or partial quantities) or for the certification on course, so that **any spreadsheet program** can interpret this information, including the formulas which can intervene in the certification tables. These certifications can also be exported directly to **Microsoft Excel**, which allows for the spreadsheet to be opened automatically after the export.
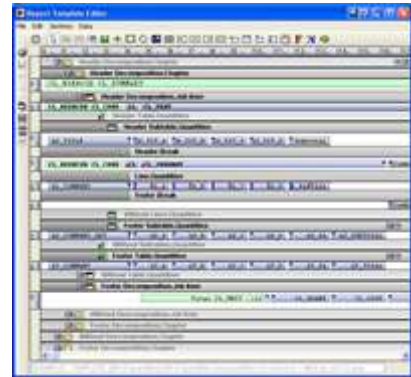
Comparisons between bills of quantities

Allows for several bills of quantities (offers) to be compared simultaneously, hence, any variances in their quantities, prices or amounts can be seen.

Report template editor

Arquimedes has the most powerful report template editor in the market to personalise and create reports.

Reports

Contains a vast amount of reports developed by CYPE.
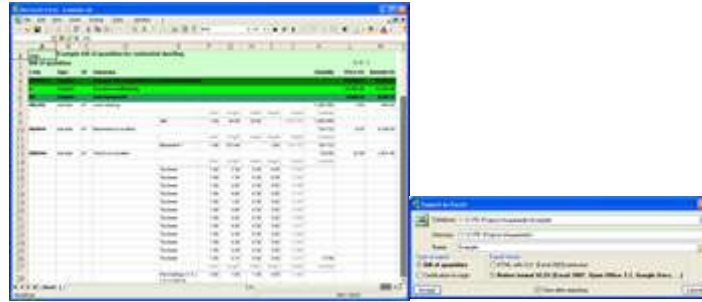
They can be seen in **Print Preview**.

The reports can be generated in **HTML, PDF, RTF** and **TXT** format.

Exchange with other programs

Exchange with other construction management programs

Arquimedes imports from and exports to **FIEBDC-3** format, making it compatible with other project management programs.

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Export to spreadsheets

Arquimedes imports and exports CSV format files, allowing for data exchange with spreadsheets.
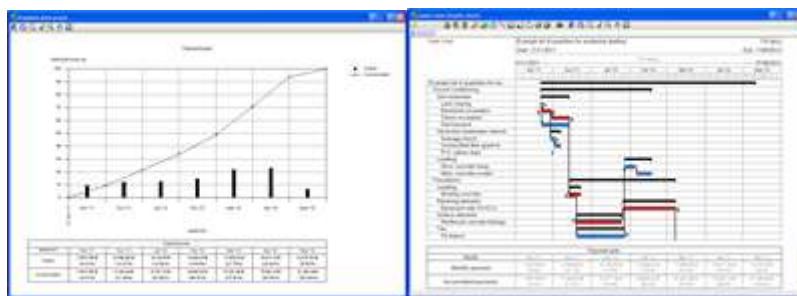
Additionally, Arquimedes has the option to export directly to Excel. The contents of the database are exported to an Excel spreadsheet, without the user having to select any type of format. Excel then opens displaying the result.

Publish price banks on the Internet

Arquimedes can generate an HTML based on any non-parametric price bank. This HTML is useful for publishing a price bank on the Internet.

Gantt chart

Generates and edits **Gantt charts**. Dependencies can be established between the tasks and visualised graphically.

Exports the graph to MPX format (Microsoft Project).

Creates a payment plan in a table which appears below the flow chart. The monthly and accumulated payments expected for the job are displayed in the table.

The payment plan can be displayed in a graph. This displays the **investment curves**. Two functions are drawn representing the monthly and accumulated payments. It can be exported to HTML, DXF and DWG.

BOQ consolidation

The **BOQ consolidation** module of Arquimedes allows for several existing bills of quantities to be included in a base bill of quantities (which can be empty), and maintain the link between the incorporated job units and their original bills of quantities. This way, the base bill of quantities can be updated with the changes which are carried out in the original bills of quantities.

This module is especially useful to manage two bill of quantity elaboration methods: Joining of partial bills of quantities generated by other CYPE programs or Joining or partial bills of quantities carried out by different project collaborators.

More information can be found at BOQ consolidation.

Arquimedes versions and modules

There are several versions of Arquimedes.

Arquimedes and Job control. Bills of quantities, Certifications and Job Control. Various modules are available to complement the program:

- Purchase management
- Automatic quantity import from drawings and link with CAD programs
- BOQ Consolidation

Arquimedes. Has the same features as Arquimedes and Job Control, without the bill of quantities control tools. The same modules as for Arquimedes and Job Control are available:

- Automatic quantity import from drawings and link with CAD programs
- BOQ Consolidation

Arquimedes. View-only. With this version, users can open databases (price banks and bills of quantities) in read-only mode, import in FIEBDC-3 format and print reports. The view-only mode is accessed when the user does not have an **Arquimedes** or **Arquimedes and Job Control** license. There are no additional modules available.

The versatile program for Project Management and Job Control

The most complete tool for Project Management: bills of quantities, project certifications, specifications and job control.

Arquimedes and Job Control has the same features as Arquimedes, and is completed with budgetary control for the job, whose features are detailed below:

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    - o Purchase control
    - o Control using cost centres
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    - o Multiple jobs
    - o Reports
    - o Automatic order generation
    - o Purchase management
- Arquimedes versions and modules

Job control

Financial control

Financial control is achieved by **defining the invoices** received from the **suppliers** and the invoices emitted to the **clients** (certifications) and is summarised below:

- **Variance in price and quantity** of the supplies that were estimated and what has really been invoiced.
- **Cash-flow** by generating due payments.
- **Account status** with suppliers and clients, including paid amounts and those pending payment, by generating due payments.

Purchase control

Includes the financial level and allows for supplier orders and delivery notes to be defined, with which the following can be controlled:

- The supplies in the invoices and the supplies in the orders and delivery notes **have identical prices and quantities**.
- Information on supplies provided by the suppliers (**order totals, invoiced totals**, etc.).
- **Stock** (if charges have been defined), resulting from the difference between what has been received and what has been charged to the cost centre.

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Control using cost centres

By charging the supplies to the job items and chapters, users can know at every moment:

- **The real execution expenses and the variance** with respect to the study budget and sales budget.
- **Real profit** to date.
- **Foreseen profit**, upon finishing the job, of each job item, chapter and the total budget.

Accounting

Export of accounts and diary to the following programs:

- Contaplus©
- Diamante Financiero©
- Logic Win©
- Primavera©
- Visual Conta©
- PRINEX 21©

Real processing of VAT, income tax and Canary Islands General Indirect Tax.

Charges applicable to chapters and job items

Charges applicable to chapters for direct and indirect expenses, which generate **repercussions on the job items** depending on the theoretical consumption of the unit items (for direct expenses) and depending on the production of the job items (for indirect expenses).

Multiple jobs

When several jobs are open, all the **entry documents can be edited simultaneously** (all their orders, delivery notes and invoices), regardless of the job that is selected as the current job. When the supplies are edited, these can be added to a document (order, delivery note, etc.) having been selected from any job. It is also possible to reassign the job from which the supply is from.

Export to accounting can also be carried out in multiple-job mode.

Reports

The following **reports** can be **consulted** and obtained: account status, price comparison, variance between the project and execution, supply history, invoice status, due payments, consumption, warehouse stock, execution situation, real and foreseen profit, etc.

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Automatic order generation

Displays an assistant which guides the user when generating orders and even when charging cost centres, if required.

Purchase management

The Purchase management module of Arquimedes and Job control calculates the supplies required to execute a job and to supervise the invoicing from suppliers and subcontractors.

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Required user license permits

To be able to work with AcoubatBIM by CYPE, users must have the corresponding permission to use the program.

For project consultancy and detailed information; cype@cype.ist or support@cypetr.com