

STR Vision CPM Construction Project Management

STR Vision CPM is an advanced flexible software tool for building operators, professionals, contractors and Public Administrations to manage estimation, **safety, jobs accounting and planning/monitoring** of both small projects and major works.

In STR Vision CPM data is entered into a grid similar to a spreadsheet: in this way you can work in a natural way by means of typical aggregators and filters. Thanks to its modular architecture, STR Vision CPM enables you to customize your software on the basis of your needs, as if it were a tailor-made suit.

STR Vision CPM is not only used for estimation and jobs accounting, but also to manage **pricelists**, prepare **price and supporting analyses**, carry out **jobs planning** using Gantt charts, develop **work maintenance plans**, prepare Safety plans and special Tender specifications, keep a daily Jobs journal and extract data in the form of reports by means of the integrated **business intelligence**. Special functions are also available for **building and installation companies**.

Today STR Vision CPM is a fundamental tool to design and execute works by **BIM**. With the Quantity Take Off module you can interoperate with both design and engineering software and produce a 3D design model complete with time (4D) and cost (5D) information, thanks to IFC standard.

STR Vision CPM perfectly integrates with Microsoft Project and Oracle Primavera, thus becoming an instrument capable of working easily in Project Management areas. STR Vision CPM is integrated with international ERP system like: SAP, Microsoft, Dynamics and many others.

An additional feature of STR Vision CPM is installation flexibility, from the individual client to server installation on LAN, which allows you to manage contemporary accesses by means of user profiling in projects and/or in parts of them.

STR Vision CPM is also available in **CLOUD**, which means no need for installation, updating and maintenance: the software can be used anywhere at any time, even by tablet.

STR Vision CPM consists of the following modules:

Cross Functions

| | |
|--------------------------|------------------------------------|
| Base Enterprise | (LOST.VISENT)(LOST.VISENT) |
| Multilanguage management | (LOST.VISLIN) |
| Multicurrency management | (LOST.VISVAL) |
| Multicompany management | (LOST.VISSOC) |
| Oracle® connector | (LOST.VISORC) |
| Administrative tools | (LOST.VISTLS) |
| Business Intelligence | (LOST.VISBIN - Add on LOST.VISPRE) |

Estimation and Planning

| | |
|---------------------------------|------------------------------------|
| Estimation | (LOST.VISPRE) |
| Price Analysis | (LOST.VISANP – Add on LOST.VISPRE) |
| Supporting Analysis | (LOST.VISANG – Add on LOST.VISANP) |
| Cost analysis | (LOST.VISANC – Add on LOST.VISANP) |
| Tender specifications | (LOST.VISCAP) |
| Installer estimation | (LOST.VISEST - Add on LOST.VISPRE) |
| Bid preparation | (LOST.VISOFF – Add on LOST.VISPRE) |
| Jobs planning and Time schedule | (LOST.VISCPR - Add on LOST.VISPRE) |
| Maintenance plans | (LOST.VISPPMA) |

BIM

| | |
|------------------|--|
| Quantity takeoff | (LOST.VISQTO) |
| 4D Jobs planning | (LOST.VISC4D add on LOST.VISCPR and LOST.VISQTO) |

Jobs accounting

| | |
|-------------------------|------------------------------------|
| Jobs accounting | (LOST.VISCON) |
| Jobs journal | (LOST.VISGDL) |
| Subcontracts accounting | (LOST.VISCOP - Add on LOST.VISCON) |

Building site management, planning and supervision

| | |
|---|--------------------------------------|
| Estimation and extended accounting | (LOST.VISPES - Add on LOST.VISPRE) |
| Primavera P6 EPPM interface | (LOST.VISPRI01 – Add on LOST.VISCPR) |
| Planned requirements | (LOST.VISPIA - Add on LOST.VISPRE) |
| Preparation Purchase Request | (LOST.VISRDA - Add on LOST.VISPRE) |
| Supplier Offer | (LOST.VISFOR) |
| Building site records | (LOST.VISRAP) |
| Industrial accounting | (LOST.VISCIN - Add on LOST.VISRAP) |
| Pi.Co | (LOST.VISPIC - Add on LOST.VISRAP) |
| Reclassified control by centers and resources | (LOST.VISCRC - Add on LOST.VISPIC) |
| Extended Business Intelligence | (LOST.VISBIE - Add on LOST.VISBIN) |
| Extended reporting | (LOST.VISRES - Add on LOST.VISPRE) |

Field

| | |
|--|------------------------------------|
| Measure Book Mobile iOS Version | (LOST.VISBIP Add on LOST.VISCON) |
| Purchase requests Mobile iOS Version | (LOST.VISRAM - Add on LOST.VISRDA) |
| Building Site Reports Mobile iOS Version | (LOST.VISRDM - Add on LOST.VISRAP) |
| Jobs journal | (LOST.VISGDM –Add on LOST.VISGDL) |

Cross Functions

Base Enterprise (LOST.VISENT)

Projects Management

To organize and classify projects developed and/or acquired by means of:

- Projects data, to be organized on the basis of freely definable criteria (aggregators).
- Special sheets for logistical information, contact people, configuration data.
- Modeling of *standard projects*, useful to replicate organizational structures and predefined analyses, to optimize start-up times of individual projects and to standardize data definition and reporting.
- Functions of project import and export by means of standard or special formats.

Access Control

To set data access policy by means of:

- Definition of Users and User Groups.
- Read and Write permissions for users/groups as for individual objects, both at system (pricelists, tables, etc.) and project (estimates, accounting, etc.) levels.

Pricelists, Unit Price Catalogs

They contain all items used in STR Vision CPM processes: estimation, price analysis, requirements and supply requests, building site records, active and passive accounting, etc.

Main features:

- Preparation of construction with prices obtained
- Item description in different formats, with pictures and hyperlinks.
- Different pricing of each item, even applying percentage changes to existing prices.
- Possibility of updating prices in Price Catalog on the basis of a reference pricelist.
- Item data to be used in projects.
- Large variety of Lists, Pricelists and Price Catalogs, belonging or not belonging to the Project.
- Definition of Price Catalog templates for a future use, so that an univocal approach is ensured while keeping the specific features of each individual Price Catalog.
- Possibility of handling contract (income and/or expense) items, company resources, basic costs, facilities and any other item useful to identify a cost and/or a revenue.

System tables

Centralized setting of tables to support the functions of STR Vision CPM modules, and in particular:

- Diameters and Weights: information supporting Iron book records.
- SOA categories: pre-filled table of SOA categories.
- Town data.

Master data

Centralized definition of reference people inside STR Vision CPM, organized according to preset types. The following information are supplied for each name:

- Data and logistics.
- Additional references (to define different locations)
- Activity
- Remarks

- Construction categories
- Free aggregators

Database and System services

STR Vision CPM configurations are handled by means of a specially developed application which makes them easy and user-friendly (even for operators with no system knowledge). The application allows each work station to be directed to different data, to make backup copies of the database and to restore it when necessary.

Large networks and high reliability

The *application* layer of STR Vision CPM has been developed to operate simultaneously on several clones of the same *server_farm*. In this way isolation and integrity of your own transactions are ensured even in case of intense concurrent processing load.

STR Vision CPM can be installed on the elements of a farm governed by traditional infrastructure management tools (for example *Microsoft System Center* inside *Windows Server System*).

To balance the processing load in the server farm, STR Vision CPM can use efficient tools such as the NLB (Network Load Balancing) service included in Windows Server operative systems.

Multilanguage management (LOST.VISLIN)

Thanks to STR Vision CPM Multilanguage module you can visualize, handle and print descriptions in different languages. Texts are displayed and printed on the basis of different dictionaries. The user can create new dictionaries by associating texts with the most suitable descriptions. The descriptions to be used are set on user profile, so that the system can be accessed in different languages at the same time. Even data defined by the user can be classified in different languages: for example, the same item can be described in several languages.

At present STR Vision CPM is supplied with the following dictionaries: Italian, English, German, Spanish.

Multicurrency management (LOST.VISVAL)

Thanks to STR Vision CPM Multicurrency module you can visualize, handle and print amounts in different currencies. A reference currency can be set for each Project: all economic values are then converted into such currency to obtain consistent total amounts. In addition a local currency can be set for the country where the project is located, together with three additional currencies. Each basic price/cost value at any level (working, partly-finished product, basic cost) can be expressed as a currency percentage without changing item or price class. The system is capable of processing a foreign currency both at summary and detail levels: a very useful feature in case of tenders abroad. A function to handle exchange rates with validity date is also available.

Multicompany management (LOST.VISSOC)

STR Vision CPM allows you to handle the data of several *companies* simultaneously, in complete safety and confidentiality. You can handle separately the data of the different companies of the group or of the TCA (Temporary Company Association) your company belongs to and, at the same time, have a centralized management of user profiles (users,

groups, permissions), system templates (custom prints) and databases in common with other companies.

Oracle® connector (LOST.VISORC)

With STR Vision CPM you can use the main data storing platforms (RDBMS) available on the world market; Oracle® connector implements the connection with Oracle database.

Administrative tools (LOST.VISTLS)

These functions are dedicated to system administrators, to control and manage access to the different application functions. The main functions of this module are:

- Monitoring of connected users and login history
- Visualization of system information
- Extraction of user permissions
- Extraction of user/role association
- Management of permissions/authorizations according to aggregator value

Business Intelligence (LOST.VISBIN)

STR Vision CPM offers a **powerful (native) data analysis system**, directly built on the application platform.

Each estimate and accounting quantity or amount can be shown directly by analysis sheets (Pivot tables) and by 2D or 3D diagrams. You can easily draw an analysis chart by dragging quantities, total amounts, line and column aggregators, etc. with your mouse.

Any summary of bill of quantities can be prepared very easily and a comparison among different estimates or between estimates and accounts can be made very quickly.

You can obtain very important results:

- Definition of orders, filters and totals.
- Definition of colors and font options to enhance the most important data.
- Detail analysis.
- Free definition and saving of multiple layouts for each estimate and accounting.
- Output in standard formats (HTML, XLS, ...) both of analysis sheets and diagrams.

Estimation and Planning

Estimation (LOST.VISPRE)

Several estimate versions can be handled for each job; thanks to the "copy and paste" function the estimate can be prepared by drawing elements from earlier estimates.

- The estimate can be structured in several hierarchical and cross levels; quantities in the bill are specified by means of complex algebraic expressions as well as by means of basic factors. The estimate is easily drawn up and stored in different versions, immediately available as a preview, even in tiled windows.
- Comparison tables for quantities and amounts can be prepared (and printed or displayed) using the sheets for interactive data analysis (Pivot in Business Intelligence module).
- Printing is efficient and can be customized thanks to a series of templates: bill of quantities, request for quotation, form as per Art.119 of Regulation 207/2010 (former "Merloni" form), with a variety of options so that only the required information are supplied in the desired graphic layout.

Lumpsum works, works by measure, dayworks

STR Vision CPM allows you to attribute each item involved in the bill of quantities to *Lumpsum works*, *Works by measure* or to *Dayworks*, and to define which homogeneous working category it belongs to. The total amount and incidence (in percentage) on total bill of quantities is calculated for each bill subdivision and Jobs Category.

Safety charges

According to the prevailing law, total safety charges consist of two shares: one is included in the unit price of the individual works; the other one consists of "special items" which are not included in the prices.

Labor Management

STR Vision CPM estimation module allows you to obtain values of labor cost both for the whole project and for individual works, safety charges and aggregators.

STR Vision CPM is the first application for the Technical Department which makes use of an architecture based on services supplied on the WEB and on the local network (SOA). Thanks to this technology you can operate with new forms of organization: for example, the bill of quantities can be prepared by several internal or external technicians simultaneously, each one taking care of a specific part of the work. STR Vision CPM really helps obtaining a homogeneous result, in line with preset standards.

Price Analysis (LOST.VISANP)

The price of each part of the project is determined by means of the components list: materials, labor, freights, performances of third parties, charges, etc. Each component is entered directly when drawing up the bill of quantities, or it can be easily imported from lists, pricelists or earlier jobs through the "help" window.

Each analysis includes basis resources and/or partly-finished products: in this way a multilevel price analysis can be obtained.

The application calculates the prices of works and of any supporting analysis.

Each analysis component can have different prices (for example due to different suppliers) or different versions, resulting in an articulated "analysis bank".

Subtotals can be obtained using percentages, formulas and the powerful calculation functions.

The safety share is calculated for each price. (The execution time can also be calculated and used in the time schedule for the company planning module).

Each component can be provided with remarks, notes, name of supplier/executor (if identified).

Different alternative compositions can be indicated for the same work, which can be used to make comparisons without repeating the whole calculation.

The price of the works is updated in case of variation of the prices of basic resources.

Different percentages can be applied (profit, overhead expenses, safety charges, etc.): they can be parameterized and quickly adjusted to the price analyses of each job.

Supporting analysis (LOST.VISANG)

Analyses of prices and costs can be exported to Microsoft Excel® using customizable templates: in this way the result is shown as per user's layout. Excel sheets and analysis prints are produced with maximum flexibility. You can save templates and, by simply activating the "print" function, have Excel sheets printed according to your or to the customer's requirements (with columns, logos, total amounts, etc.; or with the customer's special layout).

Cost analysis (LOST.VISANC)

It completes the analysis module by allowing cost analysis to be managed directly from estimate lines.

The cost analysis module is a fundamental tool to obtain project costs, economic and technical requirements, list of possible executors and execution times diversified according to work part.

Each analysis component can have different prices (for example due to different suppliers) or different versions.

The system automatically calculates the execution time necessary for the works, to be used in the time schedule (planning module).

The supplier or executor name can be specified for each component: this field will be available in the requirements dashboards to aggregate or subdivide the resources to be supplied.

In case of integration with STR Vision Amministrazione, you can check suppliers' pricelists and average prices of resources as well as retrieve an item directly into the analysis at company's cost. The function Use Details is available (see Extended Estimation module).

Special tender specifications (LOST.VISCAP)

Complete intuitive functions, that can be quickly learnt, characterize STR VISION CPM and meet any requirements related to special Tender specifications, technical reports and contract layout provided for by the Italian Regulation on Public Tenders as mandatory documents for the executive project of the works.

The application allows you to prepare specifications, technical reports and contract layouts starting from the templates contained in a rich Database, which is steadily updated. The documents can be organized by parts, so that they are suitable for a specific job at any time.

Such documents can be integrated with the corresponding estimate, as a confirmation that they correspond to the work at issue; it is also possible to obtain a draft of the special tender specifications starting from the price catalog items or from the calculation categories.

Installer estimation (LOST.VISEST)

The functions in the estimation template are integrated with a specially developed set of data and functions to support the methods and information flows of the installing companies: The lists contain specific information such as: brand, model, manufacturer code, information concerning market standards (Metel®).

Items and analysis components contain the execution times: thanks to special "pricelists", they allow cost shares due to labor to be processed. All this broken down into the typical information available in STR VISION CPM, that is unit amounts, total amounts, percentages, etc.

These information integrate the print environment of charts related to the estimate.

When Vision Amministrazione is installed, brand, model and manufacturer code are available in the integrating functions. So you can use coding, list import, supply functions

and other utilities specially developed for these areas and avoid redundancy of data and processes.

Bid preparation (LOST.VISOFF)

The sale price of the work and the corresponding unit prices can be easily determined using the bid template functions. You can choose if you want to set the sale price and specify the unit prices consequently, or if you prefer to calculate the sale price by applying markon coefficients on direct costs while keeping indirect costs into consideration.

You can also apply different markon coefficients on the tender specification items on the basis of preset features.

Jobs planning and Time schedule (LOST.VISCPR)

STR VISION CPM supplies a complete system for jobs planning and scheduling.

The time schedule can be developed on the basis of the aggregators used for the calculation, the price catalog items, or freely.

The activity plan can be developed at different levels, even for the individual estimate lines; otherwise you can prepare a synthetic plan, for example by "work type" and UPC item.

Planning can be carried out using the constraints between activities (Start - End, etc.), or directly setting start and end dates, or even by dragging Gantt bars to the graphic interface.

The system displays the critical path line and the time development of the economic project data.

The duration of the activities can be obtained from the execution time, calculated by the analysis module.

The time schedule can be exported in a format capable of being imported into Microsoft Project.

In case of jobs planning generated by an estimate, a corresponding jobs accounting can be associated, so that the time bar shows the percentage of progress for each activity.

Advanced integration with Primavera P6 (see Interface module Primavera P6 EPPM - LOST.VISPRI01)

Maintenance schedules (LOST.VISPMA)

Complete intuitive functions, that can be quickly learnt, characterize STR VISION CPM and meet any requirements related to the Maintenance plans: they are provided for by the Italian Regulation on Public Tenders as mandatory documents for the executive project of the works, as well as by the latest technical building standards.

The *Use manual*, the *Maintenance manual* and the *Maintenance schedule* are the basic documents making up the Maintenance Plan; they are handled and produced by the application to keep the work efficient in time.

The Technological Unit Classes, the Technological Units and the Maintenance components as per UNI standards, are the basis on which the documents are drawn up.

A comprehensive database of Technological unit classes, divided into Technological units and Maintenance components, is available to reduce document drafting time and to increase technical and regulatory reliability.

A maintenance plan can be drawn up in different ways:

Ex-novo Maintenance plan: the maintenance plan is drafted by drawing directly from the maintenance elements/components Database, independently of the estimate.

Maintenance plan based on bill: the maintenance plan is based on the integration between database and estimate, in close connection with the work to be done (even in terms of costs).

Maintenance plan derived from lists or UPC: the maintenance plan is automatically produced on the basis of the maintenance plans stored in lists or UPCs.

STR Vision CPM Maintenance Plans allow you to determine maintenance costs, to have dynamic *dashboards* to assess the trend of maintenance costs in time, to obtain a Gantt chart for maintenance operations and checks planning.

In addition you can prepare a maintenance plan for the maintenance contractor of an existing work, so that the customer can be informed of the maintenance components as well as of the operation schedule.

BIM

Quantity take off (LOST.VISQTO)

Vision QTO is the first module allowing STR Vision to integrate estimation, planning, management and accounting of a construction work into a BIM process.

Vision QTO starts at design stage and interacts with it. It is an open platform where the 3D design can be imported thanks to the interoperability of the international data interchange standard IFC.

Vision QTO allows you to import different files (even concerning different fields, such as facilities, architecture, structure) in IFC standard (certificated by buildingSMART of IAI - International Alliance for Interoperability), thus making information available for analysis, computing, planning and accounting activities, with the full support of STR Vision CPM platform.

The same model can be updated in time, by disabling obsolete 3D designs.

The information read in the 3D design are available both as a text and a diagram.

The 3D viewer integrated in Vision QTO allows you to "explore" the 3D model by means of various synchronized interacting tools.

Graphic visualization of the 3D model

It is the rendering component of the 3D design, that can be analyzed by means of the following instruments:

- Pan, Zoom in/out, Rotate
- Transparencies
- Select/deselect a graphic object
- Multiselection of graphic objects
- Preset horizontal cutting plans (for design plans) with plan view
- Free cutting plans
- Show/Hide groups of homogenous objects
- Graphic merge of different design models

Navigation tree

The design of the construction work can also be efficiently analyzed by means of a topological tree, which organizes the 3D objects in a hierarchical order. The navigation tree and the graphic 3D model of the construction work are synchronized: when a leaf-element is selected on the tree, it is also selected on the graphic model (and vice versa). The tree organizes the elements according to the spatial organization of the design and on the basis of object type. In case several graphic models are loaded, the same number of navigation trees will be loaded.

Search

The Search tool allows you to filter the design 3D objects by type, after setting dimension properties as filter conditions.

The search result is shown graphically in the 3D model.

Reading properties of 3D Objects

Thanks to Vision QTO you can read dimension and classification properties of the objects exported from the 3D CAD in IFC format. Independently of how an object has been identified (selection on the navigation tree, by filter, selection on the 3D graphic model), the system shows a property panel with its geometric-dimensional properties. Such properties are available to be used as take off. Each 3D object type is characterized by its own set of dimensional properties.

Take OFF

STR Vision CPM estimation tools are extended and strengthened by the Vision QTO module: from the 3D design of the construction work you can easily obtain the measures necessary for quantity calculation, thus reducing computing times and better controlling (even graphically) information quality. Thanks to a virtual "ruler" you can also make direct measurements on the 3D design.

Measures can be obtained starting from the data input grid or by selecting an object directly on the 3D design: after identifying the useful dimensional property, you can drag it to the quantity field on the calculation line or to measurement by using the *drag&drop* function. A formula *editor* is available, where you can retrieve the dimensional properties of the 3D objects. They can be used in quantity calculation to deduct or add dimensional quantities of correlated graphic objects.

The possibility of importing all types of 3D designs concerning the Work allows you to compute, architectural, structural as well as installation elements of the Work.

Estimate update

Thanks to Vision QTO you can prepare different versions of the same estimate for the same Job, supported by one or more 3D designs of the Work. Each estimate measure is correlated with one or more 3D objects. When loading updated designs, you can generate a new Bill by automatically updating the (take off) quantities used. Updating takes place with the same object ID: as a consequence, important situations may arise that must be enhanced. For example, the updated 3D design does not contain objects which one or more calculation lines make reference to: such measures can be marked by an aggregator that enables the user to identify them in the estimate and act accordingly.

4D and 5D

Thanks to the integration with the Jobs Planning 4D module (*) you can manage times by integrating 3D models with GANTT diagrams. As for the 5th dimension, you can generate Budget views for design WBS through advanced Business Intelligence tables (*), thanks to the price and cost analysis (*) and the Planned Requirements module (*).

(*) see corresponding product modules

4D Jobs Planning (LOST. VISC4D)

The **4D Jobs Planning** module enables analysis scenarios to be achieved by an interaction between Jobs Planning with Gantt charts and the 3D models processed in the corresponding estimates. When the Gantt chart based on an estimate is ready, you can define a reference date and have the situation of the work displayed in 3D, highlighting carried out and being carried objects. In addition you can select a certain Gantt activity or WBS and view the corresponding objects in the 3D design, or vice versa (i.e. you can select one or more objects in the design and have the corresponding activities or WBS displayed). An important function is the production of videos in AVI format showing virtually how the work will be carried out in time, starting from the corresponding 3D CAD models. In addition the Jobs Planning module offers an integration with Primavera P6 software of Oracle, as well as the possibility of exporting a Gantt chart in a format compatible with Microsoft Project.

Jobs accounting

Jobs Accounting (LOST. VISCON)

STR Vision CPM Jobs Accounting module offers a remarkable flexibility and is particularly suitable to keep the accounts both of public and private works. The highly efficient processing of large quantities of data and the use of relational DBMS enable complex accounts to be produced by with several operators working simultaneously. Thanks to the "copy and paste" function, the measure book can be prepared very quickly by copying lines directly from the estimate.

- Management of discount/raise conditions, safety charges
- Calculation of guarantee retentions
- Management of advances
- Management of Jobs accounting for progress status, with assessment of works by measure, lumpsum works and dayworks.
- Organization of data on the basis of grouping structures that the user can freely define at the desired hierarchical levels.
- Production of accounting prints: Measure book, Accounting register, Jobs Progress Status, Accounting register summary, Payment certificate. The prints can be obtained with a preset layout (as for Jobs accounting, according to State regulations) and can be exported to XLS.
- Production of the Iron book, with calculation of the quantity of iron used on the basis of iron lengths and diameters.
- Management of daywork lists
- Management of separate accounts (as per art. 197 of the Italian Regulation 207/2010)
- Diversified VAT
- Preparation of tables for comparison with the estimate, of additional or modified assessments.
- All prints are produced on the basis of preset templates, but they can be modified by the user to obtain different grouping, data ordering and graphic effects.
- By the function "Management of RTF documents" you can have any report, enclosure or cover for your accounts.
- Data can always be transferred between estimate and accounting.

Payment certificate

The certificate of payment determines the business credit amount on the basis of the conditions set in the accounting heading, as well as the amounts associated with previous certificates of advance payments.

SOA technology of STR Vision CPM allows technicians on the building site to connect directly to the headquarters and update measures in real time. The use of STR Vision CPM environment at the headquarters and in the periphery ensures homogeneous and efficient data processing.

Jobs journal (LOST.VISGDL)

The jobs journal is a module destined to the users involved in construction supervision. It offers functions to record any details concerning the economic and technical development of the jobs: activities, workings, workers employed and their qualifications, technical equipment used by the contractor and other companies on the building site.

Circumstances and events influencing the jobs can also be recorded, such as weather and hydrometric conditions, soil situation and other information.

The module also offers the possibility of recording service orders, instructions and provisions of the process manager and work supervisor, reports to the process manager, minutes on investigations into facts or tests, claims and in general all documents concerning the daily activity on the building site.

Subcontract Accounting (LOS.VISCOP)

This module is particularly suitable for the management of different accounts with subcontractors. The highly efficient processing of large quantities of data, the use of a relational DMBS, the management of contract data organized by supplier code or firm enable several (even complex) accounts to be produced by several operators working simultaneously.

Thanks to the "copy and paste" function, the measure book can be prepared very quickly by copying lines directly from the estimate.

Each account can be handled on the basis of grouping structures that the user can freely define; you can also choose if the jobs are accounted for by applying regulations strictly or in a more flexible way. In fact for each subcontract you can choose between "quick accounting process" (loading on book of works carried out for each passive JPS and direct determination of certificate amount) and accounting by means of official prints.

- Management of discount/raise contract conditions, safety charges, calculation of guarantee retentions.
- Management of Jobs accounting for progress status, with assessment of works by measure, lumpsum works and dayworks.
- Organization of data on the basis of grouping structures that the user can freely define at the desired hierarchical levels.
- Production of accounting prints: Measure book, Accounting register, Jobs Progress Status, Register summary, Payment certificate.
- All prints are produced on the basis of preset templates, but they can be modified by the user to obtain different grouping, data ordering and graphic effects.

Building site management, planning and supervision

Estimation and Extended Accounting (LOST.VISPES)

Estimation - Element Parameters

This tool supports the analysis of costs and prices. Variable parameters can be defined (as required by the user) to be used in expressions of analysis components and to be given a value on a special panel associated with the individual item.

Element parameters are used in all types of analysis with a preset component structure that can be replicated for different items, where the cost is made dynamic by well identified variables.

A typical use of the parameters is the calculation of the cost per hour of machinery and/or systems (machine tab): "technical life" (to calculate technical depreciation), "power" (incidence of consumption), "number of tires" and/or "tracks", etc. are simply listed, described and given a value in the details of the individual item. When using these parameters no change in (often complex) expressions of analysis components is necessary, the calculation of cost per hour is much simpler, mistakes are avoided, study time is drastically reduced.

Estimation - Use Details

This tool supports the analysis of costs and prices. It checks where an item has been used: on the estimation lines or as an analysis component. Here you can directly modify the incidence of the item where it is used, without accessing the individual analysis where it appears as a component.

Estimation - Quantity type in components of price and cost analysis

In cost analyses you can indicate the component incidence in different ways to meet different requirements, in particular to determine the costs of the products of plants (energy, inerts, etc.), depreciation costs for plants and means, etc.

Accounting - Management of "Thousandths"

Active jobs accounting can be carried out by giving thousandth unit values to the works involved in the contract, on the basis of the number of thousandths making up the whole work. This thousandth base can be adapted to the work accounting requirements (hundredths, thousandths, etc.); progress values can be calculated automatically by using the amounts derived from the Measure Book and the thousandth unit values calculated automatically on contract basis (budget). The management is complete with a print in Microsoft Excel[®] called "T6", which allows thousandth values and progress to be exported at different grouping levels.

Different Unit Prices on Estimate measurements

It is possible to specify a price class on the individual estimate measurement. As a consequence, the same item can have different Measurement prices according to the class selected.

Primavera P6 EPPM Interface (LOST.VISPRI01)

Primavera P6 Enterprise Project Portfolio Management of Oracle is the most powerful, accessible and user-friendly solution to organize, plan, manage and assess projects. The integration of STR Vision CPM with Primavera P6 offers a perfect support to estimation, planning, jobs progress status and supervision processes.

The integration includes the following data flows:

- Export of activities from STR Vision CPM to Primavera P6
- Export of resources from STR Vision CPM to Primavera P6
- Export of progress from STR Vision CPM to Primavera P6
- Import of planning from Primavera P6 to STR Vision CPM
- Import of planning distribution curves from Primavera P6 to STR Vision CPM

Planned requirements (LOST.VISPIA)

- Explosion of partly-finished products and resources
- Scheduled requirements
- Generation of requirements for supply

On the basis of the work analyses and of the quantity of work provided for by the bill, the procedure calculates the resources (divided into material to be supplied and subcontracts) needed to complete the whole project or individual lots/maps/works. Scheduling of requirements takes place using the module "Jobs planning and time schedule".

Thanks to this function, purchase requests are prepared on the basis of monthly requirements, indicating cost, quantity and work part.

The module "Scheduled requirements" also allows you to generate the economic budget for the project, both in terms of costs and proceeds, by month, quarter or year.

Requirements can be sent to STR Vision Amministrazione to plan and manage supplies as efficiently as possible.

Preparation of Purchase Requests (LOST.VISRDA)

This function is used to prepare purchase requests for supplies to the building site. Each document consists of a heading and several lines with the following information:

- Remarks concerning delivery, place and data
- Supplier, if identified
- Description of the goods or performance to be supplied
- Part of work which the supply is destined to
- Gross price, discounts offered by the supplier and net price calculation
- Quantity to be supplied and amount

Supplier Offer (LOST.VISOFF)

The module allows you to define and compare (inside the price catalog) potential suppliers' offers. In other words, you can send a Request for Quotation (RfQ) to potential suppliers concerning a part or all items of an estimate, both in paper form and using a spreadsheet (Ms-excel). In the latter case the spreadsheet, duly filled in, can be acquired later by the system through a specific utility. Imported data populate an economic value, an execution time and a remark per line of each supplier and item. Thanks to a specially developed dashboard, you can prepare economic comparison tables including up to 6 suppliers at a time, and identify the most convenient supplies. After selecting the suppliers, the economic values acquired can be used to update costs in the estimate of the whole project, or as a base for subcontracts.

Building Site Records (LOST.VISRAP)

STR applications improve processes in the company and on the building site thanks to solutions supporting users' activities with maximum flexibility. In STR Vision CPM the functions of "Building Site Records" and "Industrial Accounting" modules allow you to monitor the project directly and, if you want to, independently of the company's accounting-administrative system. In this way you get information - if necessary even remotely - to

monitor the project development: production, the use of resources (labor, means, equipment), suppliers' deliveries, subcontractors' performances.

The project managers can fill in Purchase Requests, daily reports on labor, means, equipment, confirm receipt of deliveries by recording Transport documents, determine actual performances carried out, check the progress of production to define JPS and JIS. Such operations are remarkably facilitated by the innovative technology of STR Vision CPM: information aggregators and structure can be freely set in the forms so that data can be quickly recorded and found in pricelists, supplier lists, lists of employees, hourly rates, list of resources and equipment, project structures such as WBS or OBS.

The functions of the "Building Site Records" module of STR Vision CPM are so developed as to work either independently, or keeping data in line with those of the accounting-administrative system of the company, as necessary.

In both cases information on the use of resources and supplies are obtained; in the latter case, the functions of record exchange among systems offer important operative advantages and process efficiency.

For example, the supply cycle is perfectly articulated and supported by specific functions both for the Purchase department and the Project managers, who must punctually inform if purchase orders have been carried out.

Other operations: technicians can issue Purchase Requests, access orders (prepared by the Purchase department), record supplies and Transport documents starting from orders; the Purchase department receives supply records, the HR department and the Management Supervision Office receive the employees' work report.

In case a management system outside Vision environment is available, you can buy (with a suitable license) a utility function called **collimator**, which allows you to compare all accounting records made in Vision CPM (in building site records, subcontracts, reports on means and labor, active accounting) with the analytic accounting records available in the management system. The comparisons can take place at common summary levels in Industrial Accounting and Analytical Accounting; they can both highlight differences and make adjustments of quantities and/or amounts.

Industrial Accounting (LOST.VISCIN)

The functions of the "**Industrial Accounting**" module of STR Vision CPM allow you to monitor project situation by means of **custom prints** based on quantity, cost and proceeds, reports, Transport documents, active and passive JPS/JIS data, so grouped as to show the necessary information in **preset spreadsheets**.

In this way the building site managers can use complete flexible functions to **monitor the projects both at technical and economic levels** and obtain the necessary information without delay.

The managers responsible for the operative areas of the company can use these functions, in addition to the accounting-administrative system, to increase and improve their activity.

Comparisons between estimates and final calculations can be made both as for the works to be done and the analytical details of the cost components: values are taken from the requirements deriving from prospective analysis and Transport document records, Performances, Consumption, Subcontracts, etc.

You can also obtain analyses into Project margins.

Pi.Co. – Planning and Control (LOST.VISPIC)

It adds to the functions of the Industrial Accounting module as follows:

Recurrent estimation

The whole body of works to be completed is periodically re-defined with the support of semi-automatic parameter tools, which help the user to determine and plan the "remaining" works

Earned Value Analysis

This analysis not only shows the gaps between budget and final data, but it also identifies their reasons. Specially developed spreadsheets (which also affect the information available in Business Intelligence modules) show the gaps due to "production" (effectiveness) and "costs" ("mixed" deviation due to changed incidence of material and resources and variations in their unit price).

As a result, suitable corrective measures can be promptly taken, thus increasing the possibility of not exceeding the budget.

Trend Analysis Dashboard: it offers projections of times and costs as at work completion. Different methods are used according to project type and individual planned activities. Values typically found in Project Management literature are used, such as EAC (Estimate at complete), ETC (Estimate to complete), BAC (Budget at completion), TCPI (To Complete Performance Index), together with other values and indicators available in the Gap Analysis Dashboard.

Reclassified control by centers and resources (LOST.VISCRG) - ADD-ON Pi.Co.

It extends the functions of the Pi.Co. module by re-classifying aggregators and WBS in Final and Intermediate Control Centers.

The Control Centers not only acquire economic values, but also allow you to monitor planned and achieved quantities.

Such quantities can be increased manually through Center Productions management, or automatically thanks to specially developed utilities that analyze passive records and apply preset rules.

The records can be used to cut off Center quantities periodically, when there are new "at complete" planned quantities.

The reclassification of planned quantities before the operative stage causes Centres and Resources data to be generated, and it can take place by using both offer estimates and any other estimate organised by WBS and Articles.

Dashboards and prints of Industrial Accounting and Advanced Control allow you to compare budget and jobs planning data organized by WBS and Item, as well as to analyze the operative view set on Centers and Resources.

Extended Business Intelligence (LOST.VISBIE)

While the body of data handled by STR Vision CPM can be analysed by means of prints specially developed for each software module, the Business Intelligence module allows you to read such data in Dashboards (Pivot) directly and dynamically built by the user. Extended Business Intelligence widens the control system by means of additional Dashboards and prints specially designed to guide the user into economic, comparison and margin analyses, not limited to the individual project but in groups extending as far as the whole company. The module offers the following prints/dashboards:

- Estimate Dashboard (with export of the corresponding jobs planning to XLS format)
- Budget/final calculation comparison Dashboard
- Final costs/proceeds Dashboard
- Report Dashboard
- Building Site Progress print

Extended Reporting (LOST.VISRES)

It introduces three types of prints (Extended estimate, Extended master data, Extended breakdown) into the reporting environment of the Bid area: they have been specially developed to obtain flexible tables complete with very detailed information on project costs. As for foreign tenders, economic data is available in the different currencies involved, with the possibility of showing them in your own or in a reference currency.

When there are big amounts of data or very detailed tables, it is possible to obtain "basic" pages to define BOQ Items or other Items; in addition you can specify the relevant requirements (with summary or details of machines and plants), item parameters, cost analysis, production planning.

A complete analysis of investments and depreciations for means and plants is also available. The prints of extended reporting also allow you to define **dynamic columns** where the content is calculated by means of expressions, parameters or other dynamic columns to be printed: in this way reports are extremely flexible.

Field

Str Vision Mobile is the solution to the problem of entering project data when you are far from the company headquarters, for example on the building site. At present it is available for platform APPLE IOS 7 and later versions: the operator can enter useful data and update his central information system directly or at a later time. The main strong point is efficiency: you can enter data both when connected through a Wi-fi or 3G network or even offline, without worrying if you can't have an internet connection on the building site. In the latter case the user can previously download the data necessary for his work (UPC items, list of employees) and then enter JPS measures or reports for each job and update the central information system as soon as he gets a connection. Thanks to today's technologies, the APPs will be able to download and update data both remotely (through a WEB server) and locally not only by connecting to their server, but simply to their PC.

The solution for APPLE consists of an APP that can be downloaded from the Apple Store: according to the modules bought, it will enable the specific necessary functions. Anyway all APP functions allow you to download projects already available in STR Vision CPM, to open new projects even temporarily for inspections, to add pictures or manual drawings with the possibility of retouching them, write remarks and consult prints. Another important aspect is that the work and menu navigation environment is the same as in STR Vision: as a result, the operator can learn its use very quickly. The user has a simple but very efficient tool at his disposal, which takes advantage from the features of the tablet on the one hand and from STR Vision basic functions for measurements on the building site on the other.

Measure Book Mobile iOS Version (LOST.VISBIP Add on LOST.VISCON)

The Measure Book module, integrated with the Jobs Accounting module, allows you to measure works progress for each Job by entering the measures taken for each Price Catalog item. As a first step the operator downloads the price catalog of the job involved from STR Vision CPM. Then it is possible to indicate several measure lines for each item, expressed in unit values calculated by factors (similar, height, length, width) or by formulas, and to associate the WBS and other aggregators. You can also write remarks and associate a picture or a drawing made manually on the spot. The measures entered and all additional information will update the Measure book and will be associated with the current JPS in STR Vision CPM.

Building Site Reports Mobile iOS Version (LOST.VISRCM - Add on LOST.VISRAP)

Here you can enter the labor hours for each project. From STR Vision CPM you can download the list of employees; later, even offline, for each individual project you can enter the hours worked by each employee and indicate their type (ordinary, overtime, holiday, night, stop, vacation stop, rain stop, sickness stop, dayworks, non-working) and the WBS. When connected with the headquarters, you can generate labor reports in the Building Site module of STR Vision CPM: they are useful both for the economic monitoring of the project and for the HR department to check the labor hours by project. Thanks to the Extended Business Intelligence module you can get overviews with hours and costs of each individual employee working on more projects. In case of integration with STR Vision Amministrazione, the hours entered by tablet can be sent to Analytical Accounting after data consolidation in STR Vision CPM.

Purchase requests Mobile iOS Version (LOST.VISRAM - Add on LOST.VISRDA)

Purchase Request, PR, allows the building site manager to enter requests for resources such as raw materials, tools and equipment and send them to whom is in charge of purchases and supplies for the individual project or at company level. To enter PR lines you can use UPC items or describe your needs (without any code) and then associate quantity, reference/market price (if any), WBS and/or other aggregators. Integrated with the Purchase Request Preparation module of STR Vision CPM, it allows you to upload requests for resources to your tablet (even offline) and to download them later. In this way the project/purchase manager can monitor requests by individual resource, WBS or total requests, also as for the requirements indicated in the operative estimate. After the Purchase Requests have been sent to STR Vision CPM by tablet, in case of integration with STR Vision Amministrazione (as it is already possible today) they can be sent to the Supplies module to be processed and generate Requests for Quotation and Purchase orders.

Jobs journal mobile iOS Version (LOST.VISGDM)

The Job Journal Mobile iOS Version module is the ideal support for users at Jobs direction because it allows them to record the daily progress of activities, including labor and technical equipment used and circumstances and events influencing the jobs, such as weather and hydrometric conditions, soil situation and other information.

The app offers the possibility of recording service orders, instructions and provisions of the process/Jobs direction manager, reports to the process manager, minutes on investigations into facts or tests, claims and in general all documents concerning the daily activity on the building site.

Each daily record can be completed with geo-referenced pictures and documents in PDF format coming from other Apps.

System requirements

Individual work station

Processor, 1 GHz; processor with higher capacity recommended.

Min. RAM: 2 GB; recommended RAM: 4 GB.

In case of QTO module (LOST.VISQTO), min. recommended RAM: 6 GB

Hard disk: 2 GB free space min.

DVD-ROM unit

Monitor with 1024x768 resolution; recommended resolution 1280x1024 or higher

Operating system Microsoft Windows™ XP with Service Pack SP2, Windows Vista™, Windows 7, Windows 8 and Windows 8.1

Microsoft Internet Explorer 6 or later version

If necessary, STR VISION will install SQL Server 2005 Express Edition or SQL Server 2012 in case Windows 8 or Windows 8.1 are installed on the PC as operating systems.

Network configuration

Client

Processor: 1 GHz or more

Min. RAM: 2 GB; recommended RAM: 4 GB.

In case of QTO module (LOST.VISQTO), min. recommended RAM: 6 GB

Hard disk: 512 MB free space min.

Monitor with 1024x768 resolution; recommended resolution 1280x1024 or higher

Operating system Microsoft Windows™ XP with Service Pack SP2, Windows Vista™, Windows 7, Windows 8, Windows 8.1

Microsoft Internet Explorer 6 or later version

Client Mobile

Compatible with APPLE iPad and iPad mini. Version iOS 7.0 or a later version is required.

Server

It depends on the number of simultaneous work stations and on mode of use.

Processor, 1 GHz; processor with higher capacity recommended.

Operative system Windows Server™ 2003 with Service Pack SP1 or Windows Server™ 2008 or Windows Server™ 2012.

DVD-ROM unit

Min. RAM: 4 GB;

Hard disk: 4 GB free space min.

To operate STR VISION access to a DBMS is necessary.

I DBMS: SQL Server 2005, SQL Server 2008, SQL Server 2012, SQL Server 2014, Oracle 10g, Oracle 11g o Oracle 12c

Note:

Microsoft no longer supplies any service and update for Windows XP and MS SQL Server 2005. As a result, although we confirm the compatibility of STR Vision CPM, we cannot ensure any service support in case of problems directly attributed to Microsoft XP and MS SQL Server 2005.