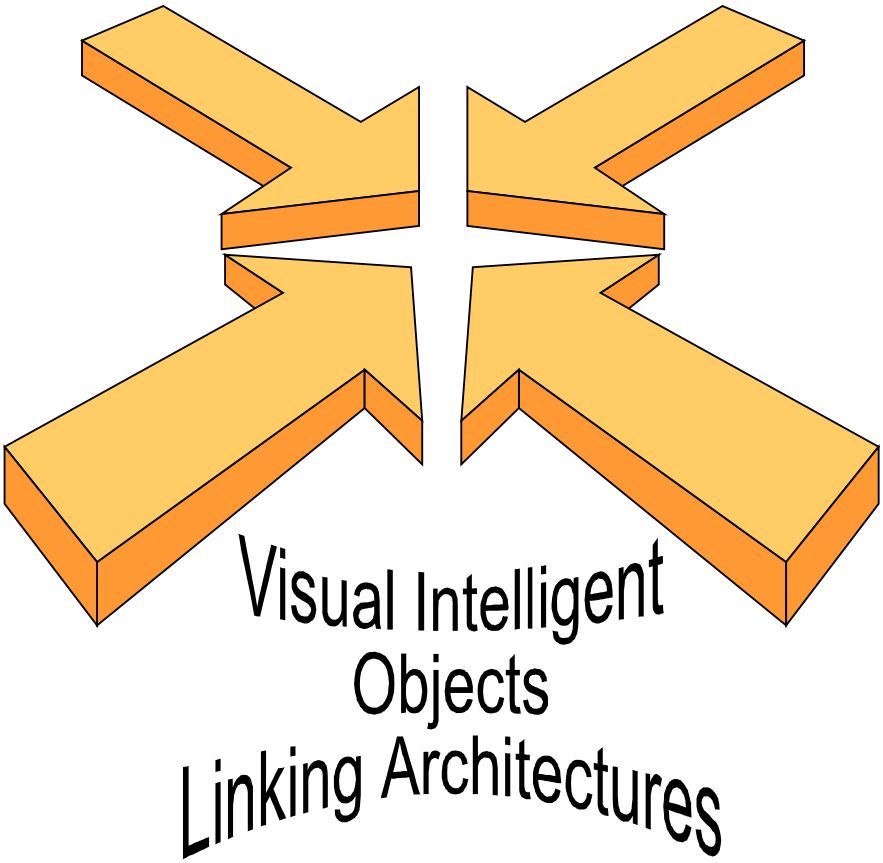
Integrated Facility system management

VIOLA



Version 4.X

Abstract of the system components

Management Facility and VIOLA

The procedure for the cultivation of immovables with the integrated Facility Management system **VIOLA** is characterized, that into the center of the acting activity of the Facility manager the services to be produced and resources as well as their billing opposite the principal. The potential range of facilities and their conversion into concrete contract components represent the challenge, to find around with software solutions the necessary supporting function in the Facility management.

With increasing setting of a task it is guaranteed by modular construction that according to situation the available cultivation model is expanded by the necessary components. The orders and wishes of the customer, for example necessary degree of the construction of a building model for specific services as cleaning or the integration of a plant structure for pretentious tasks in the maintenance and/or the graphic representation of a cost section or tenant structure, are decisive in this case.

A separation of the virtual building model and an extensive graphic visualization is possible in this case.

So outline dates for the face administration, utilization planning and cleaning services can be added in a step-by-step way. On this basis the object administration with inventory and removal planning occurs. In parallel also technical plant structures or fire protection technical aspects up to safety questions (Key administration) can be represented.

The demand on the FM data model has priority in the selection for the respective project stage with **VIOLA** through the in fact progressing administration process.

VIOLA keeps on being open to other systems and/or software solutions. About defined interfaces the data exchange or the integration of available dates can be implemented. We consider this aspect as essential therefore since on the one hand it adds to the investment protection and on the other hand continuous data maintenance is vital for the efficient commitment. Common with the customer it is decided which available or new software is supposed to be employed for the data update.

The commitment of **VIOLA** provides the certainty, that about the way defaulted by the customer to the construction of an integrated all-in solution a manageable expenditure on resources and costs arises.

In the arrangement for the version 3.x the new software represents also a conversion of the entire user concept. The ergonomics of the user interface was unified for all system components of **VIOLA**.

Aim of the project for the introduction of one INTEGRATED FACILITY MANAGEMENT SYSTEM

The heart business of an enterprise, in whose jurisdiction a Facility management system is supposed to be set in, in general includes the provision of administration services including the services in the fields, janitor service, immovable administration, telecommunication- and technical services for facilities services as well as face cultivation, cleaning services, conference services, cultivation and/or controlling of exterior plants, vehicle fleet administration, removal planning etc.

An integrated information processing with a field overall, homogeneous communications system is necessary for this purpose.

Furnishings, services and personnel can be used only then optimal if gained the job definitions, structures, costs and orders translucent, analysed and structured where appropriate again are.

The setting of a task consists in using Facility for the integration of different sections and the possibility of the complete service from a hand an integrated management system.

Our **VIOLA** system represents a novel concept of the combination of alphanumeric and graphic processing options. The order of an integrated administration can be implemented with a modular construction according to customer preference.

Through cooperation with our practice partners over several years we placed special value on developing a system that the classical basic functionality of the modern facilities management includes. That means in detail that the customer has the tools for the disposal, that that in fact he needs and that that we can react to customer adaptations flexibly.

For us it is also essential that the concrete administration processes of the customer in **VIOLA** can be represented. That means, that the economical goals of the customer determine the character of the set in system and not turned around.

Through simple service it is possible to hold the place of work, introductory and education costs in a small way especially as no EDV-specialist is needed for the handling.

VIOLA keeps on being open to other systems and/or software solutions. About defined interfaces the data exchange or the integration of available dates can be implemented. We consider this aspect as essential therefore since on the one hand it adds to the investment protection and on the other hand continuous data maintenance is vital for the efficient commitment. Common with the customer it is decided which available or new software is supposed to be employed for the data update.

Through the modular construction of the system different basic kits can be compiled to customer preference and requirement profile. Beginning with room inventory/face management different combinations are conceivable, depending on whether the

emphasis is in the concrete project on the financial, infrastructural or technical management.

Our project job with customers is so formed that before the introduction of the system a full deliberation for the current facilities management processes can occur. Within the framework of a common project group the emphases become management Facility in this case for the commitment of the integrated one system's as soon as the chronological course defines.

Furthermore we are available for services for the primary data recording and for the continuous data maintenance as well as for training sessions and for the relief during the introduction of the system.

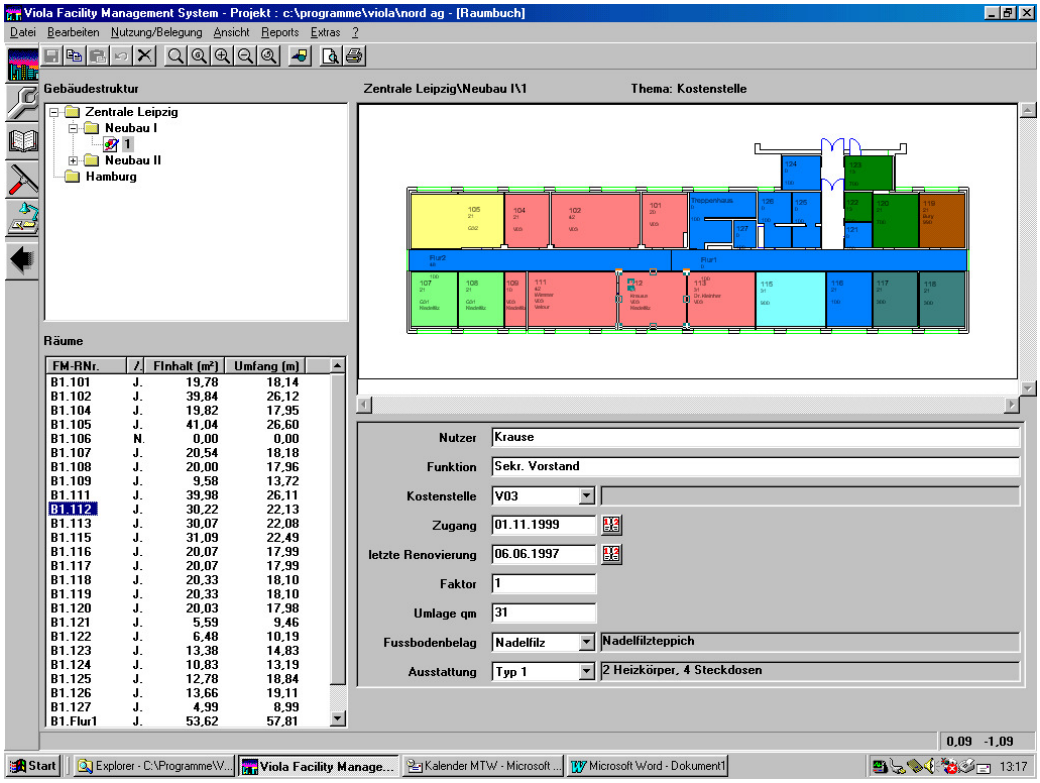
After successful introduction of **VIOLA** we offer the common discussion to the further optimization and organization of the facilities management processes in the customer-enterprise.

The **FMCD** understands as your service provider in the complex management Facility.

Room inventory/face management

For an effective face administration the use of room inventories is indispensable. You allow an exact planning and realisation of administration processes, as regional planning, face use, cleaning, contract administration, services & a.

The evolution of the version 4.0 represents a novel procedure during the recording of relevant basic data for management Facility. The goal consisted particularly in reducing the expenditure to the measure, necessary for the daily job, for the data acquisition. Therefore a to a large extent flexible organization of the input masks and a simplification of the graphic plan recording are necessary. According to setting of a task in the building management room inventories at the beginning can be built up so in an alphanumeric hierarchy and complemented later with graphic plans (DXF- or pixel-format).



The most important functionality on a look:

- Transfer of DXF dates and/or scanned drawings in a homogeneous model Simplified to (optional: Work with digitizer)
- Assignment more differently DXF dates (Floor plans, technical Trade plans etc.) to the job with thematic plans from customer viewpoint
- Construction of a building model (Room inventory structure) also without graphic plans possible
- Free definition to clear from dates with different data types (Enumeration, text, currency, date etc.)
- Updating facility by selection from bulk data (Selection of several rooms a floor and their simultaneous processing)

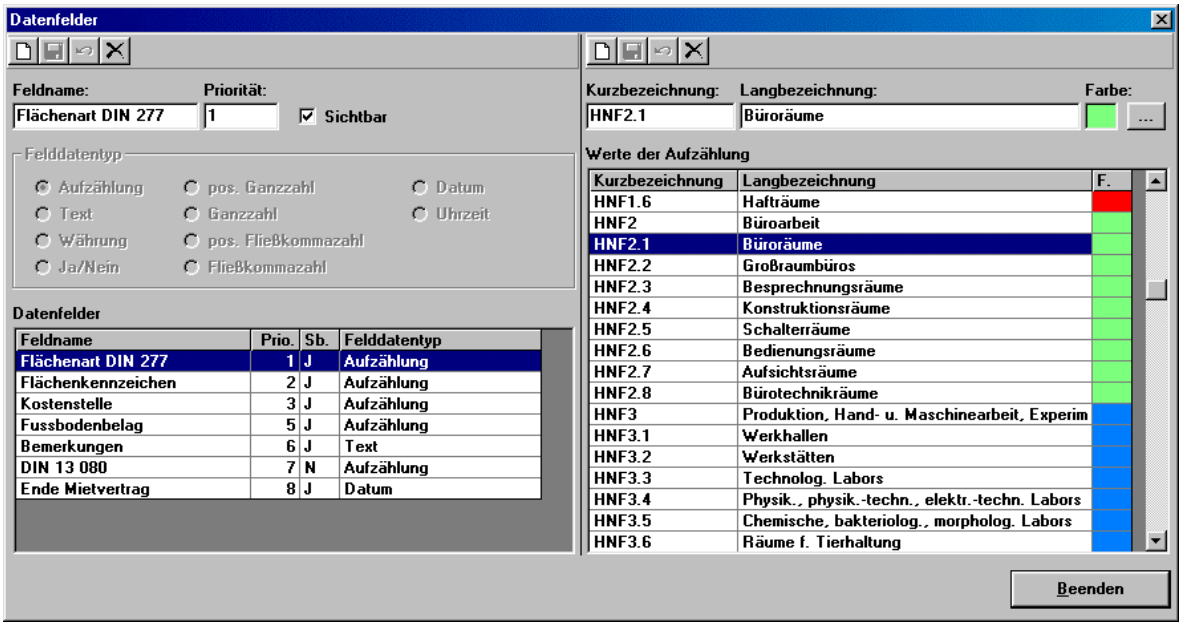
- Thematic (colored) evaluation of all arrays
- To Strobe from room information tables into outline plans with free selection the being announced arrays as well as edition from legends
- Assignment of documents (Word documents, EXCEL tables, bitmaps) to every stage in the building model (Site, building, floor, room)
- Evaluation in standardized reports with free selection of the arrays
- Free assignment of connotations for the room use
- Recording the reservation through employees from more centrally address data bank
- Integration of the room inventory model in other system components (for example use for assignment of technique objects or inventory properties)
- Subsequent enlargement the data model's with automatic updating already available room inventory dates
- Free definition the true to scale representation from general drawings and sections

With this module outline dates with simple transformations can be accepted from DXF-dates and/or scanned plans (BMP-format). At DXF dates a layer processing is besides (Colour, text attributes) possible. Different DXF-plans can be combined into a freely definable subject. So can if required an "Outline plan subject + trade Electrical engineering " are drawn up, that derive from different DXF files.

In the same way the scanning in of paper plans can be the first basis for a graphic room inventory, if required the background can be faded out.

Furthermore also the graphic visualization, which can be complemented later with corresponding drawings, can be refused on in a first project stage.

On this basis a freely configurable data model can be built up, that is the customer can define free, which dates he needs for a room.



So the face assignment to DIN 277 with a variable colour code are offered standard. Every user itself can determine the information depth to a room thus. Later

enlargements are at any time possible, the new arrays are assigned to all rooms automatically. By multiple selections these new arrays can be filled then with information fast.

For the evaluation set aside standard reports as well as reports defined by the customer with which a free selection of the arrays to be evaluated can be carried out can be used.

About the respective database field in the graphics thematic evaluations to the agreed upon colours can be carried out. So the evaluation can occur for example once to cost sections or according to types of floor area to DIN 277 or when a renovation to a specific date occurred. Complementing these drawings with information tables can be provided too the other arrays. The expression occurs optionally with a measure to be chosen freely in the general view or as a section and/or on a leaf.

The reservation with employees, tenants etc. occur in parallel in the room inventory. Cost sections as well as different percentage face uses as well as the characterization as places of work are assigned as connotations.

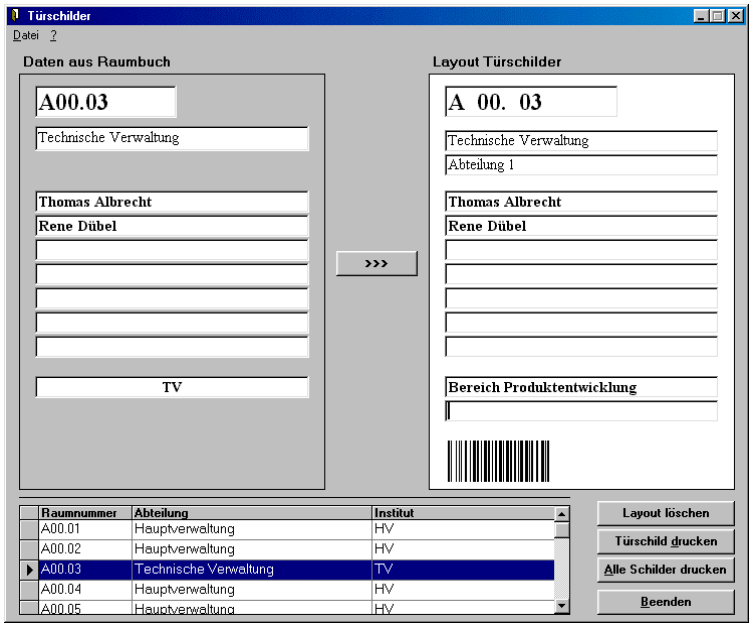
Drag & drops assign the persons to the respective places of work from the address data bank.

The evaluation of the reservation can be carried out about reports and/or as thematic representation in the drawings.

This novel room inventory functionality puts the user into the situation, effective and in a low-cost way build up a component of an integrated facility management system. If required further modules as technical services for facilities, cleaning, cost recording, service Point, object administration/inventory, key administration, meeting room administration and other components of **VIOLA** can be combined with that.

Addition-tools

Door signs



A program to the generation of door signs with bar code number for the room. Information's are taken over in this case about employees from the database. These can still be changed for the layout of the door sign.

With this useful tool modifications are to be documented in the room reservation immediately.

At the same time registering the room number immediately for barcode code supported courses of events as stocktaking's and other control activities offers the possibility to itself with that.

The customer can also change the fonts and the size of the form.

Immovable administration

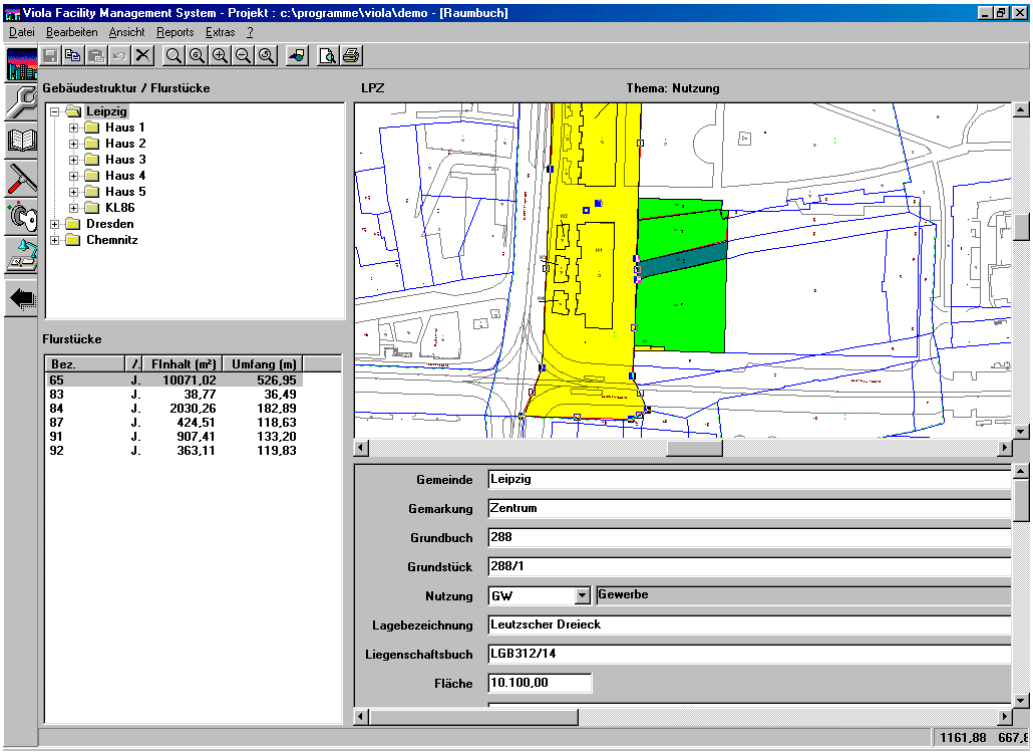
For all customers who need also the face administration of field and basic pieces next to the administration of information in complexes of buildings this complement module was developed. It is supposed to be set in, where several buildings at different sites, where faces on which the buildings stand are to be described, are to be managed.

In the well-proved technology for the recording of plans the integration occurs in analogue mode to the room inventory/face manager module of scanned and/or DXF plans. A unique information administration was created by the enlargement of the object model around land parcel/plot/building on all hierarchy levels of a site. Through the flexible data model an extensive use of available databases is possible. Cards and floor plans can be provided with own information and shown according to viewpoint by mouse click in different kind (Colour and text information).

Thus an effective software tool is available for the evaluation and presentation of this information, at any time the current opinion simple can be printed.

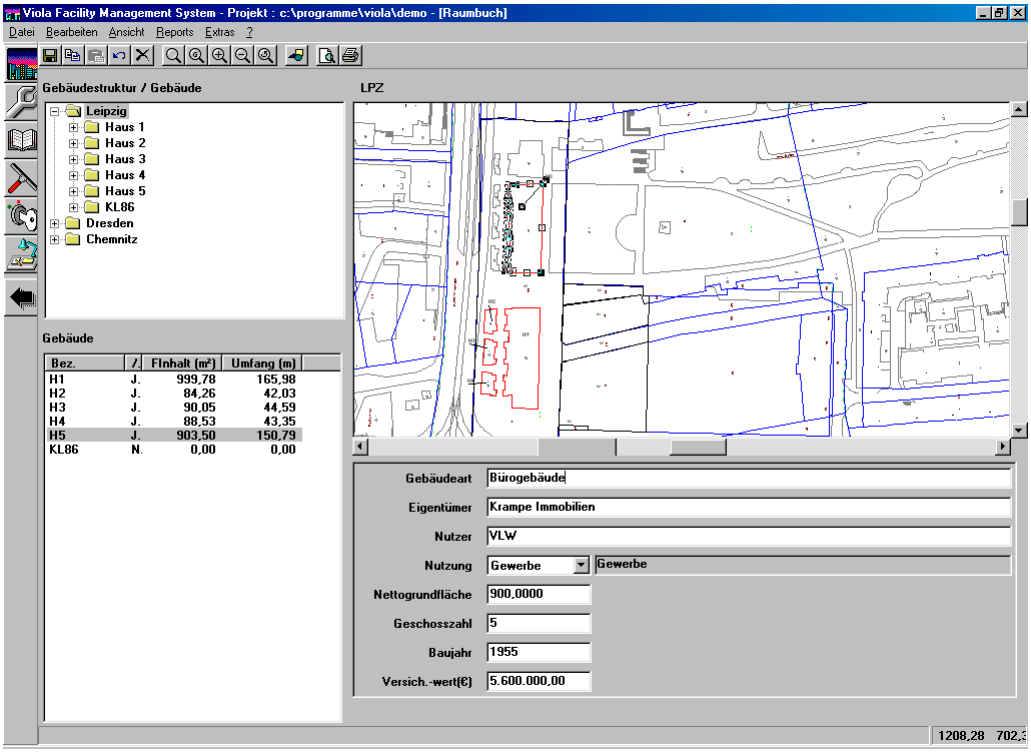
All alphanumeric information can be represented graphically so that by button pressure different colored opinions for the face use or the ownership structures can be made (thematic representations). These graphic plans can be complemented by alphanumeric "stamps" (information-tables), which contain further dates.

By mouse click people can change simply between the representation and recording from land parcels and the complexes of buildings contained onto that.



The most important functionality on a look:

- Construction of a graphic and /or alphanumeric model's for immovables and land parcels
- Integration of available floor plans and cards as scanned files (BMP, JPG) and/or in the DXF format
- Free definition of connotations to land parcels and complex of buildings/house (arrays for text, enumerations, period of time/date, numbers, yes/refusal etc.) how for example situation (postal address), land parcel number, land register entry, unit values, estates, user, structural and technical standard, building kind, type of use, total areas and volumes etc.
- Face recording and assignment for exterior plants
- Free definition of colours for graphic evaluation of the arrays
- Assignment of documents (WORD, EXCEL, BMP) for every hierarchy level in the object model (site, land, building) and interactive processing with the respective Windows application
- Graphic including evaluation (subject to arrays) free optional alphanumeric entries (Information tables to the immovable)
- Printout of general views and sections with defaulted and free optional measures
- Free configurable reports over immovable dates



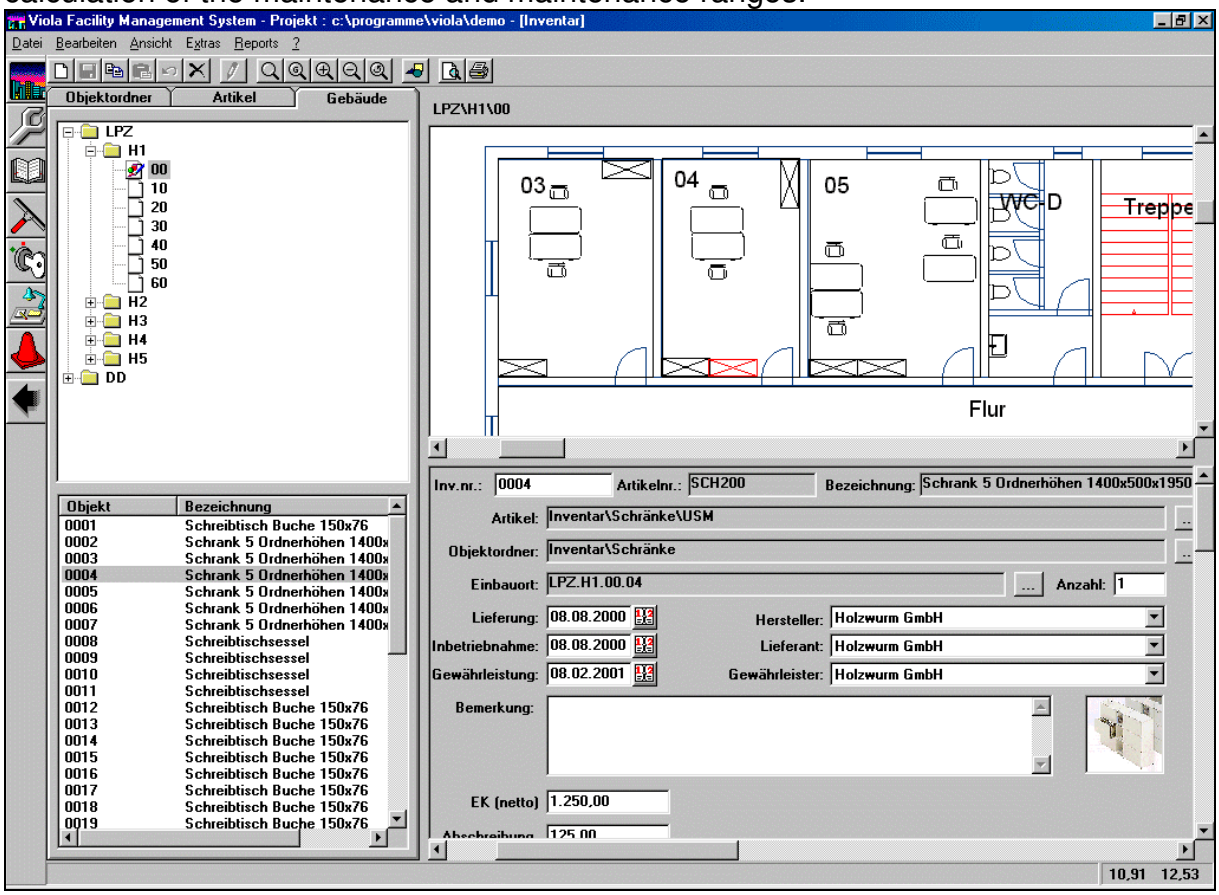
Through the logical mounting on the object model are so alphanumeric and graphic information on every tier in the model available, about the site with land parcels and exterior plants, to the building with his general information up to the floor and to the concrete rooms.

The surface formed homogeneously in analogue mode the other modules facilitate the customer also the fast training into this field.

Inventory administration

All objects, which are supposed to be registered and to be controlled or to be visualized in the outline plans, are to be managed with this module. That can be both pieces of furniture as also technical devices or components of technical plants.

The setting of a task consists particularly in the cost section assignment and budgeting, in the writing-off control and substitute planning, as well as in the planning and calculation of the maintenance and maintenance ranges.



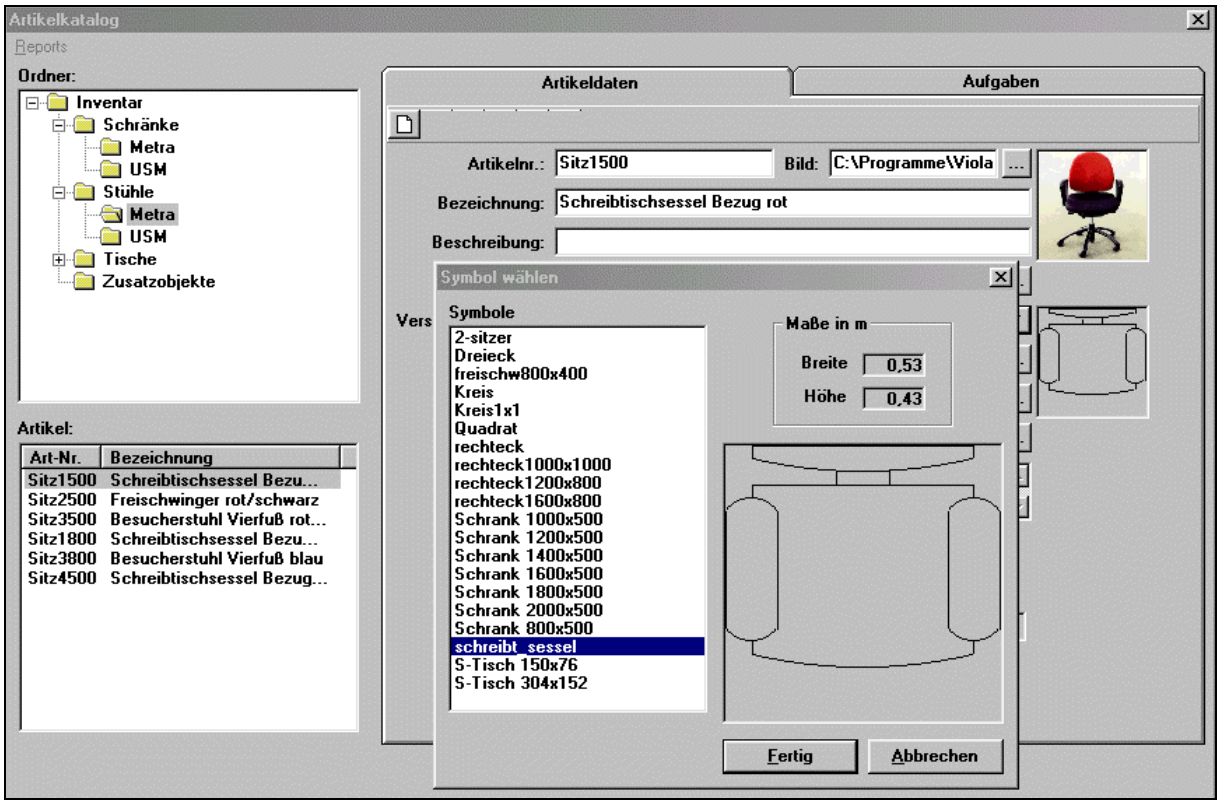
The most important functionality on a look

- Free definition of dates to objects with different data types (Enumeration, text, currency, date etc.) updating facility
- By selection of bulk data (Selection of several objects of a floor and their simultaneous processing)
- Thematic (colored) evaluation all arrays
- Insert of object information tables into outline plans with free selection of the arrays to be announced as well as edition of legends
- Assignment of documents (Word documents, EXCEL tables, bitmaps) to concrete objects
- Recording of the objects to be managed with or without graphic representation including simple placing of symbols an new items

- Put on a data sheet's for every object to systematic tasks and to the history

- Free definition of activities which are necessary for the work scheduling (Controls, maintenance, stocktaking, removals etc.)

The objects to be managed are registered in an object-oriented catalogue including the photograph-realistic representation.

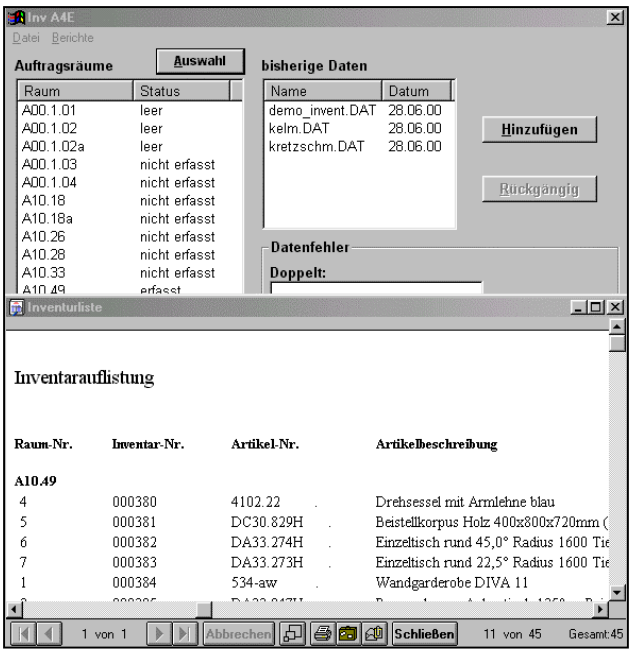


About the respective database field in the graphics thematic evaluations to the agreed upon colours can be carried out. So the evaluation can occur for example once to cost sections or after of Guarantee management periods of time and/or Assurance periods of time with a specific date. Complementing these drawings with information tables can be provided too the other arrays (Display of the inventory number, cost section etc.). The expression occurs optionally with a measure to be chosen freely in the general view or as a section and/or on a leaf.

Addition tools for first recording and stocktaking / existence data acquisition

For the first recording on site and/or for the effective realisation of stock checks or stocktaking's a bar code supported solution is available (Bar code reading devices model CASIO or Palmtop, communication-software).

These tasks are always complex processes for which a corresponding staff and chronological expenditure is to be planned. With the **VIOLA**- components can be reduced this expenditure considerable.



The inventory recording is assumption for this capacity saving about the object administration and the use of bar code to the marking.

The inventory objects are registered with this reading system and evaluated then for the adjustment to **VIOLA**.

Here the evaluation occurs according to such criteria as for example to floors, to rooms or to cost sections. The inventory input could both complete than also into several partial orders occur.

The edition records mark the current existence or make in the actual and anticipated performance comparison onto available differences attentive. In this way it is fast understandable where an inventory object "moved" during the control time room and/or "from where" an object came. Corrections in the database can be carried out thus effective.

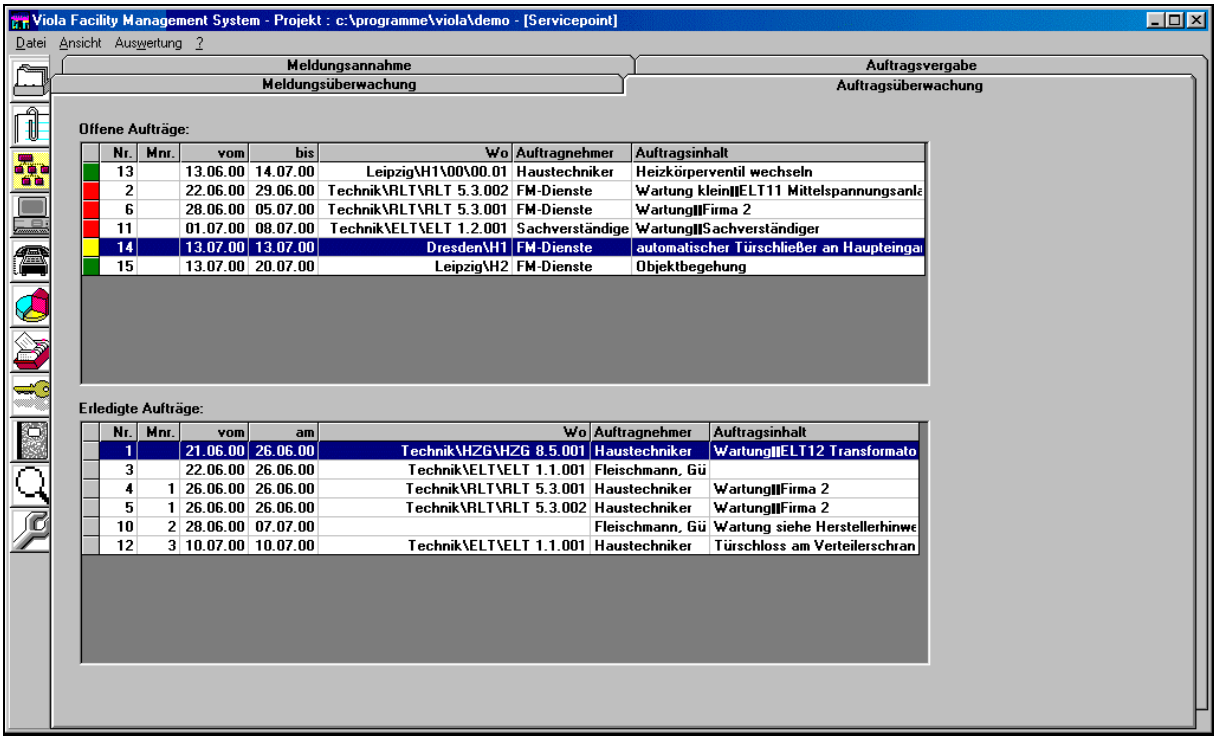
Service Point

In the current business company result always a line of complaints, orders, tasks, references and so forth. In order to manage these processes effectively and to allow also the control of the given tasks, this module is available in the **VIOLA** system.

The entire task being in the service field can be checked and according to orders the custom-built evaluation occurs as soon as the information is The Module onto the accounting for the administration of a great number of objects with a simple object structure, the integration of specifications for tenders and object-related contracts, the order tracking and the job with suborders as well as the relevant evaluating-mechanisms designated.

Specifications for tenders and feature catalogue of the service providers can be convicted in concrete contract components and assigned to announcements and/or tasks.

So caller dates are provided automatically, rooms and objects can be selected graphical and rooms and objects are available so with their exact information. As a matter of course also free inputs are possible.



About the order tracking the control and execution of the received tasks occur. A traffic light function "green-yellow-red" informs besides about the current processing state. And finally the task evaluation makes the preparation of the dates for costs possible and similar things with regard to frequency of alarms, customer contentment.

The surveys can be sorted according to every array in order to receive a fast survey according to different aspects.
With this working method can the "note economy" eliminates and to be accounted the corresponding services more exactly.

Through the connection to the specifications for tenders and contract positions from the master datum (Module **VIOLA**- basis) the billing occurs from tasks in the service Point by means of the actually agreed upon services and for the checking process corresponding documents are provided.

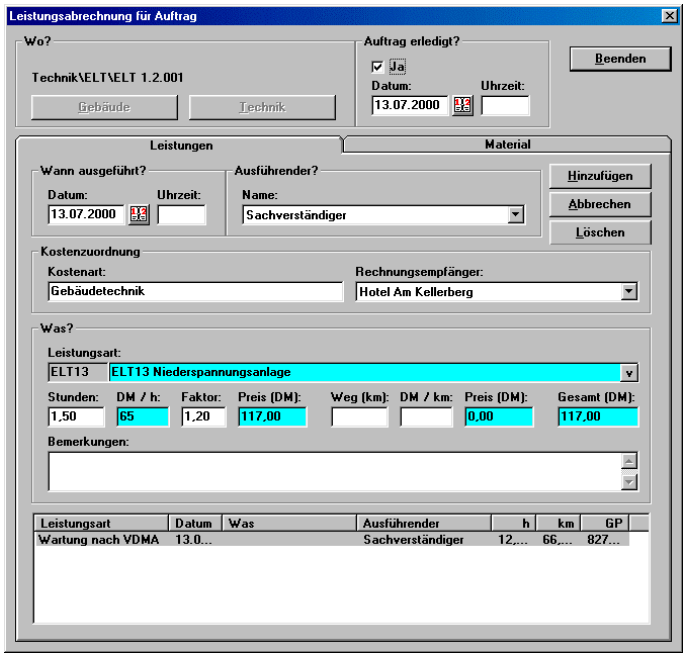
In the field of the technical tasks in order to localize possible causes immediately for failure rates and/or damages and to release around the necessary tasks an interface to the technical services for facilities module is integrated.

About the service Point billing of these issued tasks can occur and/or during the recording of responses to finished systematic tasks as to become maintenance etc. in the technical services for facilities module posts automatically the planned dates.

The **billing** of the activities and services occurs in the service Point in different kind. To a task several service kinds as well as besides material can be deducted.

The **evaluation** occurs to bill receivers, announcement and task numbers, separated to service kinds and material. Also acceptances of a bid are to be considered at that.

About interfaces these information of the financial billing can be made available.

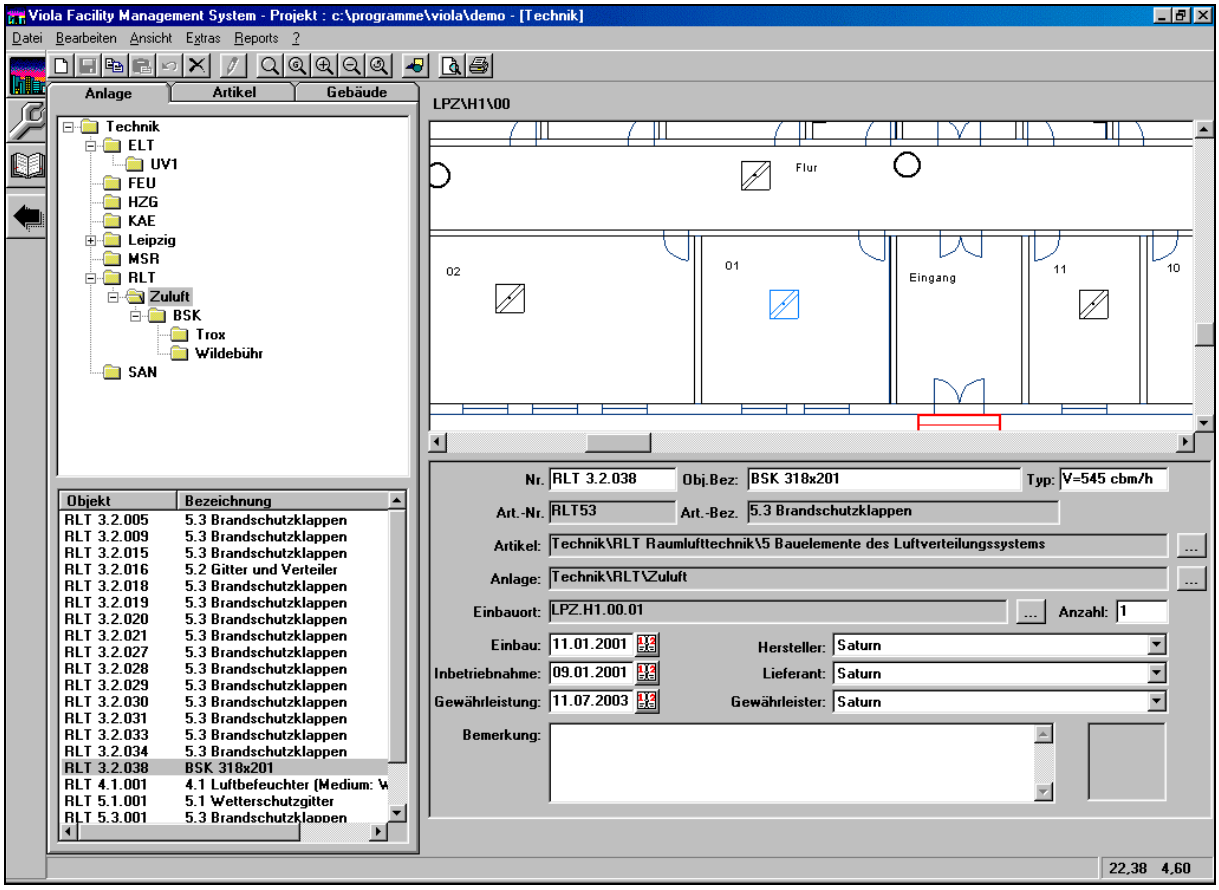


Maintenance manager

The technical services for facilities module is used for the central operation of all service and plan processes within the framework of the technical maintenance.

The necessary courses of events and the corresponding technical documentation in the system are managed:

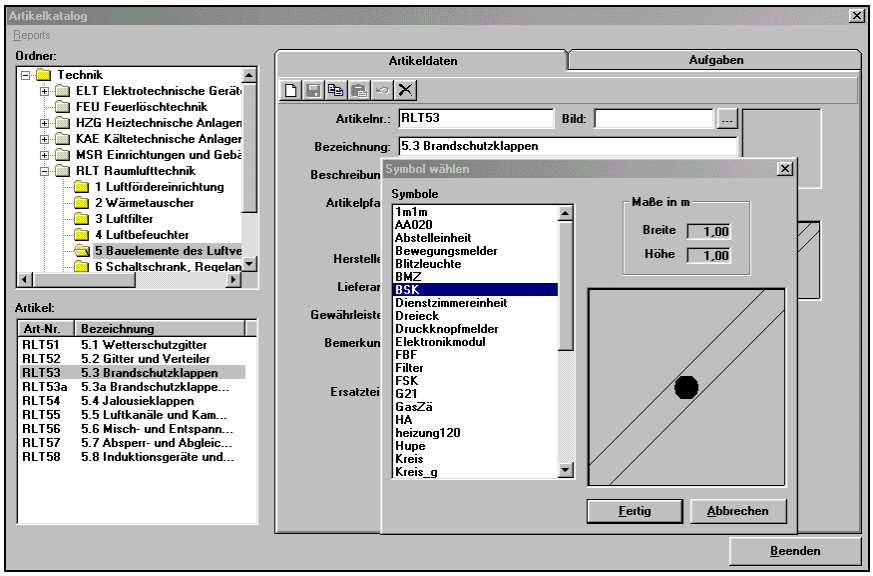
- On recording and care of master dates to technical plants, units, aggregates and components grip
- On contract dates (Specifications for tenders, companies, contracts to the concrete object) assignment
- Assignment of activities for maintenance processes (Maintenance, control, revisions, inspections, testing and research laboratory, further legal rules)
- Grip on technology statements according to VDMA 24 186
- Flexible structuring to plants, components or sites, graphic or non-graphic recording
- Recording of the history to activities order procedure
- For maintenance, pursuit of the planned activities (Plan calendar) generation
- Of jobs with technology statements including transmitting to the service module Point for the order procedure
- Billing according to different evaluating-criteria (Job-related, according to contracts etc agreed upon after contractor, principal.)



The most important functionality on a look:

- Free definition of dates to technique objects with different data types (Enumeration, text, currency, date etc.)
- Updating facility by selection from bulk data (Selection of several technique objects and their simultaneous processing)
- Thematic (colored) evaluation all arrays
- Insert of information tables to arrays into outline plans with free selection the arrays' to be announced as well as edition's of legends
- Assignment of documents (Word documents, EXCEL tables, bitmaps) to every technique object
- Recording of the objects to be managed with or without graphic representation including simple subsequent evaluating and placing of symbols
- Put On a data sheet's for every object too systematic tasks and to the history
- Plan calendar with selection function to plants, items and building structure as well as date updating for activities
- Free definition of activities, that is for the work scheduling necessary (Maintenance, controls, inspections etc.)
- Subsequent enlargement of the data model with automatic updating already available technique object dates
- Assignment more differently DXF dates (Floor plans, technical trade plans etc.) to the job with thematic plans from customer viewpoint
- Free definition the true to scale representation of general drawings and sections

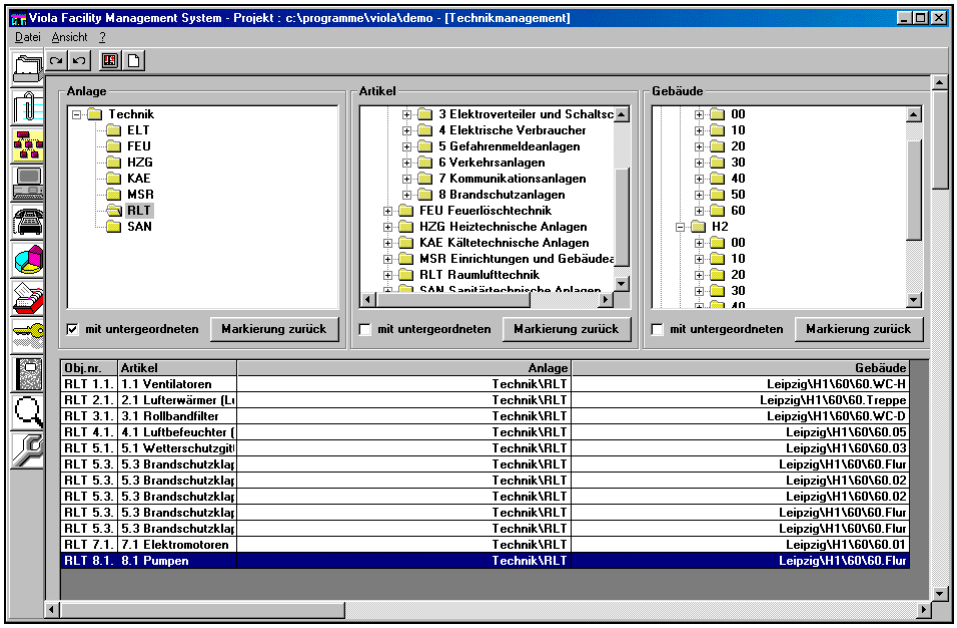
All elements to be employed are deposited as master datum (Construction according to the structure in the VDMA 24 186) in clear form and are available for the concrete assignment to maintenance objects. The objects to be managed are registered in an object-oriented catalogue including the photograph-realistic representation.



The plant structure can be built up either to the individual technical trades or to be organized after the building structure hierarchically. The customer has thus the possibility to form the planning of the necessary maintenance measures after his practical experiences.

For the check of the carrying out the activities are as a default set aside according to the VDMA 24186 and/or an own activity catalogue can be built up.

In the **technique management** module the systematic activities are managed.
The selection of the objects can occur according to different criteria.

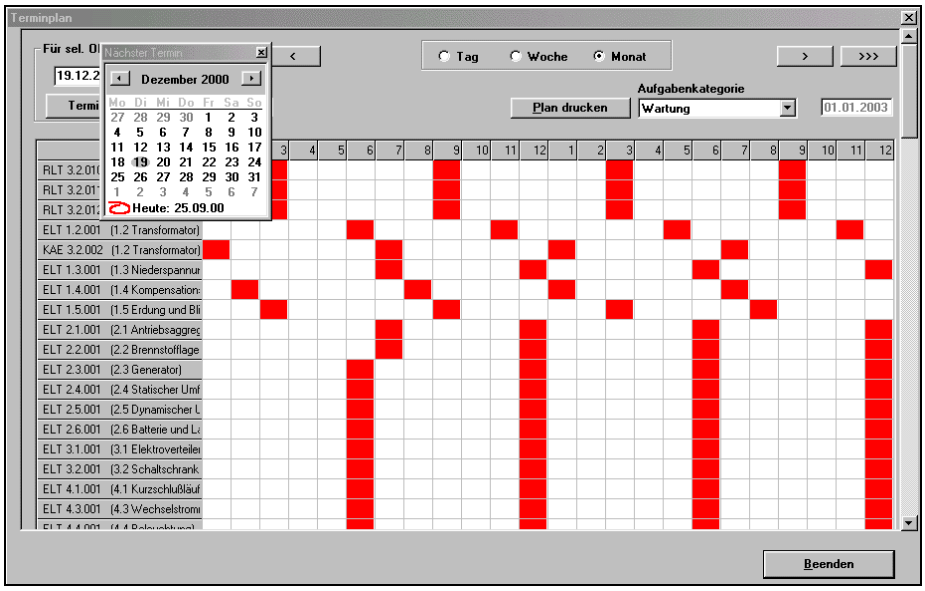


So the categories of "plant", "items" and "buildings" as search criteria can be associated with each other in order to be able to carry out the desired selection of the technique objects. The relevant information is spent as a report.

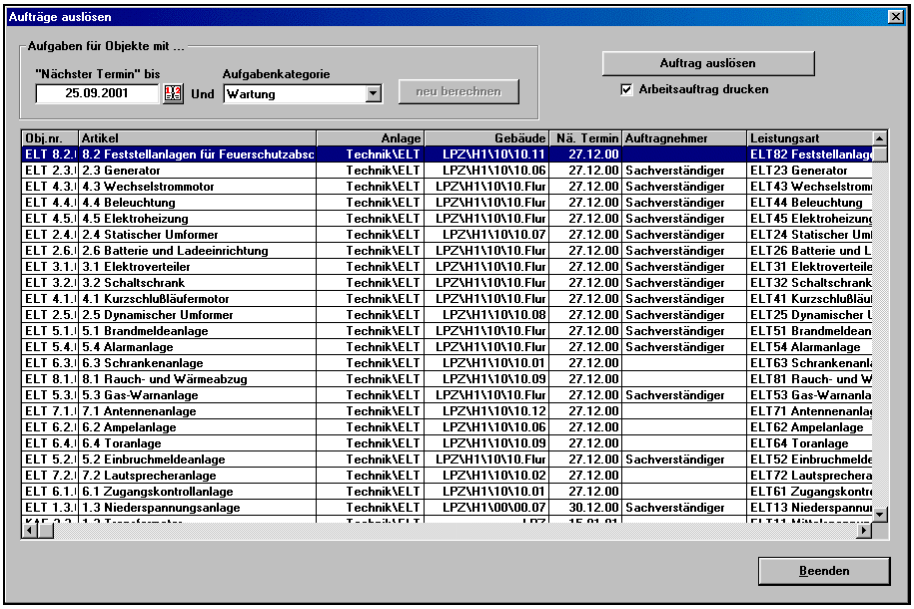
The plan calendar provides the current survey of the tasks to be implemented in the respective unit of time (Day, week, month). If required dates can be displaced directly in order to plan the necessary resources for the respective task category.

The opinion is free in selectable form after weekdays (Survey of the entire month), months or years.

The calendar can be spent also in hardcopy form. At in order to be able to carry out a planning of the resources single times to activities as entire time industry minutes are determined in.



In the same way tasks become the systematic maintenance and inspection manages, up to the jobs with object-related activities.



About the service Point billing of these issued tasks can occur and/or during the recording of responses to finished tasks the planned dates are posted automatic in the technical services for facilities module. In addition the history to the object with the corresponding information is complemented.

Addition-tools

Bar code- Reading device for the recording of activities on site and automatic updating of dates to occurred billing

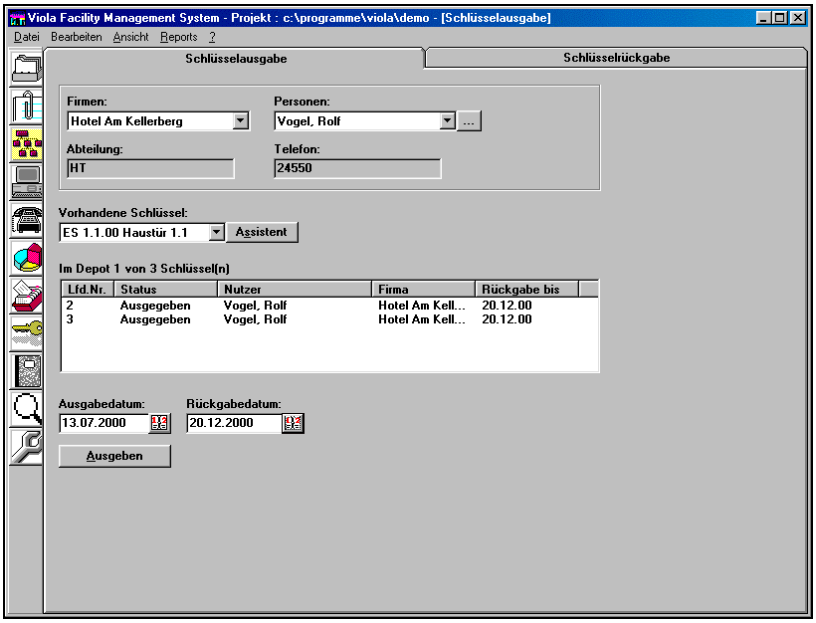
Key administration

The key administration module is used for the relief in the entire process of the planning of concluding-plants, the assignment of doors, coils and keys as well as the control of the spent ones and still key contained in the depot.

The module can be set in two different stages

Key book

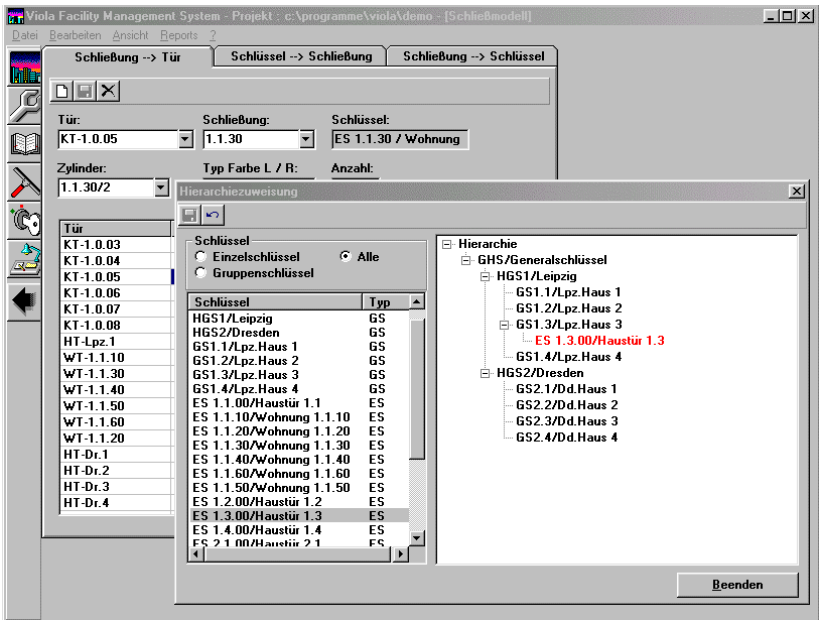
This program can be employed for the simple administration of keys for the control of the gold and moving-gift.



As basic information only the key number, the model (Single or group key) and the number are necessary. The Reporting checks the settlement date of the return, the history to keys and persons. All courses of events are recorded and are available also in hardcopy form.

Concluding-plan

The second stage in which begun from the construction of the concluding-plant hierarchy up to the definition of the closings all-necessary courses of events is available in the system can be used for more pretentious tasks.



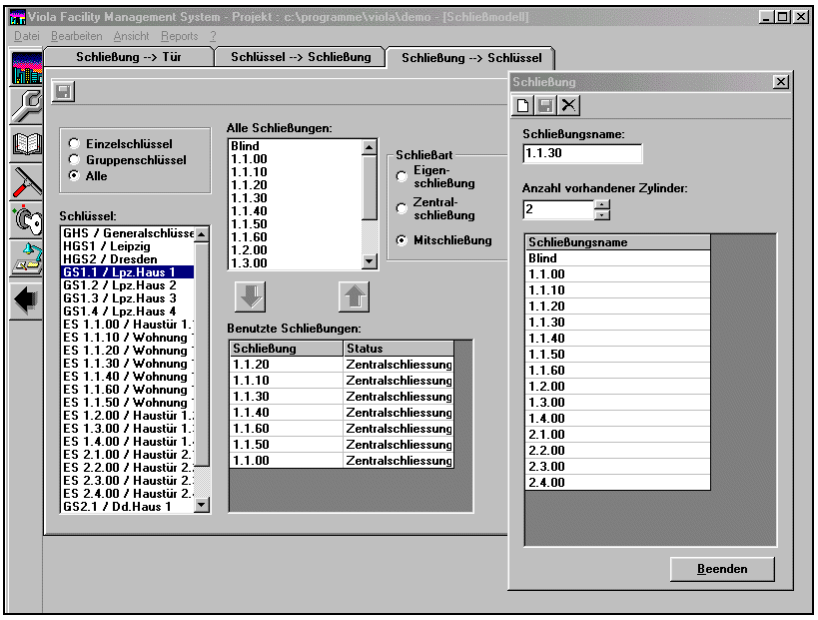
Following new functions are available:

- Planning of the concluding-plant in arbitrary hierarchy levels
- Definition of the closings and the number the availably coil
- Characterization of the doors (Door denotation, mounting kind, mounting dimensions)
- Recording of the coil models and the assignment to the closing
- Clear assignment of the keys to the different levels in the hierarchy considering intrinsic closing and headquarters closing and more.
- Automatic search for suitable keys for selected rooms

With that a tool can be gotten through the customer for the intern administration from concluding-plans of the manufacturers and/or according to own specifications even in manageable form for the not simple process of the key administration.

Through the mask structure the individual courses of events are represented according to viewpoint in the planning of a concluding-plant.

Through the intern control mechanisms also possible operator errors are checked.



For the edition of keys and the safety inspection combined with that thus elegant aids are available.

So an assistant announces during the key edition, which doors for which an entrance employee is supposed to receive, from which keys are closed.

The set aside reports generate the surveys to closing

- with keys on button pressure key
- with closings
- doors with coil and closings
- key and issue summary (with history)
- closings
- definition of the doors

The key book keeps up in the further configuration level this Concluded plane- to be complemented components.

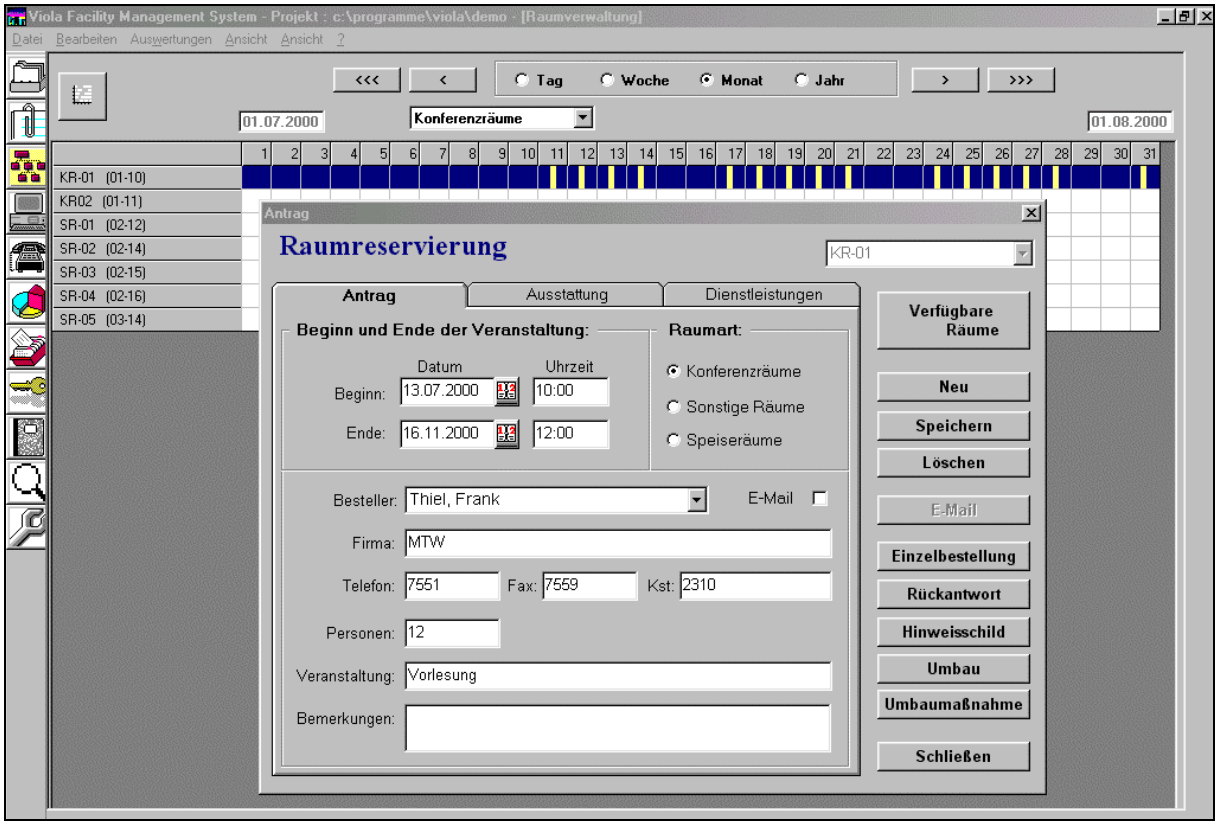
Room administration

With this module can the administration of conferences, deliberation, education or the planning of room reservations etc. is organized.

Following function parameters marks the module:

- The preparation of assembly drawings for deliberation and conferences
- The information of the responsible contacts
- the information of the technical equipment of the conference rooms as: overhead projector, television and video plants, Flip chart projector, blackboard, PC connection options
- the cost administration for room reservations and other additional costs

The system controls the availability of rooms and provides the survey of the respective event calendar.



The reservations can be carried out both uniquely and cyclically.
It is controlled automatic whether in time periods to be chosen freely rooms of different categories are available for the reservation in order to avoid multiple reservations.

By printout entire information on the order, responses, are notes on structural alteration measures and/or signs possible.

All necessary information about the principal, the desired equipment and the necessary services (Conversion etc.) are managed. In the same way the history of the equipment of the respective room is represented.

With how the room was prepared for the respective events a view is supposed to be given. So where appropriate unnecessary structural alteration measures can be avoided.

Information onto the principal is routed by report and (optionally for Microsoft Outlook) by e-Mail.

The display of the reservations is graphically besides alphanumeric for day, possible week, month or year, per day.

Date overlaps and/or purposeful free guidance of rooms are supported thus graphic.

About the generation of reports the evaluation occurs after weeks, months or year for the utilization planning as well as the assigned costs.

Furthermore an archive option is available for the protection of utilization planning.

Addition-tool

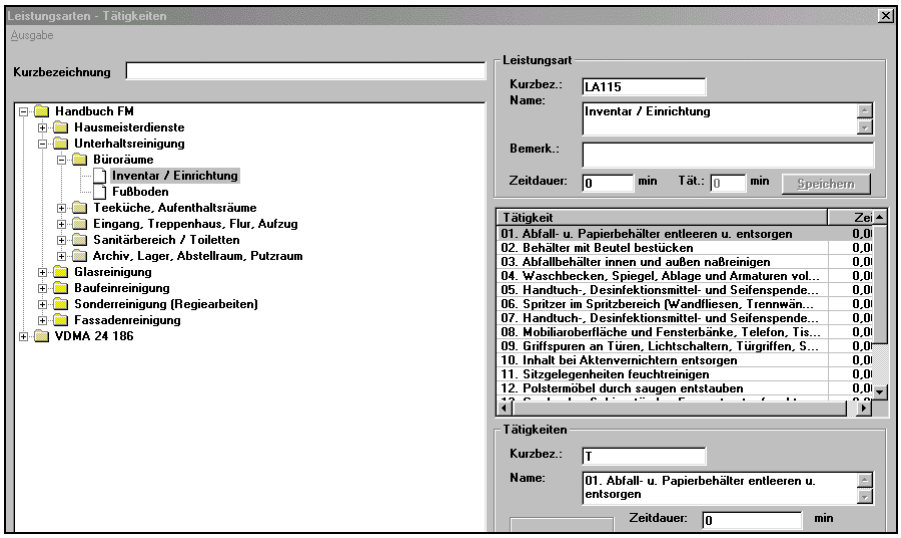
Furnishings of an Intranet grip about Microsoft Internet server information on survey · about the current reservations · of preparation and forwarding of applications for room reservations

Building cleaning

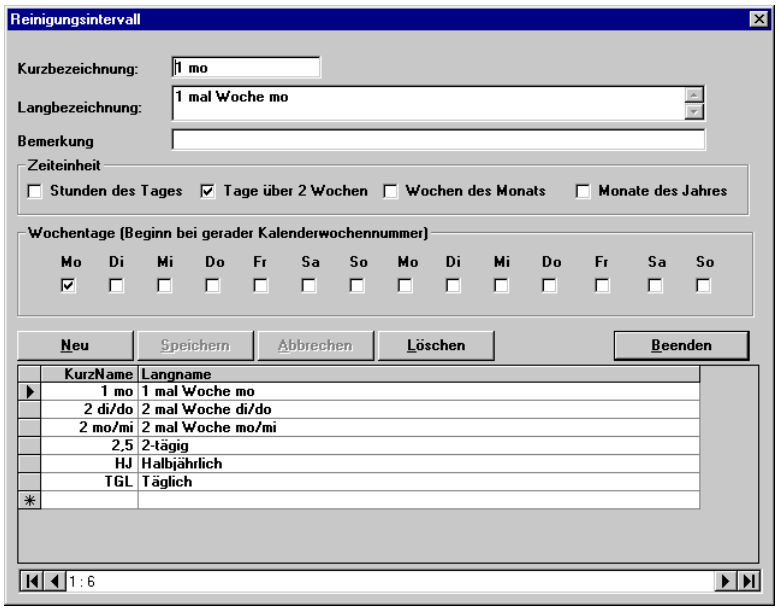
The goal of the commitment of an EDV supported cleaning planning consists with first priority for following tasks:

- determination of exact demands on the building cleaning by means of the customer handicaps as well as the integration of complete specifications for tenders into concrete object contracts possible for definition
- of the service kinds with ratio of reduction into concrete technology statements including visual representation
- of edition of day-precise service plans for every individual room even if on every day in the week other services are carried out generation
- of work schedules for the quality protection in front of place
- edition in hardcopy form on customer requirement and/or as customer information
- proof of the control results opposite the principal
- Cost Center-Related evaluation of the cleaning costs for the principal

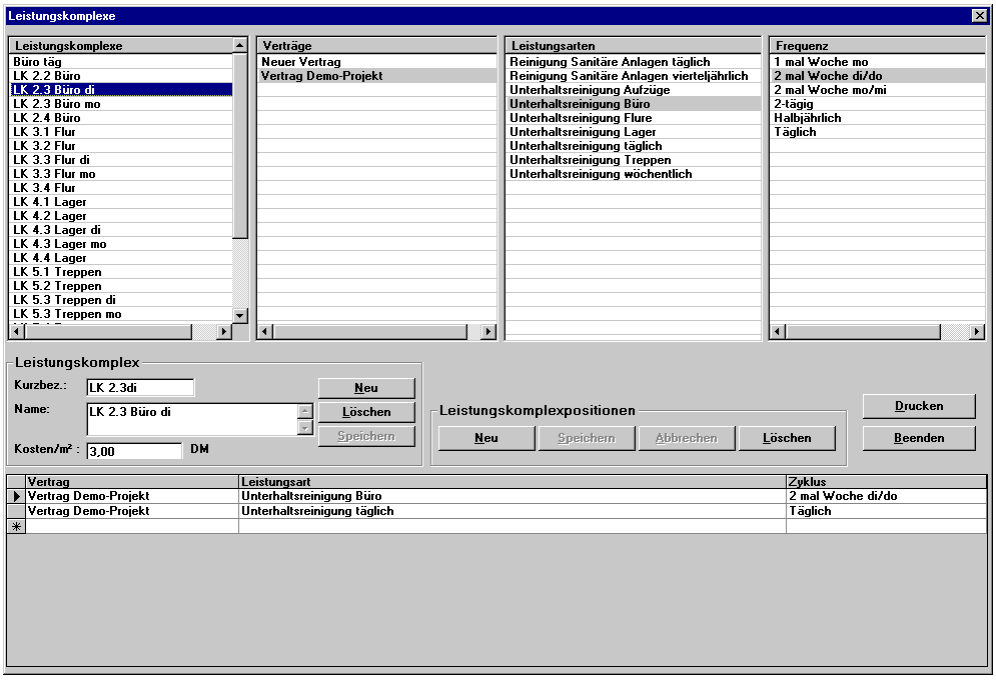
The building model with his building structure (List of the rooms) as well as the feature catalogue for all tasks in the building cleaning is basis of the working method in this module.



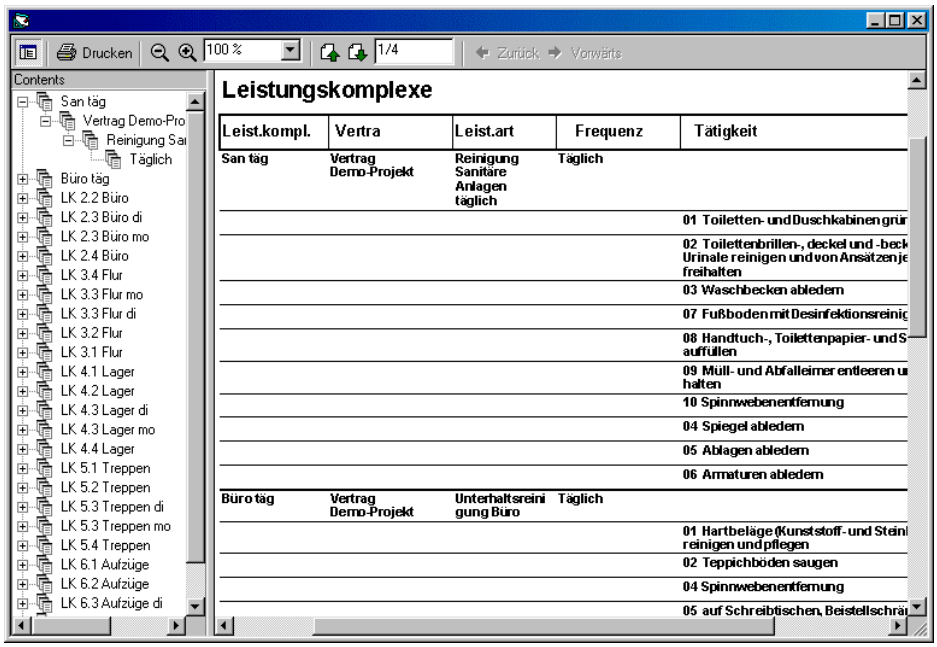
Also the allocation of cleaning cycles and ranges is possible by master datum grip.



The general feature catalogue is specified onto the transmitted services for a concrete object, the agreed upon services and cost unit rates according to the concluded contract are contained in that.

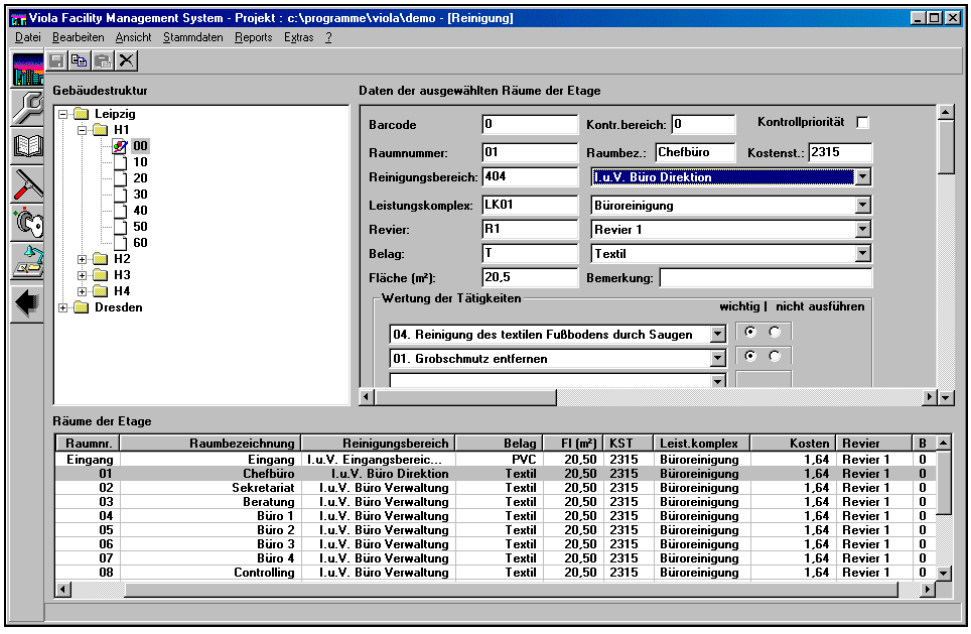


The service complexes can be made available both for the concrete object control and for the principal.



The building structure can be extended around information on every room (for example face, room model, type of floor area to DIN 277) and in the maximum expansion to one graphic building model to be expanded (graphic visualization of the outlines). With that room types can be represented such alphanumeric information as flooring, cleaning districts, graphically. Other components of **VIOLA** can access this graphic model.

The recording of the building structure can be facilitated where appropriate by the import from available EXCEL room lists.

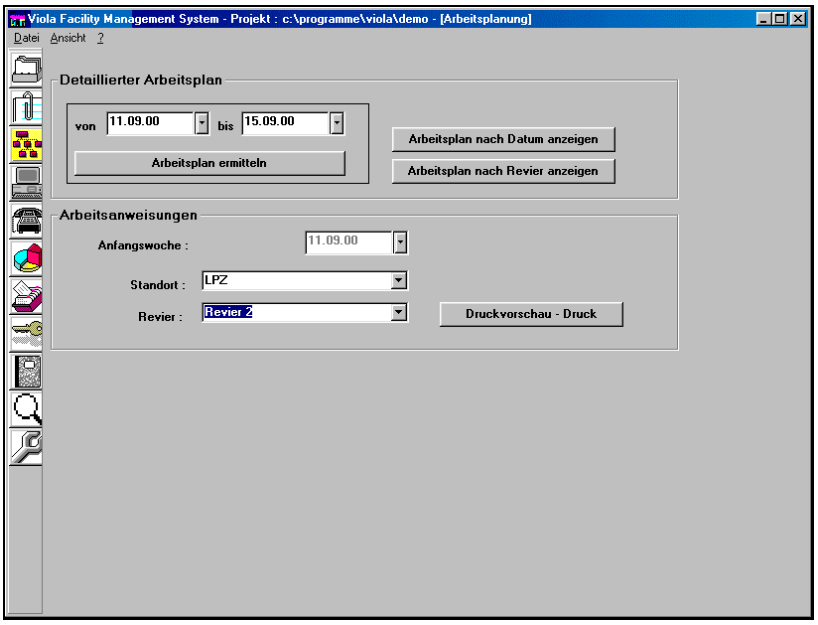


The rooms can be classified after cleaning-particular parameters by the allocation of room models.

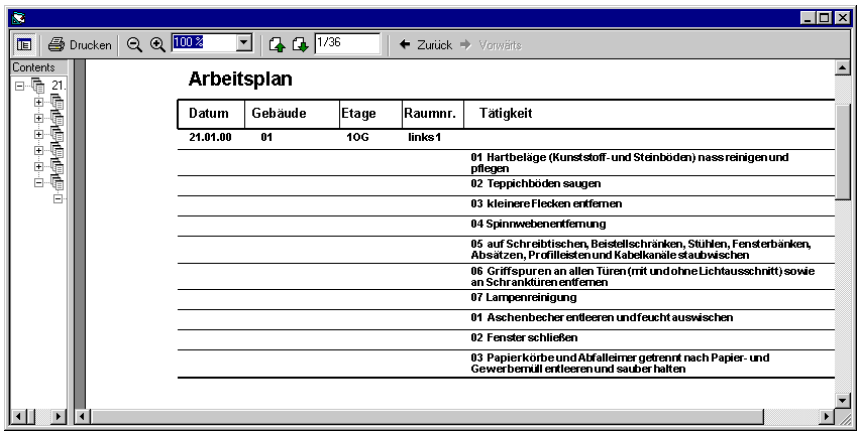
About the formation of service complexes it is possible, a room as many as desired kinds of the cleaning too assign. So another cleaning plan can be determined for every weekday.

Furthermore every face unit can be associated with cleaning emphases, which the customer can define.

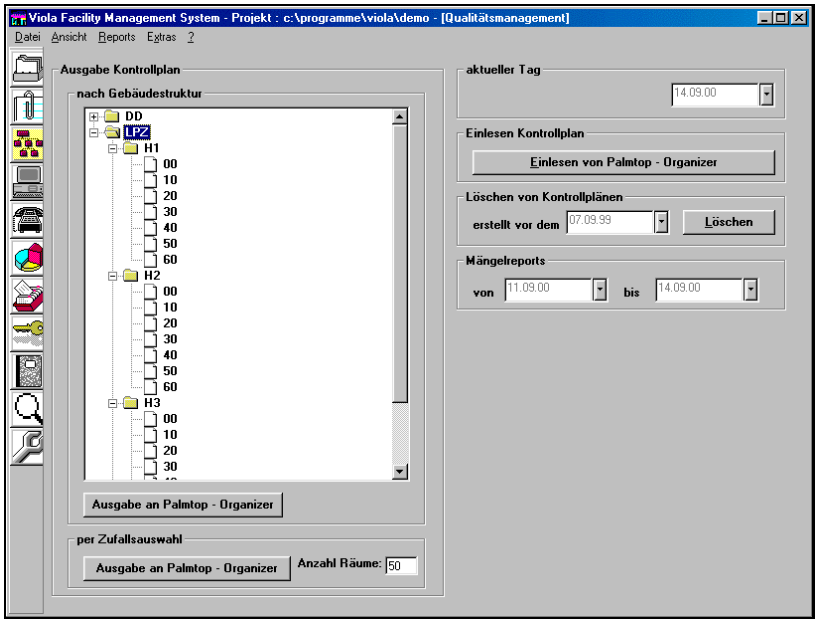
Through the system the current work schedules are determined (per day, weekly, per month etc.).



These plans can be delivered also to the responsible object leaders and/or to the employees as operating instructions.



About the administration of control tasks and their edition onto a decentralized data acquisition device (for example Palm Top Organizer) the object party responsible is put into the situation to carry out cyclical control walks and to evaluate their results.



Either by selection or about a random number generator the number of the rooms to be controlled is determined for this purpose. In bigger objects several devices can be used for different control blocks.

With the delivery at the Palm of III Organizer the concrete job tasks are transmitted for the respective day and the room.

During the control rounds the bar code of the room is registered and then the carrying out of the activities is evaluated (only the not proper carrying out is registered).

The dates of the control rounds are transmitted then again and the corresponding lack records per room, cleaning district and day are available for the evaluation.

With the commitment of this module effective conditions are created, around

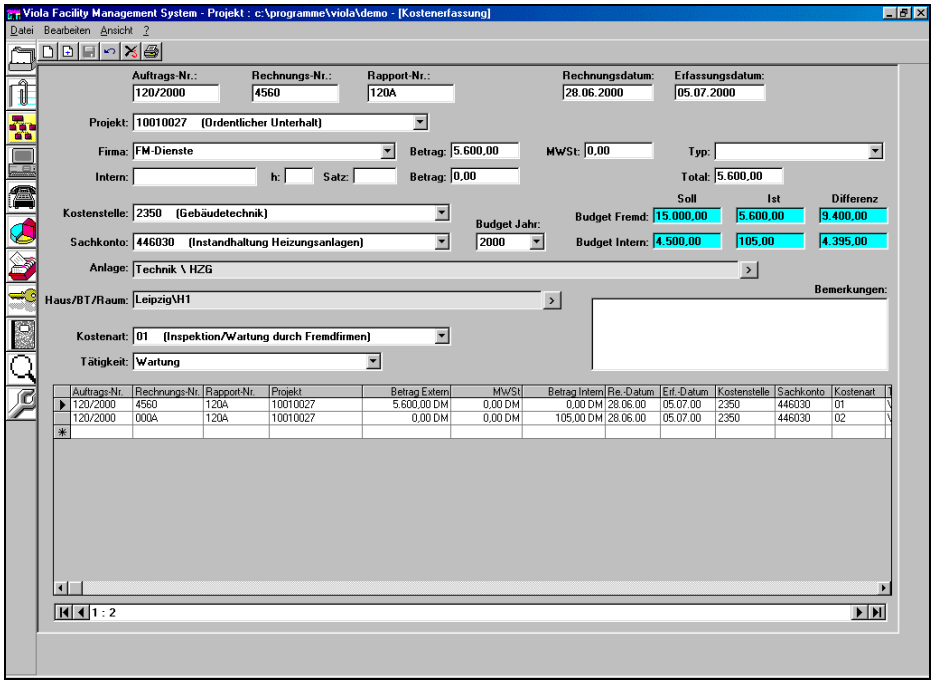
- onto customer preferences more rapid react
- the daily planning simpler be able to treat
- clear documentation for the job in one or several objects provide
- current calculations at changes of the agreed upon range of services carry out

Through that opposite the customers an exact checking process and quality control of the agreed upon services can be carried out.

Cost recording

With the cost recording module the assignment of bills is possible in simple manner. A bill can be assigned to projects, accounts and cost sections, object models or activities with the most different parameters.

At the same time an assignment can occur too year-wise billing with reference to booking account and cost section. With to what extent billing was used surveys are available.



For the administration of the bills different master datum can be put on and considered in the evaluation:

- cost categories
- projects
- cost section
- general ledger accounts
- activities
- bill models

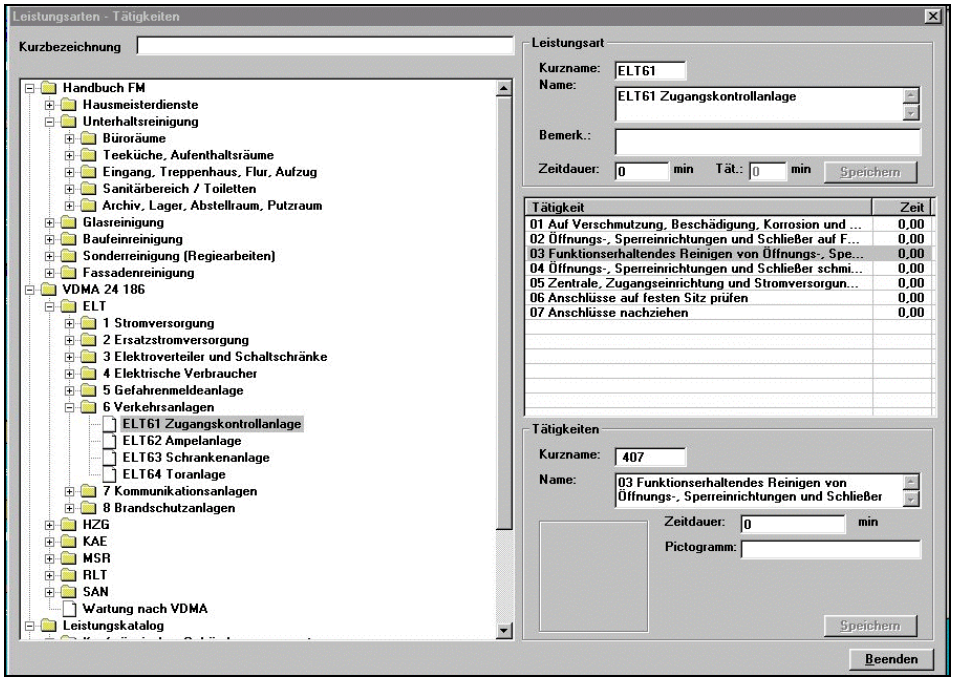
In parallel the grip occurs on information from other modules (Information on Companies, Employees, Building Model, Technical Plant Structure). For every course of events a corresponding account allocation is put on.

Master data

In the field of the service categories both the complete feature catalogue of the service provider and the specifications for tenders derived from that at the concrete objects (Contracts) are represented.

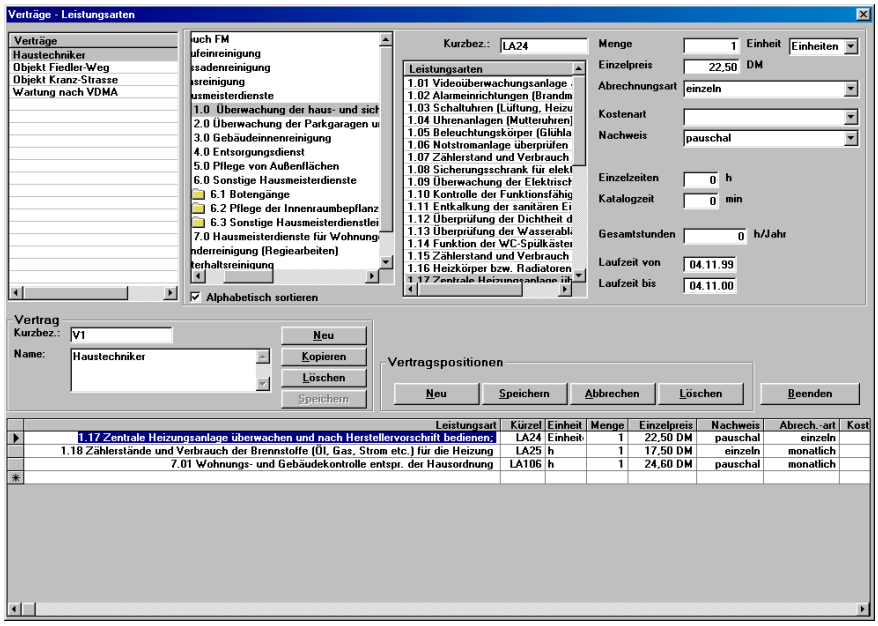
The individual contract components can be categorize for the later evaluation and/or billing after amounts, units of time (Hours, cycles), cost unit rates, cost allocation and to billing forms (total or single statement). Both general contracts and contracts with corresponding components can be defined in this case.

Feature catalos and lists according to all activity FM- are registered, as for example janitor services, tasks in the face and room management, object administration (Inventory, removals), technical service for facilities/maintenance, cleaning services, safety, fire protection or also concrete tasks of the Facility manager's.

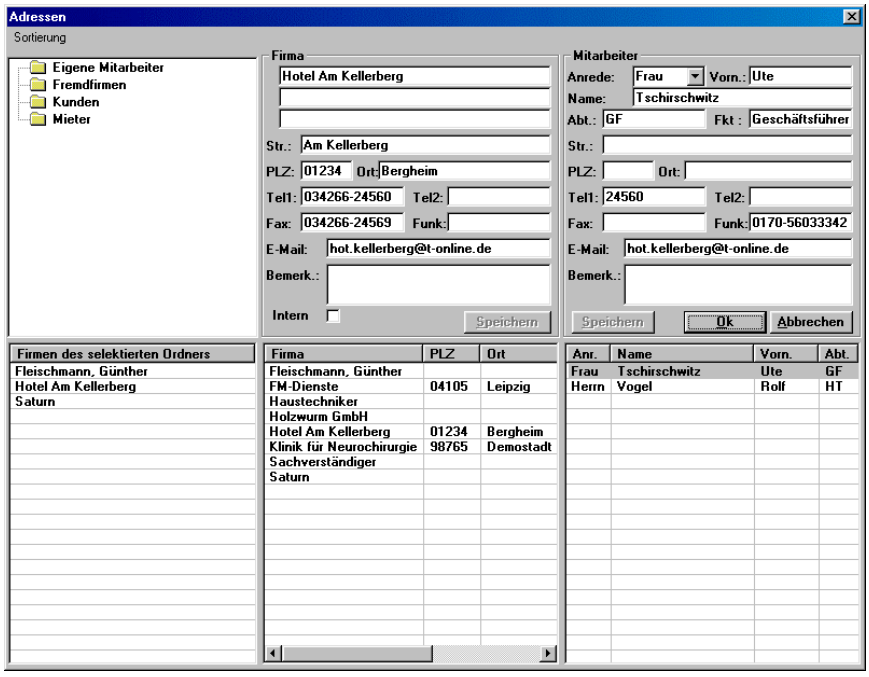


These general specifications for tender's individual objects of the cultivation are assigned to in turn concrete **contracts**.

With that the possibility to provide the by contract agreed upon services with concrete prices exists. Onto these information during the billing of tasks in the module manager is resorted service. So an exact checking process and billing of the issued tasks can occur.



Furthermore all information on postal **addresses**, which other program components refer to, are managed centrally.



Next to the general information on postal addresses an arbitrary assignment of companies is to be carried out according to a structure self to be defined (Tenants, external companies to trades, own employees etc.). Individual companies can be managed also in different files.

With that a good survey of all postal addresses is available and if required the desired information can be received fast.

Hardware requirements for the commitment of the integrated facility management system **VIOLA**

Database servers and workstations

	Workstation Database	Client
CPU	**Single or dual processor system Pentium III 500 MHz**	**Pentium III 500 MHz**
RAM	**256 – 512 MB**	**at least 128 MB**
fixed Disk capacity / power rating	**rapid SCSI or fixed disk IDE 8-40 GB (according to order with regard to amount of data)**	**SCSI or IDE fixed disk ab 8 GB**
grafic card	VGA compatibel, solution at least 800x600 Pixel with 256 colours	VGA compatibel, solution at least 1024x768 Pixel, at least 4 MB memory
net adapter	**ethernet, fast ethernet**	**ethernet, fast ethernet**
Operating system	**Windows NT 4.0 Server**	**Windows NT 4.0 Workstation Windows 95,98, 2000**

The configuration examples do not represent any minimum standards, but a recommendation. The configuration is determined by the desired performance of the overall system. The performance depends on an individual basis on different factors (Amounts of data, fitted applications, net, etc.).

For the printout all traditional are, under WINDOWS executable printer characterized. For the edition of graphic plans the commitment of plotters is recommended from format A3.