



Thesis.net Property Mgmt. *for* **Telecommunications Companies**

The innovative adjustable solution (based on the established, Thesis.net Property Management) for the vertical market of TELCOs in order to support the integrated management of Radio Access and Transmission Networks base stations (RAN).



The purpose of the solution (product) is to integrate and manage into a single IT product, all the requested data, functionality, operations, automations and management reporting, typically maintained by a telecommunications company, related to the management of Radio Access and Transmission Networks base stations (RAN).

The product is organized in the following modules.

- Functional locations
- Acquisition
- Construction
- Licencing
- Retention
- Power Generator |(Preventive Maintenance)
- Consumptions
- Contract Management
- Budget / ROP
- BI

The product is extremely flexible so that additional custom operations and reporting requested by the companies of this sector to be embedded in the product in an easy and effective way.







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Functional locations

Short Description – Terms

A functional location refers to the specific rich set of characteristics located in a specific site. A station refers to the installation of telecommunications equipment, which could be a base station, optical fibers, leased circuits or customer sites. The functional locations, the stations and all of their operations are described, supported and managed by the provided system.

Main Functionality

Typically a functional location is an entity which is described by:

- Code ID, Description, Status, Functional type, Criticality.
- Main Info (Location properties, station Coverage, Functional type, etc.)
- Address Info, Placement Info, Geolocation Info. The coordinates support WGS and European datum WGS84 as well as other online maps (Google, Bing, Yahoo etc.).
- Acquisition Info (Controller, Status, Contract, Technical Info, Dates)
- Construction Info (Type, Coverage, Equipment, Housing, Antenna Technical data)
- Sharing & Collocation (Operators' data, Status, Host type. Technical info, etc.)
- Electricity Power Info (Status, Provider, Payment frequency, etc.)
- Installation type (Stand alone, Shared, Colocation, Co-developed etc.) with additional info for the colocations.

Specifically each functional location can maintain and monitor data related to

- Site technologies (Type, Technology, Status, Dates)
- Others operators data (Name, Site number, Status, Activation info)
- Contacts (Contact info & Status)
- Activities (Dates, Assignment, request type, Status)

The management of **Telecom Projects** is fully supported.

Each Telecom Projects is organized and can monitor entities as:

- The connected functional locations (one or more)
- Project phases (typically milestones)
- Project vendors (Vendor Info, Assignment, Status, etc.)

Full details of **Contracting parties** and their roles, are maintained and organized as follows:

- Accounts & Contact General Info, location Info, Legal Info, etc.)
- Type roles (Multiple roles in the project)
- Phones Info
- Bank accounts info (For interfacing with legal core systems)
- Accounts reconciliations data
- Related contacts (Existing or history contracts info)
- Foreclosures & assignments Info







Acquisition

General Concept

In order for a new contract to reach to an agreement and signed, a great number of actions, processes, documentation and reports are required in order to assure the validity and suitability of a station. All the above are covered by the Acquisition module.

Main Functionality

A Search Area Form (SAF) is filled in; in order for the acquisition process of each station to be managed and monitored (the necessary steps are defined in workflow logic). A SAF is characterized by fields as: Status, Region, Coverage type, Priority, Notification info, Dates, Agent in charge, etc.

Among the steps to be monitored is the approval process, the site monitoring, the validity and legality of various documents, the licensing activities and documents, the technical reports and in general all the related documentation and processes. Since the steps (workflows) are not the same for every case, the system keeps and monitors different workflows in parallel.

An alerting system is optionally activated to remind the persons in charge accordingly.

The final step (acquisition approved) triggers new processes (construction).

The steps are connected with the related activities which are assigned to the personnel and or external contractors. In addition, full history data are kept by the system for controlling purposes.







Construction

General Concept

The constructions subsystem manages and monitors all the processes for the construction of a station after its RFL (Ready for Licensing) approval.

Main Functionality

Among others it analytically covers the following procedures:

- Assignment of the technical study
- Design of topographic study
- Preparation of architectural design
- Static design study.
- Design of Charter Land Use
- Assignment of Completeness Certificate
- Budget Preparation assignment
- Construction works and tests

The project activities are reported in a calendar per station, to register and alert the critical dates (assignment, delivery, completion, check & review dates etc.) and automatically notify the users accordingly.

The module register and support in details for every construction

- The related contacts
- Activities info (dates, in charge persons, Requests, Status, etc.)
- The related contracts
- The Site technologies

In addition to the above special care is taken for the management of various **special projects** (4G, Modernization radio relay etc.)







Licensing

General Concept

The licensing subsystem monitors all the processes related to the functional location licensing. In general licensing is a rather complex procedure since it engages public organizations, legislation changes, technical data, prerequisites, project assignments, approvals etc. Except of the initial licensing, revisions and renewals should have to be supported.

Main Functionality

Every license has its own Id and Description, its critical dates, licensing type (initial, renewal, revision, etc.), its related functional location, its status, etc. In addition all the connected activities and the prerequisites (licenses) are registered and monitored by the system.

The license activities are fully parameterized and are organized so that they can obey the Request - Approval – Finalization workflow.

Automations are also provided so that the existing workflows to be easily duplicated whenever needed.

Every functional location is connected with its licenses, the adjacent stations, the connected contacts and the problems, providing a clear and complete real time licensing profile.

Notification alerts are designed, to be automatically delivered to the personnel in charge, assigning pre-configured tasks.

The system can provide a powerful set of reporting, KPIs, dynamic pivot tables, based on licensing categories, licensing sets and licensing technologies.







Retention

General Concept

This is a very important module designed to register and process any kind of problem or request (cases). The problem/request could be of any type (legal, construction, complaint, malfunction, etc.) and can be connected with a contract, an owner, a lawyer, or it could be an internal issue. Additionally incoming emails can be automatically registered in the system and connected with the problems/requests.

It works closely with both the department of licensing and the legal department.

Main Functionality

Problems are organized in categories and are coded in statuses. Requests and their results are also categorized. Penalties are coded and are connected with agencies or organizations.

Any problem – request is initially characterized by the code Id, the description, the functional location it refers to, the owner, the status, the category, a lot of critical dates, the controller, the lawyer and technical info.

Additionally they can be connected with our requests from the insurance company and registers the related demands amount, payment info and dates.

Activities connected with the problems – requests are registered in detail and are managed, in order to support the whole cycle from the assignment of the problem- request to a user, the assignment and completion dates, the status, the role, till its completion.

In the case that a problem reaches finally to a trial, all the trial details are registered and monitored by the system. Among them are the trial date and description, the category, the trial location and court, the court outcome, the controller, the lawyer, the possible history of trials, the defendants, the witnesses, the required trial documents etc.

Since it is not uncommon that a dispute could results in penalties (fines) the system can handle its evolution from the initial amount to the final adjusted amount. The penalties are fully registered and managed by the system (dates, description, category, institution, initial amount, surcharges, statuses, payment and comments).

Handling problems in most cases requires a lot of communication. The system automates the related incoming email activity in order to facilitate the communication effort saving and characterizing the emails (connecting the email with specific Problem id)

Finally the retention module can produce meaningful reports, KPIs etc.







Power Generators (Preventive Maintenance)

General Concept

This module integrates all the business logic related to the preventive maintenance.

Each department generates the annual preventive maintenance plan depending on the type of the equipment (tower, batteries, etc.), the criticality of each station and the contract obligations signed with each contractor. Build in automations (programs) are provided in order for the system to be updated with external data supplied by the contractors. Finally complete maintenance records are maintained and managed plus the measurements and possible findings.

Main Functionality

According to the maintenance plan, there are 3 main entities managed by the system

- 1. Tasks work plan
- 2. Maintenance work plan per contractor and contract
- 3. Measurements and possible findings records.

In order for the system to register and keep track of the maintenance inventory, specific inspection info is required as follows:

- 1. Inspection areas.
- 2. Inspection points which can be analyzed at a second level in inspection data

Possible inspection findings create trouble tickets which are then directed to the contractor for further actions. Upon the settlement of the findings the contractor will return a recovery file to be loaded in the system. External documents which have to be filled in by the contractor should also be inserted in the system as attachments.

Power generators in any functional location play a critical role. They should remain operative 365/24 in order for the functional location to be productive. Power generator info is maintained with rich technical data (Shelter type, S/N, Station category, power node, etc.)

A large number of technical and non-technical info is kept for each functional location. This info for each functional location can be categorized in

- Main Info related to the functional location (id, description, status, Functional type, etc.)
- Basic info (Activation and change status dates, etc.)
- Location info (Address, Geolocation data, Town, PO, etc.)
- Acquisition info with contract and radio / transmission specific data
- Construction related Info (type, coverage, equipment, Housing, antenna info, etc.)
- Sharing and Collocation Info, activation date, etc.
- Electric power provider info and ownership data
- Full history of all the changes of the status

Detailed information at the functional location level, is also maintained to monitor

- All the inventory of the inspection plans, points and finding details
- All the inspection findings

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- All the power report technical data (node, type, Fuse, etc.)
- Generator installation dates and technical data
- The third operators data & activation dates
- The Contracting parties details
- All the connected activities, assignments & completion dates, types, status etc.

The preventive maintenance - power generator module provides out of the box ready reports and of course new meaningful, custom reports, KPIs, Dashboards can be produced upon request.







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Consumptions

General Concept

The Consumption module manages in general all the gauges of the system and especially the electricity consumption gauges. The gauges management covers the registration of the agreements, of the connected bills and of the payments. It is critical for the system to confirm the exact application of the agreement with the provider (power Electricity Company or other). The gauges can be assigned either to the operator or to the owner of the stations.

Main Functionality

The module setup (parameterization) includes owners coding regarding their payment behavior, the bills types, the providers of the electricity and the payment terms.

The module registers all the details of the <u>electricity bills</u> with regard to the functional locations.

In particular it supports the Public Electricity data gathering information as

- Main Info (Account, Owner, Gauge, Type, payment terms, etc.)
- Dates (Issue, Consumption, Receipt, Due, etc.)
- Consumption data (all the analytic figures provided by the electricity bill, as well as other charges, unpaid amounts, VAT, etc.)
- Statistical data (KWH, consumption period, daily consumption, etc.)

The system automates processes creating payments entries upon request based on electricity data. In particular the already provided automations include:

- Creation of a payment based on an existing electricity bill
- Creation of a payment based on an existing measurement

The registration of the <u>measurements</u> is very important since they have to comply with the electricity bills and the payments. Measurements data registered in the system include:

- Main Info (Id, Functional location, Gauge, Payment code)
- Dates (Issue, consumption, due, duration, etc.)
- Summary Consumption data (figures)
- Detailed consumption data and (detailed figures, accounting reconciliations, etc.)

The <u>payments</u> are also registered and monitored by the system. The information gathered includes:

- Main Info (Functional location, Account, Measurement, etc.)
- Bill Info (Dates, Invoice data, consumption data, other expenses)
- VAT Info (Net consumption & VAT figures)





• Accounting reconciliation data

Finally all the related consumption information is automatically collected and monitored at the functional location level.

For every functional location the system can handle in addition to the general info (Main info, Address, Acquisition, Construction, Status, etc.) history Info as follows:

- Reconciliation info (Payment agreements)
- Payments
- Measurements
- Bills
- Gauges
- Other operators data
- Contacts
- Activities

It can also provide reports as,

- Long term pending bills
- Payment data report,
- Active contracts
- Excessive consumption report, Deviations from the average etc.







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Contract Management

General Concept

The contract management module is a core module in the system. Every agreement is registered and monitored in the system as a contract. The contracts register and manage general information and terms, the contract type, the contracting parties, the payment plan, the conditions, etc. The management of all the contracting parties is integrated in the system including CRM type info, Accounting info, Communication activities, etc.

Contracts readjustment is fully supported and parametric formulas can be applied based on CPI (Consumer Price Index) and other terms. Finally the contracts are interconnected with the Budgeting and ROP (Rental Optimization Processes) providing a dynamic and powerful tool for the management of the expenses of the company.

Main Functionality

The contracts are connected with the rental of properties (categorized in property types), they are organized in contracts categories, they can support any number of contracting parties, functional locations, readjustment formulas, multiple rental periods etc.

The <u>contracting parties</u> of a contract are a very important entity in the system. Each party is registered in the system as follows:

- Main Info (Basic CRM Info)
- Contract type (Owner, Controller, Contractor, Partner, etc.)
- Other critical Info and history data as
 - Phones info
 - o Bank account info and reconciliation data
 - Contracts he can participate
 - Foreclosures / Cessions engaged

In addition the system embeds a number of facilities typically provided in a CRM application.

The <u>contract management</u> subsystem can register and manage information organized as follows:

- Main Contract info (Contract No, Description, Category, property type, status, etc.)
- Contract Dates (Signature, Start, End, Extension dates, etc.)
- Rental
- Connected contracts
- Sublease Info (Numbers, dates, %, sub rental)
- Contracting parties & percentages







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Each contract can register and manage detail and history info as follows:

- Contract terms. One or more terms which may include term type, dates (signature, start, end, payment, rental, payment frequency, stamp duty, warranty amount, etc.) Each term can refer to more than one contracting parties.
- The connected functional locations, their time periods, percentages and rentals
- The detailed payment plan. It can be created automatically by the system for any future period and can include stamp duty, VAT, payment day, and other data. Payment plan Debts can be matched with payment according to predefined matching scenarios.
- Any Related contracts.

It is extremely useful to focus on the embedded contract readjustment processes which are based on dynamic user defined formulas connected with the CPI.

The contract management is a very extensive and heavy task in terms of complexity operations and volume. It can support among others procedures as

- Contract maintenance
- Contract renewals
- Contract updates
- Contract termination

In order to provide an idea of the needs it can handle, an indicative list is presented below:

- No rental contracts (woodland, other)
- Multiple stations contracts
- Multiple station contracts with partially active stations
- Contracts with stamps of different rates and VAT
- Periodic updates of the contracts associated (or not) to the CPI (Consumer Price Index)
- Coexistence of two different leasing periods within the same contract period with different rentals.
- Handling of contract changes due to external factors (owners changes, owners percentages, tax changes, etc.), or internal decisions (negotiations on reduction of the rental, payment frequency change, change of renewal terms, renewals rents etc.)
- Different payment frequencies per contract.
- Prepayments and / or guarantees adjustments that affect the budget
- Payment terminations
- Contract termination and clause provided by law but not mentioned in the contract.





- Payment plans automations are supported based on the beneficial and or other specific terms
- Payment plans can extend above the duration of the current contract
- All contract types are practically supported, included complex renewal terms.
- And of course a long list of cases not mentioned here.

What if scenario

Negotiating of large amount of contracts is a complex and time consuming task. Reducing existing contract costs to the desired level can be achieved by many alternative ways (scenarios). Among others, inactive contracts for a time period and or prospect (under negotiation) contracts should be taken into account.

The management team sets goals which are updateable and should be reached by the personnel. What if scenarios are the right tool in order to match the goals with the actions and the contracts finally signed.

The system is organized in order to support 'what id scenarios' upon request. This is extremely useful for the budgeting needs especially during the renewal period.

What if scenarios (Parameters) to be considered are:

a) Estimation of the baseline contracts cost, based on previous year prices adjusted in accordance with CPI (Consumer Price Index).

b) Assessment of once off charges (back payments or contracts with retroactive effect).

h) Prospect contract estimation, based on the type of plant, the targeted rent per type of power plant, estimated date / time of entry into force of the agreement, lease etc.

d) Contracts cost assessment, to charge the current budget.

e) Contract cost evaluation for special constructions.

f) Revenue amount estimated.

i) Estimation of the amount deducted during the current year summarized in 3 categories (A. solutions, B. reductions and C. renewals).

Finally the derived 'What if scenario' output includes all the above figures in a monthly bases.







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Budget / ROP

General Concept

Planning and implementing contract budgeting is of major importance in the provided system.

ROP stands for Rental Optimization Process. Its main scope is to facilitate authorized users to contact the contractors in order to achieve a better agreement (lower rental) and finally cost reduction for the operator. Contracts budgeting and ROP, when combined, can provide extremely useful cost reduction results for the company.

Main Functionality

Budget

Budget planning suggests that the budgeting figures are inserted, organized and updated by Category, Scope and Sub scope in a monthly basis. The assignment of the contracts in the budget is very straightforward, what is required is the selection of one or even more contracts (multiple contracts selection is also supported). Budget renewal (versioning) is also supported until the final stage when the budget becomes final. The budgeting period is typically but not necessary the fiscal year of the company. All real figures coming from the contracts are summarized and reported by the system. Real time budgeting figures are reported dynamically and on the fly organized by Operator, Category, Scope and sub scope with automatic calculation of the totals at any level. A number of out of the box automations are embedded, including build in processes as contract finalization, contract renewal, contract assignment, contract transfer and contract deletion.

The great benefit of managing and monitoring thousands of contracts in real time is effectiveness and high productivity.

ROP

The first preparation step is the definition of the ROP operators on behalf of the company.

The second preparation step is the definition of the ROP activity types connected with the resulting status and the completion rates (percentages). Each ROP activity type represents a completion task in the process and measures the progress statuses and finally the possibility to successfully complete the new lower cost contract agreement

The system limits the access to this process in specific predefined users (ROP operators) authorized for the negotiation. After defining the ROP action types and ROP operators the system proceeds with the definition of the ROP by itself. It can include multiple definitions of Initiatives and contracts per ROP.

Each initiative requires inserting group and category and a number of parameters (time period, contract volume and contract rental, success and reduction rates (%)) in order to be compared with the real figures achieved). The selected contracts are also assigned to the ROP.

After ROP completion, ROP authorized users update their activities related to the cost reduction process.

The system finally automatically updates the related ROP and provides progress indexes in terms of the cost reduction goals scheduled.





BI

General Concept

The product embeds a powerful 'Thesis.net BI designer' tool in order to support all the Reporting, MIS, GIS and Dashboard needs. In addition with the long list of preconfigured reporting, the tool supports not only new custom requests, but also change requests and improvements of any scale.

When combined with the Thesis.net Development framework it solves any need beyond the preconfigured functionality

Main Functionality

Thesis.net BI includes automatic alerts, workflow automations, a rich set of chart types, KPIs, GIS reporting, OLAP and PIVOT reports, Xtra Reports, mail merge support, Routing, dashboards, etc.

Thesis.net BI is a powerful tool for financial analysis and business intelligence covering every aspect of a business. The online and secure detection of any item of business intelligence, at any depth, improves information and leads to accurate and timely business decisions.

The possibility of combining dynamic and multidimensional information highlights every aspect of the company and ensures excellent traceability.

Thesis.net BI is a completely open system that interacts and exchanges information with all common office automation programs, ensuring maximum productivity and free choice of tools.



Thesis BI designer embeds an <u>Import Manager</u> tool in order to import data from many external sources including Microsoft SQL server, MS Access, Excel and Text files.

Further info and demo can be provided upon request. Please contact us.

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