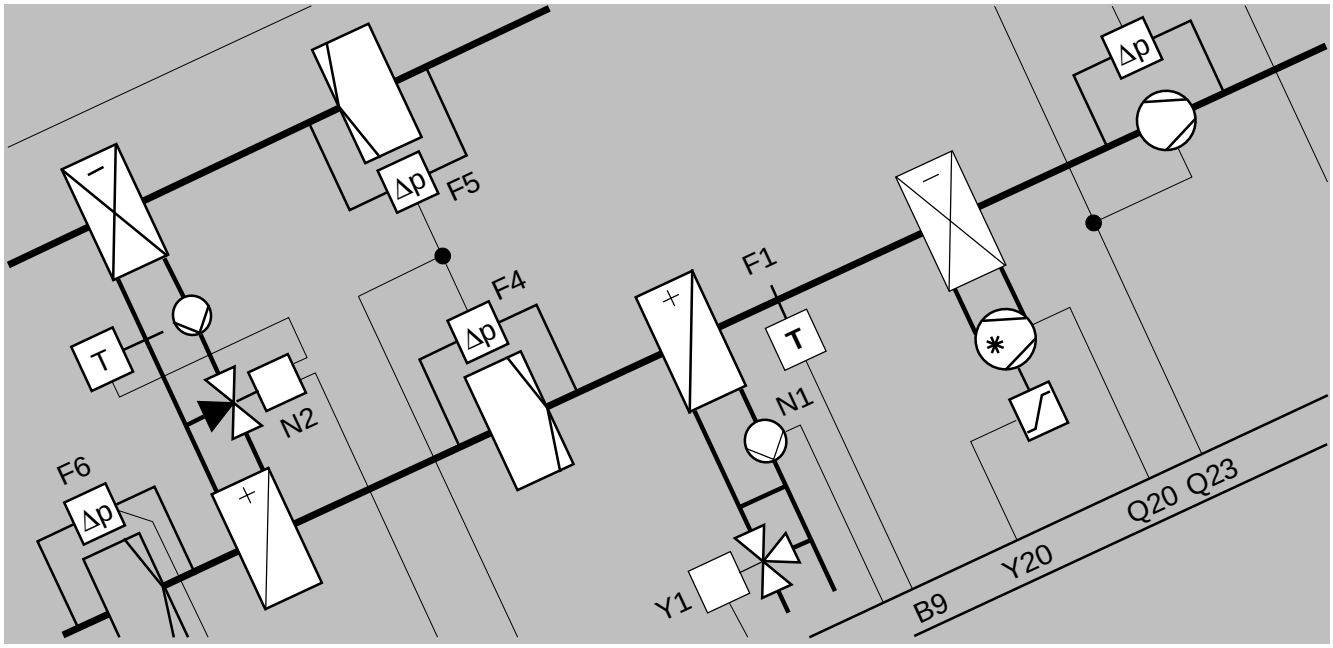
SIEMENS



European Tool Set

ETS Fundamentals

User's Handbook

Version: 1.40

Siemens Building Technologies
Landis & Staefa Division

Contents

Read this first

What does this chapter contain?

The sections below provide important basic information prerequisite to understanding this User's Guide.

Assumptions

We assume that you are already familiar with building automation systems such as VISONIK, UNIGYR and INTEGRAL and that you know project workflows.

Which tool versions are discussed?

This document is based on the following versions:
- PDT V 1.40
- SDT-Shell V 1.40
- PRVCONF V 3.20
- RSCONF V 1.10

What abbreviations have been used?

The table below contains all abbreviations as used throughout this document.

ETS	European Tool Set: Set of software tools providing optimal support for the project engineering process
PDT	Plant Description Tool
SDT	System Design Tool (generic term)
SDT Shell	System Design Tool Shell for the Automation Level Network
SDT ALN	System Design Tool for the Automation Level network (generic term)
PRVCONF	System Design Tool for the Automation level network of UNIGYR- and VISONIK systems
RS-CONF	System Design Tool for the Automation Level Network of INTEGRAL systems
SDT-FLN	System Design Tool for the Floor Level Network
EDB	Exchange Database Common, open database in ETS
MSTE	Marketing and Sales Tool Europe: Sales and bid support
PCSE	Project Control System Europe: Workflow support
PULSS - OM - EM	Process support program Landis & Staefa Germany Offer module Engineering module
BTA	Building services system
ISP	Location

1. Introduction to the European Tool Set

1.1 About this document

This chapter contains general information on the contents of this document and ETS.

This User's Guide is intended for all users who plan, sell and/or process projects for L&S systems. It primarily contains workflows from ETS support. For instructions or hints, refer to the more detailed documentation on the respective topic.

Where do I find what?

This User's Guide contains the following chapters and topics:

Chapter	Contents
	Read this first (previous page) *Conventions and abbreviations used in this document*
1	Introduction (this chapter) – *General information on ETS that you need to know* – *What concepts represent the basis for ETS*
2	Terminology: – *Terms used within ETS* – *Definition of terms as used in the L&S building automation systems*
3	Data structures in ETS: – *What data is used in ETS* – *How to manage project variants and versions* – *How to archive project data*
4	Working with ETS: – *How to best use the various tools during project execution* – *Examples for various business situations and project scenarios*
5	Software environment for ETS: – *PC prerequisites to enable ETS installation* – *How to install ETS*

Additional documents

The following L&S documents contain further information and support with regard to project execution:

- PDT User's Guide (order number: CM2U8377E)
- SDT Shell User's Guide (order number: CM2U8379E)
- RSCONF User's Guide (order number: CM2U8378E)
- PRVCONF User's Guide (order number: CM2U8375E)
- SDT-FLN User's Guide (order number: CM2U8376E)

Where do I find further information?

The following file on the installation diskettes contains additional information:

- The “Release.doc” file with further information on this version of ETS.

Note

We urge you to read the "Release.doc" file prior to using ETS!

1.2 European Tool Set: a set of synergetic software tools

A set of tools

The entire Landis & Staefa (short: L&S) project procedures from planning to sales to engineering to commissioning of building automation systems is fully supported by modern tools.
These tools are a set of software tools named European Tool Set. The **E**uropean **T**ool **S**et (short: ETS) comprises technology-oriented programs that utilize existing infrastructure and solutions to provide and ensure flexibility, quality, efficiency and speed.

A tool for each task area

To support project procedures, a modular set of synergetic tools is used. All of these tools access a joint data set for each project.

We provide one specific tool for each task area within a project procedure and for each project. For this reason, the functions of the single tools rarely overlap. Based on the common data concept, you need to enter the data just once. Previously entered or processed data are reused for subsequent tasks.

Example

An HVAC plant description including field devices is generated with the aid of the **P**lant **D**escription **T**ools (PDT).
The data generated accordingly can then be used by the **S**ystem **D**esign **T**ool (SDT) and associated with the required process units and I/O modules.
Additionally, you can generate and change field devices data accordingly. If further changes to the plant structure description are required, the data can be reopened in PDT and further processed. The changed field devices data are adopted without restrictions.
Finally, these data can be used for cost calculations by means of a business tool (e.g., **M**arketing and **S**ales **T**ool **E**urope (MSTE) or **P**rozeß **U**nterstützung **L**andis & **S**taefa **S**ysteme (PULSS) = Process Support Landis & Staefa Systems).

1.3 One specific tool for each task area

ETS is not tied to fixed procedures.
Depending on the framework conditions imposed by a project and the respective task, the most suitable and best workflow is selected from within the tool.

This section intends to familiarise you with the software tools.

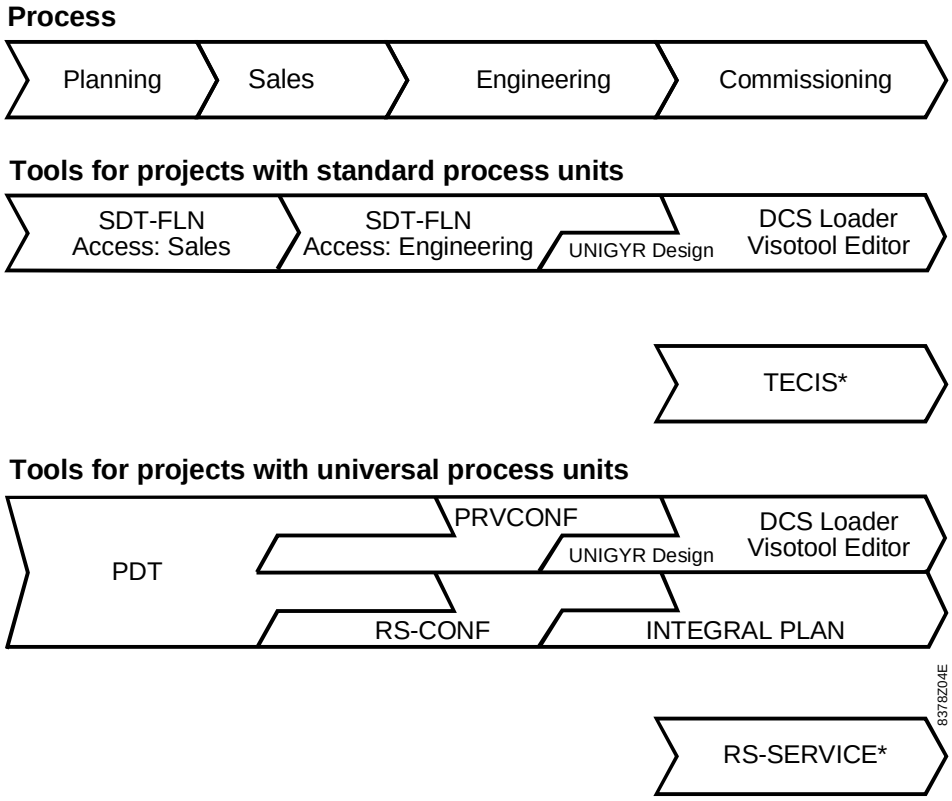
One specific tool for each task area

The table below lists the ETS tools as well as the software tools that work jointly with ETS:

	Acronym	Purpose
ETS tools:	PDT	Product and system-independent description of HVAC plants, recording of customer requirements. Use PDT to generate a graphic plant schematic, a neutral point list, a field devices list as well as a function description.
	SDT (currently consisting of):	Allocation of plants and room applications to a building automation system; selection and sizing of the required process units; allocation of plants to process units and I/O modules; adding of field devices; allocation to networks; printing of documentation.
	– SDT-Shell with: (PRVCONF) (RSCONF)	Use SDT for the automation level network in conjunction with PRVCONF for UNIGYR and VISONIK systems and with RSCONF for INTEGRAL systems.
	– SDT-FLN	SDT is for the floor level network).
Configuration tools:	UNIGYR Design, PRVCODE, INTEGRAL PLAN	Product-specific configuration or programming of building automation systems by adjusting existing data to the selected system.
Loading and commissioning tools:	UNIGYR Loader, VISOTOOL Editor, DCS Loader, TECIS, RS Service	Loading of data and commissioning of various systems by means of product-specific tools.
Business tools:	PULSS, MSTE PCSE	Generating of business documents such as cost calculations, bids, … .

When do I use which tool?

The illustration below helps you decide which ETS tool to choose for certain requirements.



* TECIS: TEC Commissioning and Service Tool
RS SERVICE: Service Tool for RS Modules

Note

Consult the associated ETS tool documents for further information on the various ETS components (tools).

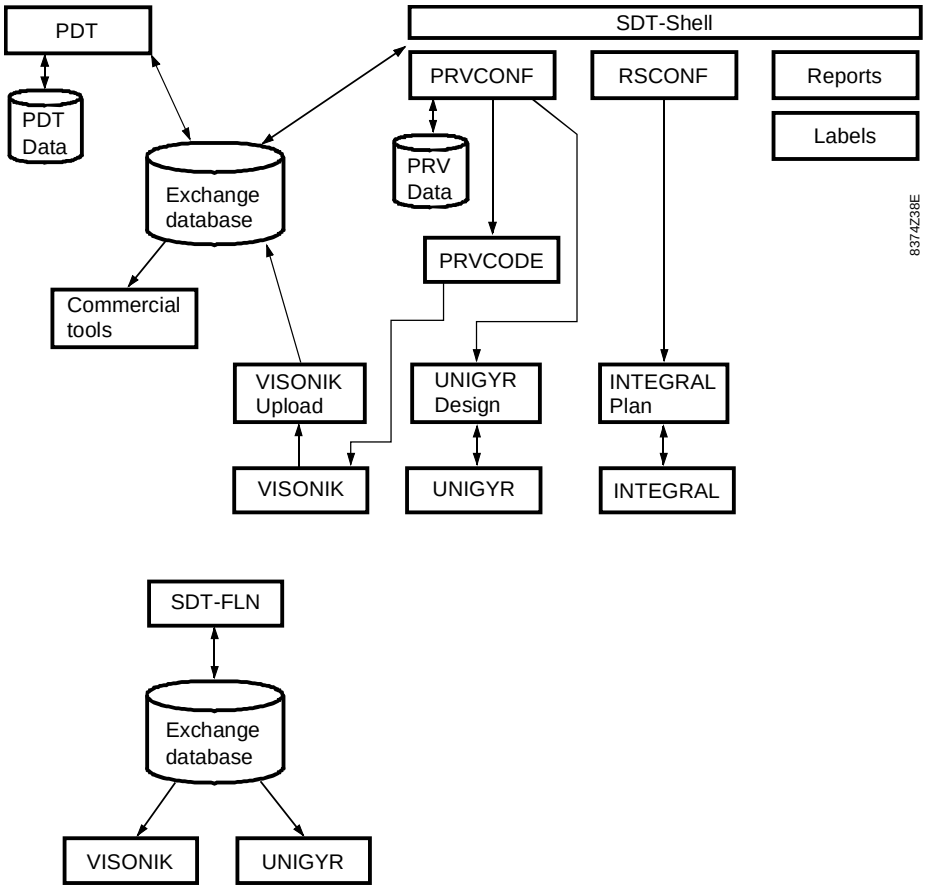
1.4 Data exchange

Core task of ETS: Data exchange

In order to enable data exchange between the various tools, all jointly used data is stored in a common exchange database (**E**xchange **D**ata **B**ase, EDB). The EDB data structures largely correspond to those of the SDT-ALN. SDT FLN currently has its own exchange database.

The tools are mutually independent programs that, in part, also use private data management.

The following illustration shows several possibilities for data exchange between the various ETS programs.



User interface

Operation of the individual tools is very user-friendly to enable new or occasional users to easily work with them. For advanced users, the tools provide a series of productivity functions that support faster and more efficient workflows.

All ETS tools apply the same working techniques and workflows.

2. Terminology

This chapter provides explanations on ETS basics and philosophy.

2.1 Terminology within ETS

2.1.1 Tool grouping

When speaking of ETS, three terms are often used for grouping the individual tools:

- **Project-oriented tools:**
  These tools are product-independent and enable sales and engineering staff to translate customer requirements into system solutions.
  Example: PDT, SDT-Shell, PRVCONF, RSCONF, SDT-FLN
- **Product-oriented tools:**
  These tools are product-specific and are used for configuration, parameterization, and commissioning of product components as well as for system service.
  Examples: INTEGRAL PLAN, UNIGYR Design, DCS-Loader, PRVCODE, TECIS
- **Business tools:**
  These tools support project execution with regard to business tasks such as cost calculations, bid proposal and cost tracking.
  Examples: MSTE, PCSE, PULSS

2.1.2 ETS standard solutions

Explanations
Why standard solutions?

You should use standard solutions wherever possible in order to increase quality and to achieve a cost-effective project workflow. Standard solutions are stored in libraries. Using such a high degree of standardisation degree reduces flexibility. However, at the cost of the advantages of standard solutions, flexibility can be increased at any time in ETS.

The ETS libraries contain the following:
- Plant parts
- Default plants
- Standard plants

Plant parts

Plant parts correspond to the modules of a plant. They consist of selectable components with the following information and definitions:
- Schematic view
- Data points
- Defaults for field devices
- Defaults for data point texts

Default plants

Default plants are commonly used plants that you can often use in projects with only minor changes.
They contain the following information and definitions:
- Plant schematic
- Data points
- Defaults for field devices
- Defaults for data point texts

Standard plants

Standard plants are tested and ready-to-use plants that can simply be copied to new projects and used as is.
Standard plants contain the same information and definitions as default plants:

- Plant schematic
- Function descriptions
- Data points
- Defaults for field devices
- Defaults for data point texts

In addition, most of these features are preset for the user.
The following modification options are available without actually changing a standard plant (which is also possible at any time):

- Deactivation of certain plant parts with field devices
- Exchange of field devices

Pre-programmed room units and process units

A room application or a specific HVAC plant is pre-programmed in the associated unit and the user can only change a few selected functions.

High degree of standardisation

Used in TEC, RX, and RWI…

The data for pre-programmed units comprises of:

- **One** room application or **one** plant
- Field devices
- Process units with code and operation (Popcard)
- System integration

Only the following modification is possible:

- Deactivation of specific plant parts including field devices.

2.2 Building automation system terminology

Intent

This section explains **general, important concepts and terms**.
The following terms will be explained:

- **Application types**
- **Plant**
- **Room application**
- **Location**
- **Rooms and room modules**
- **System levels**
- **System and user designation**

2.2.1 Application types

HVAC application types

There are 2 types of HVAC applications:

- **Primary plants**
  Handling and distribution plants for air, heating, or cooling:
  They are almost always located in technical rooms with high data point volume.
- **Secondary plants**
  End consumers of air, heating, or cooling:
  End consumers are distributed across the entire building.

2.2.2 Plant and room application

Plant in ETS

The following applies to ETS:

A plant always denotes a **primary plant** (handling or distribution plant) for a defined range of action.
Examples:
Air handling
Heat generation
Heat distribution
District hot water handling

Primary plants are comprised of mechanical components, e.g., pumps, fans, dampers, heating coils, filters; in other words, they are comprised of the plant mechanics.
These plants have measuring, control and monitoring equipment (e.g., sensors, detectors, actuators, field devices), functions (e.g., night purging, summer compensation) and data points.
They are controlled by universal process units (e.g., BPS, PRU…, PRV…, RSM, RSC) or by standard process units (e.g., RWI…, RWP…, RSA).

Room application

The term "room application" denotes a type of **secondary plant** (end consumer) with customer-specific adjustments (imported from the library, adjusted to the associated needs).
Examples:
Fan coil units
Induction units
VAV units

Secondary plants are comprised of mechanical components, e.g., induction units, fan coil units, chilled ceiling, valve, radiator; in other words, they are comprised of the plant mechanics.
These plants have measuring, control and monitoring equipment (e.g., sensors, detectors, actuators, field devices), functions (e.g., room temperature control, downdraft compensation), various operating modes (Comfort, Reduced, Standby) and data points.
They are controlled by standard process units (e.g., **T**erminal **E**quipment **C**ontroller TEC, Desigo RX).

2.2.3 Locations

A Location (ISP) denotes the position of one or several process units, and, consequently, the control cabinets. The task of the process units may include control of plants as well as coordination of room applications.

Example for a building

This example includes the following HVAC applications:

Primary plants:

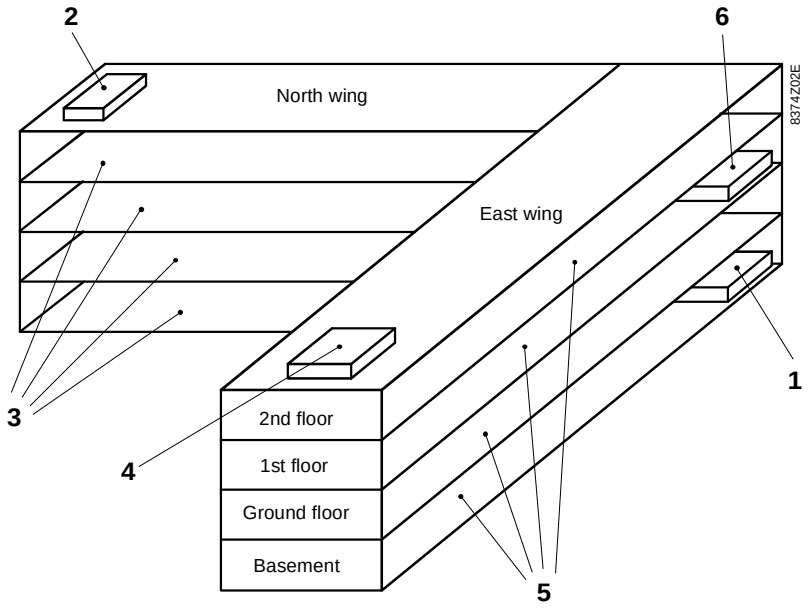
- Heat generation (in the technical room “Basement”, **1**)
- District hot water (in the technical room “Basement”, **1**)
- Supply group 1 (in the technical room “Basement”, **1**)
- Supply group 2 (in the technical room “Basement”, **1**)
- Refrigeration (in the technical room “Basement”, **1**)
- Air handling North (in technical room “Attic North”, **2**)
- Air handling East (in technical room “Attic East”, **4**)
- Air handling demo room (in demo room, **6**)

Room applications:

- 30 chilled ceilings in the North wing (one chilled ceiling per office, **3**)
- 27 chilled ceilings in the East wing (3 chilled ceilings per open-plan office, **5**)

Illustration

A principal illustration of the HVAC equipment in a building complex is as follows:



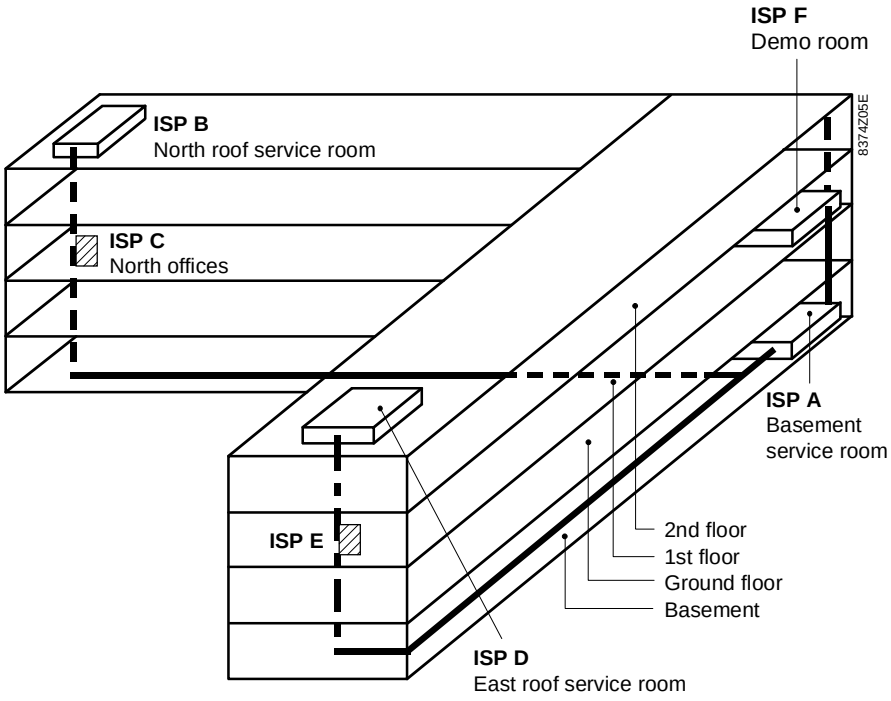
ISP

The ISPs are defined at the following locations in the selected example for a building:

- ISP A in the technical room "Basement" for the following plants: heat generation, district hot water handling, supply groups, etc..
- ISP B in the technical room "Attic North" for the following plant: air handling North
- ISP C in the control cabinet at the power duct on the first floor North for the following: master process units of the 30 offices with one chilled ceiling each
- ISP D in the technical room "Attic East" for the following plant: air handling West
- ISP E in the control cabinet at the power duct on the first floor West for the following: master process units of the 9 open-plan offices with three chilled ceilings each
- ISP F in the demo room for the demo plant

Illustration

A principal illustration of the ISP distribution and the ALN in a building complex is as follows:



2.2.4 Rooms and room modules

Room

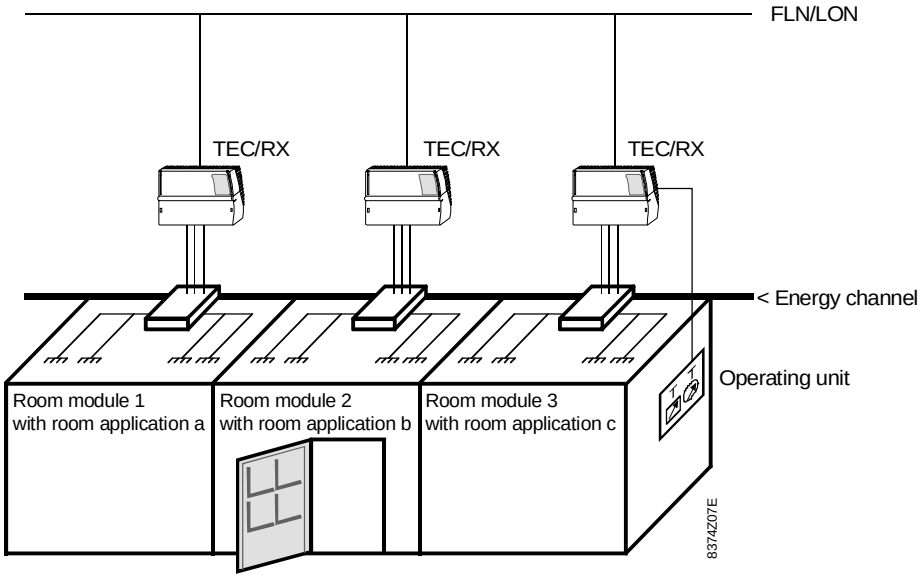
A room is a building portion that is limited by a floor, ceiling, walls, doors and windows. In ETS, a room may comprise several individual rooms having the same climate, e.g., two offices that are supplied by the same end consumer. Within a room, the same climate setpoints, operating states and releases apply.

Room module

A room module denotes the room volume that is supplied by **one single** end consumer. Normally, a room comprises at least one module and larger rooms several modules. Room modules then represent fictitious subunits of a room.

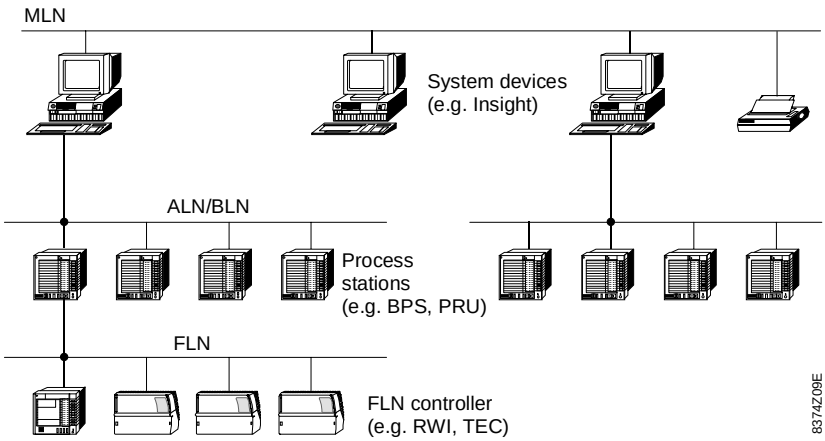
- Room modules comprise exactly one TEC with one room application.
- A local operating unit (temperature sensor, presence switch, etc.) may be located in a room module.
- Room modules can have additional functions (fire damper monitoring, lighting or blinds control, etc.).

The following example shows one room with three room modules:



2.2.5 Various system levels

In order to coordinate the different processes in a building complex, the building automation system has various network levels.



Management Level Network (MLN)

System level for superposed information distribution and processing.

Automation Level Network (ALN)

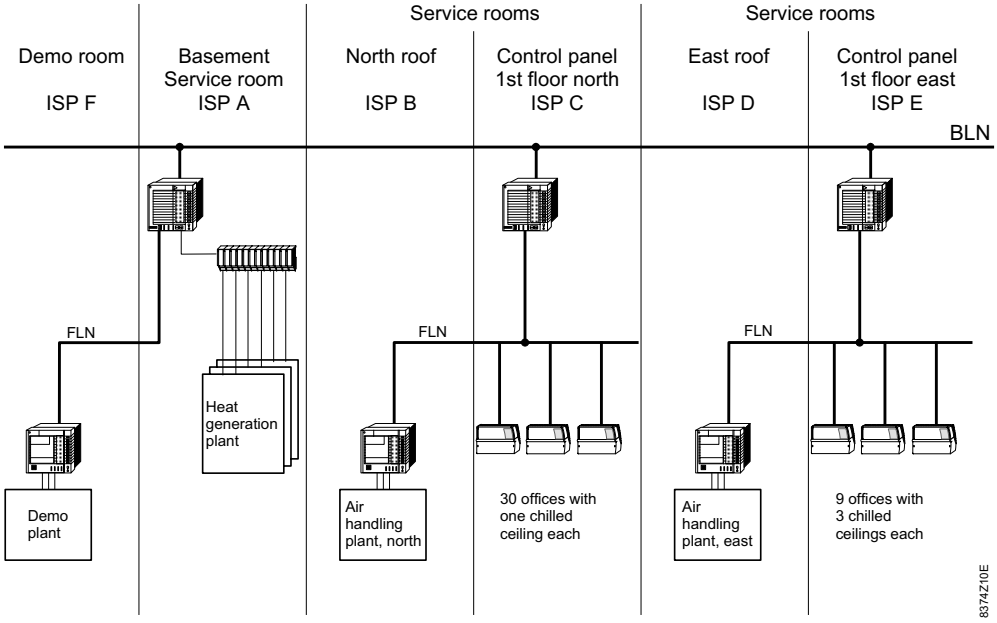
System level for automatic control of the building, consisting of universal process units and application-specific standard devices.
This level corresponds to the former "BLN" (Building Level Network).

Floor Level Network (FLN)

System level to control rooms and room modules as well as the associated handling plants by means of standard devices.

Illustration

In the selected building complex, the network layout is as above.



2.2.6 System name and user name

What is the purpose of this chapter ?

This chapter exclusively focuses on engineering staff. It explains the following:
- How the system name and user name within ETS relate to VISONIK, UNIGYR, and INTEGRAL systems
- What the the fields of the component attribute window in PDT (View II) mean
- What the the fields of the point window in SDT-ALN (PRVCONF) mean
- How to use both system name and user name within ETS

Data point designations

There are three types of designation for data points:
- **Descriptive text:** clear text to enable identification of a data point in lists, etc.
- **System name:** Unique identification of a data point within the system for program, etc. (VISONIK: technical address, UNIGYR: function block instance name, INTEGRAL: I/O designation).
- **User name:** Identification of a data point by means of a graphic that is clear to the user (VISONIK: user name, UNIGYR: function block instance name, INTEGRAL: SAPIM text)

The descriptive text often comprises two text parts: one for the data point and one for the plant.

User name in ETS

The user name in ETS has a plant-specific prefix and a point-specific suffix. There are two text fields for the suffix: one for measuring and control-oriented designations (User Id) and one for device-oriented designations (Device Id). Each of these can separately be assigned.

PDT

In PDT, only the two suffixes are visible and available for change in the attribute window under Symbol II. The suffixes are named "User Id" and "Device Id". A prefix that is valid for the entire plant can be entered in the plant attributes.

PRVCONF

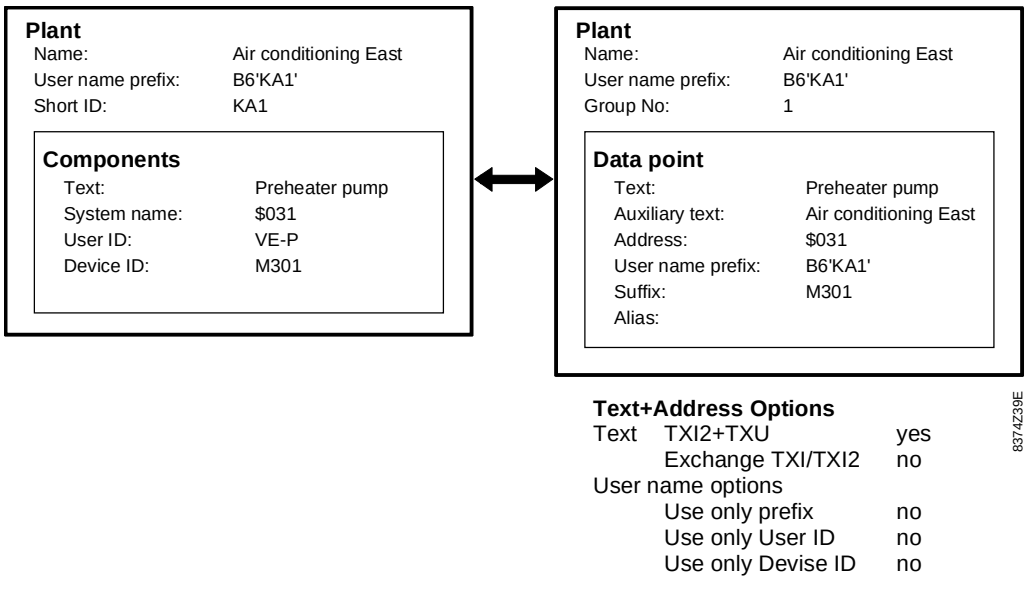
In PRVCONF, the prefix, suffix and alias (dummy address) of each point are visible and can be modified. "Text+Address Options" allows you to choose the type of user designation option. A prefix that is effective for the entire plant can be entered in the plant attributes and copied to the point prefixes.

RS-CONF

In RSCONF, the SAPIM text is invisible. Only the suffix is used, that is, User Id or Device Id depending on the settings in "System Options".

Tool display

The following can be used to illustrate the above information:



VISONIK

General user name: In PRVCONF, select the desired user name via “Text+Address Options”. For projects started in ETS1.16, select "Use only prefix".
You can change the user name prefix in the plant dialog ("Plant - Change") and transfer it to all data points in the plant via "Adjust". You can also change the prefix at individual points.

Plant: All points in a plant have the same GROUP parameter. Plants with an active plant point PLT have the GROUP parameters 1… 15; all others from 101.

Data point: The **System name** of a data point in plant is an octal, technical address, e.g., $031. Allocation of a point to the plant occurs via the GROUP parameter.

The **User name** of a data point in a plant consists of a plant-specific front (prefix) and a point-specific end (suffix) portion, e.g. B6’KA1’M301.

Room: The **System name** of a room is as follows: **TCRm**.
In this case, **m** stands for the technical address of the room (1...255).

The **User name** of a room must match the name structure,
e.g. B6’F01’R010.

TEC: You can specify a maximum of 10 room modules per room; these modules have the following TEC address (**System Name**): **TCRm.TEC[n] = a**.
In this case, **m** is the technical address of the room, **n** the number of the room module, and **a** the TEC address (always higher than 32) (e.g. TCR10.TEC[1] = 33).

There are no **user names** for both room module and TEC!

UNIGYR The following applies to UNIGYR: The system name and the user name are identical and the descriptive text and the user name are almost identical.

General user name: In PRVCONF, "Use only prefix" selected via "Text+Address Options" is the only meaningful option for UNIGYR.
The option “Adjust” in the plant dialog (“Plant - Change") converts the descriptive texts to function block instance names for UNIGYR. These are then displayed in the point window under "User Name Prefix" where you can change them.

Plant: Each plant has a partition with a partition name.

Data point: Identification of a data point occurs via the instance name of the I/O function block (e.g., Preheater_Pump). In PDT, this name appears as a **System name** as it comprises the identification for within the system. However, in PRVCONF, the data point is displayed as a **user name** and the address field comprises the P-bus address (e.g. 13.2).

Room: Each room has a partition with a partition name. Each room has a room block (e.g., Office_10).

TEC: Depending on the type, you can define a maximum of 2 or 10 room modules per room. Each room module has one TEC basic block (e.g., Front_Module) which contains the TEC address (e.g., TEC_No = 33).

INTEGRAL

General user name:	In INTEGRAL, the process unit can be assigned a plant identification name and each data point may have a SAPIM text which, together, form the user name.
Process unit	The plant identification name of the process unit (RS module) contains per default the short name of the first plant, but can be edited in RSCONF.
Plant	When a process unit consists of several small plants, the first three characters of the SAPIM text may be used to differentiate the plants.
Data point	The User Id can automatically be entered for SAPIM texts using PDT (e.g., VE-P), whereby the first three characters can be replaced by the plant name for smaller room ventilating plants and heating groups.

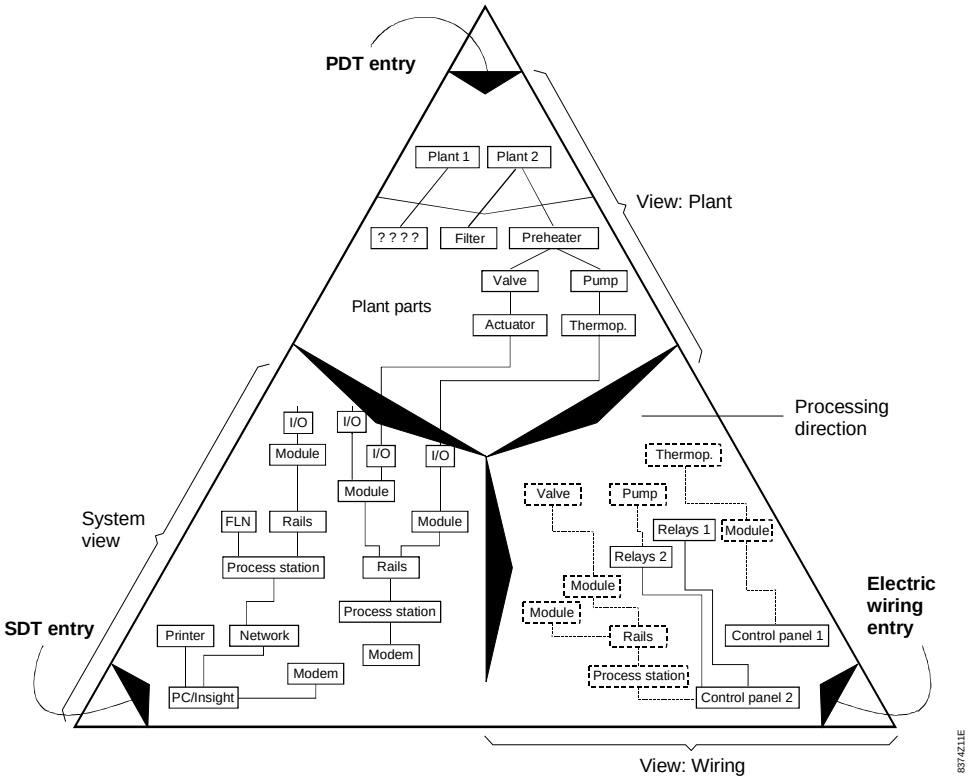
3. Data structures in ETS

3.1 Data views

Explanations

ETS supports various views for the various project members.
The display of the project data in the respective tool corresponds to the tasks that are to be conducted.

The following illustration shows the various data views and project starting points on the associated tools supported by ETS:



Plant view (in PDT)

The plant view emphasises the plants, plant components (preheaters, heat exchangers, filters), and components (valves, actuators, temperature sensors).

The I/O data points describe the interfaces to the system view.

System view (in SDT)

The system view emphasises the system components such as networks, computers, printers, process units (software), I/O modules and I/O data points.
(When starting a project with SDT, no plant schematic is generated, not even after the data has been transferred to PDT).

Wiring view

The wiring view emphasises control cabinets, contactors, switches, process units (hardware), I/O modules and all field devices that require wiring.
(These functions are supported by local tools).

3.2 Access levels

What are access levels for?

ETS functions have been tailored to the needs of various tool users and various project phases via five access levels. These access levels display only those functions and attributes that the respective users need for their daily work.

Access level settings

The access levels are implemented using different dongles (Sentinel keys) and different tool settings.

Sentinel

In this document, "Sentinel" stands for the "Sentinel Scribe™" dongle which is used as a software program copy protection key for the respective program.

There are five access levels:

Sentinel	Users	Access level settings
No Sentinel	Planners (in PDT)	• Planners' office
”UNIGYR Design”	UNIGYR system houses	• Planners' office • System house
”VISONIK” or ”ETS”	L&S employees	• Planners' office • System house • L&S Sales • L&S Engineering
”Tool Manager”	Tool managers in Group Companies and branch offices	• Planners' office • System house • L&S Sales • L&S Engineering • Tool Manager

3.3 Project variants and versions

What is a project?

A project may comprise several options with differing technical solutions of which only one is used. Additionally, each option may exist in various versions. Finally, especially comprehensive projects may be separated into sub-projects during the engineering phase due to work assignment to several persons or due to various building phases.

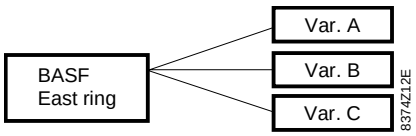
Project structure

We recommend that you always adhere to the basic structure as shown below !

Example

Customer: BASF, Project: Production facility expansion, East wing

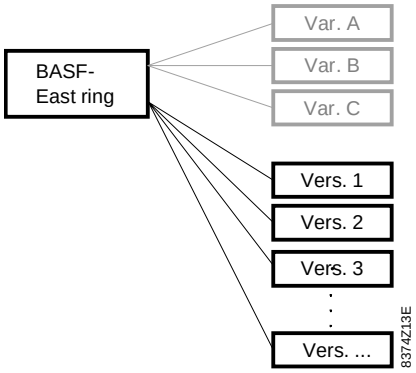
During the sales phase, the project structure is fairly simple:



Legend

Var. A	Option A with UNIGYR system
Var. B	Option B with VISONIK system
Var. C	Option C as a minimal version with VISONIK

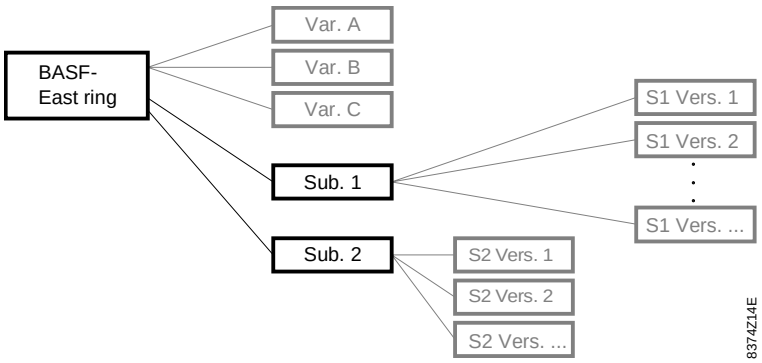
After completing the sales phase, the basis for the offer is known. This option is processed as version 1 by engineering and all other options are archived. The project structure is as follows:



Legend

Ver. 1	Step 1, basis for the offer
Ver. 2	Step 2, accepted, signed engineering basis
Ver. 3	Step 3, executed partial project of construction phase 1
Ver. n	Step n

If the project was segregated due to its overall scope or due to various construction phases, the project structure is more complex:



Legend

Sub.1	Sub-project 1 of Mr. Maier
Sub. 2	Sub-project 2 of Mr. Müller
S1 Ver.1	Sub-project 1 Step 1
S1 Ver.2	Sub-project 1 Step 2
S2 Ver.1	Sub-project 2 Step 1
S2 Ver.2	Sub-project 2 Step 2

The recommended structure can be achieved by copying the relevant project files using the File Manager.

Purpose of various versions

Archiving by means of versions can be used as the basis for financial follow-up claims when the "countersigned engineering phase" differs severely from the "engineered project".

Generating a structure

Generate the recommended structure using the File Manager:

Step	Procedure
1	**Create overall folder** Start by creating the overall folder “BASFOstr” in the File Manager.
2	**Edit project** Start project option A using ETS.
3	**Start new version** On moving to the next version, copy the entire previous version in the File Manager to a new version folder. Create the new version using ETS by editing the copied version.

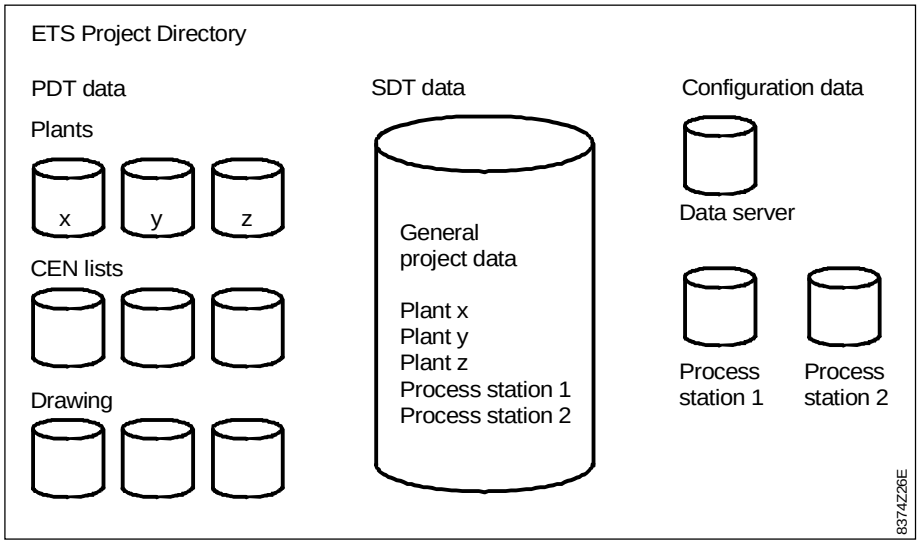
Important note

When working on an ETS project (sub-project of an option, etc.), you may use other projects and libraries to copy plant parts or whole plants, but you should not alter other projects, as this would result in inconsistent data.

The program issues a warning when you try to save data in a project that is not currently open.

Project data in ETS

All files of an ETS project as described above are saved in **one project folder**. This data can be copied and made available to other users. Each project folder contains three types of data:



3.4 Archiving / Backup

Utilities are provided to back up all data from current or completed projects in compressed format and to restore that data if necessary. When you save original data in a different location, data security is improved. When you delete original data, you gain additional free space on your hard drive.

- **SAVEPROJ.BAT** compresses your project data in one single file. **PKZIP** is used for this purpose.
- **RESTORE.BAT** decompresses the compressed file via **PKUNZIP** and restores the project data in their original format.
  We recommend to first archive the current data via SAVEPROJ.

Both **PKZIP** and **PKUNZIP** are free shareware programs.

Recommendation

Back up all current projects at least once a week by applying the procedures below.

Archiving a project

Proceed as follows to archive a project:

Select **"Project / Close and Archive"**

The **\SAVE.nnn** subfolder is generated in the project folder. For each compression, the number is increased sequentially by one (up to 999).
If you delete individual project backups, you need to determine the current project backup via the file modification date.

Save project data in a different location

Proceed as follows to save your project data in a different location to increase data security:

In the File Manager: Copy the SAVE.nnn folder from the respective project folder to the archive folder.

Example

Project folder	`C:\ETS_DATA\BASF_OST.RIN`
Archive folder:	`E:\ARCHIVE`
Folder to be copied, highlighted:	`C:\ETS_DATA\BASF_OST.RIN\SAVE.003`
Copy:	`E:\ARCHIVE\BASF_OST.RIN`
Result	`E:\ARCHIVE\BASF_OST.RIN\SAVE.003`

Note

Archive your project data after completing the project; then delete the entire project folder including all files and the SAVE.nnn subfolders.

Restore project data

Proceed as follows to restore your project data:

Step	Procedure
In the File Manager:	
1	Create the project folder YYYYYY
2	Copy the SAVE.nnn folder to the respective project folder
3	Double-click RESTORE.BAT in folder SAVE.nnn
4	Confirm the prompt asking you if existing data should be overwritten

4. Working with ETS

4.1 Guidelines for using the tool

Depending on the respective business situation and/or project scope, the tools may be used in different situations. These guidelines are intended to help you choose the best tool for each project phase.

4.1.1 Planning phase

Basic rule: L&S only establishes plans when its chances of being rewarded the contract are very high.

Business Situation	Information Basics / Application Case	Output	Use of Tool	Comment
Planner asks L&S to generate the bid	Talk with planner	Engineering notes Plant schematics	PDT, MSTE or PULSS OM	System to be planned is irrelevant Use standards
Planning for GU	Cost estimation for GU; Specification of scope of bid for GU	Offer with engineering notes, plant schematic and function description	PDT, SDT*, MSTE or PULSS OM	Use standards for rough planning Specify exact scope of bid

* SDT means PRVCONF (for VISONIK / UNIGYR) or RSCONF (for INTEGRAL).

4.1.2 Offer phase

Basic rule: Use ETS if you can derive a direct benefit for the person providing the offer or if chances that L&S will be rewarded the job are very high (> 90%).

Business Situation	Information Basics / Application Case	Output	Use of Tool	Comment
Planner establishes offer with schematics and function description or provides information when contacted	Existing schematics only	Offer with engineering notes	PDT, SDT*, MSTE or PULSS OM	Bill of quantity from PDT and SDT*
	Functional bid	Offer with engineering notes, plant schematic and function description	PDT, SDT*, MSTE or PULSS OM	Plant structure must be established
Planner produces summarised bid and provides outline information; functions remain unknown	Only quantity of data points per ISP known Data point list without plant structure No schematics available	Offer with engineering notes	MSTE or SDT* and PULSS OM	Determine bill of quantity via MSTE or PRVCONF
	CEN lists with plant structure Available schematics	Offer with engineering notes	MSTE or SDT* and PULSS OM	Determine bill of quantity via MSTE or PRVCONF

Business Situation	Information Basics / Application Case	Output	Use of Tool	Comment
	CEN lists with plant structure No schematics available	Offer with engineering notes	MSTE or SDT* and PULSS OM	Determine bill of quantity via MSTE or PRVCONF
Side offer	Only product description (third-party products)	Offer with engineering notes, plant schematic and function description	PDT, SDT*, MSTE or PULSS OM	Plant structure must be established

Notes In case of doubt, ensure that chances of being rewarded the job are sufficiently high for sales. This provides justification for detailed planning as well as the associated greater planning efforts.

4.1.3 Engineering phase

Basic rule: For each project, the job tasks are checked or generated at the beginning of the engineering phase by means of the plant schematics.

Business Situation	Information Basics / Application Case	Output	Use of Tool	Comment
Job awarded	L&S systems	Plant schematic to be verified by planner, engineering documentation for subcontractor configuration	PDT, SDT*, PULSS EM or PCSE	Bill of quantity from PDT and SDT*

* SDT means PRVCONF (for VISONIK / UNIGYR) or RSCONF (for INTEGRAL).

Notes

- When you use the tools according to their intended usage, you can dramatically reduce the efforts involved in project execution, e.g. by reusing plants!
- Using plant schematics and suitable lists dramatically reduces discussion time with planners and verification calls by subcontractors.

4.2 Business situation and project scenarios

Explanations

Depending on the respective business situation and/or scope of project, different scenarios may result. These, in turn, require different workflows within sales and/or engineering.

The table below helps you identify the respectively suited project scenarios:

Business Situation ——————— Scope of project	Planner generates bid and function description or provides information and functions on request *)	Planner plans with the aid of L&S libraries and/or tools or has L&S establish the bid; the functions are well known	Planner produces summarised bid and provides outline information; functions remain largely unknown
UNIGYR project with standard applications on ALN and FLN	Project scenario **1** (UNIGYR)		
Project with customer-specific applications on ALN	Project scenario **2A** (VISONIK / UNIGYR) Project scenario **3A** (INTEGRAL)		Project scenario **2B** **3B**
Upgrade project (VISONIK)	Project scenario **4**		
Project with standard and customer-specific applications and single room control	Project scenario **5**		

*) If no information on functions is available, standards cannot be applied; use project scenarios 2 or 3 instead.

Best Practice

The following project scenarios indicate **optimal usage of tools**.

A specific result can often be achieved by applying various methods. The described workflows ensure reliable and efficient methods of work (Best Practice). This will help you save time and effort.

4.3 UNIGYR project on ALN and FLN levels

UNIGYR project with several customer-specific plants in universal process units and many standard applications on ALN and FLN (Project scenario **1**)

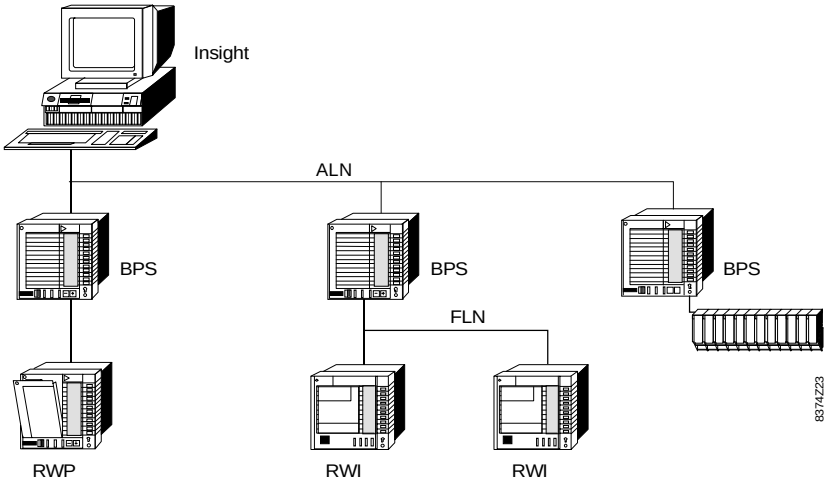
Brief description

- Several universal process units on the ALN level
- Several standard process units on the FLN level
- Several standard applications on the ALN level
- Several pre-programmed applications on the FLN level
- PC operating station (INSIGHT)

Examples

Office building / factory with air conditioning plants, heating and cooling

Configuration example



Sales channels	L&S branch (Sales and Engineering), system houses with close ties to L&S
Used tools	UNIGYR Design

Procedure

Engineering:

Step	Procedure
1	**Acquire customer requirements** Tool: UNIGYR Design Avail. data: Customer information Action: Generate I/O blocks Result: I/O blocks
2	**Group plants** Tool: UNIGYR Design Avail. data: Plant information Action: Station dialog Result: Process units and I/O modules
3	**Print lists** Tool: UNIGYR Design Avail. data: Complete configuration Action: See documentation on UNIGYR Design Result: Lists, I/O labels, field device labels
4	**Generate full configuration for universal process unit** Tool: UNIGYR Design Avail. data: Complete configuration Action: See documentation on UNIGYR Design Result: Loadable configuration

4.4 VISONIK/UNIGYR project with primarily customer-specific applications

Project with primarily customer-specific applications and PC operating station for VISONIK or UNIGYR systems (Project scenario **3**)

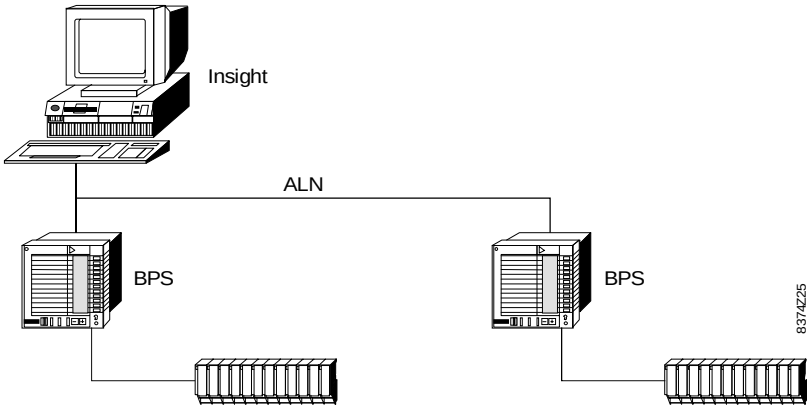
Brief description

- Many universal process units on the ALN level
- Many customer-specific applications on the ALN level
- Few standard applications on the ALN level
- PC operating station (INSIGHT)

Examples

Office building / factory with special facilities

Configuration example



Sales channels	L&S branch (Sales and Engineering), often via MSR planner
Used tools	PDT, SDT-ALN (PRVCONF), configuration tools

Differing business situations

Principally, you have to differentiate between two entirely different business situations and the respectively associated workflows:

A Planner generates bid with function description or provides information on request
or
Planner generates bid using L&S libraries or has L&S generate the bid.

⇒ Sales and Engineering use PDT to define the plants.
(Procedure 1)

B Planner generates summarised bid with point list and provides outline information on request; the functions are largely unknown.

⇒ Sales determines bill of quantity using MSTE or PRVCONF,
Engineering uses PDT to define the plants and to establish the function description.
(Procedure 2)

(Procedure 1):

Sales:

Step	Procedure
1	**Acquire customer plants** Tool: PDT Avail. data: Customer requirements, plant description Action: Find standard plants or default plants in libraries, find archive solutions in local archive, adapt plants semi-automatically to requirements Result: “Roughly” correct plants
2	**Modify plants** Tool: PDT Avail. data: Plant data Action: Adjust plant parts, if necessary, copy from plant part collections Result: Plant schematic, point list as per CEN
3	**Modify field devices and signal types** Tool: PDT Avail. data: Plant data Action: Select field devices from original data or adjust manually, where required, adjust signal types Result: Field devices and signal types
4	**Generate points** Tool: PDT Avail. data: Plant data Action: Specify system set, select suitable point generator, generated points Result: Point data in exchange database (EDB)
5	**Acquire functions** Tool: PDT Avail. data: Customer requirements, function library Action: Select the functions Result: Function description
6	**Check solutions** Tool: PDT Avail. data: Customer requirements, plant schematic, function description Action: Check and adjust plant schematic and functions, either directly or via the library (provided checks exist) Result: Checked result of step 5
7	**Assign plants and arrange system** Tool: SDT-ALN (PRVCONF) Avail. data: Plant data in EDB Action: Assign plants to ISP, calculate universal process units, arrange system Result: Process units and I/O modules in EDB
8	**Export data and generate offer** Tool: MSTE or PULSS Avail. data: Process units, I/O modules, field devices, points Action: Export data for further accounting processing, calculated prices, enter offer text (see MSTE or PULSS documentation) Result: Offer documentation

Engineering:

Step	Procedure
1 to 7	**Check and adjust data of Sales**
8	**Get approval for documentation** Tool: PDT, SDT-ALN (PRVCONF) Avail. data: Plant schematic, function description, data point list Action: Arrange documentation (in Germany as per VOB, Part C, DIN 18386) Result: Approval
9	**Generate I/O layout for universal process units** Tool: SDT-ALN (PRVCONF) Avail. data: Plant data in EDB Action: Address I/O modules using "Compile" function or manually Result: I/O layout for universal process units
10	**Print lists for installation** Tool: SDT Shell Avail. data: I/O configuration, pre-programmed devices Action: Select and print process unit or plant and list type Result: Lists, I/O labels, field device labels (documentation for subcontractor)
11	**Generate full configuration for universal process unit** Tool: UNIGYR Design or SDT-ALN (PRVCONF and PRVCODE) Avail. data: I/O configuration, pre-programmed devices Action: Generate configuration for plants in universal process units, integrated pre-programmed devices Result: Loadable configuration *Note* Set option "Lock Addresses" prior to compiling
12	**Generate final documentation after commissioning** Tool: VISONIK Upload and SDT Shell Avail. data: I/O configuration Action: Read I/O configuration in EDB, select and print process unit or plant and list type Result: Lists, I/O labels, field device labels (Customer documentation)

(Procedure 2): **Only to generate offers under business situation B !**

Sales:

Step	Procedure
1	**Acquire customer schematics** Tool: PDT Avail. data: Plant schematic Action: Recreate plant schematic and generate points Result: Plants with data points and field devices
or:	**Acquire customer point sum** Tool: SDT-ALN (PRVCONF) or MSTE Avail. data: Point sum per ISP Action: Enter points and field devices and distribute across plant Result: Plants with data points and field devices
or:	**Acquire customer point list** Tool: SDT-ALN (PRVCONF) or MSTE Avail. data: Point list per ISP Action: Enter points and field devices and distribute across plants Result: Plants with data points and field devices
2	**Assign plants** Tool: SDT-ALN (PRVCONF) or MSTE Avail. data: Plant data Action: Assign plants to ISPs, calculated process units, Result: Process units and I/O modules
3	**Generate offer** Tool: MSTE or PULSS Avail. data: Process units, I/O modules, field devices, points Action: Export data for further accounting processing, calculated prices, enter offer text (see MSTE or PULSS documentation) Result: Offer documentation

Engineering: We recommend starting with step 1 of procedure 1. If you establish the plant description differently, e.g. via CAD, the following procedure is possible:

Step	Procedure
1	**Acquire customer plants** Tool: CAD Avail. data: Customer requirements Action: Generate plant schematics Result: Plants with data points and possibly including addresses and user names
2	**Generate points in ETS** Tool: PDT and SDT-ALN (PRVCONF) Avail. data: CAD schematic Action: Recreate plant schematic and generate points adopt points in SDT-ALN (PRVCONF) and disconnect link to PDT Result: Plants with data points and field devices *Note* PDT serves as an efficient point generator; afterwards, continue to work without PDT in SDT-ALN (PRVCONF).

Step	Procedure
or:	**Generate points in ETS** Tool: SDT-ALN (PRVCONF) Avail. data: Point lists Action: Enter data points with text and field devices and select I/O module type Result: Plants with data points and field devices
3	**Get approval for documentation** Tool: CAD and SDT-Shell Avail. data: Plant schematic, data point list Action: Print and arrange documentation (in Germany as per VOB, Part C, DIN 18386) Result: Approval
4	**Generate I/O layout for universal process units** Tool: SDT-ALN (PRVCONF) Avail. data: Plant data in EDB Action: Enter and test data point address and user names Result: I/O layout for universal process units *Note* Set option "Lock Addresses" prior to compiling
5	**Print lists for installation** Tool: SDT Shell Avail. data: I/O configuration, pre-programmed devices Action: Select and print process unit or plant and list type Result: Lists, I/O labels, field device labels (documentation for subcontractor)
6	**Generate full configuration for universal process unit** Tool: UNIGYR Design or SDT-ALN (PRVCONF and PRVCODE) Avail. data: I/O configuration, pre-programmed devices Action: Generate configuration for plants in universal process units integrate pre-programmed devices Result: Loadable configuration *Note* Set option "Lock Addresses" prior to compiling
7	**Generate final documentation after commissioning** Tool: VISONIK Upload and SDT Shell Avail. data: I/O configuration Action: Read I/O configuration in EDB, select and print process unit or plant and list type Result: Lists, I/O labels, field device labels (Customer documentation)

4.5 INTEGRAL project with primarily customer-specific applications

Project with primarily customer-specific applications for INTEGRAL systems
(Project scenario **3**)

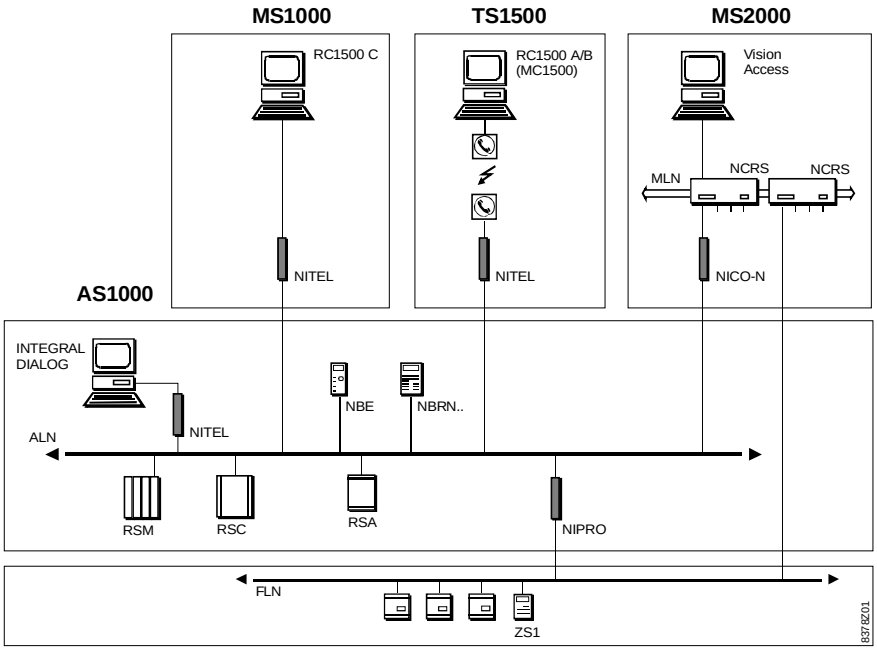
Brief description

- Many universal process units on the ALN level
- Many customer-specific applications on the ALN level
- Few standard applications on the ALN level

Examples

Office building / factory with special facilities

Configuration example



Sales channels	L&S branch (Sales and Engineering), often via MSR planner
Used tools	PDT, RS-CONF, INTEGRAL PLAN

Differing business situations

Principally, you have to differentiate between two entirely different business situations and the respectively associated workflows:

A Planner generates bid with function description or provides information on request
or
Planner generates bid using L&S libraries or has L&S generate the bid.

⇒ Sales and Engineering use PDT to define the plants.
(Procedure 1)

B Planner generates summarised bid with point list and provides little information on request; the functions are largely unknown.

⇒ Sales determines the bill of quantity via MSTE or PULSS or another tool, Engineering should first generate the plant schematics using either PDT or INTEGRAL PLAN.
(Procedure 2)

(Procedure 1):

Sales:

Step	Procedure
1	**Acquire customer plants** Tool: PDT Avail. data: Customer requirements, plant description Action: Find standard plants or default plants in libraries, find archive solutions in local archive, adapt plants semi-automatically to requirements Result: “Roughly” correct plants
2	**Modify plants** Tool: PDT Avail. data: Plant data Action: Adjust plant parts, if necessary, copy from plant part collections Result: Plant schematic, point list as per EN
3	**Modify field devices and signal types** Tool: PDT Avail. data: Plant data Action: Select field devices from original data or adjust manually, where required, adjust signal types Result: Field devices and signal types
4	**Generate points** Tool: PDT Avail. data: Plant data Action: Specify system, select suitable point generator, generate points Result: Point data in exchange database (EDB)
5	**Acquire functions** Tool: PDT Avail. data: Customer requirements, function library Action: Select the functions Result: Function description
6	**Check solutions** Tool: PDT Avail. data: Customer requirements, plant schematic, function description Action: Check and adjust plant schematic and functions, either directly or via the library (provided checks exist) Result: Checked result of step 5
7	**Assign plants and arrange system** Tool: SDT-ALN (RS-CONF) Avail. data: Plant data in EDB Action: Assign plants to RS modules, calculate process units, arrange system Result: Process units and I/O modules in EDB
8	**Export data and generate offer** Tool: MSTE or PULSS Avail. data: Process units, I/O modules, field devices, points Action: Export data for further accounting processing, calculated prices, enter offer text (see MSTE or PULSS documentation) Result: Offer documentation

Engineering:

Step	Procedure
1 to 7	**Check and adjust data of Sales**
8	**Get approval for documentation** Tool: PDT, SDT-ALN (RS-CONF) Avail. data: Plant schematic, function description, data point list Action: Arrange documentation (in Germany as per VOB, Part C, DIN 18386) Result: Approval
9	**Generate I/O layout for process units** Tool: SDT-ALN (RS-CONF) Avail. data: Plant data in EDB Action: Assign I/O channels via "Wizard" function or manually Result: I/O layout for process unit
10	**Transfer data to INTEGRAL PLAN** Tool: SDT-ALN (RS-CONF) Avail. data: Plant data, I/O assignments Action: Generate INTEGRAL PLAN project Result: Plant data and I/O assignments in EDB I/O list in INTEGRAL PLAN
11	**Print lists for editing** Tool: SDT Shell Avail. data: I/O configuration, pre-programmed devices Action: Select and print process unit or plant and list type Result: Lists, I/O labels, field device labels (documentation for subcontractor)
12	**Generate full configuration for process unit** Tool: INTEGRAL PLAN Avail. data: I/O configuration, pre-programmed devices Action: Generate configuration and program for process units, integrate pre-programmed devices Result: Loadable configuration

Procedure 2

The project is edited using different tools (e.g., MSTE, PLUSS, INTEGRAL PLAN); an exception are the plant schematics which are generated in PDT.

4.6 VISONIK upgrade project

VISONIK upgrade project VISONIK (Project scenario **4**)

Brief description

– Upgrade of an existing VISONIK system

Examples

Expanding or refurbishing a building, reconfiguration of the building automation system

Business situation	Planner establishes offer or provides offer directly to system manager on request
Sales channels	L&S branch (Sales and Engineering)
Used tools	PDT, SDT-ALN (PRVCONF), configuration tools

4.6.1 Generate offer

As per procedure 1 in Project scenario **3**

4.6.2 Conduct upgrades

Basic rule

The existing configuration remains unchanged!

1. Text catalogues TXI and TXU:
   Use existing text catalogues from the customer system
   Avoid conflicts with existing text addresses
   (Caution: adjust TXI and TXU offset,
   via “Compile-Text Options” in SDT-ALN)
2. User addresses
   Use existing structure
   Avoid conflicts with existing user addresses
3. Point addresses:
   Avoid conflicts with existing point addresses

DCS version

If a DCS version change is planned, then the change must be conducted FIRST !

Upgrade

If upgrading from EKL-X to PRV... is planned, apply the market area-specific procedures for exchanging I/O modules !

Text catalogue concept

- PRVCONF has two text catalogues: one for fixed and one for variable texts.
  Fixed texts have a text number that cannot be changed.
  Variable texts are assigned text numbers during the course of the project.
- PRVCONF initially checks the project folder for the text catalogues and then proceeds to the library folder.

Procedure

Engineering at the customer location

Step	Procedure
1	Update the configuration data for all process units in the DCS
2	Save the DCS configuration on diskettes
3	Start testing the DCS upgrade (where to be implemented) and then **test the system in the old configuration**
4	Copy the DCS configuration to diskettes
5	Read the DCS configuration incl. TXI and TXU texts by means of a Terminal Editor (see PRVCONF User's Guide)

Conduct upgrade

- **Generate project-specific text catalogues**

Engineering in the office

The following options are available:

- Use only DCS texts (recommended, as DCS was earlier configured in ETS or PDT is not used)
- Combine texts from DCS with ETS text catalogue (recommended if PDT is used)
- Replace texts in DCS (not recommended)

Option 1:

If only texts from DCS are used.

Step	Procedure
1	Generate the upgrade project in SDT-Shell
2	Copy the read DCS configuration to the project folder
3	Copy MKITEXT.EXE from ETS_PROG to the project folder
4	Start MKITEXT.EXE to generate the text catalogues VISITEXT.IDX, VISITEXT.REZ, VISUTEXT.IDX and VISUTEXT.REZ (see PRVCONF-User's Guide)

Option 2:

If DCS texts are combined with ETS text catalogue

Step	Procedure
1	Generate the upgrade project in SDT-Shell
2	Copy the ETS standard text files VISITEXT.TXT, VISUTEXT.TXT from \TXT_V14 to the project folder (use V14 texts for V12)
3	Integrate the DCS texts in the standard text files VISITEXT.TXT and VISUTEXT.TXT **without blank lines!** Check to ensure that the text numbers are not assigned duplicate use
4	Copy MKITEXT.EXE from ETS_PROG to the project folder
5	Start MKITEXT.EXE to generate the text catalogues VISITEXT.IDX, VISITEXT.REZ, VISUTEXT.IDX and VISUTEXT.REZ (see PRVCONF-User's Guide)

- **Conduct upgrade**

Step	Procedure
1	Generate the upgrade project in SDT ALN (PRVCONF)
2	Set offset for TXI and TXU
3	Create the upgrade and generate the configuration (points, code, .VIS file)

At the customer location

Step	Procedure
1	For upgrade from V10 to V12 or higher: Load the standard texts SDTTXTxx.VIS from \TEXTLIB\TXT_V14.XXX in the DCS
2	Load the configuration file (PROJECT.VIS) in the DCS

4.7 Project on ALN and FLN with single room control

Project with several customer-specific plants in universal process units and many standard applications and single room control (Project scenario **5**).

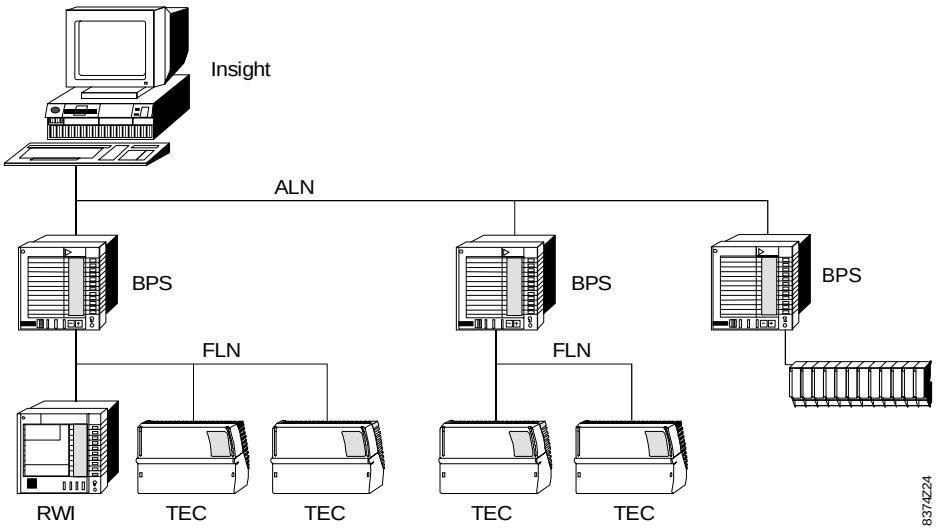
Brief description

- Several universal process units on the ALN level
- Several standard process units on the FLN level
- Several standard applications on the ALN level
- Several customer-specific applications on the ALN level
- Several pre-programmed applications on the FLN level
- Several single room controls (TEC) on the FLN level
- PC operating station (INSIGHT)

Examples

Office building or school with air handling and single room control

Configuration example



Sales channels	L&S branch (Sales and Engineering), system houses with close ties to L&S
Used tools	PDT, SDT-ALN (PRVCONF), SDT-FLN, configuration tools

Note

For technical reasons (processor load), we recommend that you do **not** use the FLN master process units for plant control.
For such cases, edit the FLN units via SDT-FLN and the primary plants via PDT and SDT-ALN.

Procedure

Sales

Step	Procedure
1	**Choose standard solutions for standard process units on FLN** Tool: SDT-FLN Avail. data: Libraries for standard solutions and for pre-programmed applications with plant schematic, function descriptions and point list as per EN Action: Define ISPs, find solutions and copy them for: a) Handling plants (RWI applications) b) End users (TEC applications) Result: Standard plants on FLN incl. Field devices, plant schematic, function description, point list as per CEN
2	**Adjust field devices for standard process units and FLN** Tool: SDT-FLN Avail. data: Customer requirements, standard solutions with data points, and field devices Action: Check and adjust field devices Result: Field device list
3	**Define default rooms** Tool: SDT-FLN Avail. data: Customer requirements, applications for TEC Action: Define default rooms (room types), indicate number per ISP Result: Default rooms and distribution to ISPs
4	**Arrange a system on FLN** Tool: SDT-FLN Avail. data: Plant data, TEC applications, default rooms Action: Assign handling plants to standard process units, define universal process units for FLN integration Result: FLN portion of the system
5	**Acquire customer plants** Tool: PDT Avail. data: Customer requirements, plant description Action: Find standard plants or default plants in libraries, find archive solutions in local archive, adapt plants semi-automatically to requirements Result: “Roughly” correct plants
6	**Modify plants** Tool: PDT Avail. data: Plant data Action: Adjust plant parts, if necessary, copy from plant part collections Result: Plant schematic, point list as per CEN
7	**Modify field devices and signal types** Tool: PDT Avail. data: Plant data Action: Select field devices from original data or adjust manually, where required, adjust signal types Result: Field device list and signal types

Step	Procedure
8	**Generate points** Tool: PDT Avail. data: Plant data Action: Specify system set, select suitable point generator, generate points Result: Point data in exchange database (EDB)
9	**Acquire functions** Tool: PDT Avail. data: Customer requirements, function library Action: Select the functions Result: Function description
10	**Check solutions** Tool: PDT Avail. data: Customer requirements, plant schematic, function description Action: Check and adjust plant schematic and functions, either directly or via the library (provided checks exist) Result: Checked result of step 9
11	**Assign plants and arrange system** Tool: SDT-ALN (PRVCONF) Avail. data: Plant data in EDB Action: Assign plants to ISP, calculated universal process units, arrange system *) (see PRVCONF User's Guide) Result: Process units and I/O modules in EDB
12	**Export data and generate offer** Tool: MSTE or PULSS Avail. data: Process units, I/O modules, field devices, points Action: Export data for further accounting processing, calculated prices, enter offer text (see MSTE or PULSS documentation) Result: Offer documentation *Note* FLN devices must be adopted from SDT-FLN lists.

*) if the same universal unit is used for customer-specific plants and FLN integration, definition of the universal unit must occur manually.

Mechanical design

Step	Procedure
1 to 11	**Check and adjust data of Sales**
12	**Get approval for documentation** Tool: PDT, SDT-ALN (PRVCONF), SDT-FLN Avail. data: Plant schematic, function description, data point list Action: Arrange documentation (in Germany as per VOB, Part C, DIN 18386) Result: Approval
13	**Delete default rooms, identify single rooms, define groups** Tool: SDT-FLN Avail. data: TEC applications and default rooms Action: Convert default rooms to single rooms, identify single rooms, define groups Result: Rooms and groups
14	**Generate FLN configuration for universal process units** Tool: SDT-FLN Avail. data: Plant data, TEC applications, rooms and groups Action: Arrange system on FLN level by means of the "Compile" function or manually (see SDT-FLN documentation) Result: Configuration of the FLN portion
15	**Print lists for installation** Tool: SDT-FLN Avail. data: I/O configuration, pre-programmed devices Action: Select and print process unit or plant and list type Result: Lists, I/O labels, device labels
16	**Generate I/O configuration for universal process units** Tool: SDT-ALN (PRVCONF) Avail. data: Plant data in EDB Action: Address I/O modules using "Compile" function or manually Result: I/O configuration for the universal process unit
17	**Print lists for installation** Tool: SDT Shell Avail. data: I/O configuration, pre-programmed devices Action: Select and print process unit or plant and list type Result: Lists, I/O labels, device labels
18	**Generate plant configuration for universal process units** Tool: UNIGYR Design or SDT-ALN (PRVCONF and PRVCODE) Avail. data: I/O configuration, pre-programmed devices Action: Generate configuration for plants in universal process units, integrate pre-programmed devices Result: Loadable configuration *Note* Set option "Lock Addresses" prior to compiling
19	**Generate final documentation for universal process units after commissioning** Tool: VISONIK Upload and SDT Shell Avail. data: I/O configuration Action: Load I/O configuration of the universal process units (without FLN master) in EDB, select and print process unit or plant and list type Result: Lists, I/O labels, field device labels (Customer documentation)

5. Software environment for ETS

5.1 PC requirements

Your PC must satisfy the following minimum requirements to install and use ETS:

- IBM 486 compatible PC (recommendation: Pentium 166 MHz)
- 12MB RAM (recommendation: 24MB)
- Additional memory: 12MB virtual memory (recommendation: 24MB)
  Note: Virtual memory must be **permanent** and not installed temporarily.
- 75MB free hard disk space (35MB without libraries)
- WINDOWS 3.1 or WINDOWS 95
- Winword 2.0 (or higher)
- Excel 4.0 (or higher)
- Micrografx Designer, to open plant schematics

All additionally required files are part of the delivery package.

Note

The above requirements represent minimum requirements, i.e., ETS will run considerably faster on better equipped PCs. We recommend an IBM Pentium PC with min. 24MB RAM.

Additional requirements for Tool Managers

Tool Manager installations are subject to different specifications and requirements; please refer to the Expert documentation.

5.2 Installing ETS

Before you start working with ETS, you must first install the programs on your PC's hard drive. To do this, the ETS installation diskettes or the network provide an installation program.

What do I install and where?

The following folders are generated automatically on an active drive:

- ETS_PROG
- ETS_LIB (if you want to install the libraries)
- ETS_DATA
- ETS_DOC
- FLN_DOC

Additionally, general files with the file extension *.DLL will be installed if the files are missing or if an older version still exists (older version will be saved to a subfolder named “\BAK”). These are the following program folders:

- WINDOWS
- WINDOWS \ SYSTEM

The installation program also writes a Log file into the ETS-PROG folder.

Do I install ETS on the PC or on the network?

You can install ETS on either your PC or on the network.

Recommendation

However, we recommend that you install programs, libraries, and data on your hard drive to allow you to work even during network failure.

When you install the programs and libraries on the network, ETS will be noticeably slower.

If you want to install just the libraries on the network, but keep the programs and data on your hard drive, you can skip library installation when installing ETS on your PC.

Note

If a portion of your WINDOWS system is installed on the network, some general *.DLL files may not be replaced on installing ETS. These files will then be saved in the \ETS_PROG\NEW subfolder.

If previous versions of ETS exist

If you installed an earlier version of ETS on your PC, programs and libraries of the same name will be overwritten by the new version; however, any existing data will remain intact.

New ETS versions are always downward compatible; earlier versions of ETS, however, cannot read new data files.

How do I install ETS?

Proceed as follows to install ETS:

Step	Procedure
1	Insert the ETS installation diskette or CD in the respective drive
2	Close all open programs
3	Open the CD and select the desired folder
4	Start the installation program by clicking “SETUP.EXE“
5	Install ETS as per the installation wizard

Note

Remember to remove the last installation diskette or the CD from the drive after completing the installation.

Siemens Building Technologies AG
Landis & Staefa Division
Gubelstrasse 22
CH-6301 Zug
Tel. +41 41 - 724 24 24
Fax. +41 41 - 724 35 22

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