



Infor LN Project User Guide for Project Estimation

Important Notices

The material contained in this publication (including any supplementary information) constitutes and contains confidential and proprietary information of Infor.

By gaining access to the attached, you acknowledge and agree that the material (including any modification, translation or adaptation of the material) and all copyright, trade secrets and all other right, title and interest therein, are the sole property of Infor and that you shall not gain right, title or interest in the material (including any modification, translation or adaptation of the material) by virtue of your review thereof other than the non-exclusive right to use the material solely in connection with and the furtherance of your license and use of software made available to your company from Infor pursuant to a separate agreement, the terms of which separate agreement shall govern your use of this material and all supplemental related materials ("Purpose").

In addition, by accessing the enclosed material, you acknowledge and agree that you are required to maintain such material in strict confidence and that your use of such material is limited to the Purpose described above. Although Infor has taken due care to ensure that the material included in this publication is accurate and complete, Infor cannot warrant that the information contained in this publication is complete, does not contain typographical or other errors, or will meet your specific requirements. As such, Infor does not assume and hereby disclaims all liability, consequential or otherwise, for any loss or damage to any person or entity which is caused by or relates to errors or omissions in this publication (including any supplementary information), whether such errors or omissions result from negligence, accident or any other cause.

Without limitation, U.S. export control laws and other applicable export and import laws govern your use of this material and you will neither export or re-export, directly or indirectly, this material nor any related materials or supplemental information in violation of such laws, or use such materials for any purpose prohibited by such laws.

Trademark Acknowledgements

The word and design marks set forth herein are trademarks and/or registered trademarks of Infor and/or related affiliates and subsidiaries. All rights reserved. All other company, product, trade or service names referenced may be registered trademarks or trademarks of their respective owners.

Publication Information

Release: Infor LN 2022.x

Publication Date: December 5, 2022

Document code: ln_2022.x_tpestug__en-us

Contents

About this Guide.....	4
Contacting Infor.....	5
Chapter 1: Introduction.....	6
Introduction.....	6
Chapter 2: Project Estimating Concepts.....	7
Understanding the estimating process.....	7
Chapter 3: Project Estimation Processes.....	9
To define an estimate.....	9
To use estimate line levels.....	10
To use a leading estimate type.....	11
To structure the estimate.....	12
To use level types.....	14
To use an estimate version.....	15
To use estimate structures.....	16
Launch an estimate to a budget.....	17
Launch an estimate to a top-down budget.....	18
Launch an estimate to a bottom-up budget.....	19
To use a bid.....	19
RFQ Procedure.....	20
Glossary.....	22
Index.....	37

About this Guide

This guide provides information about the process to create and use estimates for projects.

Objectives

The objectives of this book are to describe the purpose of project estimation, what you can accomplish using estimate structures, and the process to create and use estimates for projects.

Intended Audience

This book is intended for those who want to learn the process to use estimates, estimate lines, estimate structures, estimate versions, and bidding in the way that best serves their purposes. The target audience includes both end users and users on administrator level.

Assumed Knowledge

Familiarity with the business processes involved in creating estimates in projects, and general knowledge of the LN functionality helps you understand this book. In addition, Project training courses are also available.

Document summary

The first chapter, Introduction, describes the purpose and the general characteristics of estimates.

The following chapters deal with the estimate setup, describes the process to create estimate lines and versions.

This guide describes procedures that users carry out using project estimates, and provides some information on the underlying processes that LN carries out. The most important session windows and fields involved are discussed, but a full description of all software components is outside the scope of this guide. For details, refer to the online Help.

How to read this document

This document was assembled from online Help topics. As a result, references to other sections in the manual are presented as shown in this example:

Please refer to the Table of Contents to locate the referred section.

Underlined terms indicate a link to a glossary definition. If you view this document online and you click on underlined text, you jump to the glossary definition at the end of this document. Non-underlined references do not represent a link to glossary definitions or other elements.

Contacting Infor

If you have questions about Infor products, go to Infor Concierge at <https://concierge.infor.com/> and create a support incident.

The latest documentation is available from docs.infor.com or from the Infor Support Portal. To access documentation on the Infor Support Portal, select **Search > Browse Documentation**. We recommend that you check this portal periodically for updated documentation.

If you have comments about Infor documentation, contact documentation@infor.com.

Chapter 1: Introduction

Introduction

Estimating is a cost engineering process used to determine an estimate for a project using the estimate types, versions, structures, and the budget types to prepare a bid or proposal for the project. An estimate can include parts, assemblies, operations, subcontracting effort, equipment, and other direct and indirect costs. The use of estimating as part of LN Project is optional.

Chapter 2: Project Estimating Concepts

Understanding the estimating process

This chapter provides you with an overview of estimates for a project and the various related processes.

Project Estimates

An estimate is a statement of probable cost and sales value for supplying certain goods or services. An estimate is created in anticipation of receiving an order. Project Estimating is used for the preparation of tenders/quotations to calculate the costing for the project, in order to arrive at an estimate.

Estimate types

An estimate type is calculated using either a top down or a bottom up structure.

- **Top down:** When calculating the cost or sales amount in a top down structure, you distribute a top amount to the lower level elements.
- **Bottom up:** When calculating the cost or sales amount in a bottom up structure, you enter the exact amounts for the lowest level elements and aggregate the same to calculate top amount.

Leading Estimate Types

The estimate type of the structural elements of the project are the leading estimating types. If the leading estimate type is bottom up, LN calculates the total leading estimate type (LET) amount by adding all the estimate line amounts with the same level type. If the leading estimate type for the top structural element is top down, the total LET is the structural element amount that is defined as top down. Top-down structural elements are only checked to determine if the estimate amounts do not exceed the parent amount; However, these elements are not used when calculating the total estimate.

Budget types for launching estimates

You can select one of the following budget types when launching an estimate to a budget:

- [Top-down budget](#).
- [Bottom-up budget](#) (activity budget).
- [Bottom-up budget](#) (element budget).

Estimate Version

Estimate versions are part of an estimate project and use structural elements to define the structure of an estimate. Versions can be used to differentiate between various approaches or internal or external requests for a price calculation.

Estimate Version Structures

Estimate version structures are used to order or to classify the estimate. In many cases, multiple estimate-version structures enable you to create different classifications of the estimate data. An estimate-version structure can be an imported activity structure, element structure, cost component structure, or an extension assigned to the structure. These structures are imported from an existing project. You can also link a user-defined structure to an estimate version. It is optional to use structures in the estimating phase.

Estimate Series

The estimate series is used to create a unique project number. Organizations can have separate project ranges for estimating projects or use estimating as a phase of a project, and include estimating in the project used for execution. Estimate series are ideally used to create a project number.

Bid

The objective of the estimation process is to prepare a quotation or bid that comprises of the sales price information of the deliverables (primary structural elements).

Chapter 3: Project Estimation Processes

To define an estimate

The estimate process is used to prepare a proposal, a quotation, or a bid. An estimate comprises of the sales price and information on the proposed scope, the project schedule, and the contract.

1 Prerequisite

Create a project in the **Projects (tpedm6100m000)** session. You can use an activity or element structure.

2 Defining an estimate version

Create an [estimate version](#) using the **Estimate Version** session. Using various estimate versions, you can create different estimates. For example, to compare alternative estimates, create contract extensions, or handle any additional scope of the estimate. Each estimate version is unique and is not related to or derived from another version.

3 Copying structures from **Project**

You can link structures to the estimate version. However, you can also create an estimate without using a structure. To create a structure code, in the **Estimate Version** session, on the Specific menu, select Estimate Structures (**Note:** A new structure code requires structural elements). On the Specific menu, select **Generate Structural Elements**.

In the **Generate Structural Elements (tpest1220m000)** session, you can copy the *structural elements* from the project-specific activities, elements, extension lists, or cost components. You can view the new elements in the **Estimate Structure** session. You can link up to eight structures to one estimate version. Having multiple structures in an estimate enables you to classify your estimate as required.

For example, a customer sends a request for a quotation for ten ships. The estimate project is activity based. In the version, you use an activity structure with activities such as System Engineering and Component Production. In case, you do not want the customer to view this level of detail, on the bid, you also link a less detailed element structure to the estimate lines. When you prepare the bid, you only use the linked elements such as Hold, Deck House, and Navigation. Consequently, the bid will only display what you want the customer to view.

4 Defining estimate lines

The **Estimate Lines (tpest2100m000)** session is crucial to the estimating functionality. In the **Estimate Version** session, on the Specific menu, select **Estimate Lines**. Specify the lines for the estimate version. An estimate line contains actual cost or sales price. You can also use a combination of sales and actual unit cost.

You can define a sales estimate from a cost estimate or use the various estimate versions. The estimate lines can be either top down or bottom up (or a combination of both estimate types). Bottom-up estimate lines are summed up to provide the overall estimate. Top-down estimate lines are always related to a

primary structure. Using estimate lines, the total estimate value is distributed over the estimate version structure.

Note: Using the estimate sessions, you can calculate the estimate for a project. However, you can also use Microsoft Excel integration to calculate the estimate.

5 Scheduling the estimates

You can export the start date and end date of the activity to the related estimate lines. Click **Modify Utilities** on the Specific menu, and select the **Update Estimate Line Dates from Activities (tpest2204m000)** session, the date of the incurred cost and expected sales is updated.

6 Launching the estimate

Use the **Launch Estimate to Budget (tpest2200m000)** session to launch your estimate to the Budgeting module. For example, if the bid is accepted by the customer or (part of) the work must start.

For the estimate process, the structures can be blank. If you launch your estimate to a project budget, you must specify a default element, activity, extension, or cost component to which you can copy the lines. You can set the version and/or estimate lines status to **Final** to ensure the estimates are launched on time.

When the bid is successful, these options are available:

- You can [launch](#) the estimate as a project.
- You can start a new project by copying the estimate project in the **Copy Project (tppdm7840m000)** session. Consequently, the Project Status in Estimating module is set to **Blocked**. Using this process, you can separate estimate projects from projects, for a customer contract. In the new project, you can launch the copied estimate to a budget. You can close an estimate project version by changing the status from **Free** to **Closed**.

To use estimate line levels

Use the estimate [level type](#) to determine which lines must be used in aggregating the total for a bottom-up structure. An estimate level type is used to calculate the top-down amount, based on the [structural element](#). An estimate level type is also used to determine which estimate line must be launched to the budget. Using the **Structural Element** session, you can define the parameters for the level types.

For the Top Down [estimate type](#), amounts can not be aggregated. Therefore, the different level types can only be used to check the primary structure for consistency. The available level types are:

- **Total:** Only one estimate line of a [structural element](#) can be linked to the Total level type. The child element estimate lines amount cannot exceed the parent's top-down amount.
- **Cost type:** Only five cost type lines are allowed, each cost type can be used only once. The consistency check is done to determine, if the Total level type amount of the same structural element exceeds the cost type amounts.
- **Other structures:** This structure may not exist when you create an estimate; however, it can be linked any time before the preparation of the bid, the analysis, or the [launch](#). The consistency check is done to determine, if the amount of the line exceeds the amount of the structural element and the Total level type.

- **Detail:** The consistency check is done to validate, if lines with the same cost type are less than or equal to the cost type amount and the Total level type of the related structural element.

For the Bottom Up estimate type, only the Total and Detail level types are applicable. These level types are used to aggregate total lines or detailed lines for unit costs and sales, and to launch estimate lines to a budget.

The total line can be used to include the cost and/or sales effort that are yet to be defined. Often the total line will be replaced with several detail lines. For example, an estimate must include the cost for producing a piece of equipment. However, the details initially are not known. A total line is included for the total estimated cost. When the engineering of the equipment is done and the detailed effort in labor and materials is known, these detailed lines will be added to the estimate and flagged as being in scope. The total line can be retained for comparison but the In Scope option is no longer applicable.

Only the Total and Detail level types can be used to view the difference in estimate lines, because a bottom-up estimate, linked with amounts, does not have a structure relationship. You can enter and add the unit costs because a consistency check is not required. For a bottom-up detailed line, a [primary structure](#) element is not mandatory.

To use a leading estimate type

The *Estimate types* enable you to switch between top-down estimates and bottom-up estimates. Initially, project estimation is determined using a top down structure as detailed information of project costs is not available.

As a part of estimating, you create a feasible bid for your customer by calculating the approximate target standard cost for your project. You can use this cost amount to allocate the estimate for the required work or the departments involved.

To structure the estimate and use the level types, see [To structure the estimate](#) and [To use level types](#).

Example

A customer requests for the approximate cost for a luxurious yacht. The shipyard evaluates the request for the quotation. The sales price is determined to be approximately EURO 65 million. The yacht must be built, using the expertise of the Project Management (PM) and the Construction department. The PM department is required for redesigning an existing CAD drawing of a ship, which costs EURO 9 million. The Construction department requires approximately EURO 50 million to build the yacht and a subcontractor is assigned for the yacht's decor.

Specify the following estimates in the **Estimate Version** session:

- Version: 1a Estimate Yacht
- Version amount: EURO 63 million
- Profit fee: EURO 3 million
- Management reserve: EURO 0 million

Note: The distributed amount is displayed as Euro 0 million and the undistributed amount as Euro 60 million. Define an amount for TOP as EUR 60 million. The distributed amount is EUR 60 million.

The activity structure for building the ship:

- TOP = The Yacht
- 01 = Redesigning
- 02 = Building ship
- 03 = Decorating

01, 02, and 03 are linked as child activities to the TOP.

To structure the estimate and use the level types, see [To structure the estimate](#) on page 12 and [To use level types](#) on page 14.

To structure the estimate

To create an estimate, the [structural element](#) with a top-down [leading estimate type](#) is required. In the **Structural Element** session, you can define the estimate type as top down or bottom up. The leading estimate type of a structural element determines the method of calculation of the estimate and you can also modify the estimate type.

Enter your top-down estimate in the **Estimate Lines (tpest2100m000)** session such as the line number, activity, description, estimate type, line level type, and amount in EURO.

Line 5	TOP	Yacht	Top down	Total	60 million
Line 10	01	Redesigning	Top down	Total	9 million
Line 20	02	Building ship	Top down	Total	50 million
Line 25	03	Decorating	Top down	Total	1 million

Element 03, Line 25, is subcontracted to another company. A request for a quotation is sent to the subcontractor, but the estimate for the cost is EURO 1 million.

Estimate lines

You must specify detailed *estimate lines* and you must define the entire estimate structure. Child activities, for which more bottom-up information is available, use the Bottom-Up leading estimate type option:

Structural Element	LET	Launch Level Type	Cost Level Type	Sales Level Type
TOP = The yacht	top down	detail	total	total
01 = Redesigning	top down	detail	total	total
02 = Building	top down	detail	total	total
03 = Decorating	top down	detail	total	total

011= CAD rework	top down	detail	total	total
021= Steel	bottom up	detail	detail	total
022= Yard work	bottom up	detail	detail	total
023= Engine	bottom up	detail	detail	total

The structural element 011 is linked to 01. The structural element 021, 022, and 023 are linked to 02. Based on the linking, the 02 Building ship parent activity remains a top-down activity because of expected overhead costs.

Line number	Activity	Estimate Type	Line Level Type	Amount in EURO
30	021	top down	total	30 million
35	022	top down	total	15 million
40	023	top down	total	2 million
45	011	top down	total	5 million
50	011	top down	detail	3 million
55	011	top down	detail	2 million
60	02	top down	cost type (labor)	4 million
65	02	top down	cost type (material)	46 million

Estimate details

In the example, a top-down estimate is used and amounts are allocated. However, the two internal departments involved in this project provide their own estimates for building the yacht. Based on their evaluation, they provide a more detailed calculation. Specify these lines and the related details in the estimate version.

Line number	Activity	Estimate Type	Line Level Type	Amount in EURO
70	011	bottom up	total	5 million
80	011	bottom up	detail	2.7 million for engineering
81	011	bottom up	detail	0.3 million for project management
85	023	bottom up	detail	1 million
90	022	bottom up	detail	15 million

95	021	bottom up	total	40 million
100	03	bottom up	detail	0.5 million

If you view the details of the activity 011, a top-down total of EURO 5 million is expected. However, if you add the two bottom-up detail lines of 011, that part of the ship adds up to EURO 3 million or 5 million, depending on the Line Level Type. If all required estimate lines are specified, you can aggregate the totals and view the estimate amounts for the leading estimate type. For the formulas, refer to Estimate Lines (tpest2100m000) session.

To use level types

If the **leading estimate type** (LET) in the **Structural Element** session is Bottom Up, you can calculate estimate totals for Total and Detail level types. If the leading estimate type is Top Down for a structural element, you cannot apply **level type** aggregation, but you can use level types to check the consistency of top-down lines.

Level types for a top-down estimate line are:

- Total
- Cost Type
- Detail
- Other Structures

Top-down level types

In the User Profile (tppdm0101s000) session, you can define the settings for a consistency check. You can also define if the check of the **Verify Top-Down Estimate Consistency (tpest2220m000)** session is performed for each field or each record. Using the Level field types entered in the **Estimate Lines (tpest2100m000)** session, the check is performed in this order:

- **Total:** For the Total level type, the consistency check is done to determine, if the parent's structural element amount exceeds the structural element amount. Example, Line 10 + Line 20 + Line 25 must be less than or equal to Line 5. In top-down estimating, you must always use the Total line amount.
- **Cost type:** For the Cost Type level type, the consistency check is done to determine, if the amount does not exceed the Total amount of the same structural element. Example, Line 60 + Line 65 must be less than or equal to Line 20.
- **Detail:** For the Detail option, the consistency check is performed to determine, if the line amounts of the same cost type do not exceed the Cost Type amount with the Total level type. For example, Line 50 + Line 55 must be less than or equal to Line 45.
- **Other Structures:** For the Other Structures level type, the consistency check is performed to determine, if the line amount does not exceed the amount of the structural element with the Total level type.

Note: The Cost Type - Detail lines amount check is only performed if you run the **Verify Top-Down Estimate Consistency (tpest2220m000)** session.

Bottom-up level types

A bottom-up line can only have two level types: Total and Detail. Enter and add the unit costs, in the **Structural Element** session you can determine which level type must be used in the bottom-up estimate. The values of the Cost Level and Sales Level fields determine the lines that are aggregated for cost or sales. The Launch field's level type determines which estimate lines linked to the defined level type are launched to budgeting. If the level type is set to Total, all estimate lines of that level type are launched to the project budget.

Leading estimate type (LET) calculations

Click the **Aggregate Totals** in the **Estimate Lines (tpest2100m000)** session to calculate the structural elements' total amount of the [leading estimate type](#) using the estimate lines. The amount is displayed in the various LET Total fields. If you use bottom-up estimating, the calculation also depends on the settings of the level type in the **Structural Element** session. For example, the LET of element 011 is top down and you have three top-down lines for 011 and two bottom-up lines. Consequently, only the top-down lines are used in the LET calculation.

Total level type calculation

In the **Estimate Lines (tpest2100m000)** session, the calculations of estimate lines totals are displayed. For example, the LET is EURO 60 million; the amount displayed is based on the setting of the view. When the setting of the view is TOP element, the value is displayed in the Top Down Total: EURO 60 million.

The calculation of the Bottom Up structure differs. The structural elements amounts are added ($011 + 023 + 022 = 5 + 15 + 1 = \text{EURO } 21 \text{ million}$) and the Cost Level field type is used to determine the selected amounts.

For the bottom-up estimating, you can also calculate a total with the Detail level type. If Cost Level field type in the **Structural Element** session is set to Detail, the following result is displayed: $3 + 1 + 0 + 15 + 0,5 = \text{EUR } 19.5 \text{ million}$.

If you view the bottom-up lines of 011, there is a difference in amount; the Total line amount is an approximate amount, whereas the Detail lines are accurate labor hours. If the Cost Level field type is Detail, the total for 011 is 3 million; based on the combination of 2.7 and 0.3 million that is set for 011.

Detail level-type calculation for leading estimate type (LET):

- LET of 01 = top down => estimate is EURO 9 million.
- LET of 021 = bottom up => estimate is EURO 40 or EURO 30 million, depending on the Cost Level field.
- LET of 03 = top down => estimate is EURO 1 million.

You can use the LET total and the cost total to calculate and recalculate different estimates before you send a bid. The aim is to create a cost estimate. With the same estimate, you can present a sales estimate with the required level of detail.

To use an estimate version

The estimate versions are defined using structural elements. A structure can be an imported activity structure, element structure, cost component structure, or the related extensions. These structures are imported from

an existing project. You can also link a user-defined structure to an estimate version. In case, the project-structure data for the estimate version is not defined, you can use the estimate version without a linked structure.

You can create an estimate version using the **Estimate Version** session:

- 1 Specify the **Version** for the estimate.
- 2 Specify information such as the **Estimate Date**, **Exchange Rate Type (Costs)**, **Currency** and the **Exchange Rate Type (Sales)**.
- 3 Specify the **Version Amount**. **Note:** The **Profit Fee+ Management Reserve** value must be less than or equal to the version amount.
- 4 Define the structures for the estimate version. LN allows you to define two types of structures:
 - **Primary Structure:** This is structure is linked to the estimate version and can be used to calculate the estimate. This structure is used to check the top-down constraints (if any). The primary structure is one of two structures that you can use to sort estimate lines. Alternatively, you can use the sort structure to sort estimate lines.
 - **Additional Structure 1:** The additional structures are used next to the primary structure. If you enter an additional structure code in the sort structure field, you can use the structure in the Estimate Lines (tpest2100m000) session as an alternative view on the estimate.

An estimate can have various versions. Each version is unique and is not derived from the previous version. Use the **Copy Estimate Version (tpest1201m000)** session to copy a version.

To use estimate structures

Estimate-version structures are used to order or to classify the estimate. Multiple estimate-version structures enable you to create different classifications of the estimate data.

For example, you create an estimate to build a ship for a customer. The estimate has an element-based [primary structure](#) that must contain the unit costs for the bid, and an additional [sort structure](#) with the planned activities for building the ship. The estimate depends on the data listed in the **Estimate Lines (tpest2100m000)** session. In this case, the *estimate lines* for the cost of the element and work planning are linked to an additional activity structure.

The following views enable you to sort the activity lines:

- by Project.
- Version, Estimating.
- Sorting Structural Element; if the [sort structure](#) code in the **Estimate Version** session and the code of the additional activity structure are the same, you can sort the activity lines.

To create an estimate-version structure:

- 1 Create a structure for the [estimate version](#).
- 2 Select the structure.
- 3 In the **Generate Structural Elements (tpest1220m000)** session, create the [structural element](#) or generate elements from an existing project structure.
- 4 Link the generated structures to the estimate version.

Note: If your estimate-version structure is not user-defined, you can only add structural elements to the estimate-version structure in the project-related-structure session, for example, the **Activities (tpsss2100m000)** session. Enter a new structural element and run the **Generate Structural Elements (tpest1220m000)** session again. Your estimate-version structure is updated.

Structures are important when you [launch](#) the estimate to a budget.

You can use the following structure types for launching:

- Activity
- Element

Note:

- Only the Activity structure type contains scheduling functionality that you can use in the estimate process.
- You cannot use more than one structure of the same type.
- You cannot use a user-defined structure, because these structures are not project related, and are not used to launch an estimate to a budget.

Launch an estimate to a budget

You can [launch](#) an estimate to a project when:

- The work can start.
- The bid is accepted.
- Long-lead-time items must be ordered.

You launch an estimate to create project budget lines from the [estimate line](#).

You can either launch:

- A complete project structure with all the estimate lines or a selection of estimate lines.
- Part of the structure. If the selected structure is hierarchical, you must specify a *node*. As a result, all structural elements and estimate lines linked to this node's [structural element](#) are launched. If the hierarchy is not defined, a flat structure evolves and you can specify a range of elements and/or estimate-line sequence numbers. All estimate lines within the range are launched.
- If the structural element has the Bottom Up estimate type and the activity types is either a WBS element or a planning package, the structural element cannot be launched to a budget. For the Top Down estimate type the same rule applies, in case you use an activity structure as the primary structure.
- Estimate lines that are launched. In this case, you must delete the estimate/budget lines launched earlier, else the duplicate budget lines appear.

Note:

- There is no relation between the estimate lines and the budget lines, after the estimate is launched to the budget.
- When you use the indirect cost/surcharges in an estimate version, you must either change the value of the surcharge amount on your budget lines to zero or change the estimate lines with indirect cost to direct costs, when you launch an estimate. Else, the surcharge is calculated and added to the indirect cost of the actual project, which generates an inaccurate budget. For better estimating, use sundry costs to update the budget with surcharges. In the **Launch as Sundry Lines** group box, select the check boxes to balance the total value of the estimate and the budget.

To launch an estimate to a budget, you can use the following budget types:

- [Top-down budget](#).
- [Bottom-up budget](#) (activity budget).
- [Bottom-up budget](#) (element budget).

Note: The launched top-down budget and the bottom-up budget are not related. You can also copy or generate lines to a top-down budget after the launch.

Note:

If you selected one of the Cost Object check boxes in the **Launch Estimate to Budget (tpest2200m000)** session, the corresponding values entered in the Sequence Number group box of the **Project Parameters (tppdm0100s000)** session are used.

If a control code is linked to an estimate line, a new cost object code is generated by adding a sequence number to the control code.

The length of the sequence number depends on the value that indicates the maximum length in the **Project Parameters (tppdm0100s000)** session, and the length of the cost object code that is defined in the data dictionary. If the range of the sequence numbers has already been used, a new series is generated starting with ZZZ00001.

For example, Control code 20 appears twice and the length of the sequence is 2. As a result, the codes 2001 and 2002 are generated. For the equipment code, the maximum number of positions is 10. To assign a sequence number, the original code that is entered in the **Estimate Lines (tpest2100m000)** session must be less than 10 characters. LN assigns the next free sequence number to the control code.

To launch an estimate to a top-down budget or bottom-up budget, see:

- Launch an estimate to a top-down budget
- Launch an estimate to a bottom-up budget

Launch an estimate to a top-down budget

You can [launch](#) an estimate to a top-down budget.

You can launch a top-down budget, only if:

- The [primary structure](#) is activity-based. You can launch a top-down estimate to a top-down budget.
- The *top down budget version* status must be Free. If you use a version for the project budget, you can launch an estimate to a new top-down budget version.
- The project status must be Free or Active.
- If the project status is Active, the project plan must be the project's leading plan.
- Verify the consistency of the structure, before the launch. If the estimate-version structure deviates from the project activity structure, you will receive an error message in the **Message Log (tpest0505m000)** session.
- If the leading plan does not exist for the actual project, the project is updated with the launch plan which is the target plan in the **Launch Estimate to Budget (tpest2200m000)** session. If an activity structure does not exist for the launch plan, the estimate-version structure for the plan is copied to the budget.

Launch an estimate to a bottom-up budget

You can [launch](#) an estimate to a bottom-up budget.

For each selected estimate line, the information on the budget line is populated based on these rules:

- If the estimate-version structure is copied to the budget, ensure that the element or activity structure is linked to the estimate version.
- If, during the launch to an element budget, element codes are not used on an estimate line, the default element is used. Consequently, an estimate line is launched with this default element. The same logic is applicable for activities.
- If the activity is of the type WBS element activity or a planning package activity, the activity can be used for estimating but cannot be launched to the budget.
- A bottom-up estimate line with the Total [level type](#) (level types are determined in the **Structural Element** session) can have a cost amount although a cost type is not defined. In this case, to launch the estimate line, a default cost type and the corresponding default cost object are used from the **Launch Estimate to Budget (tpest2200m000)** session. If the cost object is of the type Control Code and all check boxes are selected, a new cost object is generated in the session and is used on the budget line. Otherwise, the estimate line's cost object is used on the budget line. The cost object description that is used on the budget line is the standard cost object description.
- If the cost object is not defined for the estimate line and if all the check boxes in the Cost Object Not Filled field are selected, a generated code is used on the budget line. Otherwise, the cost type's default cost object is used.
- If any of the **Cost Control Level** for Cost Component check boxes in the Project - Cost Control Levels (tpdpm6102m000) session is selected for the project, and if a cost component is defined as one of the structural elements, the cost component is used for the budget line. Otherwise, the cost object's cost component is used for the budget line.
- If an extension is present as one of the structural elements, the extension is used on the budget line. If the Target Extension field is specified, this target extension overwrites the structural-element and target extension used in the budget.
- The sales price is only specified on the budget line, if the extension type is Quantities-to-be-Settled and the invoicing method is Budgeted Costs.
- You can launch surcharge-, contingency-, and/or escalation amounts as sundry cost lines.

To use a bid

The objective of the estimate process is to prepare a proposal, a quotation, or a bid consisting of the sales price information of elements, the project schedule, and invoicing information.

For the preparation of a bid, you must select an [estimate version](#). To store the documents that are relevant for an estimate in LN, use the standard document management functionality. These templates can include Project Plan, CAD drawings, Spread-sheets, or any other documents related to the estimate.

A bid contains the details of the estimate process and the deliverables for the customer, such as:

- Scope documents
- Summary sheets

- Agreements
- Schedules
- Sales price estimates

The documents result from:

- Reports
- Spread-sheets
- Text documents
- Microsoft Project plans

In Project, you can link all documents to a bid.

An estimate version can have one or more bids. You can use multiple bids to:

- Provide alternative offers.
- Bid for multiple customers in the project.

You can also define bid lines. Bid lines are the selected estimate lines for a given bid. The estimate lines are generated by the **Prepare bid.** session or inserted manually using the **Insert Bid Line** option in the **Bid Lines (tpest3110m000)** session.

To view the Bid Structure

You can view the [bid](#) lines in a *graphical browser framework* (GBF). The bid lines are displayed based on the defined Primary Structure. You can select a part of the structure to view the data of the bid lines linked to the *structural elements*. The related amount, that is, the bid total or the total of the selected structural element is also displayed.

To convert a Bid to Contract

You can use the Convert Bid to Contract (tpest3200m000) session to convert a bid to a contract. A contract, contract line, or both, is created for the selected [bid](#), if the **Bid Status** is set to **Accepted**. The bid number is copied to the **Contract Lines (tpctm1110m000)** session and the contract (line) is defaulted to the **Bid (tpest3600m000)** session. The **Bid Status** is set to **Contract Award**.

To compare Bids

You can use the **Bid Comparison (tpest3100m100)** session to compare the calculated [bid](#) totals and the specified target bid amount of two bids. The comparison is based on the total sales amounts, cost amounts, and profit margin, which can be done at the total ([estimate](#)) level or the structure level (for example, [activity structure](#)).

RFQ Procedure

This topic explains the *request for quotation (RFQ)* procedure in Projects.

- 1 Use the Estimate Lines (tpest2100m000) session to specify the Estimate line(s) for which an RFQ is required.

- 2 Select the **Requests for Quotation** option from the appropriate menu.
- 3 In the **Request for Quotation (tdpur1600m000)** session, add bidders to the RFQ line.
- 4 Receive Response(s) using the **Request for Quotation (tdpur1600m000)** session.
- 5 Verify the responses and update the Buy-from BP, Price, and Date in the Estimate Lines (tpest2100m000) session. Note: Origin of price must be set to **RFQ**.
- 6 You can also convert the response to a price book and update the estimate line.

Glossary

activity

The smallest part of the activity structure used for a time-scaled budget. An entity that is used to represent a part of a project in an activity structure.

LN distinguishes these activity types:

- **WBS Element**
- **Control Account**
- **Work Package**
- **Planning Package**
- **Milestone**

activity/activity budget

The project budget is an activity budget with the budget control on the activity budget. This means that an activity structure must be filled and that the planning can be used.

activity budget

An activity budget functions in more or less the same way as an element budget whose budget method depends on the way you structure your project.

Advantages of an activity budget over an element budget are:

- An activity budget is defined on a time horizon.
- You can use an activity budget for planning purposes in external scheduling packages.
- You can copy an activity budget to a [top-down budget](#).
- You can use earned value methods to measure project performance.

You can either create activity budget lines in LN or in external scheduling packages.

activity progress

The progress of an activity.

LN distinguishes two types of activity progress:

- Physical progress
- Schedule (time/duration) progress

activity relationship

Activities are sequenced with respect to work and specific dates to provide realistic schedules. An activity relationship indicates that a certain activity (successor) cannot start or end until another activity (predecessor) starts or ends.

You can define the following dependencies between the predecessor and the successor activities:

- **Finish-to-Start**
The initiation of the task of the successor depends upon the completion of the task of the predecessor
- **Finish-to-Finish**
The completion of the task of the successor depends upon the completion of the task of the predecessor
- **Start-to-Start**
The initiation of the task of the successor depends upon the initiation of the task of the predecessor.
- **Start-to-Finish**
The completion of the task of the successor depends upon the initiation of the task of the predecessor.

activity structure

A hierarchical structure that organizes and defines the total scope of the project. Each level represents an increasingly detailed definition of a work project. In contrast to the element structure, the activity structure is activity time oriented.

actual cost

The real costs incurred on a project. These costs are logged in Project Cost Ledger. Example: Inventory Cost, Purchase Invoice Cost, Price Variances, Manual Costs, and so on.

actual value

The costs incurred to accomplish the work performed within a given period.

adjustment

In LN, a modification to a frozen bottom-up budget. Modification will only increase or decrease the budget, for extensions the contract is also changed.

advance payment

A way to efficiently manage your cash flow by requesting to pay an agreed amount before the project or a specific part of the project starts. The advance payment will be settled with the final invoice. For example, you can select a project and request an advance payment for certain project materials. The advance can be linked to an installment. For unit rate and cost-plus invoices, the advance payment request is settled with the next invoice(s).

agreement type

A lumpsum contract or a reimbursable contract. In a reimbursable contract the customer agrees to pay all acceptable costs up to a fixed fee.

applied rate

The rate used to calculate the internal overhead costs for the [contract](#) or the [project](#). Example, administrative costs.

apportion

To make a proportionate division or distribution for the earned value. When activity Y is apportioned to activity X, the earned value method of Y and X is the same. Y will copy X. X can have any earned value method.

archived projects

Projects that are stored in an archive company. The project archive company can be used as a repository for historical project data.

assemble-to-order

An environment where a product or service can be assembled after receipt of a customer's order.

assembly order

An order to assemble a product on one or more assembly lines.

asset

The actual pieces of property, plant, or equipment that are uniquely utilised and used by an organization for a defined life time.

available-to-promise

A calculation that determines how many products are available (to sell or consume in a project) at a certain moment in the future.

award fee

An amount paid to the contractor in parts or as one-time payment based on the performance of the contractor.

bank guarantee

A guarantee from the bank ensuring that the liabilities of the business partner are met.

baseline (planning)

The baseline is a snapshot of the active plan's scheduled activities' start and end dates for a specific date and time.

bid

A statement of the price, terms of sale, and a description of goods or services offered by a supplier or contractor to a prospective buyer. The customer data, bid values, and payment terms are contained in the header; the data for the actual goods or services is specified on the bid lines. A bid is usually considered as an offer to sell, when a response is sent to a request for quotation or proposal.

billing cycle

The time interval defined to generate billing statement for the contract.

billing rate

The rate used to calculate the external overhead costs that are billable to the business partner. The billing rate is used to invoice the business partner.

bill of material

A listing of all subassemblies, intermediates, parts, and raw materials that go into the parent assembly. The bill lists the quantity and costs of each component.

bottom-up budget

This budget method defines all work that must be accomplished to complete the budget. A bottom-up budget is made for elements or activities.

budget-at-completion

The total budget amount of the finished project, activity, or OBS element.

budget cost analysis

An analysis of the bottom-up budget. You can run several cost analyses for the same budget. Each budget is stored with a combined project code and budget cost-analysis code, so you can compare the budgets.

budget cost analysis codes by project

Codes by which amounts and time quantities of budget lines are calculated for budget cost analysis.

budget date

The date of a budget line.

This date is used for:

- Currency conversions that relate to the project. A currency conversion is date-effective. The budget date determines which currency rate is used.
- Prices. These can also be date-effective. The budget date of a [bottom-up budget](#) line determines the price or rate of the [cost object](#).

budgeting method

The way to budget and measure expected productivity.

LN distinguishes two methods in the bottom-up budget:

- **Production Rate:** the number of production units produced per unit of time.
- **Labor Norms:** the number of hours required to carry out one unit of the cost object.

budget labor-rate search path

A search path that determines which cost and labor sales rates from which sessions are used in labor budget lines: labor, trade group, project. The default labor rate that is used is defined as the level 1 labor rate. If this is not available, level 2 is used, and if this is not available, level 3 is used.

budget line

The most detailed level of a bottom-up budget. The elements or activities in a budget can contain an unlimited number of budget lines. Each budget line includes a quantity of a cost object, a cost component to which the cost object is assigned, and a budget date.

budget-line status

The status of the budget line. The status defaults from the element or activity to which it belongs.

LN distinguishes these statuses:

- **Free:** the general data for a budget line has been recorded, and can be changed.
- **Actual:** you can still change the budget data and generate the control data. You can also log the budget history.
- **Final:** you cannot change the budget data anymore. You can only add or change the budget lines through a budget adjustment. You can also log the actual budget history.

budget status

The budget status of an element or activity.

LN distinguishes these statuses:

- **Free:** you can enter and change budget lines.
- **Actual:** you can change the budget data and the budget lines. In addition, the control data can be generated and the actual budget history can also be logged.
- **Final:** you cannot change the budget data without using budget adjustments.

business sector

An area of commercial endeavor. Projects can be categorized according to the business sector to which they refer.

CAGE

Abbreviation of Commercial And Government Entity. A unique identifier assigned to suppliers to various government or defense agencies, as well as to government agencies themselves and also various organizations. CAGE codes are used internationally as part of the NATO Codification System (NCS), where they are sometimes called NCAGE codes.

calendar file

A file containing calendar information for one or more calendars.

capital project

A project used for internal use in which deliverables can be booked as *fixed asset* but delivery of goods to customers is not possible. In a capital project, you are the business partner.

categories

A user-definable classification for projects.

commitment

A financial obligation that represents future costs.

connection node

The activity node of the activity structure to which the external scheduling connection is established. The activities connected to the node are used in the external scheduling package. You cannot link an activity to an external scheduling package if the higher or lower level activity of the selected node is used for another project.

contract

An agreement with the business partner that defines the terms and conditions like deliverables, billing plan, payment terms and so on. A contract can be linked to one or more projects.

contract amount

The total amount of the project contract.

For a time-phased budget version, the contract amount is expressed as follows:

$$\text{contract amount} = \text{profit fee} + \text{management reserve} + \text{distributed budget} + \text{undistr. budget}$$

The contract amount is used to determine the invoice limit.

contract deliverable

A contract deliverable is a tangible or intangible item that is produced or purchased as a result of a contract.

contract fee

An amount that is paid as an award or an incentive to the contractor, based on the terms and conditions of the contract.

contract phase

The identification of a stage or a phase during the execution of the contract, for example, bidding, printed, sent to customer, and so on.

control account

The only type of activity that can be linked to an organization breakdown structure. At this level functional responsibility for work and costs can be assigned. You can detail short-span jobs in control accounts and use it for the execution of a project.

control code

A common parent cost-object level, a level above the special cost object.

A control code is used for control purposes. For analysis, you can group cost objects of the same cost type under a control code. If you use a cost object to categorize a group of cost objects, it can be its own control code. You cannot have more than one control code in a tree. This is used for the frozen bottom-up budget.

control data

Data that is used to monitor a project.

cost base assignment

A cost-base assignment is the part of an overhead application base in which the cost-types, cost components or cost objects are defined over which overhead must be calculated.

cost component

A cost component is a collection of cost objects with a certain characteristic. A cost component does not depend on the cost type, therefore, for example, a project can be monitored from another dimension. For example, all the costs that refer to electrical work, for example, cable and installation work, are visible if the applicable cost objects are linked to the cost component Electrical work.

cost control

The method that LN uses to control project costs.

Cost control involves:

- Recording actual costs against the expected costs entered in the budget.
- Reporting on any differences between budget, forecast, recorded costs and progress. If an element or activity uses cost control, the expected costs of the individual element as entered in the project budget are carried over to the control budget. If an element or activity does not use cost control, its budgeted costs are aggregated to the next, higher-level element in the budget structure for which cost control is applied.

cost-control periods

In this period project-related costs and revenues are booked.

cost item

An administrative item that represents certain expenses. The item is not a physical product and cannot be handled logistically.

cost object

A type of cost carrier for the resources used in your project.

These cost objects are available:

- **Material**
- **Labor**
- **Equipment**
- **Subcontracting**
- **Sundry Costs**
- **Overhead**

Cost objects can be standard or specific for a project. The cost object is related to a control code for cost controlling purposes.

cost of goods sold

The expense a company incurs in order to manufacture, create, or sell a product. It includes the purchase price of the raw material as well as the expenses of turning it into a product.

cost performance index

A measure of cost efficiency on a project.

The cost performance index is determined by measuring the ratio of earned value (EV) to actual costs (AC):

$$\text{CPI} = \text{EV} / \text{AC}$$

If the result is less than 1.0, cost is greater than budgeted.

If the result is greater than 1.0, cost is less than budgeted.

Example

EV	PV	AC	CPI	SPI
270	335	250	1.08	0.81

cost plus contract

A contract based on calculation of time and material after parts of the project are finished. Agreement on prices and labor is made before the project starts.

cost-plus contract

A contract that is carried out based on cost reimbursement and a profit percentage.

cost type

A way of categorizing cost objects and control codes according to the nature of the costs that they represent.

LN Project distinguishes these cost types:

- **Materials**
- **Labor**
- **Equipment**
- **Subcontracting**
- **Sundry Costs**
- **Overhead**

cost variance

Any difference between the earned value of an activity and the actual cost of that activity.

credit note

The correction form for a (partly) returned purchase or sales order. The credit note states the quantity and value of the goods concerned and the reason for the credit.

DD 250

Abbreviation of DD Form 250 or Material Inspection and Receiving Report.

destination warehouse

The default project warehouse to which goods are sent before they are used in the project.

direct labor

The number of actual hours spent on a task, or a service for the business partner.

discrete lines

Bottom-up estimate lines that are not attached to any primary structure element.

distributed budget

The top-down budget part that is distributed across the activities.

You can look at a distributed budget on various levels:

- For activities: the distributed budget equals the budget that is already distributed to the lower level activities.
- For the version: the distributed budget equals the budget assigned to the top activity of the activity structure. This can at most be equal to the sum of the contract amount minus profit fee minus management reserve

document types

A user-definable classification of project-related documents.

DoDAAC

Abbreviation of Department of Defense Activity Address Code. A six-position code that has been awarded by the US government to a party involved. When assigned outside the Department of Defense, the codes are usually referred to as AACs or FEDAACs.

DPAS

Abbreviation of Defense Priorities and Allocation System. DPAS is used to provide priority ratings for contracts related to orders from the US Department of Defense. DPAS-rated orders have higher priority than unrated orders.

earned value

The budget amount based on the project progress for a specific period.

earned value concept

A time-phased method for measuring project performance. It compares the amount of work that was planned with work that was actually accomplished to determine if cost and schedule performance are as planned.

There are a number of different ways in which you can use the earned value method to determine how budget amounts are to be earned:

- **Milestones**
Milestones are attached to the activity and a percentage or amount of the budget is assigned to each milestone. When you reach a milestone, the assigned budget is earned.
- **Start and End Percentage**
Percentage values are assigned to the start and end points of the activities. In other words, the start percentage is earned when the activity starts and the remaining percentage is earned when the activity is completed.
- **Percent Complete**
Budget amounts are earned in proportion to the percentage progress of the activity
- **Level of Effort**
Budget amounts are released in proportion to effort. This method is appropriate for time-driven activities where it is assumed that there will be no discrepancy between scheduled work planned (PV) and work performed (EV).
- **Apportioned**
Apportioned efforts are those which have an intrinsic performance relationship to some other discrete activity. Budget amounts are earned in the same way as for the linked charge.

element

The smallest part of an element structure. An element is used to define the (structure of the) work of the project, so that you can carry it out.

element/activity budget

The project budget is an element budget, which is linked to activities in order to create a control budget. This means an element and activity structure must be filled and that the planning can be used.

element/element budget

The project budget is an element budget with the budget control on the elements. This means that an element structure must be filled but that planning cannot be used.

element budget

The bottom-up budget or control budget that consists of elements. The alternative is an activity budget. The elements can be related in a multilevel hierarchical structure, and each element can contain cost-object budget lines.

The advantage of an element budget over an activity budget is:

- Multiple parents makes budgeting easy for repeating work.
- With the use of frequencies calculation of amounts needed of one element is faster and easier.

element relations

The way to determine the positioning of elements in comparison to other elements. Element relations are the basis of a layered (multilevel) element budget. The elements can also be linked to activities, a relation that is used when you generate control data for an element/activity budget. Elements use frequency as a tool to calculate element amounts fast and can have a multiparent structure.

element structure

The multilevel, multiparent, hierarchical tree-like structure of elements that can be the basis of a budget.

element type

A way to distinguish project elements. A project with a **Progress Invoice** invoicing method can contain two types of elements: direct and indirect. If the progress is more than 100%, direct elements can have more than 100% progress. Indirect elements can never have more than 100% progress.

equipment

A type of [cost object](#) representing reusable resources that are not consumed while the project is carried out. Equipment can be purchased (rented or hired) from a third party for the project or internally owned. Example: machinery and tools such as cranes or welding machines .

equipment group

A special equipment cost object that acts as a grouping to other equipment cost objects. This is a useful way of grouping together similar equipment cost objects.

estimate

An estimate is the result of a cost engineering process that aims at determining the resources required to accomplish a task. An estimate is done to calculate cost, and/or sales price. You can use multiple methods. For example, a bottom-up or top-down structured. An estimate is also used as the starting point for a bid to a potential customer (internal or external).

estimate at completion

The forecasted total cost of a project, activity, or organization-breakdown-structure element when the defined scope of work is completed. To calculate the estimate at completion: actual costs + estimate to complete

estimate line

A detailed estimate breakup. For example, if you require item A for the estimate, you enter this item with its specifications on the estimate line.

estimate series

The estimate *series* is used to create a unique project number. Organizations can prefer to have separate project ranges for estimating projects or use estimating as a phase of a project and include estimating in the project used for execution.

estimate to complete

A realistic forecast appraisal of the remaining work.

estimate type

The way in which the calculation of the estimate is performed. An estimate type is either top down or bottom up.

- **Top Down**
In calculating the cost or sales amount in a top-down structure, you distribute a top amount to the lower level elements.
- **Bottom Up**
In calculating the cost or sales amount in a bottom-up structure, you enter exact amounts for lowest level elements and aggregate them to make the top amount.

estimate version

A means to compare estimates. An estimate can have various versions. Each version is stand-alone and is not derived from the previous version. A version can, however, be copied or compared.

estimating

A cost engineering process used to determine an estimate.

exchange-rate type

A way to group currency exchange rates. You can assign different currency exchange rates to different invoice-to-business partners and/or to different types of transactions (purchase, sales, and so on).

expense tax

An internal purchase cost that can be booked on a non-finalized project. The transaction costs are posted separately if direct delivery occurs. If a delivery is made through a project warehouse, the expense tax is included in the valuation price or fixed transfer price (FTP).

extension

The specific agreements within or in addition to the initial contract. An extension falls outside the initial contract with the sold-to business partner. Extensions can be assigned to the bottom-up budget.

LN distinguishes four extension types:

- **Scope Change**
- **Provisional Amount**
- **Fluctuation Settlement**
- **Quantities to be Settled**

financial result status

A way to characterize the project's financial results.

LN distinguishes three different financial result statuses:

- **Free**
This status applies until the project is finished.
- **Determine Result**
If the project status is **Finished**, you can select this financial result status.
- **Result Determined**
The final result is determined and the project status is changed to **Closed**.

fixed-price contract

A contract that is carried out for an agreed fixed price, also called a lump sum.

flow shop

A type of manufacturing organization in which machines and operators handle a standard, usually uninterrupted, material flow. A flow shop is a mass-production shop and has a continuous manufacturing layout.

fluctuation settlement

An extension type. The settlement of the price fluctuations' influence for invoicing purposes. You cannot define this extension type for **Cost-Plus** contracts and for contracts with **Invoicing Method** set to **Unit Rate**.

general data

Data that is not project specific. This data includes generic information on business partners, countries, elements, and so on. You can either enter this data in the Project Definition or in LN Common.

general project data

Data that is project specific.

For example:

- Project cost object
- Project definition
- Project wage rates

Enter this data in the Project Definition module.

hard commitment

For a project, a soft commitment becomes a hard commitment when a purchase order is actually received and due for invoicing.

holdback

A percentage amount that the customer withholds from the contract amount. This serves as a guarantee that all activities are performed, and that contractual obligations are met. In other words the holdback amount is paid after the project activities have been satisfactorily performed.

hours-control periods

LN uses hours control periods.

LN uses hours control periods to:

- Carry out periodic control of labor hours
- Realize hours accounting
- Process wages and salaries

independent multi currency

This approach is required for companies that work in high-inflation countries.

installment

The amount invoiced to the customer when a project completes its corresponding element/activity or reaches a milestone or progress of elements/activities.

interim financial results

The temporary financial result that you can consult while you carry out the project and which you can transfer to the profit and loss account.

Two interim result types exist:

- **Cost:** transactions associated with costs.
- **Revenue:** transactions associated with revenues.

internal project

A type of project for which no sold-to business partners are defined and no invoicing is performed. The delivery of items does not apply. An internal project can optionally be capitalized, the value can be sent to the Fixed Assets module in Financials.

LN distinguishes two project types:

- A capital project: deliverables can be booked as fixed assets, delivery of goods is not possible.
- An internal project: cannot be booked on the balance, and delivery of goods is not possible. The result is only visible in the profit and loss account.

invoice type

The way to calculate project invoices for a given contract type. The invoice type determines when to issue invoices to the sold-to business partner.

LN distinguishes these invoice types:

- **Cost-Plus**
The amount is based on the financial amounts entered at cost object level plus a profit. This method is only available if the contract type is **Time & Materials** or **Cost Reimbursement**.
- **Unit Rate**
The amount is based on the financial amounts per unit entered at element or activity level. Unit-rate invoicing applies to both **Fixed Price** and **Time & Materials** contract types.
- **Installment**
The invoice amount is a subdivision of the value. This method is only available if the contract type is **Fixed Price**.
- **Progress Invoice**
The invoice amount is based on progress for element or activity. Two types of elements are allowed: direct and indirect. The calculated amount of the direct elements depends on their own progress. The calculated amount of the indirect elements is based on the progress of the project as a whole and can never be more than 100%.
- **Delivery Based**
Invoicing is based on the sales amounts of the *contract deliverables* that are linked to the contract shipments.

invoicing method

This method is only used for contract projects to invoice to Financials.

Capital projects have no invoicing. Sales order projects use Invoicing for invoicing.

labor rate for hours registration search path

This search path determines which cost and labor sales rates are used in hours registration.

The search path consists of four levels, each of which you can set to one of these:

- **Employee**
- **Task**
- **Project**
- **Trade Group**
- **Department**

The default labor rate used, is level 1. If this level has no entry available, level 2 is used, and so on.

lag

Lag is the modification of a logical relationship that directs a delay in the successor activity. Negative lag or lead allows an acceleration of the successor activity.

landed

The cost amount plus surcharges.

launch

To copy an estimate version to a project budget. The version estimate lines are copied to project budget lines.

leading estimate type

The estimate type of the structural element.

- If the leading estimate type is bottom up, LN calculates the total leading estimate type (LET) amount by summing up the estimate line amounts with the same level type.
- If the leading estimate type for the top structural element is top down, the total LET is the structural element amount that is defined as top down. Top-down structural elements are only checked to see whether the estimate amounts do not exceed their parent's amount; they are not actually used for the total estimate.

leaf node

The last particle of a structure. If a child is added to the leaf node in the structure, the leaf node becomes a parent and is called a node.

level of effort

An earned value method in which budget amounts are released in proportion to effort. This method is appropriate for time-driven activities where it is assumed that there is no discrepancy between work planned and work performed.

level type

An estimate type category that determines which estimate lines are used in aggregating totals.

make-to-order

A production environment where a product or service can be made after receipt of a customer's order. The final product is usually a combination of standard items and items custom-designed to meet the special needs of the customer.

management reserve

A contingency fund for unanticipated occurrences, which reduces the risk of scope changes. In a time-phased budget version, this is the amount that is withheld for control purposes rather than distributed to the activity structure or retained for profit.

Management reserve is expressed as follows:

$$\text{management reserve} = \text{contract amount} - \text{profit fee} + \text{distributed budget} + \text{undistr. budget}$$

MAPAC

Abbreviation of Military Assistance Program Address Code.

milestone

An activity of zero days that usually represents a significant event in the project. In many cases the completion of a phase of major deliverable. Milestones can be used for the moment of invoicing and the calculation of earned value.

mixed model flow

A type of flow shop in which two or more different products are assembled with relative small changes over time and set-up times. The product sequence can vary, for example, A-A-B-C-A-C-B-B-C-A, and so on.

norm

The number of hours required to carry out one unit of labor. Used in an activity budget with cost type **Labor**, **Equipment**, or **Subcontracting**.

$$\text{Number of hours} = \text{number of labor units} * \text{norm}$$

This norm is useful in situations where the unit of measure for the labor cost object is not a time unit.

order lead time

The time required to obtain a purchased item, subcontract a service, or rent a piece of equipment. This time includes order document preparation, sourcing, and supplier lead time.

organization breakdown structure

A representation of the structure of a project organization, this is usually depicted as a tree-like hierarchical structure. The organization breakdown structure is used to link the responsibilities of certain project parts, such as the allocation of a financial budget or the realization of project activities to an OBS element. Each OBS element can be linked to an employee. The OBS element is standard and can also be made project specific.

overhead

Overhead expenses are indirect costs (for example, electricity) that impact all manufacturing costs, except for direct labor and direct material that change depending on production volume.

allows you to define three types of overhead costs:

- Indirect materials
These are costs that indirectly add up to the total cost of an item, such as light, heat, supervision, and maintenance.
- Indirect labor
Indirect costs such as an hour of labor, administration and general meetings.
- Miscellaneous expenses
Taxes, insurance, depreciation, repairs and so on.

overhead allocation

Overhead allocation is a process of identifying, aggregating and assigning indirect costs to activities, for which organizations want to separately measure costs. The outcome of the overhead allocation process are the overhead rates. Predetermined overhead rates are assumed to be calculated in Excel by dividing the budgeted or estimated overhead with the budgeted activity and are used to apply overhead.

overhead application base

An overhead application base determines the project for which overhead must be calculated and applied.

penalty

An amount paid to the business partner by the contractor, in case the terms of the contractual agreement are not met.

percentage completed

An earned value method in which time-phased budget amounts are released in proportion to the progress of the project in terms of percentage.

performed

The budgeted costs according to the progress at the end of the current period. In most cases, LN calculates the performed as follows: performed = budgeted amount * progress

phase

In Project, a user-defined project subdivision. Typically, a phase consists of a number of project activities leading to a deliverable.

physical progress

The progress in amounts. This is different from percentage completion, which is the progress in time.

plan

Specifies the activity structure, the schedule, and the start and end dates. You can maintain alternative plans for a single project. The active plan is the one you actually use to track progress.

planned invoice dates

The date on which you intend to print an invoice and send it to the business partner.

planned value

The planned budget amount for a specific period.

planner

The person or organizational unit associated with a particular project plan.

planning package

A type of activity. Planning packages are identified during planning to time phase major activities within a control account. You cannot book costs on this activity type.

posting types

An indication of the entry origin or how the entry is posted to Financials. Read for entry: transaction, revenue, order, and costs, and so on.

price policy

You can use the price policy to calculate the equipment, item and subcontracting cost or the purchase price. The sundry costs cost object does not use this policy and labor has its own price search path.

primary structure

The only structure, linked to the estimate version, that can be used to calculate the estimate. This structure is used to check the top-down constraints (if any). The primary structure is one of two structures that you can use to sort estimate lines. Alternatively, you can use the sort structure to sort estimate lines.

prime contractor

The company or the organization that originally acquires the contract.

production progress

The (part of) the project or resource that is completed or used.

profit fee

In a time-phased budget version, the profit retained by the company that performs the project.

The profit fee is expressed as follows:

```
profit fee = contract amount - management re  
serve + distributed budget + undistr. budget
```

program

A group of related projects managed in a coordinated way to obtain more benefits and control.

progress

The process by which an element or activity is completed over the lifetime of the project. Progress can be recorded at cost type, cost object, or at control code level.

progress invoice

An invoicing method based on progress for elements and activities. The difference with unit rate is twofold.

Unit rate has:

- Invoices based on the progress and element or activity sales rate per unit.
- Invoices settled with the contract amount.

progress motivation lines

A line or specification in progress-based invoicing. Motivation lines or specifications form the basis for an installment. Motivation lines or specifications contain all the billable amounts and quantities.

progress payment requests

Progress payments requests are created based on the cost incurred by the business partner as the work progresses for a contract.

progress results

The output from progress registration while a project is in progress. You can switch interim results on or off by project or by cost object within a project. If you switch it off, you can only report completed.

project

An endeavor with a specific objective to be met within the prescribed time and financial limitation, and that has been assigned for definition or execution.

project budget

The budget you work in. Control budget is the frozen budget where progress registration, customer invoicing, cost control, and input for project requirements planning are found. The purchase budget is also derived from the project budget.

project currency

If the project is performed in another country, the project currency is useful for monitoring. This currency can be an external currency that is not specified as one of the home currencies.

project deliverable

A tangible or intangible item that is produced or purchased as a result of a project. A project deliverable is intended to be shipped to an internal or external customer.

project status

The way to characterize a project.

LN distinguishes these statuses:

- **Free**
A project definition has been recorded, but the project has not yet been executed. Changes are still possible.
- **Active**
During the execution of a project you can release, purchase, and register cost transactions.
- **Finished**
The project is completed but it has not (yet) been financially closed. You can still register cost transactions. Actual purchase orders cannot be present for the project.
- **Closed**
The project has been financially closed, the project definition can no longer be changed.
- **Archived**
The project is stored in an archive company. The project archive company can be used as a repository for historical project data.

project type

A way to characterize projects.

A project can have one of these types:

- **Main Project:** the project structure is composed of subprojects
- **Subproject:** the project is a subproject to a main project
- **Single Project:** the project is a stand-alone project and is not part of a main project/subproject structure

project warehouse

A warehouse that only stores goods that are used for projects. In contradiction to a normal warehouse goods are administrated for a project and its details. The goods in the default project warehouse represent inventory value. The inventory value of a project warehouse is not part of the project costs. When the goods are transferred to the project, they add to the project costs. A project warehouse can be used by one or more projects.

project WIP warehouse

A warehouse at which logistical transactions occur, but on which no integrations are logged. In project terms, it is as good as a project site in financial terms. In Warehousing, the warehouse type must be **Project** and the **Project WIP Warehouse** field must be selected.

provisional amount

An extension type that you must use if you are not sure of a certain part of the project costs when you develop your project. Settle the differences with the provisional-amounts budget and the actual costs at a later stage.:

Example

You are building a house with a standard kitchen costing \$ 10,000, which is the provisional amount. When the house is almost finished, the customer determines on a more expensive kitchen, which brings the actual costs to \$ 12,000. The customer is invoiced for the extra costs of \$ 2,000.

purchase budget

A budget which defines a particular demand on a more detailed level than defined in the bottom-up budget. You can also use this to purchase cost objects with a manual order system.

purchase budget lines

A set of budget lines selected from the project budget to buy certain cost objects that are needed to carry out a project.

purchase contract

An agreement with a supplier for the supply of goods or services.

purchase price

The price at which you buy cost objects expressed in the currency in which you bought them.

quantities-to-be-settled

An extension type, which enables you to invoice the difference between the budgeted quantity and the actual quantity for a range of cost objects. Use this type when you are unsure of the quantities that you will spend in the project.

reference activity

The smallest unit of work that is required to carry out maintenance.

requirements list

The relation that a project has to sales-order lines or sales-quotation lines. The requirement list is created in Project and triggers the supply chain of order processes.

requirements planning

A LN package that plans the orders and transfers them to other LN packages to fulfill the project requirements.

In the planning you can generate:

- A project requirement plan to procure material, equipment, and subcontracting, or to collect materials from warehouses
- A requirement list used for manufactured items produced on order

resource-limited scheduling

A scheduling method in which you cannot overload your resources. This method is prone to project delay.

responsibility

A liability on an individual or groups to perform assigned actions.

retainage

[holdback](#)

revenue code

A way to categorize invoiced amounts of the same invoice type in order to analyze revenue history.

revenue recognition

For a given contract, revenue recognition is the process that leads to the calculation (and subsequent posting to the General Ledger) of the total revenue that is estimated to have been earned, on the basis of the progress of the contract.

routing operation

A routing line that specifies the work center, the duration, and setup times of a Manufacturing task.

sales-order project

A type of project for which the invoicing and the delivery of goods is carried out in the Sales Control module of Order Management. A sales order project is mostly used for product-based projects and is generated from sales orders.

sales rate

The price or rate of cost objects, elements or activities, at which you sell, that are used for your project.

schedule performance index

A measure of schedule efficiency on a project.

The schedule performance index is determined by measuring the ratio of earned value (EV) to planned value (PV):

$$SPI = EV / PV$$

If the result is less than 1.0, the project is behind schedule.

If the result is greater than 1.0, the project is ahead of schedule.

Example

EV	PV	AC	CPI	SPI
270	335	250	1.08	0.81

schedule variance

The schedule variance (SV) is the difference between the scheduled performance of an activity and the actual completion of the activity.

scope change

Any change to the project scope. A scope change almost always requires an adjustment to the project cost or schedule. A scope change results in more or in less work to be invoiced.

search key

An alternative form of a description used for convenience during searching. Typically, it is an abbreviation, an acronym, or a mnemonic alternative to a full description.

soft commitment

For a project, when a purchase order is approved and due for receipt, it is called a soft commitment.

sort structure

A structure that you can use to sort the estimate lines if the amount of estimate lines requires sorting.

standard cost

The cost object's standard cost.

start and end date percentage

An earned value method in which percentages are assigned to the start and end of the activities. In other words, at the start of the activity, it is assumed that a particular percentage of the project is completed. Consequently, time-phased budget amounts are released based on these percentages.

steps

A step in a project procedure. An activity that corresponds with a session of the Project package. Example: the activity generate control data is performed using the **Generate Control Data (tpptc1230m000)** session.

structural element

A generic term for a project estimate structure element that can have a number of structure types, such as a project element, activity, cost type, an organization breakdown structure element, or an element of a reporting structure. A primary structure element is part of the primary structure that is linked to the estimate version.

subcontracting

A type of cost object representing services purchased from a third party for use in a project.

sufferance tax

A tax or levy that is payable to a local or municipal authority to compensate for a disruption caused for the duration of a project. For example, a compensation for removing a sidewalk or part of a street to install the water pipes or sewer while constructing a high-rise apartment building.

sundry costs

Indirect cost and costs that do not belong to other cost types are booked as sundry costs, for example, insurance costs or expenses by employees such as meals and hotel costs.

surcharge

A means of defining indirect project costs. Typically, surcharges are used to cover general overhead costs, including storage, handling, and maintenance costs, management overheads, and so on. Surcharges are calculated as a percentage of direct costs and are posted to a sundry-cost object. Surcharges can be calculated based on costs, budgets and revenues.

task

A specific task. You can use labor codes to control the costs of a labor code or of a group of labor codes.

templates for projects

A user-friendly way to define a project.

third party

A person or organization with an indirect or non-contractual interest in a project, for example, a government body or regulatory agency.

time-limited scheduling

A planning that implies that you cannot delay the project past its current finish date, even if this means overloading your resource.

time-phased budget

A type of budget that is phased and spread out over a period of time. In LN there are various ways to plan the activities and look at the earned value. The [earned value concept](#) determines how the budget amounts are released and how the [planned value](#) is calculated.

top-down budget

A budget method that distributes the expected project amount across the project structure from top to bottom.

This budget method is used to time-phase the available budget amount across activities. Top-down budgeting supports different earned value methods.

top-down budget version

A version is made to be able to track changes in the course of a project budget. More than one version can be defined for a top-down budget to support a long-term project. One version of the top-down budget will be actual. A version can be closed, which means that no changes can be made to the version data.

top element

The highest element in the multilevel hierarchy of an element structure. The top element is used in the project definition to link the element structure to the project.

trade group

A group of resources with common skills that can be used for a particular labor cost object. If you cannot yet make detailed assignments for employees, you can use trade groups for scheduling.

transaction date

The date on which the planned order was last changed.

undistributed budget

The project-budget part that is not yet distributed across the elements.

You can look at an undistributed budget on various levels:

- For activities: the undistributed budget equals the budget amount minus distributed budget
- For the version: the undistributed budget equals the contract amount minus profit fee minus management reserve minus distributed budget

unit of measure

The unit of measure for the cost object. This unit can affect how budget line quantities are calculated.

unit rate

An invoicing method based on the progress and element or activity sales rate per unit. Invoices are booked against the contract amount with installments.

User Defined

A filtering status that determines whether sales or cost line amounts are used in the calculation of the estimate totals, and whether the line is included in the scope of the estimate.

VAC (Variance at Completion)

The cost variance at completion of the project. The variance is calculated using the formula:

$$\text{Variance at Completion (VAC)} = \text{Budget At Completion (BAC)} - \text{Estimate At Completion (EAC)}$$

WBS element

A type of activity. Usually used to break down the project scope into smaller pieces. You can define work for a work-break-down structure element. You can aggregate the costs from control accounts or work packages. You cannot book costs on this activity type.

WKA

A Dutch law which dictates that a contractor is liable to pay for a subcontractor's taxes and social security contributions.

work authorization status

A formal authorization procedure to begin work on a specific activity. The process helps ensure that the authorized work is done at the right time and in proper sequence.

Work authorization status can have these values:

- **Free**
Work is not authorized for execution.
- **Released**
Work is sanctioned for execution. This status is allowed only for activities under a leading plan and for elements which are part of the leading structure. The parent activity/element and the activity type cannot be changed.
- **On Hold**
Work is under execution and needs to be suspended due to some constraints. The parent activity/element and the activity type cannot be changed.
- **Finished**
Work is executed. The parent activity/element and the activity type cannot be changed.
- **Closed**
Work is completed and all related financial transactions are closed. The parent activity/element and the activity type cannot be changed.

work breakdown structure

The top layer of the activity structure. The WBS can consist of a hierarchy of activities of the WBS element type.

workflow

The development stage of a business process, which is used to determine if the business process can be modified.

work package

A type of activity. You can detail short-span jobs in work packages and use it for the execution of a project.

Index

A

additional structure [16](#)

B

bottom up [11–12](#), [14](#)

E

estimate
 project [9](#)
estimate launch [17](#)
estimate type [10](#)
estimate version [15](#)

P

primary structure [16](#)
project estimating concepts [7](#)

R

RFQ
 Estimate line [20](#)

T

to make an offer [19](#)
top down [11–12](#), [14](#)