# Shuttle

## ALLEVO

### User Manual

## Satellite-Up- and –Download (SUD)

Separate editing of Allevo satellites with standard SAP or Allevo transactions has the following limitations:

1. Only annual values can be exported, for which the automatic row indices of the data for the export file that are necessary for re-importing are not assigned.

2. The download function via transaction SE16 can be read out for all years, however it does not provide a direct upload option, and is also not available to all users.

3. For the basic entries of a table, it was not yet possible to use an Excel template based on the existing append structure.

**The idea:** Download, edit, upload!

## Chapters

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# 1 Allevo-Shuttle

## 1.1 Functional Overview

Basic functions of Shuttle:

- Download satellite tables, either as text or Excel files

- Editing of the data by the user

- Transfer of changed data to the satellite tables (if necessary by overwriting existing data)

Figure 1.1 shows the schematics of these functions
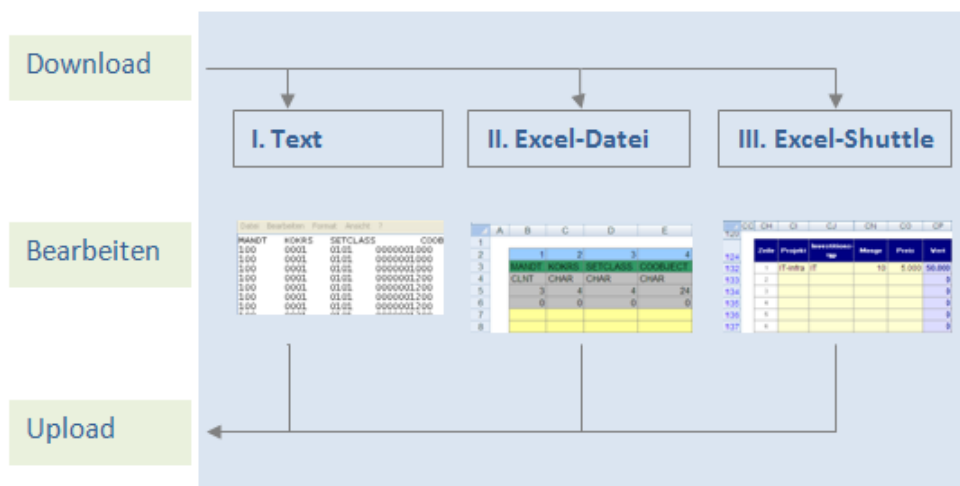


**Figure 1.1: The three different backup methods**

The editing functions of Shuttle are often used for cross-object updating of satellite data.

The Up-and Download functions can also be used for backups. Additionally, other functions in the Standard Allevo Package are available for the backup and restoration of satellite tables (see the Allevo SAP manual)

## 1.2 Calling, basic functions and selection parameters

Shuttle is integrated into Allevo as follows:

- Direct calling can be done via transaction /ALLEVO/SHUTTLE (earlier versions use /KERN/IPPSHUTTLE).

- Shuttle and the satellite backup/restore programs can be started from the Allevo-Cockpit.

- The initial screen of each Allevo planning transaction has a button labelled "Satellite tables"; as of Allevo 3.3, Shuttle can also be found here. From here, however, only data for the current object type and the satellites of the current layout can be edited.

Please refer to the following note when starting directly via a transaction.

| Note: | If the transaction of a reserved name range such as /ALLEVO is directly entered in the SAP command field, the user must enter **/n** in front. |
|---|---|
| | This is a technical framework requirement, which is not Allevo-specific, but is required by the SAP parameters for name ranges. It should be entered as follows: "/n/ALLEVO/SHUTTLE" |
| | In the first program versions, Shuttle was called **SUD (=S**atellite-**U**p-/-**D**ownload). Accordingly, /KERN/IPPSUD still exists as an alternative transaction, but is treated in exactly the same way. |

As a first step, the Shuttle selection screen requires entries for controlling area and object type (see Figure 1.2)
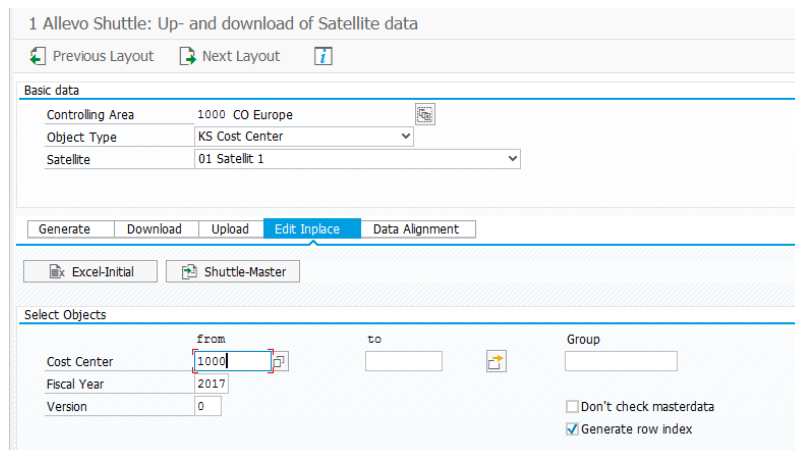


**Figure 1.2: Program start screen**

Whether or not the contents of a Satellite table can be edited depends on the authorization level of the registered user (see next section). The layouts to which the user has access via Allevo planning transactions are relevant in this case: only the satellite tables that are active in this context will be available as selectable options in Shuttle.

The above mentioned basic functions can be accessed via the sub-tabs. Depending on the selected function and the selected object type, further selection parameters may need to be entered.

The selection of objects can be made singly, via multiple selection or via a group: changes will only be made for the selected objects when uploading.

In the standard case, Shuttle checks whether the selected objects are saved in the master record of the system. This function can be turned off with the flag "No master record check"

By entering * in the field "from", Shuttle opens with all objects of the satellite table, which is done without checking the master record.

With the object type PR for project/WBS elements, other options are available (see section 1.10).

| Note: | When editing satellite data via Shuttle, it should be made sure that the selected objects are not being simultaneously edited via other Allevo planning transactions.<br><br>When Shuttle is started, it checks whether the selected satellite has been called by such a planning transaction, and if necessary, a warning is given. This check is carried out regardless of the selected CO-object! |
|---|---|

## 1.3    Additional edit functions in Shuttle

In addition to the basic functions for up-and downloading satellite data mentioned already, Shuttle offers additional edit functions, that are often necessary during planning process. It is possible, for example, to copy satellite data between objects and years or versions, or directly edit satellite data, or to delete them.

These additional functions are called via separate selection screen layouts and are described in more detail in chapter 5.

### Editing any Allevo tables

In the most comprehensive functionality, data can be processed in any of the tables in the /KERN/ name range. For this, Allevo offers the transaction /KERN/IPPTAB (e.g., as a replacement for SE16). The transaction is described in the Allevo SAP manual.

The call for this transaction is only included in Shuttle for reasons of compatibility with previous program versions.

### Editing Allevo plan comments

In the Allevo master, any number of columns can be used to enter planning comments (e.g., for explanations of cost elements). Shuttle allows you to conveniently view these comments as a list, edit them, or copy these comments to another year or version.

### Editing Allevo page comments

Allevo uses so-called "page comments" to save text comments of any length per object and layout.

Via the "Goto" button in the Shuttle menu, one can view a list of the entered comments: double-clicking on a comment opens a detailed view of the whole text.

This list can also be called in edit mode.

### Switching to other Allevo modules

Data in satellite tables are often the basis for further processing via additional Allevo modules such as FP or the COPA interface. You can jump directly to these modules via the "Goto" menu (the transfer of appropriate selection parameters is also carried out).

Here you can also jump to the display of page comments, which can be entered in the Allevo master per object and layout.

## 1.4 Authorization checks and satellite selection list

Shuttle is a tool for general editing of satellite data. An authorization for the corresponding transaction /ALLEVO/SHUTTLE is therefore usually only given to the system administrator.

Within the transaction, the user is only able to select those satellites for which they have access via an associated Allevo layout. In this case, relevant layouts are those to which the user has access via Allevo planning transactions: only the satellite tables that are shown as active are selectable in Shuttle.

| Note: | Access to satellites with personal data is only possible if the user could also access this data via the normal Allevo planning transaction. |
|---|---|
| | In individual cases, it may be useful to take additional safeguards to prevent the display of satellite data via general transactions such as SE16 (e.g., by assigning individual SAP authorization groups in SE54). |

In some cases, an authorization check on the object level can also be useful (e.g., with restrictions on cost centers). For this function, the constant AUTHORIZATION_SHUTTLE must also be active in the Allevo * -Layout.

The same checks are then performed as in the Allevo planning module (e.g., via authorization object K_CSKS_PLA). Refer to the Allevo SAP manual, chapter "Authorizations in SAP / Additional Authorization Checks".

## 1.5 Satellite locked by other users

Satellite tables can be integrated into the Allevo planning process in various ways. In order to prevent data from being overwritten, changes should also be made via Shuttle only if the data are not being edited simultaneously by other users. For this reason, Shuttle uses the same locking functions, that are already used in Allevo main module (planning).

For each open satellite table, a lock object for SAP transaction SM12 is created (table name is always /KERN/IPPSAT00, the actual edited satellite table is derived from the lock object). When starting the editing functions, Shuttle checks locks that have been generated by other Shuttle users, as well as calls made via Allevo planning. The comparison is independent of characteristics such as object number, year and version. If lock entries already exist, Shuttle simply generates a warning: the call itself is NOT blocked. The user has to decide if they want to continue working.

| Note: | The warning also appears in the opposite case, i.e., if Shuttle is started first and other users then try to access the same satellite tables via Allevo planning transactions. |
|---|---|
| | See also the description in the Allevo SAP manual and the F1 help for the constant MO_LOCK_OFF. |

## 1.6    Validity of objects in satellite tables

In the standard case, the Allevo Shuttle only transfers records to objects for which a valid master record has been created in the system (e.g., as a cost center). Invalid objects are passed over. The number of valid and transferred data records is displayed at the end of the data transfer with a popup window.

However, it may also be the case that satellite tables are filled for objects that deliberately have no master record in the corresponding system (e.g., if the satellite tables are stored in separate HR systems and are called by RFC). In order to be able to use Shuttle in this case as well, the check for validity can be switched off (flag "No master record check" on the respective selection screen).

The validity check applies to both the read and write functions of Shuttle. The check is automatically activated again the next time Shuttle is started.

For the object type PR, however, the master record check can NOT be switched off.

| Background: | For project data, SAP distinguishes between the internal ID and the external representation, whereby the external representation is used as a selection parameter. Before the selection on the database level, this entry must be converted to the internal representation, and this conversion routine requires a master record for the WBS element or project. |
|---|---|

## 1.7    Saving Excel templates in Shuttle

In most applications of Shuttle, an Excel file is used to edit the contents of Allevo satellite tables across all objects. For this purpose, suitable templates must be saved in the system:

- either as a general template with the ability to address any satellite,

- or as a specific template for each satellite (e.g., to set functions specifically for the selected satellite).

In the latter case, an Allevo master can also serve as a Shuttle template.

### 1.7.1    Creating a general Excel template

If the data of any satellite table is to be edit via Excel, a corresponding Excel template must be stored in the SAP system: it contains the necessary VBA code for the interface to the SAP system and is contained in the Allevo delivered package (file name "Shuttle_Blanko.xlsm").

For example, the function |Excel initial| allows you to automatically access this template when downloading satellite data.

As in the Allevo main program, access is made via a symbolic filename; in this case ZIPP_SAT_UPL. The template can be stored by two methods:

> (A) Allevo file management or

> (B) SAP Business Document Service (BDS).

The two methods can be used alternatively. If, however, templates are stored using both methods, Shuttle asks which file to use before each access.

### (A) Managing Excel templates with Allevo file management

Working with Allevo file management is explained in detail in the corresponding chapter of the Allevo SAP manual. The reference to the Excel template is made via the [File.Assistant] function, where the symbolic file name ZIPP_SAT_UPL must be entered.
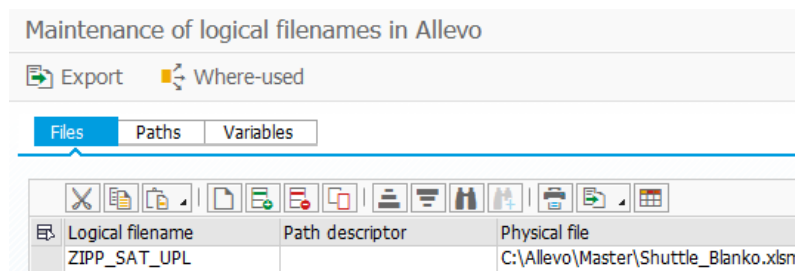


**Figure 1.3: Including Excel templates; Step 1**

The use of a constant is not necessary.

### (B) Managing Excel templates with BDS

Via the transaction /KERN/IPP_BDS (or alternatively OAOR), the Excel file is uploaded to BDS (see Figure 1.4). Again, the name space /KERN/ is used as an organization criterion.
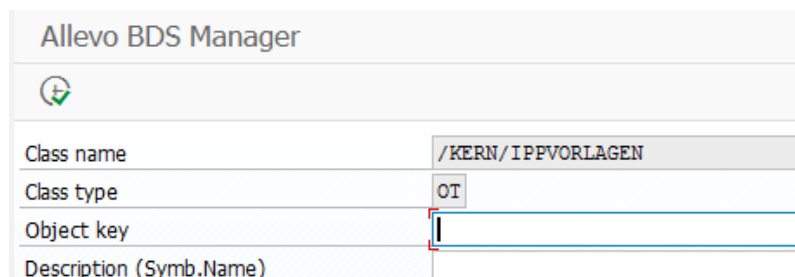


**Figure 1.4: Including Excel templates; Step 1**

For the template to be imported, you must select "Table template" as the document type. This is done with the usual file selection dialog (see Figure 1.5).
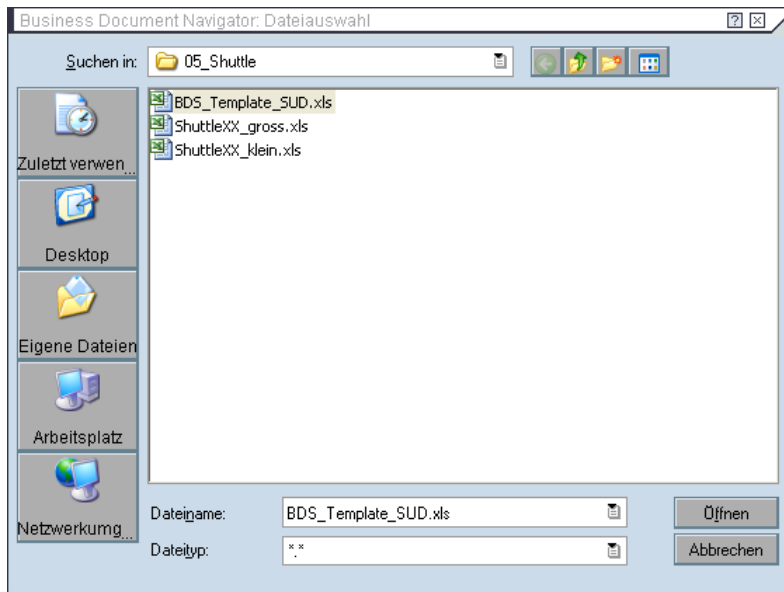
**Figure 1.5: Including Excel templates; Step 2**

After the file has been selected, an object ID has to be assigned, where the naming convention ZIPP_SAT_UPL applies (see Figure 1.6).
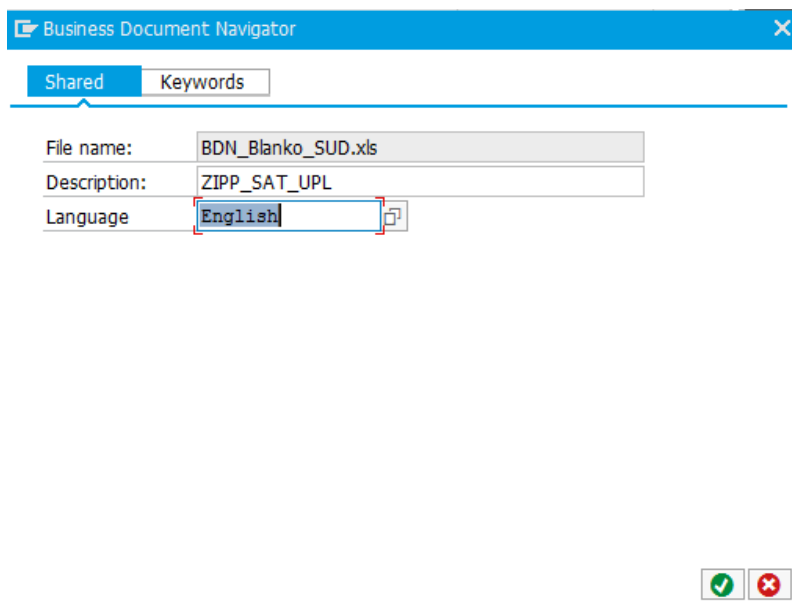


**Figure 1.6: Including Excel templates; Step 3**

| Note: | Optionally, the Allevo tool "BDS-Uploader" can be used for the upload (transaction /KERN/IPP_BDS_UPLOAD). See the description in the Allevo SAP Manual for details. |
|---|---|

### 1.7.2 Include Shuttle master specifically for each satellite

The shuttle master can be stored in the SAP System via both available options (Allevo Data Management or BDS). In either case, the symbolic name must match the following naming convention:

**ZIPP_SAT_UPL_xx** (with xx as the number of the Satellite)

The procedure for saving the template is explained in the previous section.

> **Note:** It is also possible to create several templates for a single satellite (for example, to obtain different column divisions for the "Data alignment" function). In this case, all templates must begin with the naming convention ZIPP_SAT_UPL_xx: e.g. ZIPP_SAT_UPL_01_A and ZIPP_SAT_UPL_01_B to store two templates for satellite table 01. In the corresponding popup, an abbreviation identifies the source: BDS or AFM.
>
> In a mixed Excel environment, XLS and XLSM can be used in parallel (because the file extension is taken from the source file).

In the simplest case, you can use the program function |Excel initial (template)| under the "Generate" tab to create a satellite-specific Excel template, adjust it according to the requirements, and then save it under the symbolic name in OAOR or Allevo file management.

The basic structure of a Shuttle template is shown in Figure 1.7.



**Figure 1.7: Structure of Allevo Shuttle (range SAT01RW, additionally SAT01RWS is necessary)**

### 1.7.3    Generate templates

Satellite tables consist of 7 fixed index fields and other fields, which are defined by appends in the satellite (customer-specific, or dependent on the application).

In certain cases, it may be useful to automatically display the structure of a satellite table in Excel. This file can later be used for the upload/download of data (i.e. for the steps described in the following).

> **Note:** The list of satellite fields in Excel can be helpful if, for example, only the field definitions of a satellite table need to be checked, but there is no access to SAP transaction SE11.

### 1.8    Displaying the structure of a satellite table (same as above)

Satellite tables consist of 7 fixed index fields and other fields, which are defined by appends in the satellite (customer-specific, or dependent on the application).

In certain cases, it may be useful to automatically display the structure of a satellite table in Excel. This file can later be used for the upload/download of data (i.e. for the steps described in the following).

| | |
|---|---|
| **Note:** | The list of satellite fields in Excel can be helpful if, for example, only the field definitions of a satellite table need to be checked, but there is no access to SAP transaction SE11. |

## 1.9 Conversion for field contents in satellite append

If a field in the satellite append has been created with reference to a data element with a conversion routine, Shuttle takes this conversion into account when uploading and downloading satellite data. This is a different compared to working in the Allevo main planning (there elements are always saved without conversion), but can be useful in certain cases (e.g., to upload data in a reproducible state which should also be displayed in Allevo planning).

If no conversion should be carried out, a data type without a conversion routine or built-in data type must be used in the satellite append.

See also the additional note on the WBS number in the next section.

## 1.10 Specifics when working with WBS elements/projects

If projects or WBS elements are used as a planning object in the satellite table (object type PR), then the corresponding internal number is stored in the index field COOBJECT.

In order to keep the usual external representation in the target file, the flag "Convert WBS number" must be activated. Then, for example, the internal number 00000624 is displayed as the WBS element "T-20301" in Excel. The user therefore sees the usual display as in the project system. If the conversion was activated during the download and later an upload is to take place, the flag must also be activated there (otherwise it is not possible to save the data; in the worst case, invalid data records could occur in the satellite table).

**Figure 1.8: Download a satellite table with project data**

The flag is only visible on the selection screen with the object type PR (Figure 1.8).

Important: The flag is ONLY applied to the COOBJECT index field. If other fields in the append refer to a data element with a conversion routine, then Shuttle is aware of this conversion (for example, internal/external conversion for WBS elements via domain PS_POSID). See also the note in the last section.

As an alternative to selection using WBS elements or a group, Shuttle can also be started via a project number. Internally, Shuttle then works with the data for the representative WBS element as when calling the Allevo planning.

## 2 Downloading satellite data

### 2.1 Functional overview

Satellite data can be downloaded either as a text or an Excel file:

- If you need a pure backup copy of a satellite, a text backup is the fastest and safest way to do this.

- When downloading as an Excel file, however, the additional available processing functions are the focus

When downloading as an Excel file, there are two possible variations:

- The function |Excel initial| is particularly suitable for comprehensive editing of the table content, as the familiar column and row view is available. Here, a template is used which is the same for all satellites (with automatic column division according to the definitions in the satellite). This variation requires a generally valid Excel template, which must be stored in the system under the symbolic name ZIPP_SAT_UPL (see section below).

- The function |Shuttle Master| offers an individual template per satellite. Alternatively, an Allevo master can also be used for satellite management across all objects.

In addition to the up/download functions, editing is also possible via inplace-mode: the contents of a satellite table can thus be changed directly in the dialog without the "detour" via locally saved files.

### 2.2 Download via general Excel template ("Excel initial")

Downloading satellite data into an Excel file is particularly useful if the table contents are to be edited extensively, since the familiar column and row view is available here, whereby the columns on the Excel sheet are automatically created corresponding to the structure of the satellite table.

Figure 2.1 shows an example:

| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | |
| | MANDT | KOKRS | SETCLASS | COOBJECT | PJAHR | VERSION | ZEILE | KATEGORIE | BUKRS | ANLN1 | ANLN2 | DATAB | DATBI | TXT50 | CAUFN | PROZS | NDJ |
| | CLNT | CHAR | CHAR | CHAR | NUMC | CHAR | NUMC | CHAR | CHAR | CHAR | CHAR | DATS | DATS | CHAR | CHAR | DEC | DEC |
| | 3 | 4 | 4 | 24 | 4 | 3 | 10 | 12 | 4 | 12 | 4 | 8 | 8 | 50 | 12 | 5 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | |
| | 100 | 1000 | 0101 | 0000001000 | 2010 | 000 | 000000 | | | | | | | | | | | |
| | 100 | 1000 | 0101 | 0000001000 | 2010 | 000 | 000000 | | | | | | | | | 12,3 | |
| | 100 | 1000 | 0101 | 0000001000 | 2010 | 000 | 000000 | | | | | | | | | 10,0 | |
| | 100 | 1000 | 0101 | 0000001000 | 2010 | 000 | 000000 | | | | | | | | | | |
| | 100 | 1000 | 0101 | 0000001000 | 2010 | 000 | 000000 | | | | | | | | | | |

**Figure 2.1: Example of a downloaded Excel file**

The Excel table contains several headers with the details of individual fields in the satellite table. They correspond to the definitions in the SAP Dictionary (with field name, type, and length).

| Note: | It is also possible to create an Excel file that contains only the basic entries (headers) for a particular satellite, but no data. This function is available on the first Shuttle tab, "Generate". After selecting the satellite and clicking the button |Excel initial (template)|, a blank sheet with the correct column layout is stored locally. |
|---|---|

The data in the Excel table can be edited offline and then re-uploaded (see section 4).

**Downloading via general Excel templates**

Downloading can only be done if a corresponding Excel template is saved in the SAP system (see notes in section 1.7.1).

The download function is called in Shuttle via the tab of the same name.
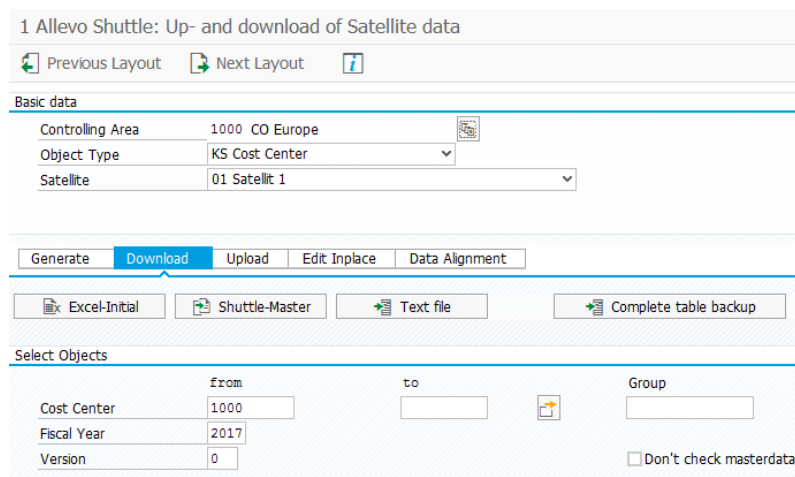


**Figure 2.2: Backup as an Excel file**

After clicking on the |Excel initial| button, a dialog appears in which the directory as well as the name of the Excel file are entered. The default name of the Excel file is:

**IPP_<Satellitename>_<Objecttype>_<Year>_<Version>_<Calendarweek>.xls**

(Example: IPP_SAT01_KS_2013_000_42.xls)

As of Allevo version 3.0, the file extension of the Excel file is taken directly from the saved template (i.e., XLS or XLSM). The file extension of the template must also always be used when saving.

| Note: | An existing Excel file with the same name will be overwritten (as opposed to when downloading as a text file, because new data are attached there). |
|---|---|

An example of the generated Excel file is shown above in Figure 2.1.

### 2.3    Download Excel files via Shuttle master

In contrast to downloading via "Excel initial" as described above, a separate template for each satellite is needed in this case. This template must already contain the required and desired columns (in accordance with the satellite append).

These individual templates can be based on the same Excel file, which is intended for the first procedure (downloading via "Excel initial") and as it is also included in the installation package. The template then has to be expanded to meet the needs of the basic entries or headers for the intended satellite. For this purpose, there is the "Generate" tab, which, after selecting the satellite and clicking the |Excel initial (template)| button, locally saves an empty sheet with the correct column layout.

Alternatively, the function of the Shuttle master also allows the Allevo master to be used for satellite management. This has the following advantages compared to automatically generated Excel files:

■    The formulas of the respective Allevo satellite can also be transferred. This is useful if planned investment totals are changed centrally and the corresponding annual depreciation has to be recalculated.

■    In addition, macros stored in the Allevo master can also be executed. The activation is made as usual via the Customizing sheet in the Allevo master (see section 3.5).

| Note: | If the Allevo master is used as a template file, the key columns 1 to 7 must also be present within the ranges SATxxHR and SATxxRW. |
|---|---|
| | Additionally, the range SATxxRWS must be available for data exchange with the satellite Shuttle. This range will normally be identical to the range SATxxRW. |

**Downloading via Shuttle master**

Downloading can only be done if an appropriate Excel template (the "Shuttle master") has been previously saved in the SAP system. The setup steps are described in section 1.7.2 above.

The download function is called in Shuttle via the tab of the same name. The selection parameters are the same as already described for downloading as a text or Excel file.
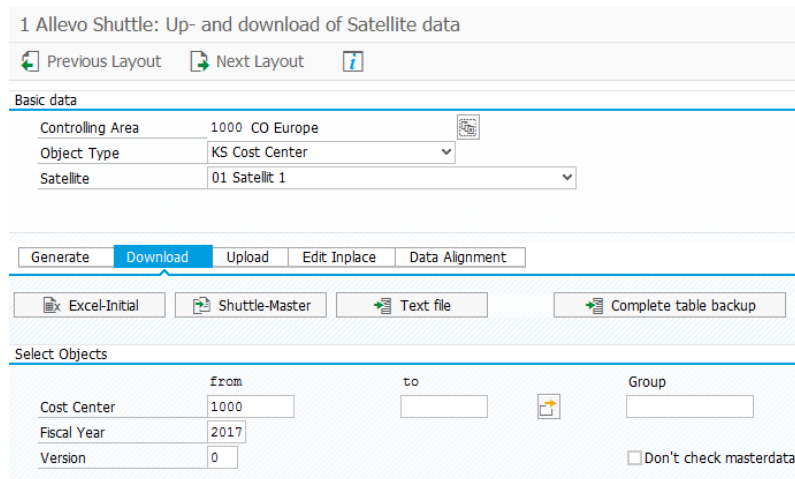
**Figure 2.3: Downloading as Allevo Shuttle**

If only one Shuttle template is saved in the SAP system, after starting up by clicking the |Shuttle Master| button, the normal dialog appears, in which the directory and the name for the target file are defined. The default name of the Excel file is:

**IPP_<Satellitename>_<Objecttype>_<Year>_<Version>_<Calendarweek>.xls**

Example: IPP_SAT03_KS_2013_000_47.xls

If several Shuttle masters are saved under the name ZIPP_SAT_UPL_xx, a popup dialog appears where you can select the desired template.
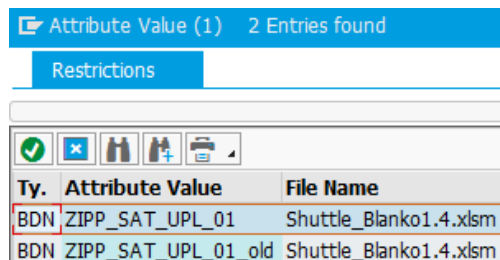


**Figure 2.4: Backup as Allevo Shuttle**

A suitable template can be selected by double-clicking here (e.g. for use in data alignment, see section 4.3).

## 2.4 Download using text files

The created text file contains all relevant data records of the satellite according to the append structure. There is the possibility of creating a complete backup over all versions, years and objects (e.g., cost centers) as well as a backup limited to objects or object groups, versions and years.

| Note: | As of version 2.9, a backup function for satellites is already included in the Allevo standard delivery. The data are not exported to a local file but are rather copied from one satellite table to |
| --- | --- |

another, which must always have the same append structure (for further details, see the chapter "Tools" in the Allevo SAP Manual).

The safeguards offered by Shuttle described here can be used as a supplement. In addition, they offer the possibility to change data offline and then re-upload them.
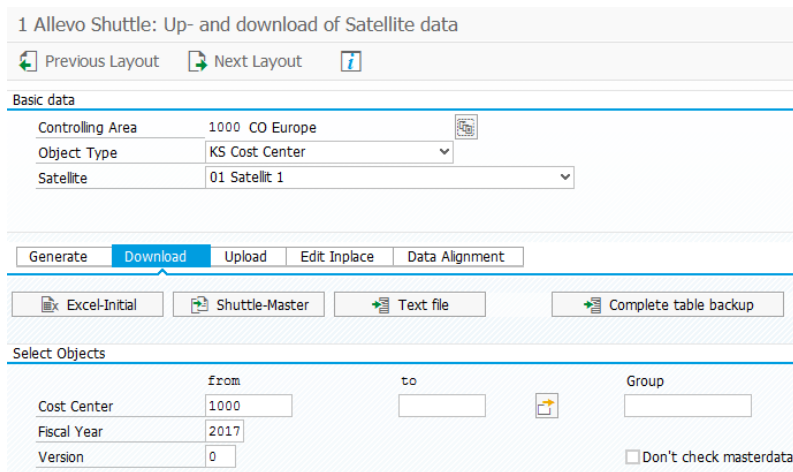
The following download variations are available:

- Complete download (|Complete table backup|) for the safeguard of all data in a controlling area

- Restricted download (with a selection of characteristics)

The contents of the text files can be changed and re-imported as needed (see section below).

### 2.4.1   Complete download

After calling the program, you must define the controlling area, the object type, and the table name (see Figure 2.5).



**Figure 2.5: Complete backup as a text file**

After clicking the |Backup complete table| button, all data for the selected controlling area are selected and copied to a text file. This is followed by a query in which the directory and the name of the text file are defined. The default name for the text file is:

**IPP_<Satellite-ID>_<Objecttype>_<Calenderweek>.LOG**

(Example: IPP_SAT05_KS_2011_000_42.LOG)

The created text file contains all the relevant data records of the satellite according to the append structure and a header with the names of the columns (see Figure 2.6).

**Figure 2.6: Example for backup as a text file**

At the end of the header row, the date and time of the download are displayed.

### 2.4.2    Restricted download

A partial text-based download functions fundamentally in the same was as a complete backup. The difference is that here, additional object(s), fiscal year and version are provided as selection parameters (see "Object selection" in Figure 2.5). The download is initiated with the button |Text file|.

For the file names, the naming convention is expanded to include the version and year. The following format is used:

**IPP_<Satellite-ID>_<Objecttype>_<Year>_<Version>_<Calenderweek>.LOG**

(Example: IPP_SAT05_KS_2010_000_42.LOG)

The structure of the text file is identical to that of the complete download.

| Note: | For both complete and partial downloading of text files, "updating" is possible. If the function is executed several times with the same target file, Allevo asks if the rows are to be expanded, and if necessary, a new range of data is added to the existing file.<br><br>This new section is marked by a separate header, which also contains the date and time of the last download. The different versions are thus easily distinguished from each other (the last download version is at the end of the file). |
|---|---|

# 3 Editing satellite data in the dialog

## 3.1 Functional overview

In principle, backed up files, whether they are text or Excel files, can be freely changed. The special features of the various editing options are described below.
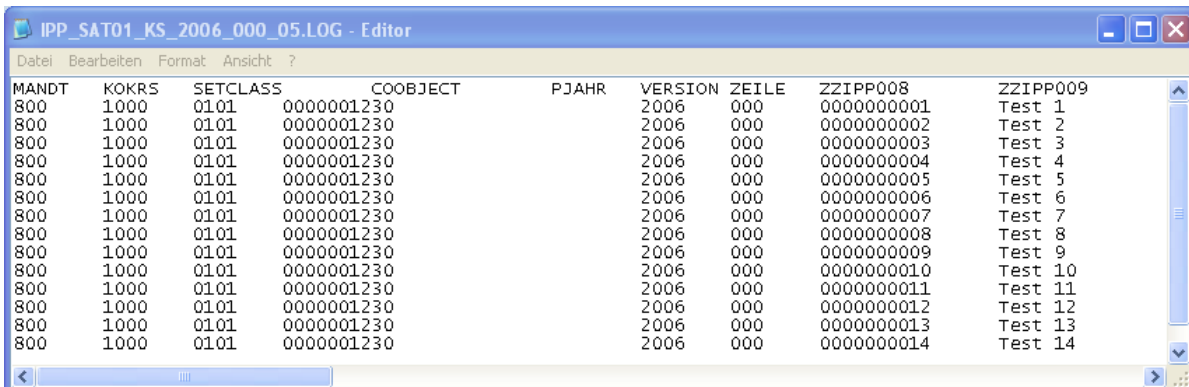
| | |
|---|---|
| **Note:** | Allevo satellite tables have 7 fields in the main index, which by default cannot be changed.<br><br>One of the key fields is the setclass, e.g., "0101" when entering a cost center. Here, you can also optionally enter the abbreviation of the object type in Excel (i.e. KS, OR, PC, and PR). When saving the data in the satellite table, Shuttle automatically converts the entry to the corresponding set class. |

## 3.2 Editing text files

When editing text files, regardless of whether it is a complete or partial backup, the following points should be taken into consideration:

- The header only has an informative value. These must be removed for uploading. Changes to these headers have no effect on the actual records.

- Instead of columns, tab stops are used in the text backup (Figure 3.1). If rows are inserted or changed here, these tab stops must still be present at the end, because the Shuttle program cannot otherwise recognize when a new column starts.

- Decimal values must always be made with a period "." as the decimal separator (no others can be used!).



**Figure 3.1: Editing a text file**

When exporting, a file with the file extension ".LOG" is created. For the import, the file with the (changed) data should have the file extension ".TXT" (this is the default recommendation for uploading).

Once uploaded, Allevo returns only the number of rows with modified data; rows with the same content as in the satellite table are not mentioned.

## 3.3    Editing data when calling via "Excel initial"

Excel files follow the same principle as the satellites in the Allevo master by working with two name ranges that tell the interface program which rows and columns are relevant. In our example, satellite 1, the ranges are SAT01HR for "Header Row" and SAT01RW for "Read / Write" (see Figure 3.2).



Figure 3.2: Editing Excel files

Special notes:

- Shuttle also creates a so-called "structured table" with the name "KernTable". As a result, these ranges expand automatically as new lines are added (function is available from version 3.3. on). Shuttle ignores values outside the range.

- When adding new records, care must be taken that these differ from the remaining records with respect to the first seven columns (selection criteria) - for example, by changing the row number in index column 7 (column H in Figure 3.2). However, you can also use the "generate row index" upload option to enable an automatic re-numbering.

## 3.4    Editing data when calling via the "Shuttle master"

In addition to the functions of basic Excel files described above, Shuttle master gives you the option of integrating calculation formulas. In this way, satellite tables can be easily created and edited.

In Figure 3.3, for example, investment prices for cost centers 1000 and 1230 are calculated centrally. The results of the calculation are stored simultaneously for all changed objects and are then visible to Allevo users during the planning process.

**Figure 3.3: Editing Excel Shuttle**

| Note: | If tables with WBS elements are changed, the internal representation of the element must be used for new entries. If this is not known, the table PRPS should first be called via transaction SE16 to find the appropriate internal number.<br><br>If the WBS number is entered as a planning object (field COOBJECT in the satellite table), you can optionally switch to the formatted, external display during upload and download (activated via the "WBS number conversion" button, available from Allevo 2.9 on). |
|---|---|
| | As already mentioned for the download Excel Shuttle function, the range name SATxxRWS must also be defined for the Shuttle write/read range. This range addresses the entire read/write range of the satellite (i.e., by default it is identical to SATxxRW used with the Allevo Master). |

## 3.5 Executing macros in the Shuttle master

If an Allevo master is also used as a Shuttle master, then macros can be saved there specifically for execution in Shuttle.

Here are the corresponding events in Customizing of the Allevo master:

*Use when downloading:*

- SHUTTLE_OPEN – if the template is opened with SAP

- SHUTTLE_BEFR – before reading the satellite data

- SHUTTLE_AFTR – after reading the satellite data

- SHUTTLE_BEFCL – before the template is saved to the drive

*Use when uploading:*

- SHUTTLE_OPEN - if the template is opened with SAP

- SHUTTLE_BEFW - before writing the satellite data

- SHUTTLE_AFTW - after writing the satellite data

| Note: | The execution of macros is only available as of Allevo version 3.0. |
|---|---|

## 3.6 Edit satellite data in inplace mode

In addition to uploading and downloading files, a mode for direct data editing via Excel is also available (via the "Edit Inplace" tab, see Figure 3.4). In this case, the data is no longer stored in a local file but opened directly in Excel for editing.
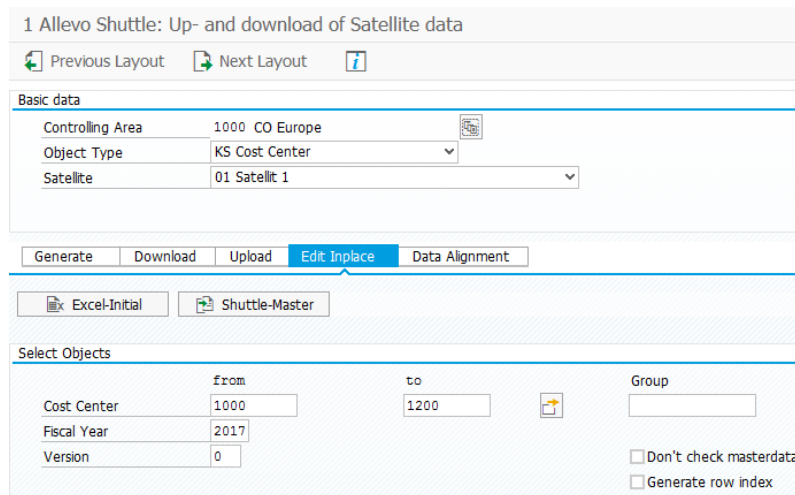


**Figure 3.4: Selecting Excel inplace editing**

The functions |Excel-Initial| and |Shuttle-Master| are available here as they are with downloading (see section Download via general Excel template ("Excel initial")). If an Allevo master is also used as a Shuttle master at the same time, the saved macros and formulas can also be used on the Excel page.

After entering the relevant selection data and starting via either of the buttons, the usual inplace display appears for changing of the data (see Figure 3.5: Excel inplace editing).
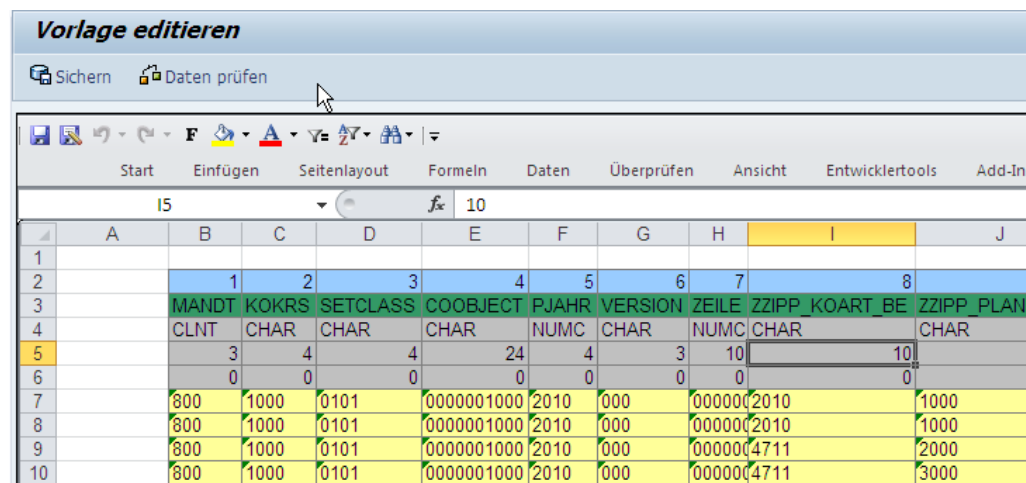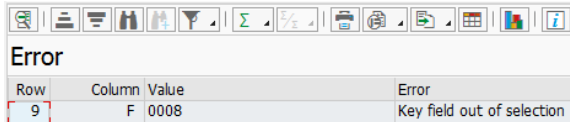


**Figure 3.5: Excel inplace editing**

Three data checks are implemented for the data entered in Excel (call with the |Check data| button):

- Data type and length (e.g. text in a numeric field, number of decimal places)

- Key in the selected range (e.g. controlling area not in the selected range)

- Duplicates (more than one row with the identical index)

If the data check is not successful, an error log appears with the relevant row and column.



**Figure 3.6: Message from the function "Check data"**

The errors can then be directly corrected in the Excel table. With the |Save| button, the data are finally transferred to Excel.

| Note: | For large amounts of data, an additional macro (Antloop.GetShuttleRowsCount) should be present in the Excel master in order to increase the performance when data is transferred. |
|---|---|

# 4 Uploading data to the satellites

## 4.1 Functional overview

Uploading data functions in principal in the same way as downloading (see chapter 1.7.1). Two options are available:

- The functions on the tab "upload from" overwrite the data in the target table (depending on the chosen selection).

- The functions on the tab "data alignment" only update data that are actually present in the Excel file.

As always, the entry is made via the selection of the controlling area, the object type and the satellite table.

| **Note:** | When uploading, Shuttle checks whether the selected satellite table has been set up for use in FP. If at least one scheme is found and changed data are to be saved, Shuttle also updates the FT cancellation table (this function is also executed in layout 1 in the case of inplace processing). |
|---|---|

## 4.2 Satellite upload

The appropriate selection criteria must also be entered when uploading. Shuttle needs this information to delete any records in the satellite, where necessary. If the uploaded file also contains data outside the selection range, these records are ignored.

Depending on the type of the locally stored file, the upload is performed with either the |Excel file| or |Text file| button (See Figure 4.1).
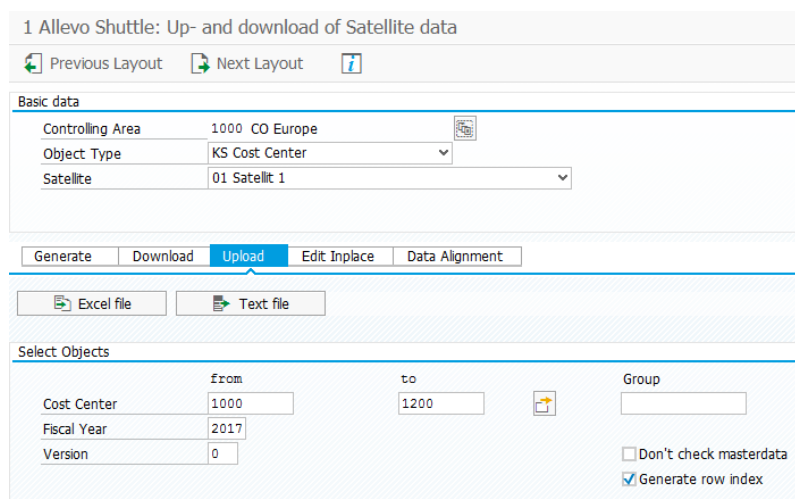


**Figure 4.1: Uploading text and Excel files**

After selecting the file, the program first deletes the existing entries with the same data record key and then transfers the relevant content of the file to the satellite table.

| Note: | Usually you would want to import a backup or changed records using the upload function: records may have been deleted in the dataset of the respective file. In this case, the corresponding rows in the satellite table are also deleted (as long as they are within the chosen selection range). |
|---|---|
| | If data records are added instead, care must be taken to ensure that the index fields are unique. With the upload option "Generate row index", an automatic re-indexing in index column 7 can be forced. |

When uploading, only the data which have a valid master record in the system are imported (see section 2.4)

Care also needs to be taken with the object type PR in relation to how the text or Excel file is to be processed with the project or WBS number in the COOBJECT field. If a conversion to the external, formatted display was carried out during the download, the flag "Convert WBS number" must also be active during upload. Otherwise, invalid records may be created in the satellite table (see also section 1.10).

### 4.2.1 Uploading text files

As described in section 3.2, the headers in the text files have a purely informative purpose and serve mainly to distinguish between the respective backup records. For uploading, it is therefore necessary to delete both the headers and all unnecessary records from the text file.

| Note: | If header rows are not removed, a "conversion error in file transfer (upload)" error message is displayed. |
|---|---|
| | If the row structure is changed, it is recommended to activate the "Generate row index" selection field before uploading (see Figure 4.1). All rows are then assigned a new number and ambiguous row numbers are excluded. In this way, even several backup records can be completely re-imported into the table. |

### 4.2.2 Uploading Excel files

When importing Excel files, no preliminary work is required, as opposed to with text files. However, in this case it is important to note that if there are changes to the row structure, the selection field "Generate row index" should be activated during upload.

After entering the selection data and starting with the |Excel file| button, the usual file selection dialog appears and then the Excel inplace-screen appears (this process includes checking the data, see section 3.5).

| Note: | An Excel upload will return an error message and not be executed if the file to be uploaded is open. |
|---|---|
| | The error message does not occur with text files. However, we suggest that you also save and close text files before uploading them. |

By using the |Save| button, the data are transferred to the satellite table according to the selection criteria.

| Note: | When uploading data from a satellite table, all relevant columns must be marked with the corresponding column number in the header of the satellite range. If a column is not marked, this column will be deleted for all relevant data records in the satellite table! |
| --- | --- |
| | If you want to keep data in the satellite table instead, you should use the "Data alignment" function (see section 4.3). |

### 4.2.3  Special case: Recognizing date format when performing an Excel Upload

Allevo tries to automatically recognize the format of cells with date records. For technical reasons, this is not always possible. Therefore, there is a risk that entries for day and month will be switched, for example, which can result in an incorrect date record in the satellite table. In order to avoid this problem, the date format used on the Excel page can be explicitly entered (see menu "Shuttle >> Set Date Format").
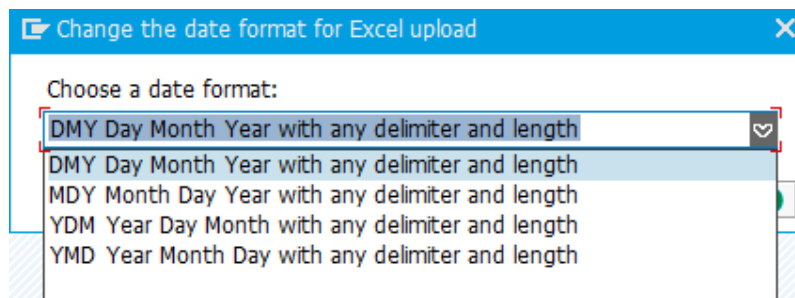


**Figure 4.2: Date format when uploading with Excel**

The options in the menu define the order of day, month, and year in the date filed. Separators are automatically recognized and ignored.

### 4.3  Data alignment (selectively update by column)

Data alignment is a special form of the upload function and combines two basic functions:

- All rows of the Excel file are read and transferred to the satellite table. Therefore, data alignment does not require any additional selection parameters other than the controlling area and object type.

- Only those columns/fields of the satellite table that are explicitly entered in the Excel file are updated. The values in all other fields of the satellite table are retained.

**Figure 4.3: Data alignment with Excel files**

Data alignment is therefore suitable for cases where the data of a satellite table are processed by different departments (that is, separated by columns). When using data alignment, the respective Excel tables can be read one after the other, without one department overwriting the data of another department.

| Note: | In this context, it can useful to save several templates for the current satellite in BDS (analogous to satellite downloading via \|Shuttle Master\|). In this case a popup then appears to select the desired template. Here, data with different column structures (e.g., with respect to departmental differences) can be saved. |
|---|---|

Data alignment does not allow any further selection parameters on the corresponding tab (see Figure 4.3). It should be noted, however, that for the PR object type, the same setting used when downloading should be selected for the function "WBS number conversion". Otherwise, all data records in the Excel list are created anew in the satellite table (see also section 1.10).

After starting via the \|Load Excel file\| button, the usual file selection dialog appears and then the Excel inplace view is shown (as in Figure 3.5).

Using the \|Save\| function, the data are transferred to the satellite table again.

| Note: | When saving, the data are read out via the column number in the header of the Excel table and then transferred to the satellite table. If the column number is missing or an entire column does not exist on the Excel side, the data in the satellite table are not overwritten (the data are retained there). |
|---|---|
| | Additionally, the rows removed from the original (download) Excel table remain in the satellite table. |

As a rule, data alignment is used to edit the existing data of a satellite table. Adding new entries can be seen as an exception. For this reason, the function \|Check data\| (See section 3.5) explicitly checks whether new records were entered in the Excel table (see Figure 4.4).
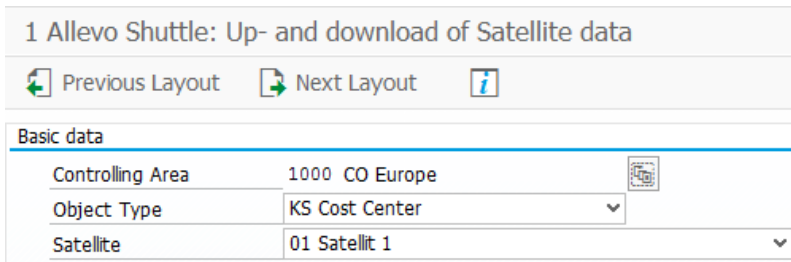
Datacheck

## New data sets

| COAr | SCla | HR/CO planning object | Year | Vsn | Line index | |
|------|------|----------------------|------|-----|-----------|---|
| 1000 | 0101 | 0000000628 | 2011 | 0 | 5 | T-20301.1.2 |

**Figure 4.4: Data alignment with Excel files**

# 5 Additional Shuttle functions (Layout 1 – 5)

## 5.1 Functional overview

In addition to the standard functions available for editing satellites described in the sections above, the transaction /ALLEVO/SHUTTLE offers additional table editing functions, which can be called via additional screen layouts (see the "Previous layout" and "Next layout" buttons in Figure 5.1).



**Figure 5.1: Additional Shuttle layouts**

The following functions are available:

1. Upload/download of Shuttle satellites (as already described)

2. Copying satellite data between objects

3. Edit satellite data

4. Copy satellite data to other years/versions

5. Edit tables (authorization required)

The first four functions are based on a combination of controlling area, object type and satellite table (these parameters always make up the initial selection).

## 5.2 Copying satellite data between objects

In the layout "2 Allevo - Copy satellite data between objects", Shuttle allows you to copy the data records of a single object into another or several other objects.

For example, it is possible to fill the satellite data of a cost center with the satellite data of another cost center. This can be executed for the target objects across the entire object, i.e., cost centers, orders, profit centers, or WBS elements can be selected. Object groups and projects can also be entered as target objects.

**Figure 5.2: Copying satellites between objects**

The copying process can be started with the |Execute| button. For the purposes of the data check, the target data can be listed individually after the copying process. To do this, activate the flag "Display the target data after copying".

| Note: | All previous data is deleted from the target objects. |
|---|---|

## 5.3    Edit satellite data without calling Excel

When working with large data sets, the viewing or editing of satellite data via Excel can use a lot of computing power. For this reason, several processing functions are available in the layout "3 Allevo - Edit satellite data", which can be called independently from Excel.

| Note: | The functions can also be applied to planning comments that are recorded via Allevo (Table/KERN/IPPCOMMENT). |
|---|---|

The layout offers the following editing functions:

- Display origin data

- Edit data

- Delete origin data
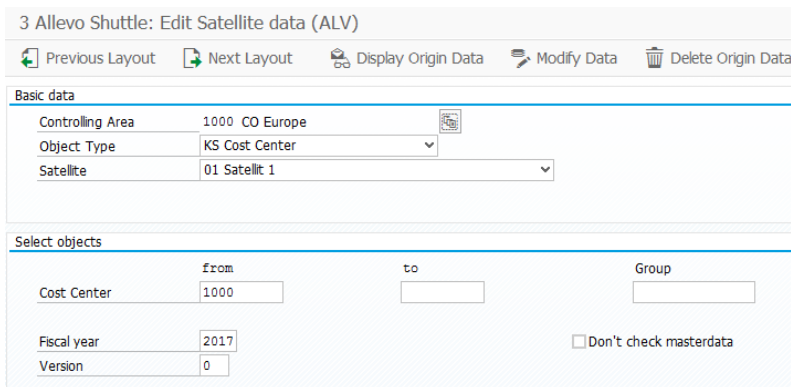
**Figure 5.3: Edit satellite data**

## Display origin data

This function displays data records corresponding to the selection.



**Figure 5.4: Display origin data**

## Edit data

With this function, individual data records can be edited and then saved using the key combination Ctrl + S. In doing so, the original data is completely overwritten (rows are also deleted if necessary).

| Note: | In previous Shuttle versions, a distinction was made between the "Edit data" and "Replace data" functions, whereby data was only overwritten with the latter function. |
|---|---|
| | In the current version of Shuttle, the original data is always replaced, so that the display on the monitor always corresponds to the contents of the database (in this case, the program deletes the table in the entire selection range and saves all records as they are displayed). |

The entered values can be checked by means of the |Check input| icon in the ALV toolbar before saving the data. The stored data types of the respective columns are compared to the entered values.

This check is also performed automatically before saving to prevent data with incorrect formats from being transferred to the satellite table.

| Note: | The check is a standard SAP function of the ALV display. It also determines whether the input of lowercase characters is allowed explicitly for a character field. If not, newly entered or modified text is converted to uppercase letters. If this is not wanted, the data must be changed via the Excel interface. |
|---|---|

Fields in the main index of the satellite table (or comment table) cannot be changed. Creating new lines can be achieved via the ALV standard function including entries for index fields (if necessary, copy and paste existing lines).

### Delete origin data

This function deletes the entire contents of the satellite table in the specified selection range. Before this is executed, a question box appears showing the number of data records to be deleted.
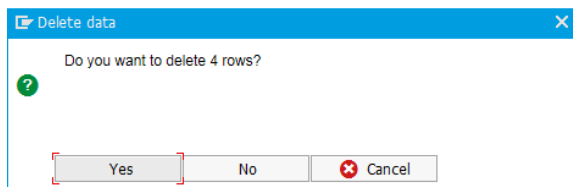


**Figure 5.5: Question box that appears before records are deleted**

## 5.4 Copy satellite data in other planning years/versions

In the layout "4 Allevo - Copy satellite data in year/version", Shuttle makes it possible to copy data from one or more objects to another planning year and/or another planning version. For example, it is possible to fill the satellite of a cost center for a new forecast version.

| Note: | The functions can also be applied to planning comments that are recorded via Allevo (table /KERN/IPPCOMMENT). |
|---|---|

**Figure 5.6: Copy satellite data in a different planning version**

By clicking the button |Display origin data| or |Show target data| it is possible to display the contents of the source as well as the target objects before or after the copying process (recommended before starting the copying process).

The |Delete origin data| or |Delete target data| button can be used to delete the relevant data (after confirmation through a question box).

The copying process can be started by clicking the |Copy data| button. If the flag "Display target data after copying" is activated, the copied lines are listed after the copying process (as with the "Display target data" function).

## 5.5 Edit any Allevo table

Via the layout "5 Allevo – Edit table" Shuttle uses the Allevo transaction /KERN/IPPTAB (see the Allevo manual). With this transaction the contents of any table within the /KERN/ and /KERNC/ name range can be viewed or edited.

This transition is only available due to compatibility with previous Shuttle versions: it is only possible if the user has the corresponding authorization and is not available when Shuttle is called via the button "Satellite maintenance" in Allevo planning