

SYNCHRO 2019.1 Release Notes

June 2019

New Features & Improvements

General

- SYNCHRO desktop applications (Pro, Open Viewer, Scheduler) are now using Bentley's **CONNECT Licencing** and **Identity Management System (IMS)**; each SYNCHRO installer includes CONNECT Client and Bentley's Licensing Tools:
 - Removed product activation
 - Enhanced security around licences and subscriptions with user validation (IMS)
 - License notifications and future software updates
- Separated **installer** and new product ID for **SYNCHRO Scheduler**. Users can now install Scheduler and Pro concurrently on the same machine
- **Asta Powerproject Plug-in** is now permanently incorporated into SYNCHRO Pro
- Implemented **new icons** for better scalability on higher resolution screens (e.g. 4K)
- Various non-critical bug fixes, performance improvements and general optimisation of the source code for improved usability and user experience, efficient data handling and processing

New functionality

- Added **Resource Status Categories**. This will allow users to maintain multiple Resource Status histories (a resource may have a different Status in each assigned Category).
- Added ability to show Task / Resource / 3D Object tables as **flat lists (no hierarchy tree)** which can be **grouped / sorted by any parameter**
- Added **new Colour Mode '3D Table Column'**. This will allow users to create heatmap-like visualisation of 3D data based on the conditional formatting applied in the 3D Objects table (any column)
- Added **Neutral** Appearance Profile. This will allow users to:
 - stop simulation of selected 3D Resources without necessity to use 'Ignore Timeline' mode
 - prevent 'in-between-tasks' simulation / re-simulation of 3D Resources assigned to multiple tasks (consecutive or separated in time)
 - preserve 'End / Start Appearance' of 3D Resources assigned to multiple tasks
- Added 'Resource Groups' table with customisable columns
- Added 'Resource Group Properties' window with **new Resource Groups properties**
 - ID, Description, Email, URL
 - Activity Type which gives the ability to use Resource Group 'Activity Type' as a default Appearance Profile when creating Task from Resource Group or assigning Resource Group to an existing Task (bypassing 'Fast Options' settings)

- Work Package Type and Work Package Status
- Discipline (linked with 'Resource Group Code Value')
- Contractor (linked with Company) and Personnel (linked with 'Human Resource')
- Construction Area (linked with 'Location Resource')
- Added Resource Group 'Notes'
- Added Resource Group 'Documents'
- **Editable assignment parameters in Resource and Task Usage Spreadsheet**
- Added support for **GLTF format** (import / synchronisation)
- Implemented **Section Box**
- Added '**Time range**' mode in Dynamic Clash Detection
- Added 'on-demand' **computation between Resource Status and Task % Completion**:
 - 'Rules of credit' (to compute from predefined Resource Statuses)
 - 'Recalculate Task Progress' function
 - Store multiple 'Rules of credit'
 - 'Analyse' option (to display results before committing)
- Allow user to **define the coordinates of the rotation centre** (pivot point)
- **Expanded 'Events' channel** in Animation Editor to include all 3D View Properties (e.g. 3D Filters, Cutting Planes, Visibility, Effects, Rendering Mode, 3D Notations, etc.)
- Added structured **Cost Codes** (aka Cost Accounts) for Resource Assignment Cost, Task Direct, Actual and Risk Costs. Compatibility with Primavera P6
- Added **thumbnail file preview** for *.SP files in Windows Explorer > 'Preview pane' and Windows Explorer >View> Icons/Tiles/Content
- Added **option for Schedule Health Check** to ignore Hammocks / Summary Tasks

Automatching

- Improved processing of Automatching Rules (e.g. wildcards / separators, etc.)
- Minor bug fixes

3D Paths

- Editable 'Time' property in the 3D Path Properties (Keyframe list)
- Process 3D Path Alignment on import from Excel

3D

- 3D Filter by User Field Values: added option to exclude Resources where parent UFV matches
- Resource Group Codes added to 3D Filter criteria list
- Added 3D View Properties (states) to Viewpoints properties
- 3D Notations improvements
 - Improved 3D Notation Properties
 - Added ability to resize font for 3D notations in rendered animation
 - Added Text Alignment options for 3D Notation (Left, Centre, Right)
- 3D Legend improvements
 - Added new properties

- Edit Legend for Activity/Resource Code, Resource/Task Supplier
- Fixed Legend overlap with 3D navigation cube
- Store Legend title for all Colour Modes
- Improved / added 3D window caption options
- Improved behaviour of Viewpoints in Markup mode

Resources / Resource Groups / Statuses / Permissions

- Added 'Hours' to the list of Resource measurement units (Resource Unit Type)
- Consolidate Resource Status on import from Excel should not delete Status History

Permissions

- Improved User / Role permissions handling / processing:
 - Fixed user permissions prevent 'rescheduling'
 - Fixed user with no permission to edit Task Filter can switch task status filter mode
 - Fixed user with no permission to write Resource Groups can check Resource types

Iray

- Added Physical Material Editor for high-end rendering (Iray)
- Disabled 3D View Properties>Filters in Iray mode
- Improved Iray lighting
- Improved triggering Iray rendering
- Iray rendering can be limited to a specific GPU; CPU can be disabled
- Caching of Iray export results for faster export
- Custom render farm available upon request
- Ability to send sp file (Iray cache) to the custom render farm

Scripting & formulas

- Added internal Documents handling in Script Editor. Now users can save all their Scripts in SP file
- Added syntax colouring in Script/CUF Formulas Editors
- Create Resource Groups from Resource properties with Script ([ASSIGN_GROUP_BY_ID](#) and [UNASSIGN_GROUP_BY_ID](#))
- Improvements to Script dialog
- Minor changes and additions to Script and User Field Formula syntax

Gantt / Scheduling

- Buffered risk doesn't affect displayed finish times and durations
- Task Filter by Early Late (for finished tasks)

Tables / Graphs

- Added 'Clear filter' to context menu for tables
- Added 'Status History Summary' column to Resource table

- Added ability to edit User Field Graph title
- Added column filters to Task / Resource Usage Spreadsheets
- Added date range settings in printing options for graphs
- Improved default justification of text in columns based on type of data
- Tasks assigned to parent Codes should be listed above child code groups

GUI / Dialogues

- 'Center and Zoom to Entire Project' now considers Filters
- 'Fast Settings' dropdown lists can be rearranged and resized while in 'Customise...' mode ('Toolbar > right click > Customise...')
- 'Select Assigned Tasks' command in ribbon to work with non-3D resources
- Added 'Deactivate All in selected 3D view' button to the 3D Filters panel
- Added 'Select Assigned Object(s)' to the context menu for Codes/Code Values
- Added ability to collapse branch from child object
- Added font size control for presentation purposes via Zoom in Status Bar
- Added keyboard shortcut customisations to 'Export All Customisation' (Ribbon) for sharing with other users
- Added Norwegian spell-check dictionaries – Bokmål and Nynorsk (**Note.** Norwegian localisation still uses English core)
- Added support for 4-digit year input in date editor
- Allow multi-select to remove multiple objects/items in Navigator windows
- Allow users to type the negative / positive lag in a single input field
- Ask to override AVI file with same file name on Animation Export
- Edit AM/PM in date/time editors
- Edit multiple Text objects simultaneously
- Font colours adjust to the background colour
- Make context menu in 3D view contextual to selection
- Ability to use Insert key for 'Add' command in Navigator windows / lists
- Removed abundant UI themes
- Removed actual dates confirmation dialogue on import from Excel
- Renamed default Budgeted Direct Cost from 'New Cost' to [Task Name]
- Renamed default Resource Cost from 'New Cost' to [Resource Name]
- Select group of keyframes in the Animation Editor using Shift select
- SPACE bar to Play/Stop animation should work in Animation Editor
- Updated 'Animations' UI
- Updated 'Viewpoints' UI
- When selecting a Resource in table, expand and scroll 3D Objects list to show the assigned 3D objects
- Work with multiple files in 'Documents'

SYNCHRO Workgroup Project (SWP)

- Migration of SWP from Objectivity/DB to SQLite
- Implemented LDAP support for SWP
- Added / updated API Command Line commands
- Added configuration option to force checkpoint at set number of transactions
- Added milliseconds indicator to the SWP Log
- Added setting preventing New / Imported objects from one user to load for other users connected to the same SWP project
- Automatic closure of current Pro projects before connecting to another SWP Project
- Automatic closure of current SWP connection before connecting to another SWP project
- Changed the type of most critical SWP messages from Tooltip to Popups
- Fixed inability to copy/paste Tasks in Pro connected to SWP
- Added ability to save updated settings on 'OK'
- Fixed SWP does not process Rules assigned to Resources correctly
- Improved mechanisms for handling the rejected connections. Rejected connections are now processed for some timeout (5 seconds by default) till server will force drop. This should help to avoid "Unknown error" problem
- Improved default configuration settings for deploying SWP projects
- Improved user messaging in SYNCHRO Pro on fails to connect to SWP

SYNCHRO Link / API

- API. Added possibility to apply custom status
- API. Added transaction *DateTime* to *CSynchroAPITransactionHistoryRecord*
- API. Allow to extract application version numbers
- API. Dialogue raises when *CSynchroAPIRequestRemoveResource()* is processing
- API. Improved dialogue, error and warning messages
- API. Improved processing of Resource Fixed Units BOOLEAN
- Link. Added support for meshes with face materials in Link. Such meshes are now exported as multiple sub-meshes with individual colouring
- Link. Application crashes on use 'Secure' sockets
- Link. Application freezes on open transaction history and process any transaction
- Link. Application is not responding when failed to connect to the project
- Link. Fixed inability to remove first created company
- Link. Fixed new Resource Status item created with default values, even if they were set
- Link. Poor performance of incremental SQL export
- Link. RESTAPI '/resource/user field value/all' returns no results
- Link. Some FLOAT type User Field Values are not exported to SQL DB
- Link. Unexpected application crash on updating history cache

Full list of API changes is included in the SYNCHRO API documentation

SYNCHRO Site

- Added ability to select, cut, copy and paste text
- Added ability to tap and hold to move cursor
- Added Resource Status Categories and multiple Status Sets to Resource Status list
- Added TLS 1.2 Security
- Disabled Site graphic icon when creating a new project
- Enabled support for Resource Groups when playing animation and for updating status of individual Resources
- Fixed errors on failed connection or 'Close project'
- Fixed misaligned geometry issues
- Fixed Resources grouped with no hierarchy and assigned to Tasks do not load in Site
- 'Ignore Summary Tasks' option is OFF by default
- Implemented various UI and performance fixes
- Improved 'Load from iPad' functionality
- Move to Task sheet on Task tap
- Removed 'Done' message when tapping in white space on login page
- Updated Gallery images
- Updated UI
- When pressing cancel on download progress user should not be logged out

Integrations / interoperability and formats

MicroStation

- New plug-in for **MicroStation CONNECT Edition**
- MicroStation plug-in improvements
 - Geometry optimisation
 - Better processing of I-DGN data
- Improved compatibility of DGN and I-DGN formats (direct importer)

Industry Foundation Classes (IFC)

- Further improvements around geometry extraction and clipping (precision issue)
- Improved IFC importer (invalid geometry issue)

Sketchup

- Updated Sketchup 2019 format SDKs

Revit

- Improved processing of:
 - Complex geometry
 - Shared coordinates
 - Transparency and colour of 3D objects
 - User Fields
- Refactored plug-in to employ *CustomExporterAPI* for geometry extraction
- Changed default Resource Type to *'Material'*
- Added an option to reset all plugin settings to their default values
- Minor bug fixes and improvements

Primavera

- Added compatibility with Cost Account (Cost Codes in SYNCHRO)
 - Import
 - Export
 - Synchronise From

Asta Powerproject

- Improved handling and processing of Asta Powerproject schedule data during Import / Synchronisation From/To and Export operations
- Minor bug fixes and improvements

Bugs squashed

- Selecting 3D navigation cube faces or corners also selects additional 3D objects
- Inability to use cube manipulation when cutting plane is active
- Graph titles are cut-off in 4K screen resolution
- Resource Graph Legend does not show in Animation Export
- 3D Notation text disappears unexpectedly (refresh issue)
- Separator symbol erased from Automatching rule after assignment is complete
- Legend in 3D View only re-appears on Refresh (F5)
- 'Unload Unfiltered' does not work on subdivided elements
- Change units from 'mm' to 'm' causes incorrect 'Zoom to fit' operation
- Cursor jumps unexpectedly to the top corner of Script editor on edit
- Inability to select the 'Document' file until selecting folder in which the file is located
- Mouse-scroll does not work in 3D Path combo box
- Resource list scrolls to first chronologically assigned Resource on 'Select Assigned Resources'
- Unexpected crash on import from Excel
- Unexpected crash on import of DGN model
- Unexpected crash on import or synchronise from Primavera P6 XML
- Unexpected list scrolls
- Various minor bug fixes

Product Development and Management Team