



THE DIGITAL CONSTRUCTION PLATFORM



Synchro PRO

4D SCHEDULING & CONSTRUCTION PROJECT MANAGEMENT

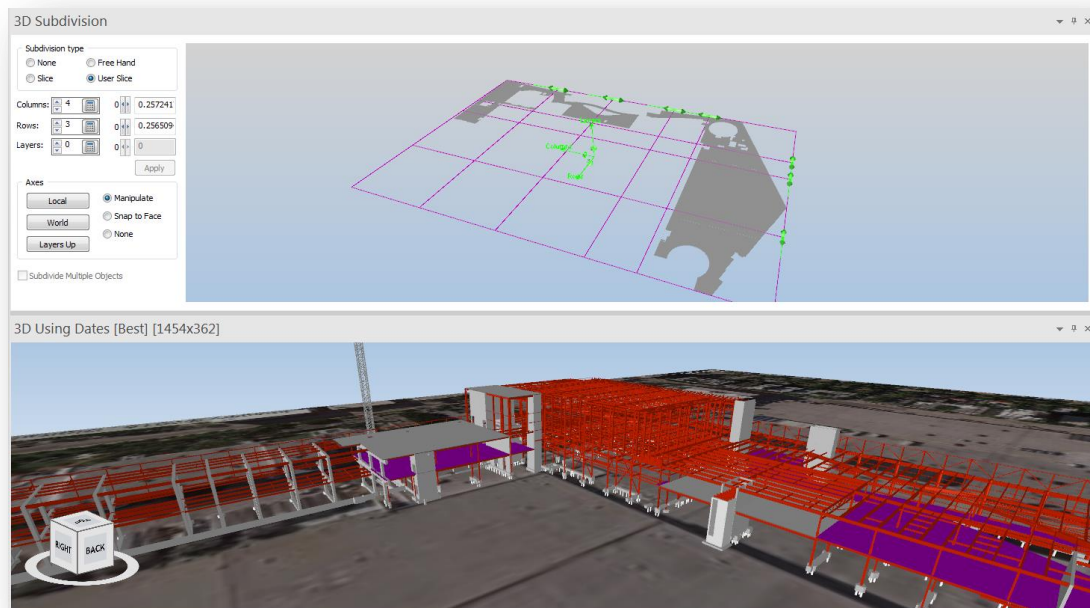
Synchro PRO is an advanced software tool to plan and manage construction projects in a 4D environment. Scheduling and planning is critical to safe, efficient, high quality construction.

While using 4D, the computer becomes a practice field where sequences, safety, special relationships and more can be viewed and discussed continuously before and throughout the project lifetime. Because Synchro PRO links 3D Resources (human, material, equipment, and space) to the associated Schedule tasks, making changes and comparing baselines to alternatives is quick and easy. Testing sequencing and running “what if” scenarios is highly efficient and engaging. Communications are crystal clear, because you can see each step in the process. Cooperative knowledge sharing creates innovation and unique approaches that build competitive advantage. The result is an efficient, reliable and safe project delivery process that saves time and money. Synchro PRO integrates with Oracle Primavera and other scheduling software but it is a stand-alone CPM scheduling tool and does not depend on importing schedules from legacy software. Whether you like to see the schedule through the model or see the model through the schedule, the ability to visualize your plan while maintaining its’ integrity allows project delivery performance to consistently and reliably exceed today’s performance standards in an immediate and dramatic way.

WHO USES SYNCHRO? Contractors, Subcontractors, Specialty Supplies, Consultants and Owners use the platform for **construction of any type**, including: buildings, infrastructure, roads and bridges, healthcare facilities, Industrial, Oil and Gas, Power, Alternative Energy, Marine, as well as Mining Projects.

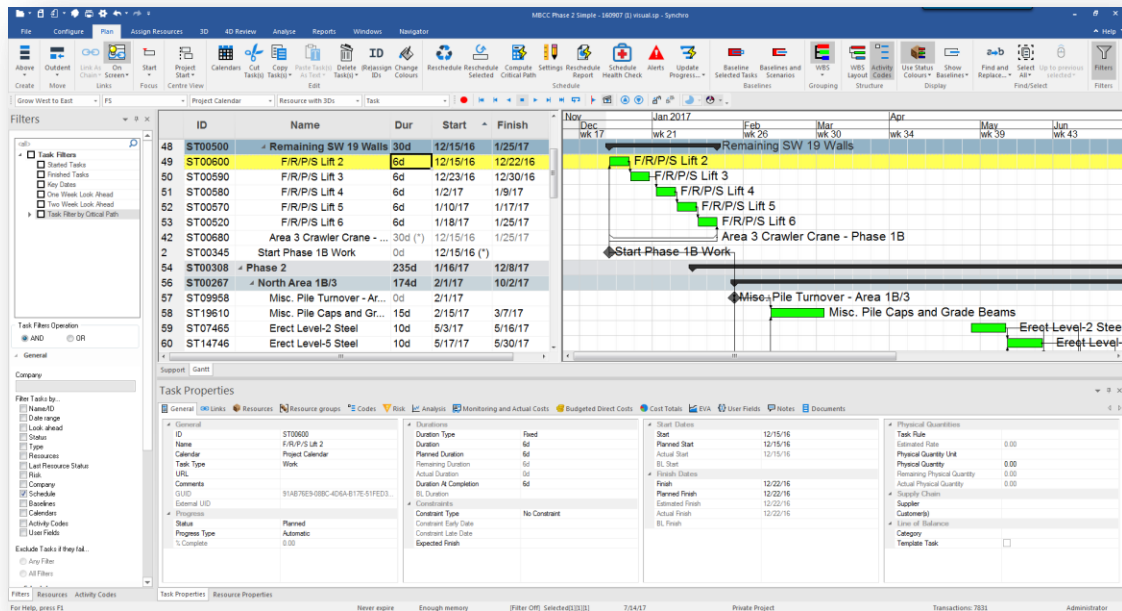


MANAGE MODELS



- ◆ Import multiple models from different sources (see [Supported File Formats](#))
- ◆ Synchronise from updated versions of the model
- ◆ Import and reference model attributes (e.g. dimensions, part numbers, user defined fields)
- ◆ Create simple geometry (Box, Cylinder, Sphere, or Extrusion) to represent objects not contained in the imported model, e.g. lay-down areas or workspaces
- ◆ Subdivide model objects to match construction tasks (e.g. multiple pours for a concrete slab)
- ◆ Filter model by any attribute

MANAGE SCHEDULES



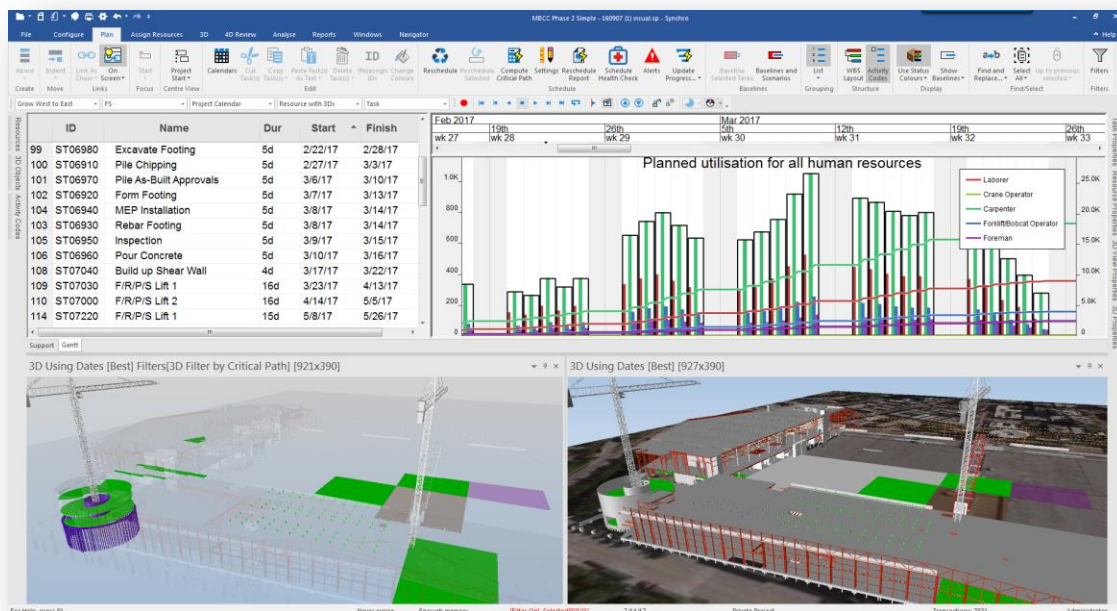
- ◆ Import multiple schedules from different sources, e.g. Subcontractor schedules (see [Supported File Formats](#))
- ◆ Create schedules from scratch with a full-featured CPM engine
- ◆ Insert tasks to imported schedules - to add more detail to better show intended construction sequence
- ◆ Synchronise from updated schedules
- ◆ Export or Synchronise updates made in Synchro to external scheduling tools
- ◆ Organise schedule by Work Breakdown Structure or Activity Codes
- ◆ Import or create and assign Activity Codes for better schedule visualization (e.g. filter or sort by Trade, Level, Workzone, etc)
- ◆ Filter or sort the schedule by any attribute
- ◆ Calculate and display the Critical Path (longest path or least float)



MANAGE SCHEDULES CONTINUED:

- ◆ Baseline the schedule for comparison against later updates or “what-if” scenarios
- ◆ Edit task duration and logic ties to create “what-if” scenarios
- ◆ Update schedule progress

MANAGE RESOURCES AND 4D MODEL

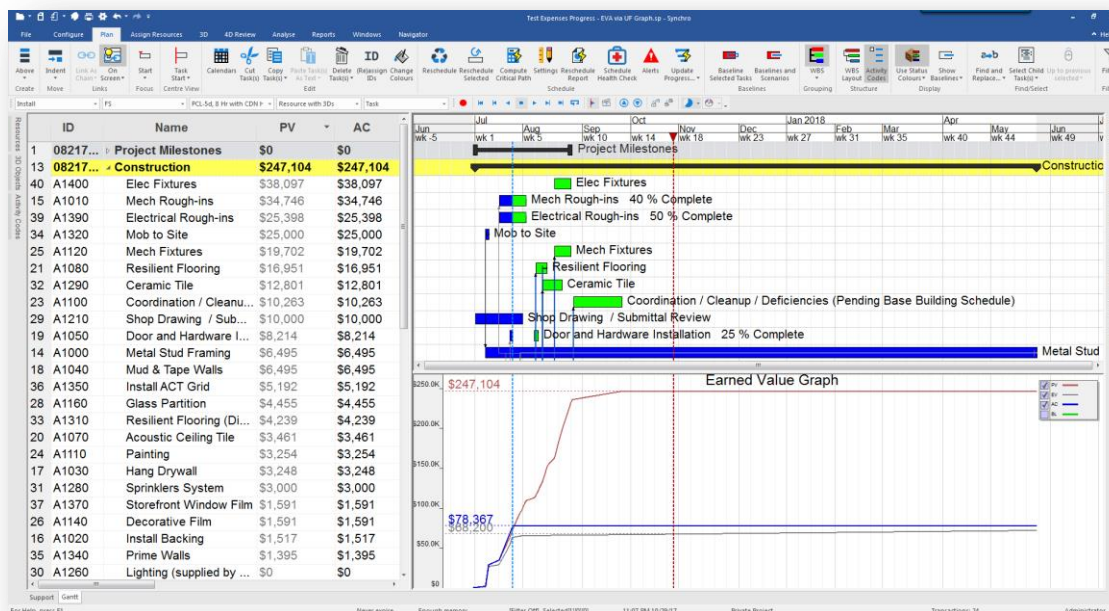


- ◆ Drag and drop to assign model objects to tasks
- ◆ Auto-match resources to tasks based on model and task attributes or user-defined fields
- ◆ Assign human, material, equipment, and space resources to tasks
- ◆ Create new tasks in the schedule from model objects
- ◆ Use growth simulation to show intended installation direction

MANAGE RESOURCES AND 4D MODEL CONTINUED:

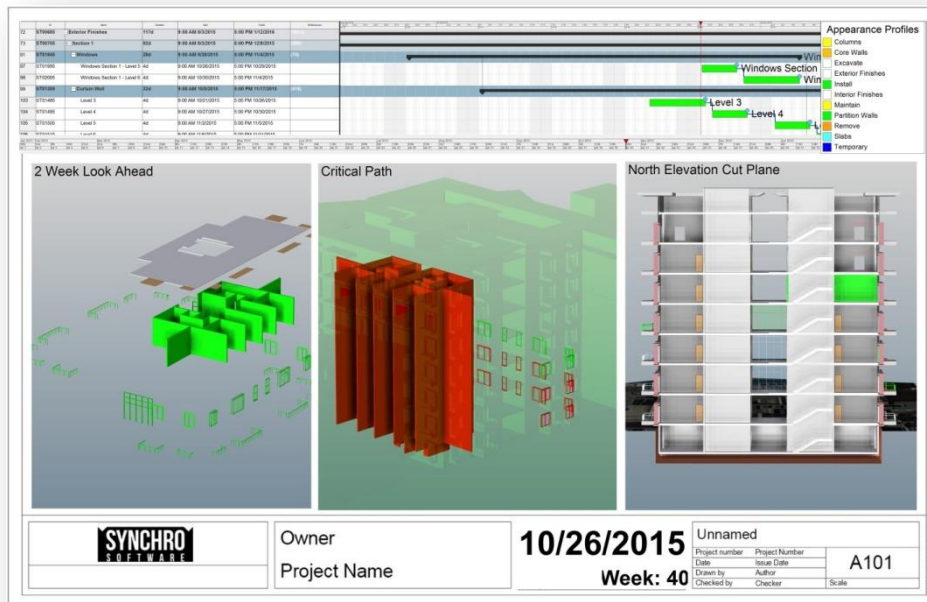
- ◆ Track resource status and actual resource usage
- ◆ Visualize 4D sequence using multiple color schemes
- ◆ Play 4D sequence directly in Synchro for live review, share with stakeholders for viewing in the free Open Viewer software, or export a video to share

TRACK COSTS AND EARNED VALUE



- ◆ Assign or import resource costs and task expenses
- ◆ Track actual costs
- ◆ View the Earned Value graph
- ◆ Roll up costs by Work Breakdown Structure
- ◆ View and export cost totals report

ANALYSE 4D MODEL AND CREATE OUTPUTS



- ◆ Run built-in schedule comparison and analysis reports
- ◆ Compare baseline vs. actual in side-by-side 3D windows
- ◆ Run 4D spatial coordination tests to find dynamic clashes between objects, equipment, and/or workzones
- ◆ Create custom tabular reports for tasks and resources
- ◆ Analyse Resource and Task data using user-defined formulas
- ◆ View and export time-distributed task and resource usage data
- ◆ View and print resource usage bar and line graphs
- ◆ View and print Earned Value graph
- ◆ Export interactive 3D PDFs of the model on any given date
- ◆ Create high quality model renderings using Iray
- ◆ Create marked-up viewpoints to return to later, print, or share with stakeholders for viewing in the free Open Viewer software

ANALYSE 4D MODEL AND CREATE OUTPUTS CONTINUED:

- ◆ Create construction sequence animations with camera movement
- ◆ Export animations to video alongside the Gantt chart, EVA graph, Timeline and/or list of active Resources or Tasks
- ◆ Create reports with daily/weekly/monthly snapshots of planned progress alongside a list of Tasks for the period



SUPPORTED FILE FORMATS

Additional information about graphics card compatibility can be found at:

<https://developer.techsoft3d.com/hoops/visualize/hps/graphics-cards/>

INTEROPERABILITY WITH CAD SYSTEMS:

The following 3D file formats can be IMPORTED into Synchro PRO 2018:

Product:	File Extension(s):	Version(s):	Note(s):
ACIS	SAT, SAB	up to 2017.1 (R27)	
Alias Wavefront	OBJ	All Versions	
AutoCAD	DWG, DXF	R14 - 2018	
Autodesk	DWF, DWFX	up to 2012	
Autodesk FBX	FBX	6.0 - 7.5	
Autodesk Inventor	IPT, IAM	Up to 2018	
Bentley I-Model	I.DGN	1.0	
Bentley Microstation	DGN	V7, V8, V8 XM, V8I, V8i (SELECTseries 2), V8i (SELECTseries 3)	Plug-in module is available for Microstation V8i (SELECTseries 2 and 3)
CATIA V4	EXP, DLV, MODEL, SESSION	up to 4.2.5	
CATIA V5/V6	CATProduct, CATPart, CATDrawing, CATShape, CGR	R4 - V5-6 R2017 (R27)	
Collada	DAE	up to 1.5	
Dassault Interchange Format	3DXML	2011 – 2013	
HOOPS stream file	HSF		
I-deas	MF1, ARC, UNV, PKG	up to 13.x (NX 5), NX I-deas 6	



IFC	IFC	2x, 2x2, 2x3, 4	Geometry only for 4 (beta version)
IGES part files	IGES, IGS	5.1 - 5.3	
Navisworks	NWF, NWC, [NWD]*	2015, 2016, 2017, 2018	via plug-in module for Navisworks. *IMPORTANT: NWD can be exported to SPX, but does not support future model updates via Synchronise From
Parasolid	xmt_bin, x_b, x_t, xmt_txt	up to v30.0	
ProE/Creo	PRT, ASM, NEU, XAS, XPR,	ProE up to Wildfire 5, Creo Elements/Pro 5.0, Parametric 4.0	
Revit	RVT	2015, 2016, 2017, 2018	via plug-in module for Revit
Rhino	3DM	4, 5	
SketchUp	SKP	v7, v8, 2013, 2014, 2015, 2016, 2017, 2018	
Solid Edge	ASM, PAR, PWD, PSM	V19 - 20, ST - ST10	
SolidWorks	SLDASM, SLDPRT	up to 2018	
STEP part files	STEP, STP	AP203, AP214, AP242	Geometry ONLY
Stereo Lithography	STL	All versions	
UGS JT	JT	up to 10, ISO 14306:2012	
Unigraphics NX	PRT	11 - NX11	
Universal 3D	U3D	ECMA-363, 1st, 2nd & 3rd editions	
VDA-FS	VDA	1.0 - 2.0	
VRML files	VRML, WRL	V1.0 and V2.0 (VRML'97)	
3D PDF, PRC	PDF, PRC	All Versions	



The following 3D file formats can be EXPORTED from Synchro PRO 2018:

Autodesk DWF, DWFX

Autodesk FBX

Collada DAE

Hoops Stream File HSF

IFC (2x, 2x2, 2x3)

VRML'97 (WRL)

3D PDF, PRC

Universal 3D Files (U3D)

INTEROPERABILITY WITH PLANNING SYSTEMS

This section provides supplementary information & guidance regarding the installation and configuration of some of the 3rd party planning systems supported by Synchro Software Ltd as this relates to interworking with the Synchro Client application.

Synchro can exchange information with 3rd Party planning systems. Direct **synchronisation** is provided for Asta Powerproject™, and Microsoft Project™ XML, and Primavera™.

(Continued on following page)



Supported Project Planning File Formats (Import, Export, Synchronise):

Product:	File Extension(s):	Version(s):	Note(s):
Asta Poweproject	PP	9, 10, 11, 12, 13, 14	
Microsoft Project	XML	2003, 2007, 2010, 2013	Export to MS-Project 2003 ONLY (Can be opened in 2007, 2010 & 2013)
Microsoft Excel	xls,xlsm	2003, 2007, 2010, 2013	Requires MS-Excel ODBC drivers
PMA NetPoint	XML	4.1	
Primavera P6		6.2, 7.0, 8.0, 8.1, 8.2, 8.3, 8.4, 15.1, 15.2, 16.1, 16.2	Requires Primavera Integration API to connect directly P6 DB. P6 XML files can also be used without the API installation. XER files can be imported into P6 DB, then read by Synchro. P6 Integration API 15.2 and higher requires Java Development Kit 8 to be installed separately

Request a Demo / Technical support: support@synchrohelp.zendesk.com

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