# Trimble Tilos 9.1 What is new

Improvements for Mass Haulage

The mass haulage functionality has been improved in 3 ways:

1.) Adding support for bulkage and shrinkage while moving earth from one site to another. This allows more accuracy regarding the volumes as on excavating. As you progress in the project, the volume will grow and after compaction, the volume will reduce.

2.) The Haulage will now include the haulage type. This is based on the type of machines on which the haulage is done. Short distances with the with bulldozer, long hauls with a truck). Each type has associated templates for generating tasks and automatically associating the correct type of resource. Filters can be applied to manage haulages by type This make scheduling easier as all hauls from a certain type can be created at once using the haul wizard that creates the tasks. It calculates the durations and links the activities into a chain.

3.) The data import from business center has been enhanced. Now both shrinkage and haulage types are supported. After running the haulage function in Business Center - HCE the data is imported and visualized in TILOS. This allows you to build your even construction schedule faster.
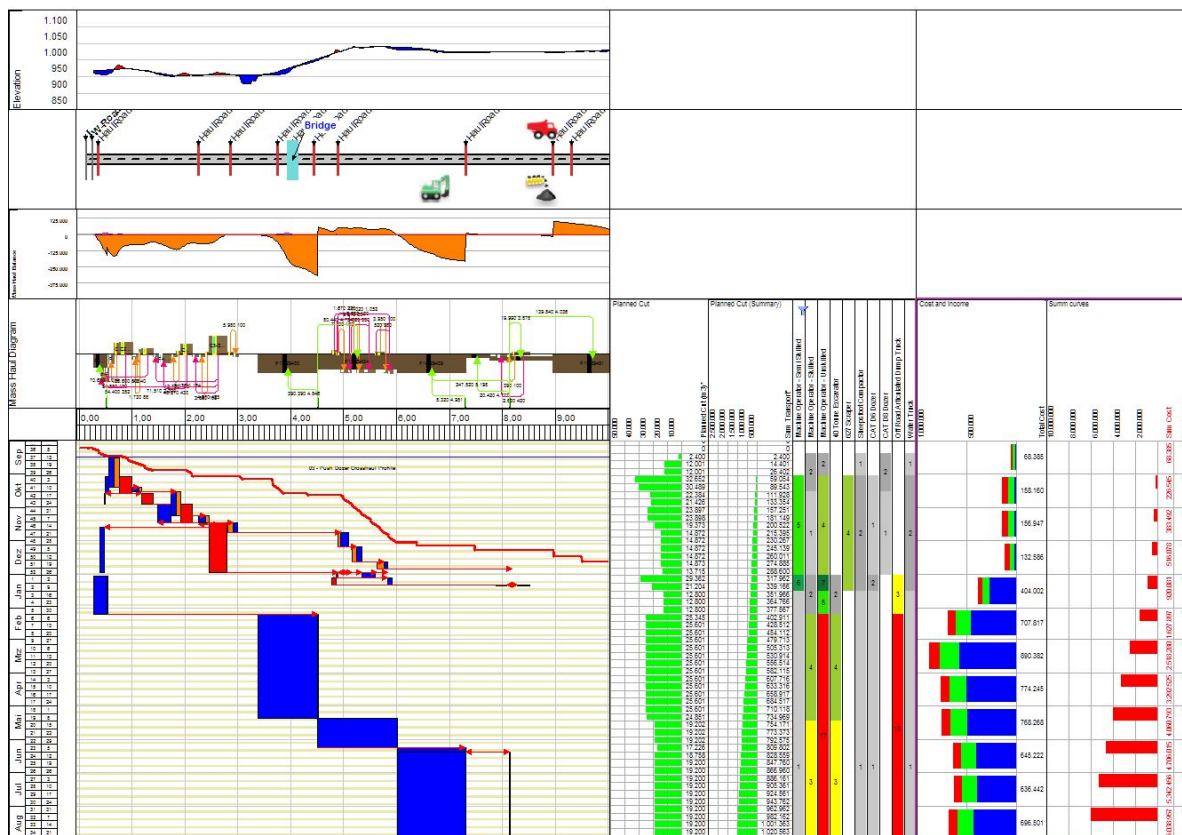

Scheduling mass haulage operations is easier and can be done in faster and and more accurately. Filter the Mass Haulage Diagram by haulage type, select the haulages and use the wizard to create the cut and fill tasks. Resources get assigned based on the templates for that specific haul type. The wizard links the series of cut tasks created by finish to start links. If the cut task is adjusted, the fill task duration is automatically updated.

More flexibility and more accuracy for task parameters

To calculate the resources production rate, you may create complex formulas. Almost all task values like quantity, duration, Free numeric fields can now be included.

In the templates for mass haulage, we will now give you the earth moving procedure formulas that reflect more variables and give you better information and accuracy about the schedule - specifically by giving you the bulkage factor on excavation as well as the transport distance.
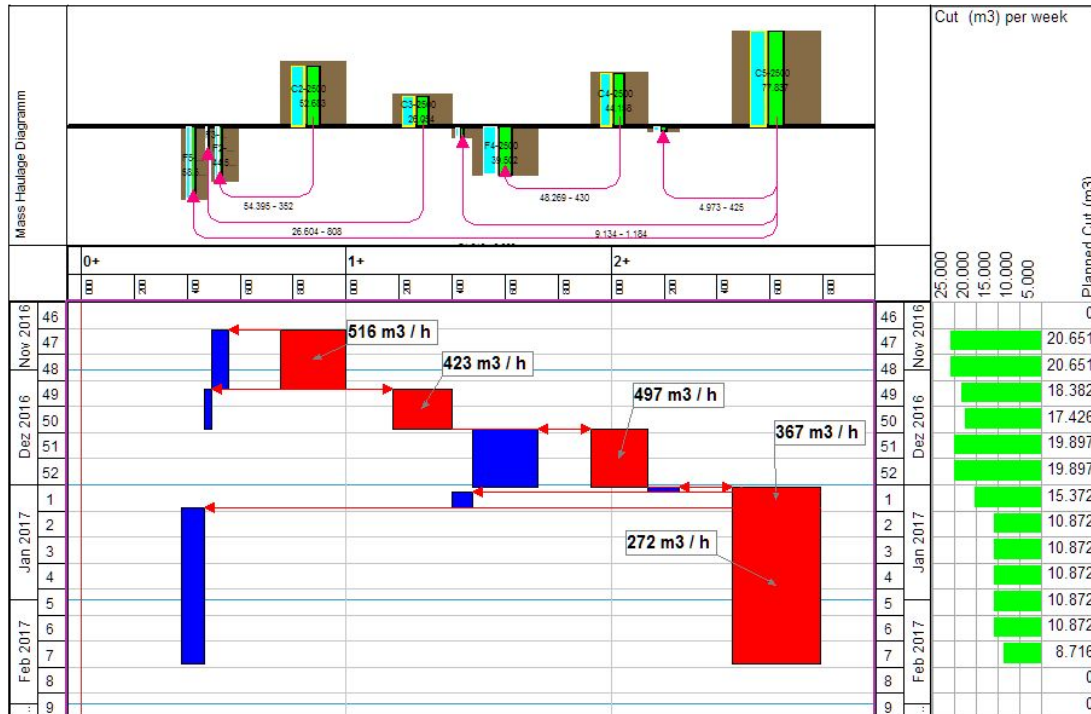
Although the same resources are used in each task, the production rate differs based on the transport distance. The bigger the distance, the lower gets the production rate.

Import from Novapoint and Tekla civil

Two new interfaces allow you to import the site data such as elevation and volumes for the different work types and layers. The Scheduler, when planning tasks in a certain distance range, will automatically see calculated volumes in order to set a realistic duration for the tasks.
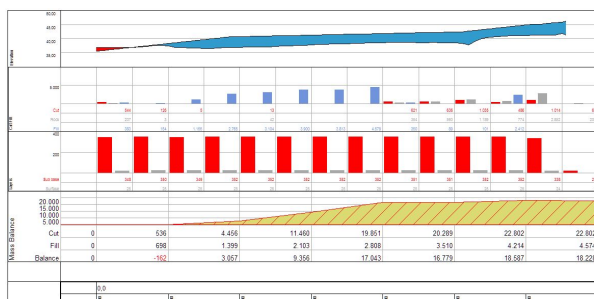
Visualization of Filter settings

In a project schedule for a big construction project very often multiple thousands of tasks are planned. To focus the outputs on the specific needs of the planner and executer, a new filter can be applied to view, histogram and other outputs.

Easy to see symbols will visualize which filter is currently applied

1. When using Gantt charts with an active task filter, TILOS 9.1 now displays a filter symbol on the top left edge indicating that this Gantt chart is filtered. ▼
2. When using Resource bar charts with an active task filter, TILOS 9.1 now displays an Asterisk Symbol (*) at the end of the diagram name to indicate that this diagram is filtered. Filtered resource bar chart lines can be identified with the filter symbol. ▼
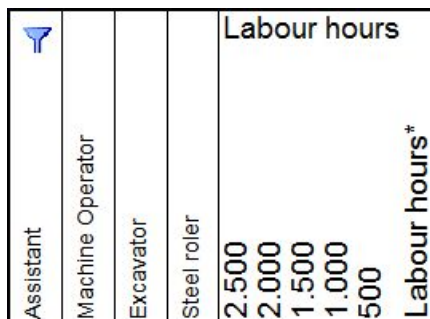
Benefit: Enhanced transparency of settings and assistance for the user.

Relationships

TILOS supports many functions to calculate the data of the successor. In TILOS 9 we introduced pure distance links and the functionality to set the coordinates of the successor based on the predecessor and link attributes. This enhancement now provides lead and lag of the tasks for distance parallelograms. Railway planners especially can benefit from this to visualize the shape of the task represents the train moving along the track.
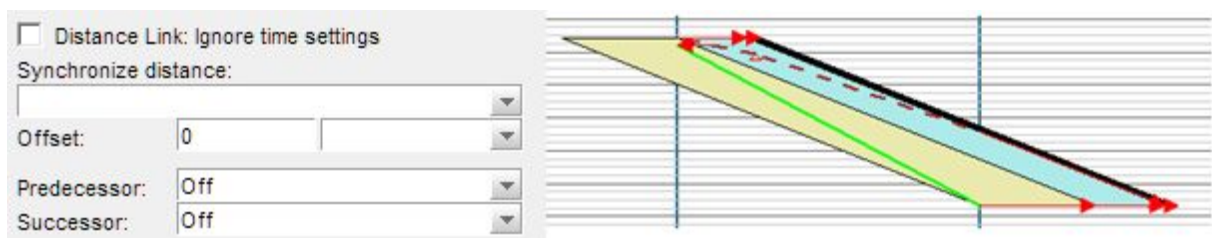
This functionality has been enhance that we can now reflect lead and lag of the tasks for distance parallelograms. This function was wished by railway planners while the shape of the task represents the train moving along the track.

View scaling tools for full screen ▀ Ⅲ

We added two new tools in the main toolbar for Integrated Views.

Display Page Width: This tool resizes the view scale, that the full width of the View is visible on screen. Display Page Height: This tool resizes the view scale, that the full height of the View is visible on screen.

With one click you get the screen adjusted to see whole width or the whole height.

Attaching file links to tasks

TILOS 9.1 supports to add file/document links to tasks. Each task can have multiple files/documents assigned. Directly from task context the document can be viewed with the connected windows application. Additionally a graphic symbol visible at the task indicates that there are files linked to that task.

Documentation:
C:\ProgramData\TILOS\TILOS9-Data\Docume ntation\Tilos 9 getting started.pdf
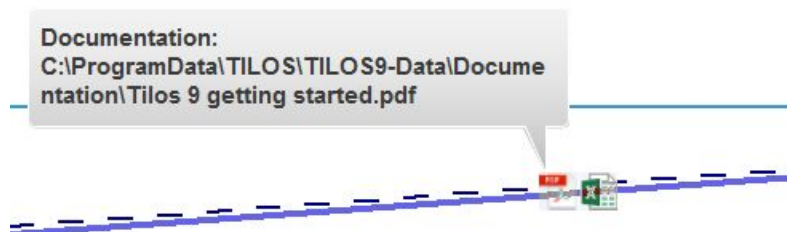
Benefit: More documentation and connection to additional information like plans, charts or calculations can be accessed directly from the task context.

Hierarchical Display of library elements

To make tree structures easier to use, we have added a hierarchical data structure for the library elements:

- Task Group
- Accounts
- Vector lines
- Fill patterns
- Symbols
- Graphics

Benefit: The hierarchy integrates numerous elements in a tree/folder structure. The elements can be found more quickly and easily.

WBS and Category path display

Using Shortcuts for level names in WBS and Category is useful for having short paths, but the paths will eventually be less readable. We have introduced a second path for categories

and WBS build from the description value. Those longer description paths can also be displayed with tokens in annotations and grid tables.

WBS Path	Code	Description Path	Name
Prj	Prj	P	P
Prj.A-Pre	A-Pre	P.Preliminary	Preliminary
Prj.B-Brd	B-Brd	P.Bridge	Bridge
Prj.B-Brd.P1	P1	P.Bridge.Pile 1	Pile 1
Prj.B-Brd.P2	P2	P.Bridge.Pile 2	Pile 2
Prj.B-Brd.P3	P3	P.Bridge.Pile 3	Pile 3
Prj.B-Brd.Pav	Pav	P.Bridge.Pavement	Pavement
Prj.B-Brd.Strc	Strc	P.Bridge.Structure	Structure
Prj.C-RdS	C-RdS	P.Road South	Road South
Prj.C-RdS.Ear	Ear	P.Road South.Earthworks	Earthworks
Prj.C-RdS.Pav	Pav	P.Road South.Pavement	Pavement
Prj.D-RdN	D-RdN	P.Road North	Road North
Prj.D-RdN.Ear	Ear	P.Road North.Earthworks	Earthworks
Prj.D-RdN.Pav	Pav	P.Road North.Pavement	Pavement

Path	Category	Category Name	Description Path
Con	Con	Concrete work	Concrete work
Earth	Earth	Earth work	Earth work
Earth.Cut	Cut	Cut	Earth work.Cut
Earth.Fill	Fill	Fill	Earth work.Fill
Earth.Top	Top	Top soil	Earth work.Top soil
Pav	Pav	Pavement work	Pavement work
Pav.Asp	Asp	asphalt	Pavement work.asphalt
Pav.Base	Base	Base	Pavement work.Base
Pre	Pre	Preliminary work	Preliminary work
Pre.Acc	Acc	Access Road	Preliminary work.Access Road
Pre.Pre	Pre	Preparation	Preliminary work.Preparation
St	St	Steel work	Steel work

Benefit: Better readability and understanding of the WBS / Category level.