

TiLOS

The linear project management software for highway, road, railway, pipeline, tunnel and other civil engineering projects.

Easy to use, yet powerful.

Utilized on many international projects.

Help desk and consulting support available.

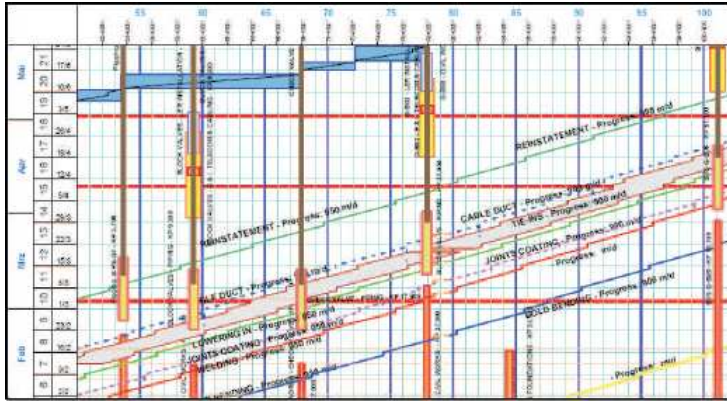
Simply the best tool for planning and managing linear projects.

Why is TILOS superior to Gantt and Network diagrams?

Traditional planning systems display their results in bar charts or network diagrams. Linear projects present unique challenges because the crews and equipment move along the construction right-of-way to perform their work.

Neither of the traditional diagrams are able to show a graphical link between the location where the work is performed (the distance axis) and the time when it is executed (the time axis).

Time distance diagrams clearly communicate the scope by showing the project details and the schedule in one



How do I read a linear schedule?

Linear schedules are able to communicate more information because of the distance related data assigned to each task. The links between site and schedule information enables a quicker and deeper understanding of the construction plan.

► Typically the distance axis is horizontal and the time axis is vertical (although this can be reversed). Furthermore, the slope of the task line indicates the speed, or productivity rate of the crew performing the work in the field.

► Task lines that overlap indicate possible collisions and show that the construction plan does not work.

► Non-linear activities, where the crew is stationary, are represented by block tasks. Examples include block valve installations, road bores or bridge foundation work.

How do I create a linear schedule quickly?

TILOS can be used as a standalone planning system or in combination with other planning systems. In both situations, TILOS supports the quick creation of a linear schedule.

► The time distance diagram can be directly drawn on the screen as you would on paper. The task templates with predefined line styles, colours, text information, method of how to calculate quantities, production rates and resources reduce the work to a minimum.

► Repetitive work sequences can be selected and copied to an new location including internal links. Task lengths and durations are updated to reflect the change in location automatically.

► Task lists from other programs such as MS Project or Primavera can be directly imported into TILOS. The shape, line styles and colour are taken from the work type based task template. Existing plans can be updated as well.

► Relationships between tasks support all CPM basic link types, but also reflect location based constraints. This makes scheduling much easier and reduces the extra work required to calculate lags.

How can TILOS be used on your project?

TILOS can be used in all phases of a project, from early design to controlling on site. The ability to schedule, in as much detail as required, enables you to show overall plans or detailed plans down to one minute precision.

► **Design phase for feasibility studies:** TILOS is designed to allow quick and easy planning by simply drawing the schedule directly on the screen.

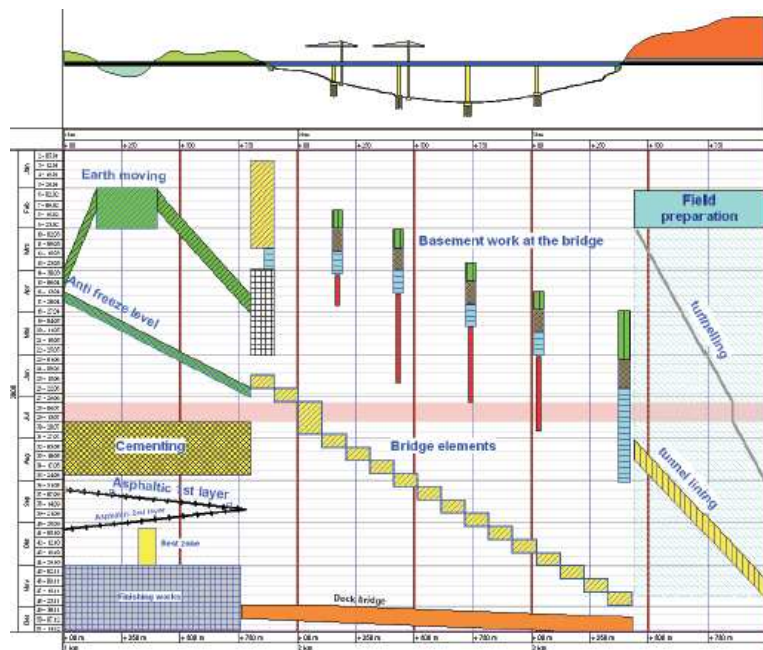
► **Tendering and procurement phase:** TILOS demonstrates that the bid has been well prepared and the company will be able to finish the project successfully in the specified time frame. Collisions can be easily detected.

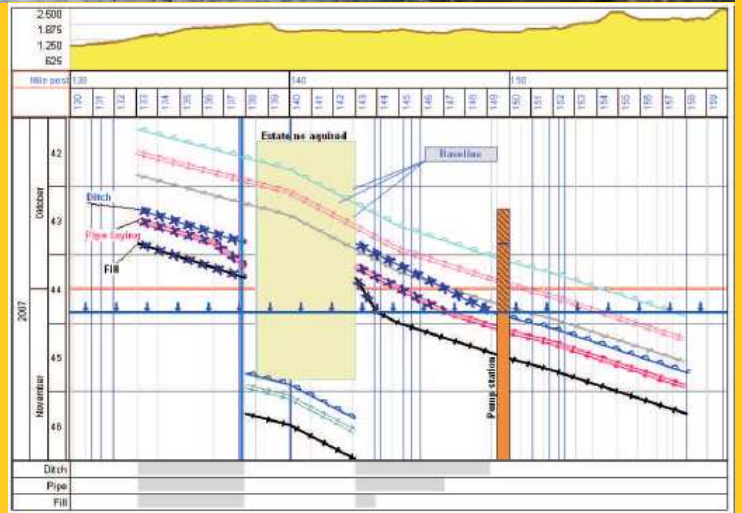
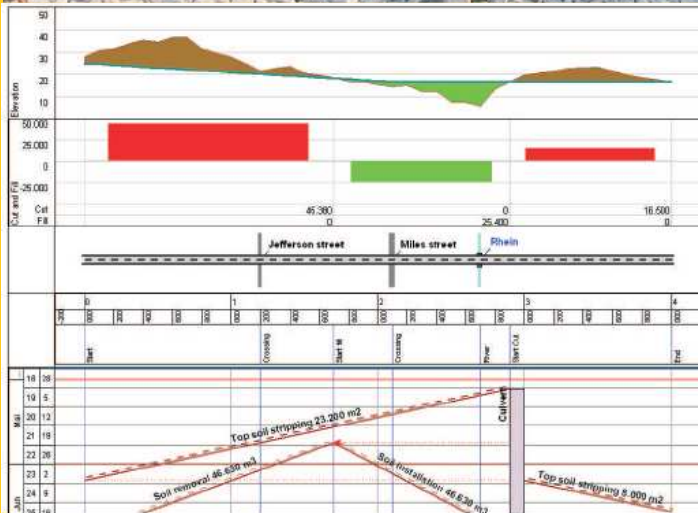
► **Execution phase:** TILOS allows you to plan the project in detail, execute the work and record progress on the project.

► **Claim management:** analyze changes to the project and show the results while preparing and defending claims.

The most important features of Tilos

- Showing dependencies of time and distance at one chart.
- Taking into account site characteristics like vertical profile, segmenting.
- Including pictures presenting site into project plan.
- The language specific for construction projects.
- Modeling site's climate and weather.
- Computing parameters of work on the basis of dependencies of resources, their productivity, work volume, time etc.
- Predefined library of several types of construction works.
- Managing financial data: costs, income, cash flow.
- All the classical project management functionalities (Gantt chart, critical path etc.)
- Project partitioning into separately managed sites.
- Recording project work progress at sites. Controlling work progress at the whole terrain of the project.
- Full control over used materials, performed work, hourly rates, used resources, cost – divided into separate sites.
- Very high quality of printouts of any size.





How do I describe the project site details?

Site related data such as elevation and crossing lists help you understand the schedule and to identify constraints. Most data is available well before scheduling work is started. TILOS can import this data and increase the information communicated along with the plan while reducing the effort of reentering data multiple times.

- ▶ **Symbols and pictures** can be imported and placed along the distance axis to describe the work that has to be performed in the project.
- ▶ **Scales and grids** describe important station points. Grid lines assigned to stations also simplifies data entry.
- ▶ **Speed profiles** model non-linear productivity rates in different sections of the project such as: slope areas, wetlands, heavy rock areas or simply base productivity on learning curves.
- ▶ **Distance related graphs** such as: elevation, slope diagrams or mass haul profiles showing cut and fill sections can be generated directly from profile data.

How do I keep my plan up to date?

In most project management systems progress is defined on actual dates and % complete, while the % value is often estimated. TILOS can record progress for each task based on site data and show exactly which sections of the project have not been completed.

- ▶ Progress can be recorded in three methods: percentage based, work based or distance based. In all cases precise location information where the work has been completed is required. This progress can be shown with a simple distance based bar chart, showing completed sections.
- ▶ The remaining work can be re-evaluated to meet the project goals. This can be done by increasing resources or making changes to the construction plan.
- ▶ The baseline shows differences between plan and execution and highlights delays in the project at an early stage.
- ▶ The progress data can be imported from the daily site reports into TILOS. A flexible import feature reads the data from Excel files and assigns the progress directly to the activities, analyzes the results and updates the remaining work program.

Top ten reasons why you should use TILOS for linear projects!

Fully graphical interface for planning time-distance-diagram with full support of the critical path technology, enhanced by location and production constraints .

► **Plan a project naturally by directly drawing it on the screen.**

Flexible view system allows maximum customization to your specific needs. Place as many sub plans from the same or other projects into the same view to show the overall project or more detailed plans.

► **Provides maximum flexibility in organizing your plan.**

Import/Export functions: TILOS allows the import of graphics and synchronization with distance axis as well as activity, links, resource and other site data such as elevation and productivity profiles.

► **Allows integration of data already prepared.**

Clash detection and clash avoidance. Specify the distance between crews to avoid collisions, but if it happens TILOS will tell you where.

► **Eliminates planning mistakes.**

Distance based calculation: TILOS calculates the work parameters based on the distance values. For example, in rail construction a sleeper is installed every .667 m. Based on the length of the task TILOS calculates the number of sleepers needed and the number of railcars needed to transport them.

► **Realistic planning using construction specifications.**

Powerful resource calculation: TILOS supports flexible resource calculations based on the task quantity and time parameters to model the construction process and driving parameters precisely.

► **Full control over costs and resources.**

Library: TILOS supports template activities in a library with their display and resource attributes. Drawing a task as a simple line means: setting the speed of the process, calculating the work parameters, the resource assignments and their cost in the background with little extra effort.

► **Save time planning by using company templates.**

Baselining allows the comparison of the planned versus actual schedule to identify and highlight any differences.

► **Highlights changes in order to prepare claims.**

High quality output: TILOS produces high quality drawings in any size, similar to CAD systems.

► **High quality output of your professional plans.**

Saves time and money. A client study has shown, that even on the first project, the planning time was reduced by 50% from 40 to 20 hours.

► **Quick return on investment and consistent savings on new projects.**

Our mission

We have over 18 years experience in project management and have concentrated for the past 10 years on linear scheduling. TILOS is constantly improved with one major release every year. After the innovative TILOS6 release, with the excellent feedback we received, we know that we are on the right path, providing site and schedule information in a single plan to provide more clarity.

Our vision is to make linear scheduling the preferred method for scheduling linear projects, as a stand alone system or in combination with other planning software and to keep TILOS's position as the best product for this kind of projects.

Feedback from clients

James Lyon, HDR Inc., USA:

"TILOS transformed our engineers' attitude toward project scheduling from something extra they never had time for to a tool they "owned" and wouldn't go to a meeting without."

Geert Bijmont, NACAP, Holandia:

"I appreciate that the TILOS team continuously improves this application and also listens to the client for improvement, so please continue on this level."



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