At a glance
The PSS®SINCAL Merge application helps to manage differences between two PSS®SINCAL network models with minimal user intervention.

The challenge
A PSS®SINCAL network model is a snapshot of an actual network modeled in an external source. When work is done on the same network model by both the external system and within the PSS®SINCAL application, the network models become increasingly different. When extracting a modified PSS®SINCAL network from the external source it will not contain the modeling work done in PSS®SINCAL.

Our solution
PSS®SINCAL Merge allows users to easily combine the network model changes from the external source with the modeling work done in PSS®SINCAL. Typically the network model would need to be manually re-worked to merge changes - by using this application users can ensure changes are not lost, and continue working with an up-to-date model.

Keeping your model synchronized with an external source
In case the PSS®SINCAL network model is created by an external source like a GIS system, the working process starts with the data conversion from the external source. After the conversion, over time there will usually be changes in the PSS®SINCAL network and also in the source system.

At this point the PSS®SINCAL Merge application compares the actual content of the external source (PSS®SINCAL database S2a) with the user-modified network model (PSS®SINCAL database S1b), as shown in Figure 3. It then creates one PSS®SINCAL network model with the user modifications and the changes from the source system.

In this way it is possible to synchronize a PSS®SINCAL network model with the network model created from various source systems, such as GIS, ERP, or other network planning tools like PSS®E.

Keeping your team work synchronized
When a team works on different versions of the same base network model, the models will often differ over time. The PSS®SINCAL Merge tool offers the possibility to compare and update both network models so that the modeling work performed within the team is not lost.

Identification of elements
The identification of the PSS®SINCAL elements is essential for the successful PSS®SINCAL database merge. The application supports the following PSS®SINCAL element properties for identification:

- Name
- Master resource
- Extended data (node / element)

The identification property has to be filled and remain unchanged under the lifecycle of the PSS®SINCAL database. The identification rules are defined in an XML format file.

The graphical user interface
PSS®SINCAL Merge application is independent of the PSS®SINCAL user interface and has its own graphical user interface (GUI). The easy-to-use GUI allows you to merge PSS®SINCAL network models with only a couple of mouse clicks.

Figure 1: GUI of the Merge application
The results
The main result of the merge process is the merged PSS®SINCAL network model representing the combination of both source network models. The resulting PSS®SINCAL network model also includes:

- **Merge description**: The merge process creates a database description entry with the update process information (as update history).
- **Network element groups**: The PSS®SINCAL Merge application allows you to create new grouping elements for easy identification of the modified elements.

During the merge process a set of log files are creating including detailed information on the logging process and processed difference. This allows users to easily analyze the merger process.

Benefits

- **Time saving**: No more waste of precious time by manually reworking changes in separately maintained network models. Save large amounts of time by keeping network models in sync with PSS®SINCAL Merge.
- **Multifunctional**: Use PSS®SINCAL Merge to manage the network modeling within a team or maintain network models created from external sources like GIS or other software in a highly effective way.
- **Flexible**: The merging process can be flexibly parameterized towards your individual needs.
- **Easy to use**: With the easy-to-use graphical user interface you can merge two PSS®SINCAL networks with a couple of mouse clicks.

![Figure 2: External source scenario, PSS®SINCAL network model and external source will be different over time](image)

![Figure 3: Merging user modified database with actual content of an external source](image)