

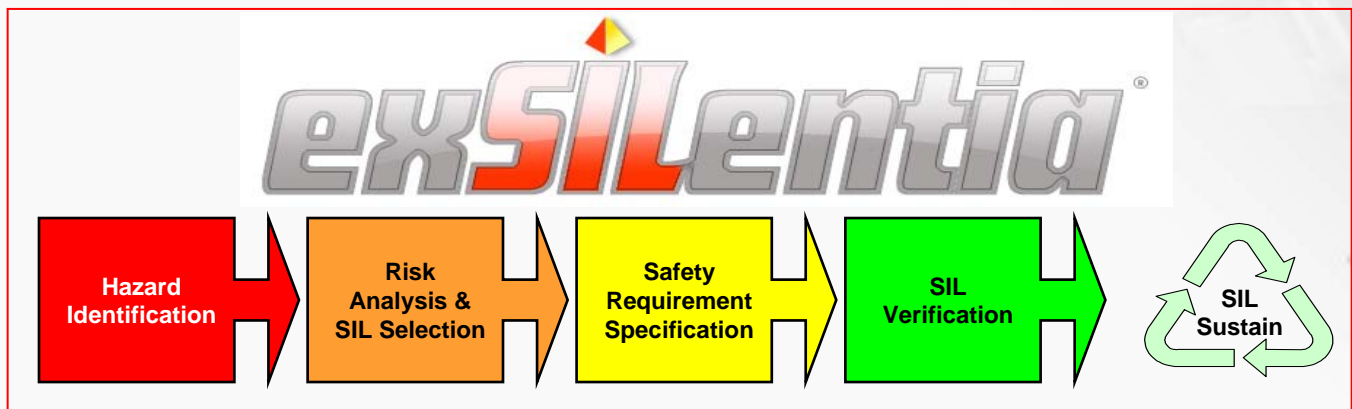


exSILentia[®] PHA Import Utility

Streamlined Safety Lifecycle through Software Integration

The **Hazard and Risk Assessment** phase is the foundation of the IEC 61511 Safety Lifecycle and aims to identify potentially hazardous events which must be prevented or mitigated. Process Hazard Analysis (**PHA**) is mandated in the US by the **OSHA PSM 1910.119** regulations and in Europe by the **Seveso II** directive, it has no prescribed form. The means by which hazards are identified may vary according to the complexity and operating experience of the processes and equipment as well as the practices of the operating companies and countries involved.

Hazard and Operability (**HAZOP**) studies are the most commonly used methods for identifying unwanted scenarios in the process industry and offer a thorough and systematic review of the plant design and operations using challenging combinations of guidewords and parameters which yield potential deviations. Key considerations of the HAZOP (or any PHA) include the possible **Causes** of the hazardous event, the resulting potential **Consequences** and the **Safeguards** which either exist or are required to reduce the risk to a tolerable level.



Features and Benefits:

- Import from PHA-Pro[®] and PHAWorks[®] files allows users to capture information generated during the HAZOP reducing project time.
- Import from other PHA application that support CSV exports allows integration with existing software programs eliminating the need to purchase new software.
- Data import eliminates human translation errors and ensures data integrity.
- Existing or potential SIF's are identified using worksheet headers or user-defined rules ensuring consistent implementation.
- SIL selection can be performed within the PHA software or exSILentia providing flexibility and insuring consistency with established procedures.
- SIF Cause-Consequence relationships are clearly identified and recorded creating an audit trail for PHA reviews and future analysis.



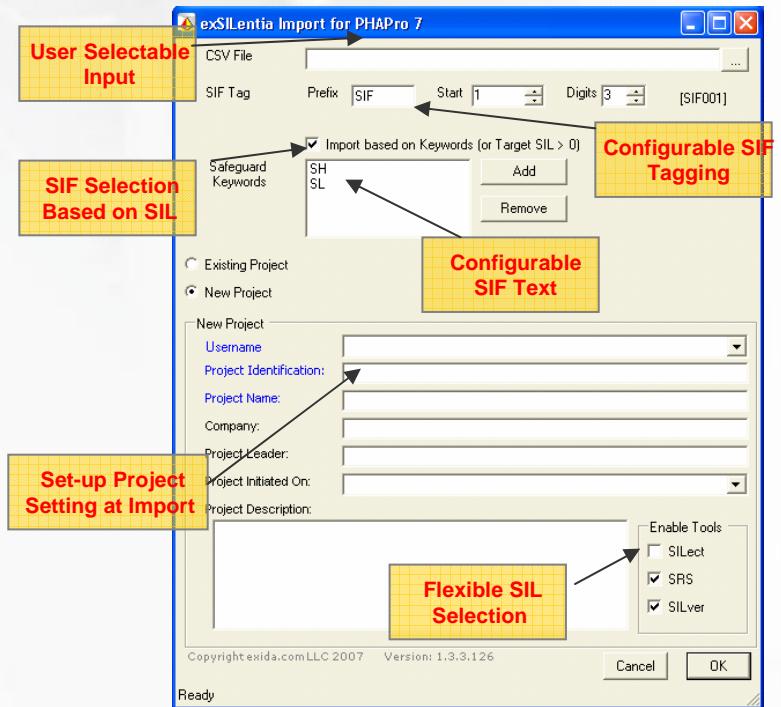
PHA Import, a recently developed application by exida, captures all the relevant information from the HAZOP and ensures that all identified hazards and safeguards considered necessary to address them are evaluated providing user's significant analysis and life cycle cost benefits.

As with any technical process, these reviews rely heavily on the quality of information and accuracy of **Assumptions** that are inputs to the analysis and can only seek to achieve reduced risk operations if the **Recommendations** are addressed in a complete and timely manner.

PHA Import provides clear and traceable relationship between the 'Hazard and risk assessment' and 'Allocation of safety functions to protection layers' phases of the Safety Lifecycle in accordance with clause 8.2.3 of IEC-61511-1.

How does PHA Import work?

PHA Import uses the existing functionality of PHA-Pro® and PHAWorks® to generate export files that can be directly read by exSILentia® to identify existing or potential SIF. The tool uses standard worksheet identifiers to transfer key information or user-entered text to search the PHA file for existing or proposed SIF safeguards.

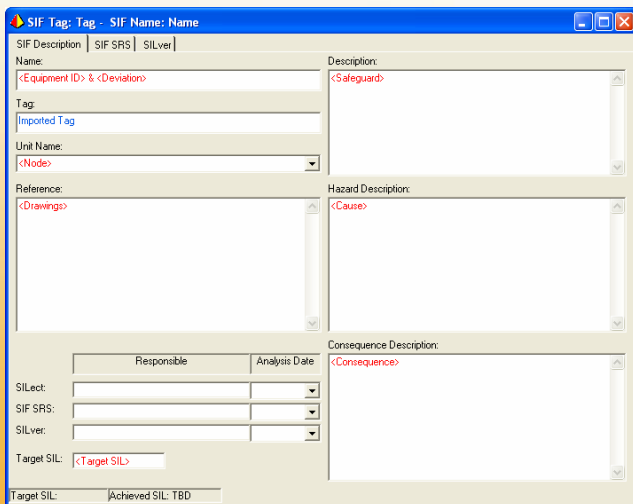


What additional support services are available?

exida PHA specialists have many decades of experience in HAZOP and other Functional and Process Safety reviews. We provide management and the documentation of these studies, as well as a customization service for PHA-Pro® and PHAWorks® to enable you to get the most efficient and effective use from your PHA applications.

Other services include:

- Online web-based training
- Customized on-site training
- Development of company or site record and reporting templates.
- Assistance to establish tolerable risk criteria.
- Preparation of corporate engineering and management procedures for PHA studies.
- Objective, independent evaluation of the risk reduction required (SIL selection) and the reduction that can be achieved (SIL verification)



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