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PROCEDURES FOR A TOTAL SITE ANALYSIS
UPDATE

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Traditionally the enhancement of energy efficiency in the process industries has been limited to single plant design by applying the well-known pinch technology or similar strategies. The transfer of such strategies to site-wide evaluations is a time consuming process which rises in complexity due to recent optimisation approaches like low temperature waste heat recovery, balancing studies for cooling water or CO₂ emissions. There is no doubt about the necessity of such advanced methodologies but for the practical application of energy analysis new challenges occur.

The data basis for a total site study is only valid for a static snapshot of the whole industry site. Changes to single process units throughout the designing phase of new industrial solutions as well as process modifications of existing plants necessitate a recalculation of the total site analysis.

Within this document a methodical workflow for a fast and reliable update of an expandable total site analysis is proposed. Criteria have been presented to quantify which type and extent of process changes require an updating of the total site analysis. Handling procedures on several levels of consideration will be described with the help of possible scenarios and actual process examples.