

Notes on writing a Synopsis

As mentioned above, writing a synopsis is the first step of writing a thesis at ISE. With this synopsis, you create the first overall sketch of your thesis and demonstrate your ability to perform scientific work. As a general recommendation, your synopsis should give a summary that includes the following five (plus one) aspects:

- Context: Explain the context and relevance of your topic, e.g., with a use case that motivates your work or by referencing related work (news reports, studies, etc.).
- Problem or research question within the context:
 - Point out the currently existing problem within this context that you want to address in your thesis. Why is this a problem? Why is it relevant?
 - As an alternative to a problem statement, you can formulate a research question that you want to evaluate in the context of your work.
- Solution idea/approach: Delineate the general idea/approach for solving or counteracting the identified problem. What is your idea/approach and what is the novelty in it? Why should it work? If you are not sure what approach or method could be applied, reading related work that tries to solve similar problems, might give you some inspiration for your own work.
- Aspired implementation: A prototype or implementation is an outcome of most thesis works performed at ISE (however, depending on your topic, this is not necessarily always the case). Describe how you are planning to implement your idea. What kind of technical outcome can be expected from your thesis? In what system context shall this result be applicable and how?
- Evaluation/assessment approach: Tell us how you are going to evaluate/assess your contribution. For example: compare the quality of your implementation with related implementations (performance, fault tolerance, security, ...); compare features of your implementation with features of related implementations; show new capabilities that your approach enables. On what basis could an external evaluator decide whether (or to what extent) you solved the problem / answered the research question identified above?
- (Timeline: Give a brief timeline indicating how long you intend to work on what aspects of your thesis. What are the major milestones and when are you planning to reach them?)

The expected extent of your synopsis depends on the supervisor, the complexity of your topic and your ability to write to the point – ranging from 1 paragraph per aspect to 5 pages overall. It should therefore be agreed upon with the respective supervisor.