

## Final Report Summary

## Testing the feasibility of developing a custom software tool to generate training sets for ATEEDA's core product OptimATE



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The project was a collaboration between ATEEDA Ltd. and ISLI, to test the feasibility of developing a custom software tool to generate training sets for ATEEDA's core product OptimATE.

ATEEDA operates in the field of Electronic Design Automation (EDA) tools and services for the semiconductor manufacturing sector. They specialise in using their unique patented IP to develop tests for the analogue parts of mixed signal integrated circuits (ICs). The technology allows analogue circuitry to be tested with digital test equipment, considerably reducing test costs. Their tools fit well with the trend to interface test (which is part of the manufacturing process) better with the designers. This trend has long been deemed desirable by manufacturers as physical geometries have reduced.

This work examined the feasibility of producing a custom software tool. The tool is to facilitate the convenient production of training sets for use with ATEEDA's core EDA tool, OptimATE. Without this tool, manipulation of the training sets requires expert assistance. The training sets use semiconductor IC netlists modified in specific ways suited to OptimATE. Part of the feasibility study was to assess and identify functions and features which will be required such as the ability to quickly pick and modify component parameters in a reliable and consistent way across an entire netlist. Achieving the aims of the TTOM project required skills in analogue IC design and software engineering plus intimate familiarity with the state of the art industry standard development tools.

As the partner in this project, ISLI contributed its expertise in analogue design, EDA tools and software development.

### Project Outcomes

The project has successfully demonstrated the feasibility of producing a front end tool for interacting with netlists and producing custom test sets. A demonstrator software tool has been created to prove the concept. In addition, a structured design framework has been created around which development of a commercial tool can be based.

This TTOM has enhanced ATEEDA's expertise in dealing with hierarchical IC netlists by transferring knowledge regarding their structure and correct use from ISLI experts to ATEEDA. The software demonstrator and final report are a key part of this knowledge transfer.

By utilising the TTOM scheme and the skills of ISLI, ATEEDA have significantly reduced the time required to bring their exciting new product concept to market.

As ATEEDA continue to develop their product, there is scope for further collaboration with ISLI. Indeed, ISLI have already been engaged to provide ongoing consultancy, and further options are being actively considered.

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