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A/D-converter performance evolution over time – exponential growth while hitting the wall

ADMS Design have executed a comprehensive study of analog-to-digital converter performance evolution over time, current trends, and what kind of A/D-converters can be expected around 2020 given the current trends. The study will be presented at the international research conference ICECS in December. "Our research results should be of great interest to technology strategists and decision makers", comments Dr. Bengt Jonsson, founder of ADMS Design AB. "Some performance measures show an unbroken exponential growth, while others hit the wall ten years ago. It's no longer possible to assume that everything will keep improving."

Dr. Bengt Jonsson, founder of ADMS Design AB, will present parts of the company research during the *IEEE International Conference on Electronics, Circuits, and Systems (ICECS 2010)* in mid December. The conference contribution analyzes technical limitations and performance evolution for analog-to-digital converters ("A/D-converters") over time, and estimates current trends. The analysis is also forward-looking and estimates the evolution during the next ten years if current trends hold.

"It is very inspiring to be able to present this", says Bengt Jonsson. "Our research results should be of great interest to technology strategists and decision makers among developers and users of A/D-converters".

"To the best of our knowledge, this is the first study of its kind that has chosen to review *all* scientific papers published throughout the 36 years of the field. We are talking about well over 1400 papers reporting experimental data, and that have been published in the journals and conferences central to the field. It is simply impossible to estimate reliable trends only by looking at the publications from the last few years, or a subset representing 10-20% of all data. You need to get the whole picture in order to interpret the data correctly. Therefore we have analyzed almost 100% of all significant papers published with the IEEE, and by that we believe we cover at least 90% of all interesting papers ever published."

The evolution trend study is part of a larger ongoing project at ADMS Design where research results are continuously integrated into the services offered by the company. "We call it *Experience-based Design Optimization*", says Bengt Jonsson. "It's a service we offer our clients. A methodology that systematically re-use the collective experience represented by the total amount of reported scientific and commercial circuit implementations and combine it with the clients in-house experience and preferences. It provides the client with a solid base for decision-making early in a project, showing among other things the level of difficulty, optimal architectures, how likely the performance specification can be met in a particular technology or at a certain supply voltage, and so on. I know from first-hand experience managing A/D-converter development projects for many years how valuable this type of information can be."

ICECS 2010 web page (<http://www.icecs2010.org>)

ICECS Technical Program (http://www.icecs2010.org/tech_program.html)

PRESS RELEASE

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