

ASTECC: Asynchronous Technology for Low Power and Secured Embedded Systems

Pr. Marc Renaudin

CTO of TIEMPO SAS
110 Rue Blaise Pascal
Bat. Viséo - Inovallée
38330 Montbonnot St Martin - France

Abstract. The presentation is highlighting recent advances and results of the MINALOGIC ASTEC project in the domain of asynchronous microcontroller design and wire-less sensor applications. The work carried out in the ASTEC project is focused on using the asynchronous technology industrialized by Tiempo to design low power and secured embedded systems. In collaboration with TIMA laboratory and CESTI/LETI, Tiempo fabricated and evaluated two versions of a fully asynchronous microcontroller, one without security feature and one with security counter-measures against power and fault attacks. Sensaris and Tracedge are integrating the asynchronous microcontroller into their systems in order to take advantage of the technology, and design competitive products for the low-power embedded systems market (wire-less sensors, medical systems, RFIDs...).