# Digital VLSI Design for Wireless Autonomous Sensor Nodes.

## Jos Huisken

## Holst/IMEC-NL Research Center, Eindhoven, The Netherlands.

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*entrada libre hasta completar el aforo*

## resumen:

After a short introduction of the Long-Term Research Activities of the Dutch IMEC organization, I will show how we approach low-power digital design for the WATS (Wireless Autonomous Transducer Systems) program. A VLSI design activity is mostly initiated by a customer/partner who wants to see an application in the personal health or biomedical domain realized in a (silicon) prototype. Digital signal processing algorithms from this application are mapped onto an Application Specific Instruction-set Processor (ASIP), providing both limited flexibility and high power efficiency. Such architectures are subsequently implemented using low-voltage and low-power techniques in standard CMOS processes using latest technological nodes. In the presentation I will also show some industrial chip examples of the WATS technology and indicate some interesting future research topics in this area.

## sobre Jos Huisken, Holst:

Jos Huisken received his Masters degree in Electrical Engineering from the University of Twente, the Netherlands, in 1984. In this year he joined the Philips Research Laboratories where he was involved in Digital Signal Processing IC design, architectural synthesis together with logic synthesis and CAD for layout generation.

Since 1991 the application of synthesis techniques has led to the design of several baseband chip for digital audio broadcasting. After a period of working on 3G mobile error correction and low-power design, Dr. Huisken took the role of Senior Project Manager where he helped to create Silicon Hive, a processor design company.

Since 2008 he joined IMEC Nederland as Principal Scientist driving the ultra low-power digital signal processing activity for wireless autonomous transducer systems at the Holst/IMEC-NL International Research Center.