

## Research

At HSPdigital we have as main research line the FPGA implementation of DSP techniques for industrial applications.

From the DSP point of view, we manage the design of: digital filters, space transforms and non-linear processing. These mathematical techniques are implemented into integrated circuits by VHDL description into FPGA.

From the application point of view we are devoted to the design of: data acquisition systems and industrial instrumentation. Our most recent fields are: current monitoring for the detection of induction motor failures and vibration analysis for industrial machinery.

The general procedure task is to use mathematical tools for modelling with the design of the digital structure to be implemented into an FPGA and provide the solution to an industrial problem.

Our specific specialities are: instrumentation, digital signal processing, digital systems and mechatronics.