Video Pipeline implementation for an Endoscopy device

For a Tier1 Medical Technology Company

ignitarium®
Spark On.

INTRODUCTION

A Tier-1 medical technology company catering to a wide variety of medical equipment approached Ignitarium to implement an FPGA-based video pipeline for an endoscopy device.

FPGA Design

Industry

HealthCare

Scope

Architecture to System Validation

FPGA Development

Embedded Software

Testing and Validation

THE CHALLENGE

Ignitarium was tasked with creating the entire FPGA-based solution for converting the endoscopy camera feed to processed video to be directly displayed on two HDMI 4K displays. The challenges were

- Entire scope from architecture to FPGA Validation had to be undertaken

- 4K SDI IP was obsoleted by FPGA vendor. No support available

- Latency had to be less than 1 frame

- Frame processing features like rotation and logo insertion had to be incorporated

IGNITARIUM'S SOLUTION

- Handled entire scope from architecture, FPGA design, Embedded software development, integration, unit testing and system testing

- Complete FPGA pipeline using both Altera IPs and Custom IPs

- Custom video algorithms for mixing and rotation

- Involved in both FPGA implementation and firmware running on Nios2

- Latency kept to within a frame using custom software implementation

BUSINESS IMPACT

Complete ownership of the program from FPGA architecture to system testing in a Fixed Price model

Solution is in production and powering the customers marquee endoscopy product

Looking to transform your product?

Drop us a line to get in touch with our experts.

Contact Ignitarium at info@ignitarium.com