VELOCITY SCANNER DEVELOPMENT

SOLUTION DELIVERED
- Designed mixed signal micro-controller C8051F132 having a high speed 8051 µc core with built in 128K banked flash and 8k RAM
- Developed Schematic capture, BOM, Board layout, routing, Gerber and costing for prototype production
- Developed testing and diagnostic softwares
- Functions of the micro-controller include Time-stamping sync and target events, Event Data Buffering, Calibration Data Storage, Motor Speed, Serial Communication and Laser Control

BUSINESS NEED
The client envisaged to design and develop Velocity Scanner, a frame straightening and measuring equipment used as a vehicle repair system based on a reference design. It uses two lasers reflected off rotating mirrors to triangulate precise 3D locations on the frame of a damaged vehicle. The process met various challenges, some of them being:
- The biggest challenge was to obtain a measurement resolution of one millimeter on a target at five meters distance with each hub (mirror) measurement having an angular accuracy of 0.001 degrees
- Longevity of the design in terms of critical components and selection of readily available motors that would contribute towards long viability of the design

TECHNOLOGY USED
- C8051F132 micro-controller with built-in 128k flash & 8k RAM
- 128KB of External RAM

BUSINESS BENEFITS
- Long term one-time investment
- Precisely accurate

THE CLIENT
The client is a market leader in vehicle system repair system manufacturing.

ABOUT ALTEN CALSOFT LABS
ALTEN Calsoft Labs is a next gen digital transformation, enterprise IT and product engineering services provider. The company enables clients innovate, integrate, and transform their business by leveraging disruptive technologies like mobility, big data, analytics, cloud, IoT and software-defined networking (SDN/NFV). ALTEN Calsoft Labs provides concept to market offerings for industry verticals like education, healthcare, networking & telecom, hi-tech, ISV and retail. Headquartered in Bangalore, India, the company has offices in US, Europe and Singapore. ALTEN Calsoft Labs is a part of ALTEN group, a leader in technology consulting and engineering services.

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