

CUSTOMER CASE STUDY

How to successfully bring a complex project to market, on a restricted budget?

March 2018



ABOUT THE CLIENT

The Customer.

- \ Multinational engineering and electronics company
- \ Large automotive supplier for international markets (China, Europe, USA & Latin-America)
- \ Isolated contact person and restricted access to information due to confidentiality policy and isolated internal support
- \ Trusted and long-term customer of Asteelflash

ABOUT US

ABOUT ASTEELFLASH.

- \ Global leader within Electronic Manufacturing Services (#2 European EMS)
- \ Over 15 years of experience with seasoned, talented employees
- \ State-of-the-art manufacturing capabilities in every region
- \ From PCBA to full turnkey solution
- \ Founded in 1999

Our customer needed a partner that could guide them to design a product without much specifications.



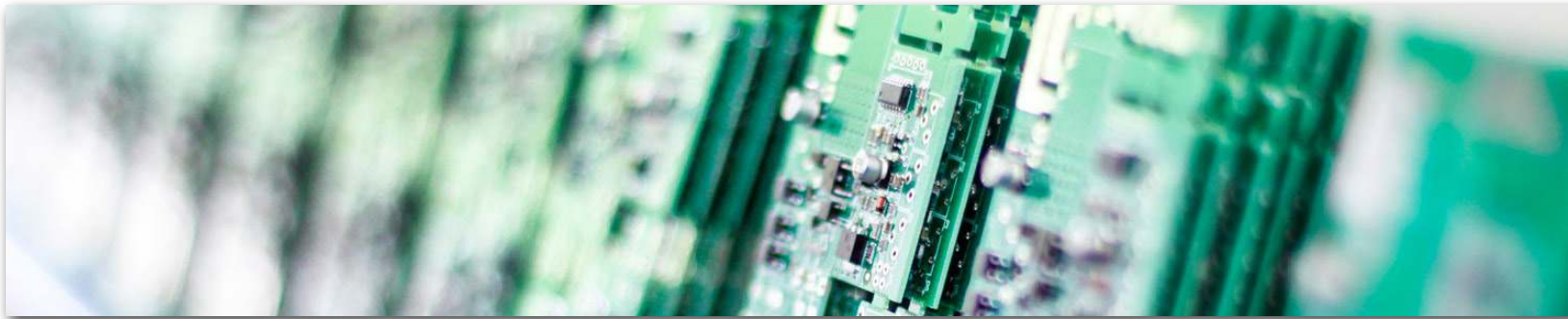
\ CHALLENGES.

- \ Use New Technologies and Innovations in a conservative industry – different from everything that competition did before.
- \ Few specifications available in the beginning and a lot of evolution along the way, which implied a high rate of change in the development process.
- \ High density of features and components in the available space.
- \ Restricted budget due to entrepreneurial initiative of one engineering team without initial support from management
- \ Management team started supporting project when seeing the success on trade fairs and notable customer requests



\ ASTEELFLASH SOLUTIONS

- \ Conceptual design study with regard to costs, deadlines and flexibility
- \ Material and supplier selection
- \ Development of hardware in four steps:
 - \ Fake Sample for market analysis at trade fairs and at customers and within the customer organization
 - \ Prototypes technical performance feature check
 - \ Full function prototypes for system validation in the target application
 - \ Final sample for worldwide certification (radio, EMC Safety etc.)



ASTEELFLASH SOLUTIONS

- Development & Adaption of board support package and low layer software for a Linux real time operating system
- Design for Manufacturing (DfM), Design for Test (DfT) and Design for Cost (DtC) services
- Development of production test equipment
- NPI and Production
- Support and experts involved in the project





A PROJECT FROM PROTOTYPE TO MASS-PRODUCTION

- 2009 \ **10** first contact with very weak specifications
- 2010 \ **02** estimated production target prices + possibilities of manufacturing
04 client realized a supplier audit
05 commissioning of an evaluation of a suitable operating system
08 order of 5 prototypes
10 realization of 30 samples with first pre-series functionality
search PCB manufacturers
- 2011 \ **02** adaptation of specifications with first small quantities
(20 pieces) to perfect hardware and software
05 preparation of testing concept



A PROJECT FROM PROTOTYPE TO MASS-PRODUCTION

2012 \ **11** finalization of testing

2014 \ **01** continuous improvements in the series / various adjustments to both
12 modules over the different version

2018 \ **04** amount produced increases slowly but continuously: currently 1500 pcs/y

**The package includes control unit (pcb, display, affected in the housing)
& performance electronics (pcb with mounted cooling and control plug)**