

AVIONICS



INDUSTRIAL

AUTONOMOUS

MASTERING SAFETY-CRITICAL PRODUCT DESIGN

FOR LONG-TERM FINANCIAL
AND TECHNICAL SUSTAINABILITY



OVERVIEW

When the right processes and procedures are put in place from the outset, your business can achieve quality, safety, financial stability, and long-term product sustainability all in one.

From the very beginning, it is important to clearly define:

- What purpose your product will serve
- How you will ensure regulatory compliance
- How you will incorporate feature enhancements over time

Spending a few extra dollars in the planning stages will pay dividends in the long run, whereas cutting corners to save money in the early stages will increase your costs by 10x, 100x, or perhaps over 1000x from having to resolve issues later on.



COMMON PITFALLS IN PRODUCT DESIGN

1

Not laying out the **proper design road map**

2

Not taking the proper **costs** into consideration

3

Not understanding the submission process and how it relates to **design documentation**

4

Cutting corners in the process to save money, which leads to process and financial issues at the time of submission

5

Not going to **third-party professionals** to acquire the necessary assistance, advice, and services that you need



BEST DESIGN PRACTICES

LONG-TERM TECHNICAL SAFETY, STABILITY, & COMPLIANCE

1

Lay out the clear, intended use for the products with a market in mind.

2

Don't hamstring your engineers by telling them how to achieve your intended use. Instead, tell them what you would like to achieve, and have them figure out the best way to get there.

3

Create very detailed documentation at the beginning of the process, including high-level specifications to be tested at the end of the process.

4

Engage with and outsource to third-party professionals (in engineering, quality assurance, finance, and so forth) to fill in the gaps where you do not have the knowledge or technical understanding in-house.

5

Always follow the processes and procedures with safety in mind, in addition to the long-term financial plan and product road map.



BEST DESIGN PRACTICES

RAPID RETURN ON INVESTMENT & LONG-TERM PROFITABILITY

1

Understand the market relevance of your products and the different types of functionality that will be needed, short and long-term. This will drive the design process to deliver the first generation of products submitted to market first. This will lay out your product road map.

2

Once your product roadmap is laid out, the first generation can start to pay for future functionality. If the processes and procedures have been followed properly, this will result in the ease of functional upgrades and profitability later on.

3

Be realistic when it comes to your financial road map. It is crucial to invest early on to avoid hiccups down the line, but you also cannot spend infinite money on planning with no idea how to bring a product to market. From the very beginning, you should plan for:

- How much money it will cost to bring a product to market
- How quickly you can recoup that initial investment
- The stages you may need to get additional funding (and how)
- How profits from the first iteration of your product will pay for additional features and benefits in future iterations



WORKING WITH
GENERAL DIGITAL

General Digital Product Development and Software Services has been around for almost 50 years, and has not only followed the recommended processes and procedures above, but has helped in the creation and implementation of them. We adhere to strict engineering practices to help guide the customer to products that can get to market faster and as safely as possible, with a long-term plan in place for easy upgrades of functionality and keeping the business case top of mind.

General Digital marries hardware with software, and holds a keen eye on safety-critical environments which are unparalleled in this market by any other company. Historically, we have gone from a “Napkin” to a POC (Proof Of Concept) of a brand new cutting-edge product in 18 months.



Safety critical and **mission critical** aren't just buzzwords to General Digital.

They're a way of life.

Everything we do is in compliance with the most stringent certifications.

When life is on the line, General Digital is ***the right choice.***

CONNECT WITH US

PRODUCED BY

