

# Collaborative Solutions

Effective collaboration between an OEM and a specialist design house  
is the key to success of product development projects

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It was a well established company in industrial networking space with several successful products and a virtual monopoly in some segments. The company was ready to introduce a new product line that benefited from the advances in technology. With their engineering team's great understanding of their existing products and the market demands, designing the new product in-house was their obvious choice. Begun with great enthusiasm, the project started falling into cracks as the team failed to meet performance and cost targets for the new device. Eventually, the project was subcontracted to an engineering company that virtually started the development afresh.

## *Is in-house design the best approach?*

In spite of experiences like these that not very uncommon, why do a large number of OEMs and product companies decide to do their design work in-house? From an engineering standpoint it may be argued that the product company best understands the application and the requirements of the product. The management perspective could be that of effective use of their engineering resource during the workload troughs, while the HR's interest may purely be in offering 'challenge' to their employees.

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While the in-house engineers excel within areas of their core competence, in several cases the fact is that they have undertaken only a handful of new product designs in the past - in cases, none at all! The team may be found lacking on several issues when it comes to designing a new product from scratch.

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The low frequency of design may also mean that the company has to invest too much in the latest design tools for every new project. Component selection is often restricted to the limits of the team's processor awareness and tradeoffs through OS cost and availability. As more and more new manufacturers are sought for the different manufacturing technologies the risk of failure increases. Even if manufacturability issues were addressed at the design stage, the product may still ultimately perform unreliably over the course of the product lifecycle.

Invariably projects like these face time and cost overruns, as the engineers struggle with new technologies, tools and components they are not familiar with, all the while trying to cope with the interruptions caused by their routine work.

How does this compare with partnering with a specialist design house?

## *Specialist skills for a specialist job*

A specialist design house uses the latest tools and has a proven development process that drives down risk to a level where clients can expect a working pre-production prototype at the first attempt. The high frequency of design projects also means that the design house can develop libraries of pre-constructed, proven schematic and layout building blocks, which significantly reduce the development cycle and time to market.

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The very nature of a design house business implies strong relationships with chip designers and tool vendors. These relationships provide tailored levels of support, easy access to technical expertise and a greater vision of product roadmaps usually only reserved for accredited design partners.

However, at times the design house engineers may be found lacking the domain knowledge.

### **Collaboration is the key**

For a project to succeed it is vital that the project is a true collaboration between the OEM and the specialist design house. Domain expertise of the OEM coupled with the technical expertise of the design house will often result in the most successful execution of the project.

A good design house needs to act as an extension of the OEM's engineering department, building relationships at both management and engineering levels to ensure that the project's technical and commercial needs are fully met.

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### **Best practices**

A good design house will always supply a design specification, which conforms to a baseline for the technical and commercial requirements. This is submitted for formal approval, prior to commencement of any further work. Project plans are tabled, demonstrating how the company is going to achieve the required timescale, and significant milestones of the project - design specification, schematics, layout, firmware and prototypes which should all be formally signed off by the customer.

Well defined project execution processes ensure that the status of the project is precisely captured and is available to the client for effective tracking. The client doesn't have to lose control on the project merely due to the physical distance.

Provisions such as a lifetime warranty for the product keep the design house on standby to assist, should component obsolescence require design modifications. To the client this really means that they have quantifiable costs and a responsive outsourced engineering 'department', which means that they can focus on the business that they know best.

### **Concise**

For an OEM, outsourcing its custom design ensures lower cost, eliminates the ongoing design overheads from an OEM's business and provides an economic, low risk method of temporarily augmenting the engineering team with skilled resources. A specialist job like custom design needs a specialist to do it effectively – why should anyone choose otherwise!

### **About the author**

Mohan Chaubal is founder and CEO of Spring Computing Technologies Pvt. Ltd.

*Committed to delivering innovation, Spring collaborates with its clients to develop high quality, high-performance products. With deep industry and technology expertise, and broad resource base, Spring can mobilize the right people, skills, and technologies to help clients maximize utilization of their R&D budgets.*

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