CommAgility Limited
Charnwood Building,
Holywell Park, Loughborough,
Leicestershire LE11 3AQ, UK.
Tel +44 (0) 1509 228866
sales@commagility.com
www.commagility.com

How can wireless OEMs outsource to improve competitiveness?

Introduction

In the embedded electronics sector, and particularly in the wireless market, Original Equipment Manufacturers (OEMs) are under pressure to reduce their costs, to get products to market quickly, and to do more with fewer resources – all without increasing their risk.

To meet these challenges, and to reduce their Total Cost of Ownership (TCO), many OEMs are looking to outsource certain aspects of their business. But how can they analyse the costs, risks and benefits of outsourcing versus designing and building in house?

More generally, how should customers decided whether to make products themselves, or work with a partner that can provide a higher level of expertise? How can they make sure they are comparing like with like in the three key areas of cost, risk and time to market?

Analysing costs

While it may appear straightforward to cost an in-house project, it is important to make sure all expenditure is considered. As well as direct costs such as the bill of materials, OEMs need to carefully list all the resources involved in the project, and factor in the cost of capital used. It can be easy to miss all of the other costs involved, and these need to be calculated.

Indirect costs in a project can include:

- Opportunity costs of being late to market
- Management time of handling relationships with the supply chain
- Time and cost for engineers to acquire new skills
- The cost of recruiting new team members where capabilities are lacking
- Depreciation of capital equipment
- Capital funding and raising finance

The capital expenditure required on equipment and facilities is also an unwelcome burden.

By working with an expert partner, OEMs can minimize these costs, and even more importantly focus on their core competencies where they will get a better return on the time and money invested. In some cases CapEx can be reduced or removed, allowing costs to be shifted to the operating budget.

How outsourcing can reduce TCO

- Reduced in-house costs (direct and indirect)
- Reduced development time – and hence time to market
- Reduced risk

There are also opportunities to reduce operating expenditure by sourcing products from a partner. For standards-based, off-the-shelf products, the partner may well be able to obtain

CommAgility Limited
Charnwood Building,
Holywell Park, Loughborough,
Leicestershire LE11 3AQ, UK.
Tel +44 (0) 1509 228866
sales@commagility.com
www.commagility.com

significant component discounts due to volume, and then pass these savings on to their OEM customers. Other costs incurred by the partner, such as the investment needed to develop skills or expenditure on certifications, can be amortized across multiple customers, and hence be lower for the OEM than paying for these items themselves.

It's not just about the initial design and test – cost calculations need to consider the whole life of a product, including any upgrades or revisions. Obsolescence also needs to be planned for, as well as end customer support over the years.

Time to market

Of course, financial considerations are not all about the spending involved in a project. More widely, an analysis needs to look at the returns that are going to be achieved.

One of the biggest factors that can affect the overall success or failure of a project is time to market. The speed with which a product is available can be crucial to its competitive position, and its ability to generate profits, in turn reducing capital funding costs.

With product life cycles typically shortening, there is more pressure than ever today to reduce development time – while all the time technology is getting more complex and engineering teams are getting stretched ever more thinly.

Outsourcing can significantly cut time to market. By working with an experienced vendor that has the right skills in place, a project can short cut many stages, and reach the market far faster.

Flexibility is also increased, enabling fast changes to be made part way through a project if needed, for example to respond to changes in the design specification.

Risk reduction

With any project, minimizing risk is essential. While many OEMs have experienced, skilled teams, they may lack the specific skills required to undertake complex, standards compliant designs. If initial attempts at a design are unsuccessful, going through multiple design cycles increases time to market, adds cost, and introduces uncertainty.

By working with an expert in embedded processing for the wireless sector, OEMs can effectively extend their engineering team to give them the skills and experience they need. Close co-operation in the design phase, followed by responsive technical support and service from the partner, ensures that all stages of a project succeed. An outsourcing partner that has successfully completed similar projects can give OEMs the confidence that risk is kept as low as possible.

Another potential way to reduce risk is to assemble a solution from standards-based products that are known to work together. For example, an ecosystem has grown up around the MicroTCA standard, with flexible, modular components that can be put together to meet an OEM's specific needs.

CommAgility Limited
Charnwood Building,
Holywell Park, Loughborough,
Leicestershire LE11 3AQ, UK.
Tel +44 (0) 1509 228866
sales@commagility.com
www.commagility.com

Any potential partners need to be evaluated from a commercial perspective. Do they have evidence that they are financially stable, that they are successful in their market? This can give the OEM confidence that the partner will be around for years to come, and able to provide long-term support.

Different perspectives

It's worthwhile to consider these arguments from different perspectives within an OEM. For a start, the engineering team will evaluate the products of a potential partner in terms of technology and performance, but what other functions are involved?

The manufacturing team within an OEM will look at a potential partner and consider their operational skills, and in particular how this affects overall costs. Similarly, the procurement department will be focused on price, as well as predictable delivery times. A capable partner can meet these demands on cost, and should also be able to demonstrate how they can meet the logistical challenges of delivering product on time, every time.

Beyond this, the OEM may have a team tasked with quality, and they will need to assess the overall capabilities of the partner – and how their expertise in an area such as DSP or FPGA design can translate into product features and reliability.

Then the service group within the OEM will review the support provided by the partner, and how this will help them deal with their end customers. For example, with an expert partner on hand to provide support for specialised areas such as FPGA test and debug, the OEM can invest less in training its own staff in these subjects.

Finally, the OEM's management will take an overall view of all areas, but in particular will look at aspects with commercial implications, such as time to market.

Conclusions

When planning an embedded project, wireless OEMs should consider outsourcing the design to a specialist with expertise in the appropriate technologies, a deep knowledge of the market sector, and the service capabilities to support a project throughout its lifetime.

Outsourcing to the right vendor gives access to a ready-built engineering team that has the skills and experience to reduce risk, deliver a project on time, and cut TCO – and therefore increase profitability.

CommAgility Limited
Charnwood Building,
Holywell Park, Loughborough,
Leicestershire LE11 3AQ, UK.
Tel +44 (0) 1509 228866
sales@commagility.com
www.commagility.com

About CommAgility

CommAgility is a leading manufacturer of signal processing AMC modules. Customers around the world use CommAgility products to develop high performance applications, with a particular focus on wireless baseband. CommAgility was honoured with a Queen's Award for International Trade in 2013, and has featured in the Deloitte UK Fast 50 list of fastest growing technology companies in 2012 and 2013.

We are agile and fast to react to our customers' specific needs, offering a base technology platform that we can quickly customise. We primarily work with OEM customers who we support closely in order to ensure success of their product.

CommAgility's engineering team is massively experienced, with the four co-founders each having worked in embedded signal processing for more than 20 years. The team has worked on cutting edge DSP and FPGA technology through multiple product generations, and has the expertise to develop systems quickly and effectively, and to deliver complicated projects on time, every time.

CommAgility is a member of key industry bodies such as PICMG and the RapidIO Trade Association, and works closely with major vendors such as Texas Instruments and Xilinx to ensure we have access to the latest technologies.

What our customers say

HERMON LABORATORIES

"Technology is evolving all the time, and with CommAgility we have a solution that will support us and our roadmap now and in the future."
Alex Usoskin, CEO, Hermon Laboratories

AEROFLEX

"CommAgility's AMC-D4F1 was chosen because it provides superior processing power and density. CommAgility delivered working product quickly enabling our development to start early. It combines technical excellence with speed of development. CommAgility has also consistently provided excellent technical support from day one of our engagement with them."
Evan Gray, Product and Marketing Director, Aeroflex Wireless Division

ETRI

The knowhow of CommAgility has been very helpful to ETRI from sketch stage to now. CommAgility's powerful products portfolio and support will keep contributing to our next generation telecommunications technology research."
YJ Bahg, Principal Researcher at ETRI