ASIC PROJECT DEVELOPMENT

A BRIEFING CHECKLIST

THIS PRO-FORMA HAS BEEN DEVELOPED TO ASSIST IN THE PREPARATION OF A BRIEFING AND SPECIFICATION OF AN ASIC DEVELOPMENT PROJECT. ITS AIM IS TO HELP IN THE CONSIDERATION OF ALL THE ELEMENTS REQUIRED AND AT THE SAME TIME HELP US TO PREPARE AN ACCURATE COSTING AND TIME PLAN TO FACILITATE THE SUCCESSFUL COMPLETION OF YOUR PROJECT. IF YOU HAVE ANY QUESTIONS OR NEED CLARIFICATION ON ANY POINT PLEASE GET IN TOUCH WITH US AT SWINDON SILICON SYSTEMS. WE HOPE YOU FIND IT HELPFUL.

SECTION 1: INITIAL PLANNING

Help to consider the method of development from the outset please answer YES or No

1. *Can we develop the product function with COTS (Commercial off the shelf components)?*
2. *Can we meet the product performance spec with COTS?*
3. *Can we produce the product at an optimum cost and meet the target level for ROI?*
4. *Is the product going to be smaller and better than our competitors with COTS?*
5. *Can we meet my board space target for the product with COTS?*
6. *A smaller product will gain us some advantage (commercial or otherwise)?*
7. *Can achieve the cost targets with COTS?*
8. *Safeguarding Intellectual property is not important?*
9. *We need to complete the product development cycle within 1year?*

If the answer to any of the above is 'NO' then move on to the next section. Your ASIC project will be optimally served by approaching those with existing products that match your criteria.

SECTION2: CONSIDERING OTHER SOLUTIONS AND MEETING TARGETS

Please answer YES or NO

1. *Can we optimise the board space by using FPGAs?* ☐
2. *Would FPGAs be a better solution in terms of size performance and cost?* ☐
3. *Safeguarding Intellectual property is not important?* ☐
4. *If we use COTS and / or FPGAs is this going to enable us to achieve;*
    - *Power consumption targets?* ☐
    - *Product performance spec?* ☐
    - *Optimum product size?* ☐
    - *The required ROI?* ☐
    - *The cost targets & budget?* ☐

If the answer to any of the above is 'NO' then move on to the next section:

SECTION3: PRODUCT LIFE CYCLE & ROI

Please answer YES or NO

1. *Can we afford a 2 year product development cycle?* ☐
2. *Can we meet the product performance targets if we integrate all / some of the product onto an ASIC?* ☐
3. *Can we achieve my ROI targets? (This very much company specific but if the development costs could be re-couped in 1 -2 years of product sales this would be a good target)* ☐
4. *Does this give us a leading edge over our competitors in terms of size, cost or performance?* ☐

If the answer to any of the above is 'Yes' then developing an ASIC would be the correct decision

THESE NEXT SECTIONS DEAL WITH THE SELECTION OF A SUITABLE ASIC DESIGN AND SUPPLY PARTNER

SECTION 4 DESIGN COMPETENCE:

1. *Has the company done any designs similar to our required ASIC?* ☐
2. *If not can they demonstrate/ convince that they have the skills.* ☐
3. *Does the subcontractor have a good / reasonable understanding of what the ASIC has to do?* ☐
4. *Can they see any pitfalls in integrating our system? (Often shows that they have an understanding of the practicalities of integrating existing board level designs)* ☐
5. *Do they have a track record in ASIC DESIGN?* ☐
6. *Do they have the resources for Analogue design (simulation / verification tools)?* ☐
7. *Do they have the resources for Digital design (VHDL / Verilog experience, Synthesis, ATPG, auto layout)?* ☐
8. *If technology is known, has the subcontractor used this process?* ☐
9. *Is this going to be a turnkey design or based on a set of IP blocks.* ☐
10. *Who will have ownership of the design / chip?* ☐

SECTION 5 TECHNOLOGIES

In this section we give you the means to establish the capabilities and experience of your ASIC partner. Of course some of the answers may not be suitable for a simple YES or No so give yourself some sort of value judgement.

1. *What technologies does the subcontractor have access to?*
2. *Do they access to an optimum process for my ASIC?*
3. *Can it be second sourced?*
4. *Do they have a proven business relationship*

   with the process house?

   (if yes then they will be knowledgeable about process models,

   be able to get access to foundry technical support,

   will have commercial track record with foundry

   and possibly better subcontracting pricing)
5. *What is the subcontractor / foundry's obsolescence policy?*
6. *Does the subcontractor conform*

   to an accredited standard ISO 9000 or similar?
7. *What is their method of reporting progress on the project*

   i.e. do they have a design flow?
8. *Is the subcontractor solvent?*

   I.e. check profitability and trading continuity

   during either the design or production phases.

   Is there a group holding company of substance?
9. *Is the subcontractor offering a complete service?*

   I.e. design, fabrication, packaging, production test, qualification.

10. *How much is the subcontractor implementing and what is outsourced?*

11. *Does the subcontractor have the CAD resources to carry out the design services or will they be sub-contracted?*

THE QUESTIONS OF COST

Perhaps the most fundamental questions are those concerned with cost but even so it is wise to ask what is included….

1. *What are the NRE costs and does this cover everything up to production parts*

2. *What is the unit cost for the part?*

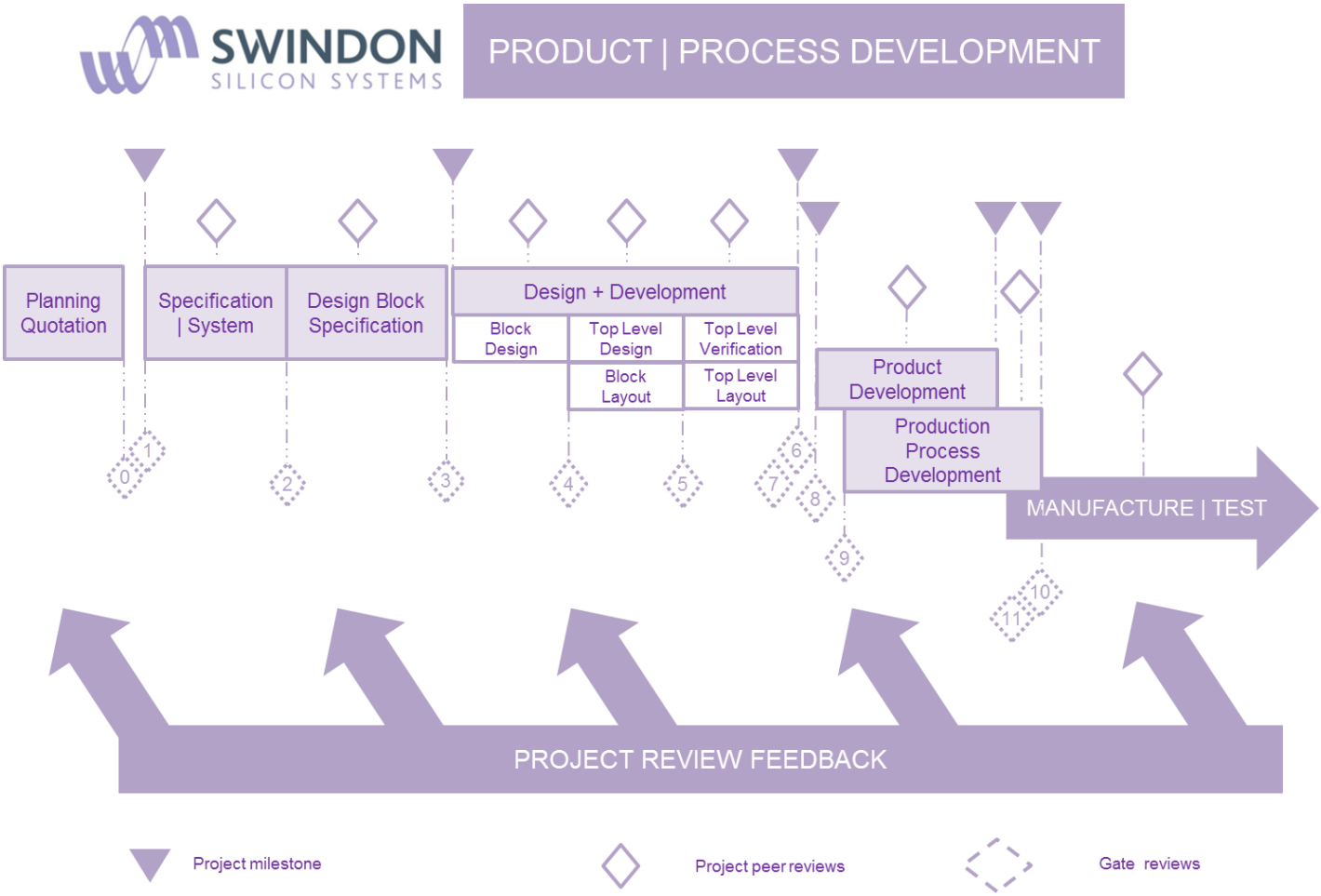
SECTION 6 WORKING TOGETHER

WORKING WITH SWINDON SILICON SYSTEMS

We recognise that any project to design and develop an ASIC is an important project with both technical and commercial requirements, with over 350 successful projects we have developed a set of practices and processes which aim to deliver success in both areas.

DESIGN + DEVELOPMENT

The design + development process flow chart show the process we adopt you will see that give many opportunities for testing and customer involvement so that the project stays on track and to specification.

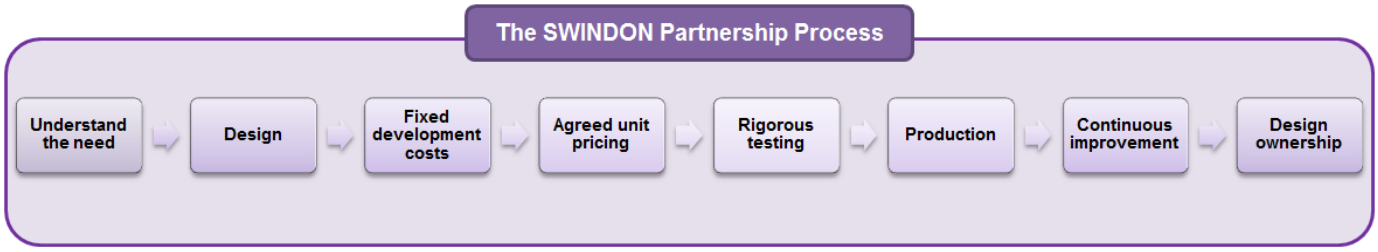


By combing our own design and engineering expertise with the capabilities of top foundries worldwide and then our own extensive in-house testing facilities at SWINDON we firmly believe we are the best partner for your ASIC project.

COMMERCIAL PARTNERSHIP

There are many issues in an ASIC development and production project which impact of the choice of partner and the costing and competiveness of the final outcome. That I why at SWINDON we have evolved a mutual approach with the aim of working in partnership with our customers to achieve the right balance of decisions and choices in terms of development and unit costing and intellectual property.

The chart below details the approach form our initial contact through to the delivered product.



So by looking simultaneously and constantly and both the technical aspects of an ASIC project you will find that SWINDON Silicon Systems are a worthy partner for your ASIC project

THE NEXT STEPS

As SWINDON Silicon Systems we believe we can match the criteria need for almost any ASIC development project. The completion of this proforma means we can quickly come to you with a costed plan. We would be please if you were to allow us to prepare a quotation

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SWINDON SILICON SYSTEMS SPECIALISE IN ASIC DESIGN, MANUFACTURE AND TESTING.

WE DEVELOP ASICS WHICH ARE AT TODAY'S LEADING EDGE WITH OVER 300 YEARS OF EXPERIENCE THROUGH ONE OF THE TOP DESIGN TEAMS IN THE WORLD.
THEY ARE USED IN AUTOMOTIVE, MEDICAL AND INDUSTRIAL APPLICATIONS ALL OVER THE WORLD.