

Wealth Creation From Technology

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High Value Manufacturing / Design

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<http://www.cir-strategy.com>

SWOT Analysis is a Very Useful Tool

<u>Strength</u> Technology		<u>Weakness</u> Poor Start Point	
Team <ul style="list-style-type: none"> •Low Power •Low Cost •Simple •Small 		Resources <ul style="list-style-type: none"> •Market share •Market Profile •Revenue •Marketing expertise 	
<ul style="list-style-type: none"> •Flexible •Responsive •Dynamic •Successful •Enthusiastic •Extensive systems expertise 		<ul style="list-style-type: none"> •Limited Resources •Lack of third party development tool support •Characterisation/test •Reliance on foundry manufacturing 	
<u>Opportunities</u> Markets		<u>Threats</u>	
<ul style="list-style-type: none"> •Portables •Embedded Control •Automotive •Radiation Hard 		<ul style="list-style-type: none"> •Big Rivals •Own No Patents •Small team relying on individuals •Existing Commitments yielding low revenues •Single customer at present •No control over income 	
Places and partnerships			
<ul style="list-style-type: none"> •Japan/Far East •Europe OMI •Silicon manufacturers •Silicon Users •Silicon Distributors •Apple •Consultancy 			

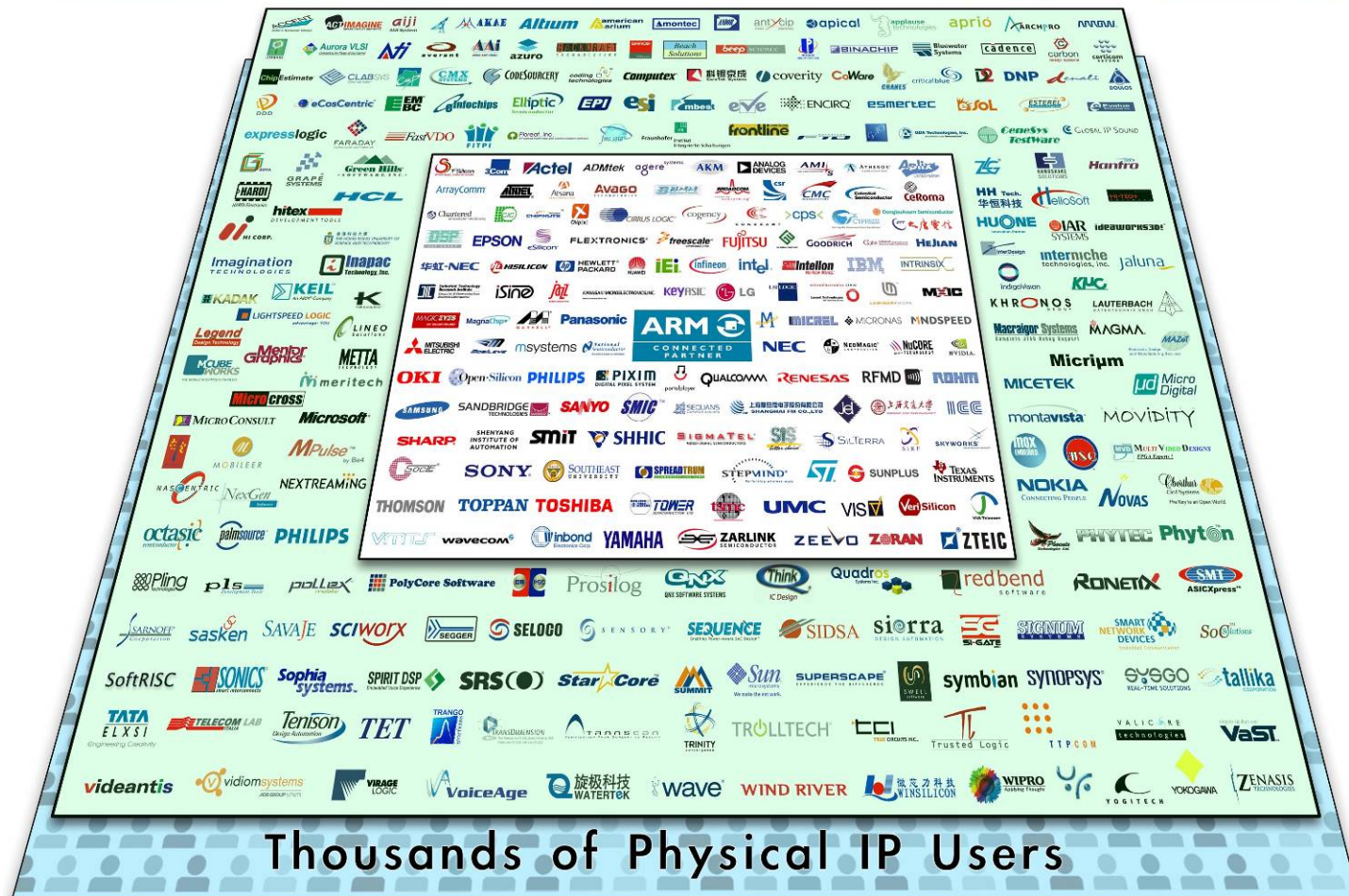
ARM Ltd. SWOT 18 December 1990

Source : Robin Saxby

Key actions from SWOT

- Business Model – Must be a global standard to succeed
 - Partnership – Community for support
 - Turn enemies into friends
- Develop sales & marketing skills of some great founding engineers
- Start building a patent portfolio
- Provide a software design solution on a PC
- Push benefits of MIPS/Watt and MIPS/\$ as well as embeddable RISC engine – System chip design
- Identify key end users to drive semiconductor customers in right direction and find benefit points on ARM roadmap
- Examples:
 - Apple > Plessey & VLSI – ARM610 for Newton
 - Nintendo > Sharp – Low power & colour LCD – Gameboy
 - Nokia > TI – Power, performance cost & code density – 6310
 - Samsung > Samsung – Integration for printers
 - LSI Logic > Seagate & Western Digital – Real time de-bug for disc drives

Community is needed to create standards



Lessons

- Study **existing markets** and understand **leading teaching customer** needs, **competition** and learning points
- Global Sales Leaders (Company Presidents) in USA, Japan, Korea, Europe, Taiwan, India, China as important as R & D team – **Customer pull** and part of project
- Technology only has value when you solve a problem and satisfy a customer need
- Be **honest** about strengths and weakness. Hire **best people** when you can afford them – Business Leaders, Finance, Lawyers, Specialist Engineers etc.
- Employee **share options** for all help control cost & act as motivator for light at the end of the tunnel
- **The team** is greater than the sum of the individuals
- Different people and skills needed as business matures
- **Think Beyond the Possible and Back off to Reality**

Some observations

- People often have greater consideration of Technology push rather than customer pull
- To succeed need to have “world best” solutions in every dimension
- Team is as weak as weakest link, people needs change rapidly with time
- Western VC payback time often too short to grow successful Global Business to true value
- Well meaning governance type help can be a barrier – Keep it simple – Learn by doing
- Build partnerships with strong successful companies
 - Leading teaching customers, their customers and so on

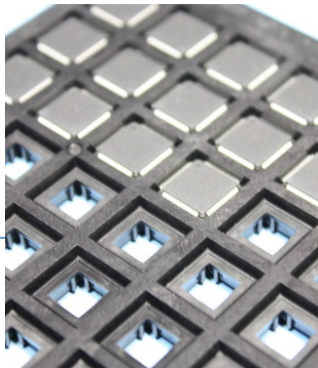
Suggested Reading

- The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail.
 - by Clayton M. Christensen
- Open Innovation: The New Imperative for Creating and Profiting from Technology
 - by Henry William Chesbrough
- The World Is Flat
 - by Thomas L. Friedman
- Creative Destruction: From 'Built to Last' to 'Built to Perform'
 - R. Foster and S. Kaplan

Examples of Current RS Companies



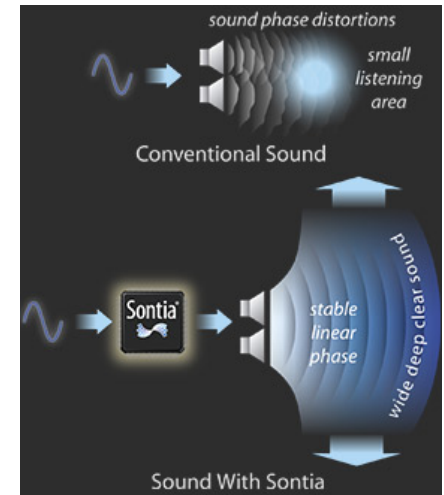
Marmalade SDK



XMOS X Chip



Plessey Semiconductors EPIC



Sontia Sound