



Go to market strategy: Intellectual property

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Chairman, Twelve Winds

Forming semiconductor Start-Ups

SiCatalyst & Techworks NMI

ARM, Cambridge

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CSR: Tech innovation to global scale-up



SIG, 9 founders
CSR was member #10
35k members by 2021
20k corporate members



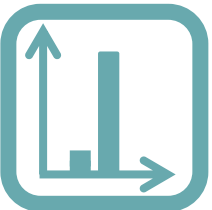
First single chip Bluetooth radio AND at \$5



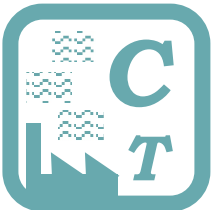
Initial focus; 3 key customers in each of 5 target segments PLUS A partner programme



500 design wins Within 5 years 10 X nearest competitor



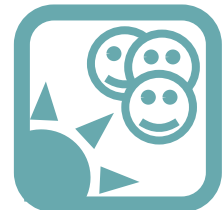
Fabless semic Business Model



4B chips 2015

\$1B pa in 2012

Raised \$85M



17 yrs \$2.5B QCOM

High volume manufacturing
Cambridge-France & Taiwan

Revenue

Pre-IPO funding
We democratised the use of radio

Year	Staff	Offices
1st	9	1
3rd	175	5
8th	1,000	17
15th	2,000+	23

- **Founded in 1998**
- **LSE floated 2004**
- **Acquired in 2015**



The Bluetooth standard was announced on 20 May 1998*;

- short-range radio using a light-weight protocol
- low-cost, low-power and licence-exempt.

The standard was created by a strong consortium;

- Ericsson, IBM, Intel, Nokia and Toshiba followed by
- Lucent, 3Com, Microsoft, and Motorola.

The big semiconductor Goliaths had not seen Bluetooth coming and were unprepared.

* Bluetooth became a massive band-wagon with 32,271 SIG members as of June 2017. **CSR was member number 10**



Harald "Bluetooth" Gormsson (935–986) was a king of Denmark and Norway. He had blue teeth.



First to market with a single chip Bluetooth device

CSR: 500 customer design wins in 4 years ...



In 2003
CSR had 500
qualified Bluetooth
design wins
(10 times more
than our nearest
competitor)



The Single Chip Wireless Company



Some Customers* using CSR's BlueCore™ chip



* To end .04



Intellectual property: A kit-bag of tools

Patents Trademarks Brand Know-How Secret Sauce Image

OBJECTIVE - HARD

SUBJECTIVE - SOFT

OVERT - FACTUAL

COVERT - OPINION

The power of intellectual property* (IP);

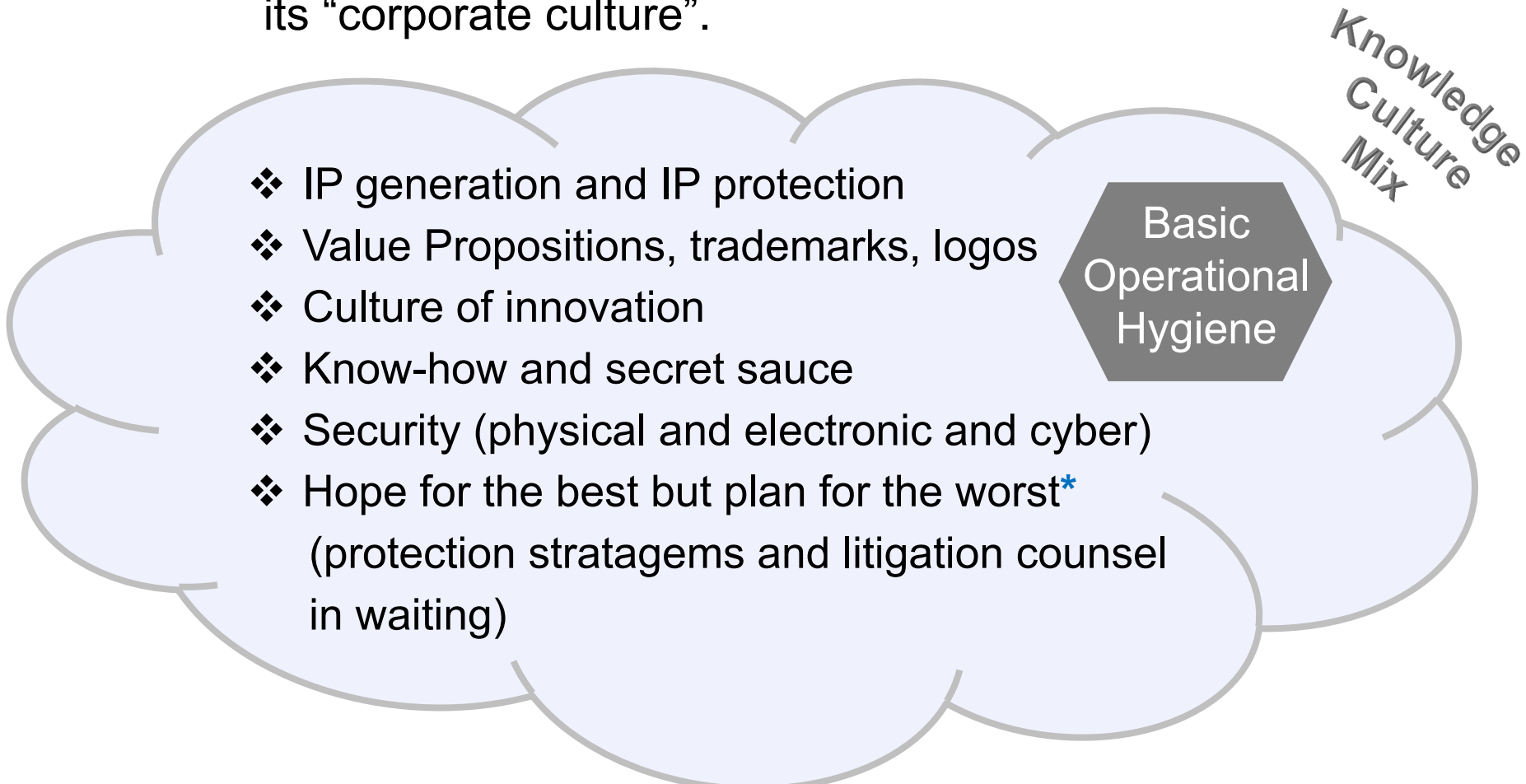
- legal protection
 - protection from thieves
 - differentiation in the marketplace
 - creating a currency for IP trading
 - maintaining freedom to operate
 - building customer loyalty
 - **increasing company value.**

* Intellectual property (IP) includes copyrights, patents, trademarks, and trade secrets and are intangible creations of the human intellect, [taken from], https://en.wikipedia.org/wiki/Intellectual_property

Generating IP: Build a knowledge culture

A company's "knowledge culture" is just as important as its "corporate culture".

- ❖ IP generation and IP protection
- ❖ Value Propositions, trademarks, logos
- ❖ Culture of innovation
- ❖ Know-how and secret sauce
- ❖ Security (physical and electronic and cyber)
- ❖ Hope for the best but plan for the worst*
(protection stratagems and litigation counsel in waiting)



Basic
Operational
Hygiene

Knowledge
Culture
Mix

* *The Tragedie of Gorbuduc*, Thomas Norton and Thomas Sackville,
1561, www.Bookbrowse.com



A knowledge culture supports IP generation

The **knowledge culture** should be embedded in the Company alongside;

1. Corporate culture (and more than the touchy-feely stuff)
2. Innovation
3. Customer-first attitude
4. Product quality
5. A driving need for success.

And, like all of the above, **it cannot be added like a coat of paint !**

Question: How does a company instil* this attitude in its staff ?

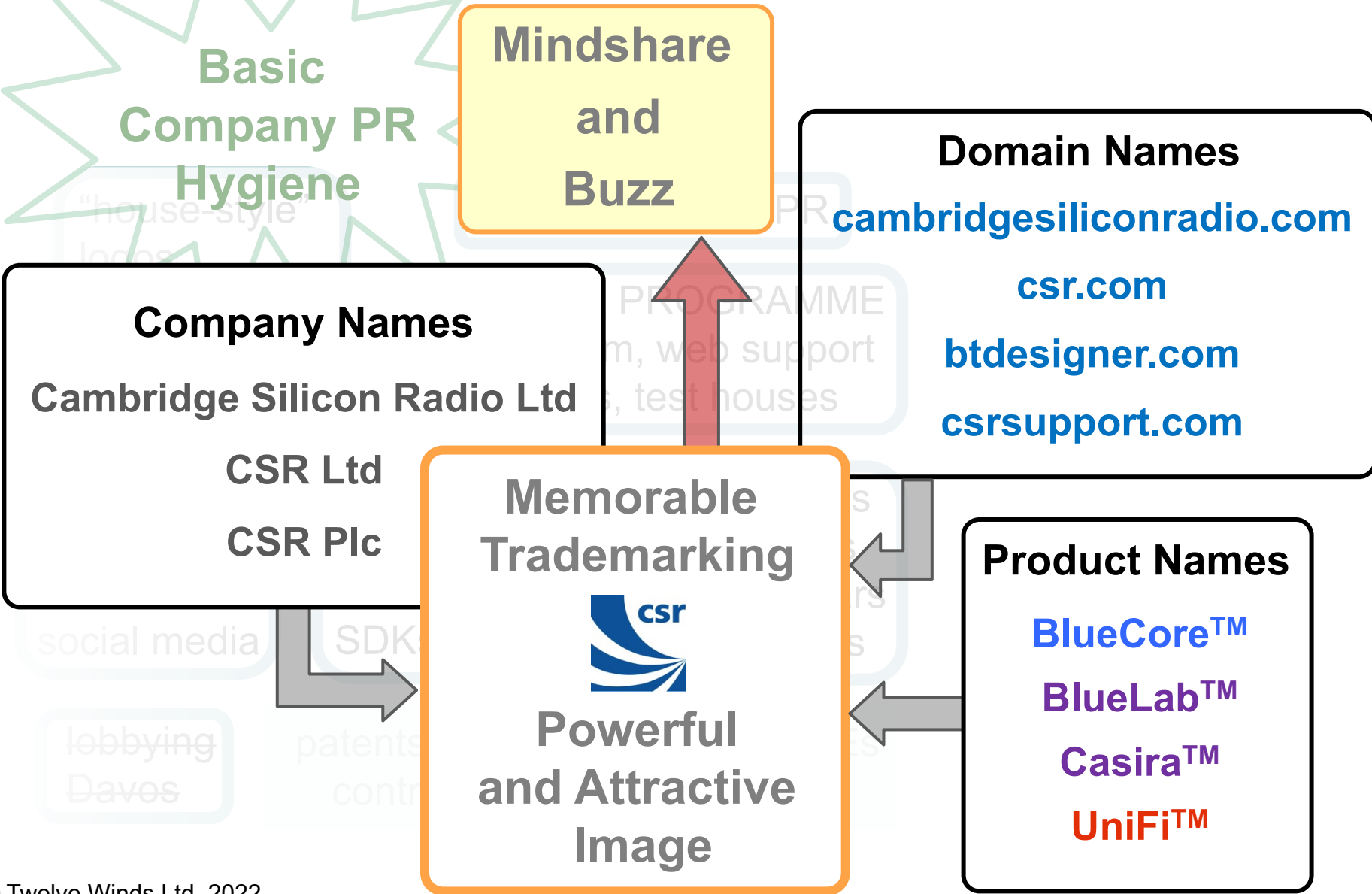
Answer: A mix of the below;

1. Favour a thinking out-of-the-box and nudging / questioning mindset;
 - **Q:** “wouldn’t it be great if ?”, “what if that wasn’t available ?”
 - **Q:** “If this didn’t exist then how should we proceed ?”
 - **Q:** “How many ways are there for us to reach our goal ?”
2. Wish lists given to the development team by all staff (a dialogue)
3. Individual and team rewards for patenting
4. And, as always:- Leadership.

* “gradually but firmly establish (an idea or attitude) in a person’s mind.”, Oxford Languages (Google’s English dictionary)



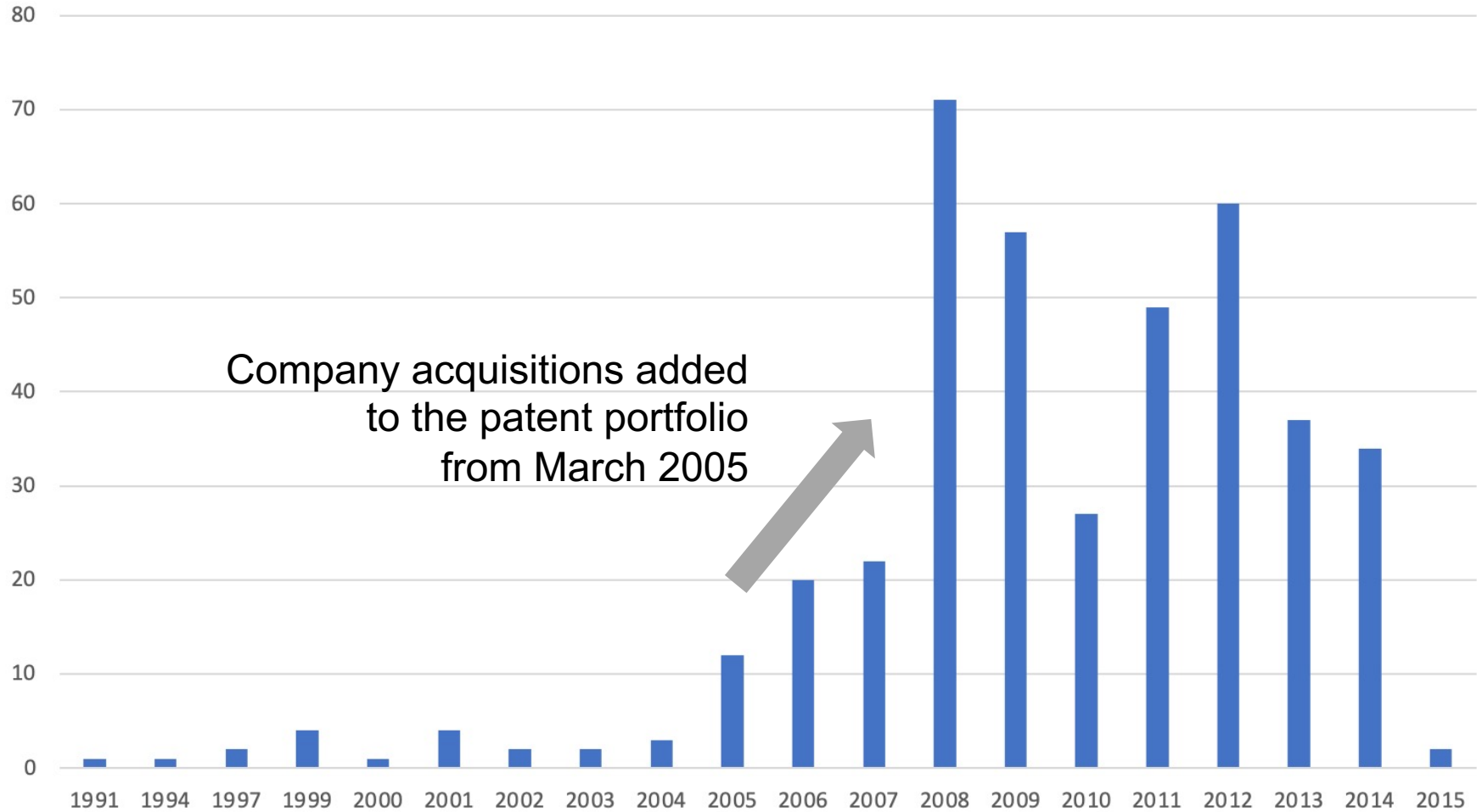
Names and trademarks + PR feed Mindshare and Buzz





Patents* filed by CSR

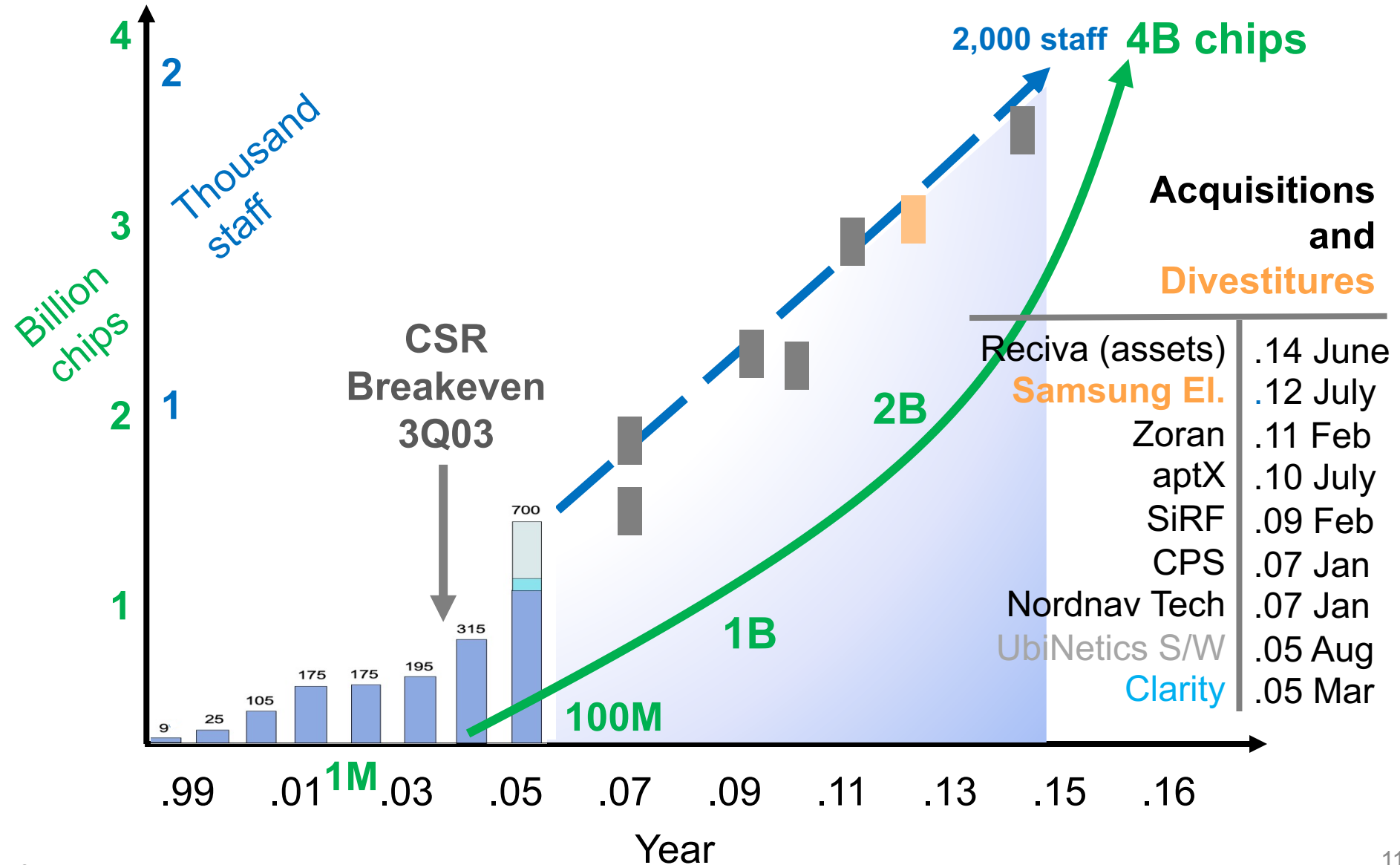
* Families Filed By Cambridge Silicon Radio



* Patent Family \triangleq a set of patents filed in one or more countries for the same invention. Here ~ 2 to 8



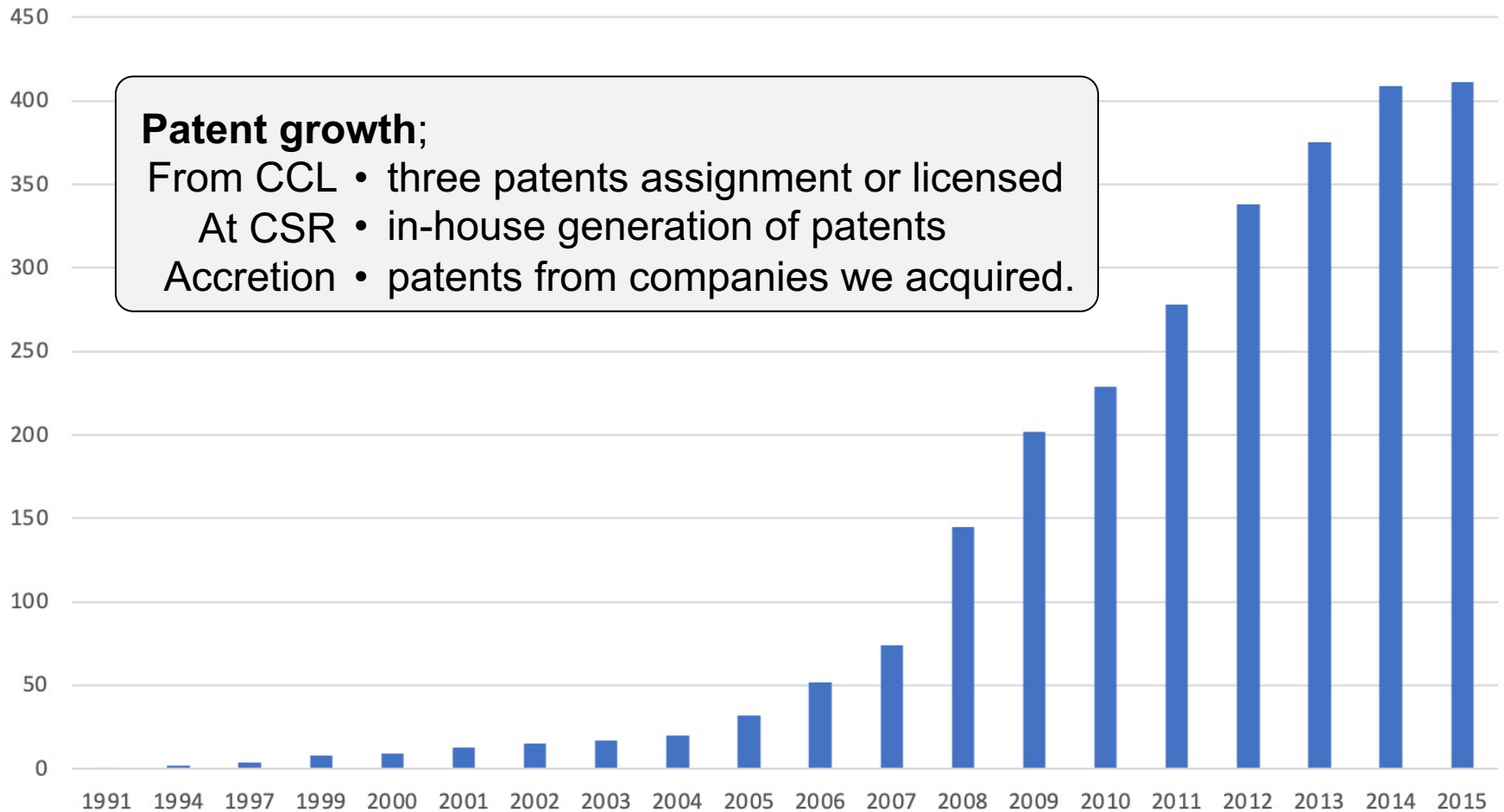
CSR scaled organically and by acquisition





Patents* filed by CSR (cumulative)

* Families Filed By Cambridge Silicon Radio (Cumulative)



Patent growth;

From CCL • three patents assignment or licensed

At CSR • in-house generation of patents

Accretion • patents from companies we acquired.

* Patent Family \triangleq a set of patents filed in one or more countries for the same invention. Here ~ 2 to 8



Internal project naming and “equivocation”

Our designs were imaginatively named (and protected);

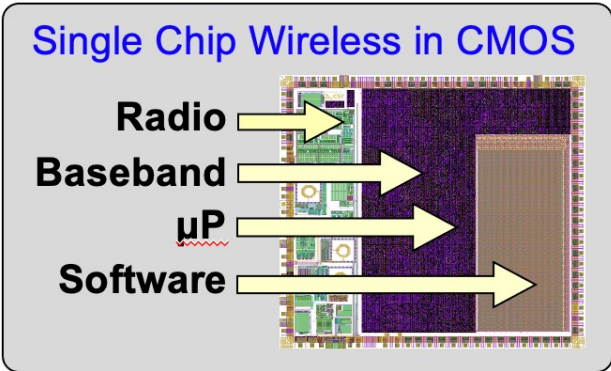
CSR Value Proposition

First & best single chip  device;

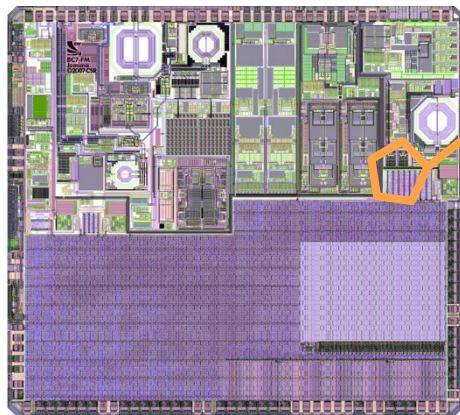
- built using standard CMOS
- single chip at under \$5
- superb support for customers.

**“The Single Chip
Wireless Company”**

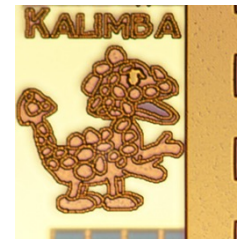
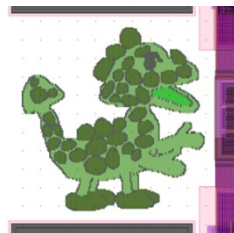
[smallest + best + lowest cost]



BC7-FM aka **Jemima**



equivocation



- Pugwash
- Zebedee
- Nick-Nack
- Kato
- Soup Dragon
- Kalimba
- Po
- Jemima
- Oddjob



Secret Sauce* (as a trade secret) aids differentiation

Secret Sauce comprises one or more components, processes and cultural drivers that contribute to making a company and its products different and better than those of its competitors. This enables company staff to say;

*“We are the best company
{of our kind} in the world
because ... “*

*“Ours is a Company that
I am proud to work
for because ... ”*



*“Our products
are better than our
competitor’s because ... “*

*“Our customers prefer
to buy from us
because ... “*

To enable your company to be listed in “The Best of the Best” lists⁴ all you need to do is get (mostly) everything right !

- * 1. ‘The Lost Blend’, O. Henry, 1907, <https://www.accuracyproject.org/t-Henry,O-TheLostBlend.html>
- 2. <https://americanliterature.com/author/o-henry/short-story/the-lost-blend>
- 3. <https://economictimes.indiatimes.com/blogs/onmyplate/little-luxuries-secret-sauce/>
- 4. <https://fortune.com/worlds-most-admired-companies/>, 2022



Plan to develop / discover your Secret Sauce

Secret sauce is much more than a list of product ingredients or process formulae;

What is your secret sauce?

“Simple can be harder than complex. You have to work hard to get your thinking clean to make it simple. But it’s worth it in the end, because once you get there you can move mountains.”

Steve Jobs

“It is important to view knowledge as a sort of semantic tree. Make sure you understand the fundamental principles, ie the trunk and big branches, before you get into the leaves/ details or there is nothing for them to hang on to.”²

Elon Musk

1. The secret sauce for great products, P Shyam, 19 Dec 2018, <https://uxdesign.cc/the-secret-sauce-for-great-products-e0097cc8eac0>
2. Elon Musk, [Solve difficult problems]. Mayo Oshin, 30 Aug 2017, <https://medium.com/the-mission/elon-musks-3-step-first-principles-thinking-how-to-think-and-solve-difficult-problems-like-a-ba1e73a9f6c0>

Secret Sauce: Learn form the masters



From 1891, Coca-Cola Company founder Asa Candler ensured that the formula for Coca-Cola syrup was a closely guarded trade secret, https://en.wikipedia.org/wiki/Coca-Cola_formula

“If I had an hour to solve a problem, I’d spend 55 minutes thinking about the problem and 5 minutes thinking about solutions.”

Albert Einstein

“The person who says he knows what he thinks but cannot express it usually does not know what he thinks.”

Mortimer Adler, American Philosopher, 1902 – 2001,
https://en.wikipedia.org/wiki/Mortimer_J._Adler

“Good ideas are always crazy until they’re not.”

Elon Musk, How the Billionaire CEO of SpaceX and Tesla is shaping our Future, Ashlee Vance, Virgin Books, 2006

“The harder I work, the luckier I get”

Samuel Goldwyn



Founded:
17 April 1924



Your Value Proposition may be your secret sauce !

Apple® Value Proposition

Every iPhone we've made was built on the same belief. That a phone should be more than a collection of features.

That, above all, a phone should be;

- absolutely simple
- beautiful and
- magical to use.

"Apple's iPhone offers a unique experience."


Uber Value Proposition

Tap the app, get a ride;

- One tap and a car comes directly to you
- Your driver knows exactly where to go
- Payment is completely cashless.

"Your day belongs to you."

CSR Value Proposition

First & best single chip  device;

- built using standard CMOS
- single chip at under \$5
- superb support for customers.

**"The Single Chip
Wireless Company"**

[smallest + best + lowest cost]

1998 to 2001
CambridgeSiliconRadio.com
"The Single Chip
Wireless Company"

2001 to 2005

CSR.com
"Changing the way
the world connects"

CSR Challenge

How to grow out from Bluetooth to WiFi and onwards ?



IBM's (not so) secret sauce

One component of IBM's success in the 1980's was the building of great teams;

IBM achieved this by;

- Recruiting the best people
- Providing them with interesting work
- Rewarding them well.

“That's our so-called secret sauce !”¹

1. Told to me by an IBM staffer, circa 1982, [Recently updated in “The IBM Garage Method for Cloud”²]
2. www.ibm.com/garage/method/practices/culture/fun-in-the-workplace/, [including “how to get fun”], November 2019



“Bad things happen to good people !”

CSR settles Bluetooth dispute with WRF for \$15 min¹

U.S. REGULATORY NEWS, APRIL 19, 2007

LONDON, April 19 (Reuters) - CSR Plc CSR.L said on Thursday it had settled a patent dispute with a U.S. research institute that alleged the Bluetooth chip specialist had used technology patented by the University of Washington. CSR said it would pay **Washington Research Foundation**, acting on behalf of the university, \$15 million but added it remained of the view that WRF's patent infringement suit against its Bluetooth chips was without merit.

We were in good company; Apple, Airoha Technology, Broadcom, CSR, Ericsson National Semiconductor, Winbond, Infineon, Marvell, Toshiba, NXP Semiconductor, SiTel and Silicon Laboratories

Bluetooth maker CSR settles patent dispute for \$15 million²

Colin McClelland, 19 April, 2007

... The foundation is essentially a group of lawyers working for the university which had previously settled out of court with another company over bar-code technology, but not before **threatening to pull 1,000 customers into the case**, an industry observer said. ...

1. <https://www.reuters.com/article/csr-patent-idUKWLB785420070419>
2. <https://citywire.com/wealth-manager/news/bluetooth-maker-csr-settles-patent-dispute-for-15-million/a282172>
3. <https://www.patentlyapple.com/patently-apple/2012/12/washington-research-foundation-sues-apple-over-radio-patents.html>



Hope for the best but plan for the worst*

Select the best IP agents, attorneys and litigation lawyers

SLINGSBY
PARTNERS



FISH.
FISH & RICHARDSON

Taylor Vinters*

SLAUGHTER AND MAY/

TaylorWessing

MILLS & REEVE

* *The Tragedie of Gorbuduc*, Thomas Norton and Thomas Sackville, 1561, www.Bookbrowse.com



Intellectual property

Concluding reflections;

1. **Build a culture of innovation** to maximise IP generation
2. **Mindshare and buzz**: Supported by memorable naming, trademarking and branding
3. **Balancing act**: Maximise patent generation **but** also be early to market
4. Plan to develop / discover your **Secret Sauce**
5. Hope for the **best** but plan for the **worst**.

Creating a successful company is a path well travelled.

It is difficult and many steps are needed but
each step is knowable and attainable.

Successful startups: Simple rocket science

Q: What does it take to create a successful startup company* ?

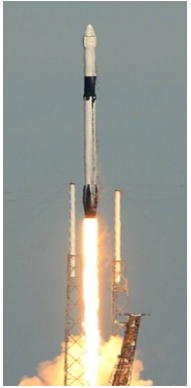
A: All it takes is **Simple Rocket Science**^{1,2} as the path, although difficult, is attainable and most potential mistakes are avoidable.

And

Successfully exited founders are often willing to tell you about their journey and to offer advice !

* Less than a few % of startup companies are very successful

1. **Rocket Science** ▲ putting astronauts on the moon and returning them. This is both very costly and very difficult.
2. **Simple Rocket Science** ▲ creating a successful company This is difficult but is a path well travelled: Many steps are needed but each step is knowable and attainable.



Elon Musk's
Falcon 9



Apollo 11,
NASA.gov



THANK YOU

Grateful acknowledgement
for the provision of material;
• Paul Egan