

To increase the chance that a promising piece of technology will make it to market, and generate substantial value for its creators, you need a bridge — between *technology commercialization* and *business creation*.

Who is this for?

Our *Technology Commercialization Bridge* service is for people who:

- have a novel technology;
- need to decide whether (how best) to commercialize it; &
- wish to increase the chance it will lead to a successful product, and maximize the value they derive as a result.

Clients have included businesses (of various sizes) with new technology; research institutions; startups; and even lone inventors.

What challenge does this service address?

The Valley of Death traps many commercialization initiatives

All too often, promising technology development projects languish for years in limbo after they move beyond the initial research stage. There is even a name for this: the *Valley of Death*, which projects need to cross before attracting startup funding, or development partners. These projects are too far along to get funding from “research” sources, but are unable to negotiate partnership or licensing arrangements with large companies, or attract investors, because they are perceived as “too early”.

Some believe that the *Valley of Death* is an unavoidable feature of the landscape, or that it exists because of flaws in the way investors think. We think of it as more analogous to a sand trap in golf. It certainly exists, and falling into it is bad. However it can be avoided all together with careful planning and good execution. Even if you fall into it, you can get out if you know how.

To cross the Valley of Death one must “bridge” two cultures

Moving a technology project past the *Valley of Death* is at its heart about building a bridge between two very different world views. A project languishes in the *Valley of Death* when this bridge is not in place.

On one side are the technologists who developed the project to the point where it appears “promising”, and with “commercial potential”. Frequently they see the objective as *commercializing the technology*.

On the other side are managers within companies that are potential development partners or licensees, and investors who might wish to invest in the future of the project. For this group, the objective is to build a business, and *realize an investment return*.

The bridge between these two world views is a clearly articulated description of the business that can be created if the project moves forward. It should include answers to questions like the following.

- What product will the business sell?
- Who will the customers be?
- Why will they want the product?
- What are the competitors doing?
- How will the core technology give the business a sustainable competitive advantage?

Creating the “bridge” is often neglected

We frequently see projects, or new ventures, where the team trying to commercialize the technology has not articulated the potential business in all its details. Sometimes they don’t feel the need to do this, thinking that it is really the “partner’s” job. Sometimes they just do not know how. And sometimes, they simply lack bandwidth to think through the myriad of complex issues that need to be resolved.

On the other hand, potential partners and investors rarely see it as their job to figure out what the business is going to look like, and their response is often “Hm, ... looks interesting... but it’s too early”. Meaning, “the technology looks interesting, but until we understand what the business would look like we can’t decide whether or not it sounds like an attractive business proposition”.

Objectives

To help leaders of promising, early stage technology development projects navigate around the “Valley of Death” and reach the next stage in growth of the project — whether it be partnership with another company to develop a product, or investment to commercialize the technology.

For those unfortunate projects that are languishing in the “Valley of Death”, our goal is to help them get out.

Important subgoals are to:

- *select the commercialization path most likely to succeed; &*
- *identify and excite partners and investors who have the right profile for the opportunity.*

Benefits

An important part of our Commercialization Bridge service is helping to create the cross-cultural bridge described above. This bridge takes the form of a clearly articulated description of the business being created, in sufficient detail for all parties to understand its size, risks, and attractiveness. This enables potential partners and investors to make a rational assessment of whether or not the opportunity is a fit with their goals — a necessary precursor to a successful partnership.

Based on a detailed understanding of the business potential, we help to select the commercialization path that has the greatest probability of a successful outcome.

For example, it only makes sense to launch a venture-funded startup if the opportunity has the right financial profile to match what venture capitalists seek. It makes sense to talk about a license with a potential partner if that partner’s strategic objectives would be well served by taking on a license to the technology in question. If the potential for the business depends on availability of some blocking IP owned by another party, it makes sense to seek some form of collaboration with that party. If it is quite unclear how the technology in question will ever make it into the market, and in what form, perhaps it is better to leave it on the shelf!

With a focused commercialization path, and an understanding of the potential business profile, you can identify potential partners and investors who have goals, and risk/return profiles, that are well matched to the project. And then you can get them excited about participating because you and they are coming from the same perspective: *creating a business not commercializing a technology!*

How does it work?

The typical question that initiates these projects is “Should I (or How should I) commercialize technology xx?”.

Our approach involves an unusual blend of analysis, strategic advice, and hands-on execution. Commonly these engagements involve market research, and a synthesis of “what people need” and “what the technology can do”. This leads to an understanding of the best target application for the technology. And hopefully to a product definition that will both target an important unmet need, and leverage the technology in question as a source of competitive advantage.

Sometimes what is needed is some training of the team, and guidance so they can flesh out the details of the business opportunity themselves. Sometimes it makes more sense for us to do a lot of the leg work ourselves.

Results from these projects typically include:

- selection of the best commercialization path forward;
- go/no go decisions;
- IP analysis;
- potential licensing targets; and
- spin out business plans where appropriate.

To take the next step

On our website you can see examples of articles, and videos of talks, that show in greater detail how we approach problems: www.tangiblefuture.com/informationbank.html

Contact our CEO, Richard Caro, to discuss your company, or to ask questions about how we work.

Our Teams

The TangibleFuture® business model involves working with a network of specialized, independent industry experts, as well as with industry analyst firms where appropriate. We assemble our teams from this network on a project-by-project basis. This approach allows us to assemble an optimal team for each project.

What sets us apart?

Our effectiveness derives from an uncommon blend of skills, experience and knowledge:

- senior management experience in high technology businesses: *we know what it's like to be in our client's shoes, and what it takes to succeed;*
- a track record of successful consulting engagements with clients ranging from startups to large multinational companies: *we know how to provide effective help;*
- expertise in both technology and market analysis: *we know how to find out what customers will need several years in the future, and understand what a technology could be capable of by then;* and
- deep industry expertise and a global perspective: *we know already a great deal about the industries in which we specialize, and the activities of their key participants in North America, Europe and Asia.*

Industry expertise

Our overall focus is on high technology growth businesses. Recent engagements have been in fields such as *life sciences, communications, cleantech, homeland security, and applications of photonics & small-tech.*

We have an ongoing research activity investigating markets we believe will be promising loci of future innovation. This helps us to offer deep industry insight, and enables us to be productive immediately when we work in those markets. We specialize in markets/industries in which things are changing rapidly, or new disruptive technologies are emerging and creating turmoil. Our recent engagements, above, are examples.

Because many companies view the world through the lens of a specific *technology*, we have a watching brief on specific technological fields as well as on specific markets. We spend time thinking about the full range of possible

product categories, in all industries, that might be impacted by those technologies. Examples include a variety of *cleantech* technologies; *nanotechnology & MEMS*; *photonics*; and the *convergence of silicon, micromachining and biotech* as a platform for healthcare devices.

Biography: Richard G. Caro



Since 2004, Dr. Richard G. Caro has been CEO and founder of **TangibleFuture, Inc.**, where he helps managers and entrepreneurs create and grow businesses based on innovative science and technology.

Prior to founding TangibleFuture, Inc., Richard was Managing Director at **RHK**, a provider of advisory services to the communications industry, where he led consulting engagements with multinational businesses such as **Intel**, and **Carl Zeiss**; research institutions such as **Battelle**, and **Sarnoff Corporation**; and a variety of as-yet-unknown, emerging startup companies.

From 1986 to 1999 Richard held operational roles in high tech companies in Silicon Valley and Boston. He was CEO (founder) of **Vital Insite**, a venture-backed, medical device start-up, developing noninvasive monitoring products; Engineering Program Manager at **Coherent**, one of the world's largest laser manufacturers; and CTO (employee #5) of **Summit Technology**, a pioneer in the laser refractive surgery (**LASIK**) business. Before entering industry, he was a member of the research staff at **Stanford University**.

Richard has been responsible for the development of a number of successful products, and has 23 issued patents. In addition to his work with TangibleFuture, Inc., he is an occasional angel investor, and has a keen interest in the education of science and technology entrepreneurs — speaking regularly, around the world, on topics relating to *turning science into profitable businesses.*

Born and raised in Australia, Richard received a B.Sc. (Hons.) degree from **Melbourne University**, Australia (1977), and a D.Phil. in experimental physics from **Oxford University** (1982) — where he was a **Rhodes Scholar**. In 1982 he was awarded an **IBM** post-doctoral fellowship to work at **Stanford University**, and migrated to the USA where he has lived ever since.