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Seven insights to manage innovation risk

By Ben Strutt
CAMBRIDGE DESIGN PARTNERSHIP

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“I have always been fascinated by human behaviour, the ways in which people do (or don't) behave”

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Ben Strutt of Cambridge Design Partnership works in Design and Front-End Innovation. Here, he outlines design insights that will help manage innovation risk in today's competitive world.

Introduction

As an industrial designer, I have always been fascinated by human behaviour, the ways in which people do (or don't) behave. Our job is to observe this behaviour and to use those observations to improve quality of life through good design.

To this end, I have spent more than two decades translating insights into industrial design specifications, with an emphasis on developing evidence-led innovation strategies. In that time, I've made a number of consistent observations, which I'm sharing with you here.

Above all, it is critical to accept that, contrary to what is sometimes believed, people [consumers] do not have mindless allegiance to certain brands. Instead, when they become aware of something they need to get done in their lives, consumers will scour the myriad of potential solutions for the one they consider is most likely to get their 'job' done. Of course, because we are human, this decision-making process is a complex one, involving sometimes competing functional, emotional and social dimensions.

However, this challenging conundrum can be resolved: more than 200 new global businesses that barely existed a decade ago have risen to what is now termed 'unicorn' status (that is, a privately held start-up company valued at over \$1 billion).

Why should that not be your company, or category, or new brand proposition in ten years' time? It is entirely possible for your business to deliver that new market-leading solution that will propel your firm to the top of the tree.

I believe there are seven key reasons why some businesses make such a success of innovation. Here's my advice on the wisest ways to approach the creation of new products and services.

1. Accept that your current business model may not last forever

Your current business model

Yale's Professor Richard Foster recently reported that the lifespan of a company on the Fortune 500 in 1958 was 61 years. Today, that figure has dropped to just 18 years. The first ever Fortune 500 list was drawn up in 1955 and only 12% of those originally listed companies are still in business.

Few people will remember the stars of that period - Studebaker, Collins Radio, American Motors, and Zenith Electronics. All gone. Most will, however, remember Eastman Kodak and, perhaps, be familiar with its extraordinary story of success and failure.

At its prime, the photographic company turned over more than \$10 billion a year and employed 120,000 people. By 2012 the 132-year-old

company was bankrupt, despite the fact that *one of its own engineers first pioneered digital photography* and Kodak owned an extensive patent portfolio on the technology. Kodak was so wedded to its wet-film developing service, and photographic consumables businesses that it underestimated the digital imaging market opportunities. The apparent barriers to become an industry leader in novel semiconductors just seemed too great, and they failed to see how new business models might be realised. With a different perspective at that pivotal time, the Kodak brand could have been at the heart of many of today's products and services.





2. Be sure not to love your current products too much

Your current products

Following on from the example of Kodak, it's all too easy for companies to become fixated on their current products. Successful formats can create a bubble in which the product experience is largely assumed to be a constant, and fear of change can become a suffocating force that stifles all but the most minor of tweaks.

This product bubble can be created by a range of factors including mature product categories, power brands, established manufacturing infrastructure and current regulation. But complacency can be a killer. Even apparently mature technologies that have remained unchanged for centuries can be disrupted. Consider the way e-books disrupted the printed book market. And who would have foreseen the rise of vape technology a mere 15 years ago, when the first e-cigarette was launched in the West?

Recently the US e-cigarette market leader Juul Labs, founded just over two years ago, was estimated to have achieved a market cap on par with the Ford Motor company in that short time. Who could have foreseen that traditional tobacco brand-owner Philip Morris, would declare its intention to leave cigarette products altogether and invest in reduced risk technology instead?

Loving your current product format too much can constrain your attitude to new opportunities and potential competitive threats.



3. Get your new products off the ground swiftly



Your new products

What do lean start-ups have that large global companies do not? A defining characteristic is agility: more focus with fewer constraints, more appetite for risk, shorter development cycles, more creative development approaches [and often more cost effective] involving early adopters, and a focus on market testing minimum viable products. These all help to fast-track that first customer sale.

The frameworks of big, traditional business and the momentum behind strongly-established brands can make taking a new initiative a daunting hill to climb. When the corporate machine starts to impede creative progress, acquisition begins to look easier and more appealing than internal investment. For example, in 2012 two friends started a subscription service, Dollar Shave Club, which posted razor blades monthly to members. By 2016, the business had four million members and was acquired by Unilever for \$1 billion.

But why could Unilever – with all its R&D resources, brand equity, personal-care expertise and global channels – not deliver its own successful home-grown mail order razor business? That, literally, is a billion-dollar question.

There are many motivations to innovate, and some can be surprisingly simple – for example price point; here at Cambridge Design Partnership we set out to use design to address the issue of deaths caused by post-partum haemorrhage in the developing world. In order to prevent mortality from severe bleeding after childbirth, a device called a balloon tamponade can be used – a bladder that can be inflated to press on the blood vessels to stop the bleeding.

There was already a device on the market which worked well – so why innovate? Well, it cost \$200 – an impossibly high price in that low resource setting. So healthcare workers took to creating their own DIY balloon tamponades using a birth control condom inflated by a syringe. Inspired by this user-led innovation, we set about improving the idea to make it much safer and easier to use. Our solution was shortlisted in the international USAID Saving Lives At Birth award. Sometimes the best way forward is to take a good idea and improve it simply and swiftly, focussing on user needs and context of use.

4. Think of tomorrow's customers, not today's

Tomorrow's customers

Yes, you do market research! Market research is what large, successful companies traditionally do – right? Tracking studies, voice of customer, focus groups, concept tests... the works.

Market research can, however, act as a rear-view mirror and actually limit a businesses' creative exploration of potential breakthrough opportunities. It will tell you (in detail) about market norms, what your existing customers think of your existing products and those of your competitors. It will compare your new concepts to an incremental pattern of previous products and concepts.

But most market disruptions don't come about from looking backwards. You don't need a rear-view mirror, what you need is an innovation satnav, a systematic, evidenced way of charting a course to your business's future.

We find that the most robust route to successful innovation stems from a solution-agnostic research approach, focusing on what the customer wants to achieve rather than the products they use to achieve that outcome today. By understanding their basic motivation your thinking is not constrained by the current market solution, or technology, and you can more easily identify true breakthrough experiences.

For example, here at CDP we designed the First Response Monitor as a way of helping first responders, such as paramedics, triage patients in emergencies with a device that was so low cost it could be disposable. The monitor helps assess which patients need treatment first via the smart nose clip which records vital signs and displays results on a smartphone dashboard.

In such a high-pressure situation as say, a serious road accident, kit needs to be reliable and intuitive to use. Our design for the physical product (the nose clip) and the digital tech (the smartphone dashboard) was led by research with expert users, resulting in the development of an ideal user experience - it's simplicity being the key to success.



5. Question traditional product innovation methods



Traditional product innovation

The classic 'innovation funnel' model that collects ideas and filters them as development progresses does not worry too much where they come from or their quality. Indeed, it often anticipates a 'fuzzy' or scatter-gun, concept-generation approach, relying on the Stage Gates to cull and refine them in due course. But without high quality insights and targeted solutions, no amount of subsequent refinement is going to help.

So before you start to develop a new idea it's useful to reflect that ideas resulting from narrow market research can have a very short-term horizon. It is often much wiser (not to mention more successful, faster and, in the long run, more cost-effective) to step back and explore the whole field of interest. Then you can use the evidence you gather to develop new concepts addressing the areas which are most promising.

For example, here at Cambridge Design Partnership we were recently asked to create a new range of kitchen knives for the Zyliss brand. It would have been easy (quicker and cheaper) to have just started sketching, randomly generating top of mind ideas. However, our approach was to look at the role that cutting tools play in food preparation, to discover what consumers needed ['jobs-to-be-done'] and valued most. Our researchers and designers visited consumers and carried out contextual observations and discovered almost 100 needs for food preparation, 14 related jobs and applied 25 innovation themes. And this was just for a humble kitchen utensil – we've carried out similar exercises on critical care healthcare systems and the results are much more complex!

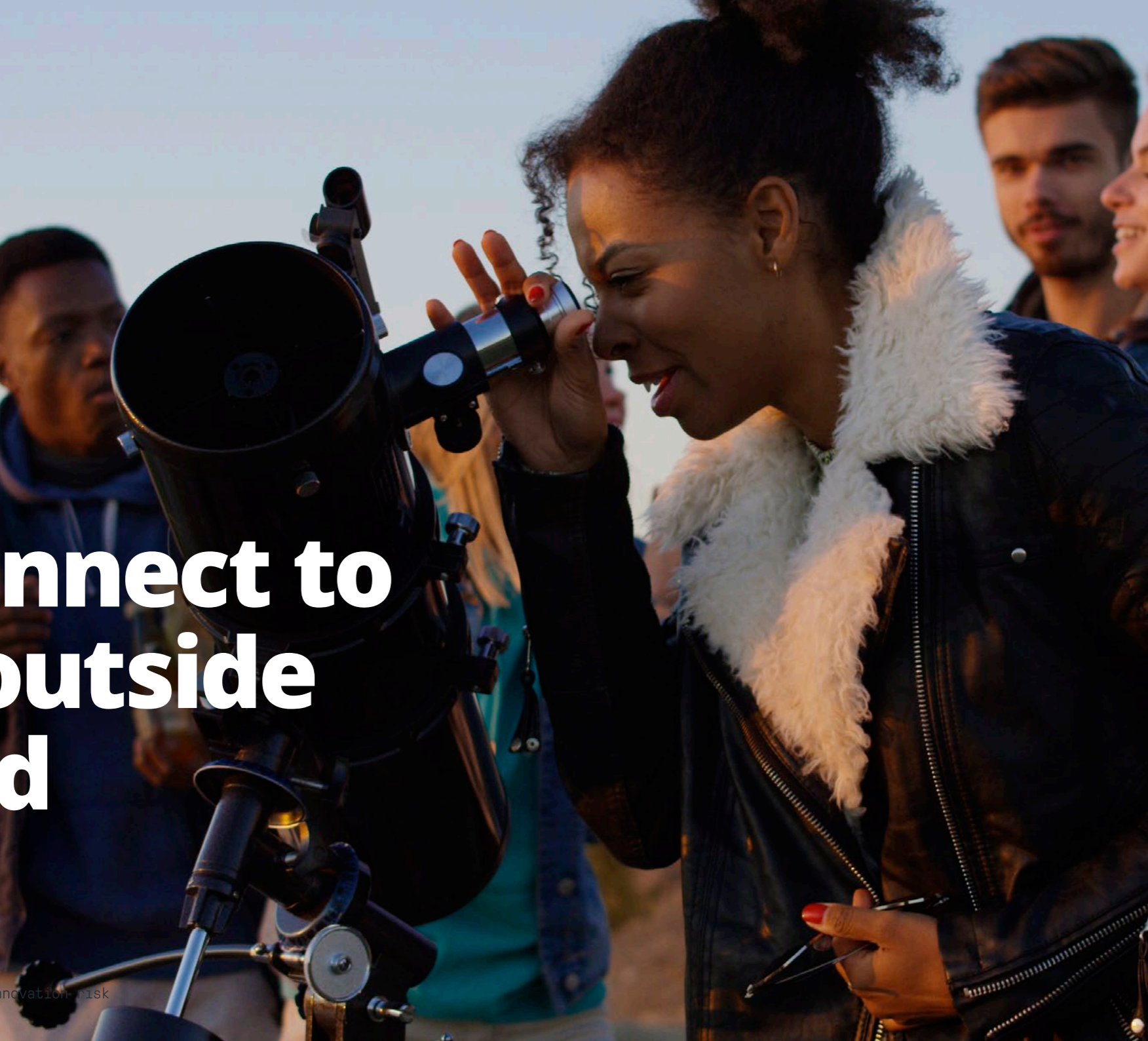
All this insight was gained before any product concept was created – we had no colour, material, price point or existing solution in mind. It turned out that improved knife control and ease of cleaning were the highest priority under-served needs – still, after thousands of years of evolution!

These attributes became the foundation for our product design brief. We were able to create patented 'touch pads' for the knife handles and a new finger indent to enhance precision chopping as well as a number of hygiene enhancements. This new premium range has been very successful for Zyliss, which just goes to show there is always space to innovate, even in apparently mature categories.

“Our researchers and designers visited consumers to carry out contextual observations and discovered almost 100 needs for food preparation”



6. Connect to the outside world



The outside world

Current market or brand leadership, constrained budgets, in-house teams, onerous internal processes, legal misgivings, quality systems, lack of open innovation frameworks... I could go on, but these are just some of the reasons that inhibit corporate innovation teams fully engaging with the outside world.

All too easily the attitude can be: we're the market leader, what we don't know about this market and our customers isn't worth knowing. This works within the comfort zone of incremental development. Except that usually you aren't the only ones working on these challenges.

Sometimes, other businesses who aren't even working on your problem inadvertently stumble over something you might be able to use – an insight, a different manufacturing technology, a new digital approach, a trend that's changing how your customers think, a new business model. The next thing you know, you've left a door open to competition, big-time.

Many thought-leaders have written on the topic of creativity and the tools and techniques that boost associative connection-making.

Amid this, the consistent theme is that the most creative people are constantly making new and novel connections, and the most successfully creative businesses tend to work in a networked, collaborative and multi-disciplinary way. Often the catalyst for a game-changing breakthrough comes from stimulus outside the core field of interest.

As the leader of the Consumer Health business stream at Cambridge Design Partnership, I regularly share observations, insights and technologies between Fast-Moving-Consumer-Goods (FMCG) categories (which thrive on brand psychology and consumer relationships) and the regulated Healthcare sector, to achieve success in this fascinating and nuanced market

So yes, while deep expertise is essential in R&D, ignoring the opportunity to engage with external teams and stimuli from other sectors could mean you miss the innovation breakthrough upon which your business's future depends.

7. Take time to think long-term



Thinking long-term

It's true that if a business doesn't look after today, there won't be a tomorrow. But a balance is needed between what marketing, product management and R&D teams are doing today with how the business is going to thrive in the years to come. This especially matters if delivering a game-changing product or service is your aspiration.

No matter how much firefighting is necessary in the short term, in today's highly competitive world you need to preserve time and budget to focus on the medium and long-term innovation strategies. This time doesn't have to be limitless, indeed evidence suggests that too little time pressure on your R&D capability has an adverse effect. Reflect on the way lean start-ups (or, indeed, countries entering a World War) achieve accelerated technology advances during periods of limited time and resources.

Many businesses find that selectively supplementing their in-house teams with external expertise stimulates fruitful development, whether for an innovation workshop or 'sprint' or to leverage a new technology, or to free up internal resources by sharing some of the development burden.

When there isn't the bandwidth to do everything in-house, outsourcing can keep longer-term initiatives moving forward at the same time as getting on with category maintenance work, building more competitive resilience for your business overall.

A final thought

A final thought

Today's businesses need to be more agile and creative to meet the demands of ever more informed, connected and savvy consumers. You are expected to be faster and more inventive, prepared to learn and to pivot, to decide whether to expand your in-house team, leverage partnerships, start corporate venturing or go for acquisitions. Then there are the headaches of the moment – how to deliver personalisation, how to create convenient, premium and authentic experiences, how to be more sustainable, how to formulate a digital or omni-channel strategy...

As mature markets and brands are increasingly threatened with disruption from businesses just a few years old, it is increasingly clear that the old ways of carrying out market research and developing products are becoming less effective. My conclusion is that adopting new ways of thinking and working is not optional, it's essential to survival.

There is no magic one-size-fits-all solution and no perfect single methodology. But if you first understand what your customers are trying to achieve as they go about their day, you will find that many of these challenges can be parameterised, which makes them easier to solve. If we focus on our customers' desires first and foremost – what they really need – our product specifications and subsequent targeted concepts will have a much higher chance of succeeding.

Here at Cambridge Design Partnership we have a toolkit of approaches gained from working across different sectors and with many different businesses. Techniques range from traditional market research, to the jobs-to-be-done approach, to transactional learning experiments. We are increasingly involved in service design and the development of digital strategy. We use digital ethnography and online research communities and employ design sprints in which our designers and researchers work directly with users to quickly turn insights into product concepts that can be tested and iterated rapidly. Yes, some will fail, (or preferably, partially succeed!) but that's how we learn and iterate.

We also employ a range of approaches to speed up the development process, including the creation and manufacture of minimum viable products that can be used with early adopters to innovate smarter and faster.

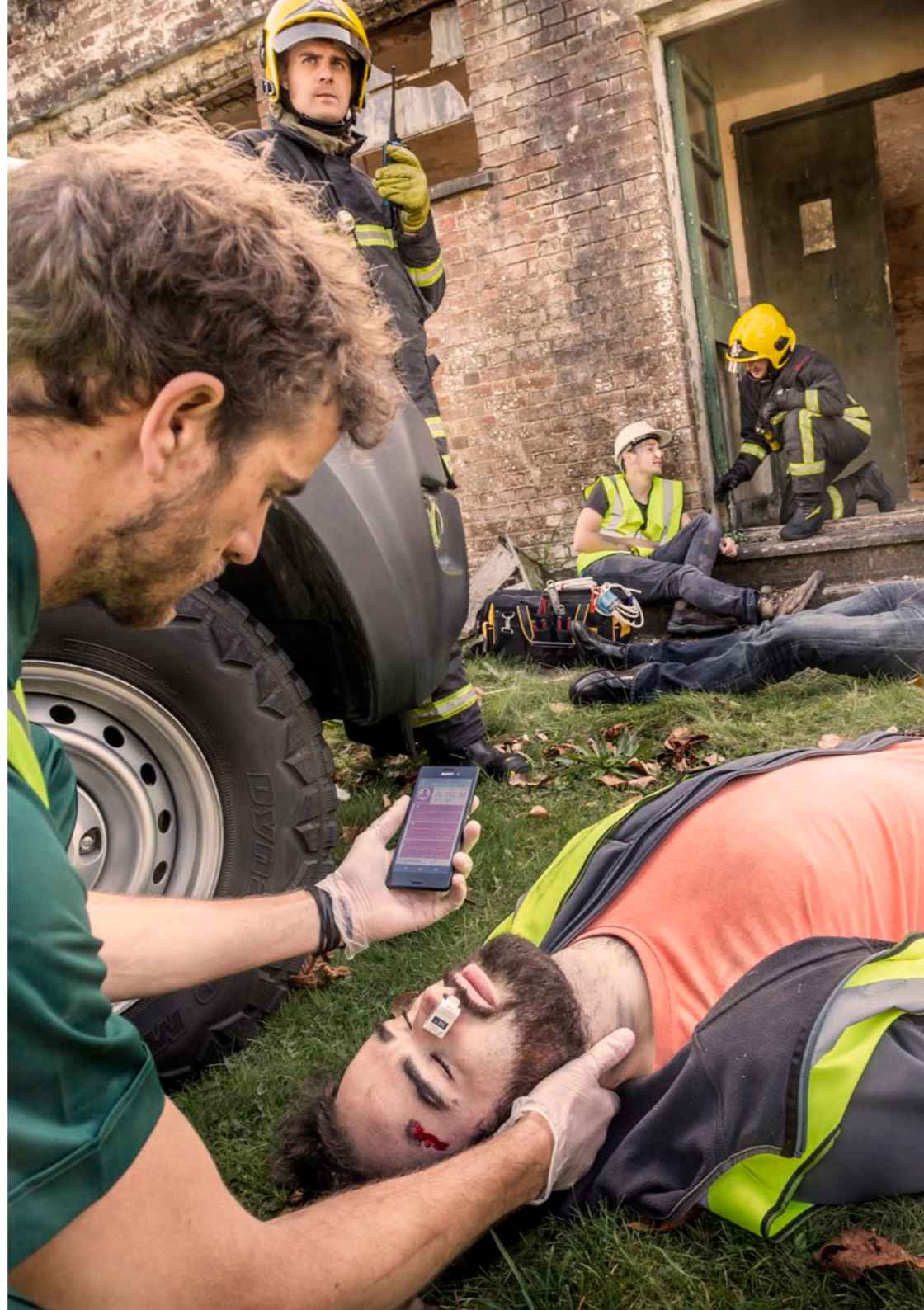
Despite the challenges that face those working in marketing, R&D, and design today, I cannot imagine a more exciting time for us fellow innovators to be working at the cutting edge of new product development.

First Response Monitor

Measuring and monitoring vital signs of trauma patients in multi casualty situations is crucial in order to prioritise treatment for those most in need. The process is currently undertaken manually and is time consuming. First response medics feel for, and count, breaths and heartbeats; and record rates of both at regular intervals.

CDP pitched a user centred approach to The Defence Science and Technology Laboratory (DSTL) to develop a vital signs monitor for first response medics, subsequently winning a DSTL grant to explore and develop a new concept.

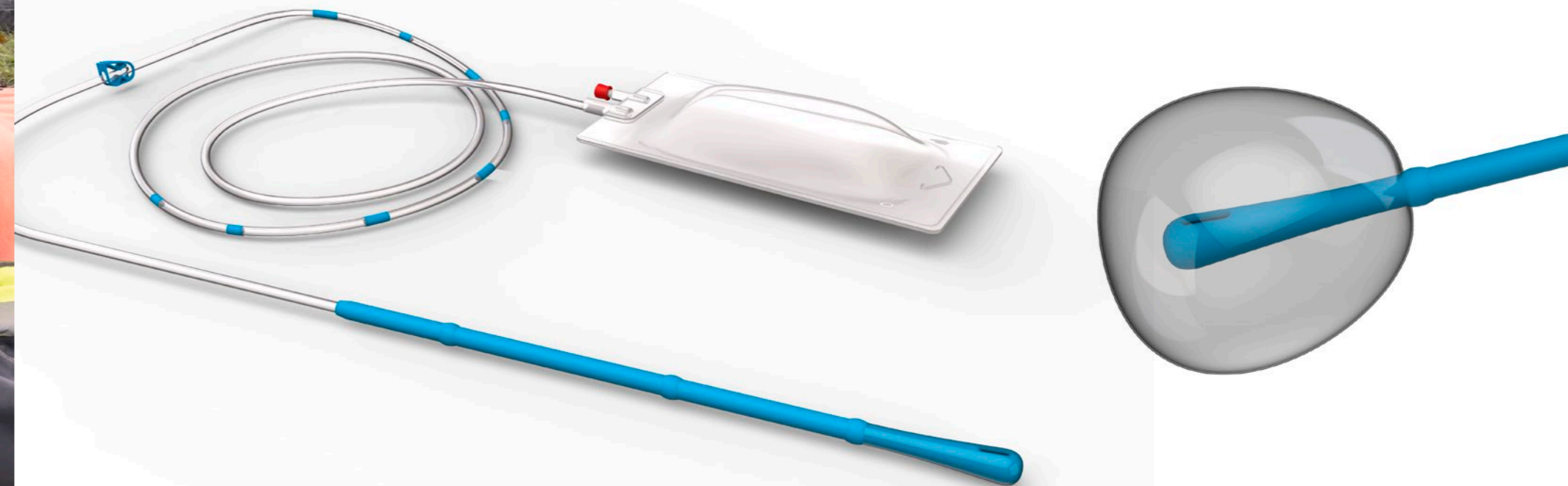
An Insights for Innovation™ researcher and an electronics and sensor specialist interviewed army medics about their needs and challenges in multiple casualty emergency situations. These needs were translated into designs which were iterated via a co-creation session with intended users. The resulting Red Dot award winning design, The First Response Monitor, reduces the burden of measuring vital signs and managing triage. It gives fast, reliable measurement and real-time display of respiratory and heart rates, bridging the gap between manual methods and expensive patient monitoring systems utilising patented sensor technology to measure breathing and heart rates.



Postpartum haemorrhage

Postpartum haemorrhage (PPH) is a leading cause of maternal mortality worldwide in resource poor settings. Dedicated staff are often ill equipped to manage PPH when drug interventions fail, and commercially available uterine balloon tamponades (UBTs) are expensive and are not designed for these settings. Conversely, DIY kits are assembled at the point of use and employ a condom for the balloon. These are low cost and have been successfully tested but do have some drawbacks.

CDP researchers reviewed the UBT literature and interviewed midwives and obstetricians to understand the barriers to use by birth assistants in these settings. The resulting low cost design minimises the training burden, maximises ease of insertion into the uterus via a design which can be used single-handedly without forceps and maximises the ease and safety of inflation by removing the risk of over filling.



Zyliss Control knives

In a market dominated by a small number of brands, there was an opportunity for Zyliss, a well-known brand of kitchen tools and equipment, to innovate their range of domestic kitchen knives.

The initial project phase saw CDP researchers and designers observing a variety of households during meal preparation to understand how home cooks used the knives and utensils they already had and what the areas of frustration or unmet needs were. The results discovered almost 100 needs for food preparation, 14 related jobs and applied 25 innovation themes – of which improved knife control and ease of cleaning were the highest priority of under-served needs.

After analysing the most-used cutting and grip patterns, four patented ‘control’ points were incorporated into the individual knife and handle design. These points allow users to have the same level of control over the knife, regardless of their personal cutting style or hand size. The design also offers a number of hygiene enhancements, such as a knife block that holds the knives in removable, antibacterial sheaths, which are dishwasher safe.

Feedback for this new premium range was overwhelmingly positive and production was scheduled just three months after the start of the project, which has been very successful for Zyliss - showing there is always space to innovate, even in apparently mature categories.



Cambridge Design Partnership

Cambridge Design Partnership is a leading technology and product design partner focused on helping clients grow their businesses. Our experts in engineering, human factors and industrial design offer a unique end-to-end service – from front-end innovation, through design and development, to manufacturing.

As specialists in front-end innovation, we can ensure your next product is customer focused and commercially effective – optimising the value of your investment in innovation. Our Potential Realised process creates concepts based on evidence from stakeholders – and then minimises time to market and development cost through expert technical realisation programmes.

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