Women's Health

at Cambridge Design Partnership

Discover the Power of Partnership



Supporting you across multiple categories



Vaginal drug delivery







Endoluminal

surgery

Breast

screening



Hormone detection



At-home diagnostics



Sample preparation



Menopause therapy

WOMEN'S HEALTH AT CDP THE POWER OF PARTNERSHIP

Our experienced teams are drawn from a diverse range of sectors. With expertise in diagnostics, drug delivery, medical therapy and consumer sectors – we are perfectly placed to support your project with our specialist knowledge.

We have a rich track record in all stages of product development - from initial insights and early concepting, through every stage of product design, into pilot manufacture and verification. We pride ourselves on our ability to accelerate your ideas along the development pathway.

With investment in Women's Health finally growing, we see more game-changing innovations and ideas than ever in this space. CDP are committed to utilizing our wealth of product development expertise to support companies in taking their ideas from concept through to the market – and ultimately into the hands of the women they can help in the shortest timescale possible.

Sukie Whitehall • Head of Women's Health

Sukie is a mechanical engineer, who has specialized in the design and development of medical devices for the past decade. She has led many projects through from concept to manufacture and now leads the Women's Health team at CDP. She is focused on bringing together CDP's experts with the innovators of today; forging partnerships that create products to change women's lives for the better.

WOMEN'S HEALTH AT CDP THE POWER OF PARTNERSHIP

Why work with us?

If your product helps Women, we want to help you

Our diverse team of engineers, designers, strategists and scientists are experts in accelerating the product development of solutions that meet women's needs. We are eager to partner with women's health companies to expertly support you and guide you through the intricacies of product development, at whatever stage your project may be in.

>27 years' experience

partnering and collaborating with companies who are developing products that improve lives through innovation.

250+ Sector specialists

From drug delivery to diagnostics, medical therapy to consumer health – we have experts in multiple sectors that span all phases of product development, from early concept to manufacture (and beyond!)

0% IP ownership

Intellectual property that we support or create is 100% owned by our clients. Always.

UK & US R&D offices

Both utilized in almost every project we undertake. This helps us to navigate variations in markets and regulation, gives us 'bases' to work from on both sides of the pond, and brings diversity and broadness to our approach. AUU-0134-GD-B







Who are we?

We are... Unique Mechanical Engineers Innovative Product Designers Expert Biologists Award-Winning Industrial Designers Methodical Physicists **Diagnostics** specialists Experienced Insights Researchers Detailed Electronics Engineers **Drug Delivery** *leaders* Research driven Strategists Thoughtful Innovators Diligent Regulatory professionals Dedicated Human Factors experts Specialists in Manufacturing & Processes Health equality *advocates*







Case Studies

Explore *seven* of our case studies that showcase some of the work we are *most proud of* in the Women's Health space

Rapid-result at home STI Detection

THE CHALLENGE

Our client had developed an innovative laboratory-based test that could detect common STI's and return results within minutes of testing. They approached CDP to help them take this test from a laboratory process to a device, that could be used to collect a sample, prepare it, and produce accurate results at home.

THE SOLUTION

CDP undertook rapid collaborative concepting with the client, evidence based downselection to three ideas, and parallel development of them all until further down-selection could be justified. After months of prototyping, iterating, and client-site testing - CDP produced a sample preparation device that could receive a sample, and with minimal user input, could recreate all the steps in the laboratory process to produce clinically equivalent results. The device was handheld and designed to be injection mouldable with minimal additional DFM required before production. It was designed to be cheap to produce, intuitive to use and disposable.

VALUE ADDED

In under 10 months CDP produced 300 looks-like-works-like prototypes, with good initial evidence of clinically equivalent results. The client were able to take these through to a clinical trial a mere 9 months from ideation.



Clinical Trial

HEALTH AT CDP CASE STUDIES

WOMEN'S

Breast cancer treatment

in the Physicians office

THE CHALLENGE

Our client asked us to help them develop a new technology in this crowded IP space, to allow them to own and manufacture a unique, office-based treatment for breast cancer.

THE SOLUTION

CDP investigated the IP landscape and reviewed the physics behind the leading systems. We noted that they operated at high pressure to avoid vapor locks, creating complex engineering needs, expense to manufacture, and heavy, industrial gas cylinders to be brought into the clinic. Utilizing this landscape knowledge, CDP gathered experts across all stages of product development to brainstorm a different approach.

Using liquid nitrogen at low pressure to replace a stainless-steel system with polymers, significantly reduced complexity and production costs. Vapor locks were eliminated by inventing a miniaturized cyclone evaporator that fitted right inside the treatment needle.

With iterative development over several prototypes, CDP proved that the new approach matched the performance anticipated by mathematical modelling and provided reliable, powerful freezing.

VALUE ADDED

Physicians expressed significant preference towards the use of liquid nitrogen, as it was easily available and handled, making more convenient in-office treatment more viable for patients.

A patent portfolio was created around the new technology and after clinical trials, the FDA cleared new Visica 2[™] Treatment System for use. Today over 4,000 procedures have been performed successfully in physician's offices.







Estrogen detection wearable device development

THE CHALLENGE

Our client was looking to develop a user friendly, minimally invasive method of tracking estrogen at home. They were seeking a system that was highly reliable, easy to use and cost-effective for potential customers.

THE SOLUTION

CDP's experts in hormone detection and biosensing carried out a detailed scientific assessment of biosensing technologies and determined the optimal biomarker for our client's product need. CDP also determined the best method of sampling this biomarker, detecting it, and visualising results – forming the groundwork for a robust product requirement specification.

CDP also helped to deliver a vision of the product through photorealistic visualizations, for presentation to key stakeholders and potential investors.

VALUE ADDED

The client were able to progress their development with evidence-backed confidence in the route they had chosen, and with a roadmap for future development, including patent landscaping and testing.



Lateral flow reading for hormone detection

THE CHALLENGE

A key client sought to develop an app that could consistently and accurately 'read' a lateral flow strip result, using a standard smartphone camera. The app not only had to be able to detect a result but be able to classify it by comparison

THE SOLUTION

The problem was separated into two key risk areas:

1. Ensuring the user could *easily and consistently* acquire a suitable, clear image.

2. Accurate classification of the result

CDP undertook some initial feasibility studies before developing a classification algorithm, that attempted to read the test under required conditions. Once this initial 'high risk' algorithm was proven, CDP developed the user interface and app software – while developing the algorithm for the required level of accuracy as well as management of extreme edge cases.

CDP then supported the client in navigating the (at times, challenging!) regulatory requirements for deployment to help them map out their path to market,

VALUE ADDED

Our ability to produce an initial algorithm fast allowed our client the opportunity to quickly produce volumes of data; key when developing a 'diagnostic' software tool. This data is needed not just in the further development of the algorithm, but also when assessing its suitability for potential regulatory submission. CDP's deep knowledge of the regulatory pathway meant that we developed the software with that goal in mind – ensuring our client didn't get 'stuck' and forced back to the drawing board when the time came for submission.





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Pelvic Floor Device regulatory Gap Analysis

THE CHALLENGE

Our client developed an early-stage, non-invasive system to support pelvic floor training for female stress urinary incontinence via tracking progress (hardware + app) and wished to assess the technology's defined differentiation and regulatory strategy to make a go/no-go decision on further development.

THE SOLUTION

CDP conducted an in-depth review of the existing system and identified technical risks and gaps in the product development done to-date. A usability analysis of the system was carried out by our team of experts, alongside a review of existing documentation. We also assessed the design against current market products and undertook a regulatory analysis of their market launch strategy.

VALUE ADDED

Our client was able to make a time and cost-saving decision to redirect development efforts based on our evidence and experience-led advice. While the product did not move forward – they were able to take key learnings from our risk-based approach into future development pathways.



Human Factors

HEALTH AT CDP CASE STUDIES

WOMEN'S

Vaginal Drug Delivery platform development

THE CHALLENGE

A UK-based medical device startup has developed a patented, tampon-based period care product. CDP was asked to help evolve and optimize its design for use as a vaginal drug delivery device to deliver a wide range of existing and upcoming vaginal therapeutics, including for infertility/miscarriage, bacterial vaginosis and gynecological cancers. To leverage the client's existing patents, avoid significant capital expenditure and expedite time to market, the client required the utilization of their existing production machinery.

THE SOLUTION

CDP undertook research into novel materials and manufacturing methods, identifying viable options and processes to be used for manufacturing the product. CDP worked with the client to identify the best potential concepts and down-selected to the lead concept architecture for the product. Leveraging the space and flexibility of CDP's Pilot Production Centre (PPC), the client's existing production machinery was installed to be operated by CDP's experienced manufacturing engineering team in subsequent phases. The machinery will be validated (IQ, OQ, PQ) and will then be used to trial different materials and manufacture samples for product testing.

VALUE ADDED

CDP's drug delivery expertise was utilised to give the client confidence in the viability of their product for its intended use, and the best lowest risk concept to progress. CDP's PPC allows significant manufacturing set-up and transfer time to be saved.







whitespace opportunity scoping

THE CHALLENGE

A global innovative apparel manufacturer was seeking to identify and explore gamechanging opportunities that could elevate their current product and technology portfolio within their re-usable menstruation category.

THE SOLUTION

CDP identified 10 whitespace solution areas and translated those findings into 'solution profiles' that included; Jobs-to-be-Done, Product Features and potential MVP requirements. The profiles also communicated high-level product solution areas, associated technologies, key benefits to both consumers and the client's pipeline, plus associated trends and potential challenges in development.

VALUE ADDED

Strateg

The team were able to expand their thinking and conceptual ideation to include the knowledge and insight of CDP's subject matter experts. This work led to early concept development and manufacturing exploration of several of the solution profiles CDP produced.







Ready to take your idea to the **next stage** in its development journey?

Whether your project begins with a unique biomarker that can give women unparalleled insight into their cycle, or a technology that can help them detect one of those endlessly under-diagnosed female prevalent illnesses – CDP's experts in product development can support you in realising your idea.

These case studies skim the surface of some of the things we see at CDP. Every project presents a unique set of challenges, but our multidisciplinary teams collaborate *with* you to navigate your unique set of requirements and accelerate the development of your groundbreaking Women's Health innovation.

If you are developing a product in the Women's health space, we'd love to help:

womenshealth@cambridge-design.com

