

Case study



The Challenge

The challenge faced by Dyneval was to develop a minimum viable product to demonstrate the concept and allow them to pitch for funding.

Dyneval approached Firefinch in early 2020 about developing a prototype for their new instrument, where they needed to provide evidence that their concept would work in real world situations and required an MVP (minimum viable product) to allow them to pitch for funding to bring their product to market.

About Dyneval

Dyneval has developed an innovative technology for measuring microscopic motion in video data. Developed by a team of physicists with over 30 years of experience studying complex fluids at the University of Edinburgh. Members of the Dyneval team combine deep-tech science and Agri-tech expertise with networks in Canada, Argentina, and the US.

The Dynescan is a portable instrument that provides reliable measurements of semen quality on the farm, which improves operational efficiency while also improving animal welfare and reducing the environmental impact of farming.

Dyneval's technology provides an easy-to-use, automated and portable instrument for semen analysis. It offers the most reproducible motility measurements (errors <5%) and works for any concentration of semen above 1 million/mL (lower than sex-sorted semen concentrations).

Dyneval's goal is to become the experts' choice for semen quality assessment while offering the first industry standard that can be used by anyone, anywhere.

Solution

-  Providing a three phase roadmap to develop an initial prototype through to market.
-  Delivering a desktop application as the primary instrument interface which can be used to analyse samples, and a Cloud based data storage and web application where users can login and retrieve results.
-  Developing highly efficient implementations of Dyneval's image processing algorithms.
-  Developing internal engineering support tooling, such as a simulated instrument, and tools for hardware commissioning and calibration.
-  Supporting hardware development through direct collaboration with hardware engineers for electrical testing and firmware design.
-  Helping to evaluate project technologies, and contributing to design decisions for both hardware and software components.
-  Assisting the recruitment of their software team, providing guidance on the skills required and wording for job descriptions.
-  Assisting Dyneval with marketing and PR support to help generate awareness and to promote the company/ product ahead of applying for funding/awards.

Results

Firefinch worked closely with the Dyneval team of scientists and software developers to deliver a complete solution for sample processing and data analysis as a prototype for the Dynescan instrument.

This software functioned as the interface to the instrument, checking it is working within the prescribed parameters, gathering video feed data, performing the analysis and presenting the sample quality results to the user. The software also provides cloud-based authentication and remote data storage.


In the early days of our business, the co-founders needed to create a Minimum Viable Product to demonstrate our innovation to investors and potential customers. Firefinch brought a range of skills, vital for product development, and proved to be a knowledgeable, trustworthy and supportive partner. Every member was a pleasure to work with and I would recommend them highly.

Dr Tiffany Wood, CEO, Dyneval

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