

World's first portable food testing device



Case Study

Client: Koringa Systems
Sector: Environmental
Purpose: Exhibition model
Process: SLA, paint and finishing

It's predicted that the world population will rise from 7.6 billion to 8.5 billion by 2030. Focus is rapidly shifting to our environment and how we retain vital resources for future generations. As food systems are estimated to account for 70 per cent of freshwater use, as well as increasing global greenhouse emissions, the World Economic Forum suggests that change will only be sought through technological innovations.

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In steps Koringa Systems. A highly innovative environmental design and development house with the Agrichem Residue Tester (The ART Project), a hand-held chemical and contaminant analysis tool.

Background

Founded in 2001 in New Zealand, Koringa Systems launched their UK division in late 2018. Director and Chief Technical Officer Bob Steele has dedicated his career to advising companies on how to recover waste streams, save money and save energy. Challenging the parameters of environmental sustainability and energy reduction have led Koringa to participate in global renewable projects.

The project

The portable tester (ART S2) will work on any food stuffs or hard surface to identify any chemical or pesticide, herbicide and fungicide from a seed through to final harvest. A farmer, for example, would be able to detect over watering, contamination and a whole host of information to be able to maximise yields in a sustainable way.

The brief

The main brief was to create a highly realistic looks like, feels like model of what the production device would be like to attain investment.

The battery pack and main scanner part must have a positive clip feel without having any actual clips within the prototype. To achieve this, magnets were used and the team at Ogle had to experiment with which ones worked best, where to locate and how best to fix them in position.

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As the model was predominantly for use to attain investment, the finishing and realistic detailing was a key factor in the build.

The solution

Selecting SLA to ensure the best level of finishing and crisp detail, Ogle ensured the item was realistic in weight and finishing. Lead weights were placed in an internal cavity and secured in strategic areas to ensure the centre of gravity was correct.

The paint and hand finishing were imperative to this model. To achieve the quality, certain details and features were split at CAD stage and printed separately. This meant the model had crisper split lines for the finer detailing. A variety of paints and lacquers were applied for the production-like appearance. The handle included a soft-touch paint to mimic a rubber feel, iridescent paint on machined Perspex to simulate a lens as well as using metallic paints to represent metallic components without the added cost of machining them from actual metal. The vacuum casting process was also utilised to create a soft rubber 'ring'/donut which could be compressed, on the end of the scanner for added realism.

Conclusion

As Koringa Systems are already in discussion about the S3 prototype with Ogle Models, the team were keen to obtain feedback. Bob Steele, Director and Chief Technical Officer, said: "The customer service and finishing were outstanding. They immediately grasped what we were trying to achieve and everything we asked for was completed to the highest standard. Ogle and Matt White specifically made some excellent suggestions that just made the model pop.

"We're absolutely thrilled. The biggest compliment I can give Ogle is that everyone who has seen it at trade shows wants to keep it. We're forever asking for the model back."

Koringa have already developed the technology for a consumer device that, once pointed at a food, will provide an immediate breakdown of any contamination detected and the nutritional value.



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