



# A rapid response to help speed up vital COVID-19 testing

## Client story: AstraZeneca sample containment system

Speed was of the essence when AstraZeneca asked us to help enhance the efficiency of vital COVID-19 testing as the pandemic swept the United Kingdom during the summer of 2020. With a good and longstanding working relationship already in place, we were able to respond rapidly and deliver the project from brief to design verification completion in just seven weeks.

Our task was to design and manufacture a sample containment solution for use at a testing facility set up jointly by AstraZeneca, GSK and the University of Cambridge at the latter's Anne McLaren laboratory. The collaboration was forged as part of a national effort to boost COVID-19 testing. The new facility was established for high-throughput screening for COVID-19 testing and to explore the use of alternative chemical reagents for test kits in order to overcome supply shortages.

As demand on the testing facility increased, the laboratory identified a need to increase the speed of loading samples into test robots. That would have involved manually transporting COVID-19 test samples across the lab, potentially placing technicians at risk. The challenge for the Cambridge Consultants team was to develop bespoke containment boxes, compatible with the lab workflow. Crucially, the boxes needed to hold uncapped COVID-19 test tubes and withstand being dropped without compromising safety.



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## Human factors studies

With usability a key driver, the two leading concepts were evaluated and refined through three separate human factors usability studies. The final design was manufactured in a matter of days using our network of local suppliers. Verification testing for key attributes and robustness was completed at our in-house laboratories.

By early autumn, the containment boxes were in daily use – helping the facility to significantly ramp up the number of tests it processes. Our experienced, multidisciplinary team had executed a great example of compressed-duration concept to manufacture in just seven weeks.

## Areas of expertise employed:

- Usability testing
- Energy absorption analysis
- Rigorous mechanical testing

For further information or to discuss your requirements, please contact:

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