

Shrinking the Footprint: Overcome Logistics of Transportation to a Lab

Mobile Lab developed to serve school COVID-19 testing and vaccination programs on debut at Invest in Schools Summit in Washington DC, August 3-4, 2021.

NEW YORK, UNITED STATES, July 26, 2021 /EINPresswire.com/ -- Moore's Law states that the number of transistors on a microchip doubles every two years, greatly accelerating the capacity of computing power in less and less space. This has transformed the technology world. Could the medical laboratory space for diagnostic testing follow a similar path? Possibly.

Although these labs will not shrink by half each year, they are trending toward smaller, faster, and more accurate testing for the customer. Fast turnaround times are critical for infectious diseases like COVID-19 where time matters. For example, a person with undetectable COVID-19 virus at 10:00 AM could be 100 times more infectious by 3:00 PM. The notion of waiting one or two days for PCR testing yields high rates of infection and spread.

Recently, four companies from various backgrounds formed a partnership to work toward minimizing the laboratory space and shortening the testing timeline. [LumiraDx](#), [Black & Veatch](#), Radeas, and Circumference have collaborated to put a molecular PCR lab into a mobile unit, by reducing the footprint of a lab by nearly 90%. While a high complexity lab with sophisticated equipment typically requires around 1,500 square feet, this team was able to build one in a 60



SafeTogether Van Interior



SafeTogether Van

square foot mobile unit, making it possible to conduct high-quality molecular lab testing in a van. One way we achieve quick testing turnaround times is by eliminating logistical challenges. Instead of a patient driving, testing, and waiting for a result, the testing is brought to them through this mobile unit.

LumiraDx, Black & Veatch, Radeas, and Circumference have entered the market with Safe Together, a joint venture that brings fast, high throughput testing for diagnostics, travel, event, workplace, and most importantly school. The process is simple: The Safe Together van drives to a location, individuals download an app to register, a sample is collected and tested, and results are reported back to the individual in less than an hour.

It all started when Sanjay Malkani, President of the Fastlab Division of LumiraDx was looking for a way to get his high throughput test into a point of care setting. Since most point of care technologies do not have the throughput and the accuracy needed, he knew that his fast throughput technology could be a game-changer. Having spent his career running laboratories, Sanjay knew the players. He reached out to Black & Veatch, a firm that was already working toward achieving mobile healthcare, and Radeas/Circumference, a laboratory that had the best COVID-19 testing in the country. He learned that the missing piece was a fast, high throughput test that, LumiraDx FastLab Division had recently developed. The four firms quickly collaborated and within 10 months had reduced a COVID PCR lab into a platform that fit into a van.

LumiraDx's contribution was its molecular technology – RNA STAR Complete SARS-CoV-2 Assay. The test utilizes a direct amplification method to detect SARS-CoV-2 viral nucleic acid in under 20 minutes on common open channel PCR systems – a process that typically takes more than one hour. This test is considered a breakthrough and can serve mass testing including travel, workplace, events, and schools.

Black & Veatch provided the core technology of Rapid Modular Health Systems (RaMHS), offering mobile and modular units to house a best-in-class testing process. RaMHS are fully customizable medical units that can be delivered anywhere, anytime, based on client needs.

The last piece was Radeas/Circumference, which offered a high complexity clinical lab that processes over 30 million tests annually. They can test and report COVID-19 tests in less than one hour and have integrated their process into the Safe Together Solution.

About Black & Veatch:

Black & Veatch is a global engineering, procurement, consulting, and innovation leader with more than 100-years of experience developing and delivering solutions to some of the world's most complex challenges. Today, more than 9,000 professionals worldwide deliver a broad range of services covering many different industries. Please contact Ashley Stroud at StroudA@bv.com for more information on RaMHS, or visit our website at <https://www.bv.com/solutions/COVID-19/rapid-modular-health-systems>.

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