

## CASE STUDY

# Deaton Engineers Help Briggo Design & Build Automated Coffee Kiosk



## The Client: Briggo, Inc.

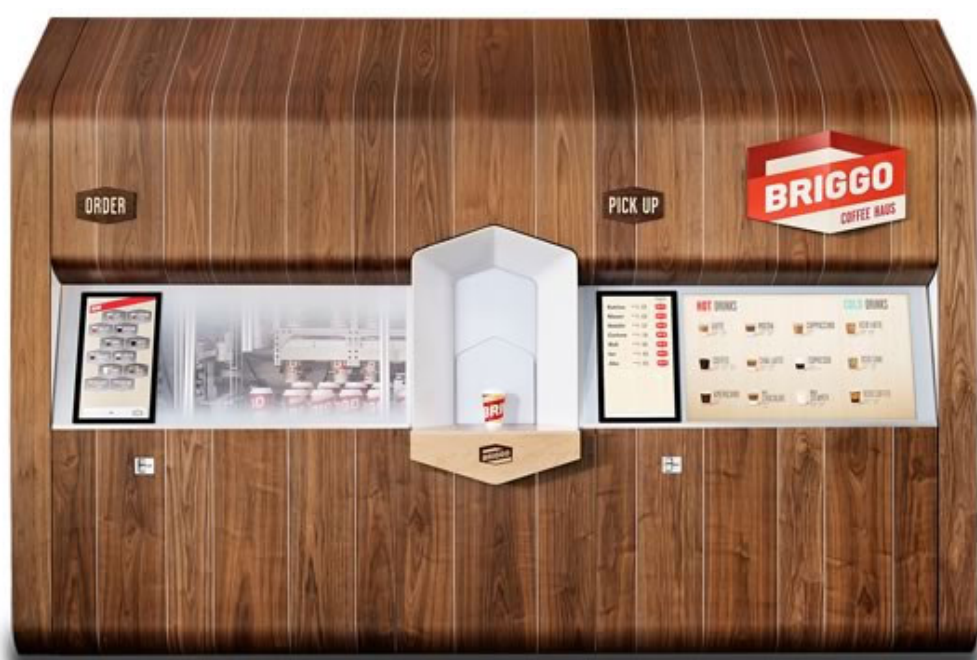
Briggo, Inc. is focused on brewing your personalized, perfect cup of coffee, every time. Founded in 2008 in Austin, TX, Briggo is a standalone coffee kiosk, combining premium coffee ingredients, precise robotic technology, and a mobile ordering platform to deliver coffee exactly how and when you like it. Briggo's goal is to install kiosks in locations where the need for quality coffee is unfulfilled by traditional coffee shops.



## The Challenge: Design and Build an Automated Coffee Kiosk.

In 2009, Briggo approached Deaton Engineering (DEI) to transform their vision into a functioning prototype. Each subsequent version of the machine would need to become more complex, starting with a primitive lab unit, progressing to a semi-automated kiosk installed at a commercial location, finally to a fully-automated kiosk. Briggo wanted to replicate the technique used by elite baristas while adding the precision and repeatability that comes with robotics. The machines also had to interact seamlessly with industrial design, middleware and mobile applications that Briggo simultaneously developed during DEI's design phase.

## The Solution: Semi- and Fully-Automated First Article Kiosks



DEI completed work on a functioning lab unit in 2010, and then a semi-automated kiosk was completed and installed at the Flawn Academic Center at the University of Texas in 2011. A Briggo employee attended the kiosk in order to place/retrieve cups and press start, but the kiosk did the rest, utilizing rotary and linear actuators, valves, sensors and custom software.

The kiosk created a wide menu of drinks, including brewed coffee, espressos and lattes along with the standard array of additives. espressos and lattes along with the standard array of additives.

The kiosk stayed in use until the fully-automated Briggo Coffee Haus replaced it in 2013. DEI worked with Briggo and other partners to create this new coffee experience that no longer required an attendant. The Coffee Haus provided more drink and additive options while significantly reducing the kiosk's footprint. The Coffee Haus offered significant design upgrades with more motion control, parallel processing, and a modular design. After the installation of the Coffee Haus, DEI assisted Briggo with the transition of further design & maintenance over to their in-house team.

## Engineering Highlights:

- Multi-axis motion control
- Precise motion profiles
- Middleware and mobile application interaction
- Control system design
- Signal conditioning
- Data acquisition
- Software development
- Safety standards compliance – food & beverage, electrical, fire

