

DRONES FOR APPLYING MULTIFUNCTIONAL CONTROL LAYERS

THE CHALLENGE

Several million homes are re-sided each year, providing an opportunity to significantly increase the energy efficiency and durability of a building by installing a continuous air and weather barrier. However, current construction practices are time-consuming, costly, dangerous to workers, often *ad hoc*, and prone to installation defects.

THE TEAM

Apellix and **Techstyle Materials** have teamed up to combine advanced building envelope material technology with an advanced aerial robotic application system.



PROPOSED SOLUTION

Techstyle materials has developed a low-cost material technology that can be applied to existing building envelopes to significantly improve moisture regulation and energy efficiency. Apellix's tethered aerial robotics will spray Techstyle's coatings with conventional airless spray paint system via. the Apellix Opus X8 Spray Painting Done (SPD) which is capable of precision flight and applications of coatings precise to thousands of an inch thick (mils).

This enables a data driven, minimally invasive retrofit application which captures and uses data during the application and post application. The sensing and inspection functionality allows us to create a digital model and auditable record that can be augmented over time. Further the application is replicable and consistent, safer than putting workers at elevation, and less expensive than scaffoldings, lifts, etc. leading to estimated cost savings of 50%.



Techstyle
MATERIALS