# DRONE BASED SENSING AND INSPECTION

Our solution aims to identify issues such as wall, ceiling and floor cracks, roof damage, paint fading and flaking , high radon/harmful gas levels, wall leakage, presence of lead, etc. in older homes. These are one of the major issues which are found in most old houses built before 1980 in the United States and need a time-taking, robust solution as these problems can also manifest safety hazards. Our idea is not only time efficient and concrete, but it also ensures safety of the workers and occupants as well with minimum interference.

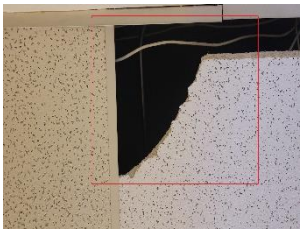
Drone starts

Drone moves inside the site

Data is collected through sensors

Drone returns after lead and radon tests

Collected data is analysed for retrofitting solutions




Our idea is to first move the drone inside the site for sensing and inspection purposes. We will use the data collected through various sensors such as cameras, gas sensors, lead paint detectors and so on to detect issues such as wall cracks, gas leakages, dangerous levels of poisonous gases such as Radon, insulation efficiency while also simultaneously creating a map of the area. Once the issues are identified, retrofitting tools can be used with the drone to fix the problems.

Our team consists of both construction and robotics professionals who work in affiliation with GEM Technologies. Our team has a competitive edge over other teams as we bring over 25 years of construction and 8 years of combined robotics experience to the table. We have been working on other construction robotics projects since 2019 and have also filed two provisional patents for construction robots.