The potential impact of our project is niche. This is largely due to two characteristics of the design parameters we chose: The equipment utilized in our project is expensive; The minimum practical cost for a complete receiver station is at least fourteen thousand dollars with two receiver stations comprising a basic directional finding installation. This puts the system outside the reach of most private individuals and into an organizational market. Second, the intended purpose of the project requires a fairly strict environment for our system to be the optimal solution. Emitter localization is not a novel concept, and has had applications down to even the level of amateur hobbyists. The strength of our system lies in the flexibility of the USRP software defined radio. Most existing designs are tuned for a particular band of interest e.g. a ham looking on public bands or cellular operators on GSM bands. By changing the antenna and a software parameter the intended frequency can be set within a large range. This ability is useful in the situation that the desired signal can take a wide range of frequencies. Demand for this specialty is little outside of a small number of organizations that concern access to remote land.

Because our system is designed for remote long-term applications, the direct impact the hardware may have on the local environment is non-negligible. While not exactly harmful, having a small box-like enclosure within populated habitats may affect the habits of the wildlife. The installation may attract animals looking for shade, drawing them away from their natural hides. Powering the system also presents a possible impact on the environment. Solar panels are fairly benign towards the surroundings but infrequent maintenance and cleaning of the panels could cause power supply problems for operation. Wind power using a turbine carries the same risk that large scale wind farms bring, namely bird strikes and noise. Introducing mechanical components to an otherwise static system creates a number of new potential causes of failure. Relying solely on an internal battery is not an option due to the extended multi-week deployments intended. Taking in energy from the surrounding environment is a must. In addition, the simple fact that an operator must come out and physically place and install the system creates human interaction with an environment that would otherwise be untouched.

Our system’s impact on society and culture is likely minimal. As stated before, better applications exist for directional finding in populated areas and thus the introduction of our project does not create any new conditions into a large societal environment. The profile of a signal that would likely be located by a typical deployment of our system is a person that has mistakenly entered a restricted zone from a trail or similar feature. This target’s emissions are not secure and are not actively avoiding detection. A target that is purposefully trespassing would likely suppress their transmissions and would not be located by our system.

The emphasis on performance in a particular environment and circumstances results in a lessened likelihood of the project having a large impact economic nor societal. The system’s impact on the environment is minor but could cause minor local distortion to its surroundings.