# The Ghost Labs Inc

The Ghost Labs Inc (short for Green Hydrogen Open Source Technologies Labs, and referred as GHOST in the remainder of this document) is a Massachussetts USA Not for profit (also proposed to eventually form world-wide NGO subject to availability of funds), is an organization dedicated to open-source sharing, improvement, and documentation of Green Hydrogen Technologies.

Correspondingly and Therefore: All the source code, 3D printable designs, and other artifacts submitted to GHOST shall be made available to the general public under the GNU GPL 3 (https://www.gnu.org/licenses/quick-guide-gplv3.html).

In order to make this rewarding for individuals and organizations contributing the digital twins of their Hydrogen producing technology devices, GHOST shall allow for timed public disclosure so that inventors and legal owners of the technologies can have the opportunity to gain appropriate legal protections like patents, copyrights, and trademarks on the said works.

In order for the technology contributors to gain maximum marketing advantage from the works contributed by them, GHOST shall permit them to advertise the specific digital artifacts contributed by them in a primary manner, with a fine print or less prominent statement indicating support by GHOST.

### Goals of GHOST

It is the **mission** of GHOST to provide *scientifically verifiable*, *open-source* and *documented* digital artifacts with complete scientific chain of citations or patents, in order to achieve very high level of trust, transparency, and repeatable cost baselines for Green Hydrogen Production.

It is the goal of GHOST to eventually develop a digital twin of every electrolyzer and Hydrogen related device on the planet, and to share it under the open source license with publicly documented specifications.

The analysis and optimization of these digital twins with continuous improvement of the optimum boundary ensures that the best technologies are available for digital experimentation through the open source sharing license.

### GHOST Software

The GHOST will also provide an open source repository with interface to integrate with, and/or to control generic electrolyzer operations. Using this will allow the operators of various electrolyzers as well as the general public to have a verifiable view of Green Hydrogen production anywhere on the planet.

GHOST will host open source IOT feeds of the physical electrolyzer operations.

**How GHOST Works**

GHOST will attempt to help any for profit corporation, not-for-profit, or government lab under limitations of local law(s), at a modest consulting cost, as long as they are willing to work with the above scrutiny. This is done in order to achieve the best publicly verifiable optimization path to Green Hydrogen Production.

GHOST hires consultants and researchers with expertise in various scientific domains in order to further examine and optimize the optimum path to massive Green Hydrogen Production.

**Social Good Mission**

GHOST will attempt to provide physical Green Hydrogen at best cost + delta basis, using the best documented supply chain configuration corresponding to the digital twins provided by the various suppliers, for the following *acts-of-good* either by itself, or by partnering with another person or organization with appropriate skills in the following areas of interest. Residual profits from the delta margin and consulting fees shall be applied towards the specific recipients indicated within:

- Cleaning ocean oil-spills, plastics, and other pollutants in a scientifically open, least cost least residual method.
- Saving people's life at sea, providing safe economical replacement for heating for low-income people who are disproportionately lost in home-heating accidents, working towards human habitable self-sufficient energy islands for various refugees and people desired by nobody.
- Education of students in Hydrogen welding and glass annealing, world-wide.

## Location

The GHOST is looking for a suitable place to haunt.

The work of GHOST is available online at https://github.com/GHOST-ngo

Kindly enrich us all by sharing your insights and knowledge through our discussions page : https://github.com/orgs/GHOST-ngo/discussions

The website and other artifacts are currently under construction. Suitable contributors, benefactors and hosts are requested to contact the authors.

** Under Construction **

Appropriate locations should necessarily provide high level of digital security, and preferably be open access to all persons in order to provide highly transparent yet highly secure achievement of the previously described mission. Since these two requirements are sometimes in mutual contradiction, we prefer the first one over the second, at least in the beginning when we do not have funds to rent and upgrade a suitable facility on our own.

The location should budget 2 desk space i.e. 80 - 100 sq ft minimally for one engineer working on the software and hardware assembly.

There is opportunity to train 2-3 interns in both of the above skills and also to broaden the skill base within the team. Therefore the space could plan for expansion within 2-6 months for this scale-up.

## About

The GHOST is created with the hope that Green Hydrogen Technologies will improve with collaborative scientific accretion. With a transparent cost structure, a well defined rational process for planetary scale decarbonization may be followed.

The GHOST is a gift to the nation, to humanity, and is shared with the hope that the values of universal inclusion and treating all human beings with dignity and all life with care and love will be furthered by its users.

This website is currently under construction, additional details will be added at the earliest