

Floatation Device

“Stay Safe Above the Flood.”

Technology

The flotation device is an engineered support system designed to protect mobile structures from flood-related damage. Mobile structures such as temporary housing units, construction site offices, or warehouse equipment are highly vulnerable in flood-prone areas. This technology addresses that vulnerability by providing a base platform that both stabilises and elevates structures during flood events. The device consists of interlocking modular units made from durable, high-strength plastic materials. These units are assembled to form a solid base, which can be anchored securely into the ground using support poles. Under normal conditions, the device functions as a stable foundation. However, in the event of rising water levels, the flotation base lifts, causing the supported structure to rise above the floodwaters. The anchoring system ensures that the elevated structure remains balanced, stable, and in place.

Market need

Climate change and rapid urbanisation have led to more frequent and severe floods worldwide. Many communities, especially in developing areas, depend on mobile or semi-permanent housing and facilities. Flooding can damage these structures, force families to evacuate, disrupt supply chains, and result in significant economic losses. There is an urgent need for affordable, effective, and scalable flood protection methods that can protect both people and property.



Features

- Interlocking modular design for easy assembly and scalability.
- Robust plastic construction, resistant to corrosion, wear, and water damage.
- Ground anchoring system to ensure stability during elevation.
- Automatic buoyancy response, lifting structures without manual intervention.
- Customisable size and load capacity to support different types of structures and equipment



Benefits

- Reduces damage and loss caused by flooding.
- Enhances security for residents and workers in flood-prone environments.
- Provides an alternative to costly permanent flood defenses.
- Can be adapted for small-scale residential or large-scale industrial use.
- Extends the lifespan of mobile structures and reduces the need for post-flood reconstruction or replacement.
- Ideal for emergency relief operations where time-sensitive solutions are required.



Industry

Manufacturing

Potential applications

- Elevates homes, shelters, and disaster-relief units during floods.
- Safeguards mobile structures and machinery from flood damage.
- Protects inventory and critical equipment in flood-prone areas.
- Provides rapidly deployable flood protection for vulnerable communities.
- Supports schools, clinics, or other semi-permanent buildings in flood-risk regions.
- Enables safe, elevated structures in areas prone to rising water levels.

Creator

Patricia PM Gouws

Stage of development

Lab-scale prototype

Intellectual property

Patent Protection

Desired relationship

Co-development, Investors