



Smart mosquito trap

Meet the "Mosquito Predator" trap



This trap completely resembles a human body that comes to deceive the mosquito's senses, which is known to have extremely sensitive senses. All this takes place in one compact assembly, cheap in cost and operation. The facility has two sources for producing the image - a liquid with a biological odor adapted to the infected area (mosquitoes of different species prefer a different set of odors) and the production of heat, moisture and CO2 emitted in the breath.



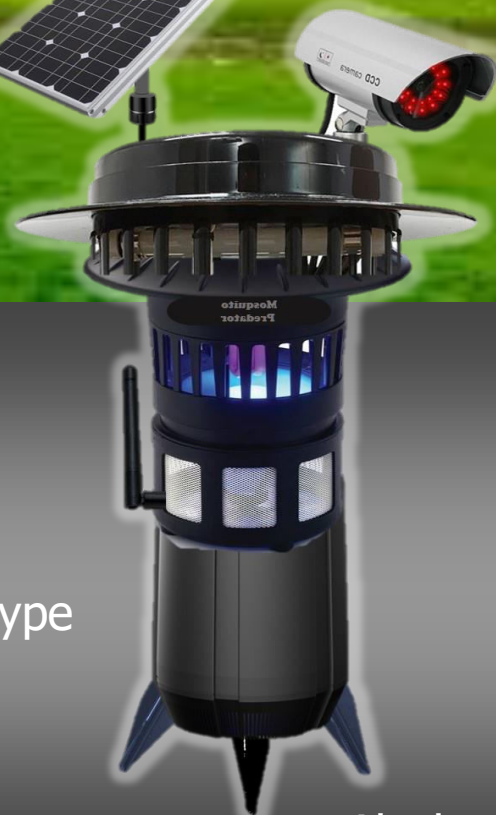
Totem Pole Type



Pagoda Type



Turtle type



Alaska Type

Mosquito Predator

From Shahar Engineering



Camera installed on the trap. It can be tuned from the control center. Equipped with LED lighting for a bright picture even at night.

Solar panel - mounted on the trap. Automatically directs itself to the sun for maximum energy. Provides voltage for all trap electrical systems.

Storage space for the trap electronic systems.

Electric net. The power voltage can be adjusted to 2,000v.

Data transmission antenna to the control center. The broadcast is performed 24 hours a day.

Container for mosquitoes storage after being eliminated by the trap.

Disassembly lid containing container with chemical mixture that produces heat and CO2 for trapping the mosquitoes. It is necessary to replace the mixture once every three months. In this part of the trap, the backup battery is stored in case of lack of power supply from the solar panel during closing days.

Alaska Type





The need

- Mosquitoes are a very high level of nuisance: in most municipalities in this country the main or second complaint is its importance. Mosquitoes pose a danger to public health. Every year, about a million people die from diseases transmitted by mosquitoes.
- Every year, tens of millions of people become infected with malaria and other serious diseases: dengue fever, yellow fever, chikungunya, Zika and more. In Israel, several dozen people are infected with West Nile fever every year.
- The most effective treatment available is not enough - renewable technologies are needed. There are effective mosquito traps, but they are expensive and complex to operate. In the past, air was sprayed in cities against adult mosquitoes with pesticides. It has been found that much harm outweighs the benefit.
- There is currently a lack of effective treatment for adult mosquitoes.
- “Mosquito Predator” product It is a compact system that includes elements that exterminate mosquitoes and stings in several forms, with maximum efficiency. Development of the project through Shahar Engineering. The company specializes in the development of projects in the field of electro-mechanics, chemistry, physics, green energy and more.
- **Leading team:**
- **Shahar Haim: Engineer leaving Rafael.**
- **Avi Erez: Project Manager.**



Advanced technology for eradicating mosquitoes in large areas

Eliminating mosquitoes in areas that are difficult or impossible to access, Shahar Engineering has developed a new technology that allows control and monitoring of a large number of traps.

Each trap is equipped with wireless communication backed by solar energy that allows activity for about two months without routine maintenance. Cameras for scanning the trap area (option, at customer's discretion).

A single control center controls an unlimited number of traps. The control center monitors the traps for routine maintenance.

Since each trap is active for about two months, therefore the control center detects a trap that requires refresh.

Refreshment is very simple and requires only the replacement of a container containing the emptied mixture. Each replacement requires only a few seconds.



Trap description

The trap is a basic off-the-shelf product in a number of 60 cm long models that does not require maintenance, but rather the replacement of consumables that are inside it. ■

This is equivalent to replacing a capsule with a coffee machine, once every few months. ■

Although we use some elements that are known, the combination between them is still unique. ■

The patent for heating and dispersing chemicals, designed to resemble a biological body, is exceptional in its innovation and there is nothing in the world like it. ■





Research

The study includes:

1. Check the trapping efficiency of competing traps against competing traps and the degree of trapping of the trap. A product that will better catch mosquitoes and stings, or alternatively catch a similar amount, but at much cheaper costs and with high operating comfort, will be a more successful product.
2. Further research has shown that trapping mosquitoes has led to relief from nuisance in the immediate area. Both of these studies have shown a technological advantage of the trap. Therefore, the success of the capture is on a cost-benefit basis, which should present a winning product.
3. All the elements needed to attract mosquitoes, stings and neutralize them, are already in the capture system we have developed. A full feasibility has been made for the trap including a field trial



Development status for today

The basis for the project is a chemical reactor, which perfectly simulates a biological body (humans or animals). The reactor emits only natural substances emitted from a living biological body.

Emitted CO₂ in the breath. ■

Body temperature of 36 degrees. ■

Biological odor adapted to the type of mosquito or other stings. ■

Water vapor (H₂O) containing a specific odor. ■

Color of the trap (for active day mosquitoes). ■

The dominant part is body heat. The mosquito's thermal sensor is extremely accurate and sensitive. ■

First it detects the carbon dioxide from a great distance from a great distance. ■

And as he approaches, he feels a body odor (which will be delicious), which is found only in the water vapor emitted from the reactor, which defines the type and size of the object - human, animal or other. Finally, the mosquito detects the body heat and localizes it accurately.

The neutralization is carried out without any environmental Damage. ■





Patent and rights

Proprietary rights (IP is the exclusive property of Shahar Engineering). The use of the patent will be for licensed use only. A thorough examination and professional patent survey was conducted by the Patent Office. It has been proven that there is no system similar to Shahar Engineering's system.

The basic patent is the production of heating and dispersal of harmless natural chemicals, it is unique and does not resemble similar products. The patent contains a number of original ideas containing, mechanics, chemistry, biological odor and heat production. To date, no mosquito and sting killers have been used in this configuration.

Important Note: **The trap is selective for blood-sucking pests and is unattractive Innocent harmless insects.**



Laboratory picture



**Mosquito
repellent box**

A mosquito release and a control system for counting captured mosquitoes

Control system



A mosquito free cage





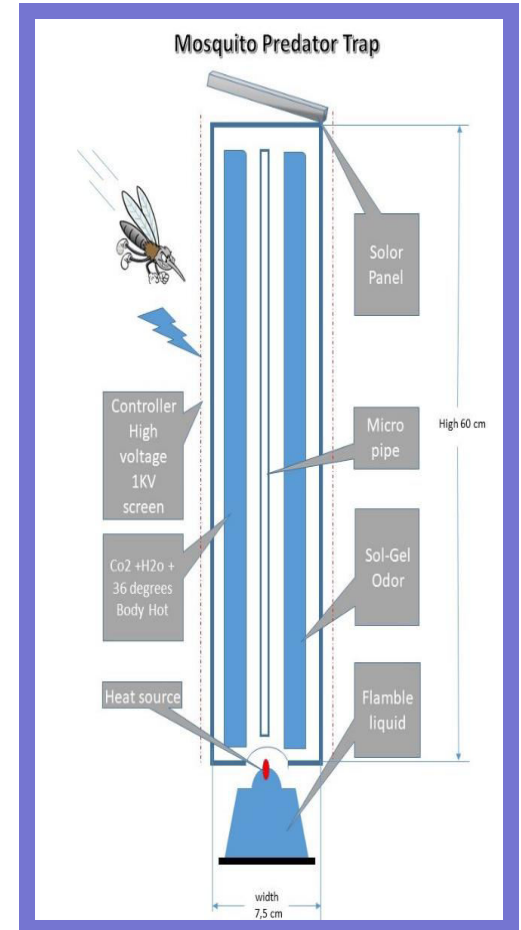
Laboratory model of a mosquito net

Mosquito Extermination Network - Laboratory Model
(Creating 2000 Volts from a 6 Volt Battery Voltage)

The net after capture
and neutralization

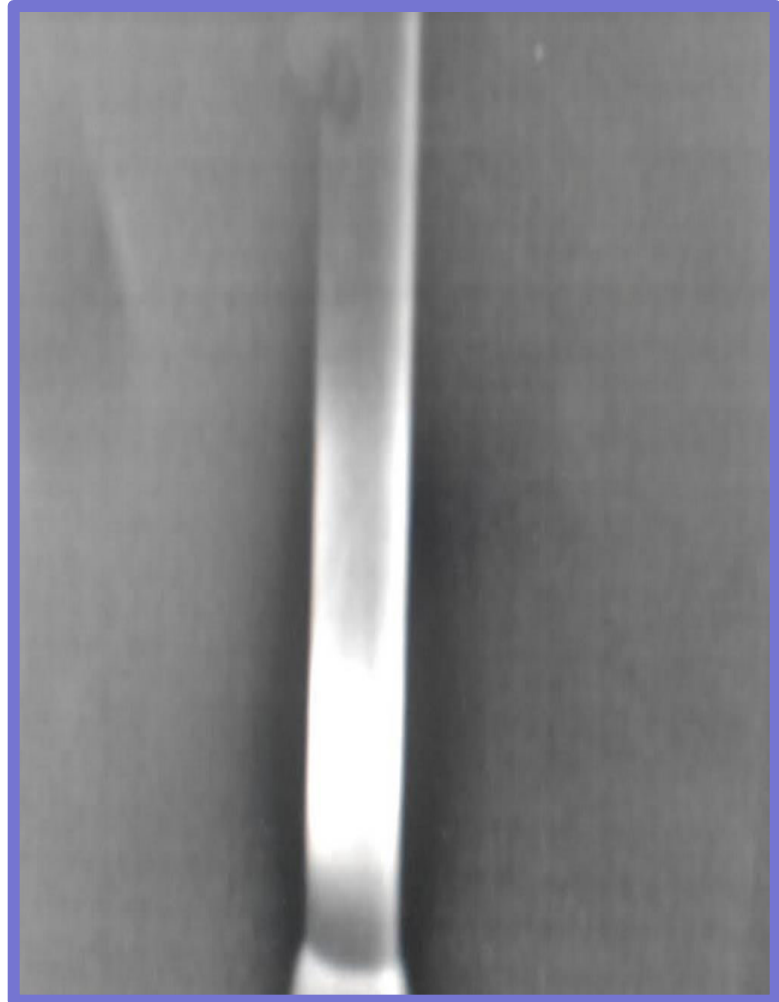
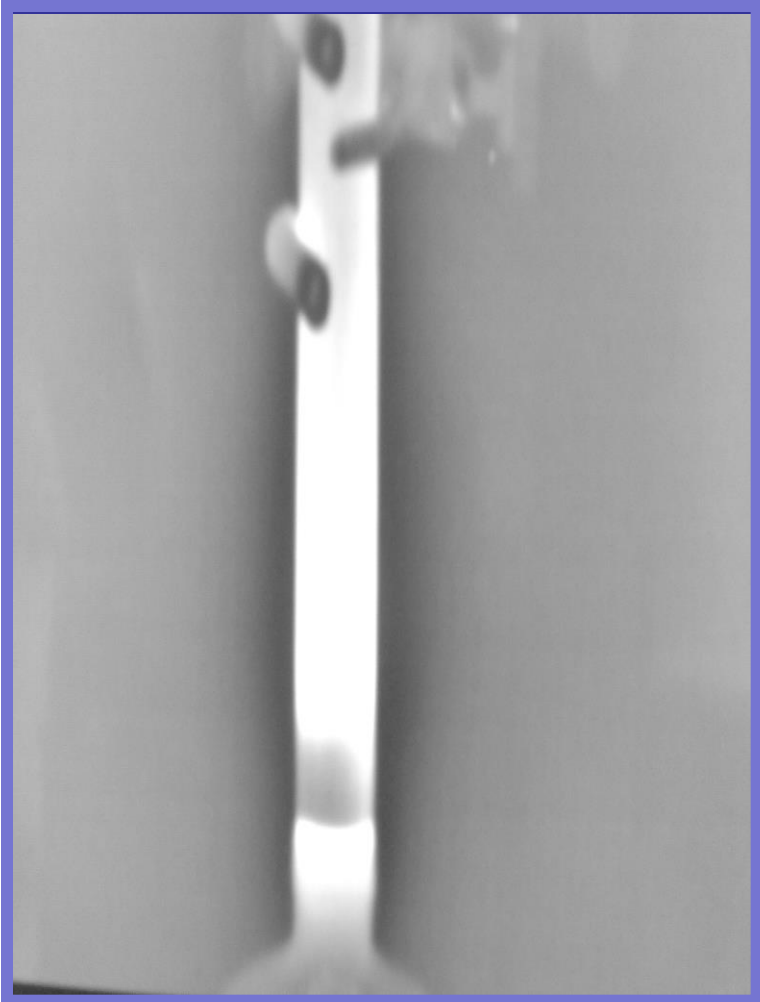


Internal structure of the trap





Thermal photograph of the reactor that produces heat, CO₂, and water vapor to disperse biological odor 36c.

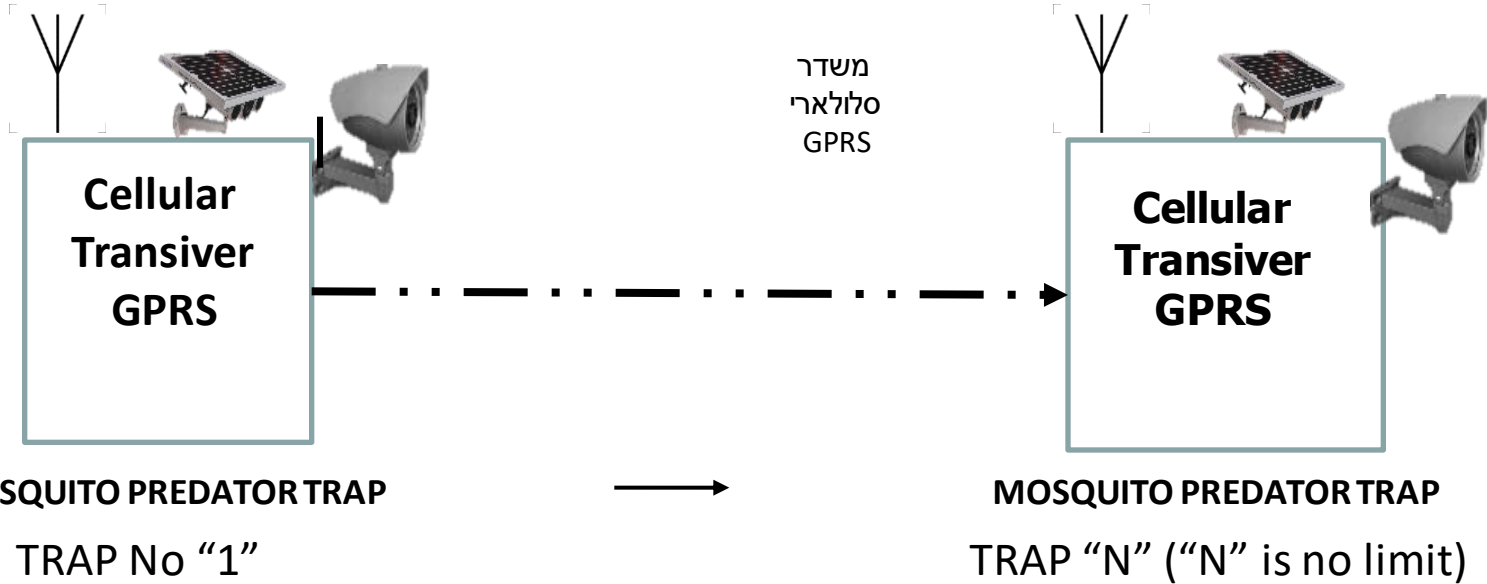




After capturing the mosquitoes. Most of those captured are mosquitoes, and the rest are male mosquitoes that fly following the females



Mosquito monitoring system from Shahr Engineering control and communication



Reek mount 256 channeles

Communication cabinet



Received data from 256 traps



Print reports



Sending reports by e-mail



Customer data:

Number of mosquitoes caught in each trap. Type of mosquito caught in each trap. Geographical location of the trap. Segmentation of data by date. Using a camera that will be installed on the trap, it will be possible to observe the location of the trap and detect unusual events.

Stakeholders

Yards



Private consumers, children's rooms, yard owners, nature walkers, farms and more.

•

Children room



Local / state / military authorities - by scattering many traps in the authority's area in order to harm the entire mosquito population.

•

Nature walks



Environmentalists. Suitable for specific damage to blood-stinging insects and therefore can be used where chemical pesticides are prohibited.

•



Holders of positions and scientific ability

Shahar Haim, Electornics engineer.

Specialist in hardware solutions, mechanics, and the basics of chemistry. Rafael graduate. Holder of the Israel Security Award. Highly capable of project management.

Avi Erez, Electronics Engineer.

An entrepreneur in the high-tech industry, with proven experience in managing high-tech companies. Was a partner in several startup companies' projects, all of which were supported by the Chief Scientist. During his military service in the Air Force, he took a significant part in the development of guided weapons systems for fighter jets and was responsible for test flights that were crowned with great success.





Market assessment

The expectation is very high. It is difficult to estimate market size. But it is clear that the product will be marketed outside of Israel, in countries such as Africa, the tundra in Siberia, the tropical jungles, southern France, the United States, India and more. In front of private, state, military customers and so on, it has high sales potential. Since there are mosquito killer systems on the market, most of which are inefficient and manufactured on a commercial basis only, it will take time for the market to get used to the product. Most of the leading mosquito killers have been tested. Those tested were found to be unfit. ■



Competitions



The amount of competitors is very large. But most competing devices are low efficiency, most of them do not bring any benefit. ■



Some people use only UV light (which is not relevant for all types of mosquitoes), or supplement (CO2). ■



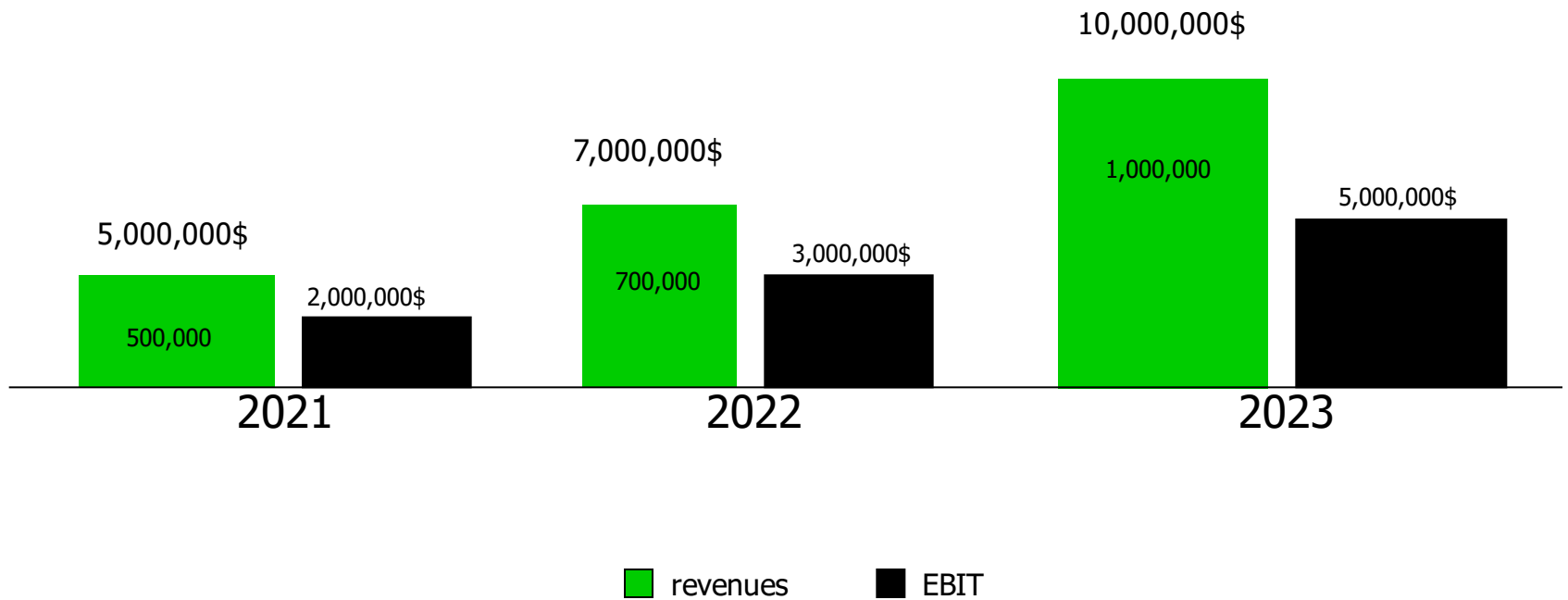
The devices that may be effective (using elements similar to ours), cost from \$ 350 to more than \$ 1000. And related to an external system such as electricity. ■

The retail price of our system will be around \$ 199 - \$ 149. ■



KPLs

Annual EBIT (earnings before interest & taxes) & unit sold





This is your time to go **“Mosquito Predator”**

Features :



Price: 199 \$



World patent



No electricity
is needed



3 month
operation
before reloading

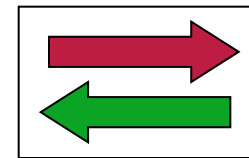


Service:

Every hardware
store around
Israel



New “Mosquito Predator”
trap on every fault





Our Competitors

no	item	price	
1		\$24.99	Electronic Bug Zapper, Portable Mosquito Lamp, Non-Toxic, No Radiation, Standing or Hanging Design Perfect for Home/Office/Indoor Places Use (XL)- not effective
2		\$38.99	Tiabo Electronic Bug Zapper Indoor Insect Killer - 20W Mosquito, Fly, Moth, Gnat, Wasp or Any Pest Killer Electric Zapper UV Bulbs - for Residential & Commercial use - not effective
3		\$16.99	Bug Zapper Mosquito Trap Insect Killer - Indoor & Outdoor Insect Zapper Fly Trap - Fly Zapper Mosquito Killer Safe & Non-Toxic - Silent & Effortless Operation pest control - Electronic Insect Killer - not effective
4		\$55.99	Mosquito killer Electric Lamp, Smart Home Energy Saving Indoor Portable Summer USB for Home & Commercial Use Light .Mosquito lamp - not effective
5		\$96.99	Miss zhang -US UV LED Light Fly Bug Harmless Physical Purification Home Bedroom Mosquito Killer - not effective
6		199.0\$	Mosquito Predator trap - a reactor that perfectly simulates a warm-blooded person or animal. The reactor produced only natural substances that are releases by animals and people. - CO2 produced in breathing. - Producing human-like body heat of 37 Celsius degrees. - Different odors can be released according to the type of mosquito other biting pest. - Water Evaporation. - Color of the trap (for day-active mosquitoes).





Mosquito Predator at a glance

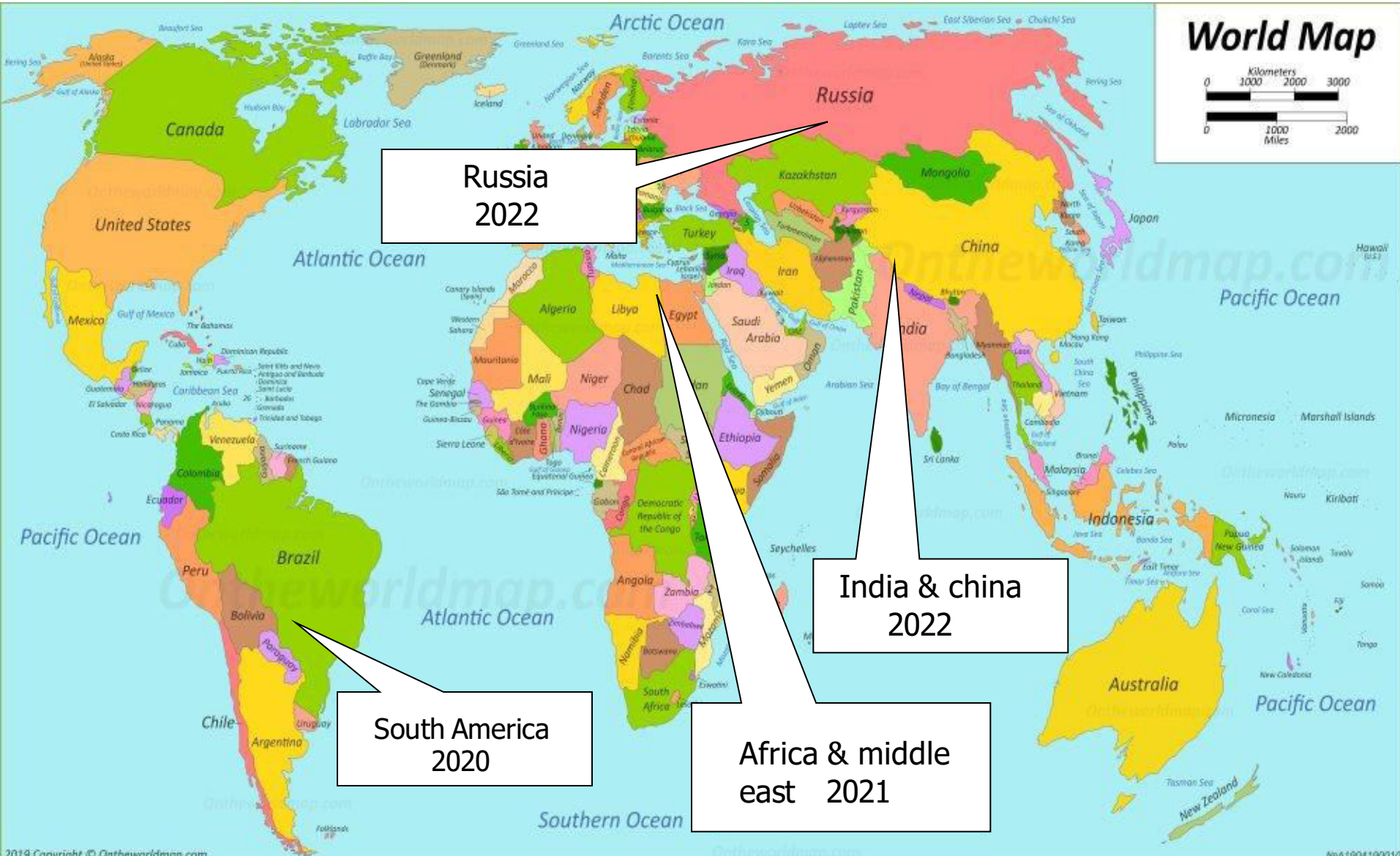
- Current operation: Israel
- Production facility: Israel
- founded: 2017
- Mosquito predator price: 199\$
- Inventory quantity: 50k/Year
- Revenue 2021-2022, 75K pcs:
15,000,000\$





Mosquito Predator

Expansion Plan





Financial & Timeline

Required Funding

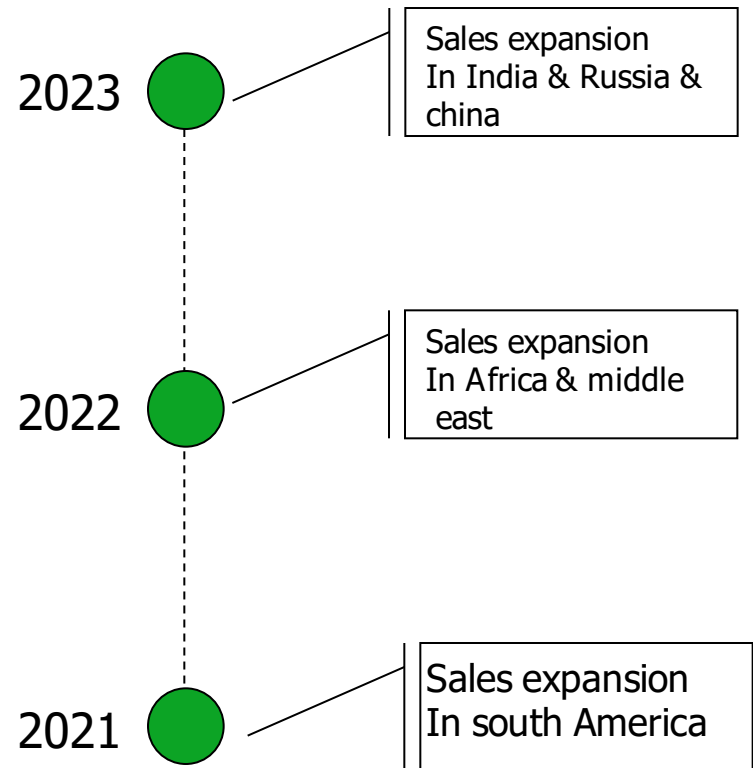
1,200,000 \$

Use of funds

- 12 month R&D
- 100,000 units
- 12 month marketing

**Total revenue in
The next 3 years:**

20,000,000 \$





Additional derivatives for the project



- This trap is unique and designed for hotel rooms infested with fleas.
- The damage to hotel rooms is mainly caused by canceling a reservation and blocking the room, including the entire floor.
- The cost of pest control is more than two aspects:
- The trap operation is simple. Because the trap simulates a human body, the fleas that do not fly are attracted to it by crawling and are thus neutralized.
- This trap contains communication to a control center that allows inspection and maintenance, due to the large number of units as is customary in hotels.
- The cost of the trap is similar to the cost of mosquito traps.



Epilogue

For many years, with huge sums, attempts have been made in all possible ways to treat the mosquito disease, which is the number one cause of death in the world and causes billions of dollars in damage. Every year about a million people in the world die. And millions more are infected with malaria. Among the other diseases caused by mosquitoes: dengue fever, yellow fever, chikogonia, affinity and more. In Israel, several dozen people are infected with West Nile fever every year. A perfect solution has not yet been found, since the mosquito (s) has existed on Earth for 200 million years and is not preparing to disappear any time soon. At Shahar Engineering, we set ourselves the goal of treating the mosquito disease with revolutionary and unique technology. The trap is environmentally friendly, independent and unrelated to external energy sources.

Contact info

"Mosquito Predator"



Haim shahar - Phone 054-8800-123
Erez Avi - Phone 054-8199-055

h-shahar@hot-control.com

avierez16@gmail.com



Lead the scene & keep it "Mosquito Predator"



THANK YOU

www.mosquito-predator.co.il