

SHARKSAFE BARRIER PTY LTD

De Beer Street 15, Stellenbosch (South Africa)
 Contact: Prof Conrad A Matthee (CEO)
 Email: cam@sun.ac.za

Phone: +27 21 808 3957
 Website: www.sharksafesolution.com
 Facebook: <https://web.facebook.com/Sharksafebarrier/>

CO-FOUNDERS, MANAGEMENT:

Prof Conrad Matthee (CEO)
Laurie Barwell
Dr Sara Andreotti
Michael Rutzen
Anita Nel

ADVISORS AND RESEARCHERS:

Prof Ungerer (business and management)
Prof Matthee (funding)
Dr Andreotti (marine biology)
Mr Rutzen (shark behavior)
Eng Barwell (engineering and designs)

CATEGORY: Green Technology Solutions

Year Founded: 2014

Number of Employees: 3

AMOUNT AND TYPE OF FINANCING SOUGHT:

500 000 USD: For scaling up the business, secure sales and for completing the R&D on the shallow water and deep sand anchors. The achievement of these two steps will guarantee a unique competitive advantage on our target market.

Use of Funds:

300 000 USD will be used for scaling up the business. More specifically by hiring a:

- Operational manager responsible for the sales and the clients;
- Responsible of production ;
- Responsible for admin, taxes, contracts, and IP protection;
- Digital marketing responsible

200 000 USD will be used to finalize the engineering tests on the shallow water designs and deep sand anchors and to perform direct marketing and survey of potential installation sites.



Product Description: SharkSafe Barrier™ (SSB) is the only eco-friendly shark specific product to protect people and sharks. The product prevents the loss of human and marine life, where local tourism is hampered by sharks' attacks, by keeping sharks and people physically separated from each other.

The technology consists of merging visual and magnetic shark specific deterrents to keeps large sharks separated from all swimmers and surfers at the beach. The alternatives to SSB are either designed to protect individual surfers, rather than the whole beach (i.e. shark-pod), or, if protecting the beach, they are high maintenance solutions neither eco-friendly (shark nets and drumlines) nor shark specific (eco-barrier and exclusion net).

Product/Market Fit: We are the only shark-specific product that can operate 24/7 and is 97% cheaper to maintain than the current eco-friendly alternative in use (e.g. shark exclusion).

Business Model:

SharkSafe Barrier Pty Ltd is a South African start-up built on the knowledge and cooperation of shark specialists, coastal engineers and business experts. SSB Pty Ltd will source and install a custom-made a SSB for each area in need of a long term solution from shark attacks.

Product and Operational Cost:

SSB costs less than 5 USD per m² of beach protection. For an installation around 500 m of rocky-beach at 7m of depth, the estimated cost will be 2 Mil USD. SSB installation will consist of:

- 1 – Survey the deployment area (2%)
- 2 – Source and deliver the material in kit from South Africa (60%)
- 3 – In loco anchorage construction and supervision of the installation (38%)
- 4 - After installation, the on-going monitoring will be licensed to a local partner trained during the installation phase.

Customers:

In January 2019 we sold and installed 200 SSB Unit in Reunion Island for CRA (Center for the Reduction of Shark Risk). The 180m² installation is currently in use by CRA for testing the capability of SSB to exclude local bull sharks from a food source. We currently received requests for quotes from Florida, Dubai, Australia, New Caledonia and Reunion. We believe that the first SSB large installation will result in a fast return of investment for the local community, boost in local tourism, positive public feedback and international media exposure. For contacting CRA, please email Michael Hoarau at michael.hoarau@cra-requin.re

Management: Prof Conrad Matthee (CEO), also head of the Botany and Zoology Department of the University of Stellenbosch, have been handling large projects, funds and teams for over 20 years; Dr Sara Andreotti has been strategically working on several shark research projects, nationally and internationally; Laurie Barwell is a coastal engineer with more than 30 years of experience; Michael Rutzen, shark cage diving owner, have been working in the shark conservation field for over 20 years; Anita Nel is the head of Innovus (innovation branch of the University of Stellenbosch) and Prof Marius Ungerer is a leader in the field of strategic management at the University of Stellenbosch Business School (USB).

Technologies/Special Know-how: The SharkSafe Barrier™ technology proved to be 100% effective to exclude large sharks from a food source in all tests conducted since 2012 by scientists from the University of Massachusetts Dartmouth (US) and The University of Stellenbosch (South Africa). The results of these tests are published in peer reviewed scientific journal (www.sharksafesolution.com/our-product/#publications).

The SharkSafe Barrier concept has been patented for Australia (213350811), Europe (13821175.0), the USA (14/647,646) and Africa (F2016/00959; F2016/00960; F2016/00961; F2016/00962).

Markets: SSB targets coastal entities such as Municipalities and Private beach and hotel owners, loosing tourism revenue due to shark attacks, and that are unsatisfied with the current shark deterrents. Due to the current status of the technology, the first installations will be done on beaches with rocks or less than 1m of sand on seafloor (40% of the TAM). The first international pilot customer was secured for 2018 (independent testing on the technology, potential 4 more deployments and large exposure). Furthermore, a rocky beach has been identify by a regional Department of Primary Industry (Australia) as the right place for the first SharkSafe Barrier large scale installation (ca 160m). We are aiming for 5 full scale deployments by the end of 2022 between the areas of our pilot customer (2) and Australia (3). 180 more deployments in Australia, where shark nets and/or drumlines are currently used to cull large sharks, are our ultimate goal to be obtained within the next 10 years.

Competition: The available alternatives for the SharkSafe Barrier™ can be divided in three categories: life guards (human observers or drones that call the swimmers and surfer out of the water when a shark is spotted); personal shark deterrent devices (bracelet that emits electric shocks to the sharks) and beach protection technologies. Of the third category, which is SSB direct competition, there are currently 3 dominant systems:

Culling technologies: gill nets (sharknets) and baited hooks (drumlines). Effective in culling sharks (no solution to the public outcry), don't provide a real protection for beach-goers since sharks can swim around the nets (most of the sharks get trapped in the nets on their way out from the beach).

Source: <http://www.shark.co.za/Pages/ProtectionSharks-NetsDrumlines>

Exclusion nets: It consists of a small-mesh net, deployed daily in good weather around the beachgoers. Can't withstand harsh sea conditions, has to be retrieved daily for maintenance on land. The installation in Roche Noire (La Reunion Island) costed 2.38 Mil USD and additional 1.19 Mil USD a year to be maintained. Since installed, two people were injured by bull sharks inside the exclusion nets due to breakages and as a result the nets has to be checked twice a day by trained scuba divers.

Source: <https://www.capetown.gov.za/en/MediaReleases/Pages/FishHoeksharkexclusionnetnowfullyoperational.aspx>.

Eco Shark Barrier Pty: trial in Lighthouse Beach Australia. Plastic rigid net, that proved to not being able to undertake withstand harsh sea conditions, it also prevents boats or large harmless marine animals (turtles or dolphins) from passing through. The trial costed 480 000 USD Source: <http://www.theaustralian.com.au/national-affairs/state-politics/baird-government-forced-to-shelve-shark-friendly-ecobarriers/news-story/1f3e99efaa643bd361b85a3ef91adb81>

Funds Raised: The SharkSafe Barrier Project has been the recipient of the Technology and Innovation Agency seed funds for two years in a row (63 000 USD). The funds were used in 2014 to build a large 300m² enclosure prototype in Gansbaai (South Africa) to test the capability of the SSB to exclude white sharks from the area. In 2015 the funds were used for improving the robustness of the prototype. Additional Funds for the research were provided by the NGO SHARKPROJECT Austria (2 300 USD), Taronga Zoo Australia (9 000 USD), White Shark Diving Company (1 500 USD) and the in-kind sponsorship of Shark Diving Unlimited (ca 152 000 USD) and INNOVUS (University of Stellenbosch ca 155 000 USD). For approaching the Department of Primary Industry of Ballina (NSW, Australia) in February 2018, and conduct three surveys of our potential areas of installation, we received a 9 700 USD sponsorship from SHARKPROJECT. Finally, for the Reunion installation the University of Stellenbosch and Laurie Barwell loaned 350 000 ZAR to SSB as bridging funds.
