

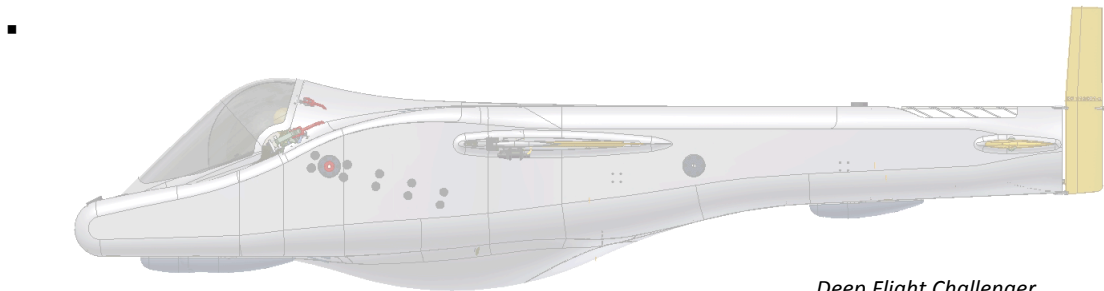
DeepFlight Challenger: the World's Only Full-Ocean Depth Submersible

- Graham Hawkes had an idea – to develop a disruptive technology that would break the depth barrier once and for all, and open the two-thirds of our planet covered by water for exploration. He discussed the concept with Steve Fossett, and in 2005, Fossett contracted Hawkes and Hawkes Ocean Technologies to build a record-setting ,experimental submersible. Fossett's goal was to carry out the deepest solo dive, 37,000 feet, to the bottom of the Mariana Trench, (the "Challenger Deep"). Steve named the craft "Challenger" after the Challenger Deep and also in recognition of the HMS Challenger expedition of the 1870's.
- Over the last forty years, Graham Hawkes has designed and built over sixty manned vehicles used for ocean science and industry. For the last twenty years, Hawkes has revolutionized deep sea access by transitioning to underwater flight and creating safe, lightweight microsubmersibles. With the Deep Flight submersibles, Hawkes has arrived at the lowest cost and most environmentally sound solution for manned, deep ocean exploration.



Graham Hawkes in Deep Flight I

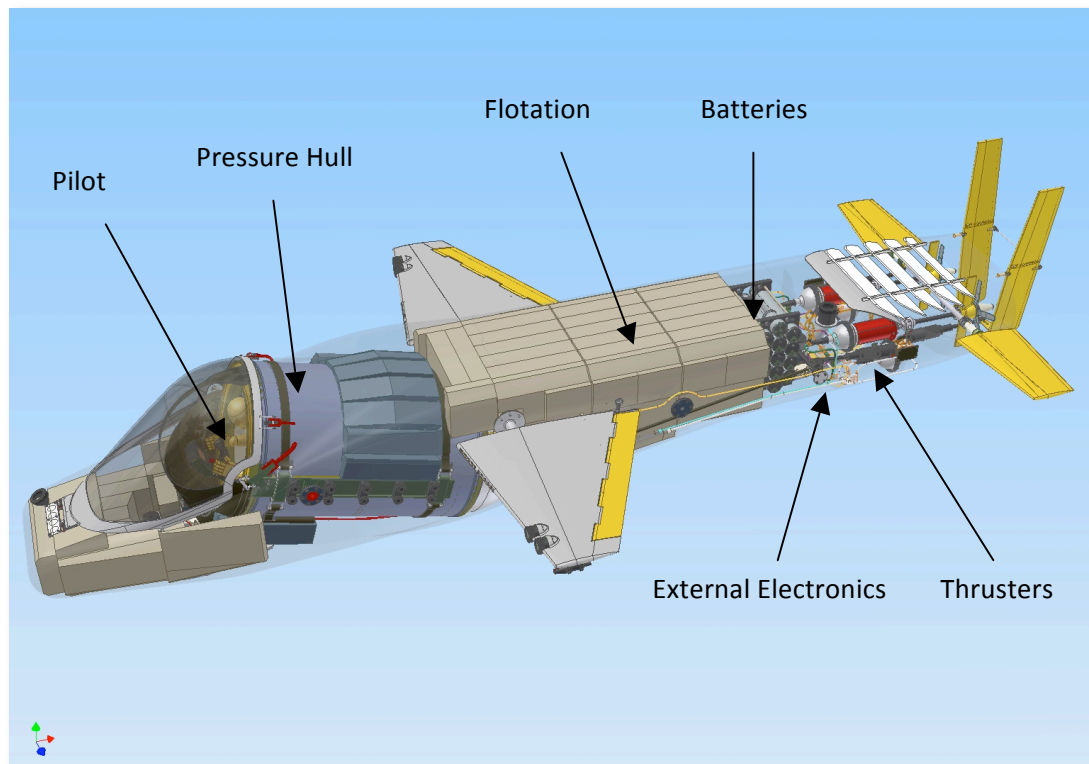
- Deep Flight Challenger, a one-person, high-performance experimental prototype submersible, is based on Hawkes' patented concept of underwater flight and two previous generations of Deep Flight winged craft. Deep Flight Challenger, which weighs 8000 pounds, a fraction of the weight of conventional submersibles and has approximately ten times the range, utilizes hydrodynamic force to propel the craft down. It is currently the only submersible in the world capable of diving to 36,000 feet.



Deep Flight Challenger

- Deep Flight Challenger, as designed for Steve Fossett, was experimental and had a single purpose of setting a world record dive; diving almost twice as deep as any single-place manned submersible that had ever been built. Steve was the first to take the financial risk with underwater flight and his submersible might best be compared to the Bell X-1.

- A Quick Look at Deep Flight Challenger: At 7,000-8000pounds, Deep Flight Challenger is the only deep submersible which does not require a dedicated mothership, nor a national facility to run the program. In fact, Chris Welsh, who bough the submersible from the Fossett estate, plans to operate the craft from his sailing catamaran, Cheyenne. With a range of 15 miles, speed of 6 knots, and 3 axis maneuverability, no other deep submersible has the operating characteristics that Deep Flight Challenger can uniquely achieve.



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- Deep Flight Challenger is a one-person sub, and can accommodate one crew. Note: the sub design is entirely modular, so future models can accommodate more crew. Deep Flight Challenger's dome affords 180 degree viewing panoramic viewing, and the sub can be equipped with cameras, lights, a full range of electronic sensors, and water sampling capabilities. Its unique characteristics make the sub best suited for longer range sampling tasks versus the stationary tasks that Remote Operating Vehicles (ROVs) and other vehicles are well-equipped.

- Deep Flight Challenger has been designed with the environment in mind. Instead of using massive arc lights, typical of conventional submersibles, which undoubtedly blind most of the deep water species, Deep Flight Challenger uses low wattage LED lights and laser “feeler” beams to aid the pilot’s navigation. Additionally, the sub emits minimal noise and electrical currents so as not to disturb the marine life/environment it works in.
- Explorer Chris Welsh, in conjunction with Sir Richard Branson and Virgin Oceanic will now be carrying on Steve Fossett’s legacy to use the craft in a historic role for ocean exploration, conservation and science.. Welsh’s Five Dives project, launched in conjunction with Virgin Oceanic, is planning a series of world record dives in the five oceans.
- In our view, Deep Flight Challenger is perhaps ideally suited to serve as a flagship technology for ocean exploration, to raise awareness of the importance of the oceans to the planet’s survival. The next generation submersible, DeepFlight Super Falcon, has taken the technology to the next level – a safe, positively buoyant craft, ideally suited to take people under the seas.