

INTEGRATED DESIGN OF A TOURIST SUBMARINE

With the human will to live unconventional experiences, the deep sea offers an unexplored source of knowledge which is accessible today with the use of tourist submarines.

This dissertation starts with the study of the historical evolution of submarines and research of current tourist submarines as to define the most important design parameters. Through these parameters an array of tourist submarine ideas were created and using a decision making method the ideal solution was chosen for further analysis. For the best idea, the ship building lines were designed and all the geometric properties were calculated. Also, using the ship building lines the sketch of the submarine was made whose members were analysed to find the critical points. Then, the static stability of the submarine was checked and an assessment was made for the necessary power both in the floating and the submersed operation of the submarine. Moreover, an extended study was made in concerning the subsystems such as life support and security, batteries and power distribution and ballast tanks. Finally, the construction sketches were drawn and the full cost of the submarine was estimated.

With the completion of this dissertation, the basic steps of design were completed which can be used as the guidelines for constructing a tourist submarine.