

Comparative Naval Architectural Analysis of Diesel Submarines

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Since the time of Aristotle, interest in manned submerged vessels has been evident. Yet, significant achievement in design toward the submarines of today was only made at the end of the nineteenth century, with the launching of the USS Holland in 1899. From that early design to present day, submarine architecture has varied, gone far from the ideal characteristics of submerged bodies and come back near the initial concepts. Reviewing the details of submarine naval architecture reveals some significant differences, even in ships of the same class. But what makes the architecture so different; how do different missions, cost, or other factors affect the architecture? Have there been any significant achievements to match those of the first successful submarine? Perhaps world navies should study new technologies, review again the architectural characteristics best suited for submarine missions and therefore build more competitive submarines, especially in the diesel submarine area. This study examines the naval architecture of diesel submarines from data found in open literature and compares the component design characteristics of selected diesel submarines with the goal of providing possible answers to the above questions.