

# **STUDI PENGARUH PENAMBAHAN *TRIMTABS* PADA KAPAL PATROLI BENGKALIS UNTUK PENGAMANAN WILAYAH PESISIR**

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## ***Abstract***

*This study aims to analyze the effect of adding trimtabs on the PAT MEDAN patrol vessel operated by the Indonesian Navy (TNI AL) Bengkalis Post to enhance maritime security in coastal areas. The main issue addressed is the vessel's limited speed and stability, which reduce its effectiveness in intercepting fast boats used by smugglers or other offenders in the Bengkalis waters. The research method involves redesigning the vessel by adding various trimtab configurations and conducting simulations using Maxsurf and evaluate resistance and seakeeping performance. The results show that the addition of trimtabs, especially at a 225° angle, significantly reduces total resistance and improves the vessel's maneuverability. Therefore, this redesign is expected to enhance the patrol vessel's operational effectiveness in securing the Bengkalis maritime area.*

**Keywords:** *patrol vessel, trimtabs, resistance, seakeeping, Bengkalis*