

Submarines Unmanned Vehicle for Underwater Exploration and Monitoring System in Indonesia

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Abstract : Indonesia is experiencing a crisis in the development of defense equipment. Most of Indonesia's defense equipment must import its parts from other countries. Moreover, the area of Indonesia is 2/3 of its territory is the sea areas. For the protection of marine areas, Indonesia relies solely on submarines in monitoring conditions and whether or not intruders enter their territory. In fact, we know the submarine has a large size so that the expenses are getting bigger, the time it takes longer and needs a big maneuver to operate the submarine. Indeed, the submarine can only be operated for deeper seas. Many other countries enter the underwater world of Indonesia but Indonesia could not do anything due to the limitations of underwater monitoring system. At the same time, reconnaissance and monitor for shallow seas cannot be done by submarine. Equipment that can be used for surveillance of shallow underwater areas shall be made. This study reviewed the current research and development initiative of the submarine unmanned vehicle (SUV) or unmanned undersea vehicle (UUV) in Indonesia. This can explore underwater without the need for an operator to operate in it, but we can monitor it from a long distance. UUV has several advantages that size can be reduced as we desired, rechargeable ship batteries, has a detection sonar commonly found on a submarine and agile movement to detect at shallow sea depth. In the sonar sensors consisted of MEMS (Micro Electro Mechanical System), the sonar system runs more efficiently and effectively to monitor the target. UUV that has been developed will be very useful if the equipment is used around the outlying islands and outer from Indonesia especially the island frequented by foreign submarines without us know. The impact of this may not be felt now but it will allow foreign countries to attack Indonesia from within for the future. In addition, UUV needs to be equipped with a anti-radar system so that submarines of other countries crossing borders cannot detect it and Indonesia anti-submarine vessels can take further security measures. As the recommendation, Indonesia should take decisive steps in the state border rules, especially submarines of other countries that deliberately cross the borders of the state. This decisive action not only by word alone but also action as well. Indonesia government should show the strength and sovereignty as the entire society unites and applies the principle of universal peace.

Keywords : submarine unmanned vehicle, submarine, development of defense equipment, the border of Indonesia

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