ABSTRACT

Bridges are important infrastructure in the transportation system that supports the acceleration of regional development and have significant social and economic benefits. However, bridge construction can also have risks, for this reason, it is necessary to carry out supervision from the early stages of construction to identify damage and intervene early. Based on the Directorate of Road and Bridge Engineering Development Directorate General of Highways, Ministry of PUPR, Indonesia has only seven SHMS, of which three are active, namely the Suramadu Bridge (Surabaya), Fisabilillah Bridge (Batam), and the repair stage, namely Soekarno Bridge (Manado), Bridge Merah Putih (Ambon), Musi IV Bridge (Palembang), as well as two that are not active, namely the Pasupati Bridge (Bandung) and the Rumpiang Bridge (South Kalimantan). Therefore, early warning is needed with a wireless sensor node sensor mitigation system. So, the purpose of this study is to identify and analyze opportunities to create a wireless sensor node sensor business for bridges. Feasibility studies are very important to avoid problems and loss of time, funds, and human resources in the wireless sensor node design process. The results of the research show that the investment made in the development of wireless sensor nodes is feasible and can provide benefits for the owner who implements it.

Keywords : *Bridges, Damaged, Risk, SHMS, Wireless sensor node; Feasibility study*