

PROGRAM : MM TECH (BATCH-2) 2019-2020
 SUBJECT : DIGITAL LITERACY
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The Application of Structural Health Monitoring System (SHMS) at Bridge Structure to Utilize Economical Value of Infrastructure Investment

ABSTRACT

Structural Health Monitoring System (SHMS) is a system to assess the health or damage of a building or road with structure or during construction using an instrument. (Andersen & Vesterinen, 2006) The purpose of SHMS is to increase the security and flexibility of infrastructure systems with protection before reaching critical. Benefits of Structural Health Monitoring Systems (SHMS) can be used to prevent problems or damage to building structures or construction, in addition to the early protection of problems that will occur, will help prevent damage, such as collapse of bridges, sinking of building foundation, damage to building structures and many more problems that will occur. (Wang, Meng, Roberts, & Dodson, 2004) SHMS will affect many things such as can save human safety and can improve the economic sector. Focus at elevated road and bridge structure in Infrastructure, the use of SHMS can help monitoring the prevention of structure damage during construction, and to monitor structure health after it services. (Nababan, 2008) In economical, Highway and road management authority, can monitor the weight and load vehicle using many instrument integrated in SHMS without using the truck weight scale, it can support the law enforcement in using road and bridge by the government.. The misuse of the road and bridges in service period can affect the structure damage, lately it can be causing economical problem among the infrastructure investment and benefit. This paper will evaluate the benefit of SHMS application, and will give suggestion of more instrument that reliable to add to support the idea.

Keywords: *Structural Health Monitoring, Transportation, Bridge Structure, Infrastructure Investment.*

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