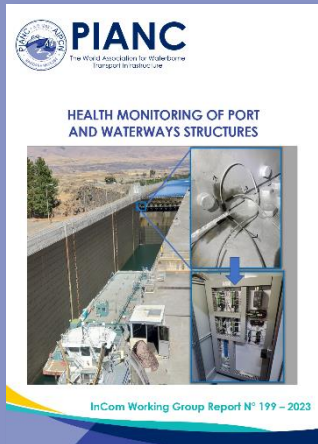




# PIANC

The World Association for Waterborne  
Transport Infrastructure



## PRESS RELEASE

16 May 2023

### ‘HEALTH MONITORING OF PORT AND WATERWAYS STRUCTURES’

InCom Working Group 199

€ 112.00 (96 pages) - Free for PIANC Members

<https://www.pianc.org/publications/inland-navigation-commission/wg199>

The facilitation of waterborne transportation generally requires the construction and maintenance of port and waterway infrastructure. Individual infrastructure assets for ports and waterways are often large scale (e.g. locks, weirs and dams) and part of a larger waterway network, such as the inland navigation network in the U.S or the similar network in EU member nations.

Port and waterway infrastructure is of extreme economic importance to the global economy, facilitating the transportation of goods amounting to a significant percentage of the global GDP. For example, in the European Union, over 540,000 metric tonnes of goods were shipped on inland waterways in 2018 (Eurostat, 2019), while in China 3.5 billion metric tonnes of cargo was handled at river ports on inland waterways amounting to a 51 % share of freight movement in 2014 (the most recent year with data available) (Asia Development Bank, 2016). In the U.S., 80 million tonnes of goods were processed through the most used lock on the Ohio River alone in 2015 (Kelley, 2016). The value of this infrastructure to the global economy is such that continued operability through routine inspection and timely maintenance and upkeep is of the utmost importance.

Regular inspection and maintenance of waterway infrastructure is oftentimes particularly challenging due to inaccessibility. Much of the infrastructure can be located in remote areas, and critical components are often submerged under water. Visual inspection and regular upkeep of the infrastructure can oftentimes require supplemental infrastructure be installed to facilitate drainage of water to allow for visual inspection and/or the leverage of divers to inspect in-situ. Therefore, these inspections require taking the infrastructure asset out of service which, given the chain-like nature of the infrastructure network, needs to be coordinated heavily with infrastructure stakeholders to minimise economic impact. The upfront cost of the inspection and maintenance, as well as the potential impact to the economy, is such that these inspections tend to occur irregularly.

The irregularity of inspections means that asset owners and operators are typically operating their asset with little-to-no information on the current condition of the asset. This operational environment may lead to the development of significant damage to the asset as a small, unnoticed problem grows larger under continued use, thus requiring unscheduled downtime of the asset for emergency repairs. The unscheduled downtime, having not been coordinated with infrastructure stakeholders, can be devastating to the economy due to the chain-like nature of the infrastructure. Consider the situation in March 2021, when a container ship became wedged in the Suez Canal. While not a structural concern in nature, the disruption in shipping was estimated to stall US\$ 9.6 billion of trade per day due to vessels unable to pass through the canal (Harper, 2021).

#### Notes to Editor

PIANC is the global organisation providing guidance and technical advice for a sustainable waterborne transport infrastructure to ports and waterways. Established in 1885, PIANC unites the international experts for technical, economic, and environmental topics related to waterborne transport. Our members include national governments and public authorities, corporations, industry and academic experts and young and experienced professionals.

**Enquiries** – For further information, please contact the PIANC General Secretariat at [info@pianc.org](mailto:info@pianc.org)