

Background on Digital Twin resources for HSRP discussion

General Overviews:

- IBM's [What is a Digital Twin?](#)
- xyHt - [Digital Twins Concept in a World Ruled by GIS](#)

Industry Outlooks & Reports:

- World Geospatial Industry Council (WGIC) recently released a [Spatial Digital Twins Report](#) and have
- PE&RS Report by Dr. Qassim Abdullah: [Top Geospatial Trends to Watch in 2022](#) - third section on "*BIM and GIS, the Foundation for Digital Twin and Metaverse*"
- NIST - [Considerations for Digital Twin Technology and Emerging Standards: Draft NISTIR 8356](#)
- [Digital Twin Consortium](#) - Digital Twin Consortium drives the awareness, adoption, interoperability, and development of digital twin technology.

Port examples:

- Marine Link - [Digital Twins: Rivers, Oceans, Harbors Recreated](#)
- Port Technology.org [How can digital twins help ports?](#)
- ESRI Australia - [A digital twin of Port operations](#) (75 second video)
- Ericsson.com - [Digital Twins in Port Operations](#)

Resilience Examples:

- [Digitally Twinning Coastal Resilience via Multisensor imagery, in situ sensors, and geospatial analysis](#) - Allen et al
- GIM - [City-scale Digital Twins for Flood Resilience](#)
- Bentley - [The Importance of Digital Twins for Resilient Infrastructure](#)
- [Singapore Land Authority Uses 3D Reality Modeling and Mapping to Generate the First Country-scale Digital Twin, Promoting a Smart, Sustainable Nation](#)

Security:

- <https://aressecuritycorp.com/#home1>

Webinar presentations:

- GeoWeek Webinar: How are Digital Twins Being Utilized to Create Efficiencies? ([Webinar](#) - [Presentations](#))