Using URIs to effectively transmit sensor data and metadata

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Optode sensors mounted on CTD frame ready for deployment (image courtesy E. Fritzsche

CNRS)



Lab on chip sensor (image courtesy OTE Group, NOC)



Silicate sensor prototype developed by CNRS (image courtesy

Marine sensors for the 21st Century

www.senseocean.eu

- In situ sensors to measure crucial biogeochemical parameters.
- Deployable on many platforms.
- Low cost & mass producible.
- Using a variety of sensor technologies.



Deploying sensors on an observatory system (Hypersub) in Helgoland (image courtesy A. Chennu)



Question

How can I gain quick access to sensor data that are fit for purpose?





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Unique URIs





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Proposed approach



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Implementation



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Send data + UUID Publish O&M/RDF



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Publication & Discovery

http://linkedsystems.uk/52n-sos-webapp/





http://dev.linkedsystems.uk/sparql



Linked data

http://linkedsystems.uk/system/prototype/ http://linkedsystems.uk/system/instance/



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Conclusions

- By using standards (OGC, W3C), we can make data interoperable (quick to access) and enrich it with metadata (fit for purpose)
- Through unique resolvable URIs (UUIDs), data can be linked to metadata dynamically in-situ while saving on the costs of long metadata descriptions
- The transmission of UUIDs also enables the implementation of standards on systems where it is impractical, such as legacy hardware
- Part of the sensor web!



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