

Marine observatories match Internet of Everything

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Contexte: A need for models

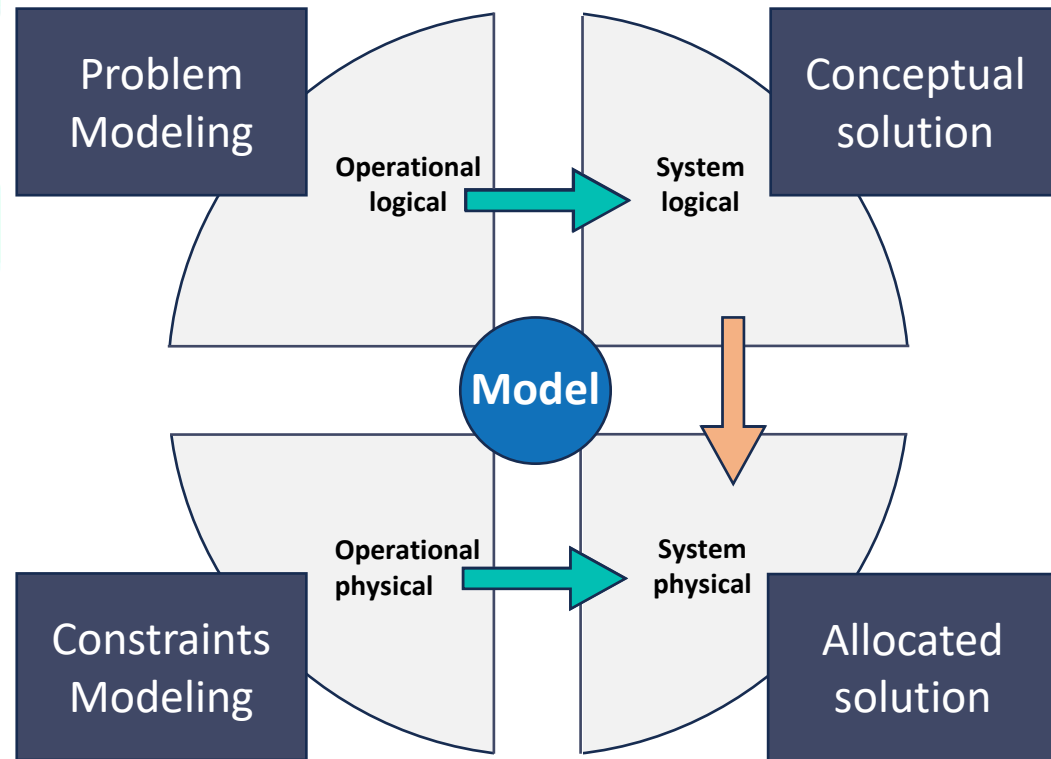
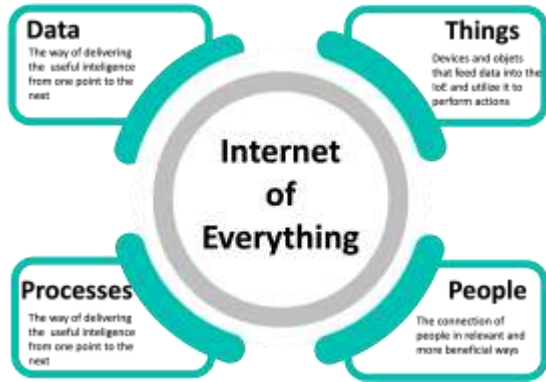


- Changes are coming (e.g IOT / Drones, AI, shorter TTM, growing heterogeneity, etc.)
- We need to anticipate (legacy preservation & new technologies, new actors, etc.)
- Decision making requires:

- Collaborative & purpose oriented modeling
- Agile modeling (support domain evolution)
- Easy refactoring (make hypothesis ! Explore scenarios)
- Metrics definition / impact prediction
- Meaningfull simulation (stick to the proper level of abstraction)

Model

Models: What, Why, How

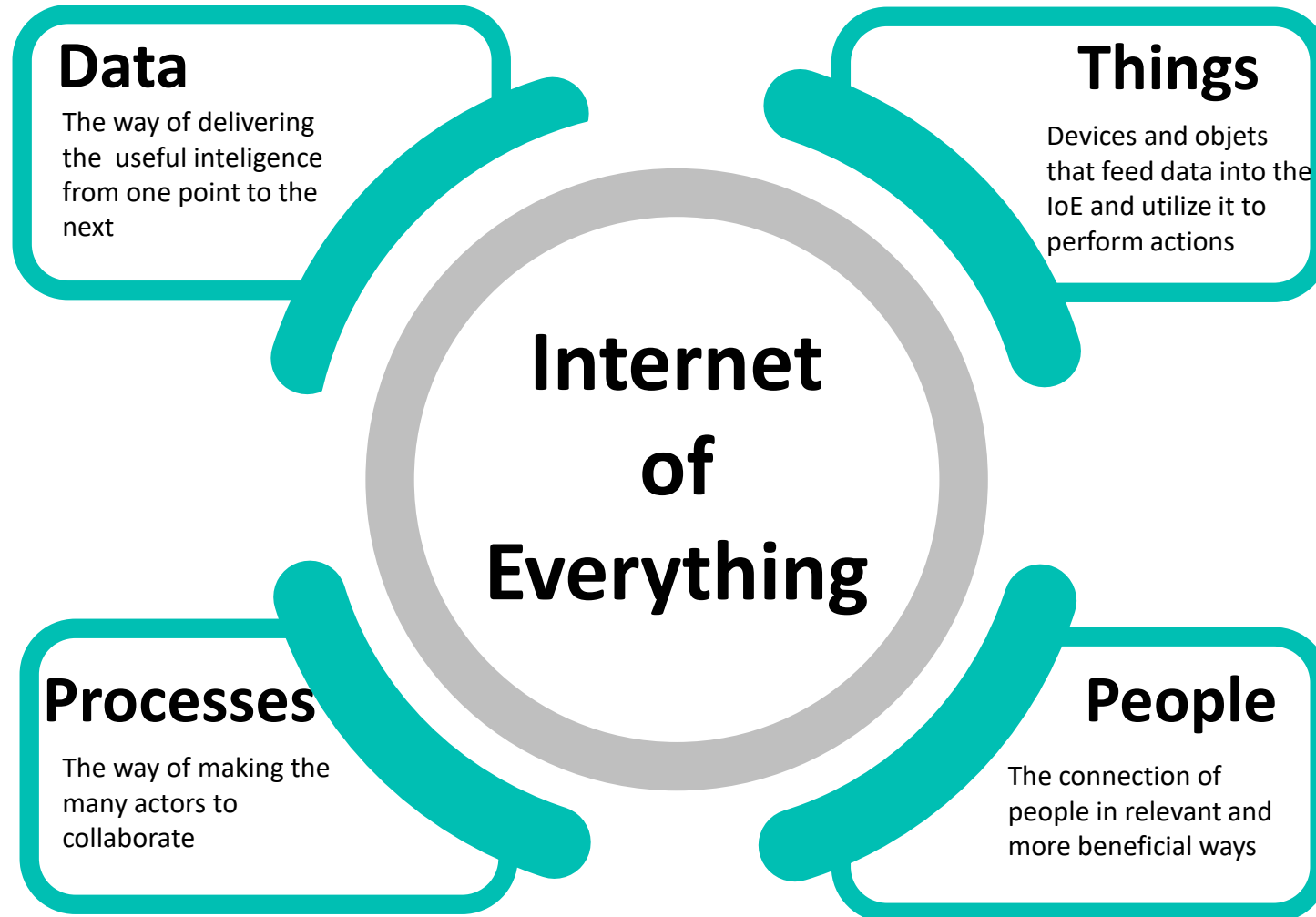


Internet of Everything



Contribution #1: Identification

IoE is a perfect mental framework for marine observatories modeling



Abstraction layers

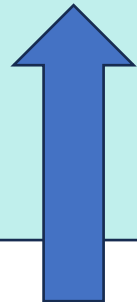
Several abstraction layers

M3: Meta modeling (Meta modeling languages)

M2: Modeling (Modeling languages)

M1: Logical (Models)

M0: Physical (Reality)



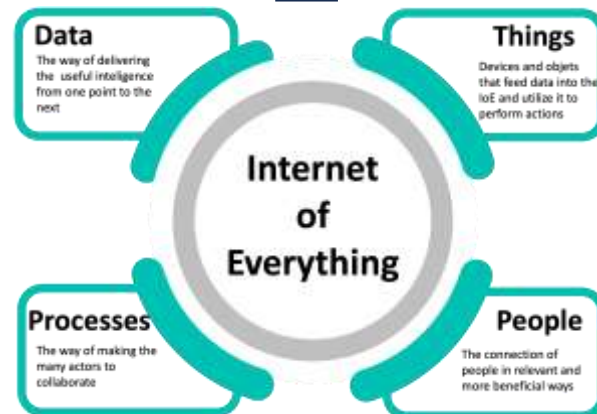
Sea data use case

Common vocabularies

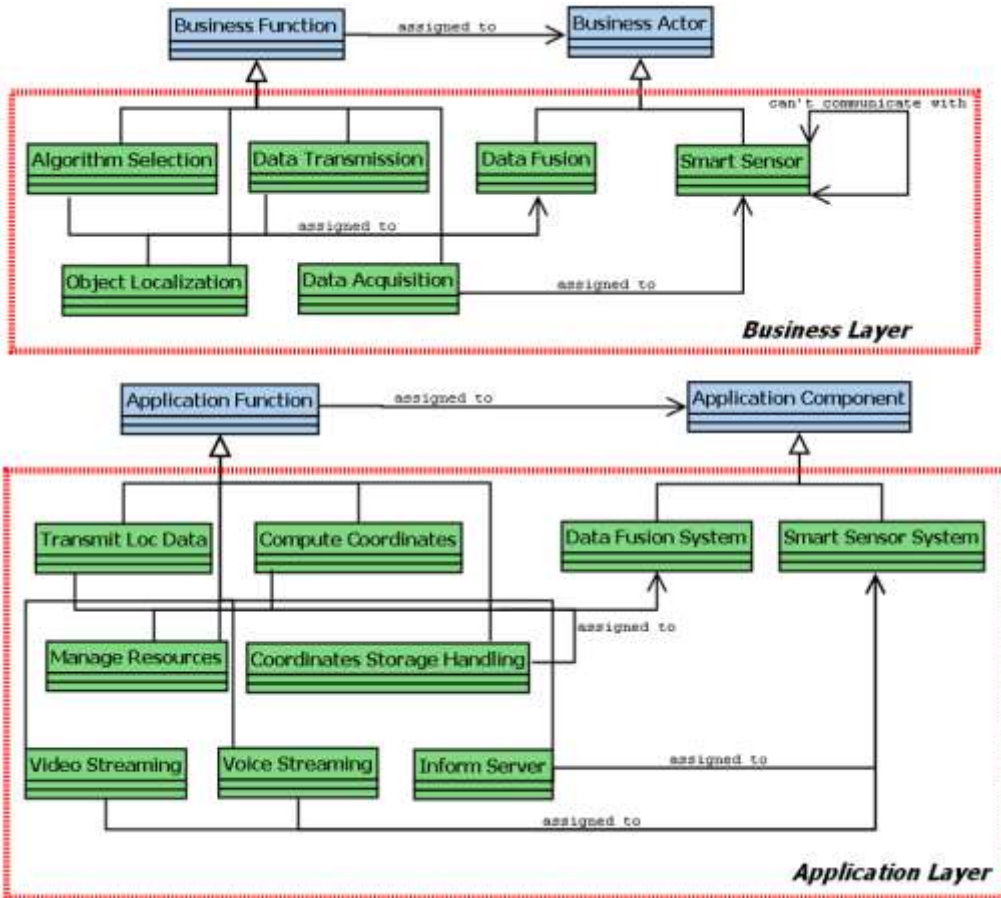
Metadata

Data

Sensors

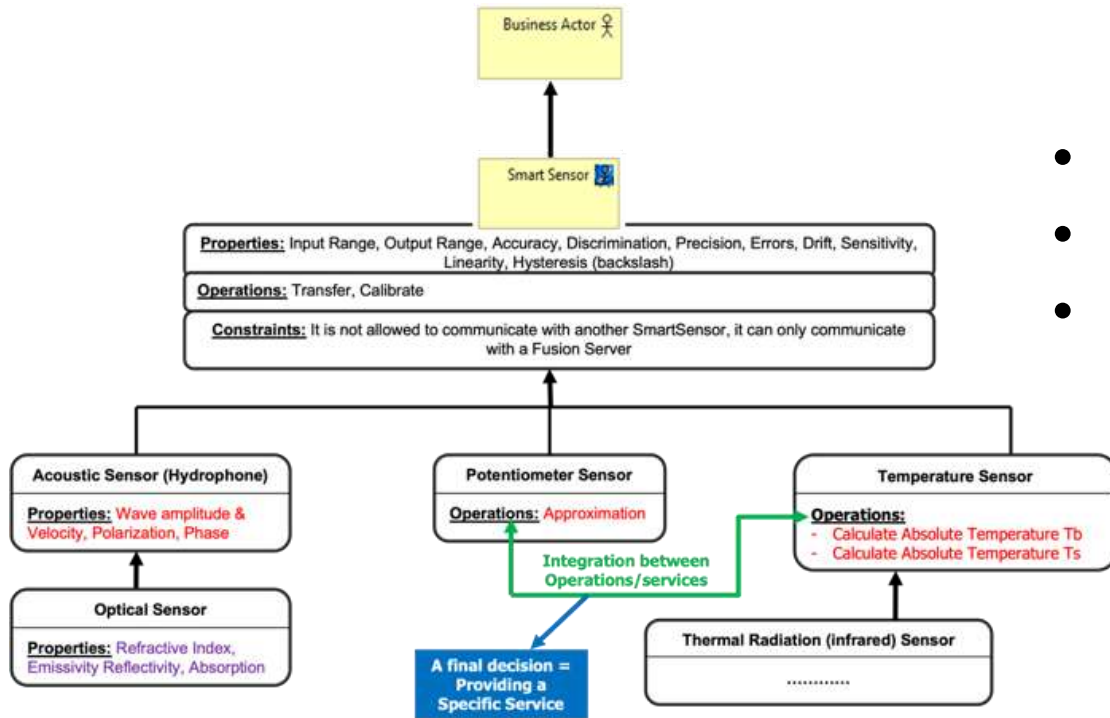
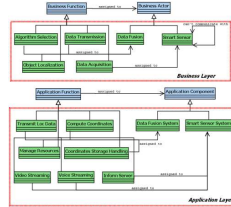


Contribution #2 : Framework



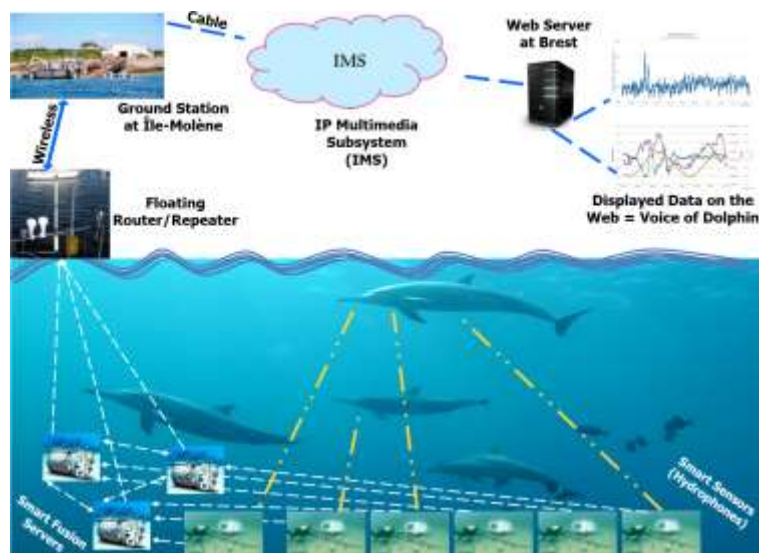
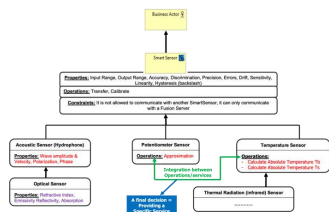
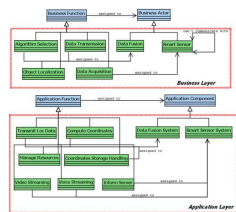
- **M3: Adapt MOF (eg. Business actor) in Archimate**
- M2: Capture IoE
- M1: Implement use case

Contribution #2 : Framework



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- **M2: Capture IoE**
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Contribution #2 : Framework



- M3: Adapt MOF (eg. Business actor) in Archimate
- M2: Capture IoE
- **M1: Implement use case**

Sum up (poster 175)

Summary: IoE

- Offers a Just-fit though extensible formalism
- Helps representation, information extraction & decision making

On-going work

- Set up the simulator (eg. NS-3)
- Decorate model (eg. Temporal annotation)
- Multi model generation

Open for collaborations !

