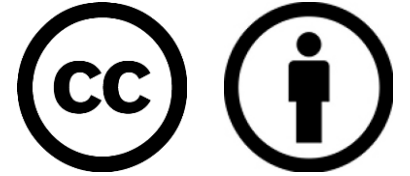




Alliance for
Internet of Things
Innovation



Semantic Interoperability

IoT Week • 20th June 2019

Martin Bauer

NEC Laboratories Europe



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Semantics is the study of meaning

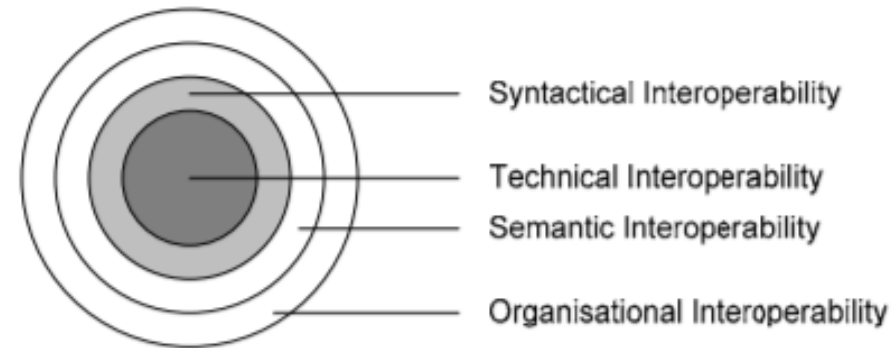


Explicit agreement on
semantics is vital to
the success of IoT

→ **Semantic Interoperability**

Why is Semantic Interoperability important?

- The value of IoT grows with available information
- Today: heterogeneity, silos, tight coupling
- True IoT:
 - Sharing of information
 - Federation across silos
 - Dynamic use of sources



Agreement on meaning of information = Semantics
→ Basis for Semantic Interoperability

What are the barriers?

- Technology is available, some tools
- BUT: Limited to relatively small community
 - Wrong perception: academic, for experts only, difficult

→ Spread the word

→ Make it easier for all stakeholders

→ Best practice

Joint Whitepapers

Coming soon!

Semantic IoT Solutions: A Developer Perspective

Target Group: Developers and
Software Architects

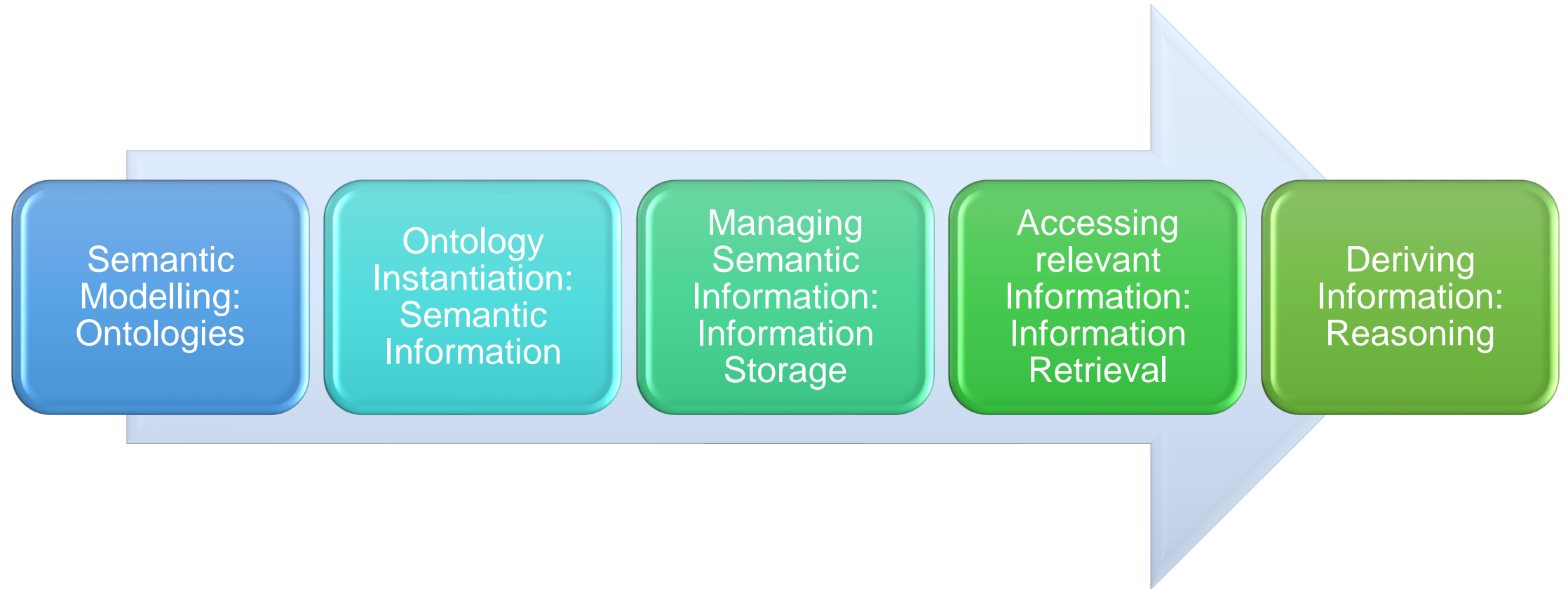
*“How to develop semantic systems
and achieve semantic
interoperability”*

Towards Semantic Interoperability Standards based on Ontologies

Target Group: Semantic Experts,
Standardization Engineers & SDOs

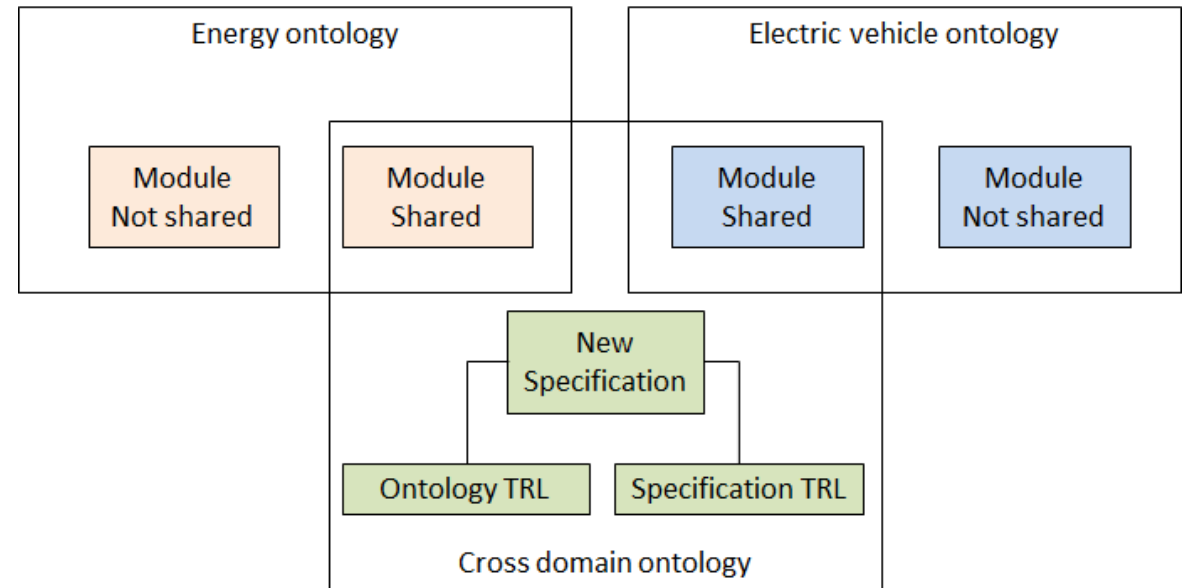
*“How to create standards for
semantic interoperability”*

Developers: Aspects and Activities when Developing Semantic Solutions



Standards: Best Practice

- Co-creation and separation of concerns (SoC)
 - Parties with different expertise and viewpoints
 - SoC is design principle: each element separate concern
- Defining knowledge perimeter
- Modularization design principle
- Evaluating usefulness
 - Technology readiness level (TRL)
- Deployment concerns
 - Support for profiles and discovery
 - Version management





Joint Whitepapers on Semantic Interoperability

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