



Engineering for Procurement

Use Case 03

Aibel AS / Anders Gjerver

- Aibel is a service company within the oil, gas and offshore wind industries.
- 4000 employees
- Semantic technology based master data solution in operation since 2015
- Sirius Center partner



Use case UC... Engineering for Procurement

- Enable adequate semantic definition of products

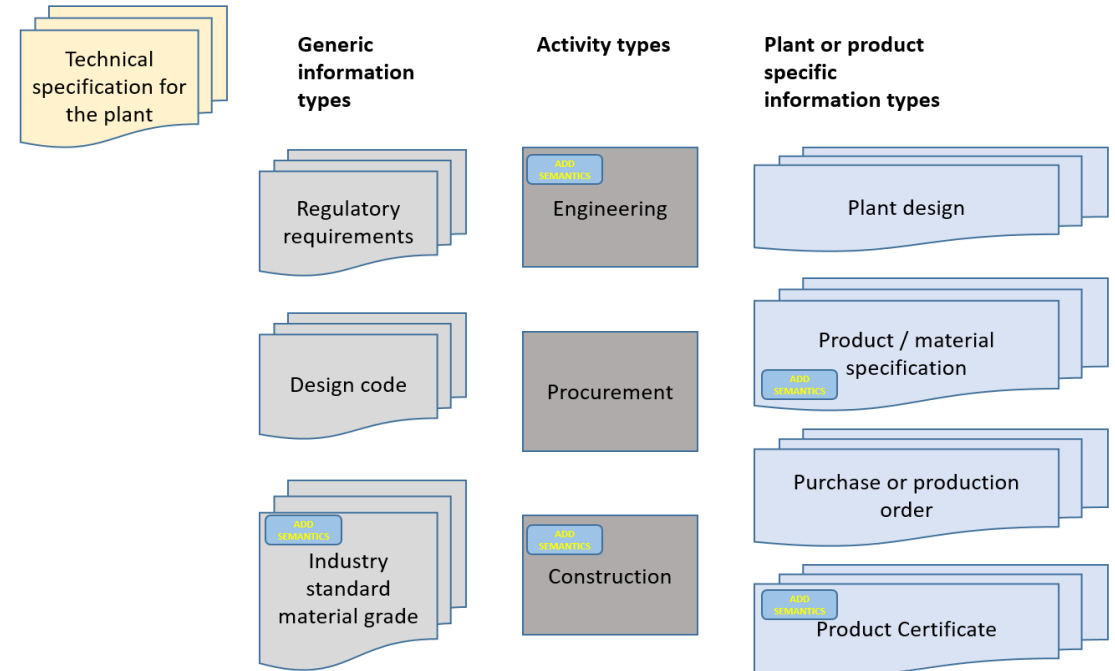
- Design specification semantics
- Product type semantics
- Product individual semantics

- Test suitability within the Aibel organization.

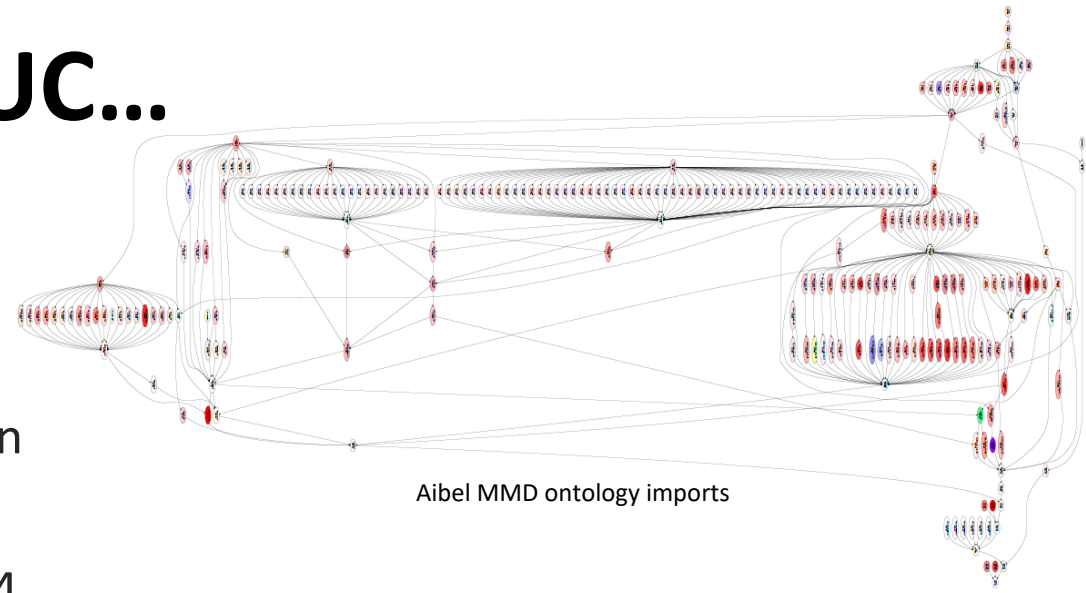
- Design
- Procurement
- Construction

- Test suitability in the value chain.

- Clients
- Suppliers
- Subcontractors or partners



Ontology use in the UC...



- Ontologies in the use case will be built as expansions on current Aibel ontologies. The environment will include.
 - Consistent upper ontology OWL2 DL / ISO 15926-14
 - Ontology test and management procedures
 - Semantic reasoning and reasoning end points
 - Template expansion tools
 - Supported by the team operating the current in-house solution
- Extract of ChEBI
- Industry standard material grades
- Semantic modelling of material properties and chemical composition

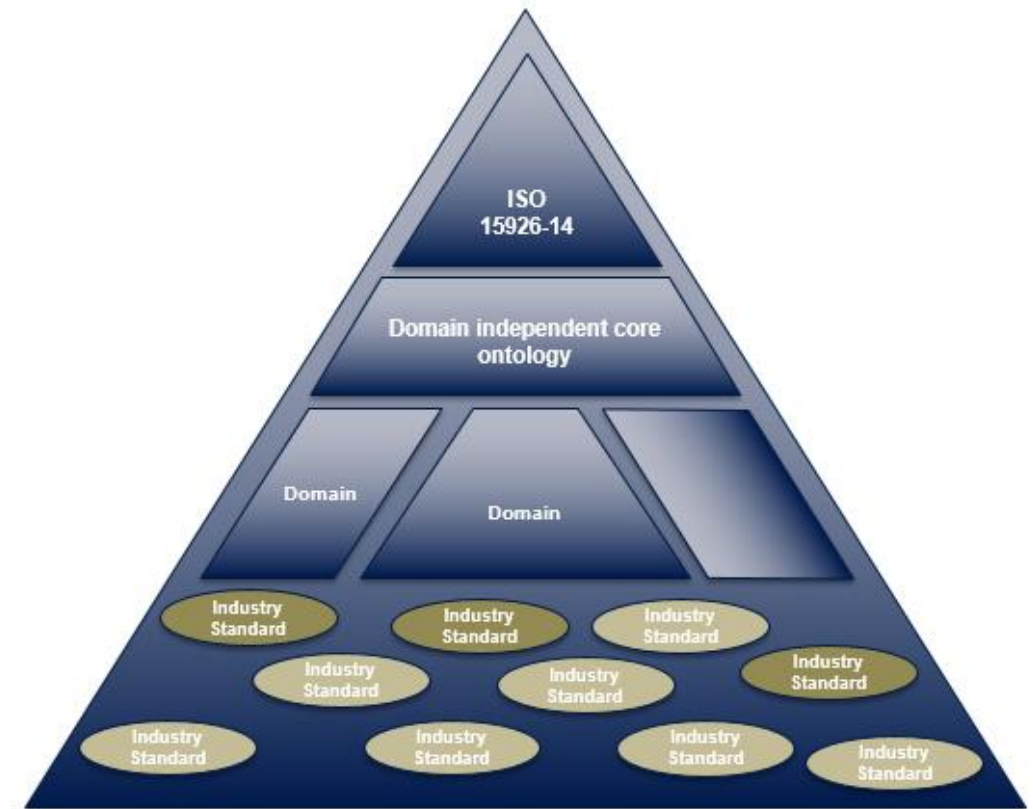
UC... requirements

- Semantic modelling of material property types and chemical composition in the *Material core ontology*
- Industry standard material grades
 - Converted to ontology using OTTR templates
- Expanding on published ontologies.

 **A240/A240M – 18**

TABLE 1 Continued

UNS Desig. ^a	Type ^c	C ^d	Mn	P	S	Si	Cr	Ni	Mo	N	Cu	Other Elements ^{e,f}
S31635	316Ti ^g	0.08	2.00	0.045	0.030	0.75	16.0–18.0	10.0–14.0	2.00–3.00	0.10	...	Ti 5x(C+N) min, 0.70 max
S31640	316Cb ^g	0.08	2.00	0.045	0.030	0.75	16.0–18.0	10.0–14.0	2.00–3.00	0.10	...	Nb 10xC min, 1.10 max
S31651	316N	0.08	2.00	0.045	0.030	0.75	16.0–18.0	10.0–14.0	2.00–3.00	0.10–0.16	...	...
S31653	316LN	0.030	2.00	0.045	0.030	0.75	16.0–18.0	10.0–14.0	2.00–3.00	0.10–0.16	...	...
S31655	...	0.030	2.00	0.045	0.015	1.00	19.5–21.5	8.0–9.5	0.50–1.50	0.14–0.25	1.00	...
S31700	317	0.08	2.00	0.045	0.030	0.75	18.0–20.0	11.0–15.0	3.0–4.0	0.10	...	...
S31703	317L	0.030	2.00	0.045	0.030	0.75	18.0–20.0	11.0–15.0	3.0–4.0	0.10	...	...
S31725	317LM ^g	0.030	2.00	0.045	0.030	0.75	18.0–20.0	13.5–17.5	4.0–5.0	0.20	...	...
S31726	317LMN ^g	0.030	2.00	0.045	0.030	0.75	17.0–20.0	13.5–17.5	4.0–5.0	0.10–0.20	...	...
S31727	...	0.030	1.00	0.030	0.030	1.00	17.5–19.0	14.5–16.5	3.8–4.5	0.15–0.21	2.80–4.00	...
S31730	...	0.030	2.00	0.040	0.010	1.00	17.0–19.0	15.0–16.5	3.0–4.0	0.045	4.0–5.0	...
S31753	317LN ^g	0.030	2.00	0.045	0.030	0.75	18.0–20.0	11.0–15.0	3.0–4.0	0.10–0.22	...	...
S32050	...	0.030	1.50	0.035	0.020	1.00	22.0–24.0	20.0–23.0	6.0–6.8	0.21–0.32	0.40	...
S32053	...	0.030	1.00	0.030	0.010	1.00	22.0–24.0	24.0–26.0	5.0–6.0	0.17–0.22	...	...



Main expected benefits

- For the industry
 - Promote utilisation of common reference data
 - Demonstrate inter changeability with industrial relevance
- Within the Aibel organisation
 - Improve handover between organisational units
 - Utilize ontologies and semantic reasoning to reduce hours spent on complex and repeatable work.



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