Metrology Research Centre

NRC Metrology

Digital Transformation IQI Panel

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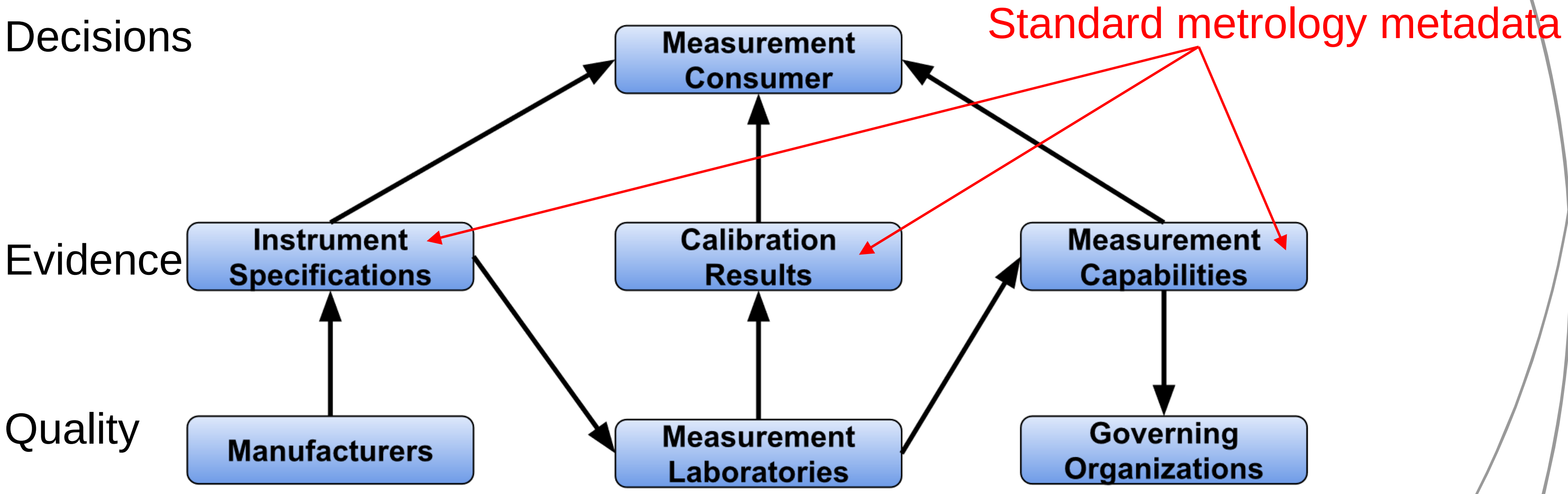
What is required for communicating quality?

Digital Documents – Machines require metadata for processing



Digital Documents revolve around measurement information.

Set of normative standards that unambiguously define data structures, taxonomies, service protocols and security for locating, communicating and sharing measurement information. NCSLI Committee Measurement Information Infrastructure.

How? Conceptualize, Model and Implement!

Conceptualize

Describes processes and identify information components.

Model

Develop information models of concepts and their relationships.

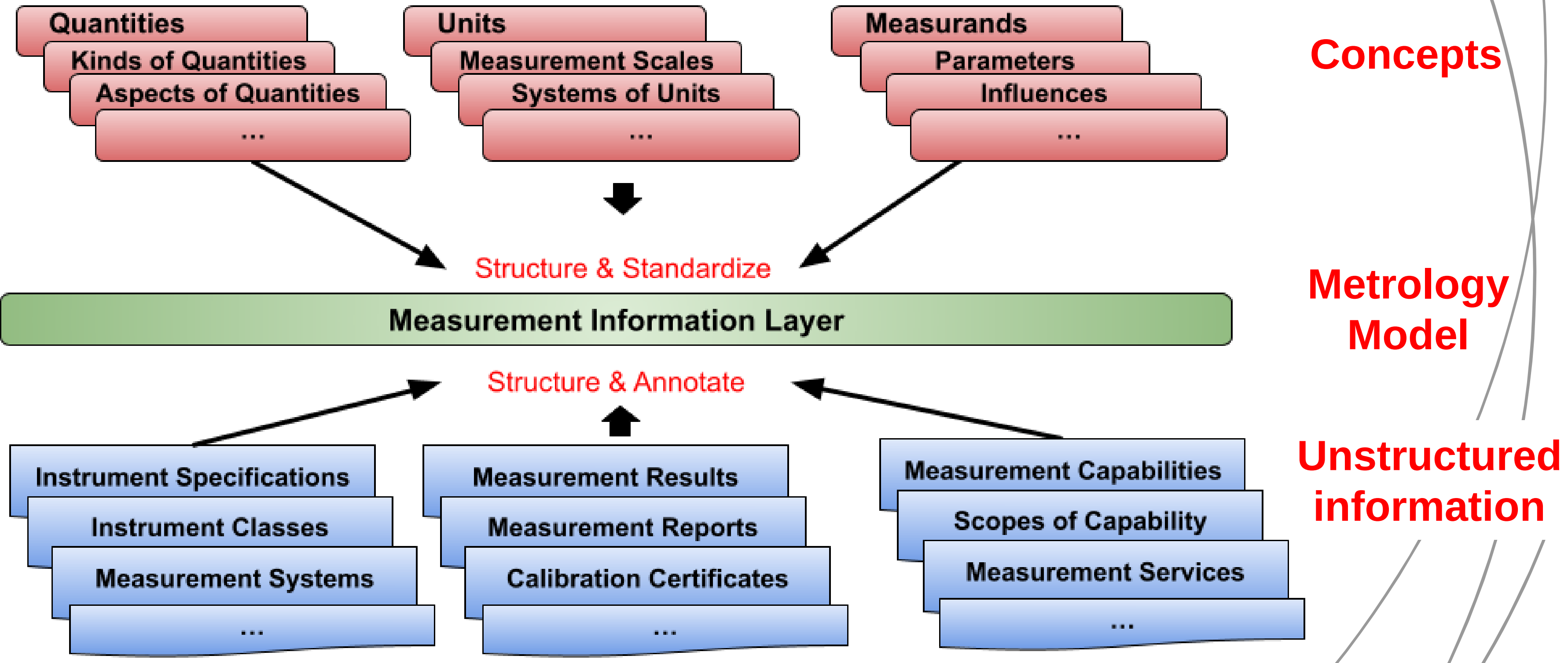
Implement

Logical data model using object-relational mapping.

Revise

Integrate information, curate metadata, revise model.

Measurement Information Integration



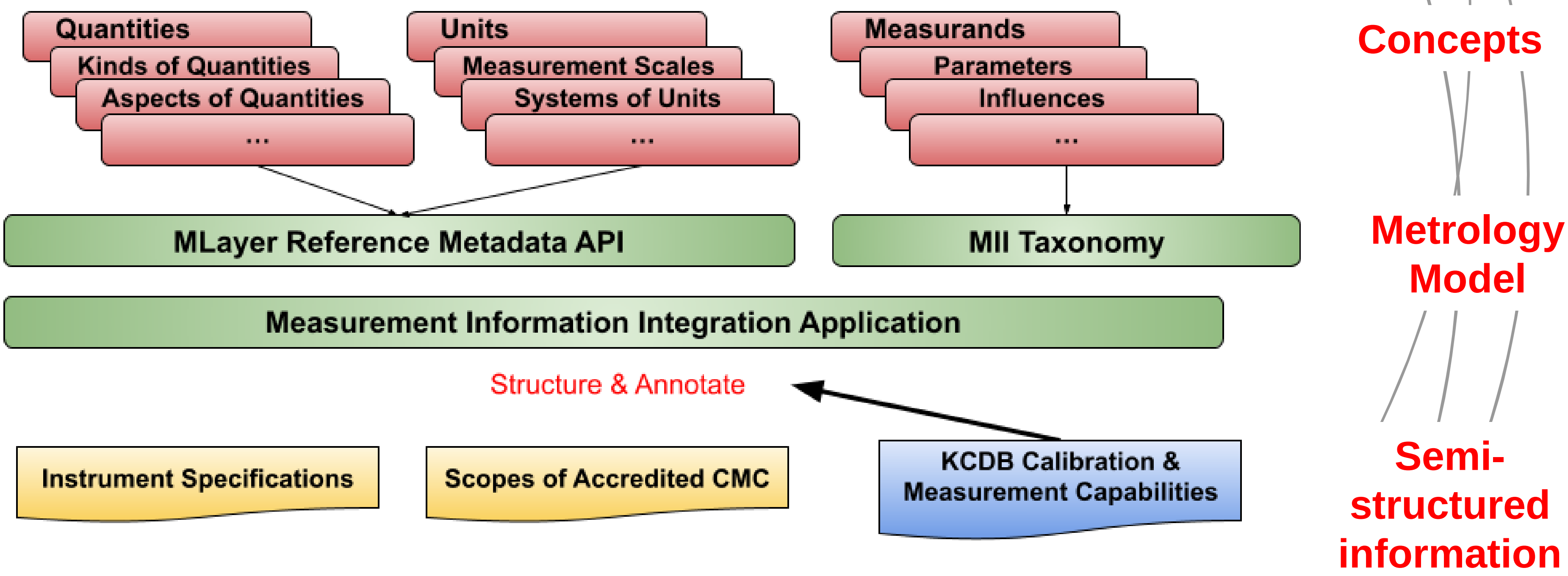
Metrology metadata has implicit relations, how does the machine interpret?

Separate but integrated: the MII taxonomy and the M-Layer

Taxons link to the aspect ID that governs the quantity values.

Quantity Value	Aspect ID	Taxon (Measure. . . or Source. . .)
		Length.Circumference
		Length.Diameter
		Length.Form.Flatness
1 ft		Length.Form.Parallelism
12 in		Length.Form.Perpendicularity
0.3048 m	$\Leftrightarrow \langle\text{length}\rangle \Leftrightarrow$	Length.Form.Roughness
30.48 cm		Length.Form.Roundness
304.8 mm		Length.Form.Sphericity
		Length.Form.Straightness.Axis
		Length.Form.Straightness.Surface
		Length.Radius

Measurement Information Integration



Demonstrate proof of concept at [Metrology Digitalization Workshop]()

Root definitions of value-added propositions

Clients - Those who directly benefit (or suffer) from the system.

Actors - Those who perform the activities necessary for the application to operate.

Transformation - The objective of the What is the application intended to do? How will the application change how your organisation operates?

World View - The particular viewpoint that the application is viewed from.

Owners - Who pays for the application, who can grant or deny access…

Environment - External influences on the application, its inputs outputs or outcomes.

Community (clients, actors, owners) participation is the key to success!

Participate at Thursday's Metrology Digitalization Workshop