

developing open standards for the
a/e/c/o community:

nibs efforts toward a national building
information modeling standard

bill.east@us.army.mil

the problem

Tell me what you want



I'll tell you what you want



Software user's inability to clearly define their detailed requirements requires software mfgs to make (not always compatible) assumptions

nbims development projects

Code-checking Exchange (format for code markup, links to IFC)

Structural Steel Exchange (CIS/2 – IFC)

Precast Concrete Exchange (Charles Pankow Foundation)

Early-Design Exchange (IAI-NA Implementers Group)

Construction Operations Building Information Exchange

ductXML Exchange (design-to-fabrication standard)

4-D Planning Exchange (maintain model linkage)

how do these projects get started?

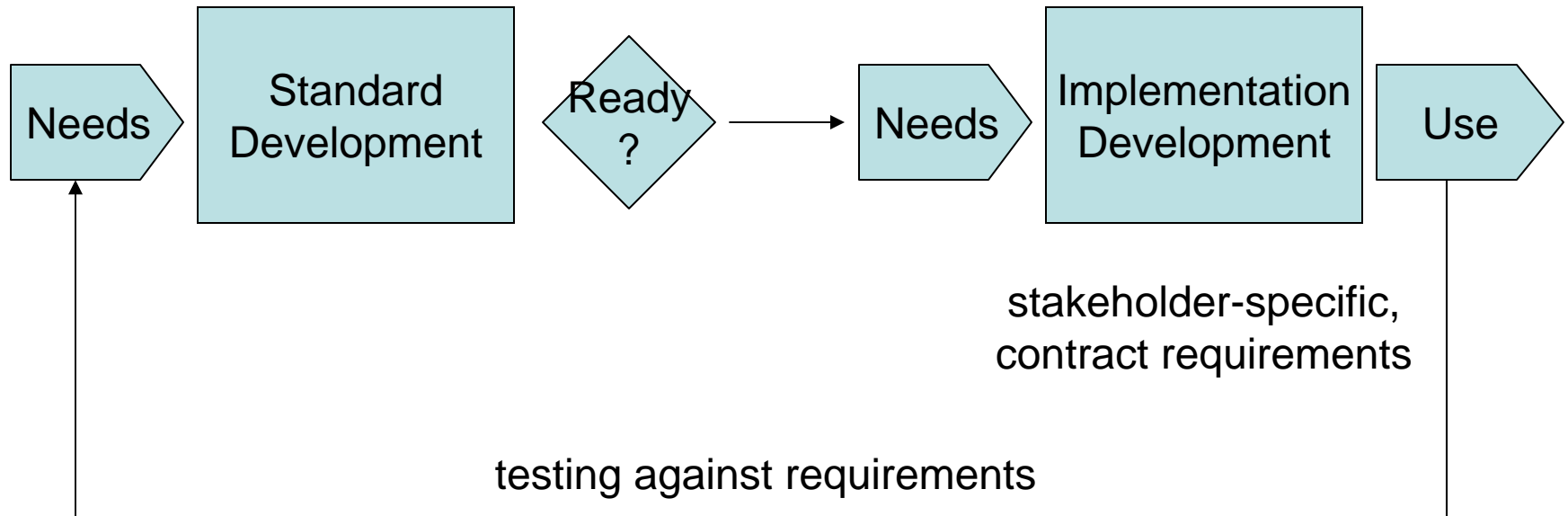
Top Down:

requirements from scoping team

Bottom Up:

direct requirements by stakeholders
(this is what is happening now)

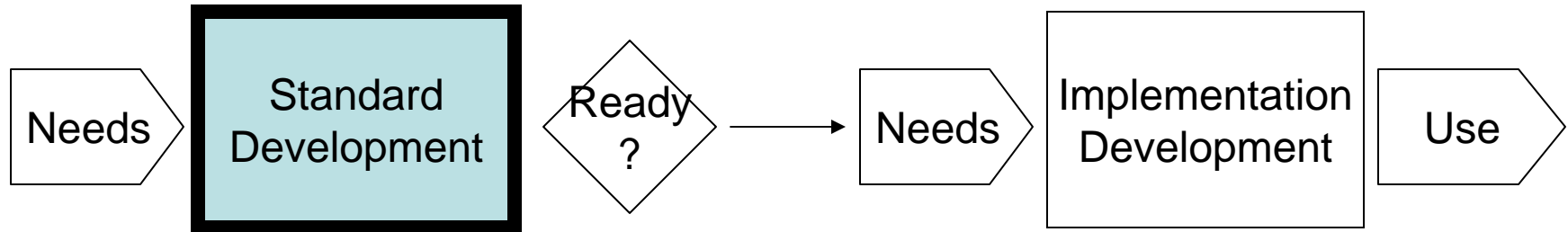
development process



Pilot Standard
Consensus Standard
Operational Standard

self-evaluation of “**compatible**” software
self-evaluation of “**compatible**” software
independent-evaluation of “**compliant**” software

basis for standards



Reference for Standards

IFC 2X3

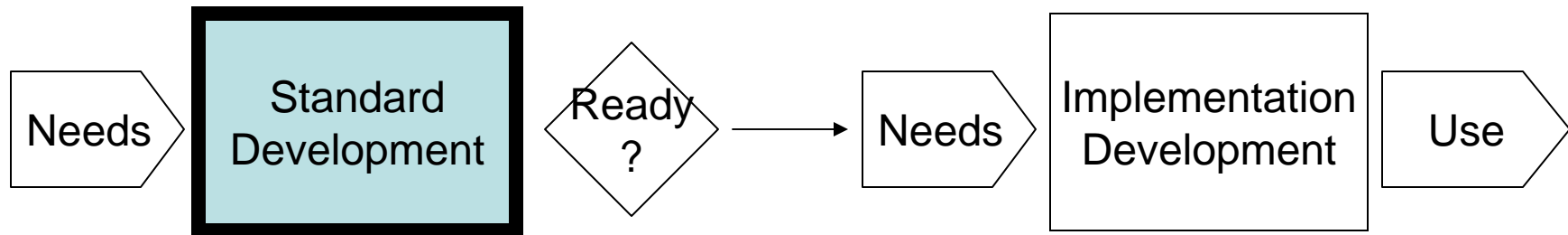
OmniClass

Implementation Standard

Less computationally efficient
method required if humans are
to interact with data.

If machine-to-machine
communication Express used

resources for standards development



Information Delivery Manual

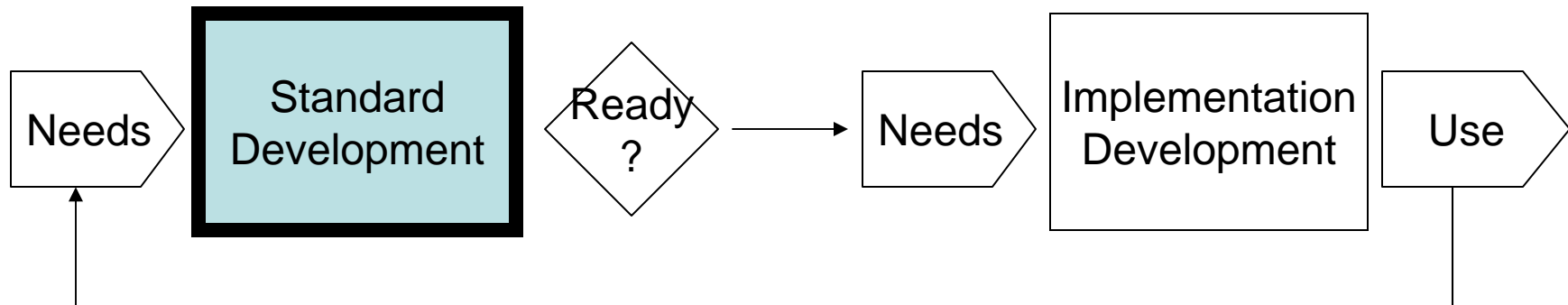
Exchange Requirements
Functional Parts

Resources Required

Subject Matter Experts, **Analyst***
Modeler*

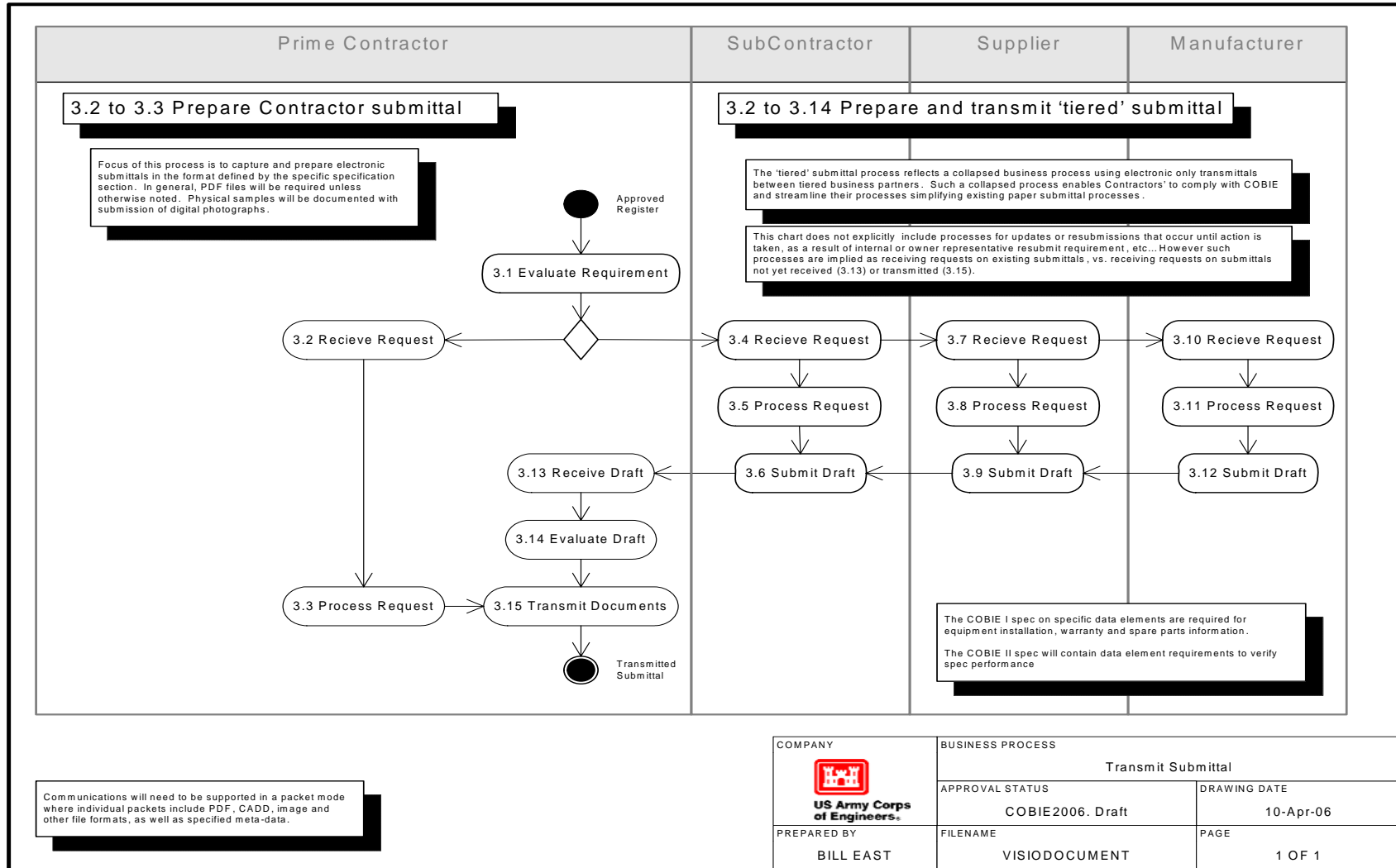
* requires paid position

standards “outputs” from **PILOT**

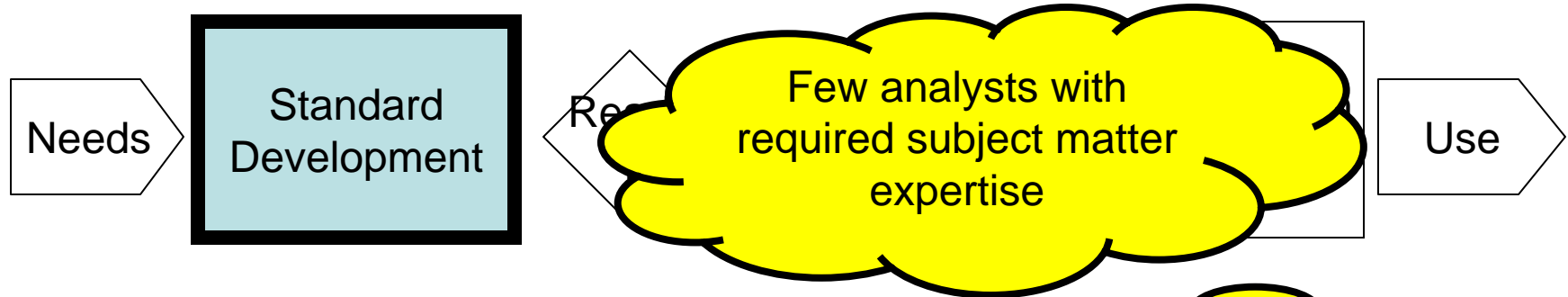


1. General classification (who, what, when, where)
2. General description (fact sheet)
3. Requirements analysis (literature review, BPMN)
4. Sample standard files stakeholders/vendors (join to get)
5. Implementers guides
6. Example from use on real projects

example process chart: COBIE



will it scale? resource perspective

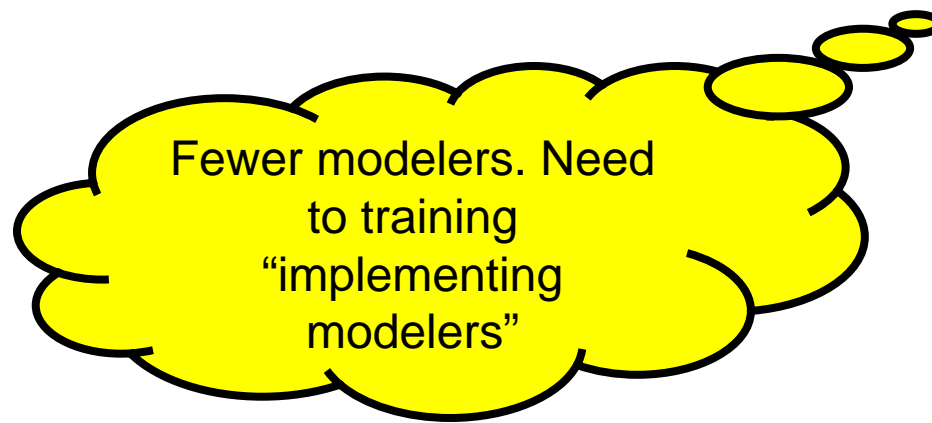


Information Delivery Manual

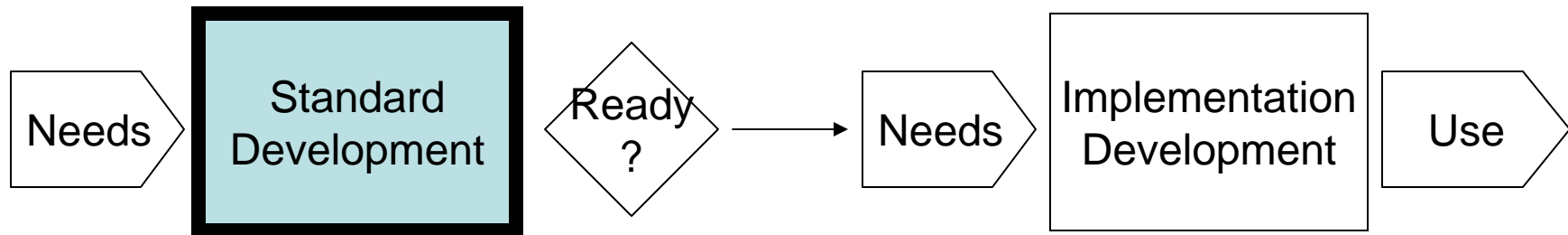
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will it scale? reusability parts?



Information Delivery Manual

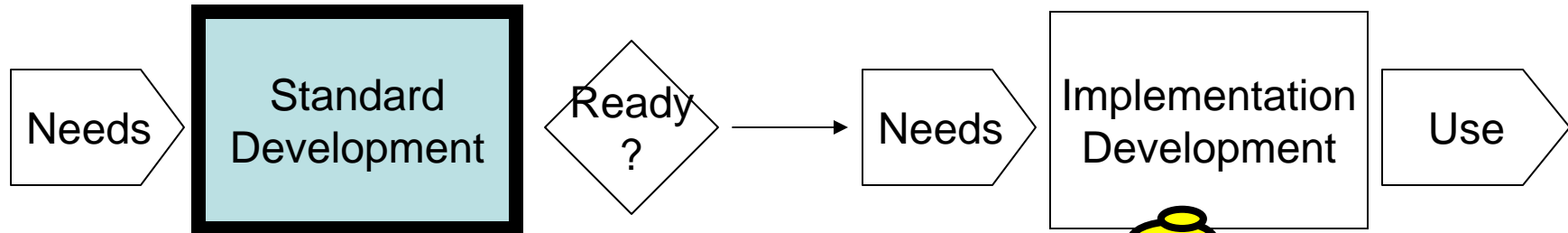
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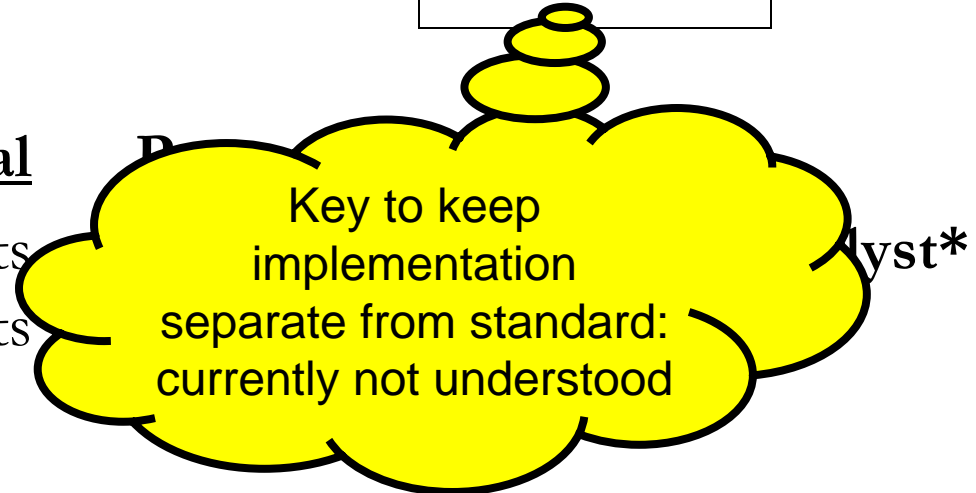
To what extent will functional parts be context dependant

will it scale? reusability parts?



Information Delivery Manual

Exchange Requirements
Functional Parts



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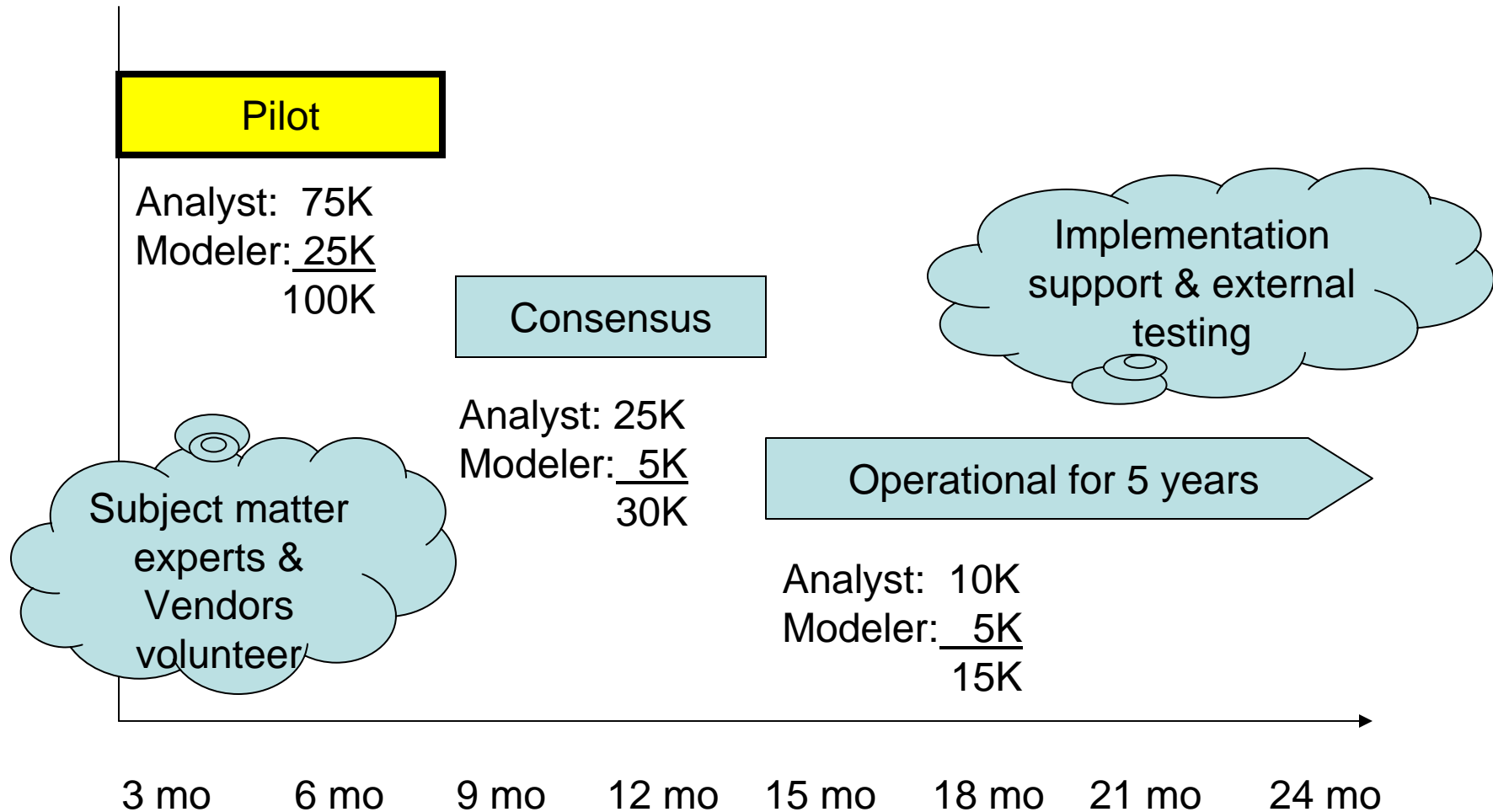
who does it?

Subject Matter Experts	Domain specific, many stakeholders, many related organizations
Analyst	Organize feedback in business process flowcharts, refine information requirements
Modelers	Those who can translate requirements into IFC model.

how long? how much?

Pilot Standard	Analyst (paid 3 months, 75K) Implementation Modeler (paid 1 month, 25K) Subject Matter Experts (volunteer 10K each) Vendors (volunteer 10-25K each)
Consensus Standard	Analyst (paid 1 month 25K) Implementation Modeler (paid 1 week, 5K) Stakeholders (volunteer 2K each) Vendors (volunteer 5K each)
Operational Standard	Analyst (paid 2 weeks 10K) Implementation Modeler (paid 1 week, 5K) Stakeholders (volunteer 2K each) Vendors (self-paid testing 10K each)

how long? how much? bottom line



US BIM standard development issues

Bottlenecks: IAI-NA Implementers Support Group should take larger role & merge with NBIMS Development team. Provide “developer” training to analysts & vendors

Communication: Standard still requires implementation support

Testing: Iterated testing against requirements is essential.

Respecting the Value Chain Operational standards stable for 5 years without (major) renovation. Full backward compatibility of future IFC releases to 2X3

Scaling w/Global Community Coordination with International Repository of Exchange requirements need US Librarian