

A large, stylized red halftone portrait of a woman with short hair and glasses, looking slightly to the side. The portrait is composed of many small dots of varying density, creating a textured effect. It occupies the left half of the slide.

**CERTAINTY
DISCOVERY**

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Scientific Informatics Challenges in the Changing Discovery Landscape

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New Science, Same Old Problems

Representing
novel
modalities

Non-
natural
peptides,
oligos

Cell &
gene
therapies

ADCs

PROTACs

Organoid
s

and
more...





New Science, Same Old Problems

Registration
of entities

Mixtures

Persistent
challenges

Unique
concepts

Distributions

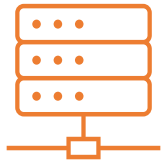
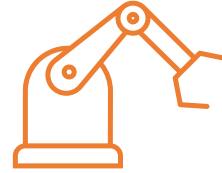
Metals /
Coordination

Lineage

Beyond the Data

Instrument data capture

Data often not accessible in a format we can use
Some promising formats e.g. ASM

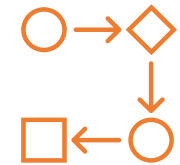


Metadata

Linking and synchronising distributed metadata for interoperability and reuse across diverse vocabs & ontologies

Processes

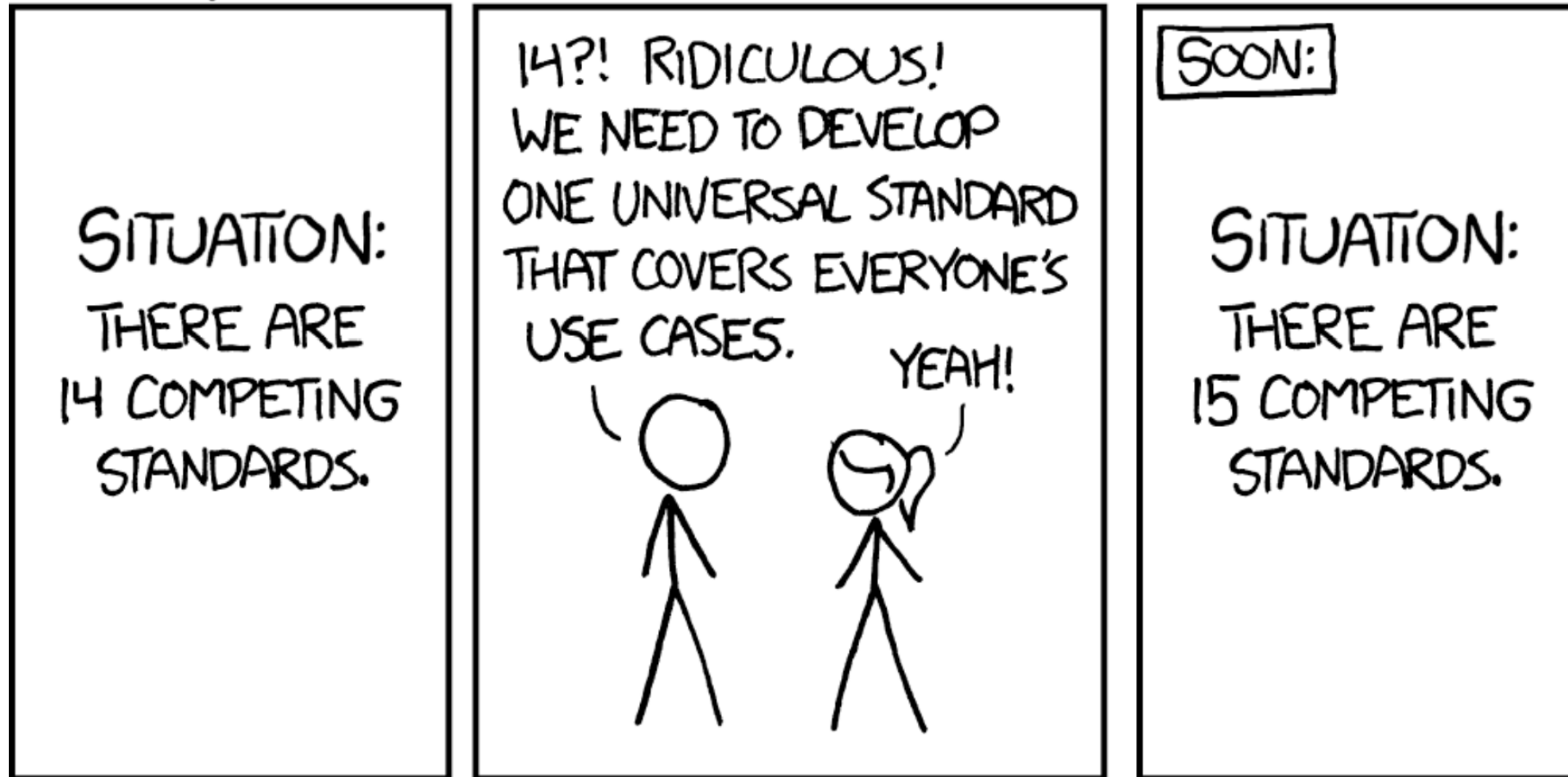
Require machine-readable representation to enable auditability, reproducibility and automation



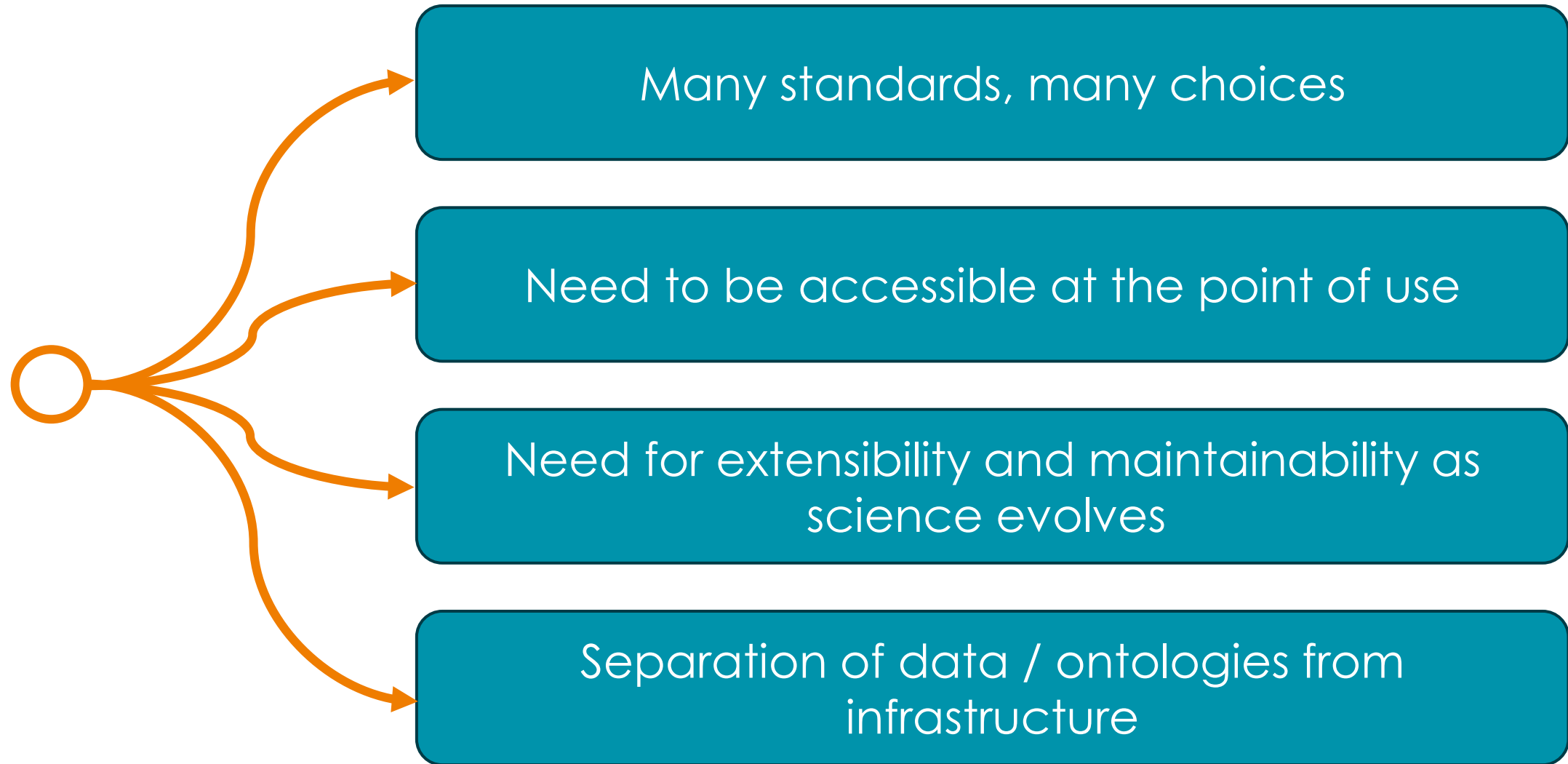
Context

Decisions are data. Knowledge management includes decisions the data drove
Ability to retrieve the reason why something was made

Standards, Standards Everywhere...



Standards, Standards Everywhere...





Informatics Delivering Value

Analytics

Data driving decisions

Translate data into actionable insights

Requires context and metadata

Modeling

Interoperability

Reusability

Comparability

Applicability / domain

Explainability

Understand the "why"

Fosters trust

Make informed decisions

Have agency, not "computer says"

With a Little Help From My Friends



Collaboration

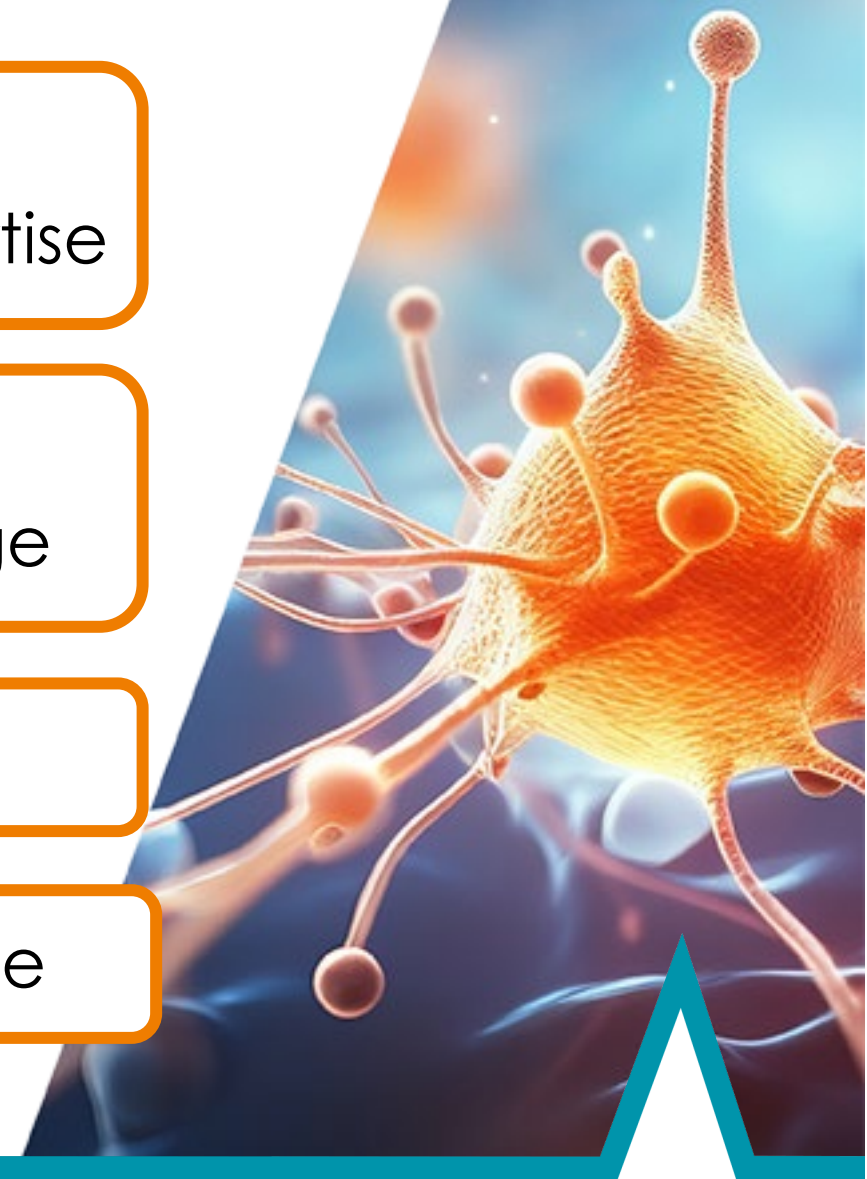
More thorough, accurate answers through diverse expertise

Broader sets of use cases

Share knowledge

More extensible solutions

Better interoperability & reuse





THANK YOU!

PISTOIA ALLIANCE

Our members collaborate as equals on open projects that generate significant value for the worldwide life science community

