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Operationalizing Allotrope at Scale

An Anzo Platform Proof-of-Concept (PoC)

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Allotrope US Connect, 2019-Oct-08
Genentech, South San Francisco CA, USA

2019 US Connect – Public Session Presentation

Operationalizing Allotrope at Scale

An introductory description of the approach, outcomes and business benefits of blending the Allotrope Foundation Ontology (AFO) with 'big data' volumes of Osmolality instance data (leaf nodes) complete with sample exploratory analytics

Agenda

- Proof-of-concept (PoC) Objective
- Cambridge Semantics' Anzo Platform Overview
- Osmolality PoC Approach
  - Allotrope Foundation Ontology (AFO) View
  - Synthetic Semantic Osmolality Data Generation (Leaf Nodes)
- Exploratory Analytics and Data-on-demand
- Conclusions & Next Steps
- Acknowledgements

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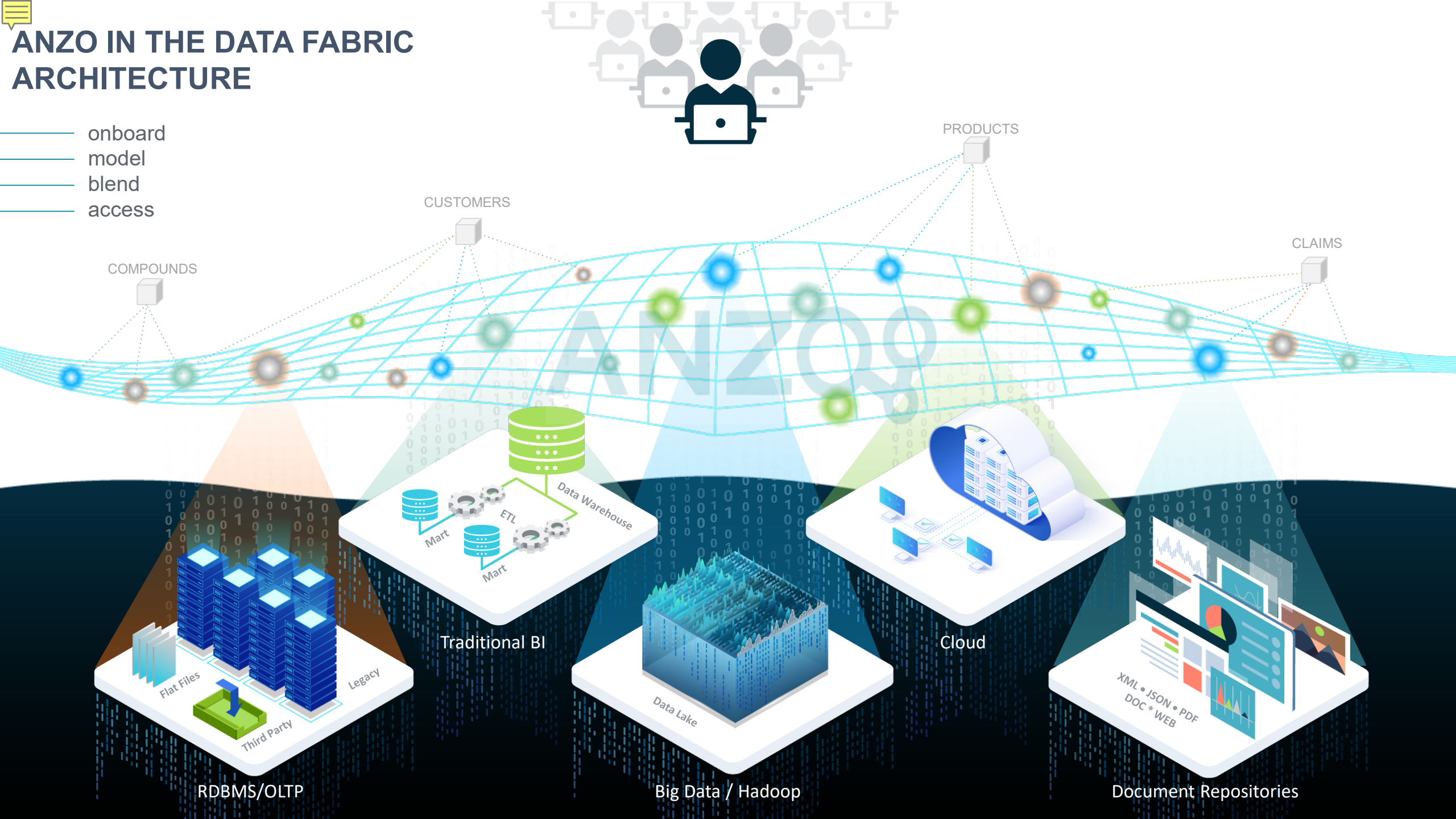
The Allotrope Community Today

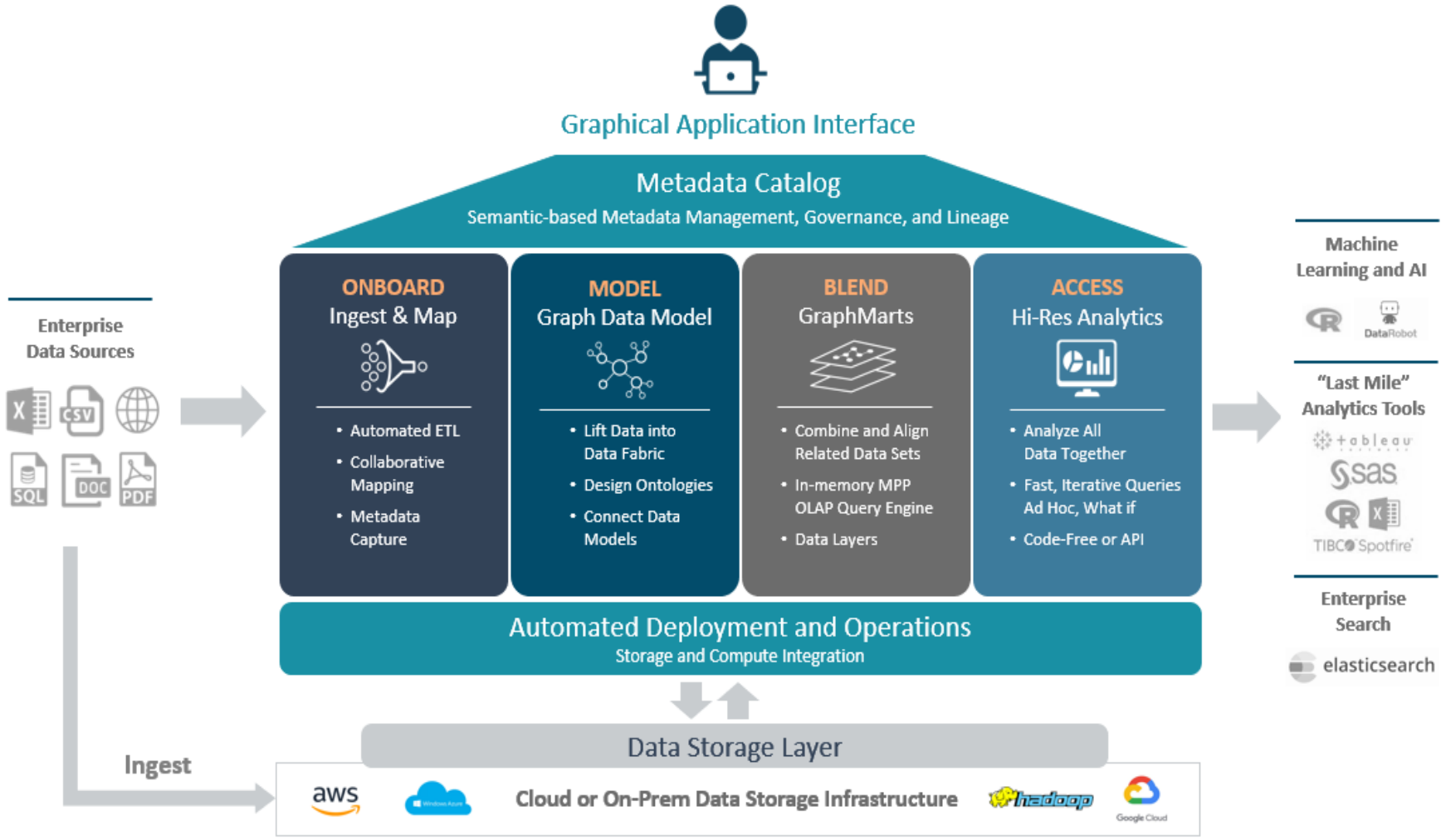
Bigfinite • BSSN Software • Cambridge Semantics • Elemental Machines • Erasmus MC • Fraunhofer IPA • L7 Informatics
Mettler Toledo • NIST • Stanford University • University of Illinois at Chicago • University of Michigan • University of Southampton

ANZO IN THE DATA FABRIC ARCHITECTURE

- onboard
- model
- blend
- access



Cambridge Semantics' Anzo Platform



Anzo Technology Stack

- Source
  - Structured (RDBMS)
  - Unstructured (text)
- Spark - transformations
- RDF
- RDFS
- OWL
- SPARQL
- Odata – data-on-demand
  - Spotfire
  - Tableau
  - R
  - SAS
  - Python
  - Machine Learning platforms

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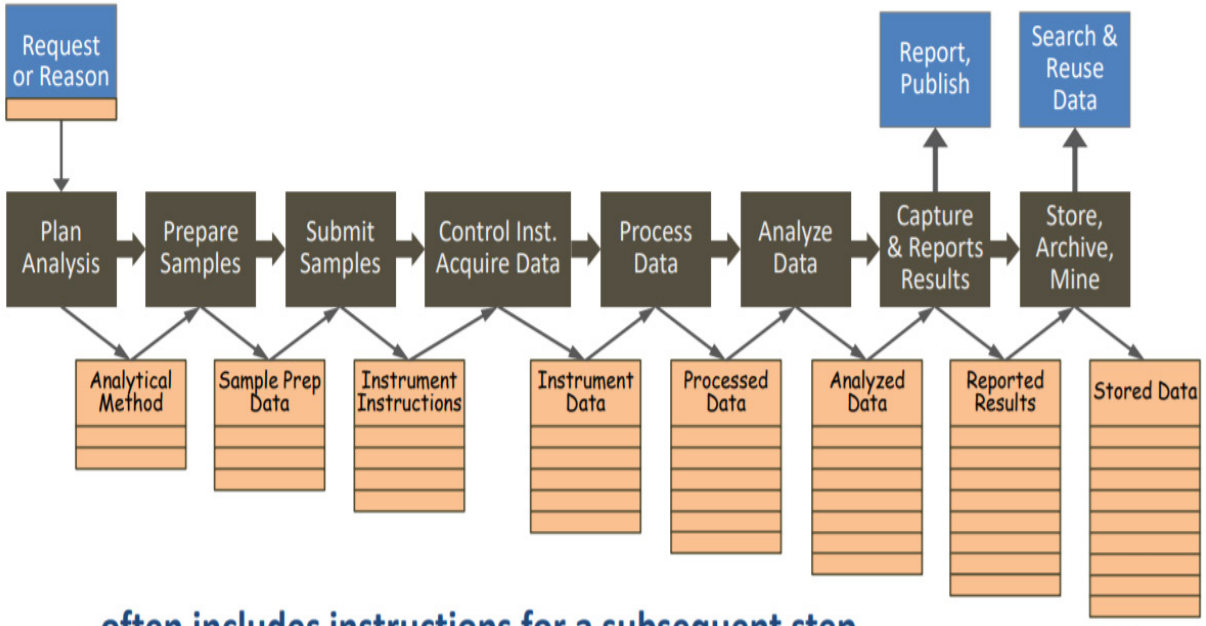
The Proof-of-Concept (PoC) Objective

Contextual meta data accumulates along every step of a workflow…



…often includes instructions for a subsequent step

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BEST PRACTICES AWARDS ★★★ WINNER Bio-IT World '17

Driving Outcomes Through Adoption of the Framework for Standardizing Data & Context

Allotrope Connect, April 9, 2019

Dassault Systemes, Vélizy-Villacoublay, France

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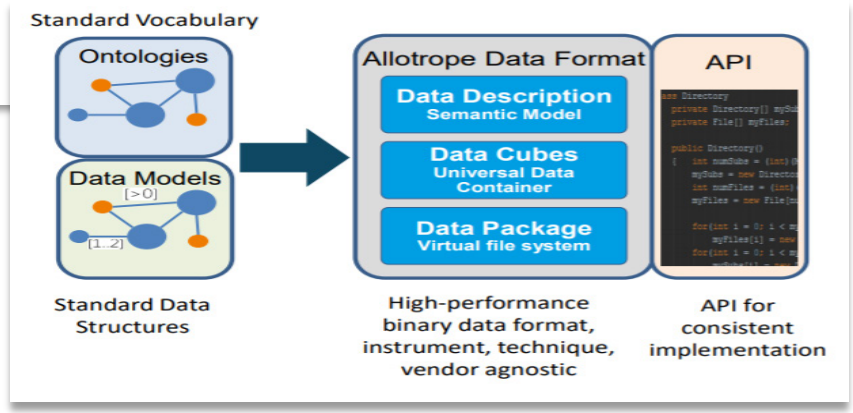
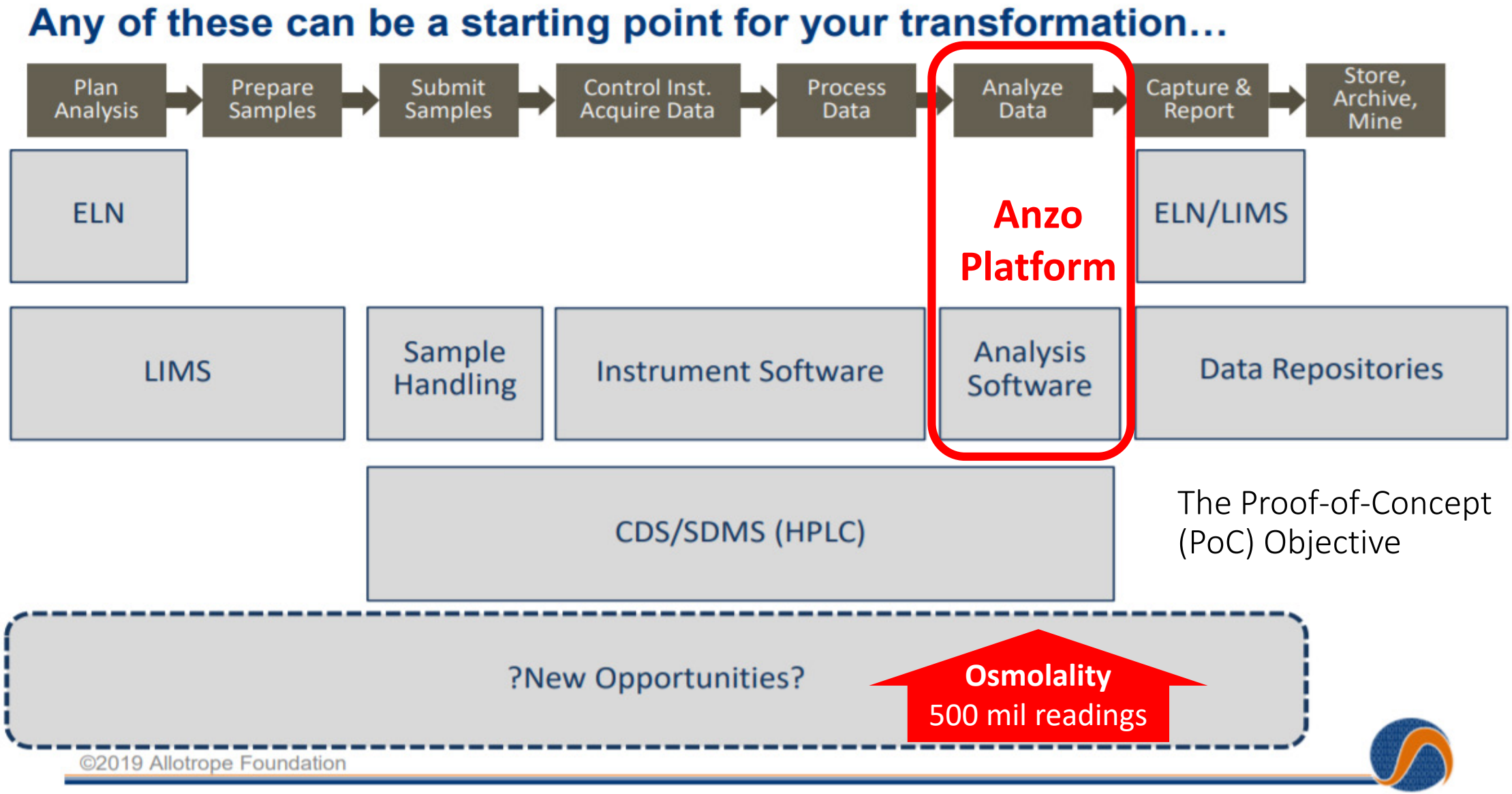


Source: ***Driving Outcomes through Adoption of the Framework for Standardizing Data and Context*****, Allotrope Connect, April 9, 2019, by Dana Vanderwall**



The Proof-of-Concept (PoC) Objective

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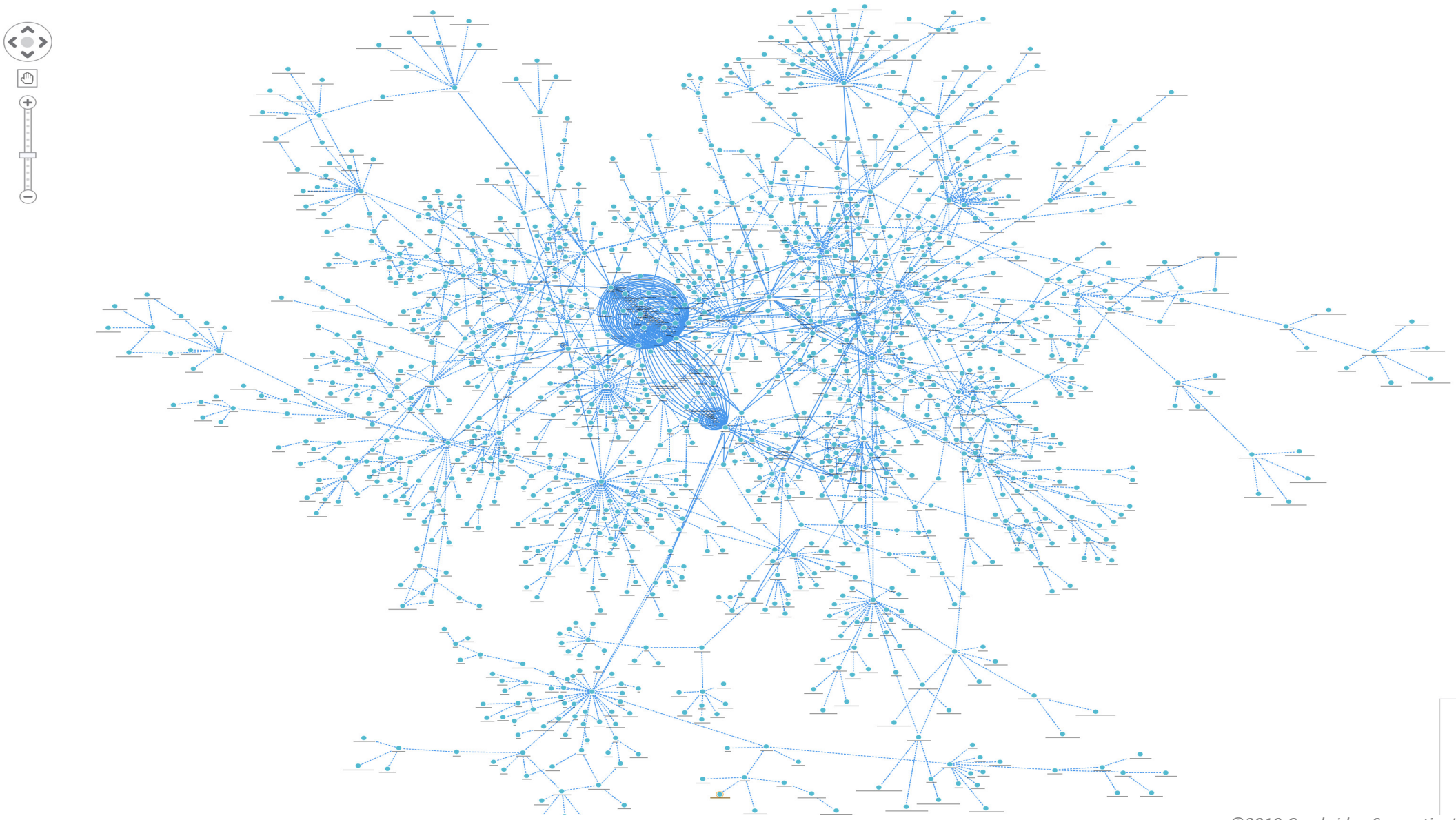
Allotrope Foundation Ontology (AFO)



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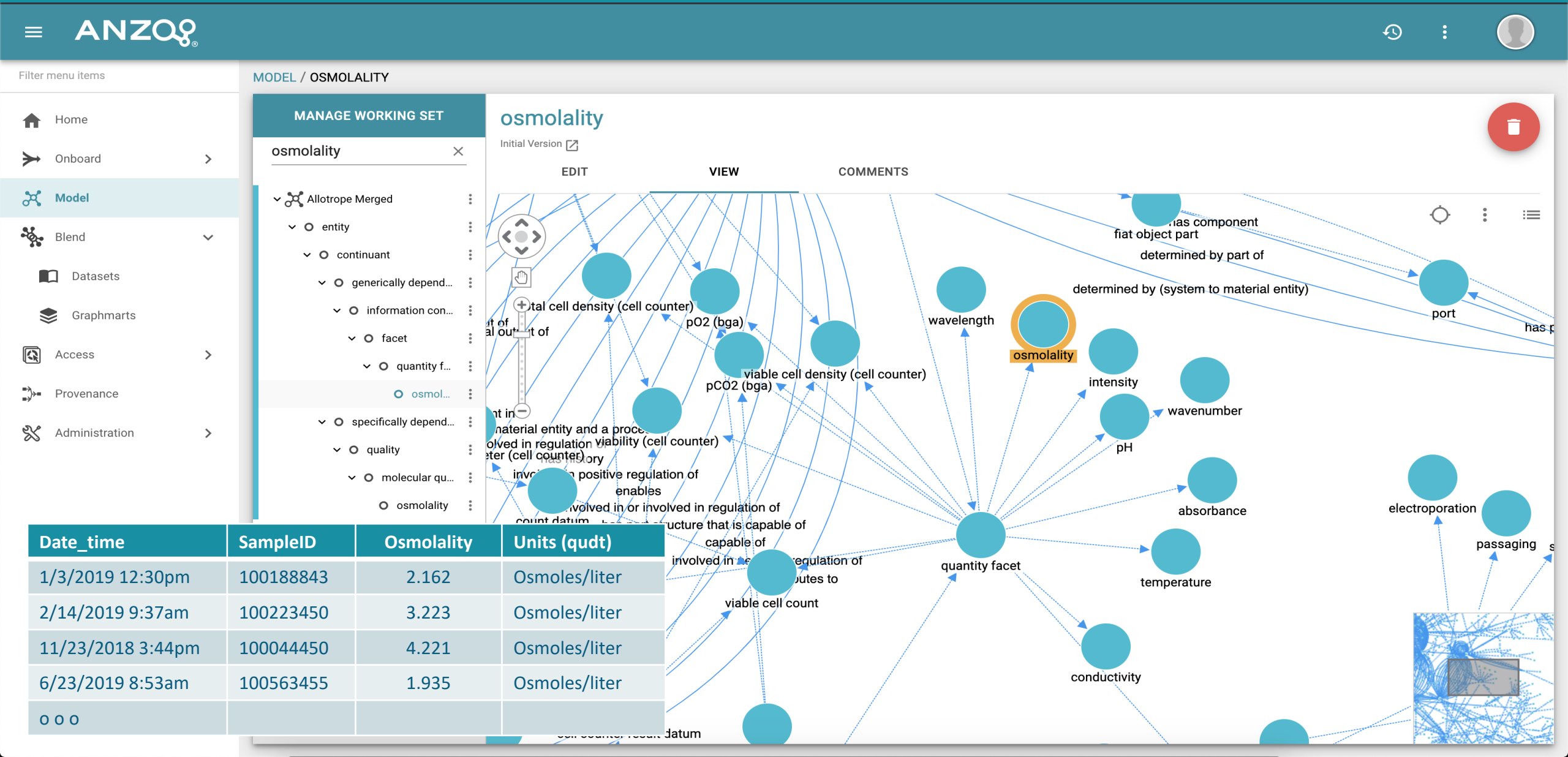
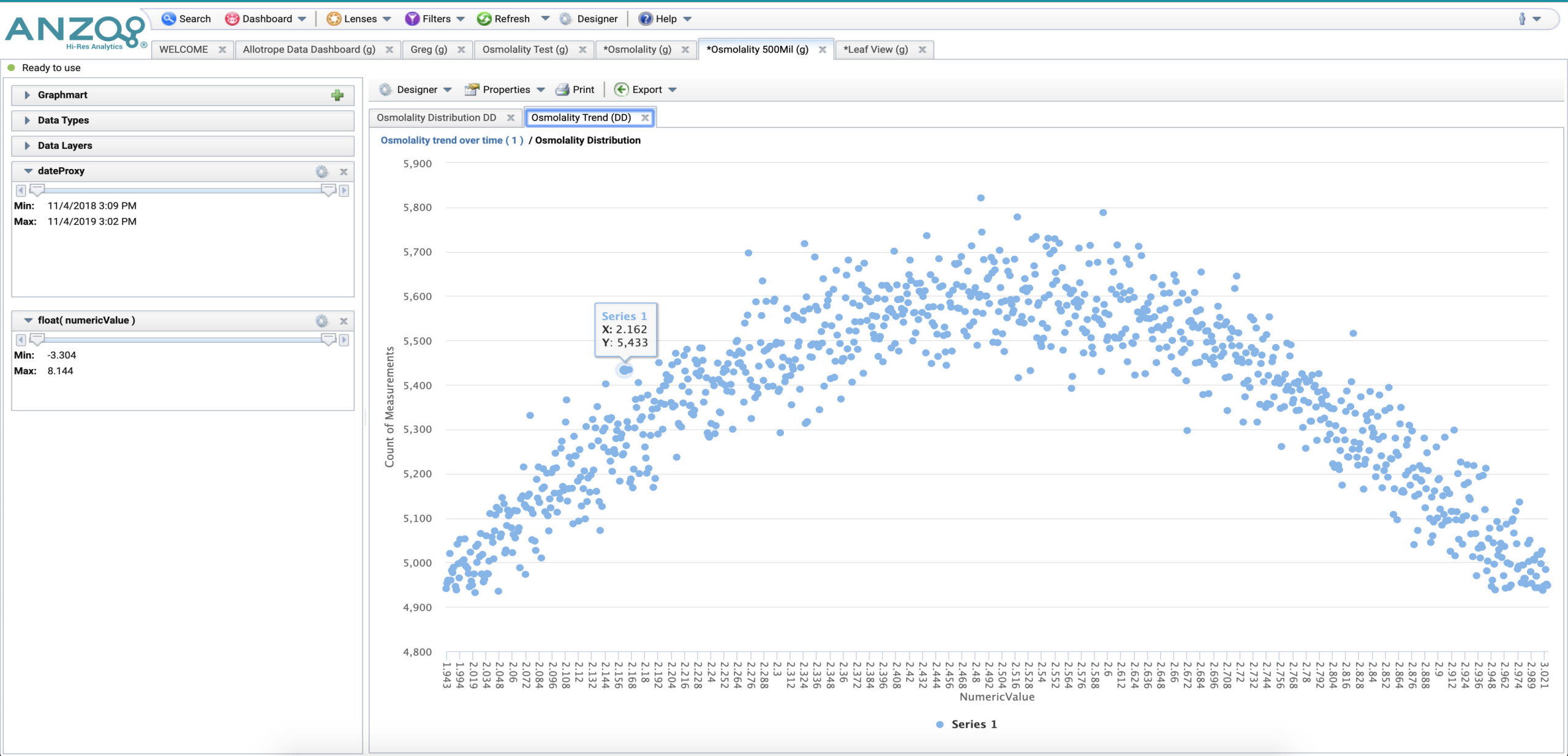
Osmolality Data in the Allotrope Foundation Ontology (AFO)



Date_time	SampleID	Osmolality	Units (qudt)
1/3/2019 12:30pm	100188843	2.162	Osmoles/liter
2/14/2019 9:37am	100223450	3.223	Osmoles/liter
11/23/2018 3:44pm	100044450	4.221	Osmoles/liter
6/23/2019 8:53am	100563455	1.935	Osmoles/liter
o o o			

Osmolality Data Distribution for Nov 2018 (drill-down by month)



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Greg West – Cambridge Semantics
Barbara Petrocelli – Cambridge Semantics

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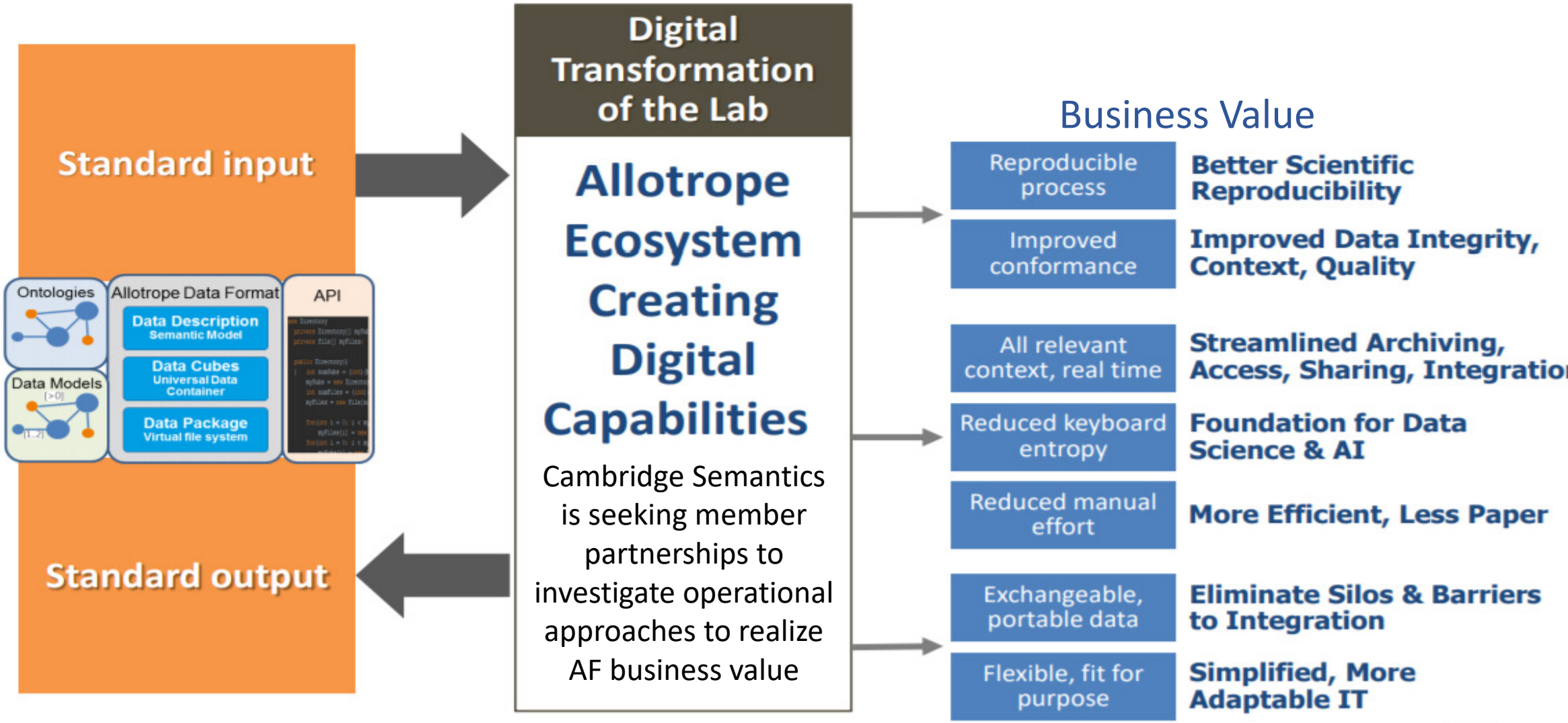

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