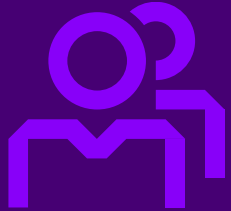# ACCENTURE RESEARCH LIFE SCIENCES CLOUD

Creating an Open Vendor Ecosystem
ChemAxon UGM, March 26, 2019
Jens Hoefkens
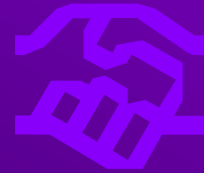
EXECUTIVE SUMMARY

The Pharma industry is struggling with a common set of challenges that are impacting their ability to drive Research faster, more efficiently and leading to better outcomes.

Changing this paradigm requires a new informatics platform that drives improvements in productivity, efficiency, innovation and user experience.
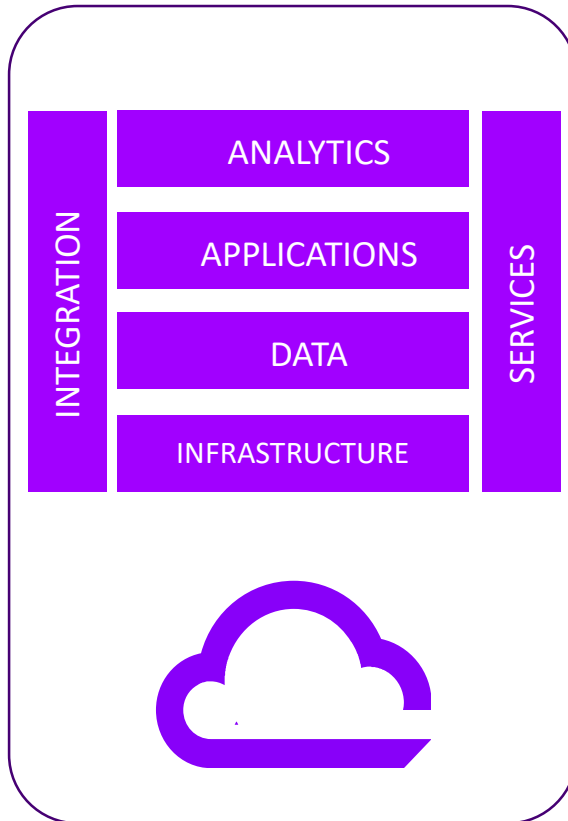
Accenture, together with Merck and AWS, is launching the Accenture Research Cloud Platform.

Precompetitive approach provides opportunity to drive differentiated outcomes, enabling better capabilities, faster and at a lower cost

ACCENTURE RESEARCH LIFE SCIENCES CLOUD (RLSC)

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┌─────────────────────────────┐
│  ┌──────────┬──────────────┬──────────┐ │
│  │          │  ANALYTICS   │          │ │
│  │          ├──────────────┤          │ │
│  │ INTEGRATION│ APPLICATIONS │ SERVICES │ │
│  │          ├──────────────┤          │ │
│  │          │    DATA      │          │ │
│  │          ├──────────────┤          │ │
│  │          │INFRASTRUCTURE│          │ │
│  └──────────┴──────────────┴──────────┘ │
└─────────────────────────────┘
```

➢ **A new, pre-competitive industry platform supporting drug discovery, innovation and collaboration launched by Accenture, Merck & Co., and AWS.**

➢ **Provides researchers with access to best-in-class capabilities from third party software, content and services providers via an Accenture managed AWS hosted environment.**

➢ **Enables IT / Informatics staff to rapidly deploy solutions that help life sciences researchers generate, aggregate, manage and analyze the data that advances the discovery of new drug entities**

MERCK   accenture   aws

RLSC PLATFORM IMPERATIVES

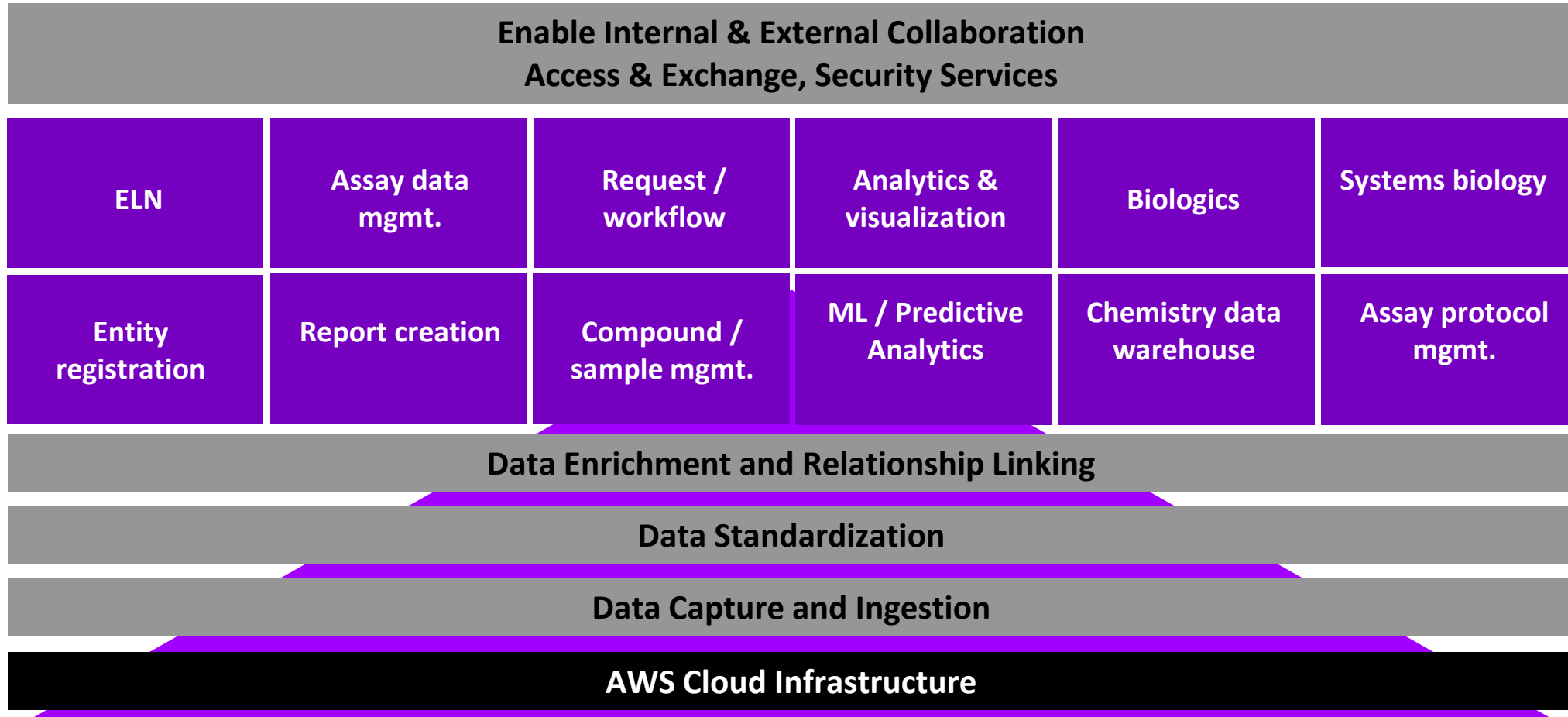**Enable value creation through component assembly**
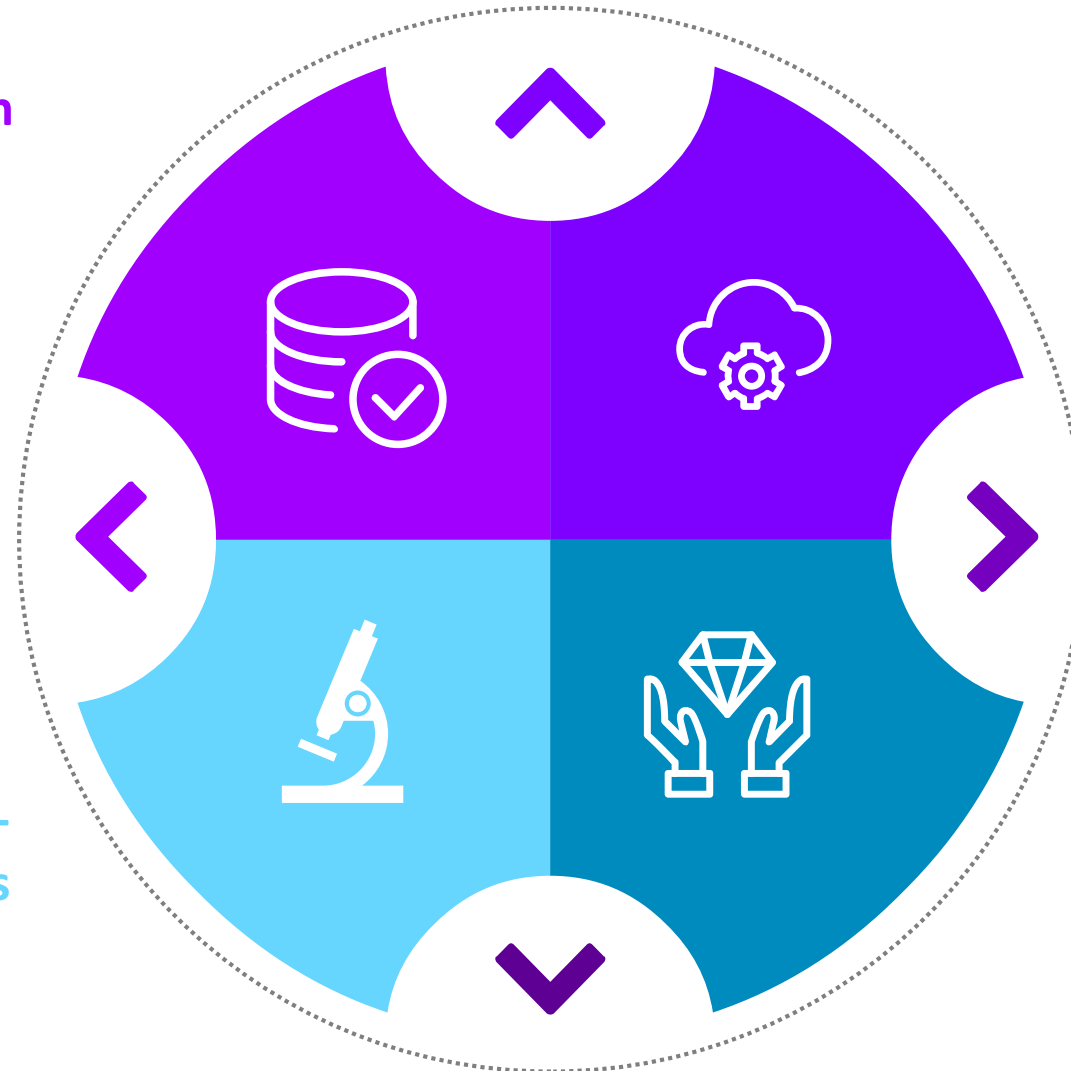
Lower barrier to entry for new, small software players; help large players innovate faster

Define industry standard APIs for pre-competitive functions

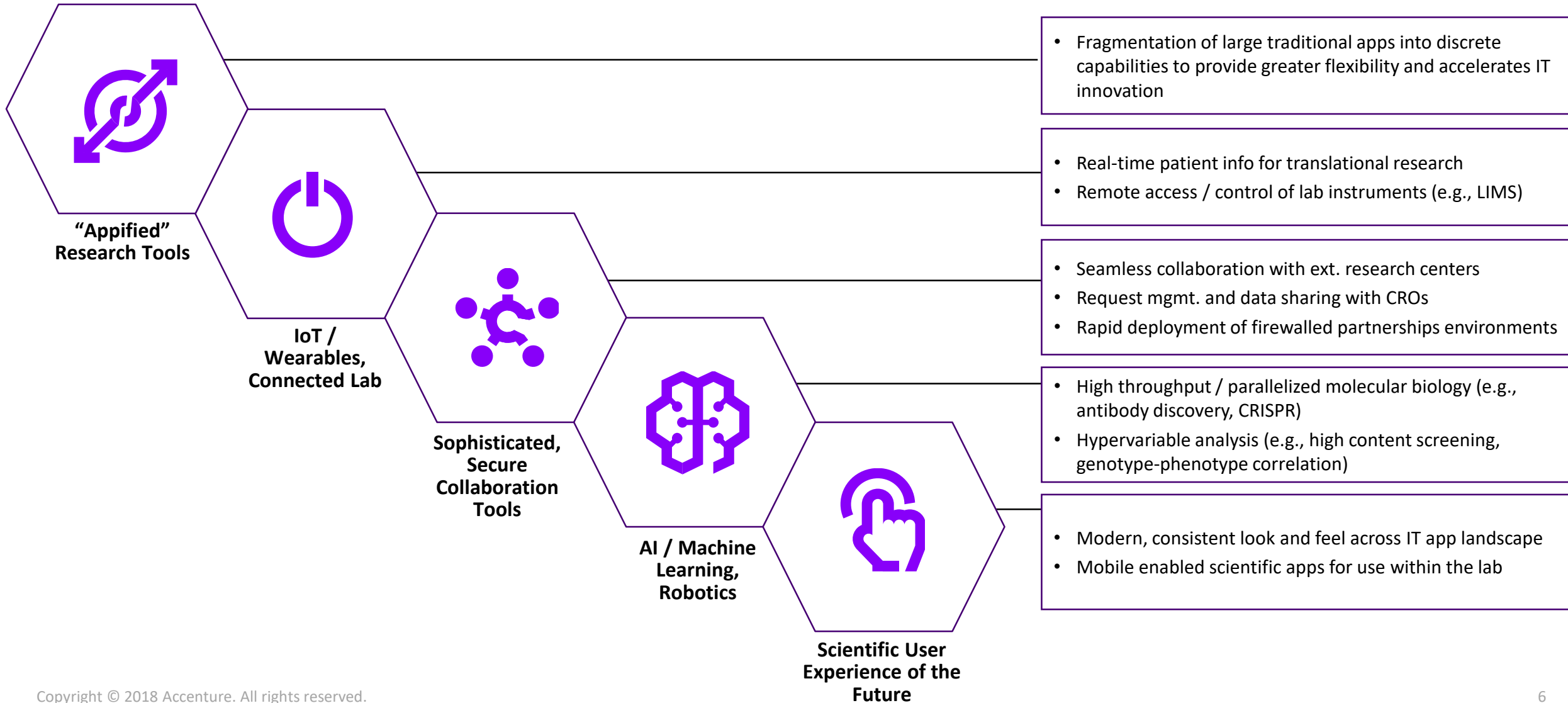**Establish a two-sided market for providers and consumers**

4

RESEARCH INFORMATICS LANDSCAPE

RLSC enhances current research applications and workflow to enable a more efficient, effective way to operate all within the cloud

Enable Internal & External Collaboration
Access & Exchange, Security Services

ELN	Assay data mgmt.	Request / workflow	Analytics & visualization	Biologics	Systems biology
Entity registration	Report creation	Compound / sample mgmt.	ML / Predictive Analytics	Chemistry data warehouse	Assay protocol mgmt.

Data Enrichment and Relationship Linking

Data Standardization

Data Capture and Ingestion

AWS Cloud Infrastructure

EMBRACING THE NEW

RLSC leverages new technologies to facilitate research transformation

"Appified" Research Tools

IoT / Wearables, Connected Lab

Sophisticated, Secure Collaboration Tools

AI / Machine Learning, Robotics

Scientific User Experience of the Future

- Fragmentation of large traditional apps into discrete capabilities to provide greater flexibility and accelerates IT innovation

- Real-time patient info for translational research
- Remote access / control of lab instruments (e.g., LIMS)

- Seamless collaboration with ext. research centers
- Request mgmt. and data sharing with CROs
- Rapid deployment of firewalled partnerships environments

- High throughput / parallelized molecular biology (e.g., antibody discovery, CRISPR)
- Hypervariable analysis (e.g., high content screening, genotype-phenotype correlation)

- Modern, consistent look and feel across IT app landscape
- Mobile enabled scientific apps for use within the lab

APPLYING A PLATFORM ECOSYSTEM APPROACH TO RESEARCH

The RLSC provides an ecosystem environment that brings together researchers with software and service providers in order to share data and capabilities, and to rapidly advance science.
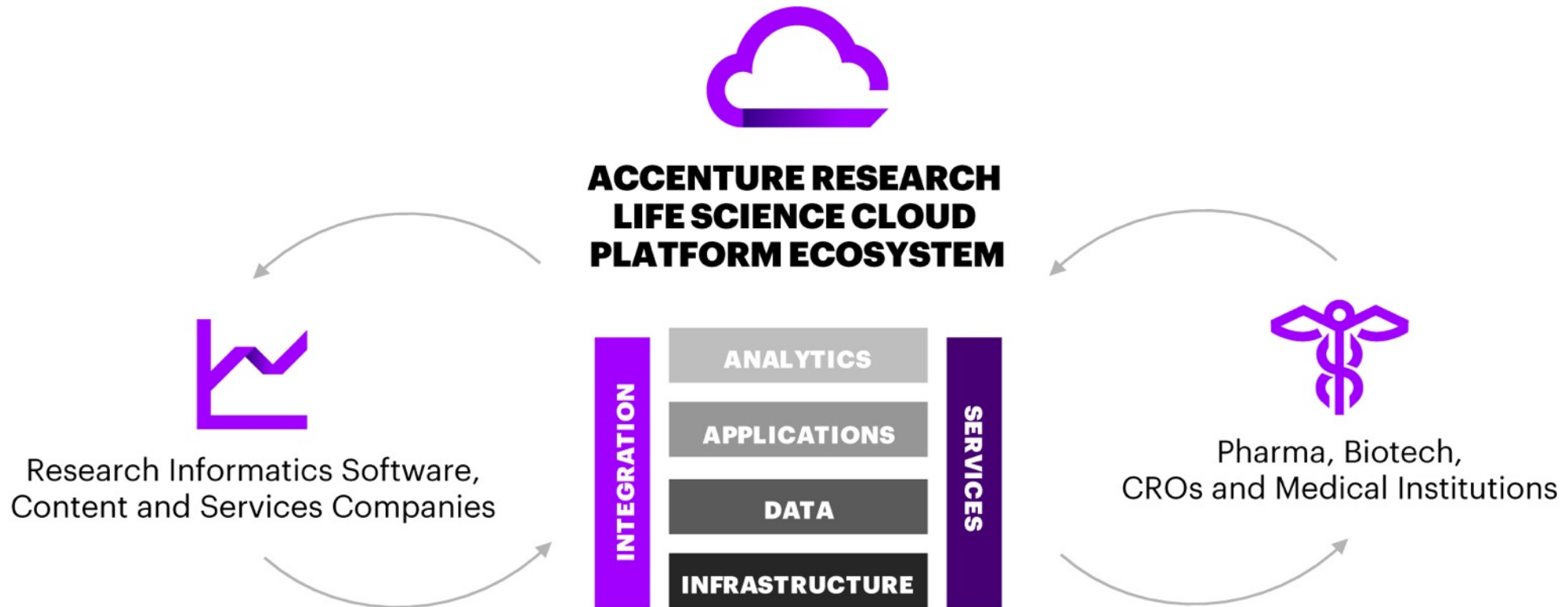
ECOSYSTEM PARTNERS

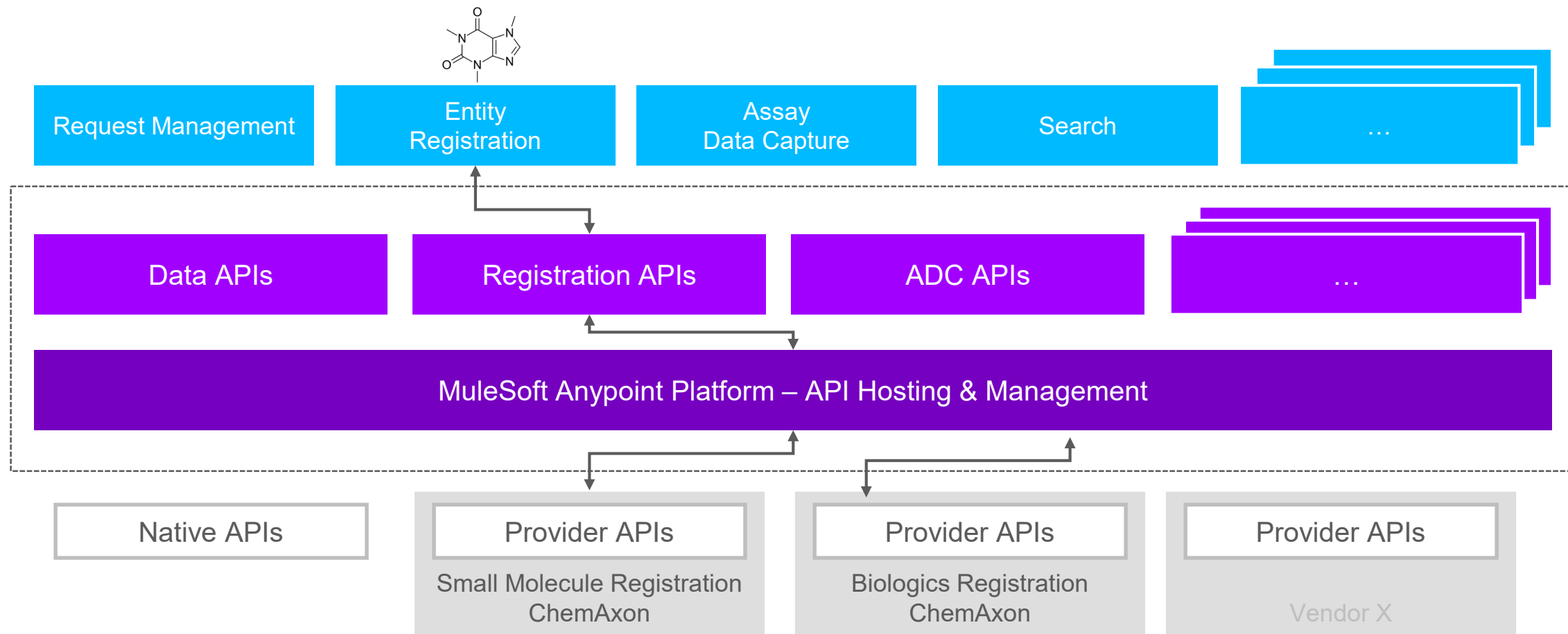**Independent Software, Content and Services Provider & Consortia**

**Coalition Members
Partner / Core Technology**

Collab. Agreement

100+ Software Vendors, Content Providers and Service Organizations

ENTITY REGISTRATION DATA FLOW

ENTITY REGISTRATION APIS

RESTful APIs Supporting Registration

- Platform APIs

- Provider APIs

Joint Development Effort

- Accenture, Merck

- ChemAxon

- Vendor Community

Published Version 1.0

Resource	Operation	Verb
Entity	Schema	OPTIONS
	List	GET
	Create	POST
	Get	GET
	Update	PATCH
	Delete	DELETE
Entity Type	Schema	OPTIONS
	List	GET
	Get	GET
	Update	PATCH
Entity Type Attribute	Schema	OPTIONS
	List	GET
	Create	POST
	Get	GET
	Update	PATCH
	Delete	DELETE

RLSC API ROADMAP – 2018-2020

2018

- **Draft**
  - Entity Registration
  - Data Ingestion
  - Data Access

2019

- **Production**
  - Entity Registration
  - Assay Data Capture
  - Data Ingestion
  - Data Access

- **Draft***
  - Genomics
  - Image Data
  - Sample & Inventory

2020

- **Production***
  - Genomics
  - Image Data Management
  - Inventory

- **Draft***
  - IP Capture
  - Document Management
  - …?

* Work in progress, subject to change

ECOSYSTEM PLANS – 2019, 2020

BUILDING A COMMUNITY OF ECOSYSTEM PARTNERS

Structure

Platform Architecture Review Board
Signs off on API roadmap and Overall Design (Merck, AWS and Accenture)

Meeting Cadence
Quarterly Architecture Board, Quarterly Workstream Calls (One per Functional Area)

Coalition Meetings
Inclusion of ISVs in bi-annual Coalition Meetings

APIs

Roadmap
Data IO, Assay Data Capture, Entity Registration, Requests, Screening, Genomics, …

Governance
Prioritization, Specifications, Changes and Enhancements, Review and Approval of APIs, Versioning

Certification
Validation Scripts, Certification Program for Solution Providers

Development

Provision of Sandboxes
Development Environments for ISVs hosted by Accenture

SDK
Software Development Kit, Documentation, Test Scripts, Best Practices Guides, Example Code (Pet Store App)

Support / Helpdesk
Access to Technical Support Resources, Public Discussion Forums, Training Material

Business

Develop Business Case
Focusing on Market Access, Lower Development Cost, Early Mover Advantages, Pharma Pressure
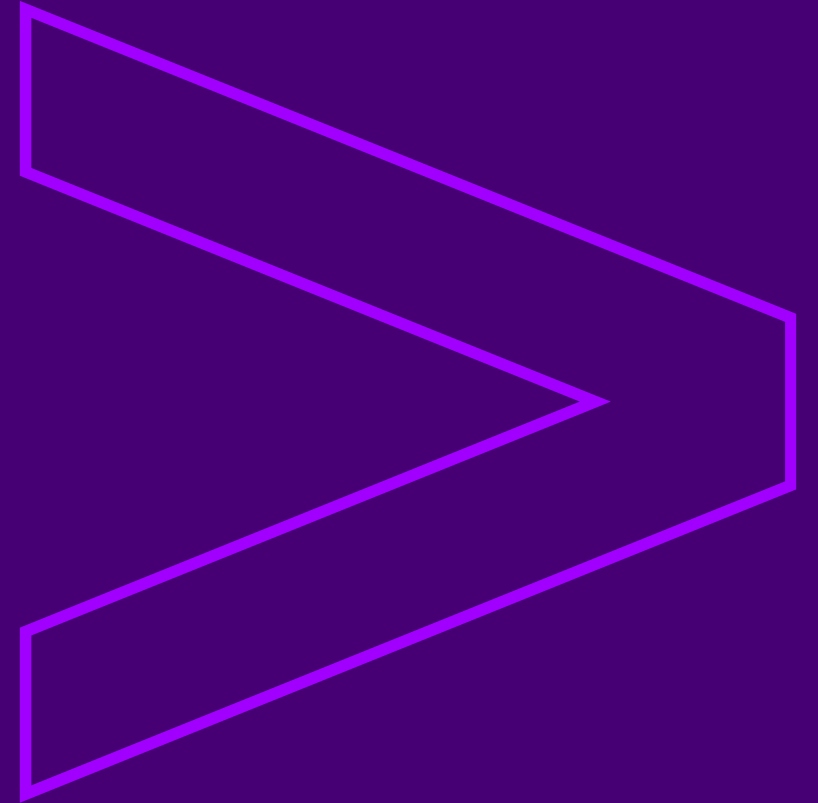
Compatibility Program
Certified Compatibility, Support with Logo, Press Releases, White Papers

Legal Framework
API Licensing Terms (No Cost, Public), Platform Access, Try Before You Buy, Compatibility Program

QUESTIONS?

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Research Life Sciences Cloud Strategy
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