



# Alzheimer's Disease Data Initiative (ADDI)

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# About ADDI

ADDI is an independent, 501(c)(3) medical research organization with the mission to fundamentally transform Alzheimer's disease (AD) research, accelerating progress towards new treatments and cures for AD and related dementias.



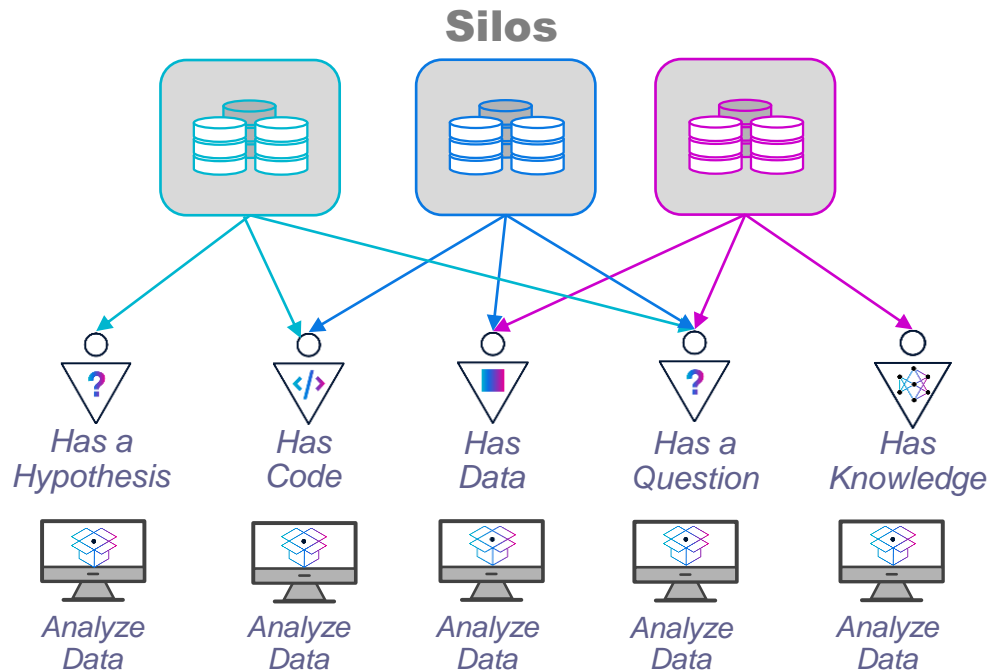
<https://www.alzheimersdata.org>



**ADDI** has brought together a [coalition of organizations](#) interested in accelerating the use of data within Alzheimer's disease and related dementias research. It aims to support, both independently and in partnership with other funders, a series of initiatives related to:

- (a) Enabling and accelerating the data infrastructure through **interoperability** of existing data platforms;
- (b) Increasing the **sharing** of dementia-related data from academic and industry sources; and
- (c) Empowering cutting edge scientists to use the data and platforms to make new discoveries in dementia research by building an **enabling environment**.

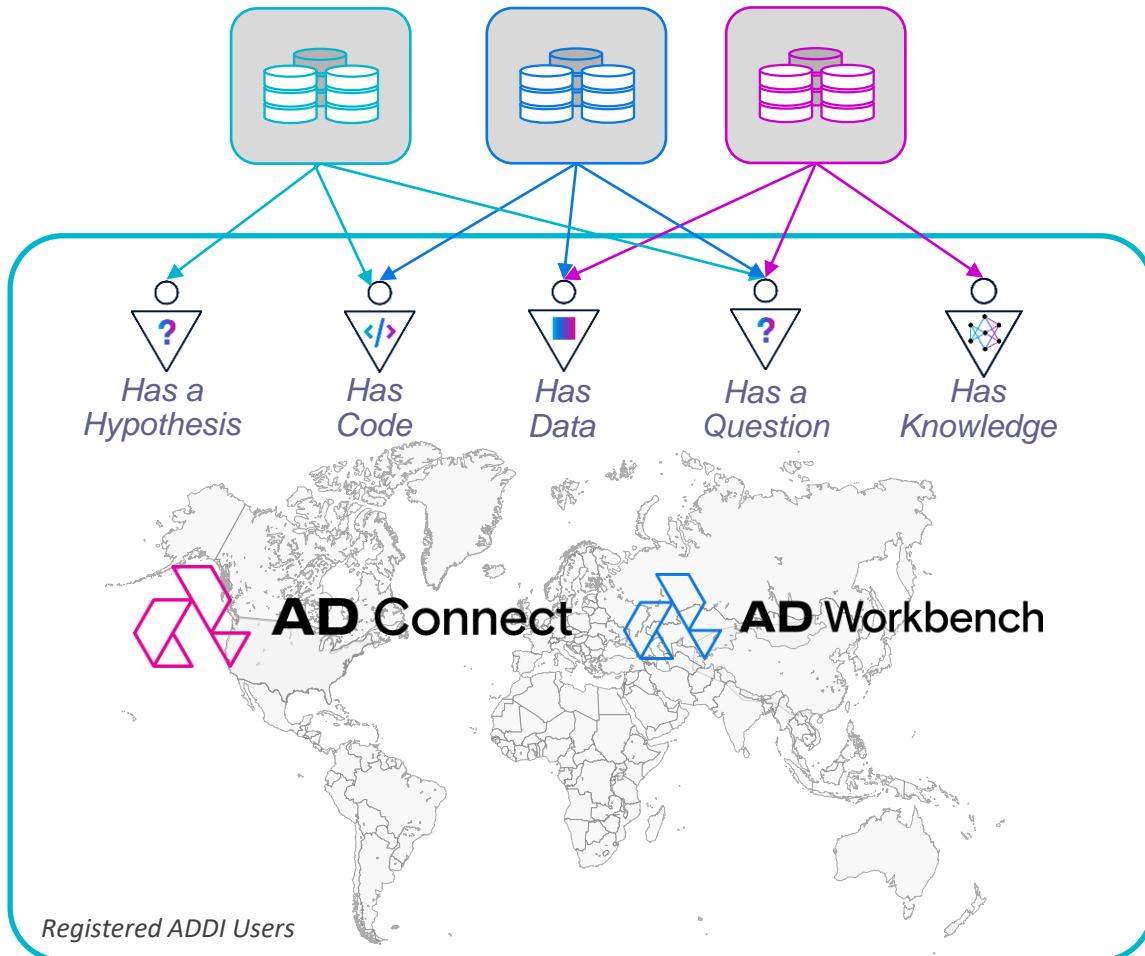
# Problems with the Status Quo



- Users must contact individual data controllers and/or log in to multiple platforms to access data
- Data sharing equates to data copying
- Users require their own compute infrastructure
- Encourages siloed research
- Users are unable to connect to share ideas, problems or results

# ADDI: Building community around data, knowledge, & collaboration

## Data Silos



- Enables interoperability of platforms and preserves partner brand

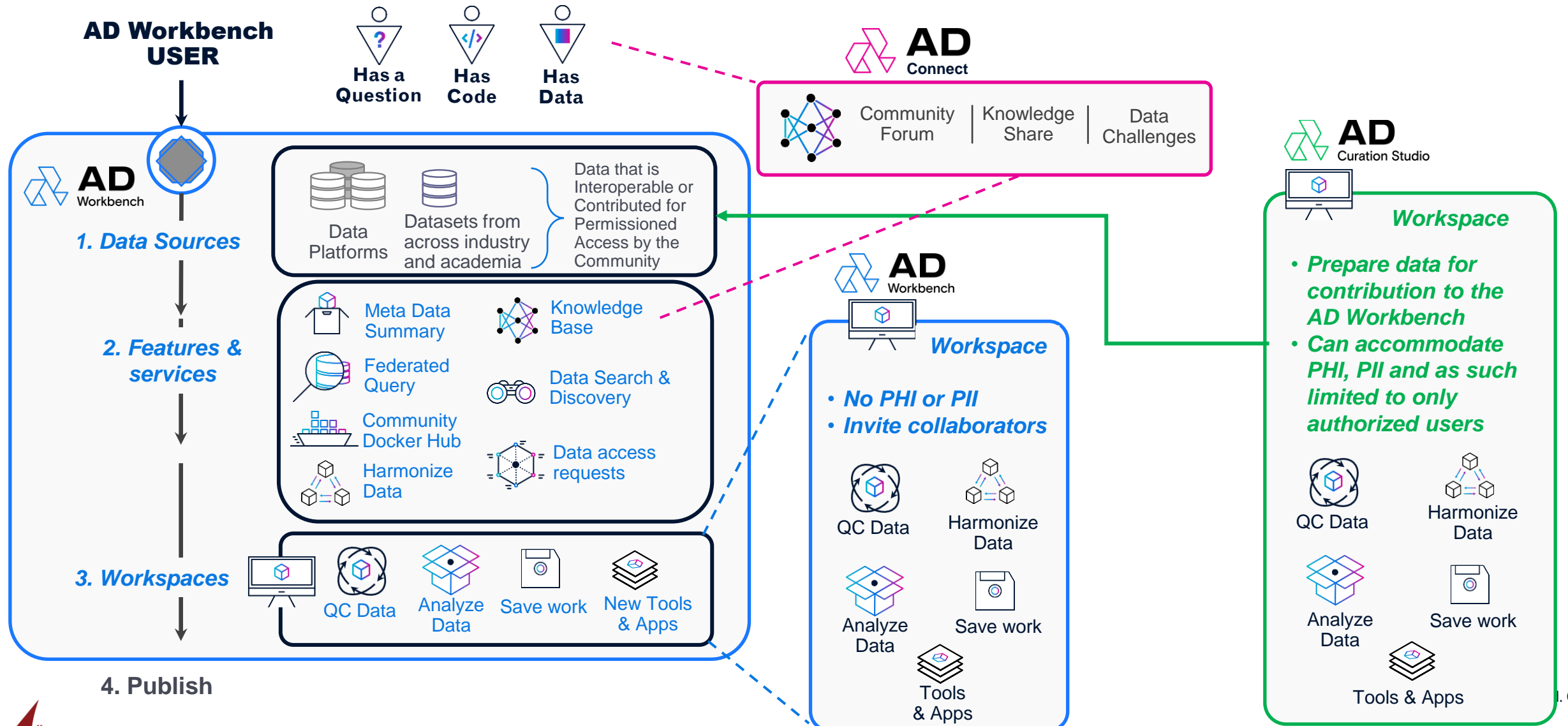


- Offers free cloud-based compute and storage via secured, private workspaces

- Platform for knowledge share



- Provides an online space for users to connect to share results, tools, questions or ideas



# Connectivity Options for Data Contributors

ADDI developed APIs to enable three levels of connectivity to maximize data access for researchers by accommodating a range of data providers

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- Metadata are discoverable on the AD Workbench
- Datasets are hosted in territory on a secure-public cloud and transferred to trusted ADDI Workspaces for analysis by permissioned users
- Ideal User Experience



**CENTRALIZED**

1\*

- Metadata are discoverable on the AD Workbench
- Datasets are hosted remotely at source by the data provider and can be queried remotely by permissioned users
- Selections of the record-level data are transferred to trusted ADDI Workspaces for analysis
- Ideal User Experience



**DISTRIBUTED**

2\*

- Metadata are discoverable on the AD Workbench
- Datasets are hosted at source by the data provider; record-level data never leave the source location
- Queries and compute tasks can be sent by permissioned users and executed at source
- Only approved results are released by data providers to trusted ADDI Workspaces

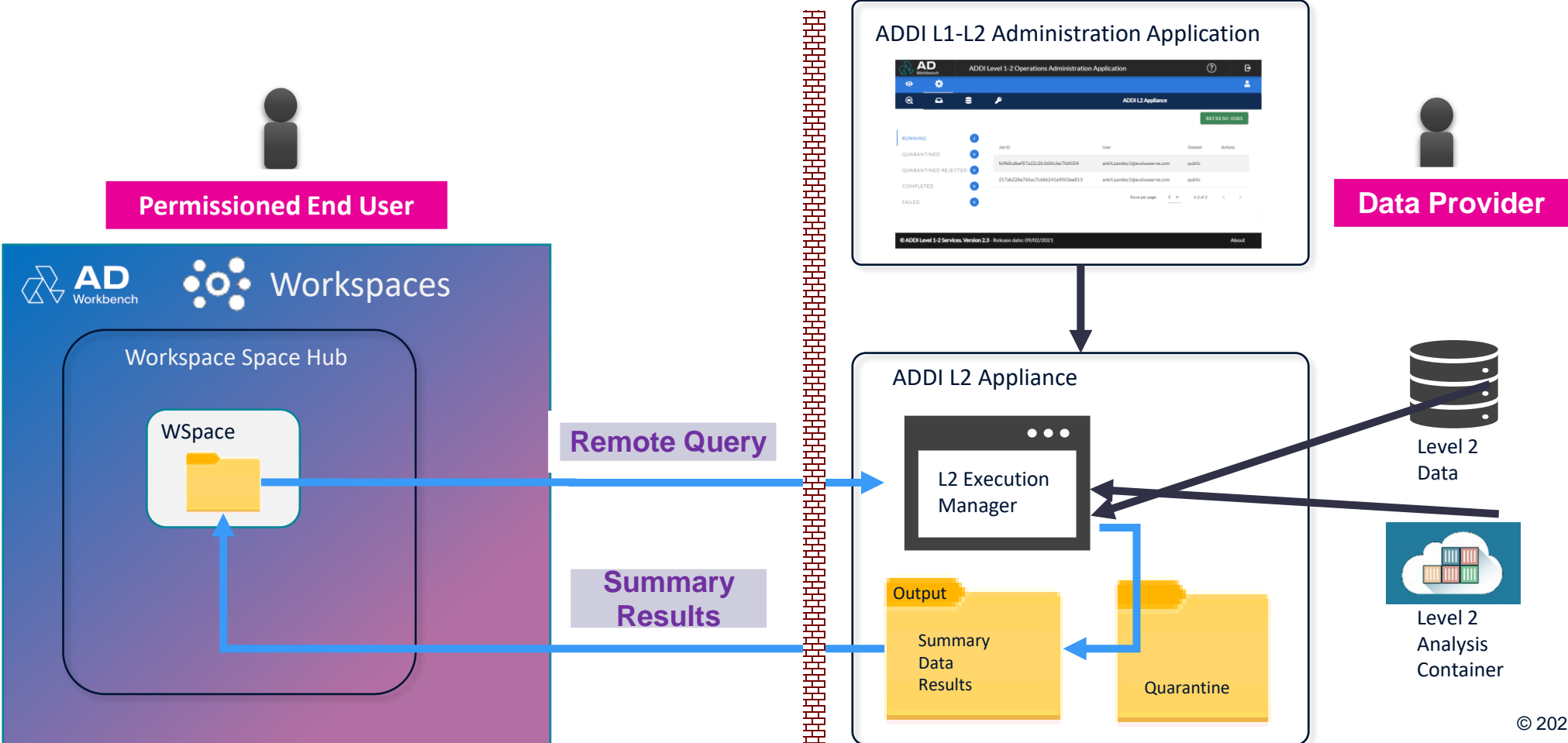


**FEDERATED**

\*Utilizes the Federated Data Sharing Appliance (FDSA) that ADDI has supported the development of, which enables containerized remote querying and analysis.

# ADDI Federated Data Sharing Appliance (FDSA)

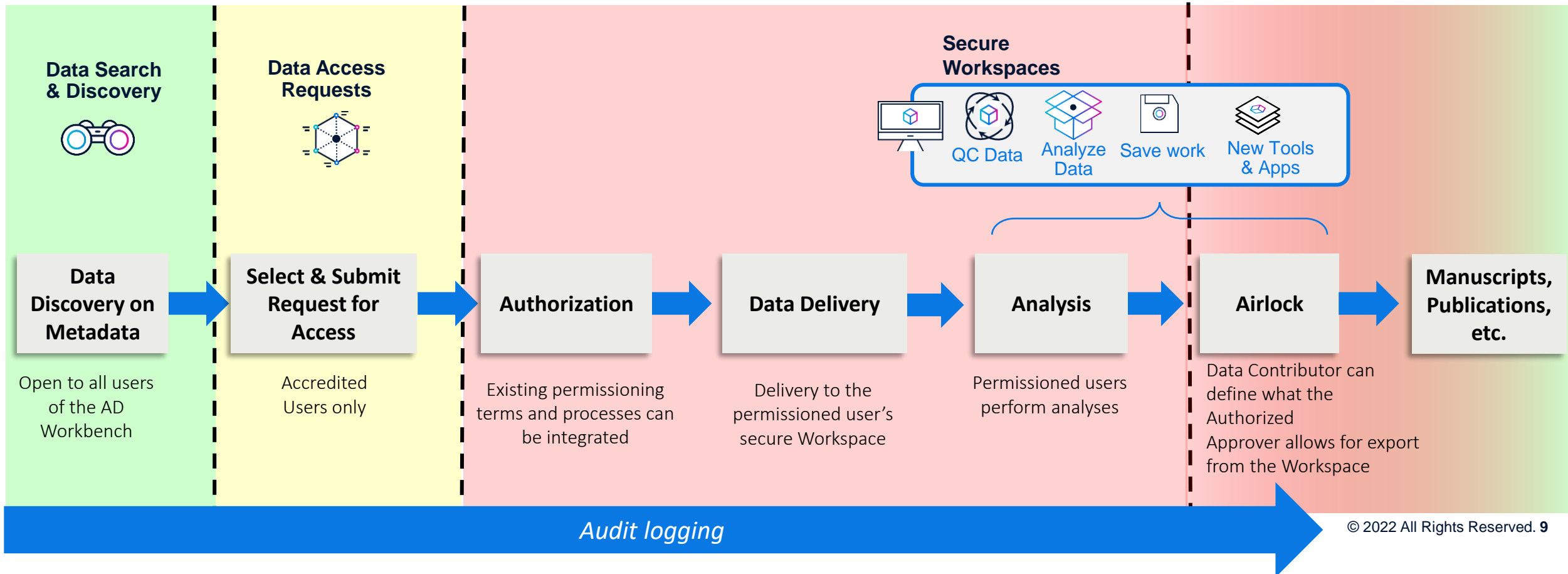
Enables Federated Remote Data Query and Research





# Data Contributors Control Who Uses their Data and on What Terms

## User Journey:



# AD Connect: Launched in June 2022

To create an online space for the ADDI community to connect with other members, ask questions, offer solutions, receive peer-to-peer support, discuss issues, and make professional and social connections, with the common goal to accelerate progress towards meaningful treatments and cures of AD and related dementias.



## READY TO BEGIN YOUR AD CONNECT JOURNEY?

Get started by exploring the content below!

 <p><b>Latest Forum Activity</b> Read what others are talking about, ask a question, or engage with other members' posts.</p>	 <p><b>New to ADDI?</b> Start here to learn more about ADDI.</p>	 <p><b>Access Datasets</b> <a href="#">↗</a> Ready to get started analyzing data? Visit the FAIR portal to discover and access datasets in AD Workbench.</p>	 <p><b>Frequently Asked Questions</b> Have a question about ADDI or AD Workbench? Visit our FAQ.</p>
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## UPCOMING EVENTS

<p><b>01 JUL</b> Hackathon Begins! View our Opening Ceremony video 12:00 AM Baja California</p>	<p><b>11 JUL</b> Reminder to begin video submissions, due before midnight (PST), July 17 12:00 AM Baja California</p>
<p><b>17 JUL</b> Hackathon Ends at Midnight! 12:00 AM Baja California</p>	<p><b>30 JUL</b> AAIC 12:00 PM Baja California</p>
<p><b>31 JUL</b> Alzheimer's Association International Conference (AAIC), San Diego, USA 12:00 AM Baja California</p>	<p><b>01 AUG</b> NTK Symposium at AAIC – Winners Announced 12:00 AM Baja California</p>
<p><b>02 AUG</b> Winners Announced on AD Connect 12:00 AM Baja California</p>	<p><b>04 AUG</b> GV Summer Party 5:00 PM Baja California</p>

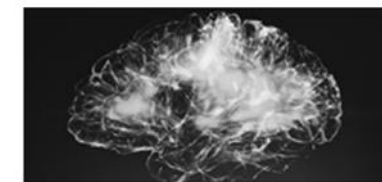
[View all events](#)



ARTICLE MARCH 2022

Genomic Data from the EPAD Consortium is Now Available on the AD Workbench

EPAD's Longitudinal Cohort Study now includes genomic data



ARTICLE DECEMBER 2021

GERAS Studies Now Available on the AD Workbench

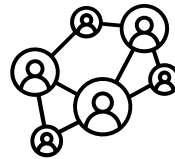
Lilly's GERAS observational studies focus on the economic impact of Alzheimer's disease.

# AD Connect: One Facet of a Larger Enabling Environment



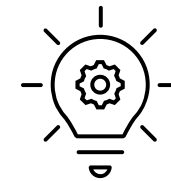
Develop the a community that will initially help to:

- Enable peer-to-peer support
- Provide answers to questions about the AD Workbench
- Discuss challenges encountered with analyses
- Offer & receive mentorship
- Cultivate collaborations



Identify and support key members of the global research community to:

- Seed content
- Actively participate
- Serve as ambassadors of AD Connect



**Long term:** Enable the creation of a diverse and global community of practice where members can discuss issues, share lessons learned, and make professional and social connections that will ultimately drive progress towards meaningful treatments and cures of Alzheimer's and related dementias

# ADDI ALZHEIMER'S DETECTION CHALLENGE

\$50,000 CASH PRIZES

3 PS 5

1 XBOX SERIES X

5 DJI MAVIC MINI 2

5 OCULUS QUEST 2



By ADDI

32.7k

1216

103

7177

76

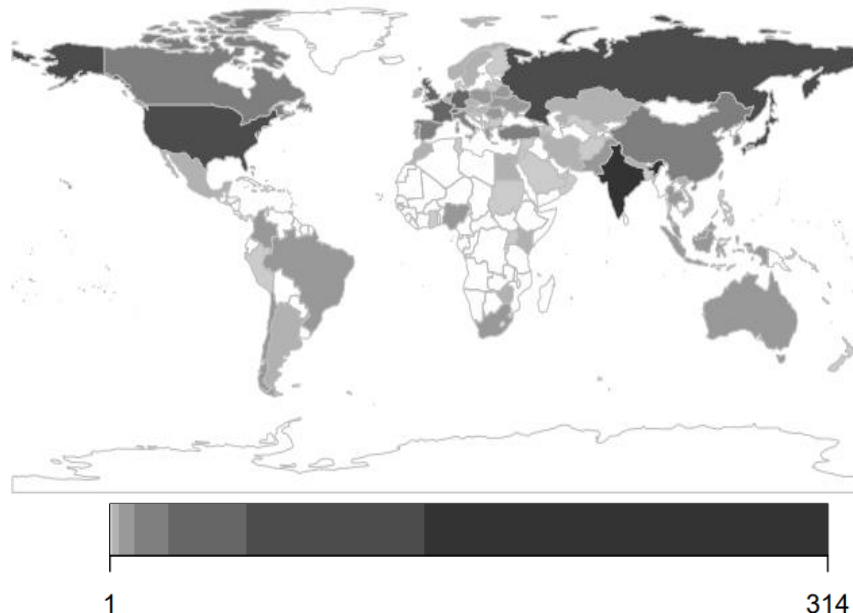
Follow

- Spring of 2021 we ran a Data Challenge to mobilize members of the data science community to get involved in the Alzheimer's and related dementias space
- The Challenge: Build an automated algorithm to classify a patient's disease progression based on Clock Drawing Test (CDT) features

Participants from

# 65+

Countries/regions



### Example CDT Images:



No Dementia (Healthy)

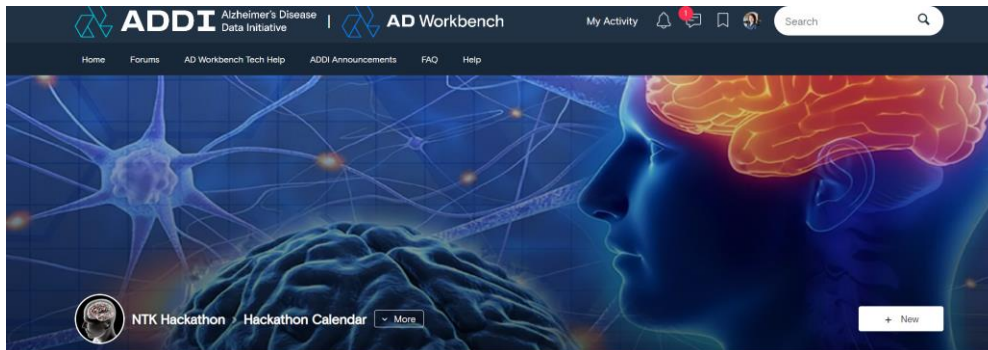


Mild to Moderate



Severe

# ADDI NeuroToolKit (NTK) Data Challenge

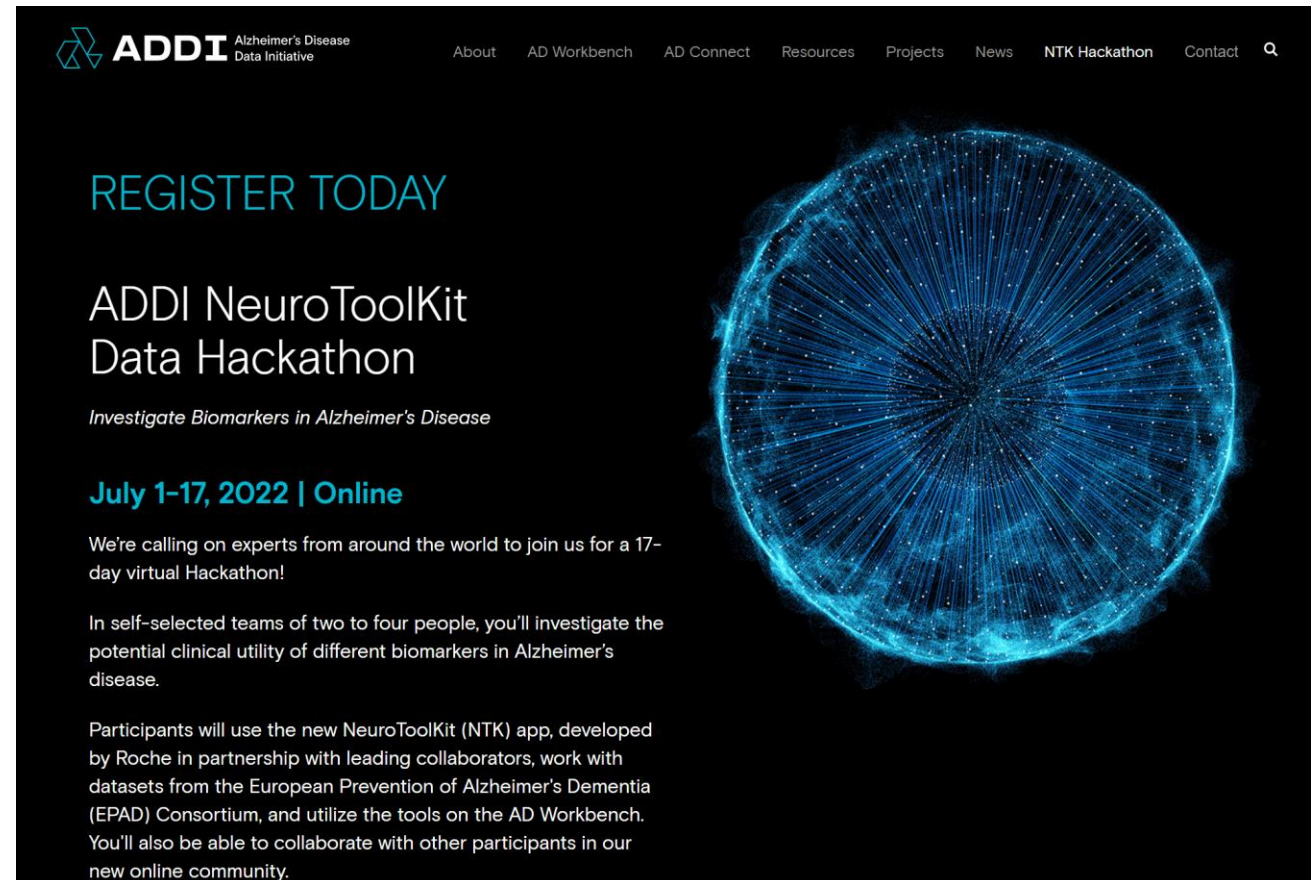


This event is occurring now

Hackathon Begins! View our Opening Ceremony video

When  
1 Jul 2022 12:00 AM to 11:59 PM Baja California

- In partnership with Roche Diagnostics and the European Prevention of Alzheimer's Dementia (EPAD) Consortium
- Crowdsourcing approach toward advancing biomarker research
- 45 teams registered: 116 participants from 17 countries
- Support provided via AD Connect

A screenshot of the ADDI NeuroToolKit Data Hackathon registration page. The header includes the ADDI logo, navigation links (About, AD Workbench, AD Connect, Resources, Projects, News, NTK Hackathon, Contact), and a search bar. The main content area features a large image of a brain with neural connections. The text on the page reads: "REGISTER TODAY", "ADDI NeuroToolKit Data Hackathon", "Investigate Biomarkers in Alzheimer's Disease", "July 1-17, 2022 | Online", "We're calling on experts from around the world to join us for a 17-day virtual Hackathon!", "In self-selected teams of two to four people, you'll investigate the potential clinical utility of different biomarkers in Alzheimer's disease.", "Participants will use the new NeuroToolKit (NTK) app, developed by Roche in partnership with leading collaborators, work with datasets from the European Prevention of Alzheimer's Dementia (EPAD) Consortium, and utilize the tools on the AD Workbench. You'll also be able to collaborate with other participants in our new online community."

# AD Workbench Security Architecture



Microsoft Azure Compliance: [Azure compliance documentation](#) | [Microsoft Docs](#)

**Aridhia Digital Research Environment Certifications:** ISO27001, ISO27701, HITRUST CSF, Cyber Essentials, NHS Data Security & Protection Toolkit assessment, ICO Registration Certificate, Employee criminal background checks, Employee Security Training

**Aridhia Digital Research Environment Development Standards:** OWASP Top 10, OS Patching, Nightly backups, Quarterly BCP/ER exercises.

## AD Workbench Data & Access Mgmt

- HTTPS-TLS 1.2+
- Encryption in transit
- Encryption at Rest (FIPS 140-2)
- 2-Factor Login Req'd
- Intrusion Protection-Security Alerts
- Regular audits of privileged accounts

**ADWB Data Access Requests:** Customized Data Access Request workflows ensure strict compliance with Partner Data Use Agreements.

## ADWB Isolated Secure Workspace Environment:

- Virtual Network Configurations enforced through permissions.
- Full Audit reporting of all events
- Workspace Teams (Administrators & Standard User permissions)
- All uploads pass through malware scanning
- All extractions are Air-Locked and require Workspace Admin approval for export.

<https://knowledgebase.aridhia.io/aridhia-security-and-compliance/#>

# Visit Us



**ADDI** Alzheimer's Disease  
Data Initiative



**AD**  
Workbench

<https://www.alzheimersdata.org>

<https://portal.addi.ad-datainitiative.org/>