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

- 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
AD Workbench | AD Curation Studio | AD Connect

1. Data Sources
   - Data Platforms
   - Datasets from across industry and academia
   - Data that is Interoperable or Contributed for Permissioned Access by the Community

2. Features & services
   - Meta Data Summary
   - Federated Query
   - Community Docker Hub
   - Harmonize Data
   - Knowledge Base
   - Data Search & Discovery
   - Data access requests

3. Workspaces
   - QC Data
   - Analyze Data
   - Save work
   - New Tools & Apps
   - Workspace
     - No PHI or PII
     - Invite collaborators

4. Publish
   - QC Data
   - Harmonize Data
   - Analyze Data
   - Save work
   - Tools & Apps

The AD Workbench has been developed on Aridhia’s Digital Research Environment (DRE)
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

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- 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

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- 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

*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:

Data Discovery on Metadata: Open to all users of the AD Workbench

Select & Submit Request for Access: Accredited Users only

Authorization: Existing permissioning terms and processes can be integrated

Data Delivery: Delivery to the permissioned user’s secure Workspace

Analysis: Permissioned users perform analyses

Airlock: Data Contributor can define what the Authorized Approver allows for export from the Workspace

Manuscripts, Publications, etc.

Secure Workspaces:
- QC Data
- Analyze Data
- Save work
- New Tools & Apps

Audit logging
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.

UPCOMING EVENTS

01 JUL
Hackathon Begins! View our Opening Ceremony video
1500 AD Baja California

11 JUL
Reminder to begin video submissions, due before midnight (PST), July 17
12:00 AM Baja California

17 JUL
Hackathon Ends at Midnight!
1500 AD Baja California

30 JUL
AAIC
12:00 PM Baja California

31 JUL
Alzheimer’s Association International Conference (AAIC), San Diego, USA
1500 AD Baja California

01 AUG
NTK Symposium at AAIC – Winners Announced
12:00 AM Baja California

02 AUG
Winners Announced on AD Connect
12:00 AD Baja California

04 AUG
GV Summer Party
5:00 PM Baja California

READY TO BEGIN YOUR AD CONNECT JOURNEY?

Get started by exploring the content below!

Latest Forum Activity
Read what others are talking about, ask a question, or engage with other members’ posts.

New to ADDI?
Start here to learn more about ADDI.

Access Datasets &
Ready to get started analyzing data? Visit the AD Workbench, discover and access datasets in AD Workbench.

Frequently Asked Questions
Have a question about ADDI or AD.
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
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.
ADDI NeuroToolKit (NTK) Data Challenge

- 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
AD Workbench Security Architecture

Microsoft Azure Compliance: [Azure compliance documentation](https://docs.microsoft.com/en-us/azure/security/compliance) | [Microsoft Docs](https://docs.microsoft.com)


**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.
