Center for Data Modernization Solutions (CDMS) Overview

In today's environment, data assets can be the differentiator in solving the world's most intractable problems. RTI's Center for Data Modernization Solutions brings together internationally recognized expertise in technology and informatics with science and public health to improve data access, usability, and compliance in the pursuit of improving the human condition.

More than 500 technologists spanning the fields of computer science, data science, clinical informatics, and geospatial science and technology work shoulder-to-shoulder with scientific and healthcare leaders as we customize solutions to meet the challenges of a changing data landscape. Our understanding of the pressing issues that face our clients and the world informs our work and ensures that we create the right solution for your needs.

We are prepared to help you develop the right strategy for the moment—and to implement that strategy with you and for you to ensure success.

Our experts:

- Improve the collection, integration, movement, and use of your agency's data
- Develop solutions that ensure the complete capture, integration, and appropriate analysis of data necessary for action through modern techniques and technologies
- Enable data-driven decisions throughout the data lifecycle to drive your mission

Selected capabilities include:

- Data Management
- Advanced Analytics
- Infrastructure and Security
- Software, Systems, and Maintenance
- Operations

Selected Capabilities and Service Offerings

Data Management

Transferring data strategically through the data lifecycle

- Acquisition and Collection
- Data Integration and Linkage
- Data Interoperability
- Data Stewardship
- Data Standards
- De-identification
- Harmonization
- Privacy and Disclosure Limitation
- Reporting and Visualization
- Sharing and Dissemination
- Validation and Quality Control

Advanced Analytics

Utilizing modeling and advanced technology to better process and interpret information

- Agent-Based Modeling
- Artificial Intelligence and Machine Learning
- Bioinformatics
- Forecasting
- Geospatial Science, Technology, and Visualization
- Large Language Models (LLMs) Integrated into Practice Environments
- Predictive Modeling
- Synthetic Populations
- Statistics and Data Science
- Text Analytics and Natural Language Processing (NLP)

Software, Systems, and Maintenance

Developing cutting-edge software and design approaches to enhance the delivery of data and convey compelling stories about information

- Agile Software Development
- Application Design and Development
- Application Programming Interfaces
- Dashboards
- Decision Support Systems
- Digital Devices and Wearables
- Enterprise Architecture
- Human-Centered Design
- Interactive Data Visualizations
- Mobile Applications
- Modernization of Existing Systems and Infrastructures
- Open-Source Use and Contribution
- Quality Assurance and Testing
- Release Configuration Change Management
- Survey Technologies
- System Performance Tuning
- User Interface/User Experience (UI/UX) Design
- Web Application Development
- Sharing and Dissemination
- Validation and Quality Control

Infrastructure and Security

Creating a framework of organizational and security structures to best support cloud systems

- Certified Information Security Officer Support
- Cloud Computing Design and Architecture, Amazon Web Services (AWS), Azure
- Federal Information Processing Standards (FIPS) Low and Moderate Authority to Operate (ATO)
- Hybrid Cloud Infrastructure Designed to Auto-Scale

Operations

Directing the oversight and quality management activities, documentation, and systems to ensure efficiency and productivity

- Certified Department of Health and Human Services Section 508 Testers
- Continuous Integration/Continuous Deployment (CI/CD)
- Development, Security, and Operations (DevSecOps)
- Program and Project Management
- Security and Risk Management
- Stakeholder Engagement and Communication
- Technical Documentation

Project Highlights

Collaborating Network of Networks for Evaluating COVID-19 and Therapeutic Strategies (CONNECTS)

Client: National Heart, Lung, and Blood Institute (NHLBI), part of the National Institutes of Health (NIH)

RTI serves as the Administrative Coordinating Center (ACC) for CONNECTS, enabling rapid response by promoting collaboration and sharing of data assets in understanding illness and therapies to address COVID-19. RTI supports program study operations; program-wide quality assurance; regulatory support; administration, tracking, and invoicing of numerous sub-contract awards; an up-to-date web portal with study- and site-level recruitment status of multiple studies; development of cross-study data standards; and assistance with submission of public-use data to designated NIH repositories. This RTI-managed, network-of-networks approach is generating and sharing data in collaboration with the NHLBI BioData Catalyst program, establishing a sound evidence base for clinical practice and development of safe and effective COVID-19 interventions.

Environmental influences on Child Health Outcomes (ECHO)

Client: National Institutes of Health

RTI leads the ECHO Data Analytic Center (DAC) in partnership with Johns Hopkins University. The ECHO program supports more than 80 longitudinal studies and aims to meet NIH priorities to understand the effects of environmental exposures on child health and development. ECHO demonstrates our ability to build cloud-based and hybrid cloud environments that leverage elastic, on-demand computational capacity to bring analysis tools to the data in the cloud while making it possible for research collaborators to share research results securely.

BioData Catalyst (BDC)

Client: National Heart, Lung, and Blood Institute (NHLBI)

The NHLBI BDC is a community-driven, flexible ecosystem designed to meet changing research needs in precision medicine and biomedical research. RTI co-leads the BDC Coordinating Center with the University of North Carolina. We work across a diverse consortium to create a cross-cloud infrastructure that enables researchers to find, access, share, store, cross-link, and compute on large-scale data sets. Our goal is to produce a single platform for hosting, analysis, and exploration of NHLBI data that drives discovery and scientific advancement, leading to novel diagnostic tools, therapeutics, and prevention strategies for heart, lung, blood, and sleep disorders.

Multi-state EHR-based Network for Disease Surveillance (MENDS)

Client: NACDD, Division for Heart Disease and Stroke Prevention, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention (CDC)

MENDS is a multi-site demonstration testing an automated chronic disease surveillance system that provides accurate, near real-time, actionable chronic disease incidence and prevalence estimates using EHR data from states, healthcare organizations, and Health Information Exchanges. RTI brings expertise in health information technology and disease surveillance to evaluate different methods to develop and validate state, sub-state, sub-population, and national-level chronic disease estimates, even in circumstances where EHR data are limited.

LitCoin Foundational Knowledge Graph Generation

Client: National Center for Advancing Translational Sciences (NCATS), part of the National Institutes of Health

RTI leads the LitCoin project in collaboration with the University of North Carolina at Chapel Hill and CoVar. The LitCoin project is using publication abstracts to build a translational platform that leverages investigators' subject matter expertise, broadens the impact of research outcomes, and promotes the next generation of knowledge sharing. The goal of the project is to use NLP to generate a knowledge graph from casual assertions derived from abstracts. Our experts are leveraging an LLM to generate high-quality assertions that are vetted by investigators and then plugged into a larger knowledge graph.
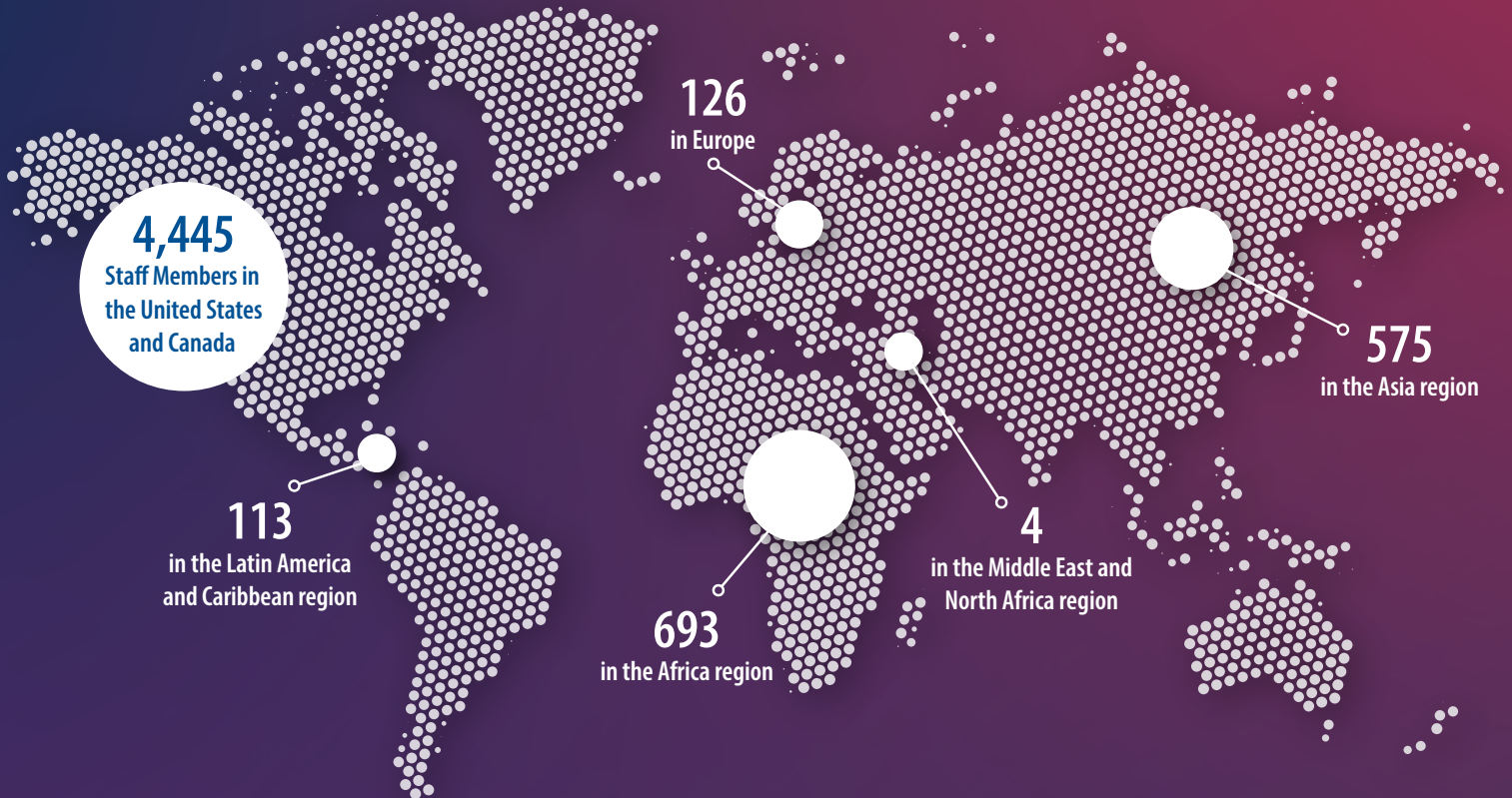
RTI'S GLOBAL PRESENCE

$1.2B
Revenue

5,956
Employees

3,832
Projects

1,126
Clients

6 U.S. Offices

8 International Offices

4,445
Staff Members in the United States and Canada

126
in Europe

575
in the Asia region

113
in the Latin America and Caribbean region

4
in the Middle East and North Africa region

693
in the Africa region

Learn more about RTI's Center for Data Modernization Solutions

Start a discussion with us:
CDMSinfo@rti.org

Visit our webpage:
Data Modernization

www.rti.org