



2022 Wrap-up

Life Sciences and Healthcare Business Unit, Nagarro

In 2022, we fused technology with our caring values to help our clients deliver better healthcare solutions.

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The Life Sciences & Healthcare industry is undergoing unprecedented disruption, from affordability challenges and digital interoperability to a complete shift from volume-based to value-based personalized healthcare. Since COVID-19 started, we have seen a real surge in expanding care delivery from hospitals to ambulatory and at-home care (Hospitals@Home).

As a leading digital product engineering company, we put a lot of work into understanding why a particular technology may be an essential tool. **Telehealth**, **Metaverse**, and **remote patient monitoring** enable hospital care at home. **AI-based bots** that recognize emotions and cultural expressions will allow industry to help patients manage their mental health. **Machine Learning** can be used to predict medical device repair and maintenance needs. All aim to support **Life Sciences** and **Healthcare** organizations with effective digital solutions that bring innovative treatments to patients worldwide.

Let's build better healthcare together!”

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Andrei Doibani

Head of Global Business Unit
Life Sciences & Healthcare



25+

years of experience

+150

clients globally

+400

projects delivered successfully

ISO13485

medical device quality standard certified

TOP clients

Among Nagarro's clients are 4 of the top 10 pharmaceutical companies & 2 of the top 10 diagnostics companies

Building upon our existing expertise



MedTech

Diagnostics, Assays Development, Medical Devices Software / as a Software, Remote Solutions.



BioPharma, Digital Health

Pharma, Clinical Data Management, Real World Evidence, Patient / Doctor Engagement, Digital Health.



Biostatistics

Data Analysis, Data Modelling, Data Management, Statistical Analysis and Data Standardization.

New practices in 2022



As the industry and technology are constantly changing, we created some strategic new practices to drive success to new heights.



Quality as a Service

Our QaaS offering is built using 25+ years of expertise and is ISO 13485:2016 certified by TUV SUD Germany. It covers compliant and agile medical device software development, maintenance and support through Nagarro's Medical Devices Quality Management System, consultancy and tools to augment QMS process capabilities and much more.



Manufacturing Execution System

Our MES offerings cover consulting services for 'Smart Factory' requirements, end-to-end systems implementation, global rollouts for new or existing MES systems and annual maintenance, various innovative support execution, and commercial models for smooth support services.



Hospital & Lab Informatics

Together with our partners, we support you on LIMS, ELN, CDS and SDMS. We offer consulting services to help customers align to "Lab of the Future" concepts, end-to-end lab systems implementation, value addition for existing lab systems, validation, integration, and 'Post Go Live' support and support execution, and commercial models to smoothen support requirements.

From buzz to reality, how we are using next-gen tech to innovate and create Care 2.0



Blockchain

Blockchain opens a world of possibilities in healthcare. It helps healthcare providers efficiently store, share and secure patient data. Nagarro has a deep understanding of blockchain-based drug track and trace system, and we have recently built a PoC of a blockchain based healthcare solution.



Digital Health

Our eHealth system uses *data interoperability* to create a connected health record and data analytics for actionable insights. It's designed for all healthcare ecosystem stakeholders, emphasizing a patient-centered experience. We also bring in the expertise needed to develop and implement worldwide clinical interoperability solutions successfully.



Digital Social Insights

Digital Social Insights (DSI) is a combination of social listening and cultural ecologies. It is a proactive approach to extracting and analyzing open-source data from social media platforms and connecting these insights with the business DNA. Nagarro recently worked with a German Pharma company listening to understand the concerns faced by pregnant women during the pandemic with DSI. And educating them about the pandemic, its prevention, symptoms.



Metaverse PoC

We use Metaverse to conceptualize solutions that integrate patient training, engagement, virtual therapies, patient communities, and teleconsultations. We are exploring the scope of technologies such as AR, VR, and gamification in connecting patients and doctors better and aiding in diagnoses, therapies, and treatments.



Smart Hospitals

Hospitals worldwide are undergoing a full-scale digital transformation as they embrace technological advances to improve healthcare delivery, meet government regulations and reduce costs. Nagarro has a deep understanding of the smart hospital's framework and key technologies, such as telehealth and virtual reality, that healthcare institutions will need to invest in when shifting from the old model to smart hospitals.





Qualitative collaborations to drive innovation in the healthcare sector

Our 2022 Partnerships & Success Stories

ADDI NeuroToolKit Data Hackathon

Worldwide Virtual Hackathon



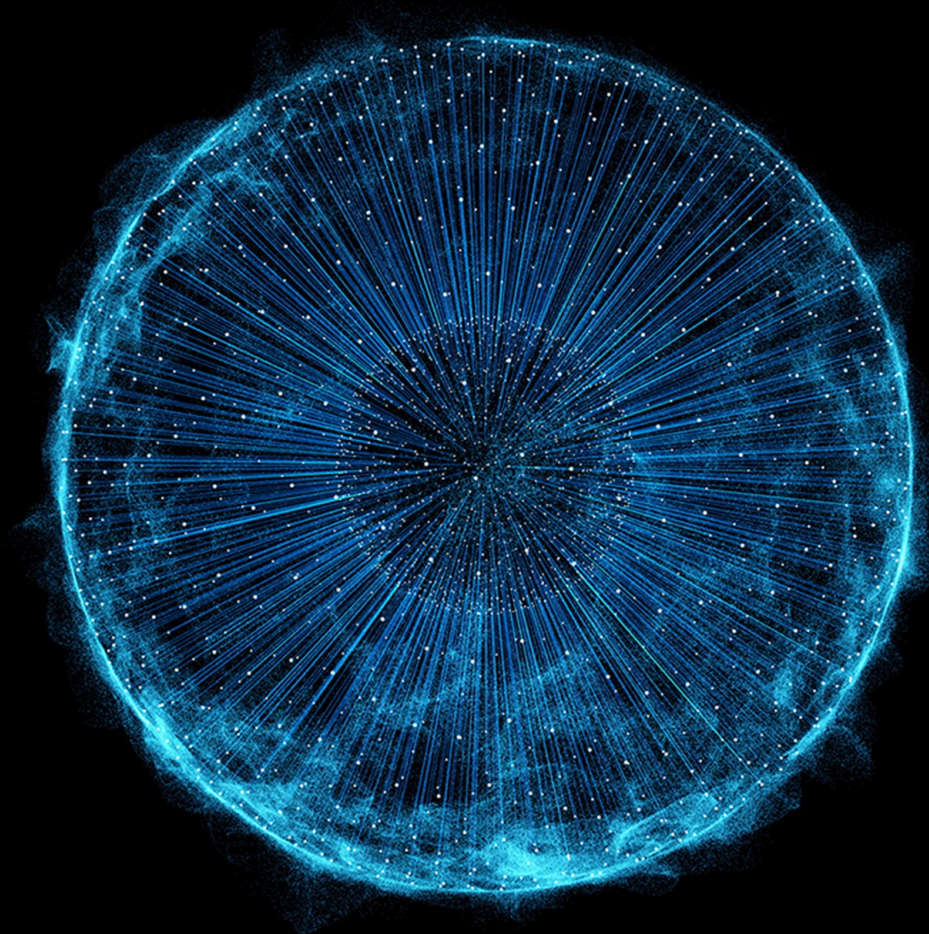
The 17-day virtual hackathon brought together worldwide researchers, biostatisticians, data scientists as well as clinicians to investigate the potential clinical utility of different biomarkers in Alzheimer's disease.

During the hackathon, the teams had to investigate the potential of different biomarkers in Alzheimer's disease by using NTKApp, EPAD datasets, and statistical analysis tools available on the AD Workbench.

Collaboration with other participants was possible via ADDI's new online community, AD Connect.

For more than two weeks, the teams competed in four different categories, each producing a short video to highlight their findings.

Nagarro was part of the project and offered required support with the project management including the hackathon organisation, planning, marketing, branding, stakeholder alignment and technical support.



NTK App at Pistoia Conference

UX, Biostatistics and being AGILE

This year, **Nagarro's Life Sciences & Healthcare Business Unit** representatives together with **Roche Diagnostics** representative had the opportunity to share the same stage in presenting **NTKApp** successful project at **Pistoia Conference**. The event took place between 19th to 20th of October 2022 in Cambridge, UK and we aimed to share our insights on making biostatistics more accessible and intuitive.

Our role as Nagarro in the NTKApp project was to design and develop a powerful cloud-based platform, aggregating three interlinked web applications.

This unique solution allows users to upload, curate, analyze, and compare technical and clinical datasets from all over the world. With a few simple clicks, the solution offers the option of importing, shaping, and running their own statistical analysis pipelines, which can later be shared within the scientific community.

The NTKApp is a powerful, cloud based, fully integrated analytics platform. It improves the process and ability to interpret neurologically relevant immunoassay data while providing users a unified, cloud-based platform.

NTKApp is a collaborative project in which Roche, ADDI, Aridhia and Nagarro joined forces for facilitating a user-friendly platform for data harmonization across studies, while easing the data exploration and analysis process for researchers.



We used our tech expertise to help our clients solve their biggest challenges...



Co-creating a confidential HIV testing platform

We helped a global biotech company develop an application for anonymous HIV testing at home, with medical guidance to patients.

The app gives users a comfortable and thoughtful patient experience throughout the process, from getting the test kit to ensuring access to the results to offering a secure, anonymous collaboration channel between the physician and the patient.



Global ERP rollout implementation and development

We integrated the ERP systems for the retail arm of a leading hearing aid devices manufacturer. Our team standardized their processes and built a robust application that helps manage client's financials across all its regional offices without disrupting business and incurring high costs.

We also had the project evaluated for compliance with HIPAA and SOC2 standards. The project received top scores on the satisfaction survey three times in a row.



A Telemedicine platform that enables knowledge sharing

Nagarro developed a networking platform for a leading biopharmaceutical company allowing healthcare professionals to share knowledge and resources with each other.

The platform helped build a strong network and gave them access to accurate patient data to track and improve health outcomes.



Implementing eCOA for Clinical Trial

A worldwide leader in clinical research partnered with Nagarro to migrate their 2500 cases from Protractor to Cypress using the typescript programming language. The migration was mandatory as the support for the existing platform was withdrawn permanently.

We helped in case migration and optimized the existing automation framework, improving code reuse and maintenance. Streamlining the report generation process and process parallelization reduced the load on cloud agents.

...and explored new ways of building the future of healthcare



Consumer-centric self-service option

We redesigned a cloud-based research platform that integrates an automated "self-service" option for customers to create custom dashboards and reports.

Nagarro brought their agile expertise into the project and used it to create user workflow design, user stories development, product backlog management & prioritization, and building dashboards in Metabase. We played a significant role in leading its product management cycle by providing insight into ideation.



Pharmaceutical information management system

We upgraded an existing solution for a pharmacovigilance company to accommodate their reporting needs and maintain high-performance levels during report generation.

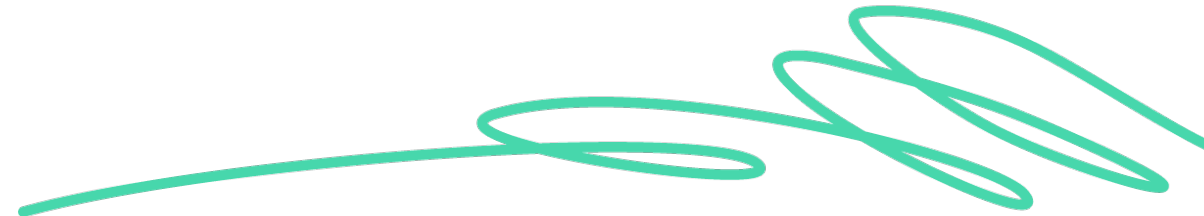
Nagarro was involved in the end-to-end product engineering process: from discovery phase, ideation, planning, tools evaluation to implementation of MVP and E2E testing. The new software handles monitoring, reporting, and visualization of cases reported against their drugs to various pharmaceutical companies.



A Telemedicine platform for seamless healthcare services

We created a practice management application enabling seamless and fast interaction between patients and doctors for a leading Indian pharma company. The app was designed using Angular, Ionic, Javascript, Typescript, Power BI technologies, and Azure Cloud services.

The new platform allows doctors to set up a virtual clinic for patients, drives self-learning through personalized access to resources, and includes a social network for medical community members.





As we step into a new year, our tech experts are waiting for you to bring them your biggest challenge.

About Nagarro

Nagarro is a global digital engineering leader with a full-service offering, including digital product engineering, digital commerce, customer experience, AI and ML-based solutions, cloud, immersive technologies, IoT solutions, and consulting on next-generation ERP. We help our clients become innovative, digital-first companies through our entrepreneurial and agile mindset, and we deliver on our promise of thinking breakthroughs.

Our guiding principles are defined by one word – CARING, denoting a humanistic, people-first way of thinking with a strong emphasis on ethics. Caring guides us as a global company.

We have a broad and long-standing international customer base, primarily in Europe and North America. This includes many global blue-chip companies, leading independent software vendors (ISVs), other market and industry leaders, and public sector clients.

Today, we are over 18,000 experts across 33 countries, forming a Nation of Nagarrians, ready to help our customers succeed.

Thinking Breakthroughs

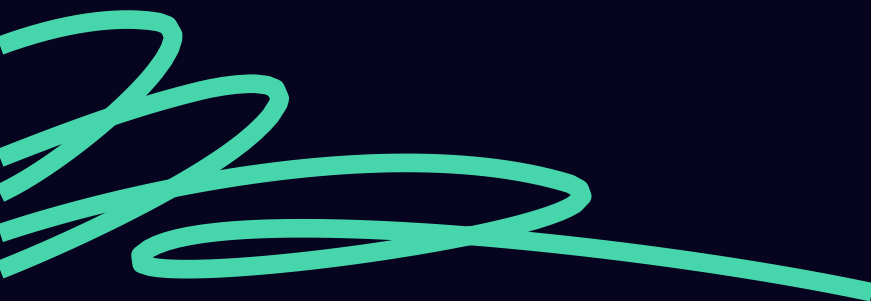




Want to kick-off a new project in 2023?

It all begins with a conversation.

Contact us at lifesciences@nagarro.com



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