Servicio Navarro de Salud: Transforming genomic healthcare

Improving patient diagnoses and personalized treatment with TSuPreMe (T-Systems Suite for Precision Medicine), an integrated platform from T-Systems

"One of our missions as a company is to develop technology for social well-being. With the implementation of this platform, we take another step in our commitment to patients and advance the efficient, secure, and ethical management of genomic information—ultimately contributing to the health of Navarre's citizens and the region's development."

Pablo Camba, Healthcare Manager at T-Systems Iberia

An autonomous region in northern Spain, Navarre is one of the historic Basque districts, known for its geographic diversity. It has approximately 670,000 inhabitants, and a high life expectancy of 85 years. The Government of Navarre has recently embarked on an ambitious transformation of its healthcare system. Recognizing the growing complexity and potential of genomic data in personalized medicine, Navarre wanted to move beyond traditional models of care by integrating precision medicine into its public health infrastructure.

The Servicio Navarro de Salud – Osasunbidea (SNS-O), which provides universal public healthcare through a network of hospitals and primary care centers, faced several challenges that not only slowed down diagnostics and treatments but also hindered research capabilities and exposed the system to legal and compliance risks.

In response to these strategic and operational obstacles, Navarre joined Spain's national SiGenES project and selected T-Systems as its technology partner to deliver a transformative solution. T-Systems, also a member of the IRIS Navarra Digital Innovation Hub, will help strengthen the Comprehensive Personalized Medicine Strategy that Navarre has outlined through to 2030. T-Systems implemented TSuPreMe , a powerful, integrated platform designed to manage, analyze, and securely store genomic data.

Originally developed in 2021 by T-Systems Iberia, the TSuPreMe platform was designed to meet growing needs in genomic data management across the healthcare sector. Through this collaboration, the Government of Navarre and T-Systems are not only modernizing a regional healthcare system, but they are also setting a benchmark for how precision medicine can be implemented at scale, ethically, and with long-lasting impact.

At a glance

- Establish precision, personalized medicine as a core element of Spain's National Health System and part of Spain's national SiGenES project
- Disjointed diagnostic workflows and lack of genomic data infrastructure limited personalized healthcare delivery
- Implementation of TSuPreMe, a digital platform for managing and analyzing genomic data securely and efficiently
- Enables faster, more accurate diagnoses and personalized treatments based on individual genetic profiles
- Ensures data security, privacy, sovereignty, traceability, and compliance with personal data protection regulations
- Improves patient outcomes, enhances clinical decision-making, and provides a scalable model for digital healthcare innovation

T Systems

Reference in detail

Customer pain points

As part of its broader 2030 vision, Navarre set out to position itself as a pioneer in personalized medicine. However, it faced critical challenges common across many healthcare systems including slow and often imprecise diagnostic processes, fragmented data systems that hinder effective clinical decision-making, and limited capacity to integrate advanced genomic technologies into everyday medical workflows.

These limitations became particularly apparent in genetic diagnostics. Healthcare professionals struggled with inefficient workflows, siloed patient data, and the lack of a unified platform to support the analysis, storage, and interpretation of genomic information. The result was longer diagnostic timelines, increased risk of error, and reduced ability to personalize treatments based on a patient's unique genetic profile.

How T-Systems solved it

The regional government launched a transformative initiative within the framework of the national SiGenES project which aims to embed precision medicine into the fabric of Spain's public health system. T-Systems delivered and implemented TSuPreMe, a robust solution with built-in support for genomic variant annotation, visualization, and analysis, based on international standards such as FHIR and HL7.

The platform represents a paradigm shift for the Navarre Health Service – Osasunbidea (SNS-O), enabling the integration of complex genomic data into clinical practice in a secure, efficient, and scalable way. By automating bioinformatics workflows, from sequencing to clinical report generation, the platform significantly improves the speed and accuracy of genetic analyses. Additionally, it ensures secure, scalable storage of genomic data, enabling efficient and appropriate data management.

A key aspect of the solution is the centralization of genetic variants in a single database, facilitating classification and the generation of personalized reports. The solution includes genomic and clinical data migration, including re-annotation, cataloging, and full traceability of genetic variants and seamless connection with the electronic health record, clinical systems, and the national SiGenES node.

The platform also respects strict data sovereignty principles, thus ensuring that all sensitive genomic information remains under the control of public institutions in compliance with national laws and EU regulations.

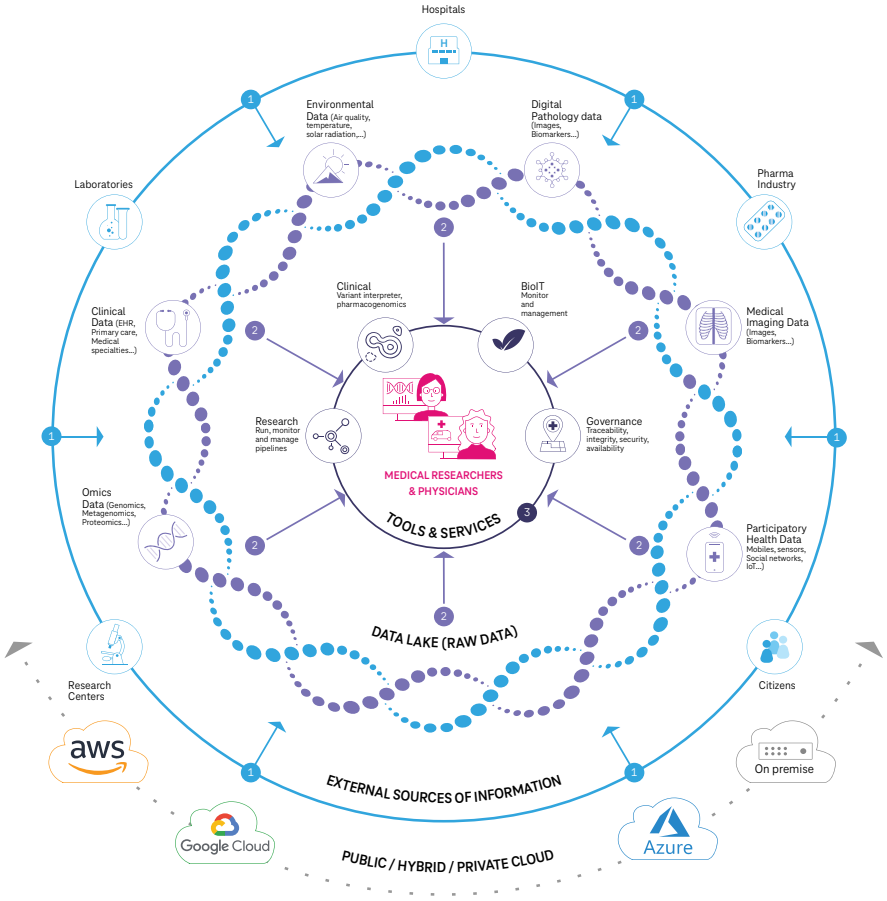
The deployment scope involved full system integration and adherence to strict compliance guidelines. T-Systems' architecture ensured seamless interoperability with clinical infrastructure and centralized repositories, while maintaining GDPR compliance and traceability.

One of the key differentiators of TSuPreMe is the strong data governance framework. In healthcare, where data privacy and traceability are non-negotiable, the platform has built-in end-to-end security, traceability, and compliance tools. The collaboration followed an agile, transparent governance model, with agreed KPIs and tailored methodologies at each phase of the project lifecycle.

An important part of the project was the joint clinical and bioinformatics co-design effort. Use cases were developed and validated collaboratively with professionals from Navarre's regional health laboratories, ensuring that the platform meets real clinical needs. This co-design process ensured the solution is both practical and impactful.

The implementation is scheduled for completion by the end of 2026 and is supported by the European Union's Next Generation EU funds under the Recovery, Transformation and Resilience Plan (PRTR).

Reference in detail



Business impact

By centralizing genetic variant data into a single, structured repository, the platform enables faster diagnosis and creates customized treatment plans based on each patient's genetic profile. This allows healthcare professionals to detect genetic mutations accurately, minimize diagnostic errors, and reduce overall time to treatment. The platform also provides secure storage, full compliance with privacy regulations, and detailed user activity logging.

The user-centric interface also facilitates interdisciplinary collaboration by enabling authorized professionals to share genomic insights across departments, supporting better clinical decisions and fostering a culture of innovation and research.

The platform benefits both patients and the wider healthcare system:

- 670,000 citizens gain access to more personalized care
- Stronger research and innovation capabilities
- Knowledge integration and targeted health policies

Navarre's experience illustrates how digital innovation in genomic healthcare can serve as a model for other regions. By combining secure data management, clinical collaboration, and a patient-centered approach, the initiative lays the foundation for a healthcare system that is more precise, resilient, and future ready.

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