



Sequencing Center



Supercomputing Centre



Gobierno
de Navarra



Nafarroako
Gobernua

cpen



WE JOIN DATA, SPECIALIZED TALENT



AND TECHNOLOGY

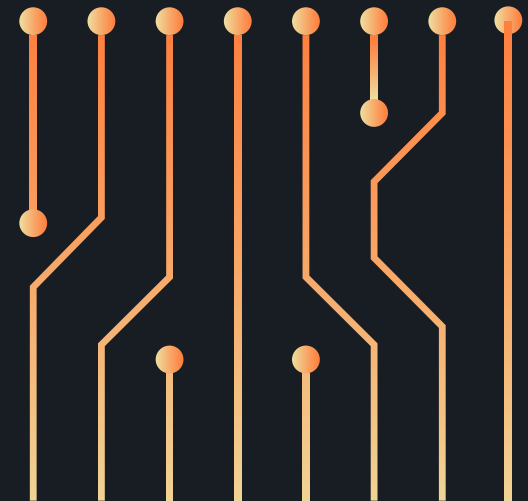
ABOUT US

NASERTIC (Navarra Services and Technologies), has a proven track record of more than 40 years of experience, considering its high qualified team of more than 140 professionals as its main strength. We are talent, infrastructures, technologies and services by and for people contributing to establish Navarre as a reference in the innovation and technology forefront.

NASERTIC - as a company of the CPEN group (Public Business Corporation of Navarra, S.L.U.), and as a public company belonging to the Government of Navarra - is the benchmark in technological infrastructures and a facilitator for strategic projects for the sustainable digital development of our region.

NASERTIC represents knowledge, specialisation, experience, a link between the Government and Navarre society, with an open vision, flexibility and agility. In recent years, most of the strategic projects developed in Navarre (Broadband Master Plan, High Performance Computing, second Data Processing Centre, Massive Sequencing Center, etc.) have required the necessary support infrastructures to provide the most advanced services, requirements that may increase because of the current context, where the digitalization is no longer an option, but an obligation.

NASERTIC acts mainly as a facilitator to boost Navarra's development through innovative projects and strategic initiatives. Its integral management of both telecommunications infrastructures and information systems and services makes this possible.





PERSONALISED MEDICINE IN NAVARRA

Navarra seeks to bolster its economy through knowledge, with a greater capacity to incorporate technology into its industrial processes, products and services, becoming a more innovative, productive and resilient region. To accomplish this, Navarra is committed to promoting innovation, mostly looking for a worldwide positioning of the region in five priority areas: personalised medicine, medical technology, e-health and data science for healthcare digitalization, bio-pharmacy and active and healthy ageing.

Thanks to the existence of a comprehensive health R&I public-private ecosystem in Navarra, made-up of two hospitals (HUN, CUN), two universities (UPNA, UNAV), two biomedical research centers (NAVARRABIOMED, CIMA), a Health Research Institute (IdiSNA) and a significant number of (biotech and pharmaceutical) enterprises, it is possible to place Navarra at the forefront of the development, resulting in contributions to investment, socio-economic growth and employment.

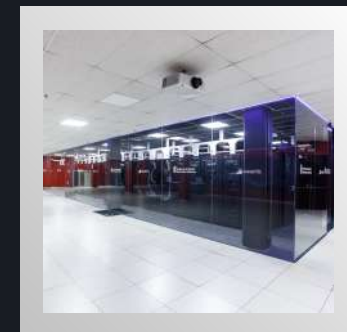
Numerous milestones have marked the journey towards the generation of a substantial change in the Navarre healthcare system, which is destined to become a driving force for innovation and development in the coming years.



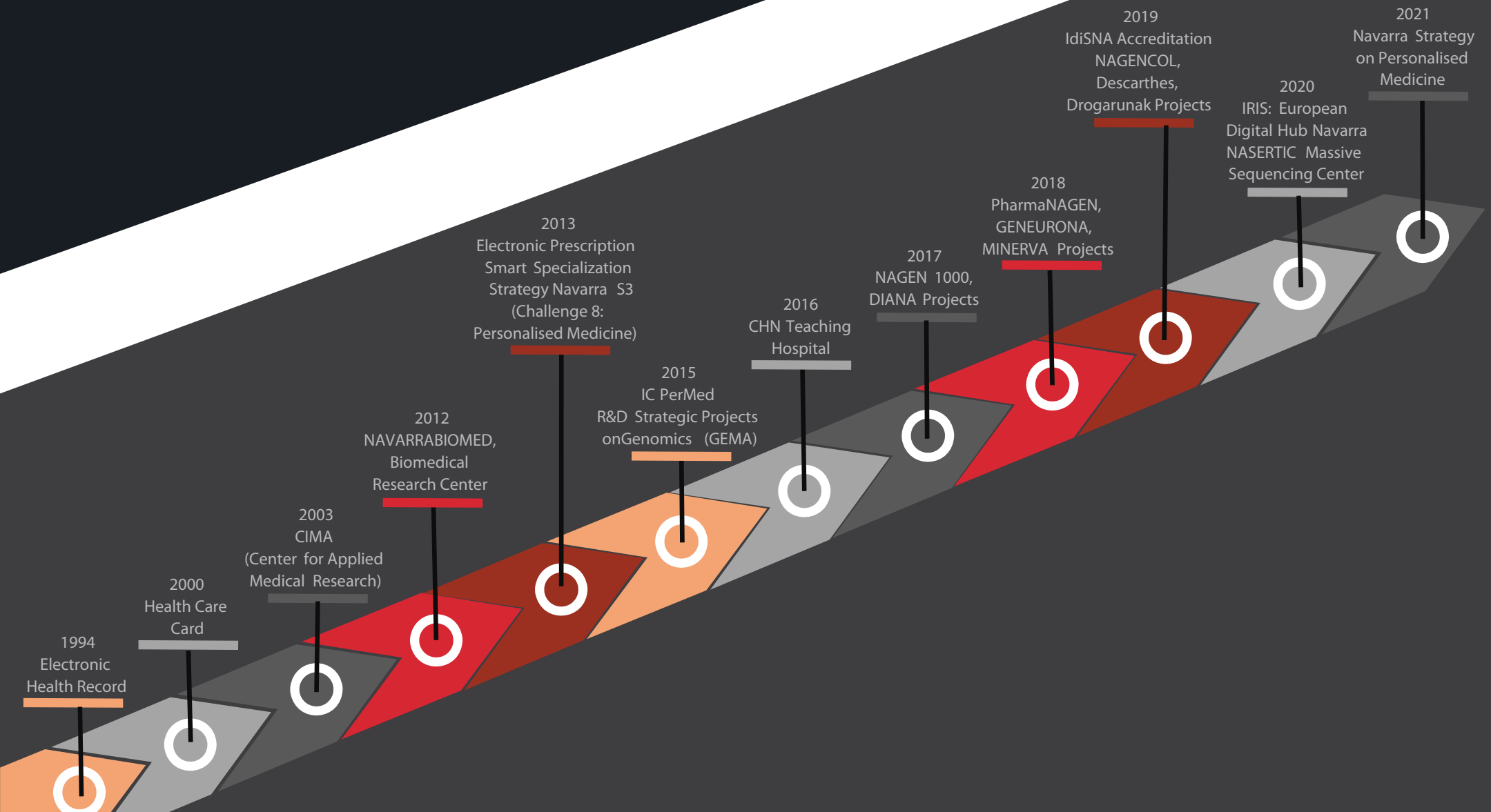
Since 2016, Navarra has been pursuing the aim of transferring the use of sequencing technologies and human genome information analysis to the Navarra Health System. Several measures were adopted through public policies in the area of R&D and innovation, accompanied by direct investment in research projects that accelerate the healthcare practice of personalised medicine, such as The Navarra Genome Program (NAGEN).

In 2020, this effort became reality through the drafting of the Personalised Medicine Strategy, whose mission is to promote the comprehensive development of this new patient-centred medical model, resulting of the collaboration of over 50 specialists from our biomedical ecosystem.

In order to place Navarra at the forefront of Personalized Medicine, a complete and automated laboratory with state-of-the-art equipment for sequencing and genomic analysis services was set up in NASERTIC in 2020, which has allowed Navarra to become one of the three nodes of the national sequencing network. NASERTIC aspires to collaborate in the generation of a regional specialization that will place the region of Navarra at the head of the major leading regions in Personalized Medicine in 2030.



HEALTH SYSTEM MILESTONES IN NAVARRRE



THIS IS HOW WE DO IT

PERSONALISED MEDICINE



1

SAMPLE
MANAGEMENT

2

SAMPLE
PROCESSING

3

MASSIVE
SEQUENCING

4

HIGH PERFORMANCE
COMPUTING

5

BIOINFORMATICS



MASSIVE SEQUENCING CENTER

Nasertic Massive Sequencing Center impacts directly on all objectives of the Strategy: to improve health, to stimulate research and innovation, and to promote the economic development.

NASERTIC Massive Sequencing Centre is equipped with state of the art technology tools for the preparation and automated processing of samples and genomic libraries and for NGS (Next-generation Sequencing) sequencing with systems such as Illumina NovaSeq 6000 and Illumina iSeq 100, which offer a wide range of genomic applications.



SUPERCOMPUTING CENTER

NASERTIC installed in 2018 a Supercomputing Center, housed in one of the two DPC (Data Processing Center) of the Government of Navarra, to respond to the computational need associated with genomic analysis. In May 2020, NASERTIC joined RES (the Spanish Implementation Network) and the Urederra cluster was recognized as ICTS (Singular Scientific and Technical Infrastructure) in November 2022 by the Ministry of Science and Innovation.

This infrastructure is designed to be used by all agents, entities and companies, both public and private, in the region of Navarra, thanks to the Digital Innovation Pole of Navarra, IRIS.

Navarra is a pioneer in Spain in fields such as computerized medical records and the integration of healthcare data for monitoring and evaluation of healthcare outcomes. This HPC cluster, located at NASERTIC, provides the processing capacity for massive data analysis in the healthcare area using Deep Learning and AI techniques as well as for the huge amount of data generated in massive sequencing services. The combination of both centers gives us the possibility of extracting value from the data to improve and foster people's health.

Data analysis capabilities

GENERAL PURPOSE COMPUTING EQUIPMENT

142 Intel Skylake Architecture-based servers, 6,816 cores
and a combined power of 458 TFLOPS

37 Intel Broadwell Architecture-based servers, 740 cores
and a combined power of 29 TFLOPS

SPECIALISED ARTIFICIAL INTELLIGENCE COMPUTING EQUIPMENT

4 Intel Sapphire Rapids architecture-based servers, with 16 NVIDIA H100 SXM5 GPUs, 270,336
CUDA cores, and a combined power of 544 TFLOPS

1 server based on Intel Ice Lake architecture, with 2 NVIDIA A100 GPUs, 13,824 CUDA cores and a
combined power of 19.5 TFLOPS

1 server based on IBM Power9 architecture, with 2 NVIDIA V100 GPUs, 10,240 CUDA cores and a
combined power of 15.6 TFLOPS

STORAGE

High Performance Parallel: 110 TB

Users + Projects: 55 TB

Genomics: 1PB

PARTNERSHIPS



TECHNOLOGY CENTERS.
CORPORATIONS AND PUBLIC ENTITIES



PUBLIC-PRIVATE PARTNERSHIP



NETWORKS



SOCIETY

Gobierno de Navarra  Nafarroako Gobernua



ADItch
COORDINADOR SINAI
Sistema Navarro de I+D+i

animsa



CÁMARA DE
COMPTOS DE NAVARRA
NAFARROAKO KONTUEN
GANBERA

cpen



upna

Universidad Pública de Navarra
Nafarroako Unibertsitate Publikoa

 **NAVARRABIOMED**
FUNDACIÓN MIGUEL SERVET



Mancomunidad
Comarca de Pamplona
Inauterria
Mankomunitatea



PARLAMENTO DE NAVARRA
NAFARROAKO PARLAMENTUA

edipe

apd

autelsi



OSASUN KLUSTERRA

cnag

feagas

ENPRESA TEKNOLOGIKO
HANDIAK

BAI DATA

eosc

illumina



NAGRI FOOD
CLUSTER AGROALIMENTARIO DE NAVARRA

TELEKOMUNIKAZIO OPERADOREAK

HORNITZAILEAK

RES
RED ESPAÑOLA DE
SUPERCOMPUTACIÓN

UNIRED



CANSAT



**FIRST
LEGO
LEAGUE**
NAVARRA

**SCIENCE
KAITZA**

**PLANETA
STEM**
CONOCER PRACTICAR ELEGI



SEMANAS CIENCIA
y TECNOLOGÍA
e INNOVACIÓN
NAVARRA
NAFARROAKO
ZIENTZIA
TEKNOLOGIA
BERRIKUNTZAREN
ASTEAK

IKASTETXEAK ETA LH

KOMUNIKAZIO HEDABIDEAK

UNIBERTSITATEAK

PROJECTS

NASERTIC, as a provider of scientific-technological infrastructures, provides services both in healthcare treatment, R&D and economic development. Its role as a driving force in Navarre encourages research and experimentation capacities, as well as the creativity and entrepreneurship of the different actors in the Navarre ecosystem. In fact, in March 2022, Navarra obtained the recognition of the first ICTS in the region thanks to the Urederra Cluster.

The implementation of genomic analysis in the clinical practice of its Healthcare System is one of the Strategic Initiatives promoted by Navarra, encouraging projects in translational research and innovation. NASERTIC has been and is still participating in numerous innovative projects such as all the NAGEN projects, aerOS, Edih IRIS o MARGA.

It is worth pointing out the participation of NASERTIC in two of the three programmes of the call to promote the Infrastructure for Precision Medicine associated with Science and Technology (IMPACT): Genomic Medicine and Data Science. Thanks to this project, it is possible to make progress in the implementation of Personalised Medicine at a national level, through the generation of genomic information, its integration with clinical information and environmental factors to improve the diagnosis, treatment and predictive capacity of diseases and thus achieve a safer, more efficient, preventive and predictive medicine.





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