

PRECISEU Best Practice Recognition

First Edition 2025

Winner in the Category **IMPACT**

DIPCAN, Digitalization and Integrated Management of Personalized Medicine in Cancer

Miquel A. Bru (Genomcore, S.L.)

DIPCAN study promotes personalized medicine via the integrated analysis of clinical, genomic, histopathological, and radiomic data from patients with non-hematological metastatic cancers.

DIPCAN is a national precision oncology initiative in Spain, designed to transform fragmented biomedical information into actionable, personalized data for more effective cancer care. It addresses the challenge of making data-driven oncology scalable, equitable, and clinically meaningful across the national healthcare system.

DIPCAN integrates clinical, genomic, pathology, and radiomic data from over 2,000 patients with non-hematological metastatic tumors to identify those most likely to benefit from individualized therapies. By applying artificial intelligence and data integration strategies, it advances understanding of tumor heterogeneity and drives precision medicine in oncology.

Built on the **GENOMCORE BIMS platform**, DIPCAN ensures secure, interoperable, federated data management. Key achievements include:

- Harmonization of 60TB+ data from 130+ hospitals, integrating 29+ health data types.
- Delivery of molecular diagnostic reports to 2,000+ metastatic cancer patients for real-time decisions.
- Training AI models to predict mutational signatures (e.g., PIK3CA) from imaging and clinical variables.
- Execution of 29,000+ automated tasks, generating 5M+ structured files.
- Enabling EHDS-aligned federated data access for multi-institutional collaboration.
- Establishing governance across clinicians, researchers, pharma, and patient associations with international replication potential.

DIPCAN demonstrates how digital infrastructure based on **European Health Data Space (EHDS)** principles accelerates readiness for ATMPs. Its success has gained interest from initiatives like **EUCAIM** and **1+Million Genomes**, as well as pharmaceutical partners. It proves that a federated, standards-based model can bridge clinical and research domains, fostering sustainable innovation in personalized oncology.

DIPCAN, powered by GENOMCORE BIMS, accelerates Europe's ATMP innovation by enabling EHDS-compliant federated data sharing, advanced multimodal AI analytics, and ensuring regulatory trust, driving faster personalized clinical breakthroughs.