eatris

European infrastructure
for translational medicine

EATRIS

Overview

Jornada RI Ciencias Biomédicas, 20 Junio 2022

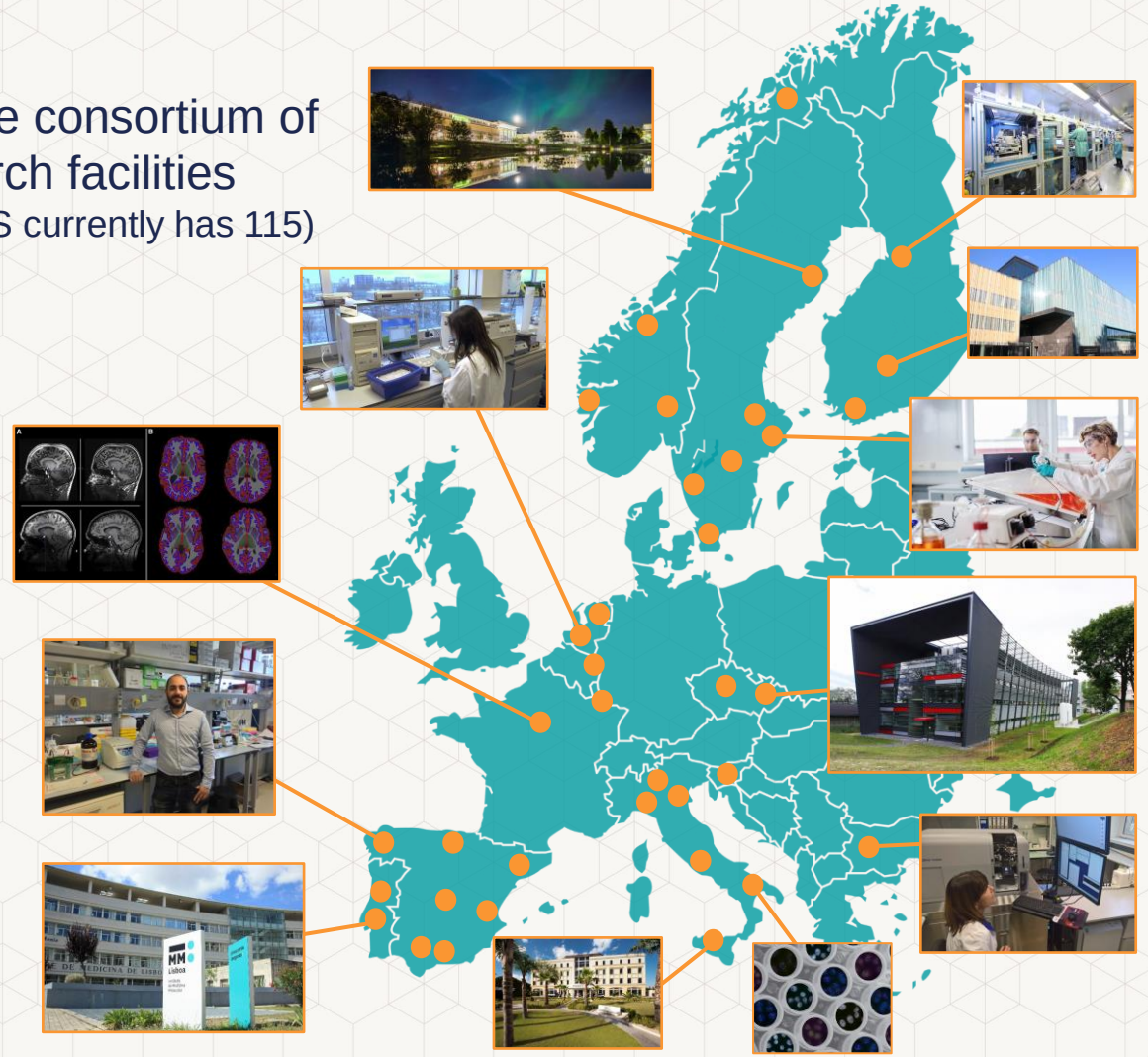
Centralised and distributed research infrastructures

Centralised RI (e.g. CERN)

- 1 central facility

Distributed RI (e.g. EATRIS)

- Large consortium of research facilities
(EATRIS currently has 115)



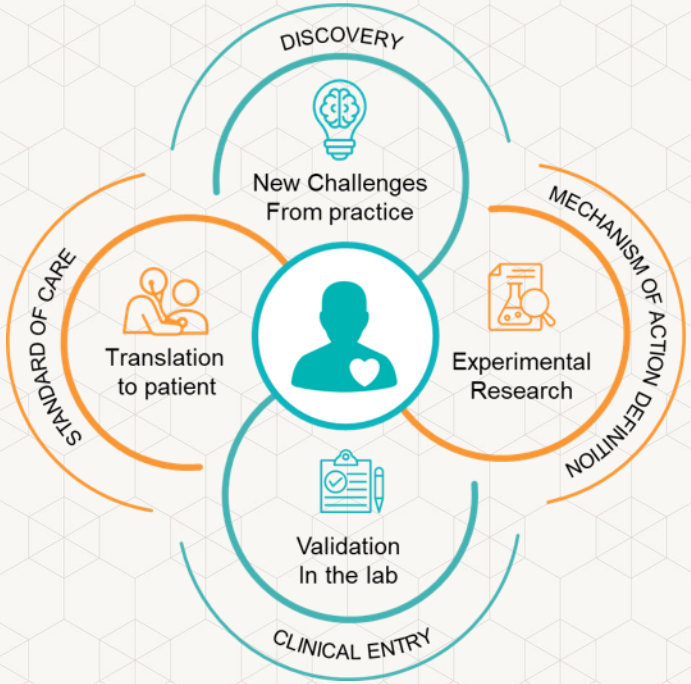
Our mission

To accelerate the translation of research discoveries into patient benefit.

We **support, using our capacities and expertise,** academia, industry, patients and policy makers.

Our mission: *accelerating discovery translation*

Translational Medicine



Bottlenecks and Challenges

EATRIS Solutions

Who we are

Facilities, resources and services to support translational research

EATRIS countries

Bulgaria, Croatia, Czech Republic, Finland, France, Italy, Latvia, Luxembourg, Netherlands, Norway, Portugal, Slovenia, Spain, Sweden

127

Research Institutes

5 Scientific Platforms

- ATMPs
- Biomarker
- Imaging & Tracing
- Small Molecules
- Vaccine, inflammation and immune monitoring

Legal status

Non-profit, ERIC legal status

Examples of key actions

EU-PEARL
EU PATIENT-CENTRIC CLINICAL TRIAL PLATFORMS

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EUROPEAN JOINT PROGRAMME RARE DISEASES

Five Scientific Platforms

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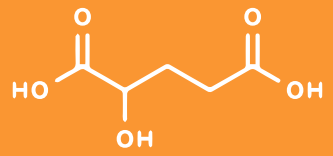
ADVANCED THERAPY MEDICINAL PRODUCTS

Tissue engineering, Gene therapy, Cell therapy, GMP facilities, vector design & production



BIOMARKERS

Biobank facilities, Multiplexed immunostaining, Deep genome sequencing

IMAGING AND TRACING

(pre-clinical) PET imaging, GMP tracer development and production, (Ultra) high field MRI, Optical and hybrid imaging

SMALL MOLECULES

Advanced screening (also in 3D cultures), Development of xenograft and *in vivo* models, Drug (re-)formulation, (Pre-)clinical validation nanomedicines

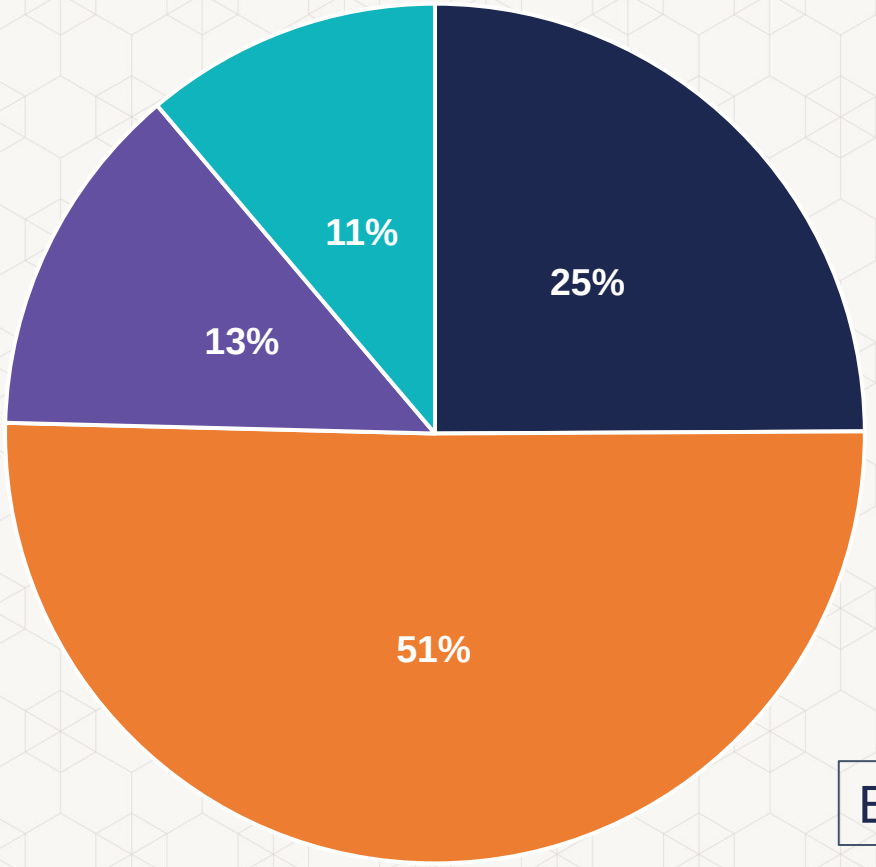
VACCINE, INFLAMMATION AND IMMUNE MONITORING

Antigen characterisation, Vaccine formulation, Process development

What we do

1. Provide access to research services and expertise to industry, academia and research funders
2. Develop new research tools
3. Train the next generation of translational leaders
4. Improve translational research eco-system

A diverse group of infrastructure users



EATRIS Users 2014 – 2020 (n>300)

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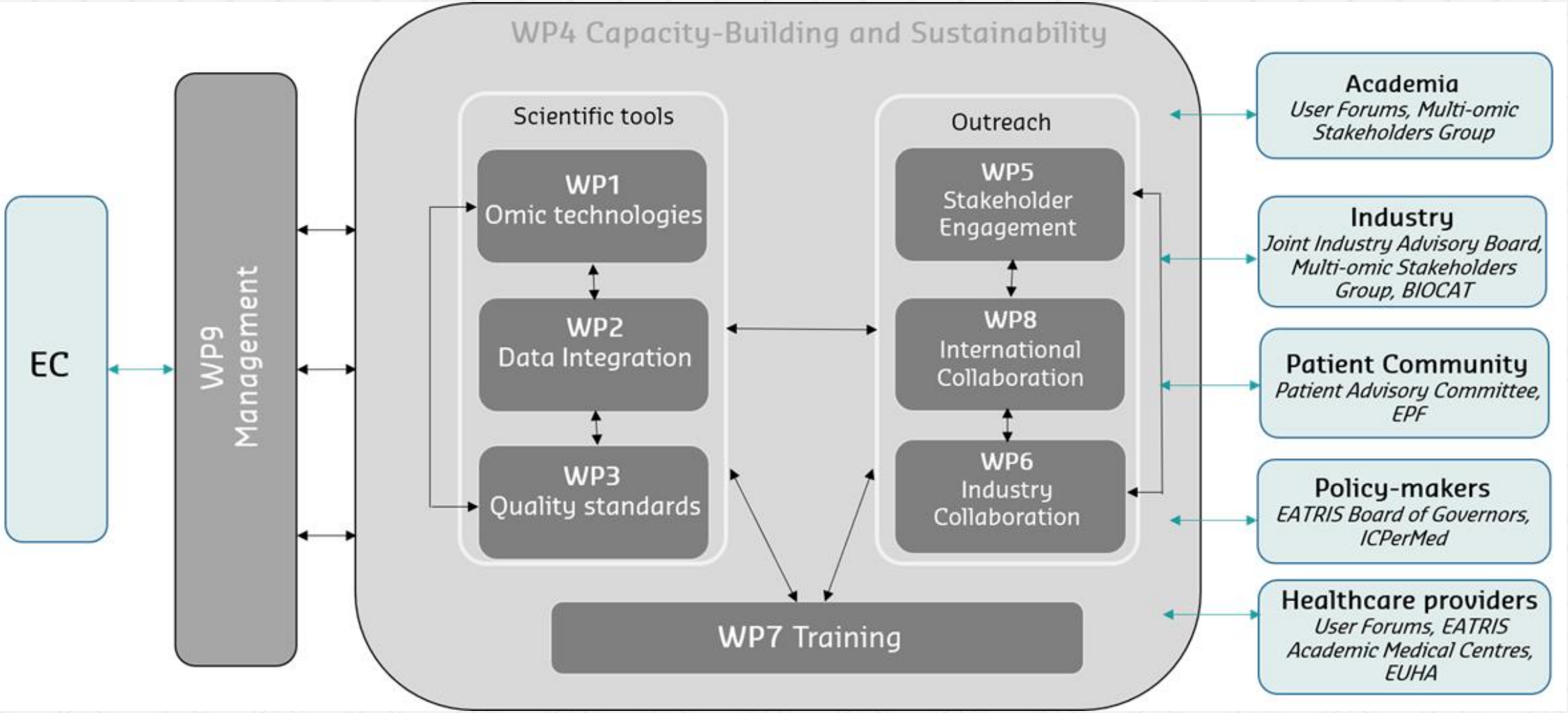
Flagship initiatives Involving our Scientific Platforms

EATRIS flagship project: EATRIS PLUS creating new services and resources for Personalised Medicine R&D

EATRIS-Plus is aiming to enhance EATRIS' long-term sustainability by maturing key capacities of the infrastructure and offering access to scientific tools and services to support Personalised Medicine.

- 20 partners (including 14 EATRIS nodes)
- 2 non-member countries represented: Ireland & Germany
- 4 years of funding (2020-2023) - €4,9 million
- Project start date: 1st January 2020
- Coordinating Partner: EATRIS-ERIC

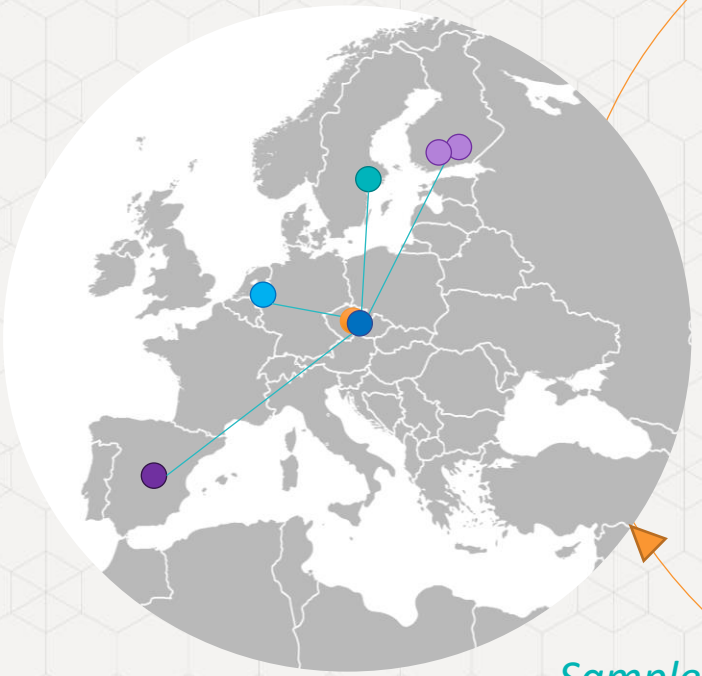
Project Structure and organization



To strengthen EATRIS' position in Personalised Medicine
by applying translational omic approaches and developing standards

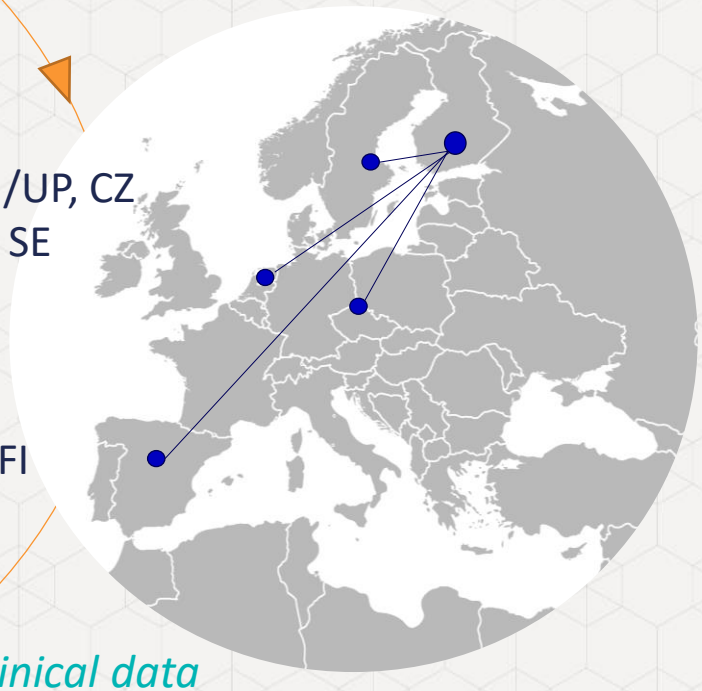
Science & Technology Oriented WPs

WP1. M. Hajduch (IMTM)
Multi-omic technologies



WP2. A Van Gool (RUMC)
Data Stewardship & Integration

WP3. A Scherer (FIMM)
Quality Assessment



- Whole Genome Sequencing (PBMCs), IMTM/UP, CZ
- DNA Epigenetic modifications (PBMCs)- UU, SE
- Metabolomic analysis (Plasma)- RUMC, NL
- Proteome analysis (Plasma)- IMTM/UP, CZ
- Transcriptome RNA (PBMCs)- FIMM/UH, FI
- MicroRNA sequencing (PBMCs)- FIMM/UH, FI
- MicroRNA qRT-PCR (Plasma), IRYCIS, ES

Samples from 100 healthy individuals & associated clinical data

eatris+ Multi-Omic Toolbox

Data Stewardship & Integration (WP2)

Data Curation

Data Generation

Multi-omic technologies (WP1)
- Genomic
- Epigenetic
- Metabolomic
- Proteomic
- Transcriptomic

Data Variability

Quality Assessment

Quality Assessment (WP3)

Health systems

Academia & Industry Pilot Access

Multi-Omic Toolbox

An open access resource, containing:

- SOPs
- Guidelines for best practices
- Reference materials
- Quality parameters
- Data analytical tools
- Criteria for reference values
- Troubleshooting guidelines
- Repository of multi-omic data

To enable high-quality research in the context of patient

What is ADVANCE Programme?

ADVANCE
Next Generation of Advanced Therapies' Specialists

ADVANCE is an EU-funded training project that offers a 3-stage learning programme to support ***early-career biomedical scientists*** in developing currently missing ***scientific knowledge***, ***transversal skills*** and competences to meet the key challenge areas existing in the ***ATMP development cycle***.

Four crosscutting pillars of the curriculum are:

- Scientific challenges
- Manufacturing
- Regulatory implications
- Commercialisation

EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

- ✓ Online course: > 500 pp
- ✓ 2020-21 webinars: 975 pp
- ✓ EMA webinar: 300 pp
- ✓ Webinar recording views on YouTube: over 6,000

The programme offers ***webinars***, a ***self-paced online course*** and a ***5-day intensive workshop***.

University of Ljubljana
Faculty of Pharmacy

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ISTITUTO SUPERIORE DI SANITÀ

KU LEUVEN

TakisBiotech

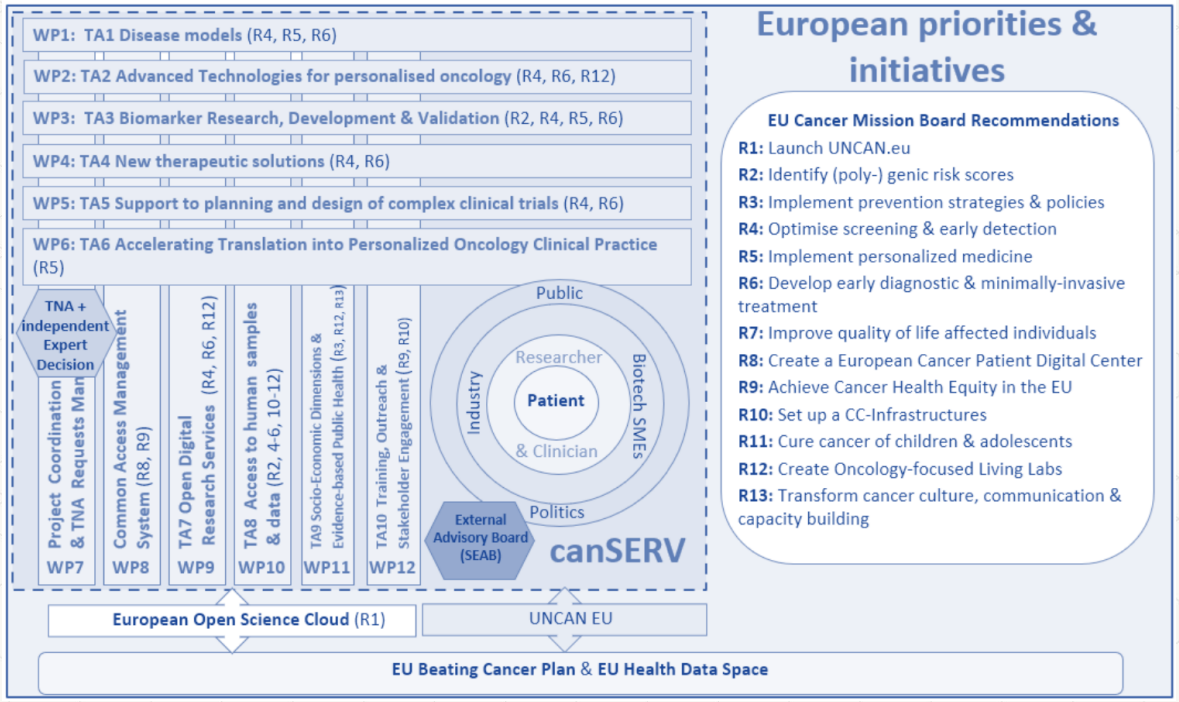
I3h Institute for Interdisciplinary Innovation in healthcare

elevate

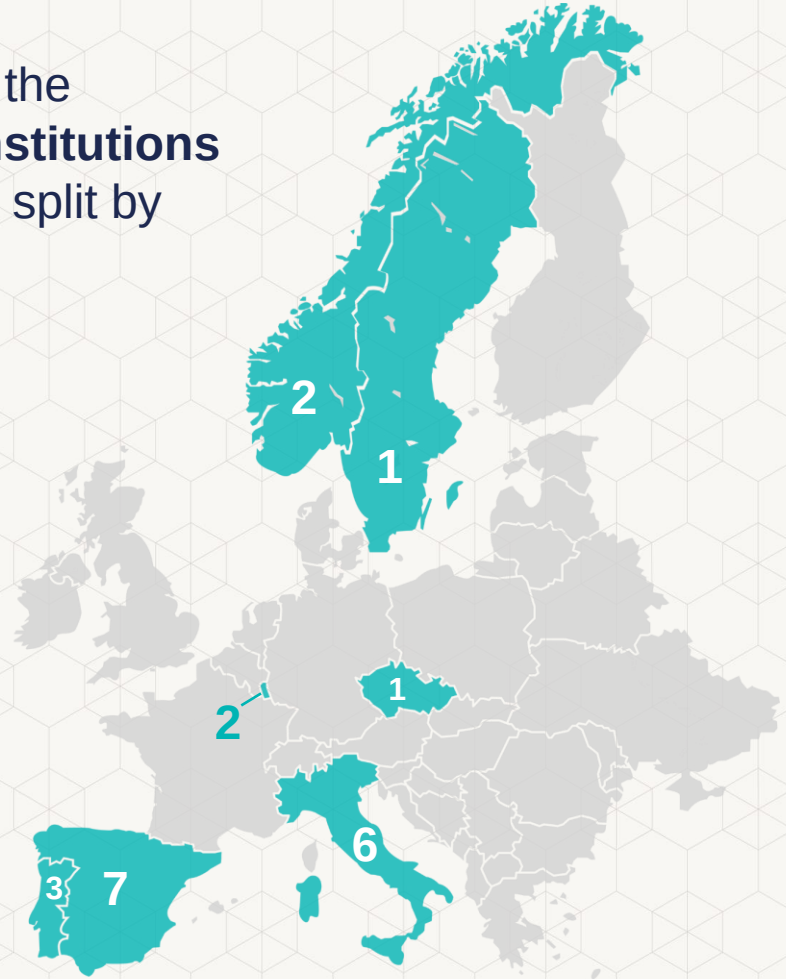
CanServ "Providing cutting edge **can**cer research **serv**ices across Europe"

Project description: Comprehensive portfolio of cutting-edge research services for the cancer research community EU wide, enable innovative R&D projects and foster precision medicine for patients benefit across Europe. Coordinated by a member of EU-AMRI (BBMRI-ERIC). 36 months, start foreseen in Q2 2022.

Work Package structure.
Note **EATRIS is leading on WP3, and co-leading WP4**.



Map showing the
22 EATRIS institutions
on the project split by country

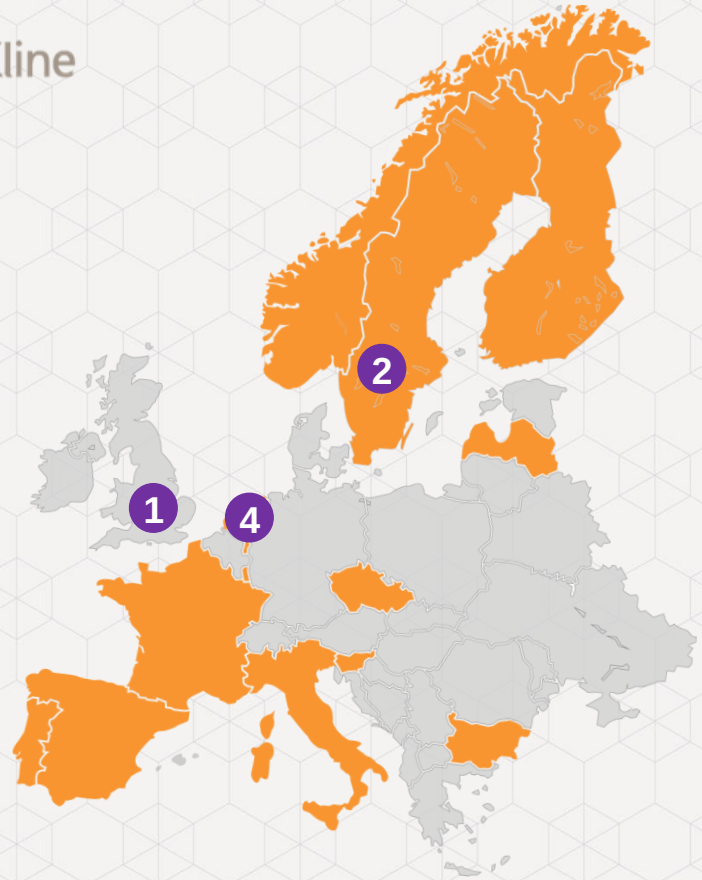


EATRIS Innovation Hub with GSK

GlaxoSmithKline

Operational since 2018

12 active projects including
2 in the clinic and
1 PhD programme



News

UNIQUE HUB COLLABORATION – IMAGING METHOD DEVELOPMENT IN INFLAMMATORY DISEASES

International multi-site collaboration hub will implement new clinical imaging tools and deliver several projects per year with enhanced speed and throughput.

Amsterdam, The Netherlands, June 4, 2018 – The European Infrastructure for Translational Medicine (EATRIS) has formed a collaboration with GlaxoSmithKline (GSK) to deliver a clinical and scientific expert network for the development and application of innovative imaging methods for inflammatory diseases.

Advanced imaging. The initiative is aimed at optimising existing imaging technologies for drug development and clinical translation of emerging probes.

While existing clinical imaging tools provide useful endpoints in clinical trials, they typically lack sufficient cellular and molecular information to fully understand drug response. Imaging has the potential to interrogate inflammatory cell populations, quantitatively in different tissues. This alliance aims to unlock this potential by delivering new clinical tools. Applying imaging in information-rich, small cohort studies can provide a high, immediate impact to enhance R&D productivity: developing our understanding of disease in the patient; enriching clinical trial cohorts; measuring therapeutic response.

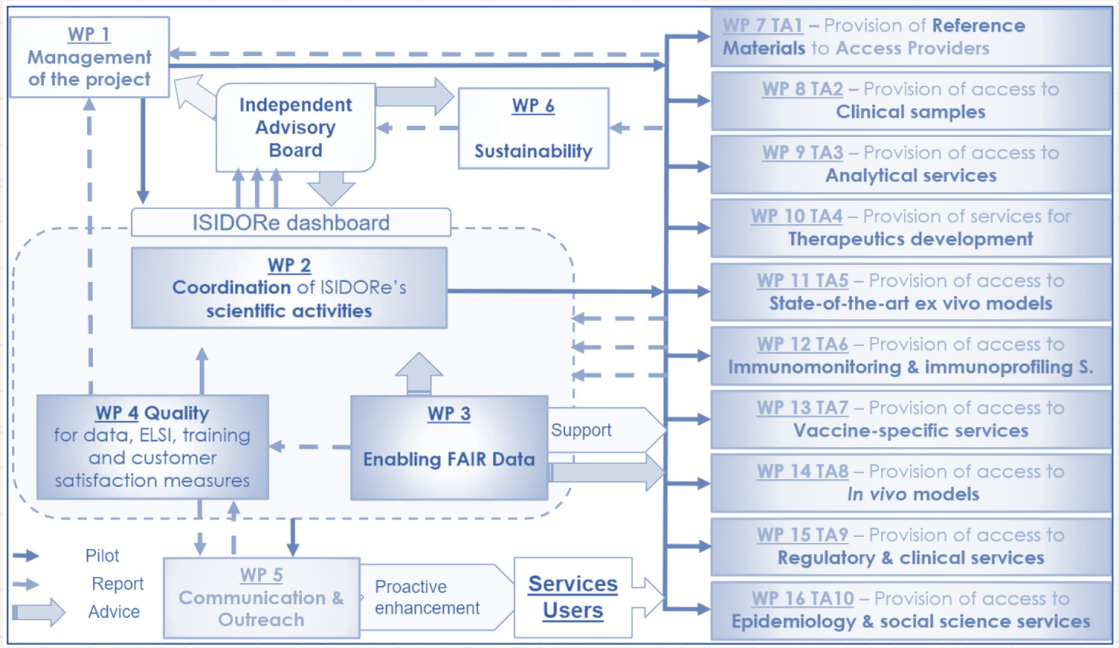
The imaging hub aims to achieve these goals by (1) optimising existing magnetic resonance imaging (MRI) and positron emission tomography (PET) technology for drug development; and (2) translating emerging PET and optical cell-specific probes towards the clinic. The first three projects with a focus around immune cell specific imaging have now been initiated.

ISIDORe

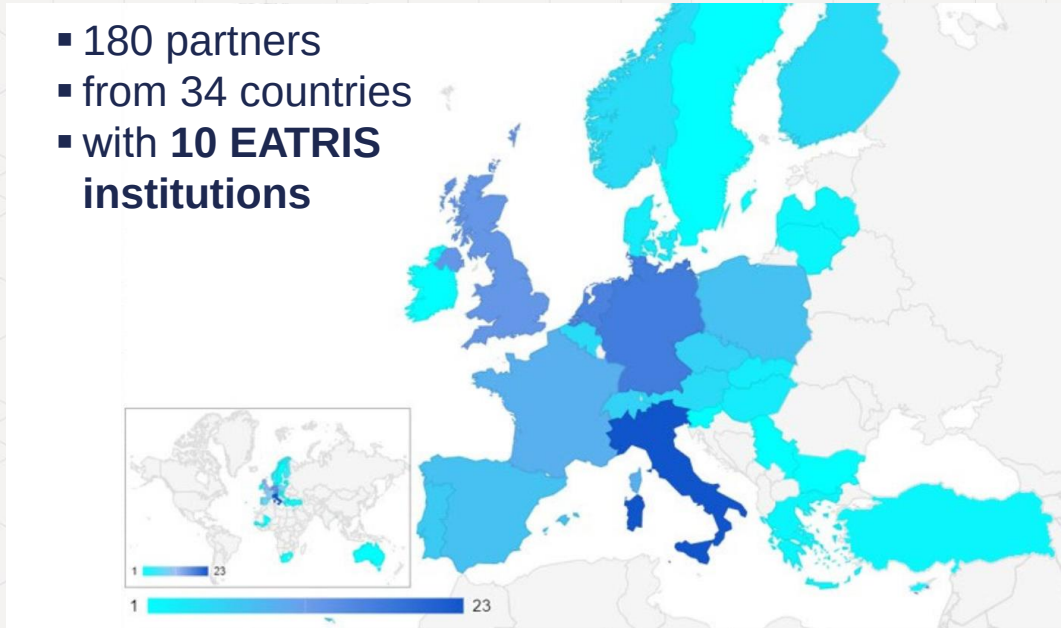
"**I**ntegrated **S**ervices for **I**nfectious **D**isease **O**utbreak **Re**search" (Jan 1, 2022 start)

Project description: Collaboration between 10 RIs to fight the rise of the **SARS-CoV-2 variants** through a global, integrated and challenge-driven approach by **providing fast access to cutting-edge resources and services** to scientific user communities for supporting the evidence-based development or adaptation of countermeasures in times of emergency.

Work Package structure. Note **EATRIS is leading on WP12**: "*Provision of access to immunomonitoring & immunoprofiling services*"



Distribution of ISIDORe's service providers across Europe (main map) and the world (bottom left insert)



Accelerating Drug Repurposing Globally

REMEDi4ALL

Horizon Europe Project led by EATRIS starting in Sept (25 Mi eur)

NEW FOUND

International collaboration (US, India, Brazil)

https://newfoundmed.org/

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for translational medicine

Our strategic partnerships
(a few examples)

EATRIS commitment to accelerate patient engagement in academic research

SUPPORT PATIENT EDUCATION

TRAIN RESEARCHERS ON MEANINGFUL PATIENT ENGAGEMENT

CO-CREATE RESEARCH WITH PATIENTS

EUPATI
European Patients' Academy on Therapeutic Innovation

EPF European Patients Forum

EU-AMRI

European Alliance of Medical Research Infrastructures

EU-AMRI

EuAmri

www.eu-amri.org

BBMRI-ERIC®

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European infrastructure for translational medicine

ECRIN
EUROPEAN CLINICAL RESEARCH INFRASTRUCTURE NETWORK

translation together

www.translationtogether.org

eatris

Advancing Translational Innovation through Global Collaboration

Objectives

EDUCATE

Courses & resources for educating and training the next generation of translational scientists

ADVOCATE

Advocate for a broad understanding of and appreciation for translational science among diverse stakeholders

CONNECT

Link investigators to resources, tools, technologies, and expertise.

COLLABORATE

Conduct collaborative research projects to remove systemic barriers and catalyse translation

Partners

NCATS COLLABORATE. INNOVATE. ACCELERATE.

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LifeArc

adMare BIOINNOVATIONS

AMED 国立研究開発法人 日本医療研究開発機構 Japan Agency for Medical Research and Development

THERAPEUTIC INNOVATION AUSTRALIA

Ministério da Saúde

FIOCRUZ Fundação Oswaldo Cruz

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EATRIS España

EATRIS ES

Our mission: To improve the internationalization and collaboration of the Health Research Institutes (EATRIS ES institutes) in the field of translational medicine.

Based on Spanish Health Research Institutes (Hospital + Research Institute + University)

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IDIBAPS, IIB SANT PAU, IIS LA FE, BIODONOSTIA, IDIPAZ, IBIS, FJD, IRICYS, IMIBIC, IBIMA, IDIBELL, IIS-LA PRINCESA, INCLIVA, IBS GRANADA, IIS ARAGÓN, IDIVAL, IMIM, IRB LLEIDA, IDISSC, IMIB, ISABIAL, Imas12, INIBIC,

EATRIS ES Platforms

- Better alignment of EATRIS ES – EATRIS ERIC
- Improve visibility of emerging and consolidated researchers
- National platform chairs

Scientific Committee for strategic input

EATRIS ES Governance

Governor
ISCIII
(Pilar Gayoso)

Decision Making

Scientific committee
(Estefania Carrasco – Biodonostia
Julia G Prado – IGTP
Inmaculada Ibáñez - IDIPAZ,
Agustín Lahoz - IIS LA FE
Pablo Mir – IBIS
Federico Rojo - IIS-FJD)

National Director
Laura García Bermejo
IRYCIS

National coordinator
Marta Marín (OPE-ISCIII)

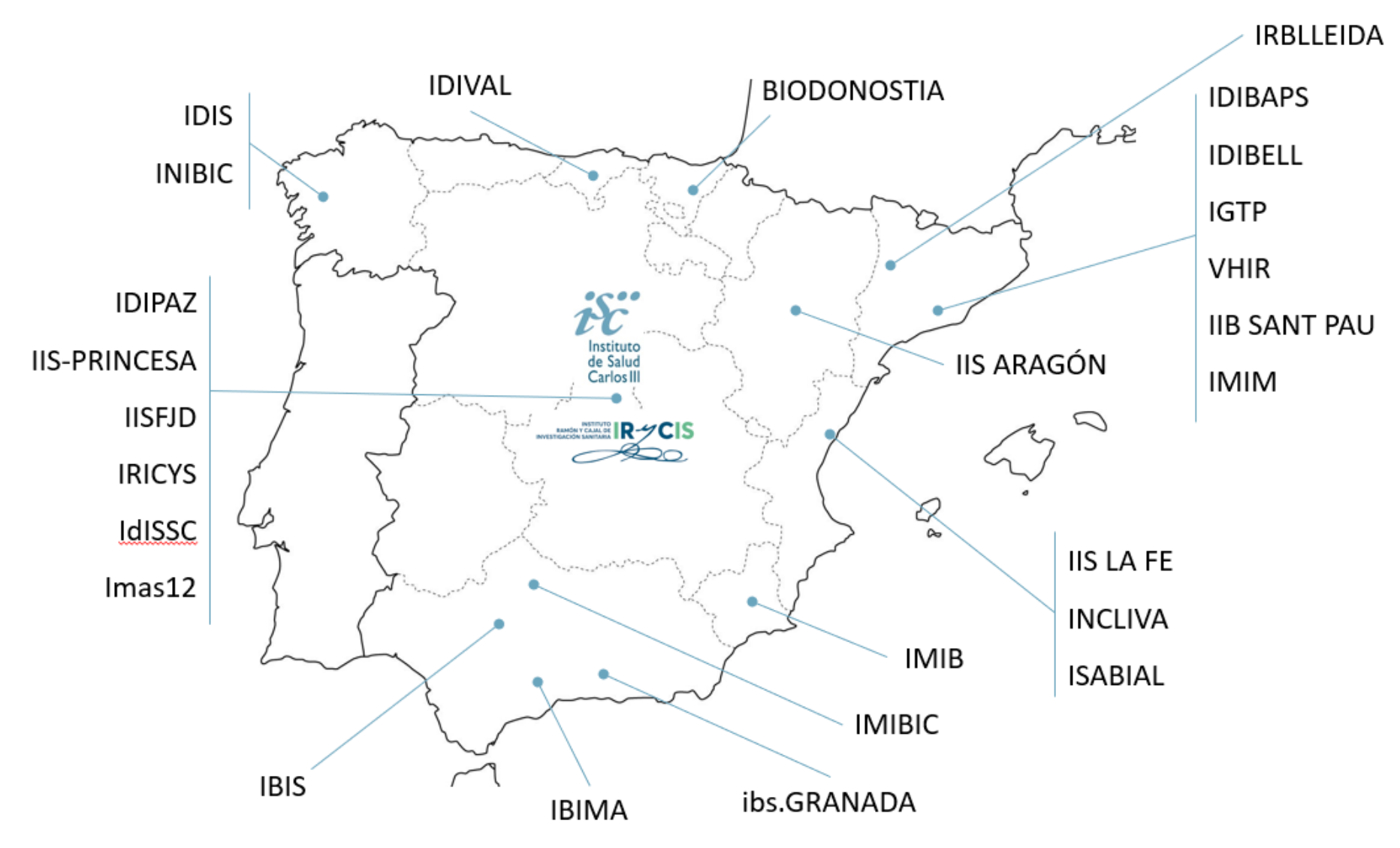
Operational

EATRIS institutes
Health Research
Institutes (IISA) 26/32

EATRIS ES National Platforms

Biomarkers Platf. Coord.	Vaccines Platf. Coord.	I&T Platf. Coord.	ATMP Platf. Coord.	Small Molecules Platf. Coord.
Biomarkers Platform	Vaccines Platform	Tracer & Imaging Platform	ATMP's Platform	Small Molecules Platform

EATRIS ES institutes

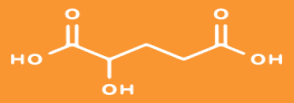


EATRIS National Platforms

ADVANCED THERAPY MEDICINAL PRODUCTS

Miguel Chillón (VHIR)

IBIS, IBIMA, IMIBIC, IDIBELL, IR-HSCSP, VHIR, IIS-PRINCESA, IDIPAZ, Biodonostia HRI, INCLIVA, IIS La Fe, ibs.GRANADA, IMIB, Imas12, IDIPHISA



BIOMARKERS

Laura G Bermejo (IRICYS)

IBIS, IBIMA, IMIBIC, IDIBAPS, IDIBELL, IGTP, IR-HSCSP, VHIR, IDIS, IISFJD, IIS-PRINCESA, IDIPAZ, IRYCIS, Biodonostia HRI, INCLIVA, IIS La Fe, ibs.GRANADA, IMIM, IISA, IDIVAL, IRB LLEIDA, IdISSC, IMIB, ISABIAL, Imas12, INIBIC, IDIPHISA

IMAGING AND TRACING

Lluís Martí Bonmatí (IIS LA FE)

IBIS, IDIBAPS, IGTP, IR-HSCSP, VHIR, IDIS, IIS-PRINCESA, INCLIVA, IIS La Fe, IDIVAL, IMIB

SMALL MOLECULES

Maria José Alonso (IDIS)

VHIR, INCLIVA, IdISSC

VACCINES, INFLAMMATION AND IMMUNE MONITORING

Julia G Prado (IGTP)

IBIS, IRYCIS, Biodonostia HRI, IISA, IdISSC

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Stay in contact

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- @EatrisEric
- www.eatris.eu
- Translational Trends

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