

# EATRIS-ERIC: Lessons learned from 15 years of building a Research Infrastructure

*Gary Saunders, PhD*

*Data & Digital Transformation Director*



# Who we are

Network of academic and medical research institutions in Europe



## Participating countries

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



150+ research institutes



## Business model

Non-profit, ERIC legal status



## Funding

70% Member State Fee

20% Grants

10% Partnering

# EATRIS-ERIC: Translational Medicine Research Infrastructure



**Drug discovery pipeline takes on average 10 years, costs ca 2 Billion Euros; 50% failure rate; drugs developed are useful for only 50% of the population**

# EATRIS-ERIC: Translational Medicine Research Infrastructure



**Drug discovery pipeline takes on average 10 years, costs ca 2 Billion Euros; 50% failure rate; drugs developed are useful for only 50% of the population**

# EATRIS-ERIC: Translational Medicine Research Infrastructure



**Drug discovery pipeline takes on average 10 years, costs ca 2 Billion Euros; 50% failure rate; drugs developed are useful for only 50% of the population**

## Challenges

- Access to lab equipment
- Validated analytical tools
- Innovation management
- Unstructured data
- Poor data quality
- Non-standardised data
- Lack of stratified controls
- Fragmented processes
- Poor reproducibility rate
- Uncertain value
- Lack of regulatory literacy
- Lack of ELSI competency

# EATRIS-ERIC: Translational Medicine Research Infrastructure



**Drug discovery pipeline takes on average 10 years, costs ca 2 Billion Euros; 50% failure rate; drugs developed are useful for only 50% of the population**

## Challenges

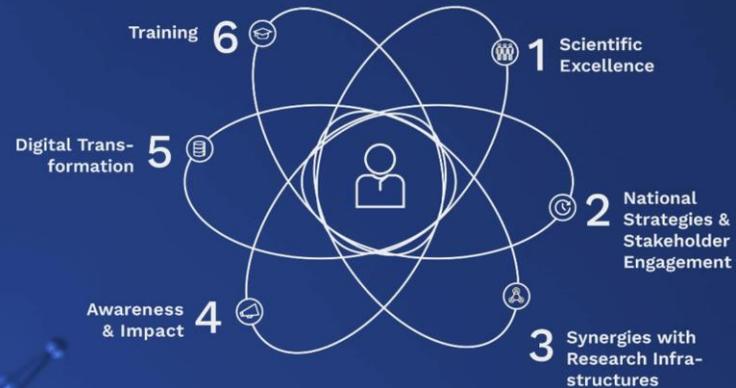
- Access to lab equipment
- Validated analytical tools
- Innovation management
- Unstructured data
- Poor data quality
- Non-standardised data
- Lack of stratified controls
- Fragmented processes
- Poor reproducibility rate
- Uncertain value
- Lack of regulatory literacy
- Lack of ELSI competency

## EATRIS Solutions

- Access to services
- Validated Expert Centres
- Reproducible raw data
- Reference materials
- Validated processes
- Regulatory compliant data
- Health Technology Assessment advice
- Regulatory troubleshooting guidelines
- ELSI templates and support
- Better connected & standardised translational medicine value chain

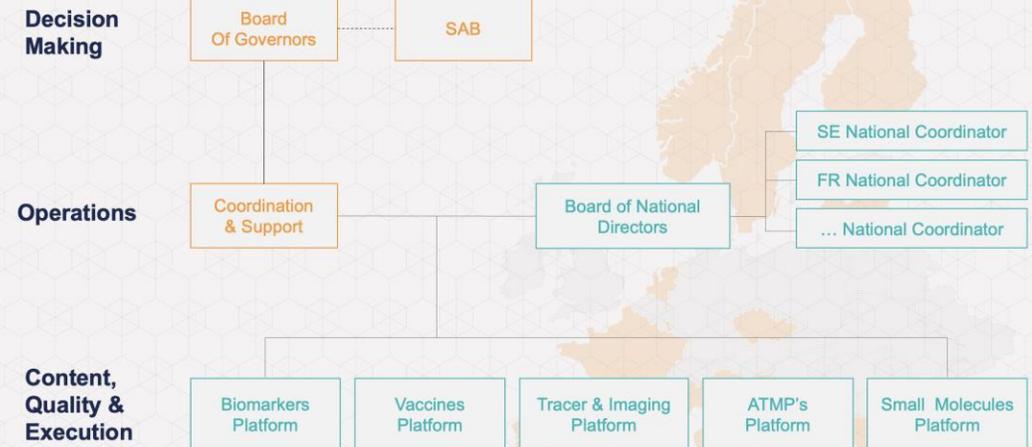
# Multi-year strategy supported by strong governance

The 2023-2026 **eatris** Strategic Plan is formed around 6 pillars that aim to enhance the translational medicine ecosystem



Find out more at [eatris.eu/strategic-plan-2023-2026](https://eatris.eu/strategic-plan-2023-2026)

## eatris Governance



**Multi-year strategy built by both bottom-up and top-down methods of consultation with the EATRIS community and Governance; aligning to the niche of the organisation and the requirements from our users.**

# EATRIS-ERIC: Partnering with others

## European Research Infrastructures

## Internationally

## Industry

	<p><b>REQUEST:</b> Long term access to translational imaging capabilities for immuno-inflammation R&amp;D</p> <p><b>RESULT:</b> GSK-EATRIS imaging hub</p>
	<p>Multi-site collaboration to develop imaging tools for GSK:</p> <ul style="list-style-type: none"> <li>• Novel PET ligands as inflammation markers</li> <li>• MRI for characterisation of inflammation</li> <li>• Optical imaging in RA, OA, etc.</li> </ul> <p>6 EATRIS institutions coordinated by EATRIS</p> <ul style="list-style-type: none"> <li>• Covered by master research agreement, GSK funded</li> <li>• Fast-time to contract and initiation of projects</li> <li>• Pre-competitive or GSK asset development possible</li> </ul>

**DataSharingPlayBook**

How to unlock the potential of data sharing in IMI/IHI projects

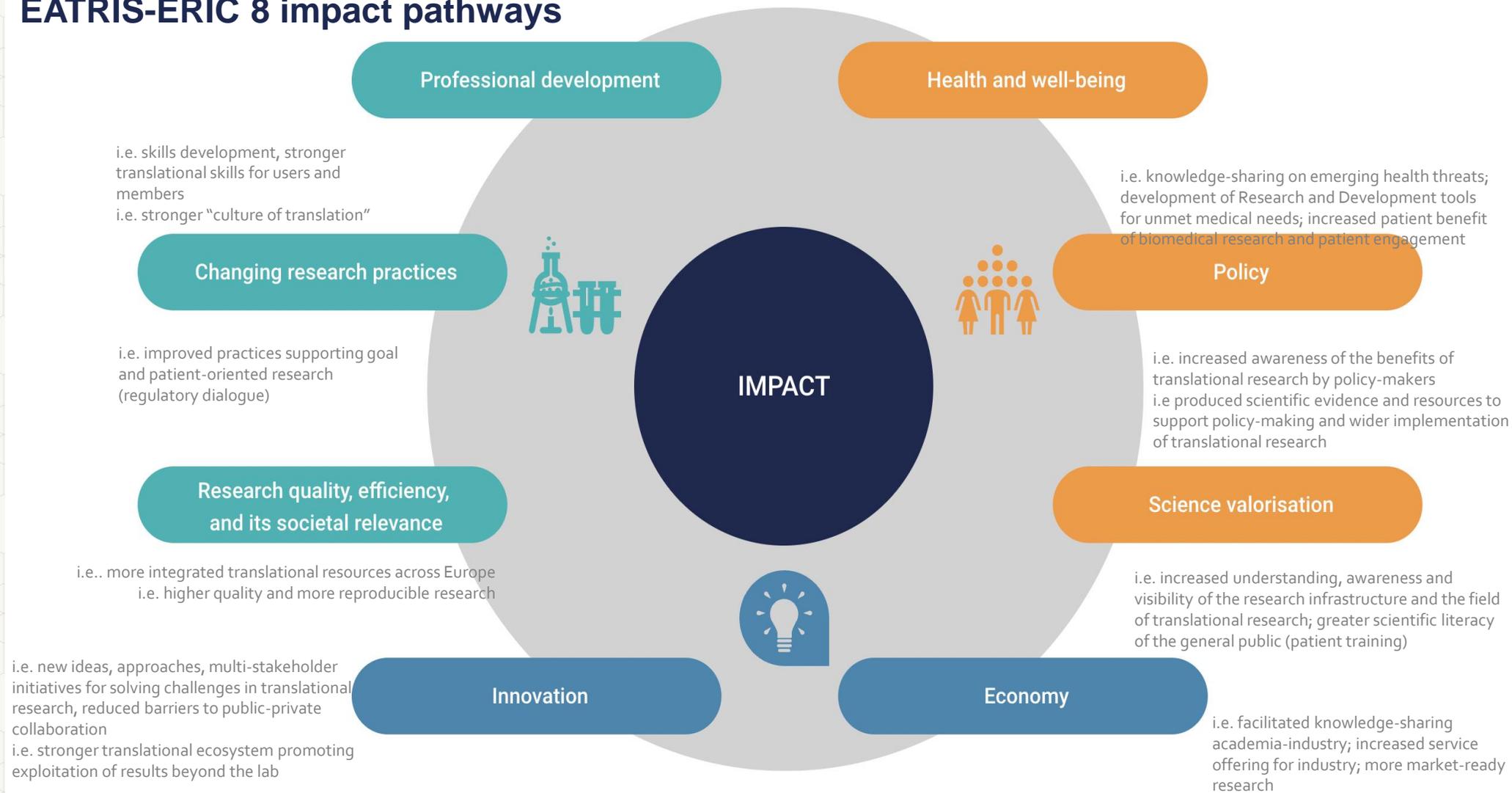
## Patient representatives

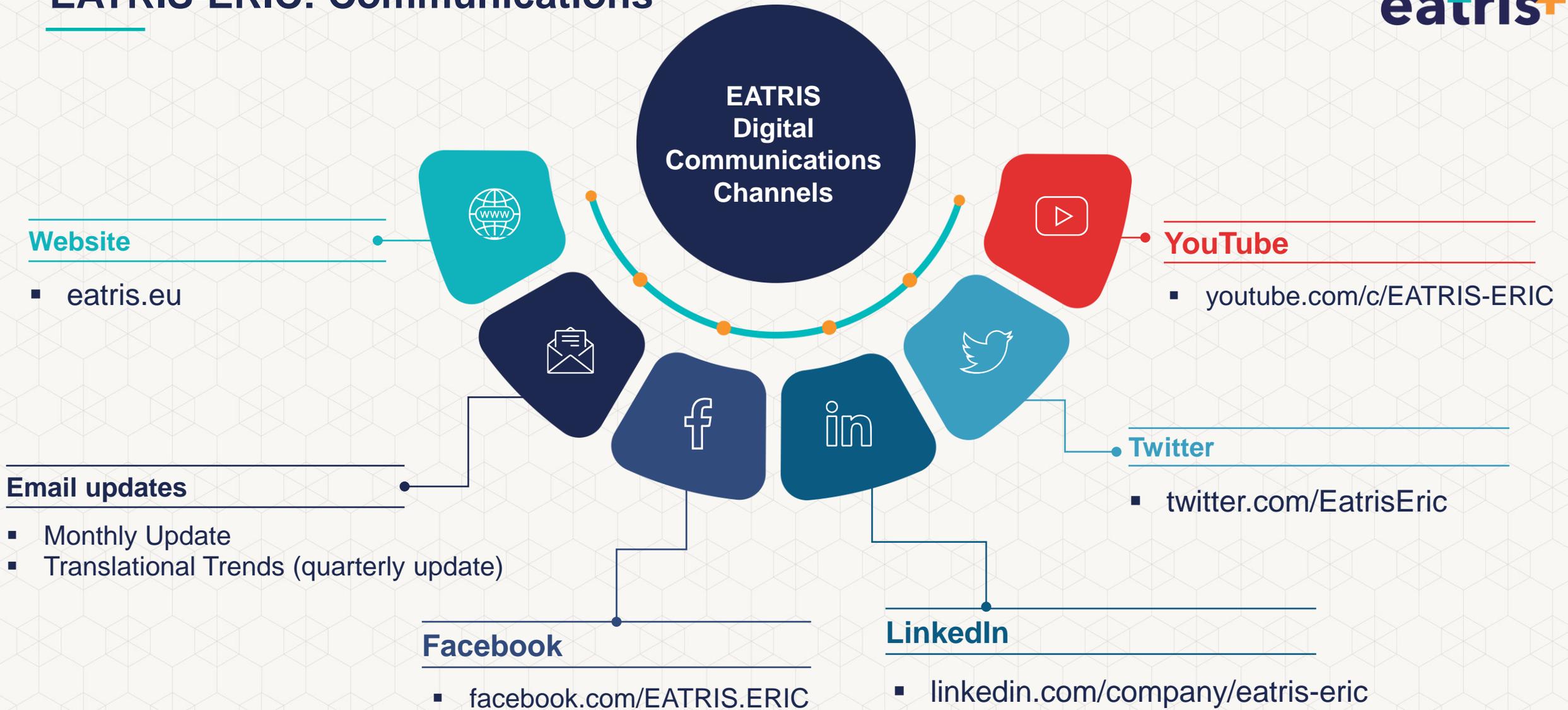
TRAIN RESEARCHERS ON MEANINGFUL PATIENT ENGAGEMENT

CO-CREATE RESEARCH WITH PATIENTS

SUPPORT PATIENT EDUCATION

## EATRIS-ERIC 8 impact pathways





*Follow, repost, comment and join the conversation!*

# EATRIS-ERIC: Communications

## Website

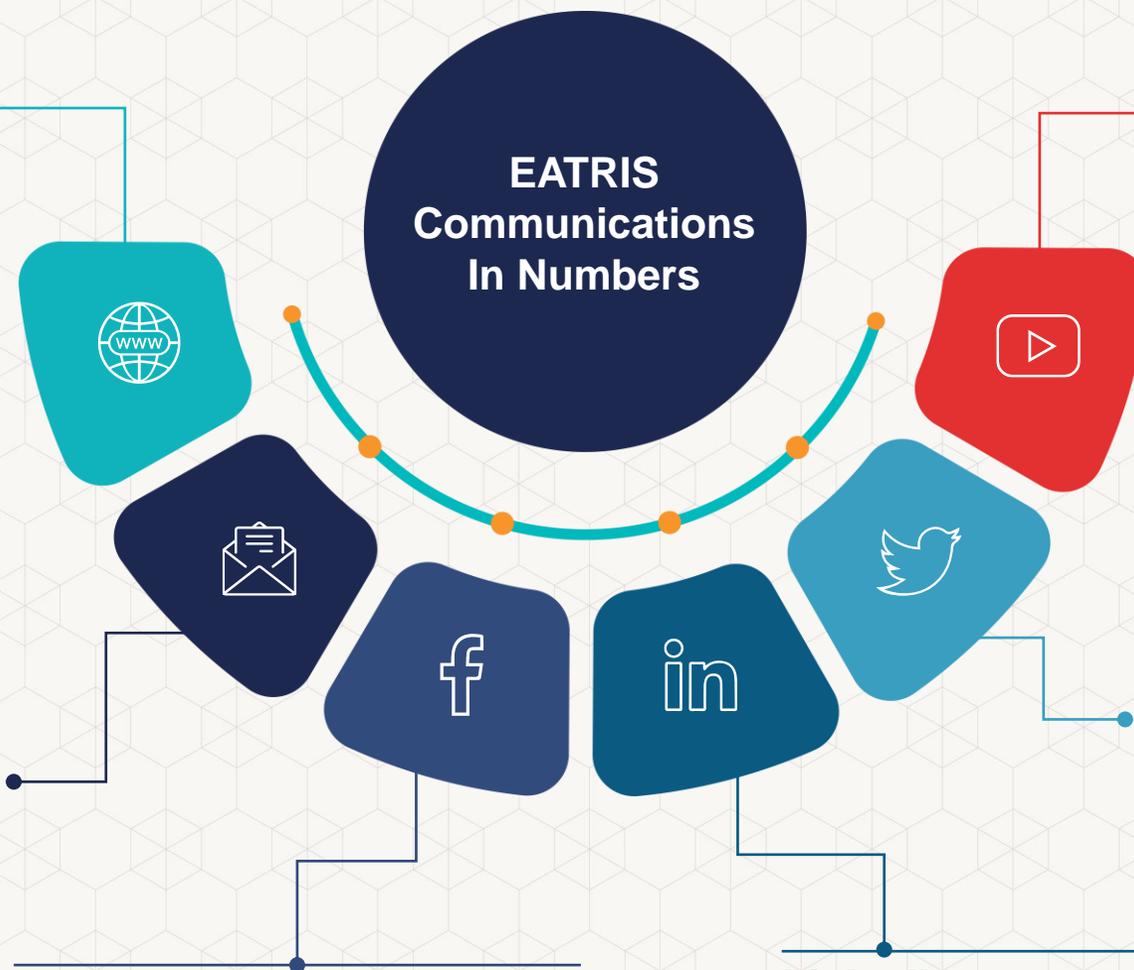
Number of visitors	144,345
Pages per session	1.96
Average session duration	1 min 38 sec
Bounce rate	68%

## Email updates

EATRIS Monthly Update	Open rate	34.9%
	Click rate	5.3%
	Audience size	623
Translational Trends (quarterly update)	Open rate	35.3%
	Click rate	5.6%
	Audience size	2,009

**eatris**

Data Nov 2021 – Nov 2022



## YouTube

Total number of public videos	56
Number of followers	367 (+104%)
Watch time (aggregate across all videos)	576 h

## Twitter

Number of tweets	554
Number of followers	2,184 (+23%)
Impressions	201,539

## Facebook

Number of posts	413
Number of followers	186 (+48%)
Reach	2,525

## LinkedIn

Number of posts	528
Number of followers	2,993 (+60%)
Impressions	237,956

- Virtual Human Twins can expedite many pre-clinical translational medicine processes:
  - Drug screening:
    - Currently use patient-derived organoids and/or model organisms
    - Simulated cell-to-cell interactions across thousands of variants of organs
    - Compare to real-world data
  - Drug repurposing :
    - Digital (virtual) clinical trials
    - Synthetic chemicals and virtual cells
    - Billions of known chemical compounds can be screened against phenotypes
    - Compare and validate in real-world data
- ELSI considerations are very relevant to the EATRIS community:
  - Data controller and interplay with EU regulation
  - What does this mean for digital data e.g. computational models based on pseudonymised data; regulation of AI tools and their translation to market; validation of tools for use by industry
- Virtual Human Twins – and digital tools in general – remain relatively underused by the EATRIS community e.g. exascale computing via EuroHPC; standardisation of health-related data
  - Education and training of clinical researchers with new capacities; co-development of solutions

# Concluding remarks

---

- EATRIS-ERIC formed in 2008 as the European Research Infrastructure for Translational Medicine
- Membership from 14 Member States; 150+ institutes
- Lessons Learned:
  - Important to be consistently cognisant of niche and use this to drive activity
  - Benefit through partnering with others
  - Define impact: use this to plan activities and make persuasive arguments
  - Communicate efficiently, and track KPIs of communication channels
- VHT Platform offers the potential to enhance various pre-clinical stages of the personalised medicine value chain:
  - Economic advances in processes related to screening & repurposing
  - Alleviated from (some!) ELSI challenges

## Thanks



EATRIS



@EatrisEric



[www.eatris.eu](http://www.eatris.eu)



Translational Trends



# Partnering examples: GSK imaging hub



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.

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.

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

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.

**Logos:** gsk, AKADEMISKA SJUKHUSET, UPPSALA UNIVERSITET, amc, umcg, VUmc, Radboudumc



GlaxoSmithKline

**REQUEST:** Long term access to translational imaging capabilities for immuno-inflammation R&D

**RESULT:** GSK-EATRIS imaging hub



VU University  
Medical Center  
Amsterdam



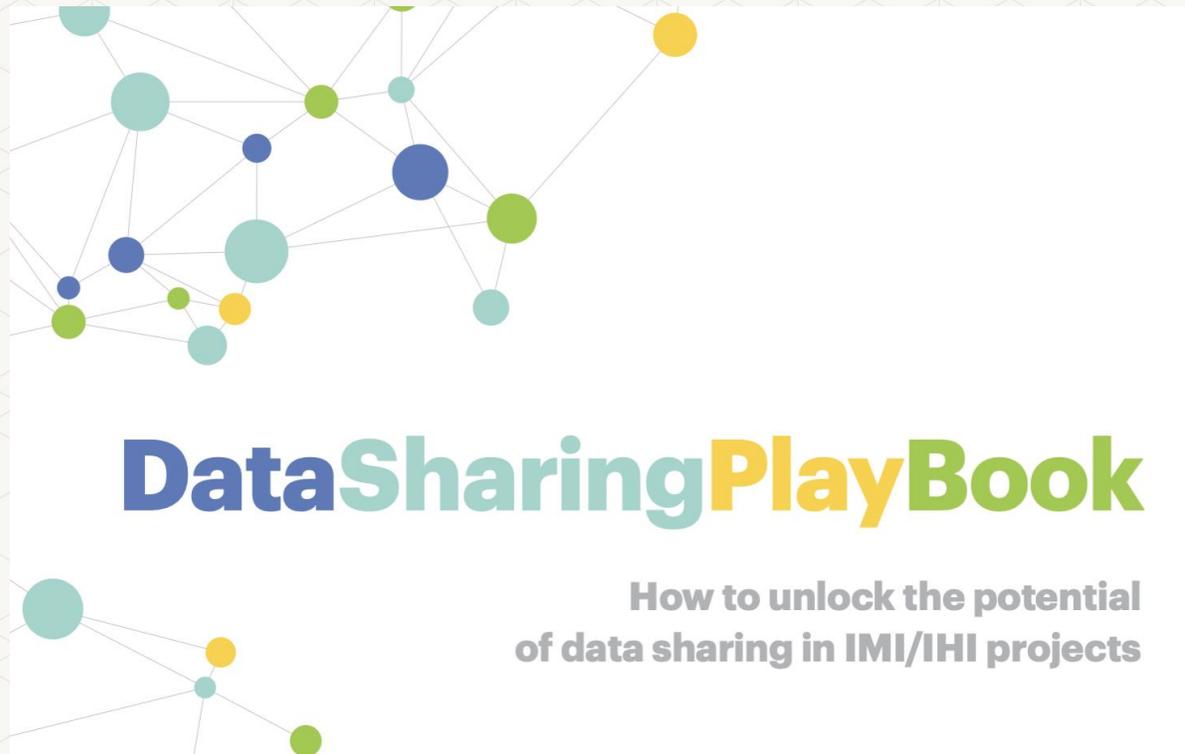
Radboudumc

Multi-site collaboration to develop imaging tools for GSK:

- Novel PET ligands as inflammation markers
- MRI for characterisation of inflammation
- Optical imaging in RA, OA, etc.

**6 EATRIS institutions** coordinated by **EATRIS**

- Covered by master research agreement, GSK funded
- Fast-time to contract and initiation of projects
- Pre-competitive or GSK asset development possible



## Introduction 04

Why this Data Sharing Playbook?  
Who is it for?  
What to expect?

## Executive summary 05

## Key decisions to unlock data sharing 06

## Key concepts in data sharing 07

- Fundamental concepts
- Other useful concepts

## Roles 10

IMI liaison officer. Project leader. Project coordinator.  
Principal investigator. Therapeutic lead.  
Senior manager. Data Protection Officer (DPO).  
GDPR expert. IT specialist. Statistician. Lawyer.

## Challenges 11

- **Challenge area 1**  
Public-Private-Partnerships (PPP) & Data Sharing Culture
- **Challenge area 2**  
Legal & Intellectual Property (IP)
- **Challenge area 3**  
Internal Processes
- **Challenge area 4**  
Security & Technology
- **Challenge area 5**  
General Data Protection Regulation (GDPR)

## Scenarios 17

## Resources 26

## Epilogue 42

# Covid-19 Research services to SME, academia, governments



**48-hour  
response time**



**12 Industry  
studies**



**14 Academic  
studies**

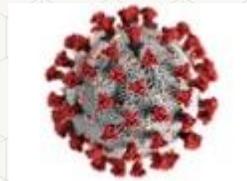


**2 Governmental  
studies**

## Wide range of study requests

### Regulatory Advice

Developing a vaccine consisting of the SARS-CoV-2 Spike Receptor Binding Domain (RBD) displayed on Virus-Like Particles



### Virus Production

Expert advice to produce virus and establish BSL-3 facilities

### In vivo studies

**Immunogenicity studies** in vivo for challenge against the SARS-COV-2 virus



### Rapid Test development

**Validation testing** of rapid LAMP PCR-Based system in Basque Healthcare system

### MoA studies for Repurposing Drugs

In vivo models and Mechanism of action studies for repurposing drugs



# With thanks to our funders and partners



REPUBLIC OF BULGARIA  
Ministry of Education and Science

**Republic of Bulgaria**  
Ministry of Education and Science



MINISTRY OF EDUCATION,  
YOUTH AND SPORTS

**Czech Republic**  
Ministry of Education, Youth & Sports



**ACADEMY OF FINLAND**

**Republic of Finland**  
Ministry of Education and Culture (OKM)



**French Republic**  
Commissariat à l'Énergie Atomique et aux  
Énergies Alternatives (CEA)



**Italian Republic**  
Istituto Superiore di Sanità (ISS)



LE GOUVERNEMENT  
DU GRAND-DUCHÉ DE LUXEMBOURG  
Ministère de l'Enseignement supérieur  
et de la Recherche

**Kingdom of Luxembourg**  
Le Gouvernement du grand-duché de  
Luxembourg



**ZonMw**

**Kingdom of the Netherlands**  
ZonMw



**The Research Council  
of Norway**

**Kingdom of Norway**  
Research Council of Norway\*



UNIVERSITY OF BERGEN

**Kingdom of Norway**  
University of Bergen\*



UNIVERSITETET  
I OSLO

**Kingdom of Norway**  
University of Oslo\*



**Infarmed**  
Autoridade Nacional do Medicamento  
e Produtos de Saúde, I.P.

**Republic of Portugal**  
INFARMED-National Authority of  
Medicines and Health Products



REPUBLIC OF SLOVENIA  
MINISTRY OF EDUCATION,  
SCIENCE AND SPORT

**Republic of Slovenia**  
Ministry of Education, Science  
and Sport



Instituto  
de Salud  
Carlos III

**Kingdom of Spain**  
Instituto de Salud 'Carlos III' (ISCIII)



Swedish  
Research  
Council

**Kingdom of Sweden**  
Vetenskapsrådet\*\*



**VINNOVA**

**Kingdom of Sweden**  
Vinnova\*\*



REPUBLIC OF CROATIA  
Ministry of Science and  
Education

**Republic of Croatia\*\*\***  
Ministry of Science and Education



RĪGAS STRADIŅA  
UNIVERSITĀTE

**Republic of Latvia\*\*\***  
Ministry of Education and Science

\*The Norwegian contribution is from University of Oslo and University of Bergen

\*\*The Swedish contribution is from Vinnova

\*\*\*Observers in EATRIS-ERIC (others are Members)