



10<sup>th</sup> Edition

## International Childhood Cancer Awareness Day (ICCD2020)

18 February 2020  
13:00 to 15:00

European Parliament  
Brussels, Belgium



## Artificial Intelligence and Big Data:

## Towards the next frontier in paediatric cancer research & innovation in Europe

*Hosted by Patrizia Toia, MEP (S&D, IT), Vice-Chair of ITRE*

S&D

Group of the Progressive Alliance of  
**Socialists & Democrats**  
in the European Parliament

For a Brighter Future for Children & Adolescents with Cancer



18 February 2020

International Childhood Cancer Awareness Day 2020

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



For a Brighter Future for Children & Adolescents with Cancer

# The European Paediatric Cancer community vision on AI and Big Data

Gilles Vassal

Gustave Roussy & SIOPE





# RESEARCH DATA

- Clinical trials databases
- Omics data with clinical trials
- Imaging within clinical trials
- Epidemiological registries



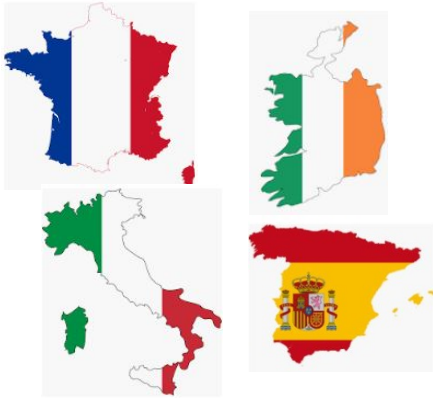


# 5 EU PRECISION MEDICINE PROGRAMMS

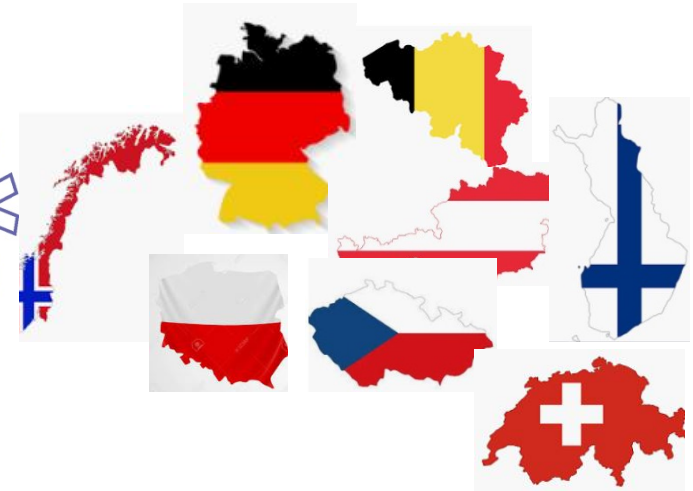
3000 whole exomes and RNA sequenced for children with cancer at relapse

Since 2016

## MAPPYACTS



## INFORM



Innovative Therapies for Children with Cancer



## DANISH



## SM-PAEDS

## iTHER



# REAL WORD DATA

- Electronic medical records
  - Symptoms, referrals, treatments, prescriptions, outcomes
  - Imaging, histopathology, biology
- Claims data
  - Service usage, insurance, administrative hospital data, costs
- Omics data
- Pharmaceutical data
  - Pharmacovigilance
- Social media and other sources





# Big Data should be :

**F**  
indable



**A**  
ccessible



**I**  
nteroperable



**R**  
eusable



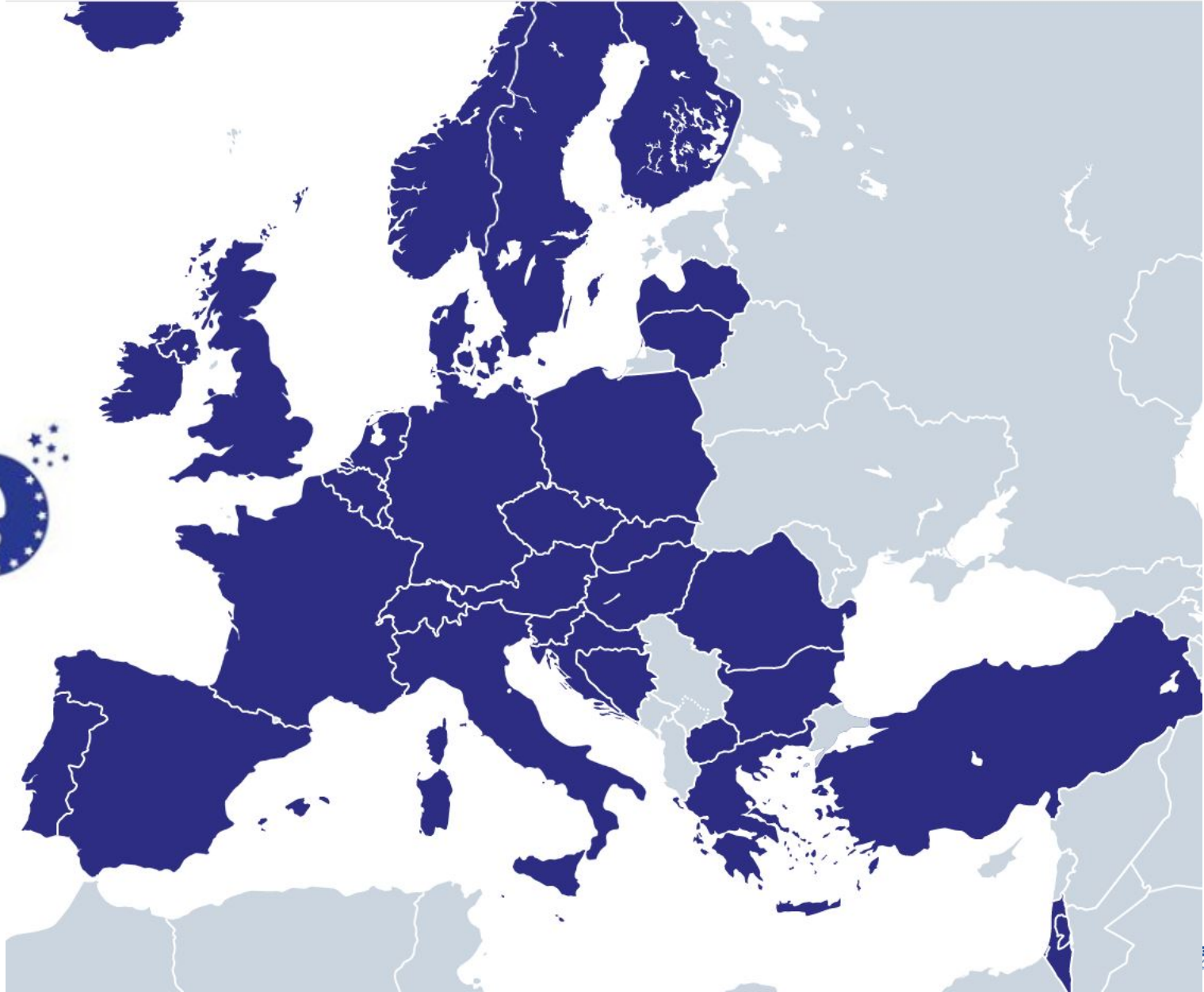




# KEY DATA INITIATIVES IN EUROPE

Figure 7. Types of data initiatives in Europe

<b>Improve Access</b> 	<b>Improve Collation</b> 	<b>Standardise Data</b> 	<b>Collect New Data Types</b> 
<p><i>Aims to improve access to existing datasets or allow their interrogation</i></p>	<p><i>Aims to incorporate existing datasets into a central repository</i></p>	<p><i>Aims to standardise the ways in which data is collected so that datasets re comparable</i></p>	<p><i>Aims to collect data that does not yet exist, often via novel approaches</i></p>
<ul style="list-style-type: none"> <li>• BD4BO</li> <li>• CODE</li> <li>• GOBDA</li> <li>• HemoBase</li> <li>• IMI Harmony</li> <li>• INSITE</li> <li>• PHEDRA</li> <li>• POI</li> <li>• Simulacrum</li> </ul>	<ul style="list-style-type: none"> <li>• Cancer Core Europe</li> <li>• ECIBC</li> <li>• ECIS</li> <li>• EUROCARE</li> <li>• HMRN</li> <li>• ENCR</li> <li>• EUCAN</li> <li>• EUSOMA</li> <li>• Greater Manchester Cancer</li> <li>• IMI Protect</li> <li>• Innovative Pricing Solutions</li> <li>• I-O Optimise</li> <li>• REAL Oncology</li> <li>• Sarcoma BCB</li> </ul>	<ul style="list-style-type: none"> <li>• EHDN</li> <li>• GA4GH</li> <li>• GEKID</li> <li>• FRANCIM</li> <li>• Health Informatics Collaborative</li> <li>• ICHOM</li> <li>• OMOP Oncology</li> </ul>	<ul style="list-style-type: none"> <li>• 100,000 Genomes Project</li> <li>• AURORA</li> <li>• EUROSTAT</li> <li>• CRISP</li> <li>• IRONMAN</li> <li>• O'Wise</li> <li>• My Clinical Outcomes</li> <li>• SCAN-B</li> <li>• Universal Cancer Databank</li> <li>• WEB-RADR</li> </ul>



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# Thank you



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