

ÜSİMP Patent Fuarı ve Üniversite Sanayi İş Birliği Kongresi

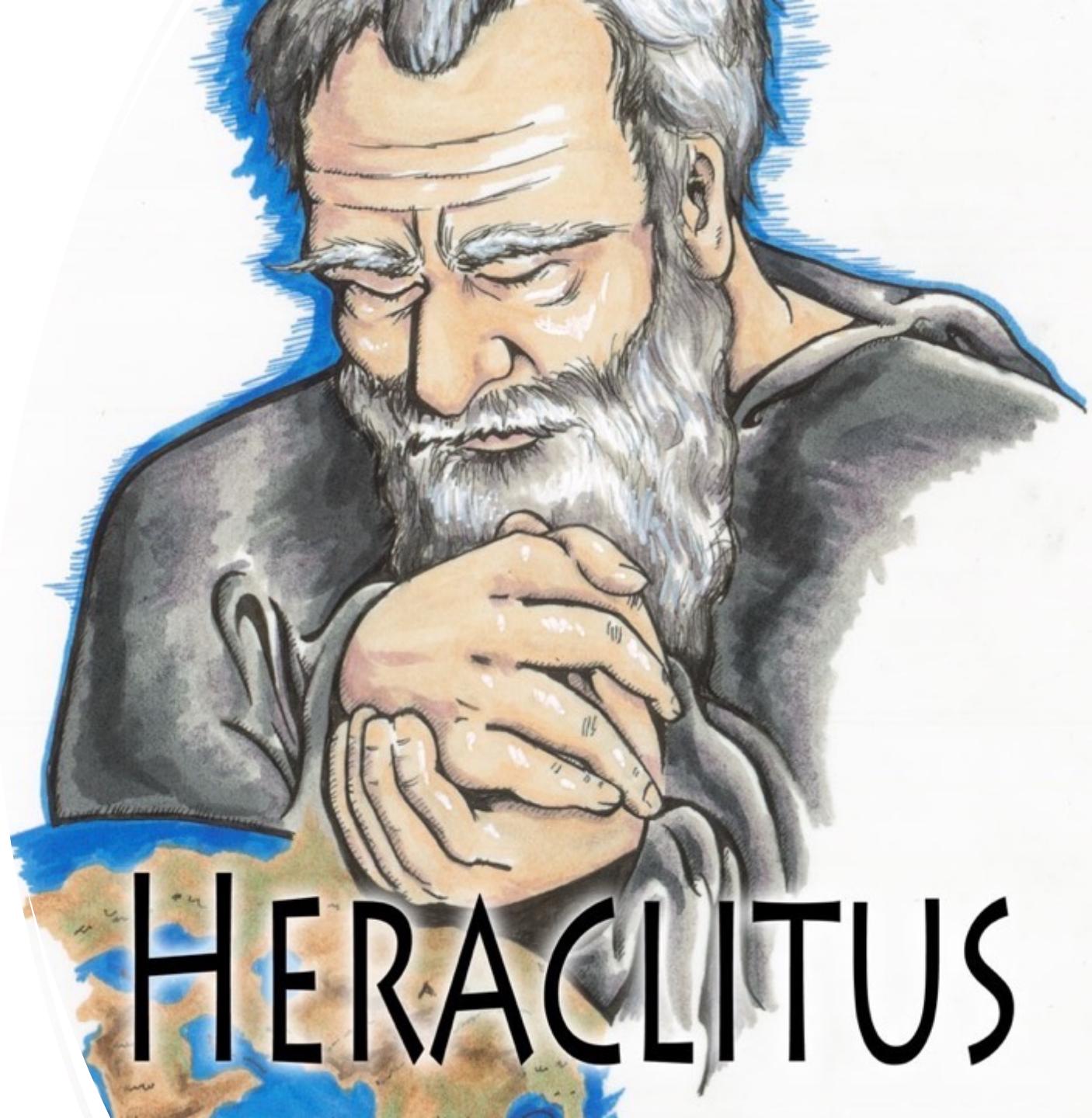
“PANEL VI: PLATFORMLARIN YAYGIN ETKİSİ VE SÜRDÜRÜLEBİLİRLİK”

Araştırma Altyapıları ve Sürdürülebilirlik

Prof. Dr. Murat Özgören, MD PhD

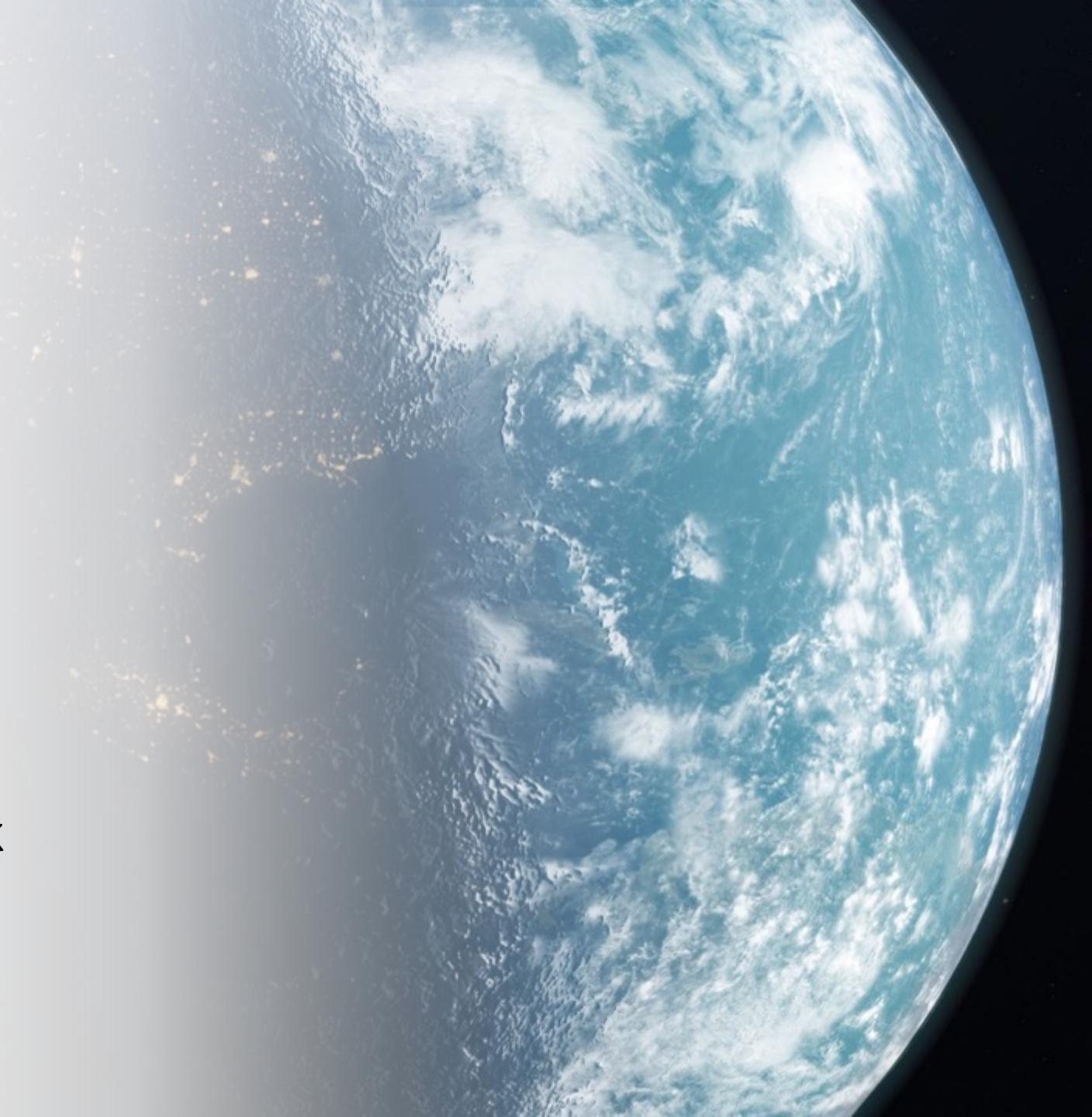
TÜBİTAK ARGES YK Üyesi
ESFRI Delegesi ve IG SWG Üyesi
NERİTA TTO Bşk. Yakın Doğu Ü.
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-
- *Panta Rhei* ("hersey akar")

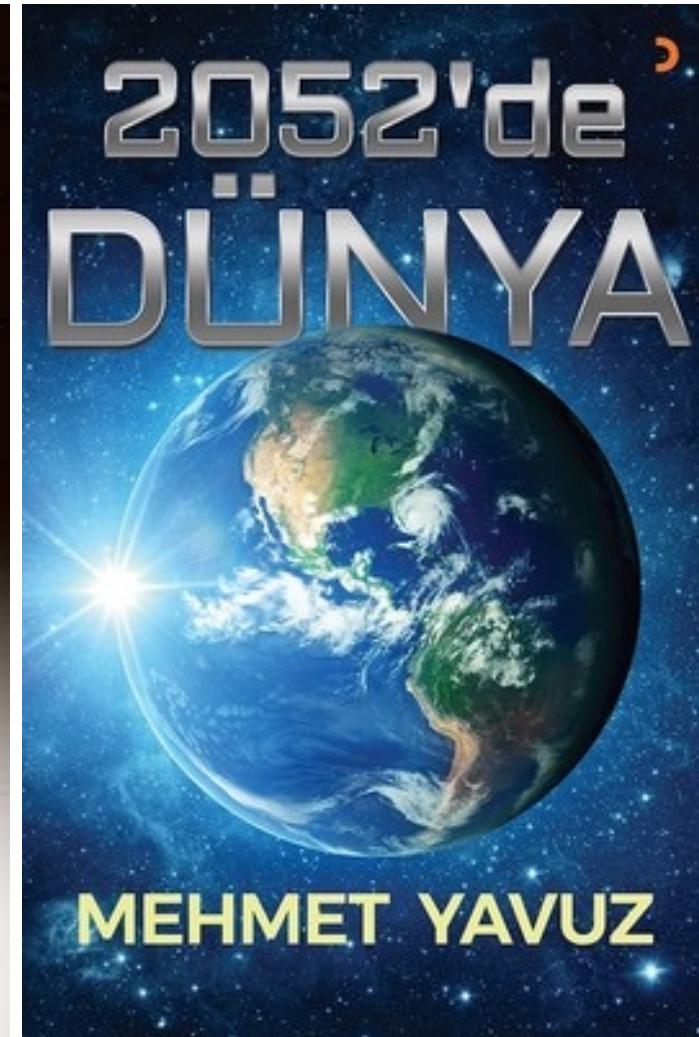
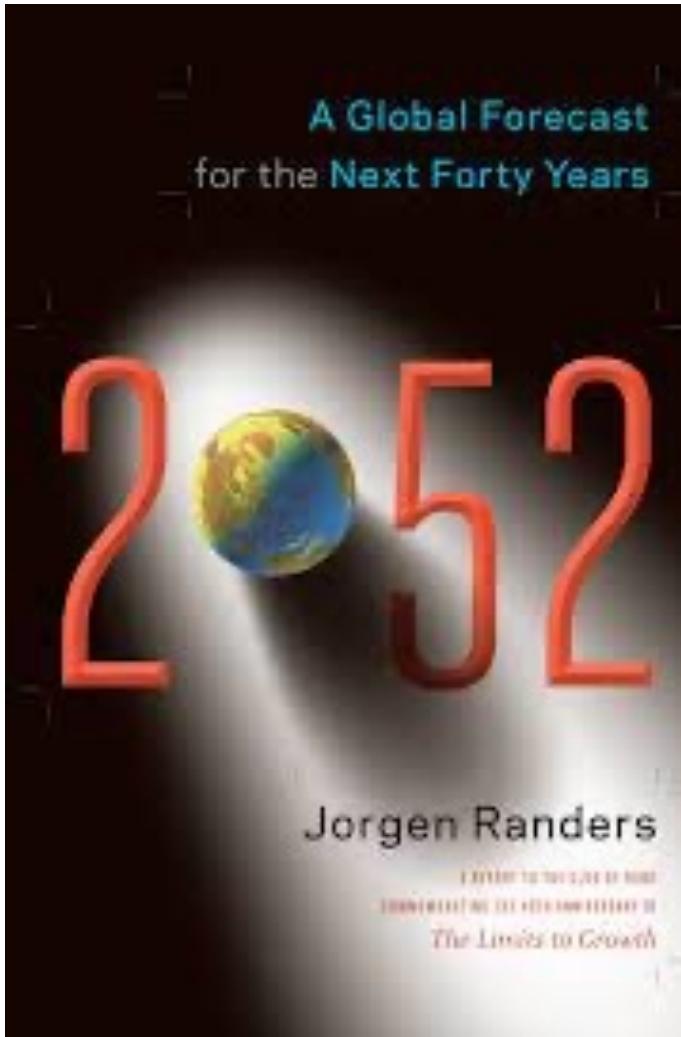


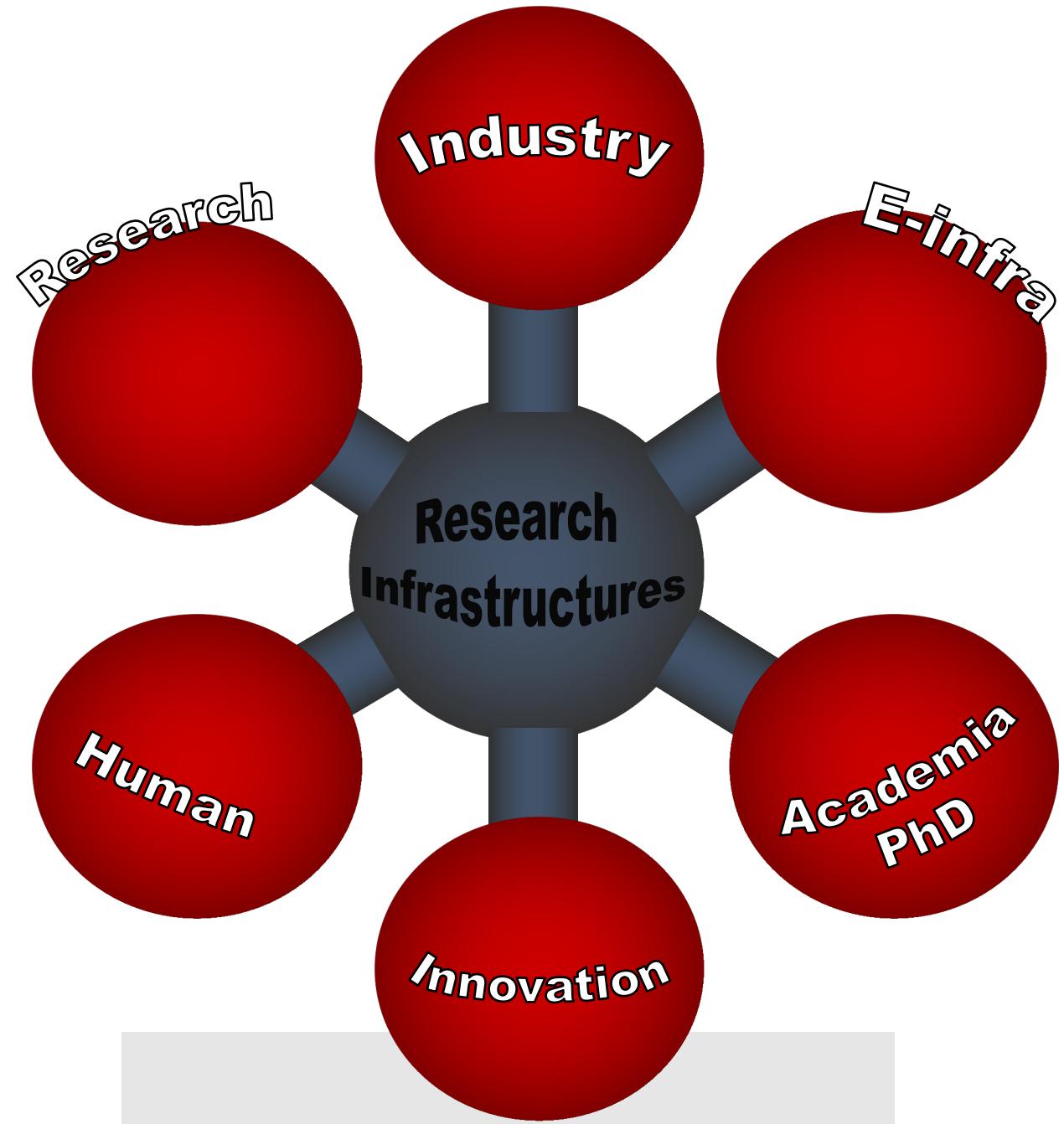
Konuşma Kapsamı

- ESFRI
- ERA
- Avrupa Eğitim Alanı
- İnovasyon, SKA
- Gezegen ve Toplumsal Boyut
- Tedarik Zinciri
- Kritik Kütle ve Sürdürülebilirlik



2052: A
Global
Forecast for
the Next
Forty Years





- Hızlı çözüm
- Etki süresi
- İklim paradoksu
- Detay modelleme



EUROPEAN UNION

EU
MISSIONS

Five EU Missions

Adaptation to
Climate Change



Cancer



Climate-neutral
and Smart Cities



Restore our
Ocean and Waters



Soil Deal
for Europe

ECCSEL ERIC	European Carbon Dioxide Capture and Storage Laboratory Infrastructure
EU-SOLARIS	European Solar Research Infrastructure for Concentrated Solar Power
JHR	Jules Horowitz Reactor
ACTRIS	Aerosol, Clouds and Trace Gases Research Infrastructure
EISCAT_3D	Next generation European Incoherent Scatter radar system
EMSO ERIC	European Multidisciplinary Seafloor and water-column Observatory
EPOS	European Plate Observing System
EURO-ARGO ERIC	European contribution to the international Argo Programme
IAGOS	In-service Aircraft for a Global Observing System
ICOS ERIC	Integrated Carbon Observation System
LifeWatch ERIC	e-Infrastructure for Biodiversity and Ecosystem Research
AnaEE	Analysis and Experimentation on Ecosystems
BBMRI ERIC	Biobanking and BioMolecular Resources Research Infrastructure
EATRIS ERIC	European Advanced Translational Research Infrastructure in Medicine
ECRIN ERIC	European Clinical Research Infrastructure Network
ELIXIR	A distributed infrastructure for life-science information
EMBRC ERIC	European Marine Biological Resource Centre
ERINHA	European Research Infrastructure on Highly Pathogenic Agents
EU-OPENSCREEN ERIC	European Infrastructure of Open Screening Platforms for Chemical Biology
Euro-BioImaging	European Research Infrastructure for Imaging Technologies in Biological and Biomedical Sciences
INFRAFRONTIER	European Research Infrastructure for the generation, phenotyping, archiving and distribution of mouse disease models
INSTRUCT ERIC	Integrated Structural Biology Infrastructure
MIRRI	Microbial Resource Research Infrastructure

European Strategy Forum of Research Infrastructures

22

Projects

41

Landmarks

82

Delegates

6 Roadmaps

12 Working Groups

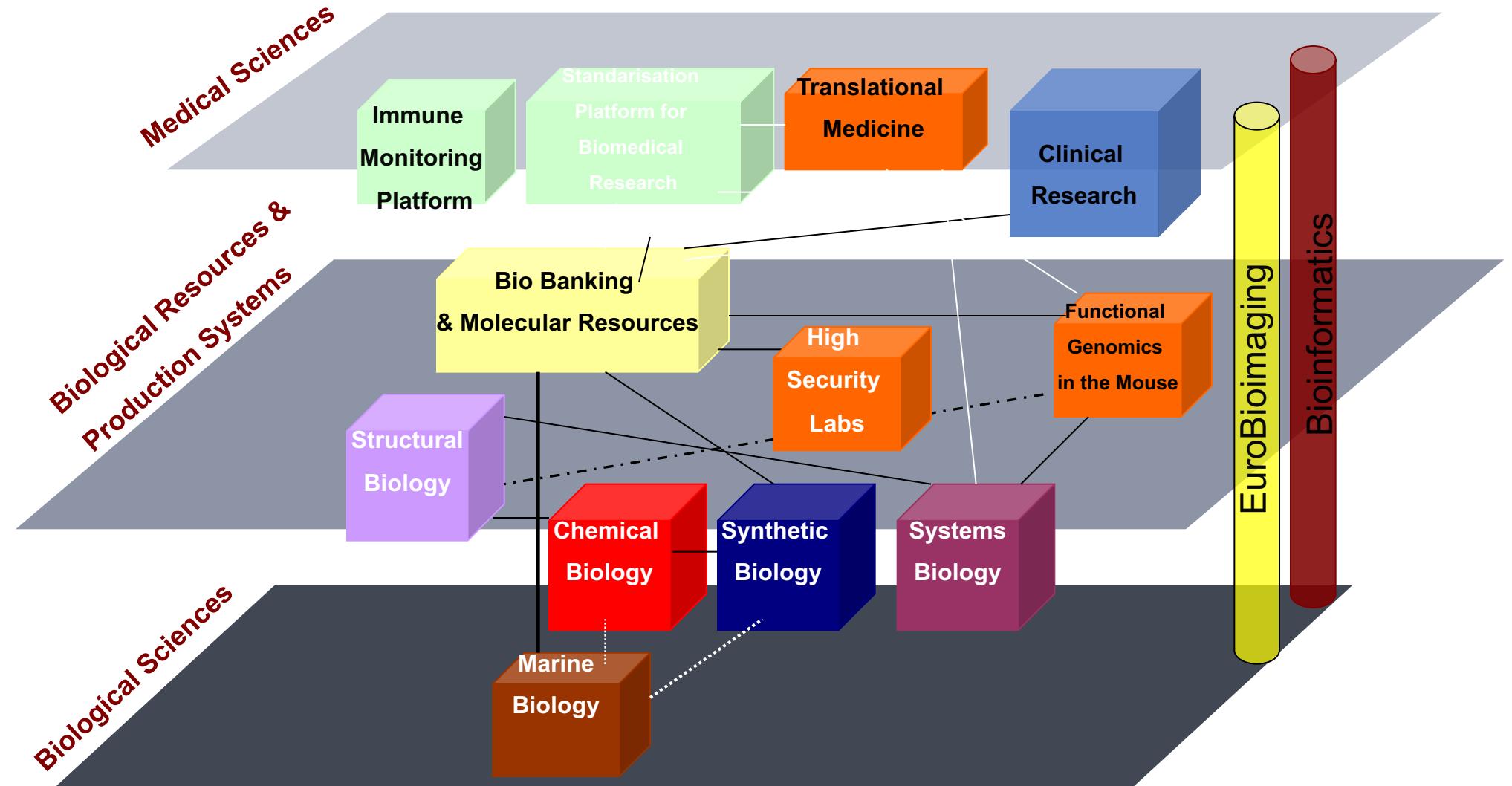
Scientific Excellence

established as major elements of competitiveness of the ERA

representing 36 countries

NAME	FULL NAME	TYPE	RIS TYPE
EBI	E-RIHS	European Research Infrastructures for Heritage	Distributed
SLI	EST	European Solar Telescope	Single-sited
Sot	ET	Einstein Telescope	project
PR/	EuPRAXIA	European Plasma Research Excellence in Applications	EIRENE RI
IFM	KM3NeT 2.0	KM3 Neutrino Telescope 2.0	Research Infrastructure for EnvIRonmental Exposure assessmeNt in Europe
MA	CTA	Cherenkov Telescope Array	EMPHASIS
EC	ELI ERIC	Extreme Light Infrastructure	European Infrastructure for Multi-scale Plant Phenomics and Simulation
EU.	ELT	Extremely Large Telescope	EU-IBISBA
JHI	EMFL	European Magnetic Field La	European Industrial Biotechnology Innovation and Synthetic Biology Accelerator
DAI	ESRF EBS	European Synchrotron Radi Brilliant Source	METROFOOD-RI
DiS	European Spallation Source ERIC	European Spallation Source	Infrastructure for Promoting Metrology in Food and Nutrition
eLT	European XFEL	European X-Ray Free-Electr	AnaEE
ACTRIS	FAIR	Facility for Antiproton and lo	Analysis and Experimentation on Ecosystems
EISCAT_3D	HL-LHC	High-Luminosity Large Had	BBMRI ERIC
EMSO ERIC	ILL	Institut Max von Laue - Paul	Biobanking and BioMolecular Resources Research Infrastructure
EPOS ERIC	SKAO	Square Kilometre Array Obs	EATRIS ERIC
EURO-ARGO ERIC	SPIRAL2	Système de Production d'lo de 2e génération	European Advanced Translational Research Infrastructure in Medicine
IGAGOS	ICOS ERIC	Integrated Carbon Observation System	ECRIN ERIC
LifeWatch ERIC	INSTRUCT ERIC	e-Infrastructure for Biodiversity and Ecosystem Research	European Clinical Research Infrastructure Network
	INFRAFRONTIER	Distributed	A distributed infrastructure for life-science information
	MIRRI	Distributed	European Marine Biological Resource Centre
	ERINHA	Distributed	European Research Infrastructure on Highly Pathogenic Agents
	EU-OPENSCREEN ERIC	Distributed	European Infrastructure of Open Screening Platforms for Chemical Biology
	Euro-BioImaging ERIC	Distributed	European Research Infrastructure for Imaging Technologies in Biological and Biomedical Sciences
	INSTRUCT ERIC	Distributed	European Research Infrastructure for the generation, phenotyping, archiving and distribution of mouse disease models
	MIRRI	Distributed	Integrated Structural Biology Infrastructure
	INSTRUCT ERIC	Distributed	Microbial Resource Research Infrastructure

LANDSCAPE



The Mediterranean a climate change hotspot where vulnerabilities are exacerbated

SoED
2020

State of the Environment and
Development in the Mediterranean

Already
0.4 °C

increase in seawater temperature
(up to +3.5°C by 2100)



A decrease of
-0.1

in the pH of the ocean since
the pre-industrial period, and
a forecast of -0.4 by 2100



Warming
20%
faster than global average

Increased fire risk
through a longer
fire season, increasing
heatwaves and drought



Low-lying coastal
cultural heritage sites
are threatened by
flooding and erosion



+1.54 °C

increase in air temperature:
above the global average
(projection in 2040: +2.2°C
versus +1.5°C global level)



-30%

of rainfall in spring/summer
by 2080 and +10/20% of heavy
rainfall events outside of summer



Sea level rise

between 0.43 and 2.5 m by 2100, depending on
scenarios and projections. Increased risk for the
20 million people living below 5m of current sea level

Consequences

- ⊕ heat waves
- ⊕ coastal erosion
- ⊕ fires
- ⊕ invasive species
- ⊕ acidification of the sea
- ⊕ floods
- ⊖ modification of migrations and
risk of extinction of certain species
- ⊖ quality aquaculture fishing
- ⊖ agriculture production

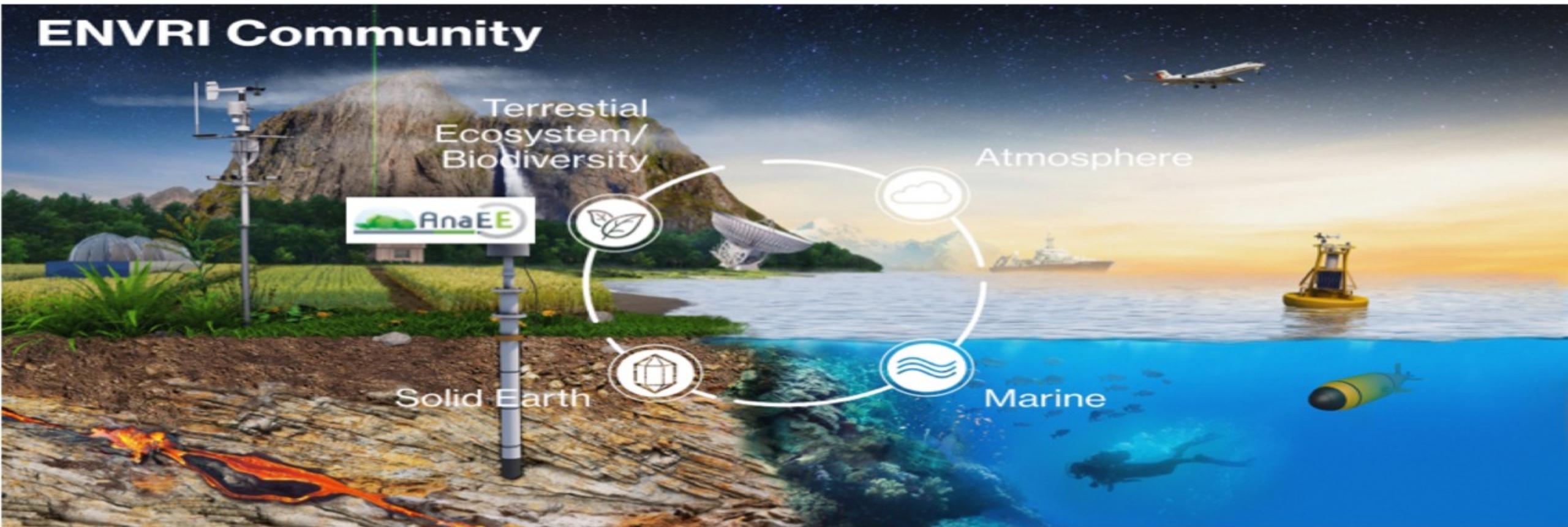


**Plan
Bleu**

#SustainableMED

To consult the full report on the State of the Environment and Development in the Mediterranean and its information sources : www.planbleu.org/seed2020

ENVRI Community







WEEKLY

White meat 2 s
 Fish/seafood ≥2 s
 Red meat <2 s
 Processed red meat and Garavolli²⁰ ≤1 s

Eggs 2–4 s
 Legumes ≥2 s
 Potatoes etc (Taro) ≤3 s
 Sweets ≤2 s

EVERYDAY

Dairy products 2 s
 Olives/nuts/seeds 1–2 s

Herbs/spices/garlic/onions
 (less added salt)
 Variety of flavours

EVERY MAIN MEAL

Fruits 2 s & Vegetables ≥2 s
 (provide diversity)
 Olive oil

Bread/pasta/rice/other cereals
 1–2 s
 (preferably whole grains)

Regular physical activity
 Adequate rest

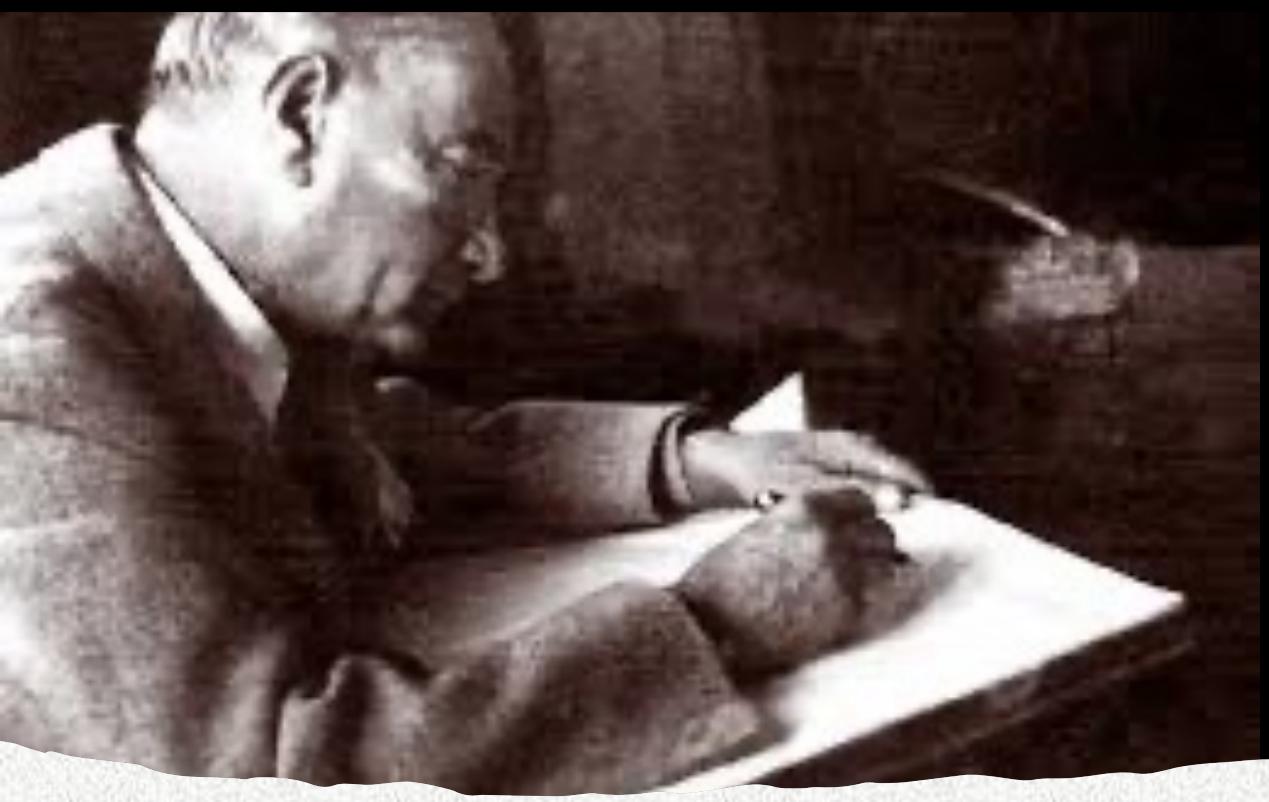
Gardening
 Food production

High

Impact to planet

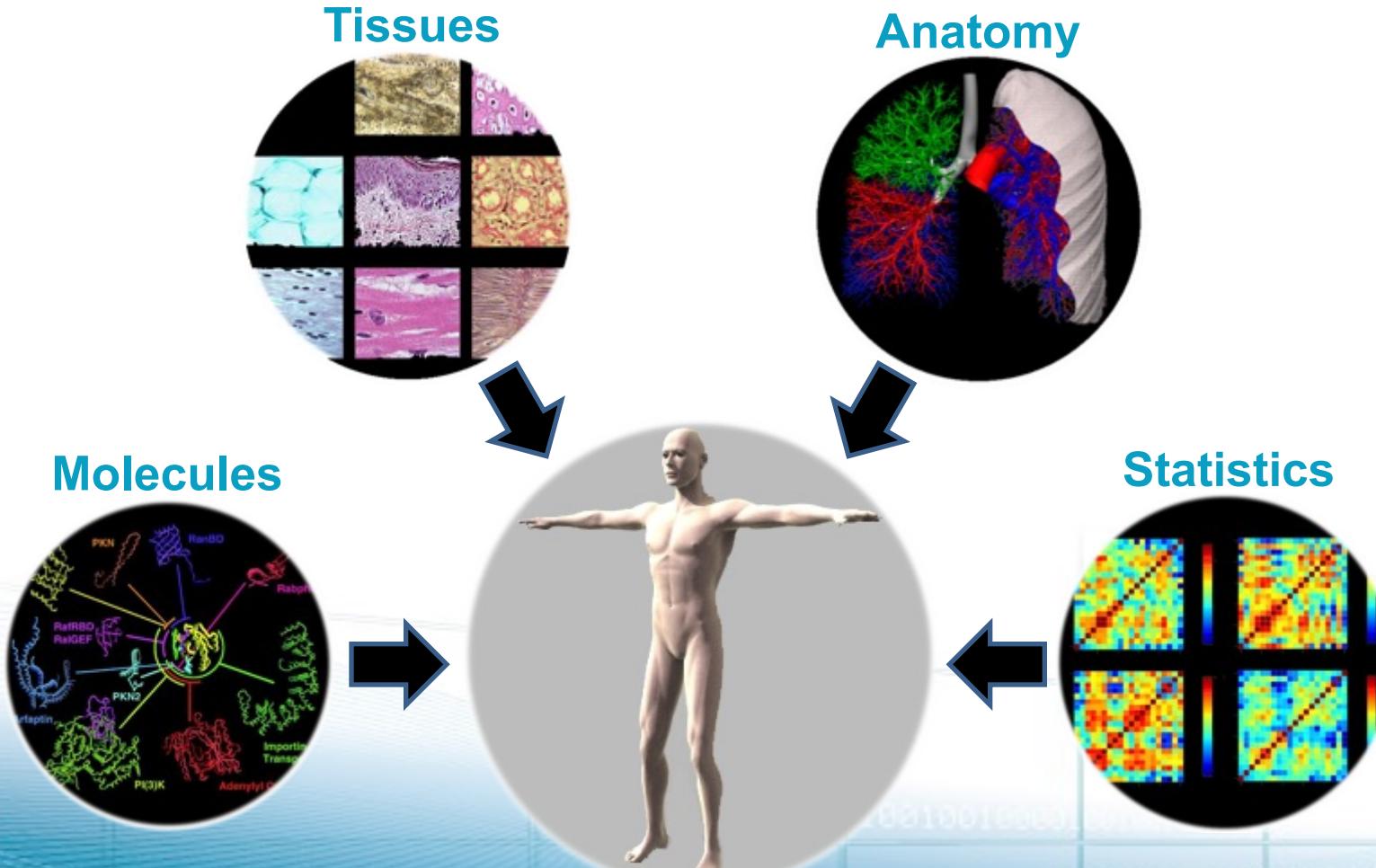
Low





SÜREGELEN...

The Virtual Patient - Integration Of Various Models

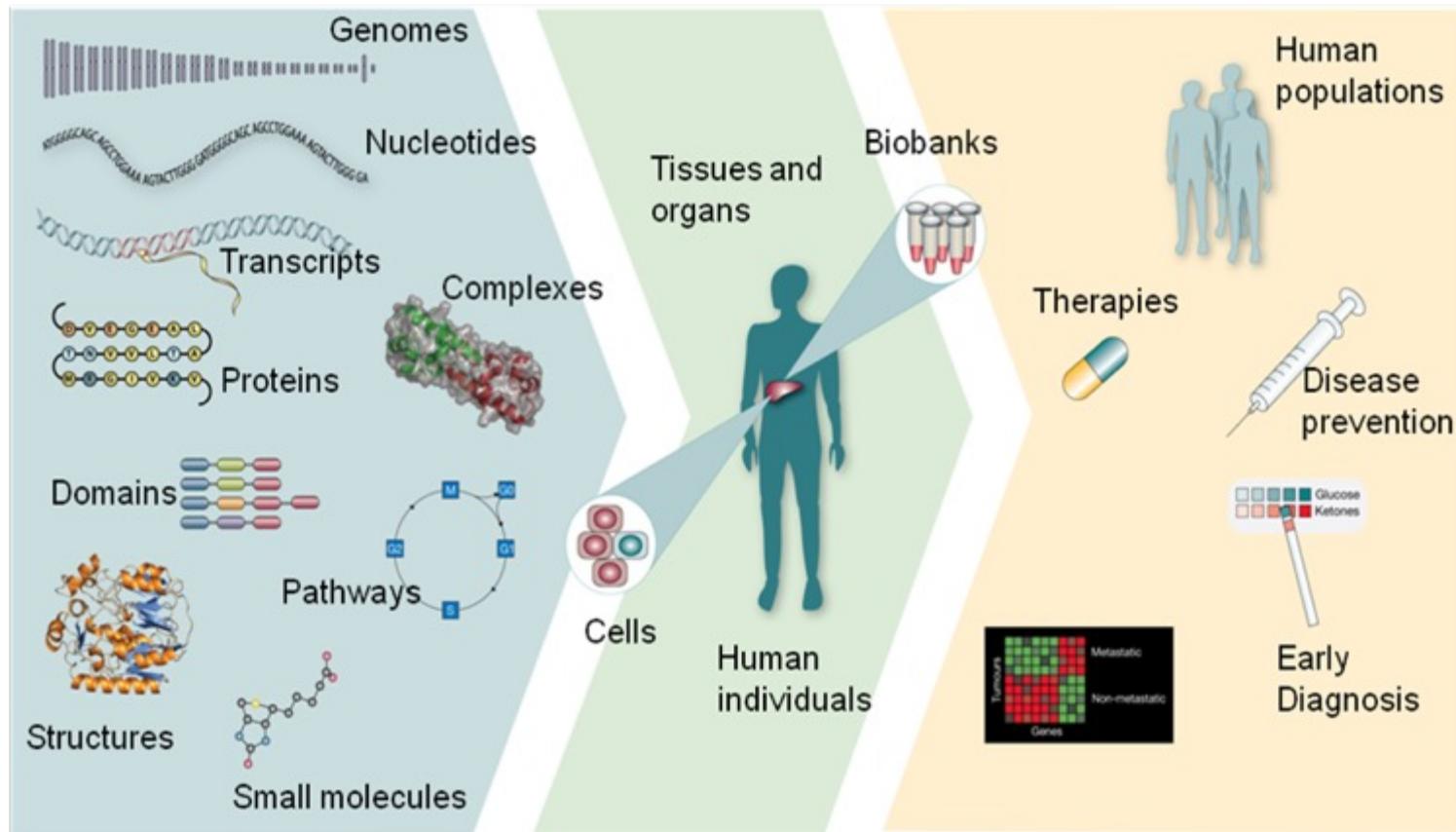


From Molecules to Medicine & Health

Molecular components

Integration

Translation





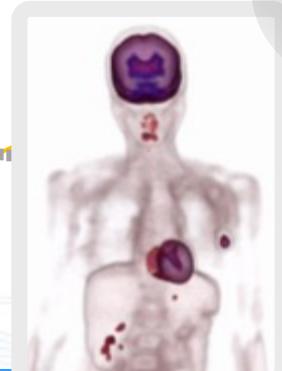
Still An Insatiable Need For Computing

Personalized Medicine

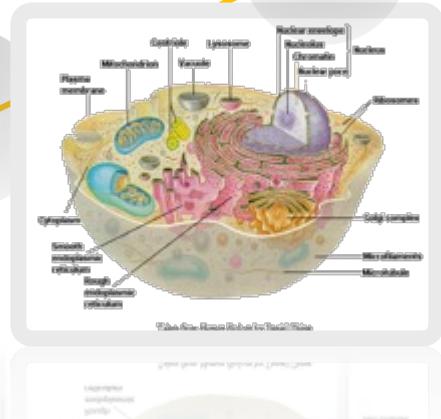


1 ZFlops
100 EFlops
10 EFlops
1 EFlops
100 PFlops
10 PFlops
1 PFlops
100 TFlops
10 TFlops
1 TFlops
100 GFlops
10 GFlops
1 GFlops
100 MFlops

Medical Imaging



Genomics Research



Weather Prediction



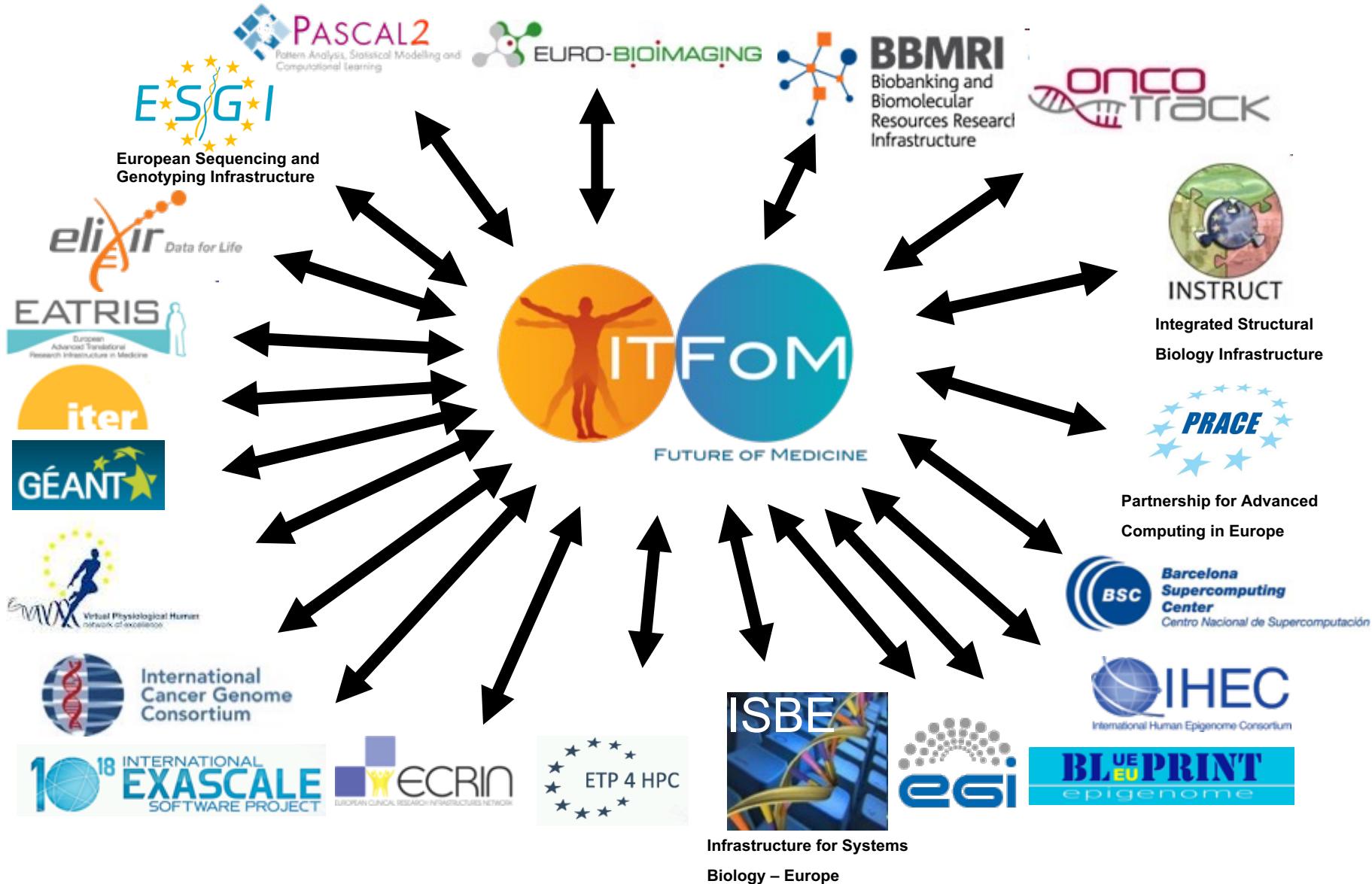
Forecast

PetaFlop Systems of Today Are

The Client And Handheld Systems 10 years Later

Source: www.top500.org

Relations to EU Infrastructures





HEALTHY AGING

Example; New Alzheimer Drug

Exploration

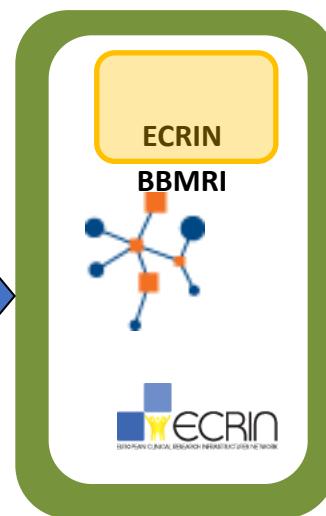
Target
Discovery

Drug
Discovery

Development

Drug
Validation

Clinical Trials





Acronym	Title
1. ANAEE	Infrastructure for Analysis and Experimentation on Ecosystems
2. BBMRI	Bio-banking and Biomolecular resources Research Infrastructure
3. EATRIS	European Advanced Translational Research Infrastructure in medicine
4. ECRIN	European Clinical Research Infrastructures Network
5. ELIXIR	European Life-Science Infrastructure for Biological Information
6. EMBRC	European Marine Biological Resource Centre
7. EU-Openscreen	European Infrastructure of Open Screening Platforms for Chemical Biology
8. Euro-BioImaging	European Research Infrastructure for Biomedical Imaging
9. ERINHA	European Research Infrastructure on Highly Pathogenic Agents
10. Infrafrontier	European Infrastructure for phenotyping and archiving of model mammalian genomes
11. INSTRUCT	Integrated Structural Biology Infrastructure
12. ISBE	Infrastructure for Systems Biology – Europe
13. MIRRI	Microbial Resource Research Infrastructure



TUCRIN



Health Technologies Research

Circular Economy Workshop, NERITA



- Paketlemede inovasyon
(RFID, BioLabel, Smart)
- Uzay madenciliği,
- Güneş koruma, Yelken



More microplastics in babies' faeces than in adults' - study

Researchers say children's mouthing behaviour and products such as bottles may be to blame



▲ Infants were found to have 10-20 times higher levels of PET microplastics in their faeces.
Photograph: NataliaDeriabina/Getty Images/iStockphoto

Infants have more microplastics in their faeces than adults, a study has found.

New York University School of Medicine discovered that infants have 10 to 20 times higher microplastic concentrations in their stool than adults, specifically when it comes to PET (polyethylene terephthalate) microplastics



IIS
IE
E
ACOSM

DANUBIUS
DISSCO
EISCAT_3D
ELIXIR
eLTER

EMBRC
EMPHASIS
EMSO
EPOS

EURO-
EURO-


YAKIN DOĞU ÜNİVERSİTESİ
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Teşekkür ederim

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NERITA
NEAR EAST RESEARCH INNOVATION TECHNOLOGY AREA

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