

European Physical Society

1968 - 2018

David Lee

Secretary General

Presentation to the SEENET-MTP

11 June 2018

The European Physical Society



42 Member
Societies

Over 130,000
physicists

To promote
physics in
Europe

European Physical Society

1968 – A new perspective



December 1968

Apollo 8 view of the Earth rising over the moon, the first time our planet is seen from space !
(Photo: NASA/Getty)



Europe is divided



1968 – Vietnam War



Hovering U.S. Army helicopters covering South Vietnamese ground troops.



April, Hue, South Vietnam:

A paratrooper of 101st Airborne, guides a medical evacuation to pick up casualties during a patrol (Tet Offensive)
(Photo: Art Greenspon/AP)

1968 – Civil Rights Movement



Memphis, Tennessee
National guardsmen
brandishing bayonets
block civil rights activists
trying to stage a
protest, flanked by tanks
(Photo: Bettman/Corbis)



Memphis, Tennessee:
The civil rights leader Dr Martin
Luther King Jr lying in state as
his colleagues pay their
respects to him.
(Photo: Keystone/Getty)

1968 – Student revolt - Paris



May, Paris, France

A young woman challenges riot police near the Mabillon intersection, Boulevard Saint Germain
(Photo: Sipa Press/Rex Features)



May, Paris, France:

Security forces block the entrance to the Place de la Sorbonne
(Photo: Sipa Press/Rex Features)

1968 – The end of the Kennedy era



After John F. Kennedy, killed the 22 novembre 1963 à Dallas his brother Robert F. Kennedy is fatally shot in Los Angeles on 5 June 1968 after winning California presidential primaries

June 5, Los Angeles, USA:
Senator Robert Kennedy is shot while Juan Romero, a busboy at the Ambassador hotel, tries to comfort him
(Photo: Boris Yaro)

1968 – The Prague Spring



**20-21 August, Prague,
Czechoslovakia**

Emotional scenes as
crowds gather after the
Russian invasion (Photo:
Reg Lancaster/Getty)



More tanks roll down the paved
streets

(Photo: Jan and Bohumil
Hajny)

1968 – Political and Social Protest



Olympic Games, Mexico



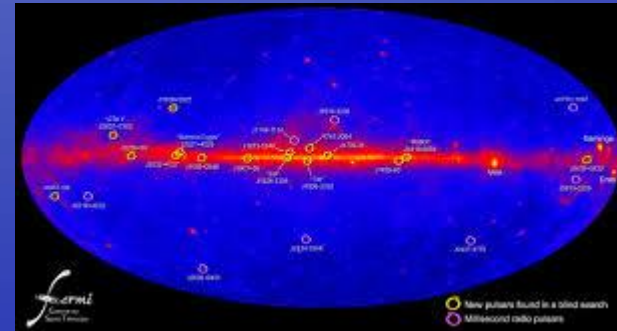
Hippies
and
Flower
Power



1968 – Scientific progress

Astronomy

Thomas Gold explains the recently discovered radio pulsars as rapidly rotating neutron stars; subsequent observations confirm the suggestion

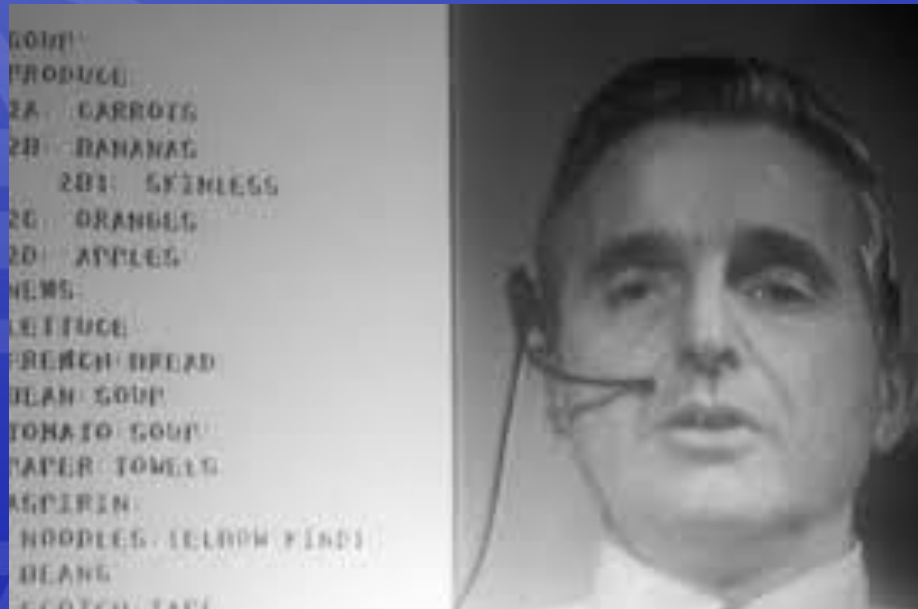


Computer Science

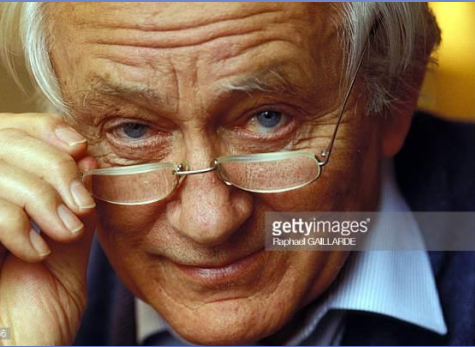
18 July – The semiconductor chip company **Intel** is founded by Gordon E. Moore and Robert Noyce in Mountain View, California.

1968 – Scientific progress

9 Dec. – "The Mother of All Demos", Douglas Engelbart of Stanford Research Institute demonstrates for the first time the computer mouse, the video conference, teleconferencing, hypertext word processing, hypermedia, object addressing, the dynamic linker and a collaborative real-time editor using NLS



1968 – Scientific progress



Physics

Georges Charpak develops the **multiwire proportional chamber** for particle detection at CERN



Luis Walter Alvarez (1911–1988, USA) gets the Nobel Prize in Physics "for his contributions to elementary particle physics, the discovery of a large number of resonance states, made possible by using the **hydrogen bubble chamber** and specific data analysis"

1968 – Scientific progress



Space exploration

- **15-22 Sept.** - Soviet spacecraft **Zond 5** becomes the first vehicle to circle the Moon (Sept. 18) and return to splashdown on Earth

- **11 Oct.** - Apollo program: NASA launched the first manned **Apollo 7** mission, with astronauts W. Schirra, D. F. Eisele and R. W. Cunningham aboard.



1968 – Scientific progress

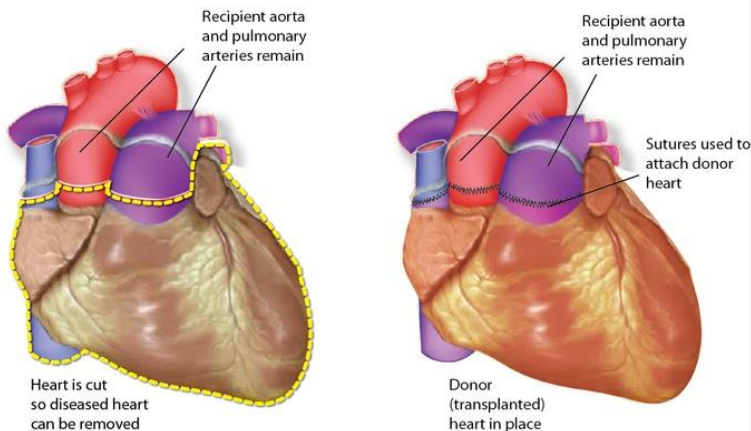


Space exploration

- **24 Dec. Apollo 8** enters Moon orbit. F. Borman, J. Lovell and W. A. Anders are first humans to see the far side of the Moon and planet Earth as a whole.

1968 – Scientific progress

Heart transplant



Medicine

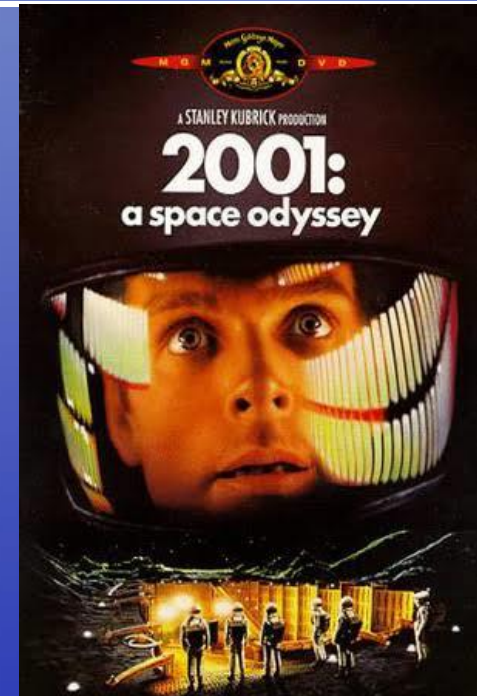
- 2 Jan. – Dr. Christiaan Barnard performs second successful **human heart transplant**, in South Africa, on Philip Blaiberg, who survives for nineteen months.



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1968 – Cultural Events

- 4 April –2001: A Space Odyssey, based on a story by Arthur C. Clarke.
- James D. Watson – The Double Helix: A Personal Account of the Discovery of the Structure of DNA
- *Hey Jude*, by the Beatles top of the music charts



1968 – In memoriam

- 27 March – Yuri Gagarin (born 1934), Russian cosmonaut, the first man in space.
- 1 April – Lev D. Landau (born 1908), Russian physicist.
- 28 July - Otto Hahn (born 1879), German chemist, 1944 Nobel Prize in Chemistry.
- 27 October - Lise Meitner (born 1878), German physicist, discoverer in 1939, with Otto Hahn, of nuclear fission.

1968 – The foundation of the EPS

- Nov. 1965: G. Bernardini shares his idea of EPS at the SIF meeting in Bologna
- 16-17 April 1966: Approval of the initial resolution at a special meeting in Pisa
- 25 Nov. 1966: Steering Committee + Nat. Phys. Soc. meeting at CERN: no final agreement

1968 – The foundation of the EPS

- 16 May 1967: New meeting in London: agreement on individual, collective & associate membership
- 30 Jan. 1968: Steering Com. Meeting at Batelle, Geneva decision to hold founding meeting in Sept. 1968

1968 – The foundation of the EPS

- 3-4 May 1968: Steering Com. Meeting in Prague to discuss better involvement of Eastern EU countries
- 12 Sept. 1968: Emergency meeting of Steering Com. decision to go ahead as planned (after Prague invasion)

1968 – The foundation of the EPS

- 26 Sept. 1968: EPS constitutive assembly in Aula Magna, University Geneva
- G. Bernardini: first president of EPS
- Secretariat: first at CERN, then Institut Battelle, finally in Petit-Lancy (GE)
- Branch secretariat in Prague, Czech. Academy of Science, until 1973

1968 – The foundation of the EPS

- 8-12 April 1969: Inaugural Conference in Florence, first of triennial conference “Trends in Physics”, and first EPS General Meeting



1968 – The foundation of the EPS

- *“... as a further demonstration of the determination of scientists to collaborate as close as possible in order to make their positive contribution to the strength of European cultural unity”*



Priorities

Services to Divisions

Public Awareness

European Integration

International Cooperation

Advocacy for the physics community

Publication

Next Generation

EPS 50



Symbolizes deformation of space-time by a mass according to Einstein's general relativity theory



Old or new ?

Physics in YOUR life

Fundamental science in your pocket **THE SMARTPHONE**

Your smartphone, which you probably carry in your pocket, is one of the most amazing artefacts in the history of science and technology. We are not always aware of the impact of fundamental research discovered in our daily lives. But this small, unassuming object, which was first commercialised on a large scale in 2007, owes its existence to decades of scientific research, often recognised by the award of the Nobel Prize. For example, the modern development of liquid crystal screens and its application to LCD displays has been deeply influenced by the work of P.-G. de Gennes (Nobel in physics, 1991). Another breakthrough for modern cameras was the invention of the imaging and non-destructive CCD light sensor, by W. S. Boyle and G. E. Smith (Nobel in physics, 2009). The precise localisation of your smartphone is also possible thanks to the GPS, the

global positioning system, that requires accurate time measurement with atomic clocks and the known position of specialised satellites. Without knowledge of many physical principles and of Einstein's relativity theory, the GPS wouldn't work today. Among the technologies that contributed to the modern smartphone let's mention in particular the high performance microelectronic microprocessors, the high-density memory, the lithium-ion battery, the data network and standards for wireless communication, the RAM and integrated to securely identify and authenticate themselves, the touchscreens and the OLED organic light-emitting diode display. These fantastic achievements, integrated in a single device, were only possible with the collaborative work between research scientists, engineers and industrial developers.

TOPICS

- Lasers for communication
- MRI for Medical Diagnostics
- GPS for Localisation and Navigation
- Particles for Health
- Physics for cultural heritage
- Modelling for climate change
- Innovative materials for sustainable Energy
- Spectroscopy for environmental monitoring
- Fundamental science in your pocket - the smartphone
- LED there be light
- Nanotechnology for clean water
- Radio waves for tracking and identification



EPS 50 – Special Sections in EPN



The European Physical Society is celebrating its 50th anniversary in 2018. The EPS was created as and remains a grass-roots organisation, close to the main concerns of its members. There are many thousands of people who have contributed to its development and success over the past 5 decades, and we would like to take this opportunity to express our truly sincere thanks to all of you who have been involved. In issues 462 and 463 of *Europhysics News*, we will present the growth of the EPS, both in terms of the number of Member Societies and its Divisions and Groups, and some of the many highlights of the EPS over the past 50 years. It is interesting to see how current events have shaped the EPS, and how the EPS has contributed to the development of physics. In particular through the EPS Divisions and Groups. Thanks should also go to the group that has industriously worked to prepare these short highlights as testimony to the work of the thousands of volunteers that have been involved in the EPS and its activities. The members of the group were: H. Ferdinands, K. Grandin, M. Huber, H. Kubbinga, D. Lee, P. Melville, C. Roessel and R. Voss.

TOPICS

- 1968 THE FOUNDATION OF EPS
- EAST WEST RELATIONS
- THE EPS STAFF 1968-2018
- STUDENT MOBILITY
- THE HISTORY OF EPN
- THE HUNGARIAN CONNECTION
- EPS AND THE MOVE TO MULHOUSE

EPS 50 – Festackt

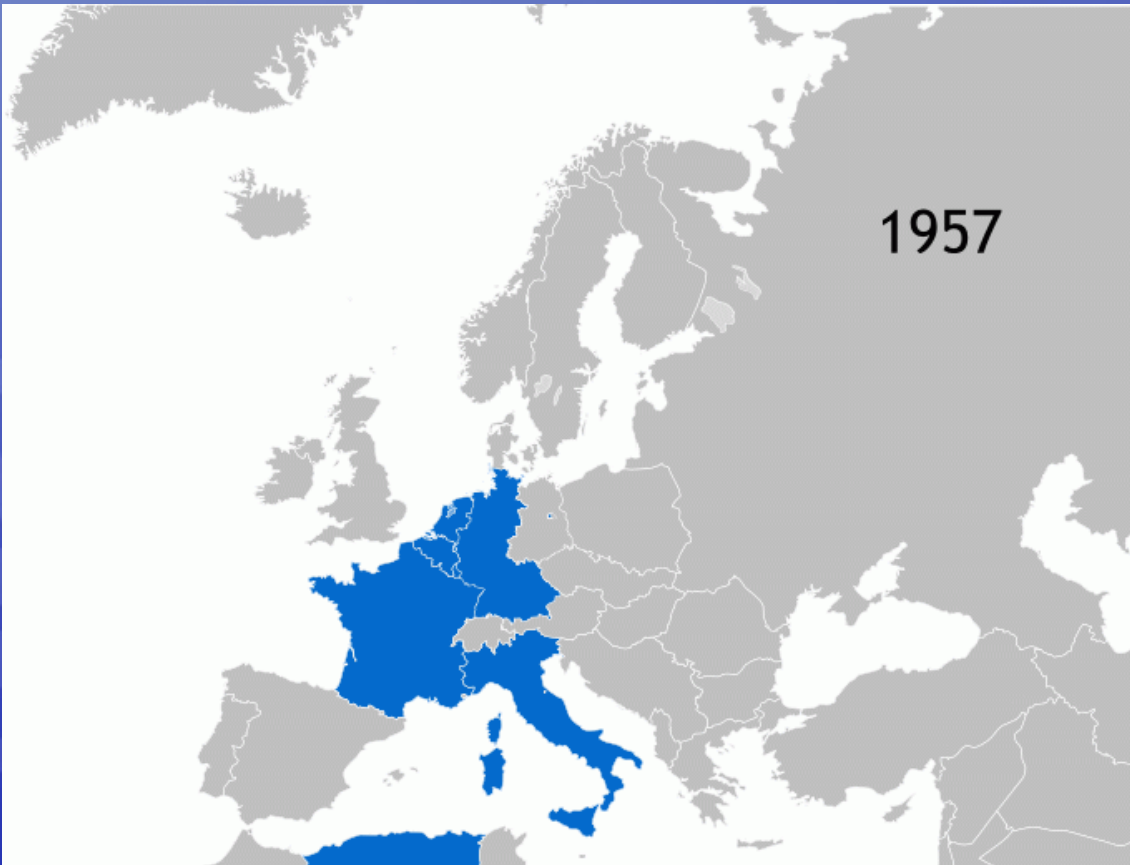
- **Location:** Aula Magna University Building ‘Les Bastions’, Geneva
- **Time :** Friday 28. Sept. 2018 afternoon 14.00 – 18.30

Speakers

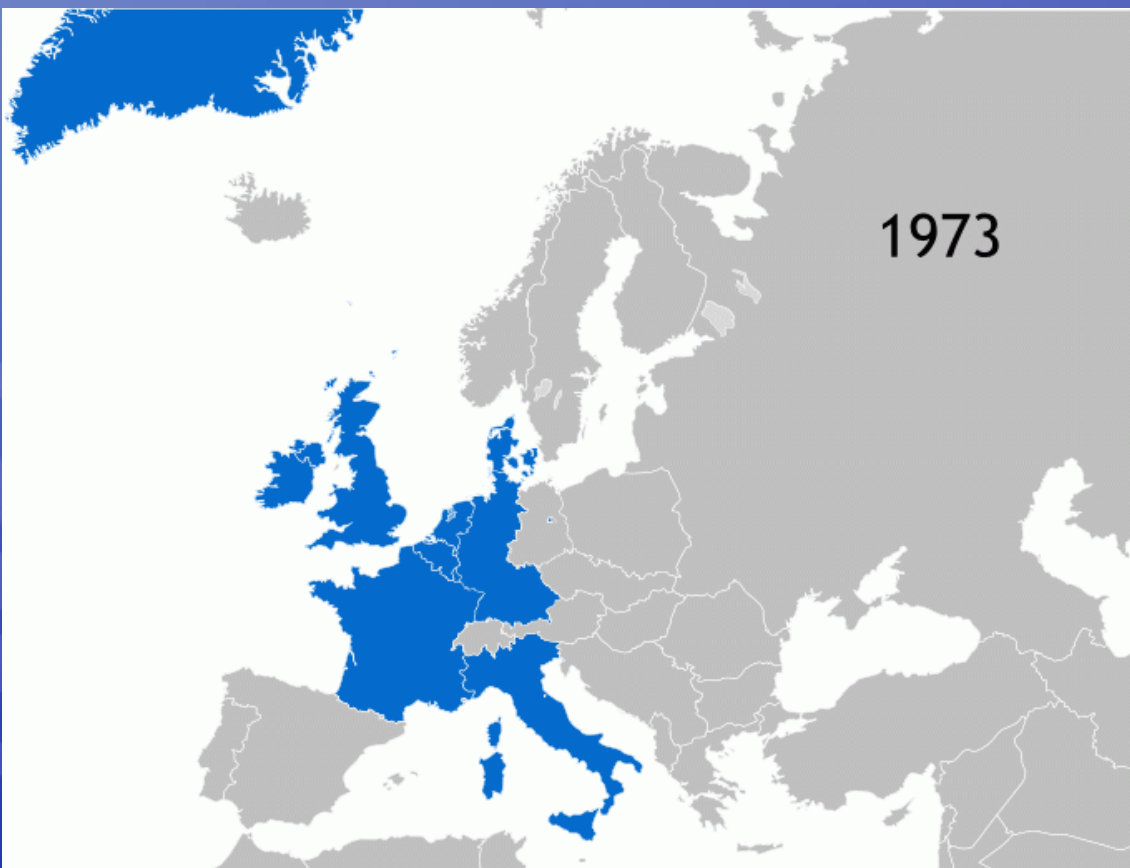
- Serge Haroche, Nobel Prize 2012
- Carlos Moedas, European Commissioner for Research
- Ernst von Weizäcker, Vice President Club of Rome
- Luisa Cifarelli, President of the Italian Physical Society and past EPS President



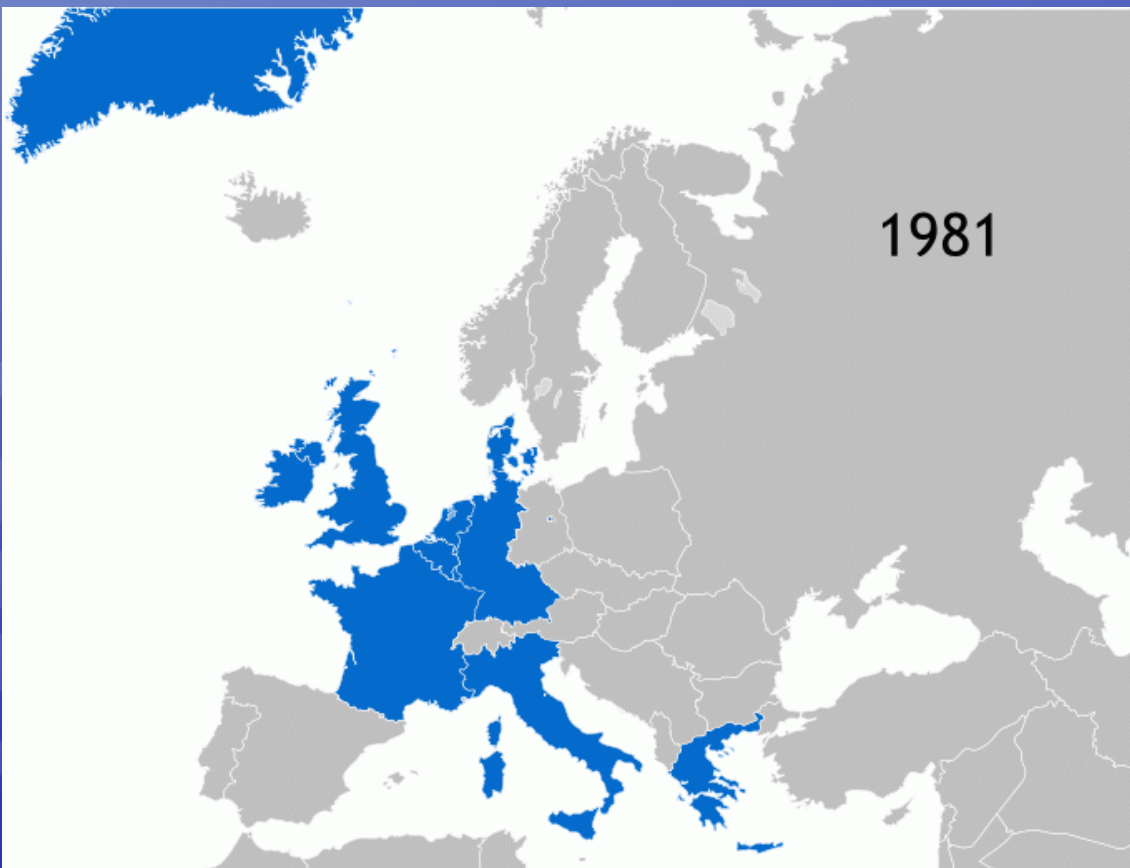
EEC



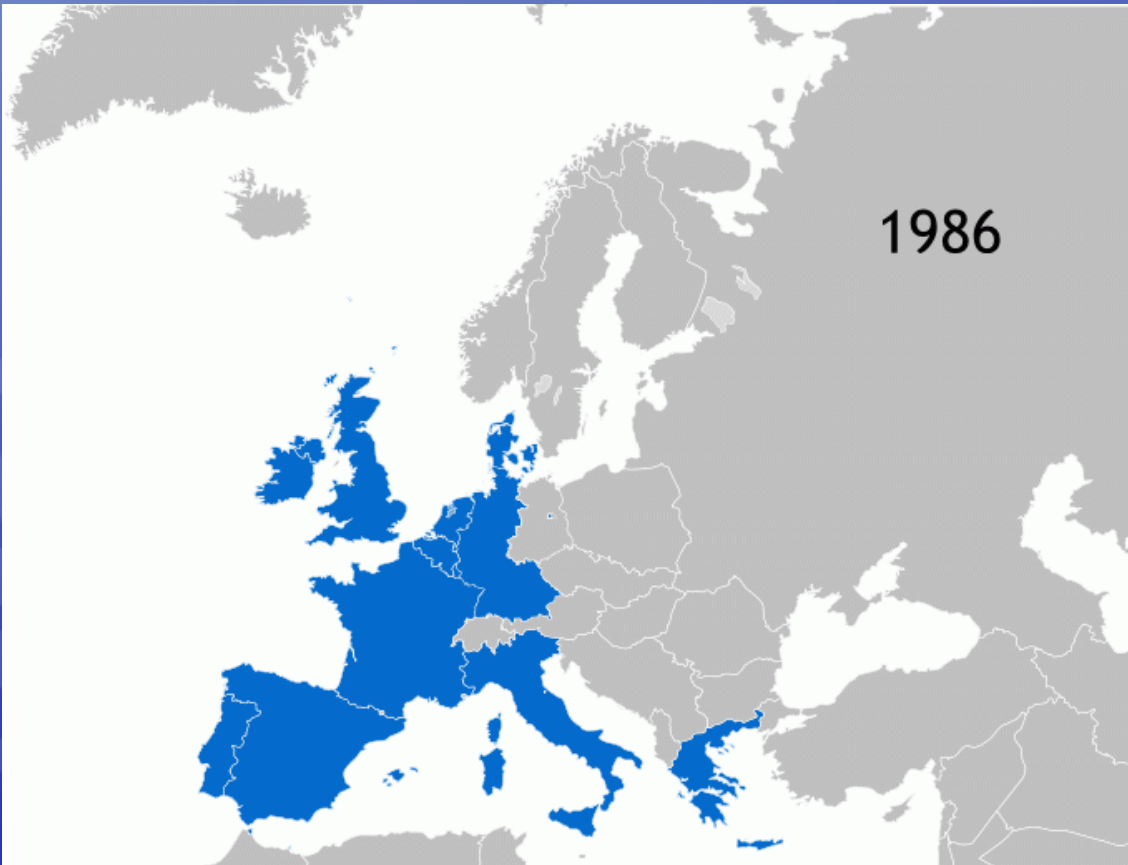
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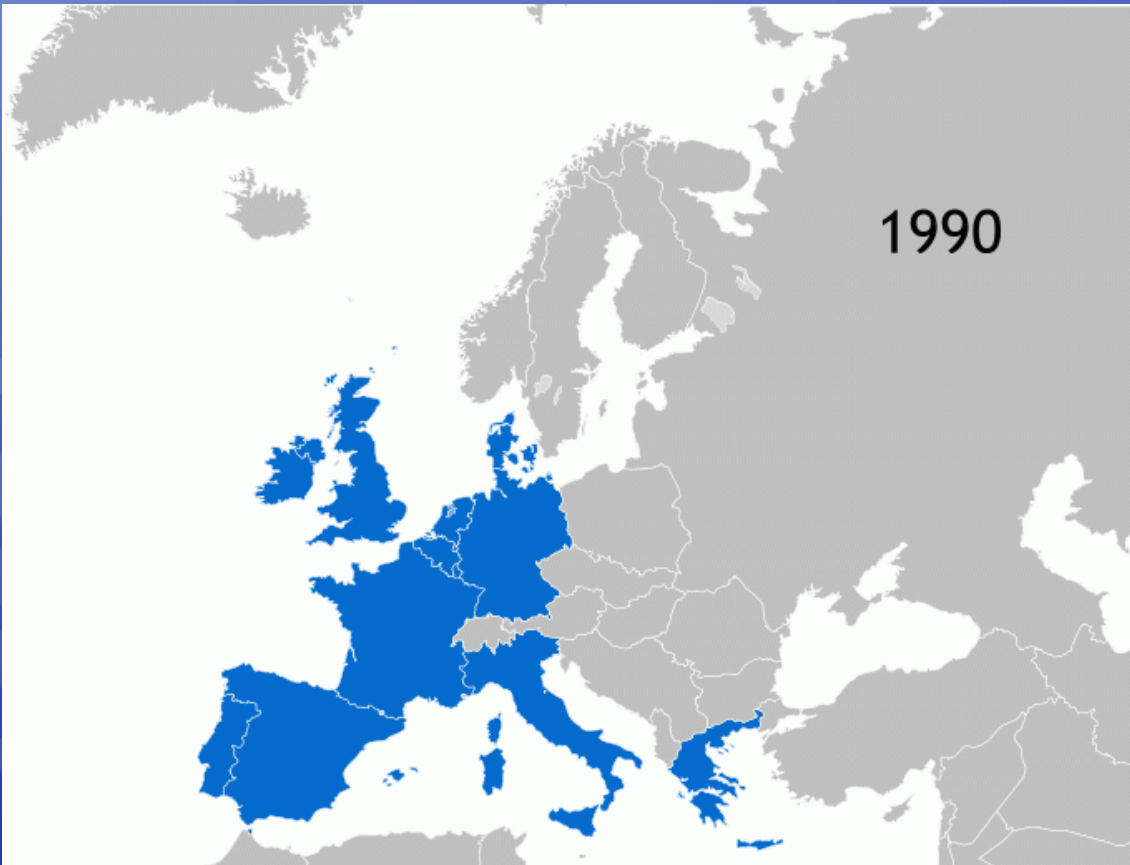
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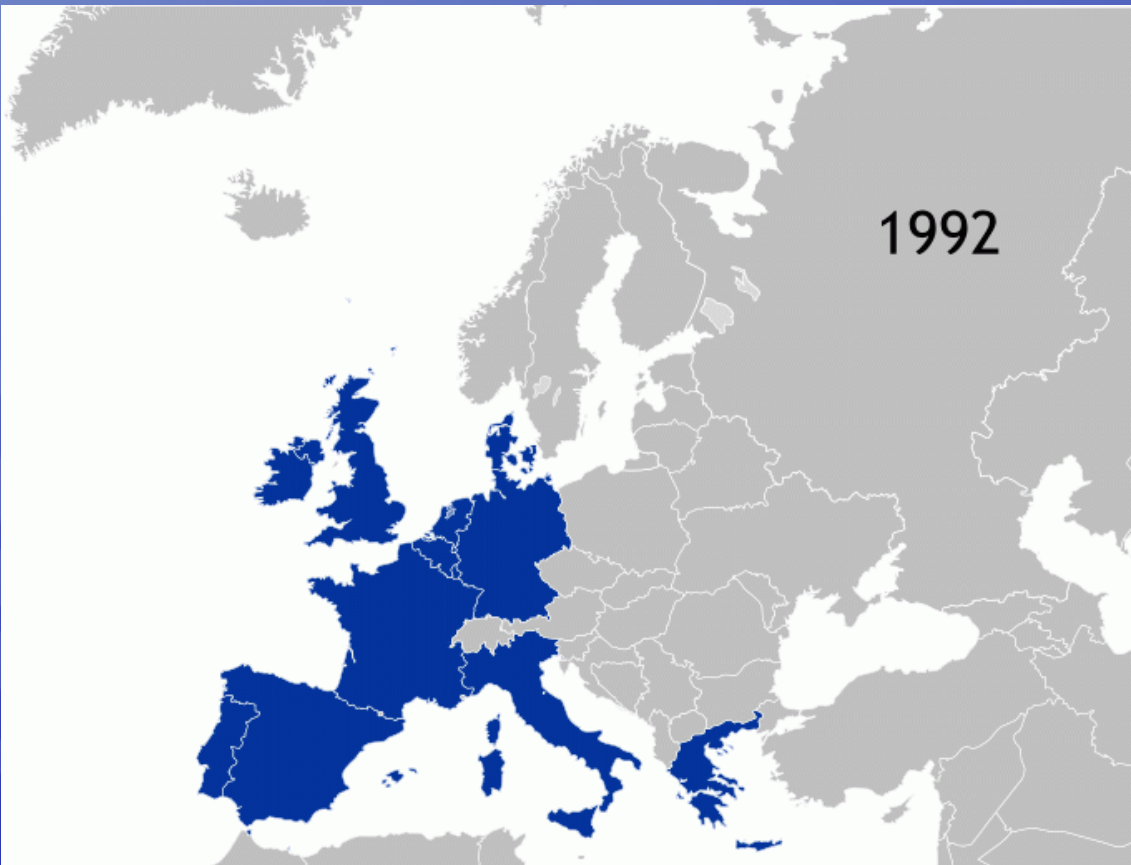
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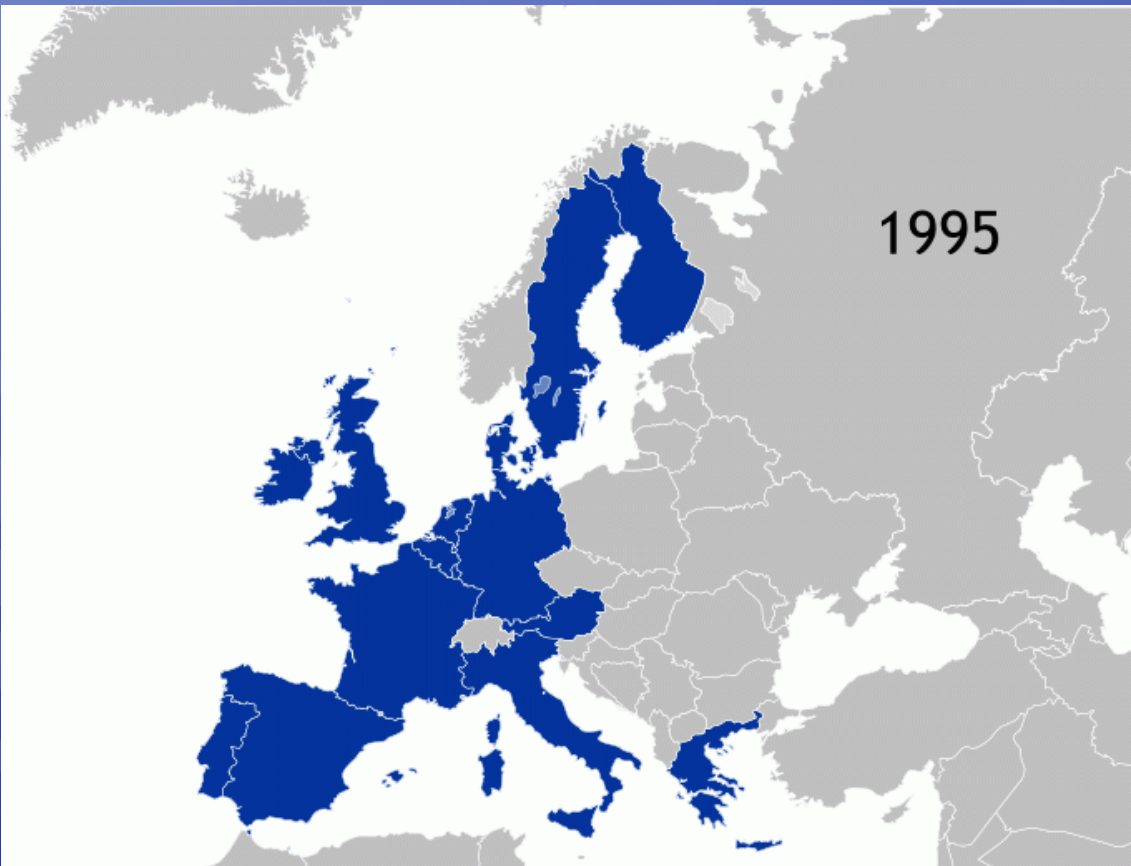
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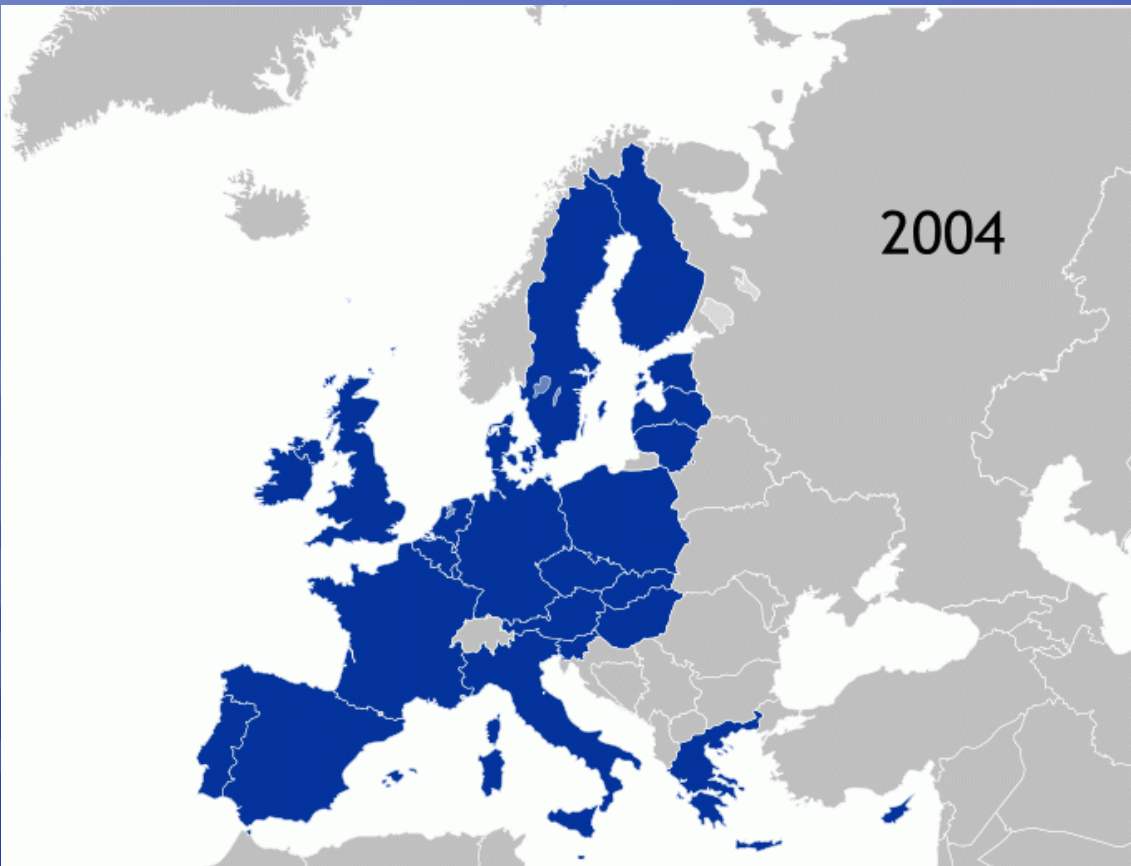
EU



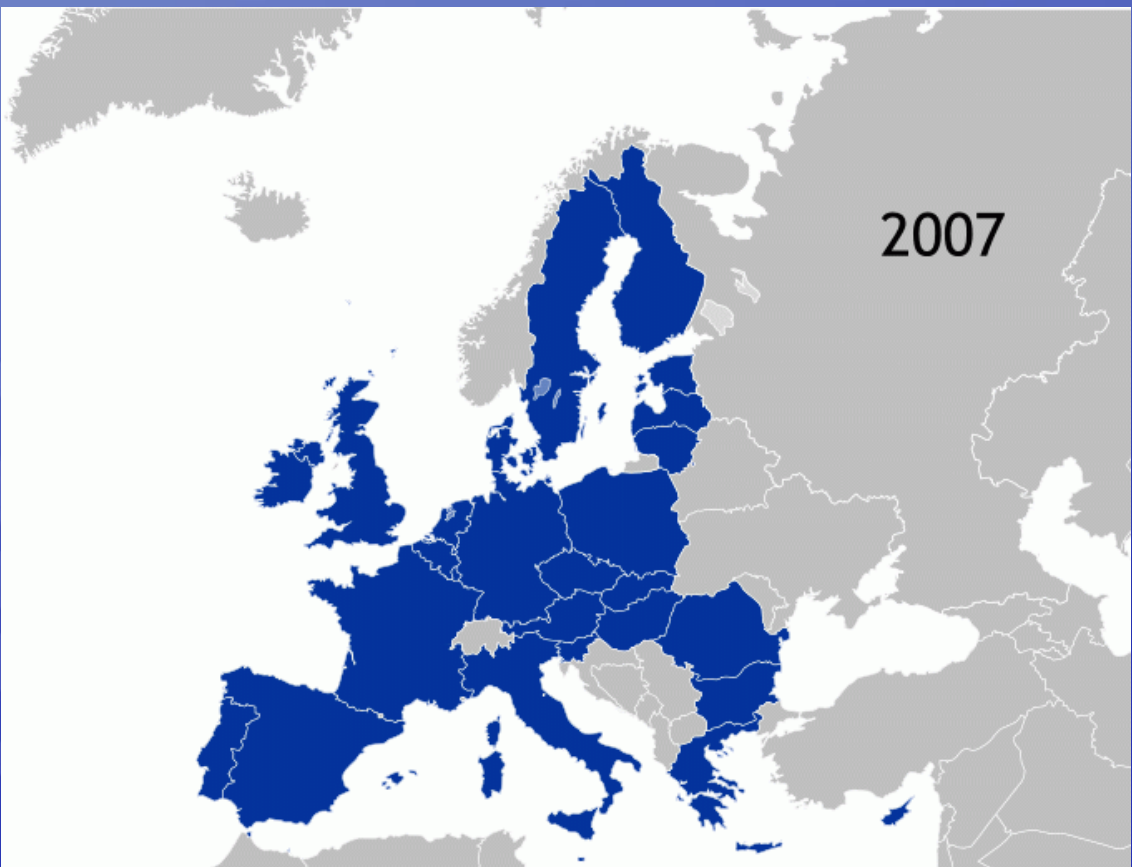
EU



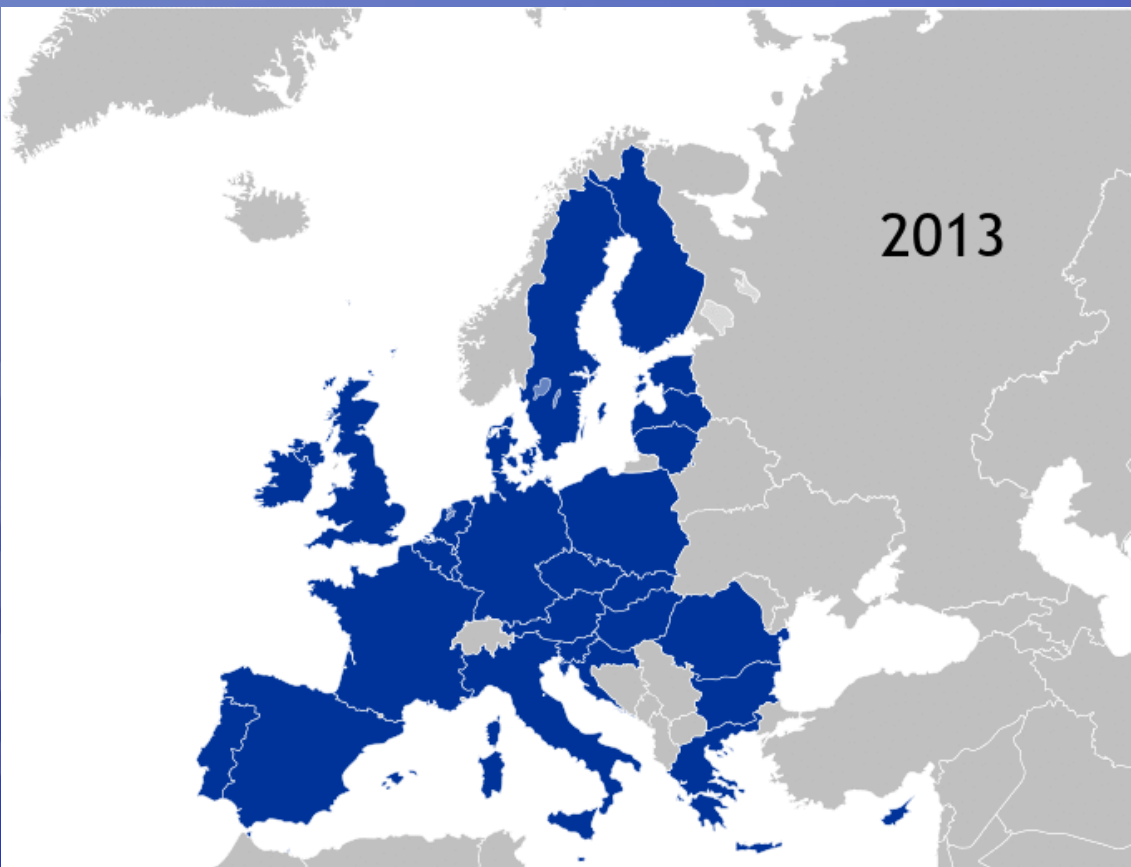
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EU



EU



New Policy Challenges

8 priorities of the Open Science Agenda of the European Commission

1. Reward system and careers
2. Measuring quality and impact: altmetrics
3. Changing business models for OA publishing
4. FAIR open data (Findable, Accessible, Interoperable, and Re-usable)
5. European Open Science Cloud
6. Research integrity
7. Citizen Science
8. Open education and skills

New Skills for scientists



Priorities

Services to Divisions

Public Awareness

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Advocacy for the physics community

Publication

Next Generation

Thank you