European Space Policy
Harnessing Space to serve the citizen

The EU is establishing a European Space Policy and setting up a strong European Space Programme. These initiatives are vital to the growth and development of our society and will have a direct positive impact on our lives.

The establishment of a Europe-wide Space Policy demonstrates the ability of the EU to take the lead in areas of strategic importance that link a variety of policy areas - from telecommunications to humanitarian aid.

Along with Europe's two flagship Space Programmes, Galileo (global satellite navigation system) and Copernicus (global monitoring for environment and security system), Europe is also strengthening its capacity for sea monitoring, border surveillance, space exploration and providing all EU countries with access to space.

European Space Policy will ensure that Europe plays a leading and significant role in space and that space-based technologies maximise benefits to its citizens and contribute to competitiveness, growth and job creation.

Space Research – New ideas for a brighter future

European Commission Space Research and Development activities play an important part in European Space Policy and complement the efforts of Member States and other key players, including the European Space Agency (ESA).

Europe has been active in the space sector for decades. Its activities range from launchers and space exploration, to satellite applications that provide services to society.

Space Research contributes to achieving important objectives in areas such as transport, agriculture, fisheries, emergency management, humanitarian aid and more. Services based on Space Research allow the efficient functioning of modern society. For example, satellites deliver live news broadcasts, enable modern navigation systems and provide weather forecasts.

In cooperation with:

GSA · esa · SatCen European Union Satellite Centre · GALILEO · EGNOS · Copernicus · EUROVEA · BRATISLAVA

EN

European Commission

European Space Expo

Discover what space brings to your life

Bratislava,
18 - 23 May 2013

ec.europa.eu/eu-space-expo

Welcome to the European Space Expo!

Through this unique, travelling exhibition, the wide range of benefits that Space brings to Europe are literally at your fingertips! Here you are invited to see, touch and experience what Europe is doing in, and with, Space - and how these initiatives are already improving our quality of life.

Thanks to European Union investment in state-of-the-art Satellite Navigation (Galileo and EGNOS) and Earth Observation (Copernicus) services, citizens across Europe will enjoy safer, more efficient and more environmentally-friendly lives. Plus, the services and applications brought to us by the EU Space Programme are expected to create global market opportunities and help to support job creation and economic growth well into the future.

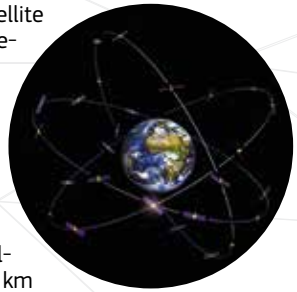
The market for global satellite navigation applications will reach €240bn by the end of the decade, with about 7 % of gross domestic product – equal to €800bn in Europe – reliant on satellite navigation services. Studies show that Galileo could contribute up to €90bn to the European economy in its first 20 years.

Alongside Galileo, Copernicus uses data collected in space and on Earth to help increase our understanding of climate change and environmental issues through the observation of, for example, the state of our oceans or the composition of our atmosphere. Copernicus will also have security applications, such as border surveillance. Copernicus is expected to bring benefits worth up to 10 times its investment. According to the OECD, the global market for Earth Observation data could rise to $3bn per year by 2017.

In addition, the European space manufacturing industry is currently worth €5.4bn per year and employs a highly qualified workforce of over 31,000.

With the European Space Expo, the European Commission, and its local partners, invite you to experience life on Earth….*made better through Space!*

GALILEO & EGNOS
Global accuracy, reliability and independence



Galileo, Europe's global satellite navigation system, will offer independent positioning, navigation and timing services and be interoperable with the American GPS and the Russian Glonass systems, offering enhanced combined performance.

Galileo will consist of 30 satellites circling at about 23,000 km above Earth. It will offer 5 services:

1. Open Service: free and open to the public
2. Public Regulated Service: secure service using encrypted signal for government use
3. Search & Rescue Service: Europe's contribution to the international Cospas–Sarsat Search & Rescue system
4. Safety of Life: Available for aviation now thanks to EGNOS, Galileo will further improve service performance
5. Commercial Service: highly accurate trusted data for professional users

EGNOS - Europe's first venture into satellite navigation

The European Geostationary Navigation Overlay Service (EGNOS), improves the accuracy of GPS over Europe making it suitable for safety critical applications, such as flying aircraft or navigating ships through narrow channels.

EGNOS provides correction information about GPS, enabling Europeans to use the more accurate data to improve or develop new services. EGNOS also verifies the system's 'integrity', which relates to how much the information is correct and can be trusted.

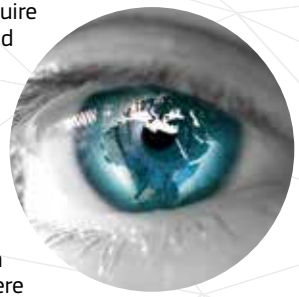
EGNOS consists of 3 satellites and a network of ground stations. It offers 3 services:

1. Open Service: free and open for anyone with an 'EGNOS-enabled' GPS device.
2. Safety-of-life Service: provides an 'integrity' message warning the user of any malfunction of the GPS signal in 6 seconds. This is essential when satellite navigation is used for applications where lives are at stake. EGNOS was certified for civil aviation in 2011.
3. The EGNOS Data Access Service (EDAS): provides EGNOS information in real time over the internet.

Copernicus
Keeping an eye on the planet

Copernicus is Europe's initiative for building an autonomous Earth monitoring capacity to improve the well-being and security of European citizens.

We face a number of critical changes to our way of life. The well being of future generations depends on effective environmental policies and immediate actions to ensure our security. To respond to today's challenges, decision makers require reliable information on how and why our planet and its climate are changing. Copernicus is Europe's response to the urgent need for accurate, reliable and timely environmental information.



How Copernicus works

Using data from Earth observation satellites, ground sensors, atmosphere monitors and ocean buoys, Copernicus provides critical environmental information in the form of maps, datasets, reports, targeted alerts, and more.

Copernicus covers many key areas with its targeted services. The Land Monitoring, Marine Environment Monitoring, and Atmosphere Monitoring services support the creation of environmental legislation and watch over its implementation and effectiveness. These services also help us better understand climate change and develop effective mitigation and adaptation policies.

Thanks to its rapid monitoring and mapping capacity, the Copernicus Emergency Management service supports worldwide aid relief when natural disasters, industrial accidents or humanitarian crises occur.

Why Copernicus?

A unified Earth observation and monitoring system provides better, faster and more cost effective information. It creates new markets and jobs, helping Europe's economy to grow.

European Space Expo

Discover what space brings to your life!

Copernicus

6 Copernicus is the European Earth Observation and Monitoring Programme. It delivers reliable information to help us better understand our planet and sustainably manage the environment we live in.

Sustainable Development and Energy

7 The management of our current energy resources is as crucial as the sustainable development of new sources. Learn how Copernicus is preparing for our energy future by better understanding the present.

Space and Mapping

5 Learn the many ways that satellite navigation supports the effective management and planning of our cities, parks and forest resources.

Agriculture and Fisheries

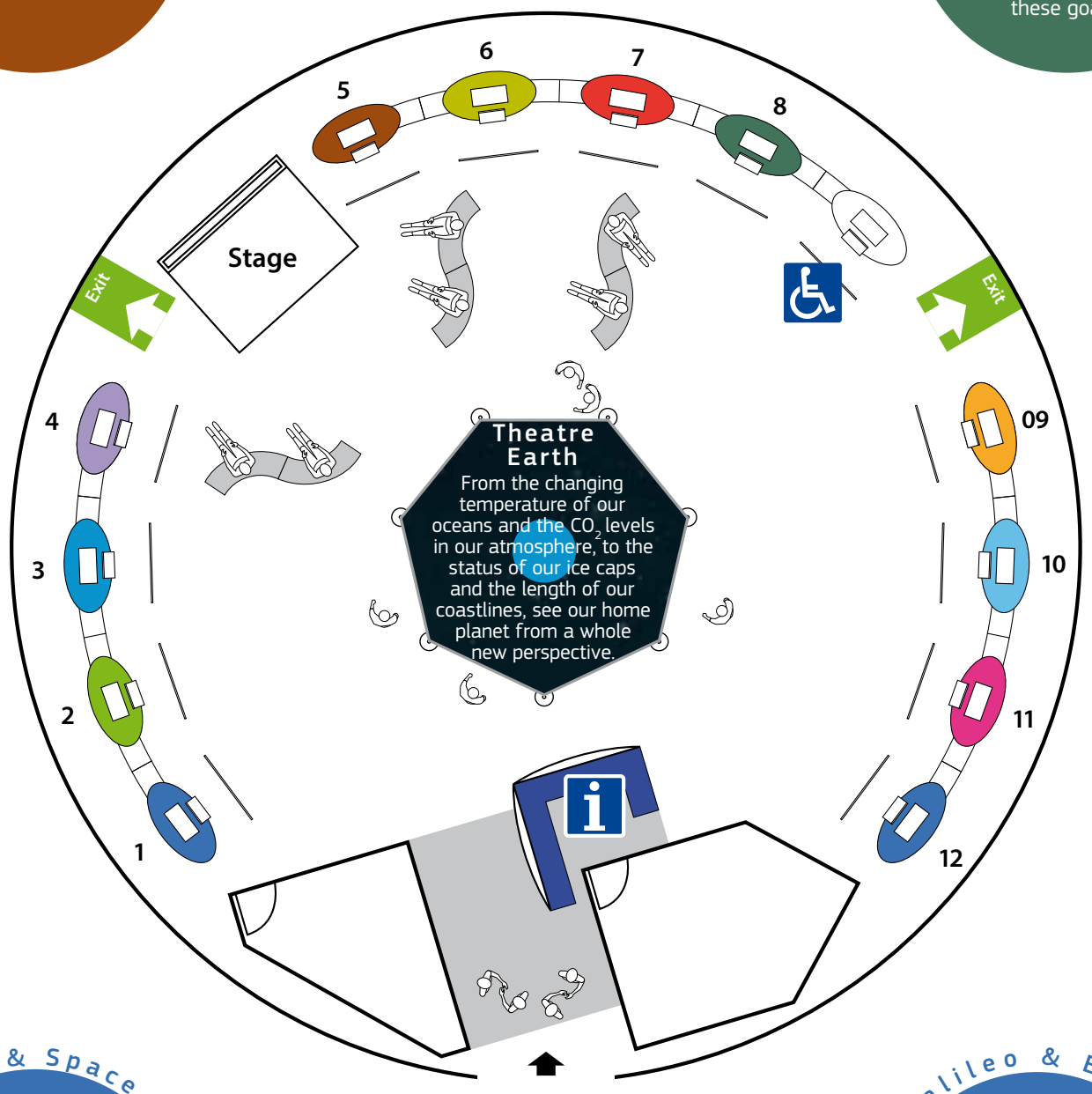
8 We want to keep fishing. We want to have enough food for everyone on the planet. We want to ensure that farming is efficient and sustainable. See how Copernicus is helping Europe and its citizens reach these goals.

Space on the Road

4 Take a tour of how satellite navigation is making our roads safer and travel by automobile more efficient and environmentally-friendly.

Supporting Emergency Management

9 Each year many people loose their lives because of earthquakes, storms and fires. The speed and accuracy of information provided to rescuers can make a difference between life and death. See how Copernicus ensures the delivery of essential information for rescue teams on the ground.



Flying with help from space

3 With over 10 million flights per year in Europe today, and an expected 20.4 million by 2030, learn how satellite navigation is making air travel safer, cleaner, quieter and more fuel efficient.

Climate Change

10 Our climate is changing as human activities transform the balance of our environment. Learn how Copernicus is helping us better understand the impact of climate change and help prepare mitigation and adaptation strategies.

Space for the Farm

2 See how satellite navigation helps farmers work more efficiently and protect the environment while providing us with a bounty of high quality and economical food products.

Keeping people and the planet healthy

11 The air we breathe, the nearby ocean, the land - indeed our entire environment – has a major influence on our well being. Learn how Copernicus provides information to help us and our environment stay healthier and safer.

Space Policy & Space Research

1 12 See how Europe's Space Policy is a vital foundation for everything from telecom to humanitarian aid and learn how Space Research is pushing back the frontiers of knowledge to devise new ways to support life on Earth by harnessing the mysteries of space.

Galileo & EGNOS

1 12 Learn about the European Galileo and EGNOS programmes. Why we need them, how they are built, what they will do, who is involved and much more!

While at the European Space Expo, we invite you to....

Experience
- The historic launch of the 1st two Galileo satellites from the European Spaceport in French Guyana.

See
- How Copernicus is keeping an eye on our atmosphere to provide services that help us everyday, such as real-time alerts that warn us when the air quality is poor and provide UV forecasts to help us stay safer in the sun.

Learn
- How EGNOS can save a farmer with a 1000 hectare farm over €12,000 a year in fuel and substantially reduce emissions.

Listen
- As experts describe the many ways space-powered technologies are already enhancing our lives.

Explore
- Our land, oceans, mountains and rivers and see them in ways you never have before.

Discover
- How the 24-hour, 7-day-a-week Copernicus Emergency Management service has saved countless lives in humanitarian crises, natural disasters and other man-made emergency situations.

Observe
- The building of the full Galileo constellation and see how the satellites will orbit the Earth.
- The beauty and fragility of our planet and the many ways that human activity is altering its delicate balance.

Encounter
- Airline pilots, truck drivers, farmers and surveyors and learn how space is helping them do their jobs better everyday.

Find out
- How, in the near future, Copernicus will provide a near real-time oil spill detection service to trace and track the spill back to its origin.