

# Utilizing the Full Potential of Space for the Implementation of the 2020 Strategy in the Field of Education

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## EUROPE 2020:

smart sustainable inclusive growth



## 5 Headline Targets:

Employment, R&D, Climate Change & Energy, Education, Poverty & Social Exclusion.

## 7 Flagship Initiatives:

Innovation Union, Youth on the Move, Digital Agenda, Resource efficient Europe, Industrial policy for the globalization era, Agenda for new skills and jobs, European platform against poverty and social exclusion.

## Europe 2020 Headline Target in Education

Reducing school drop out rates to less than 10%

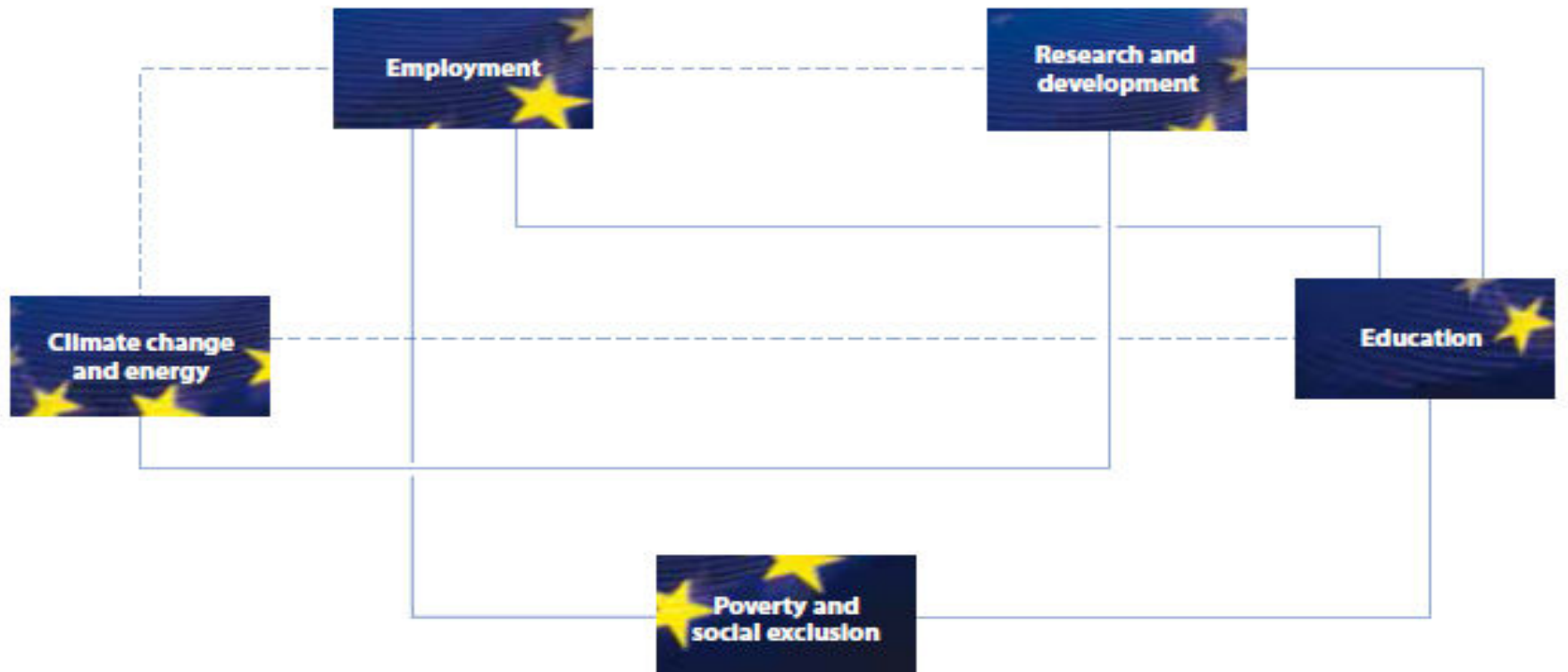


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Increasing the share of the population aged 30 to 34 having completed tertiary education to at least 40%



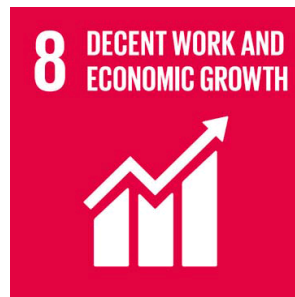
## Interlinkages of Europe 2020 Headline Targets



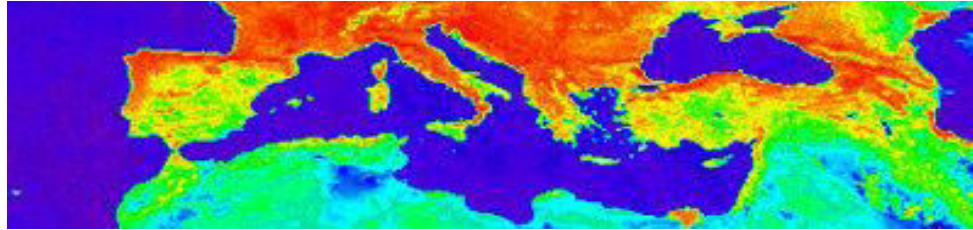
## Sustainable Development Goals



Ensure inclusive and equitable quality education and promote lifelong learning for all.



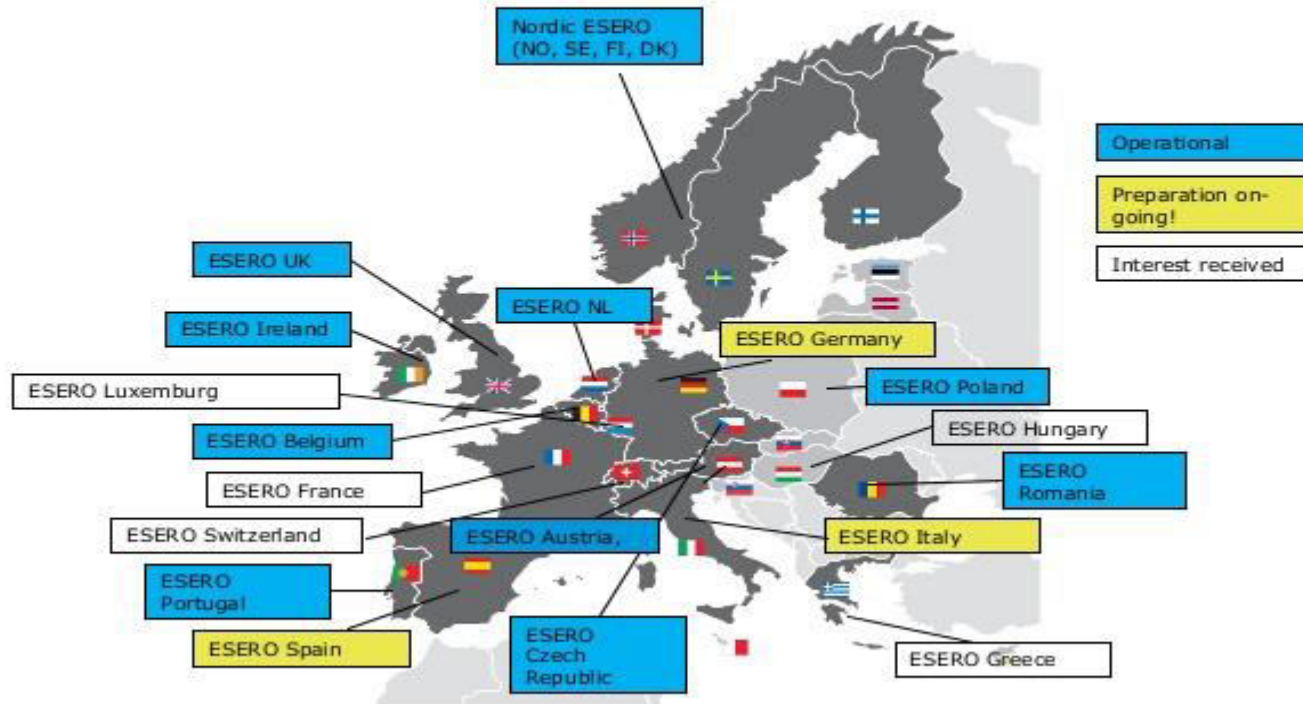
## Space Educational Resources and Hands-On Activities



**BUT:** Lack of awareness by the teachers.

# European Space Educational Resource Office (ESERO)

## ESERO – a growing network



Slide 11



European Space Agency

## Distance Education

*“There are severe constraints on the capacity of the university system to accommodate the many students who aspire to a higher education. In this situation, distance learning institutions are uniquely placed to take care of the educational needs all students who cannot attend a conventional institution”.*

– European Commissioner for Education (2009-2014), Androulla Vassiliou

Advantages:

- local flexibility
- temporal flexibility
- higher affordability



The Open  
University

## Satellite Communication for Distance Education

*“Thanks to the extra coverage provided by satellite broadband, we have achieved our 2013 target of broadband for all. That's a great result for European citizens”.*

*“For those in the most isolated areas, satellite is a good option to stay connected and it is likely to remain so”.*

**- Vice President of the European Commission (2010-2014), Neelie Kroes**

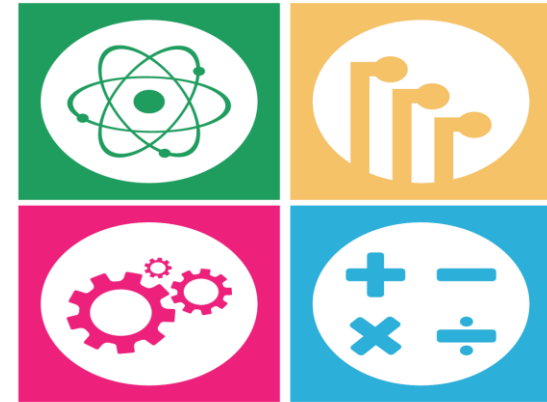
**2020 Digital Agenda Target:** All Europeans will have access to fast broadband (more than 30 Mbps)



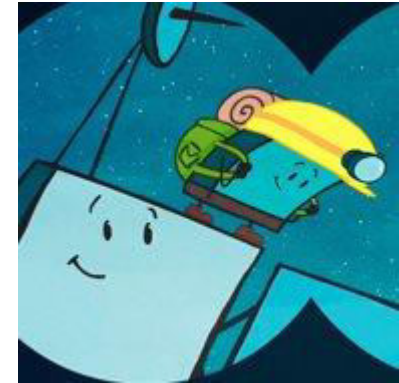
# The Importance of STEM Tertiary Educational Attainment for the Implementation of Europe 2020

- contribution to tertiary educational attainment (*Education*)
- human capital for *R & D*
- higher employability and income of graduates (*Employment*) (*Combatting Poverty*)

**BUT:** Scarcity of STEM graduates.



## Motivation for STEM through Space



- 73% of the European citizens believe that inclusion of subjects linked to space activities would encourage more students to choose careers in STEM.  
(*Source: Eurobarometer*)
- 50% of STEM researchers state that the ‘Apollo missions’ inspired them to become scientists. (*Source: Weekly Journal of Science ‘Nature’*)
- 88,7% of STEM researchers agree that human spaceflight inspires younger generations to study science. (*Source: Weekly Journal of Science ‘Nature’*)

## Astronauts as Role Models



## Conclusions

- Awareness of the possibilities offered by the space sector for education can enhance its quality at all levels and help, thereby, reducing early school leaving and low-achieving.
- Higher visibility of space activities can motivate the youth to pursue STEM studies, which lead to higher employability and incomes while supporting innovation and economic growth.
- The utilization of satellite broadband allows access to knowledge and to high quality distance education in remote and rural areas. Thus it helps reducing regional inequalities.
- An increased number of women in high positions in the space sector functioning as role models can motivate women to follow STEM studies.
- A utilitarian aspect of human spaceflight is the creation of role models for the youth. The diversity of astronauts is important.
- Intensive interaction between educational institutions, space research centres and the space industry can improve the quality of education and the employability of graduates.

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