

# Copernicus - the road to economic development

Copernicus Science Centre Warsaw, Feb. 26, 2015

Prof. Włodzisław Duch Undersecretary of State Ministry of Science and Higher Education



# Copernicus - the road to economic development

#### Conference organized by:

The Ministry of Science and Higher Education of the Republic of Poland with participation of high-ranking representatives of the

- European Commission,
- European Space Agency,
- EUMETSAT

and other European institution and space sector.

#### Goals:

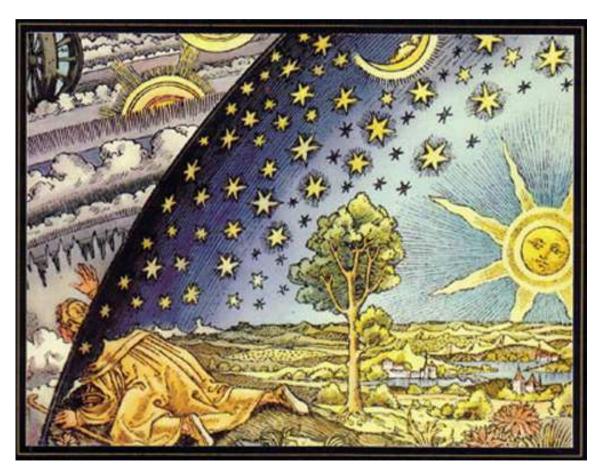
To emphasize the importance of Copernicus program for Poland.

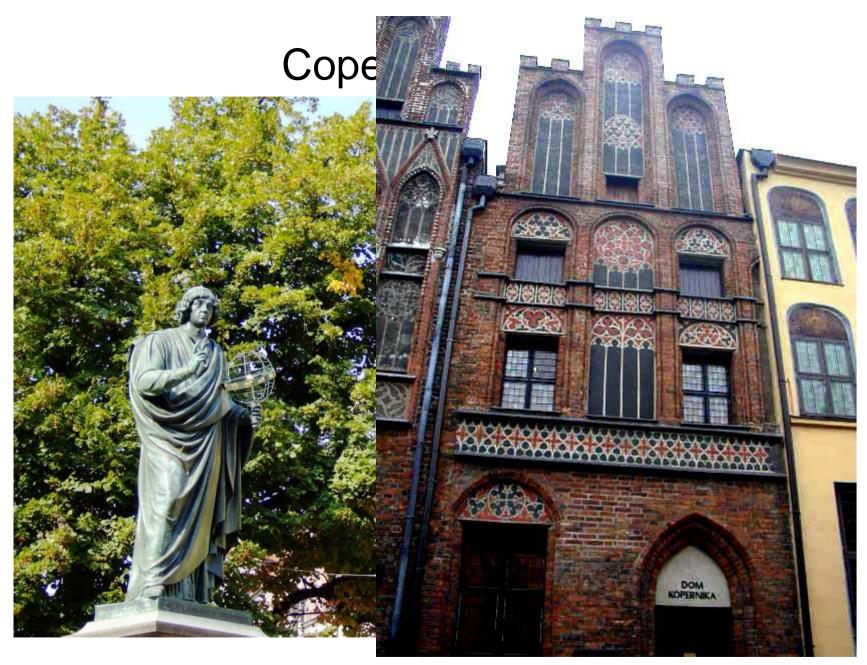
To present the capabilities of the Polish space sector.

To establish and foster contacts with the representatives from the leading institutions involved in space research/industry in Europe.



#### Not so long time ago ...





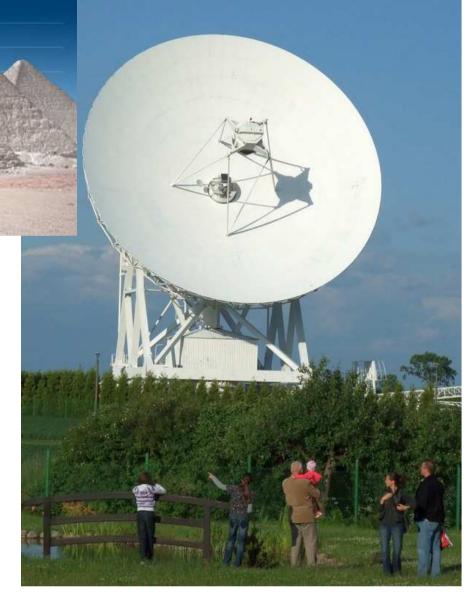
Nicolaus Copernicus: born in Torun in 1472





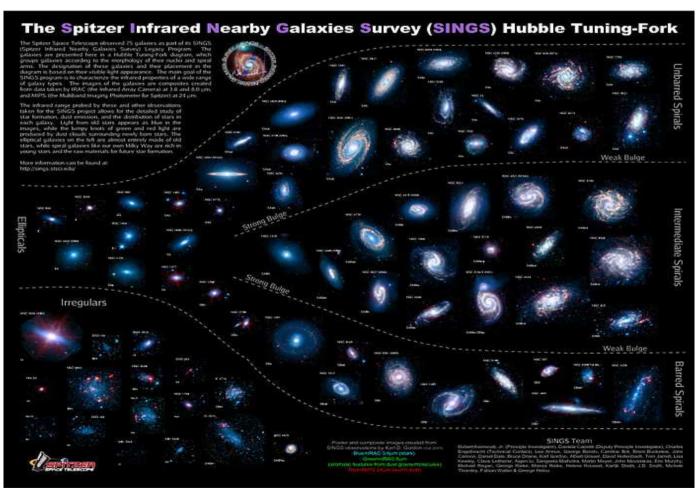
Large telescopes and radiotelescopes gave us an amazing picture of

### HUGE UNIVERSE





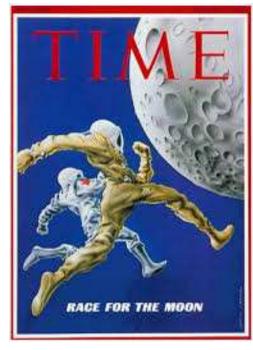
#### Immense universe!





#### Sputink and the great space race





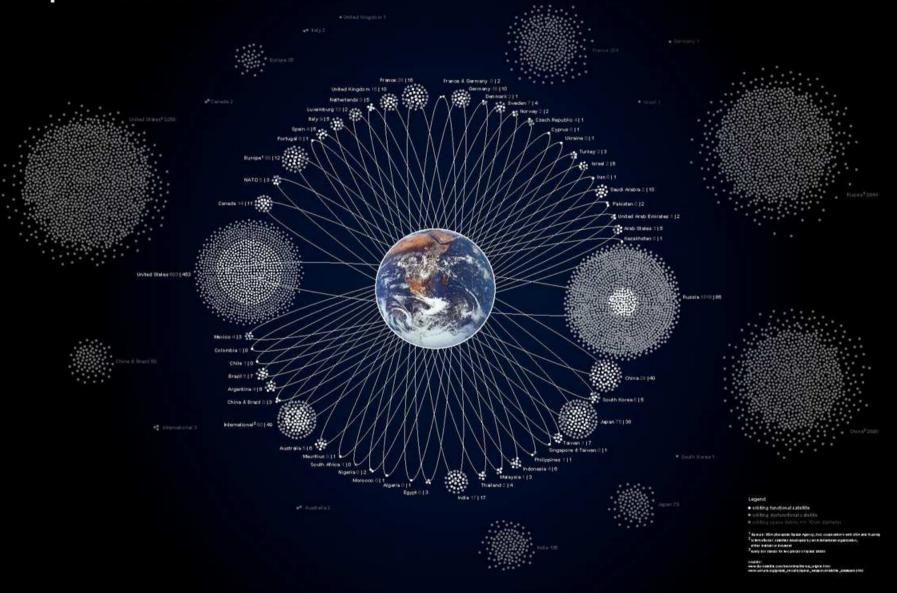
Launch of the **Intelsat** 1 nicknamed "Early Bird", first commercial satellite - 06 April 1965.



#### Satellites in 2015 ...



#### **Space Architecture**







### Copernicus – The European Earth Observation Program

Most ambitious, multi-level Earth observation program. European Commission lunched it in 2008 as the Global Monitoring for Environment and Security (GMES). Global Earth Observation System of Systems (GEOSS).

- Land management,
- marine environment,
- atmosphere, climate changes,
- monitoring crises situations, security.





#### **Poland in Copernicus**

Joined ESA in Nov. 2012, as the 20th member.

In 2012 PW-Sat, build by Warsaw University of

Technology students was lunched.

Two satellites for scientific purposes, within Polish-Canada-Austria BRITE cooperation.

- •Lem, in 2013
- •Hewelisz, in 2014.

Our equipment is on Mars, Int Space Station, Rosetta ... Polish Space Agency (POLSA), established in 2014.





#### Polish cosmic ambitions

Rapid growth of the polish cosmic industry and economics sector in recent years, services based on satellite observations.

Now EU/ESA projects involve over 150 organizations from Poland.

In the 7<sup>th</sup> Framework Program we had 49 polish research groups, with success rates almost twice the average for the whole program, 12<sup>th</sup> position in Europe.

Poland has great scientific and technological potential, and is determined to catch up with European leaders.



## Have a cosmic conference!



Prof. Włodzisław Duch Undersecretary of State

tel.: +(48 22) 629 36 17

e-mail: sekretariat.mwd@nauka.gov.pl