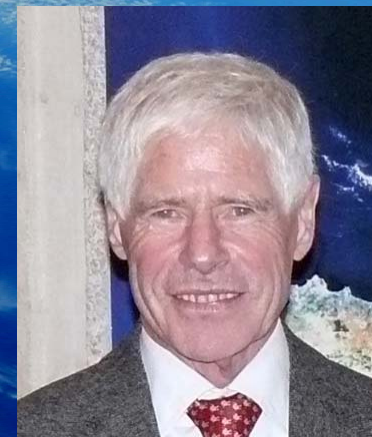


Roger Bonnet

* 23 December 1937
Dourdan (Essonne)

*Director of ESA
Scientific Programmes
from 1983 to 2001*

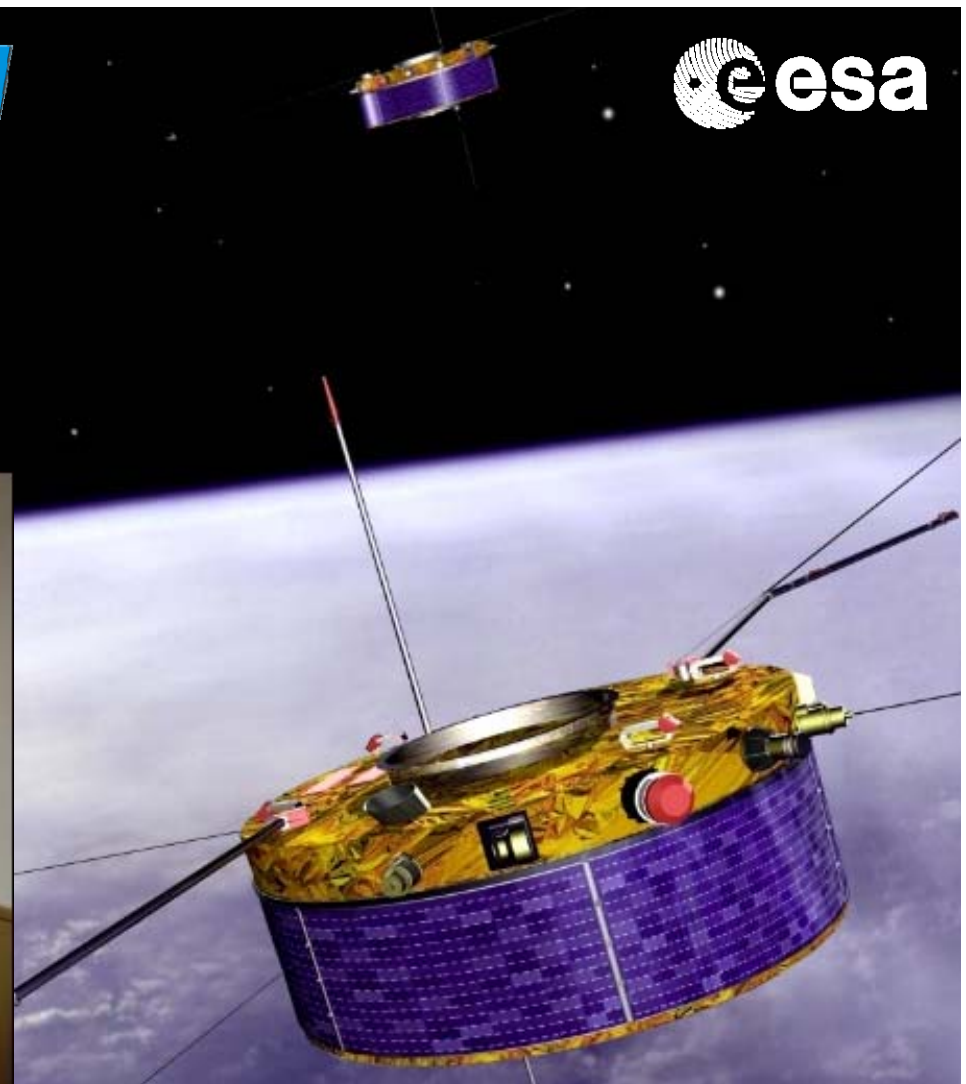
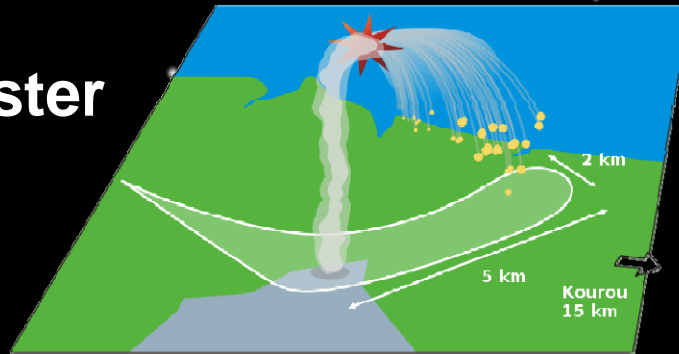


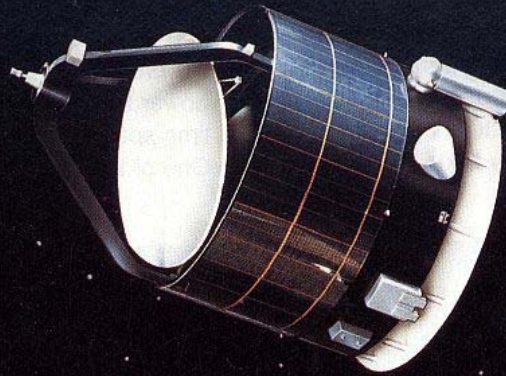
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Petit-Quevilly

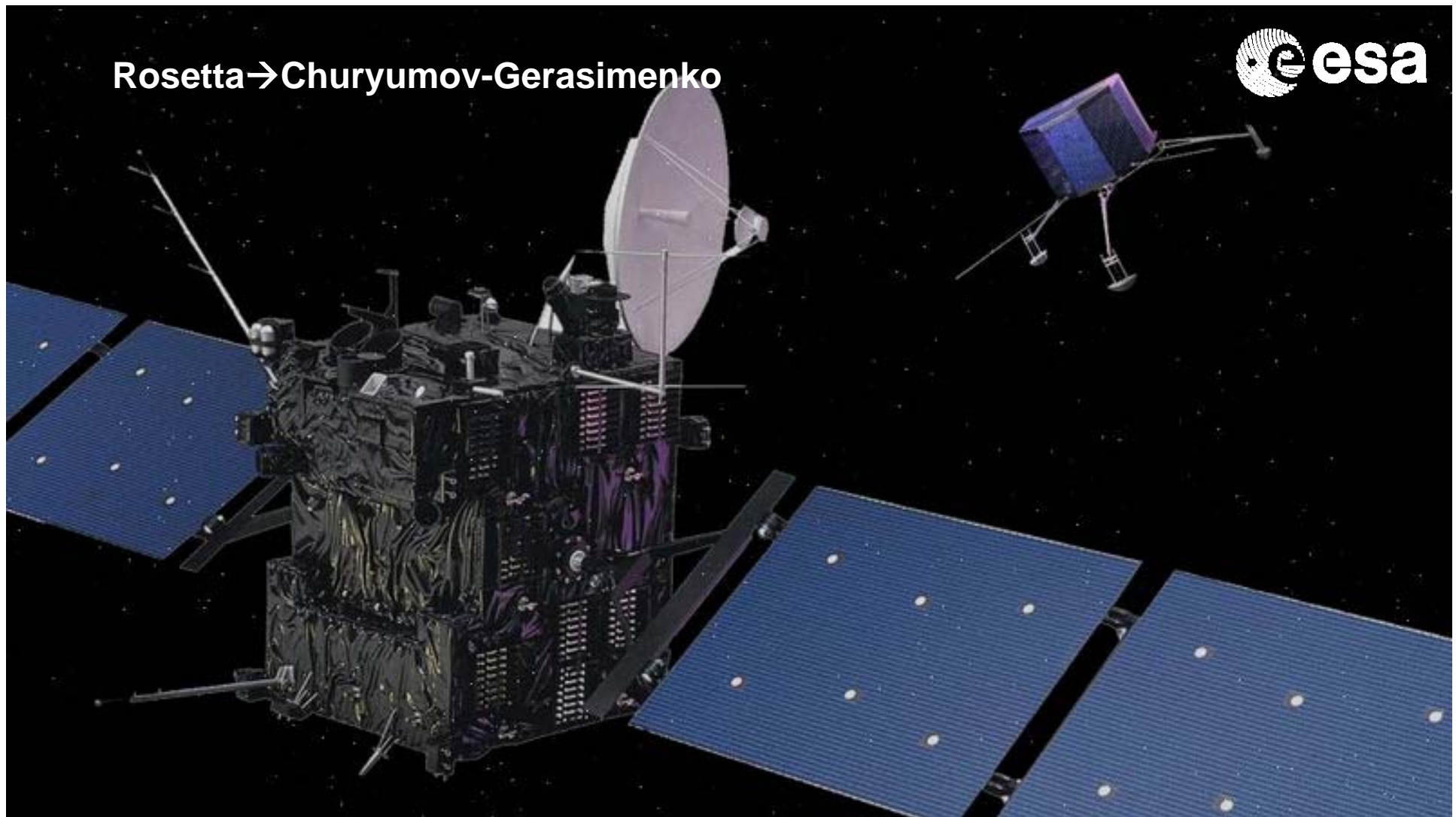
Cluster





Comet Halley's nucleus as seen by Giotto

Rosetta→Churyumov-Gerasimenko





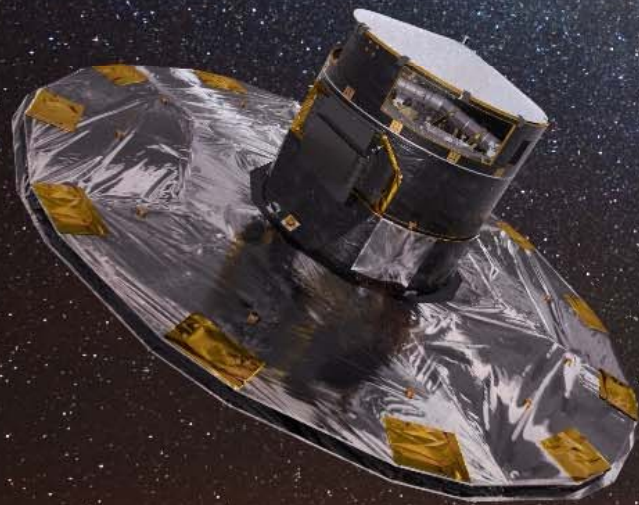
XMM

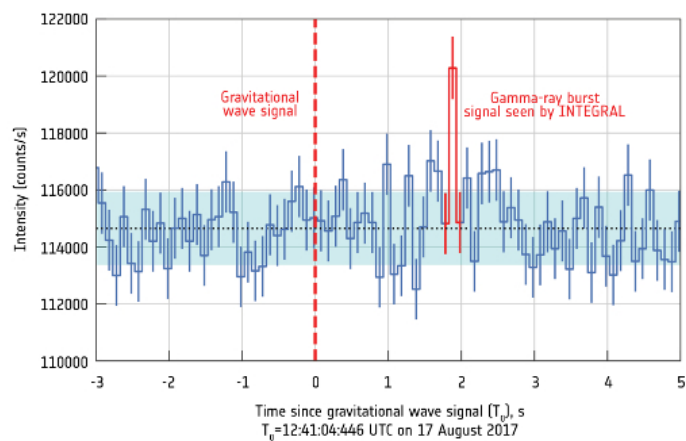
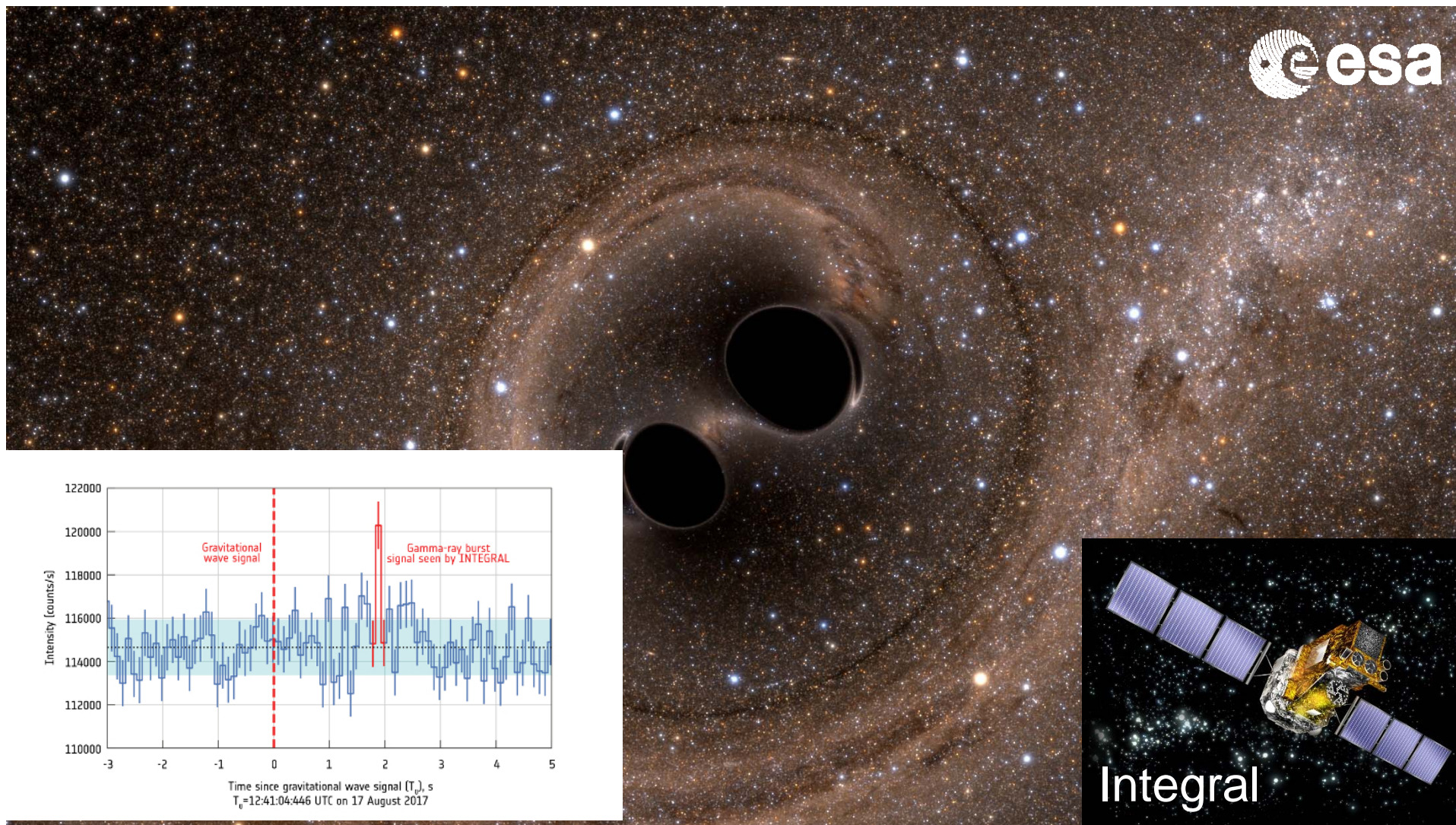


Cassini grand finale on 15 September 2017



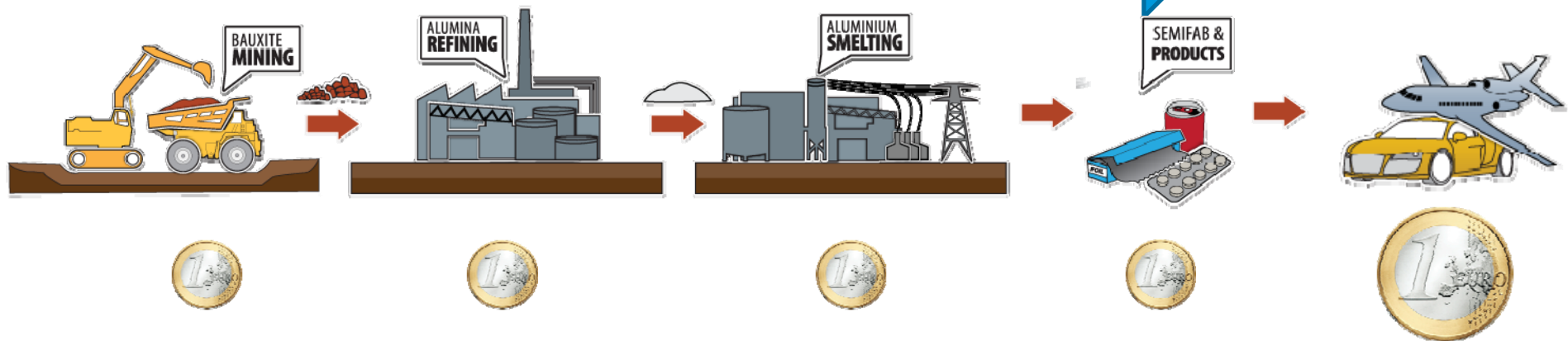
GAIA





Integral

Chain of Value Creation



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Seamless Chain of Innovation



Invention → Missions → Innovation



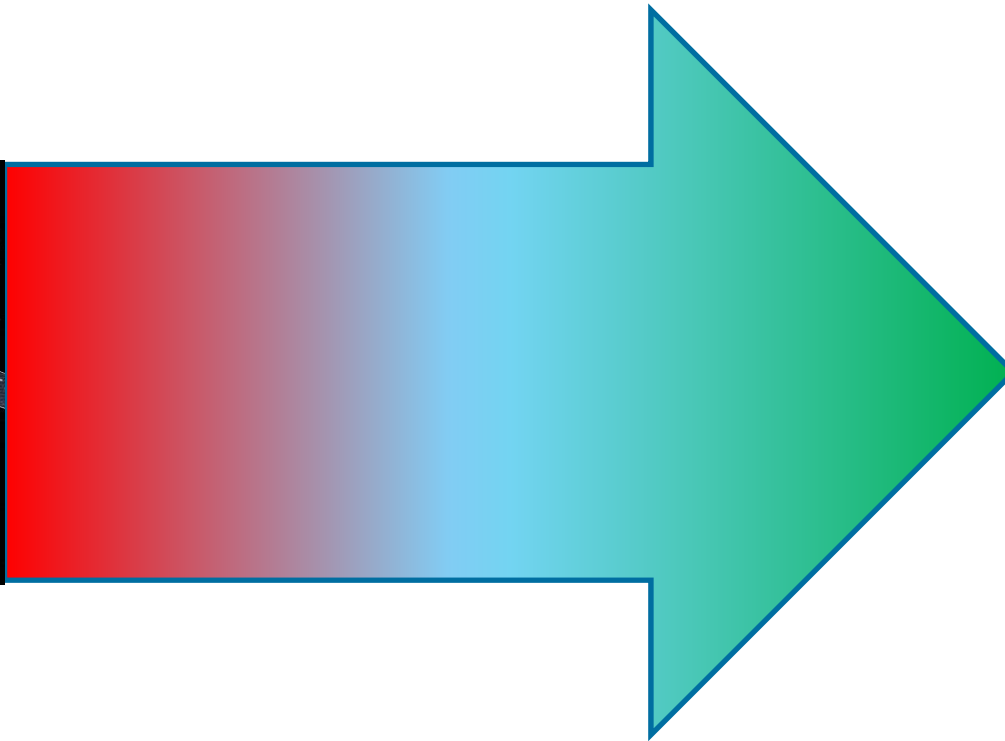
basic research applied research technology development projects missions market public appl.



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SPACE 4.0

Chain of Motivation



fascination

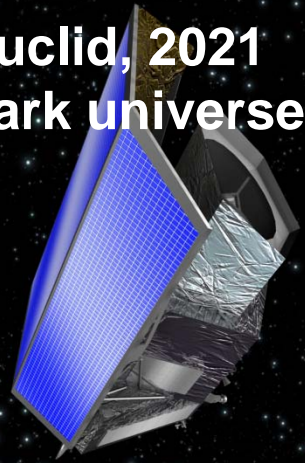
inspiration

motivation

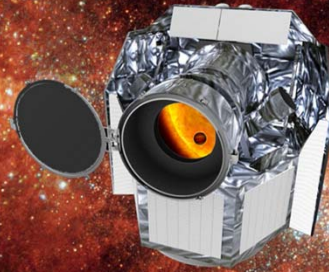


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**Euclid, 2021
dark universe...**



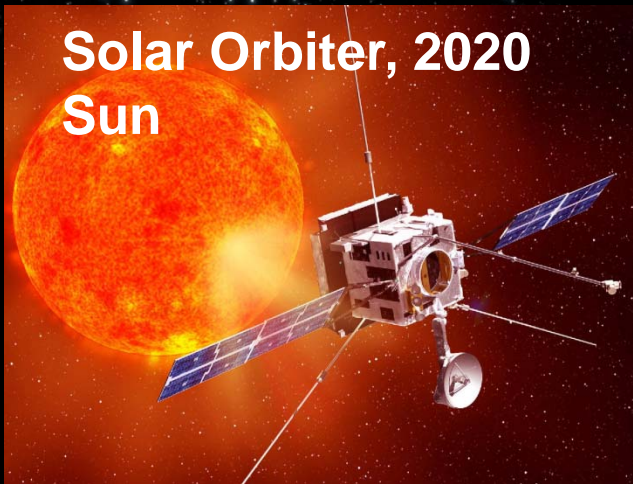
**CHEOPS, 2018/19
exoplanets**



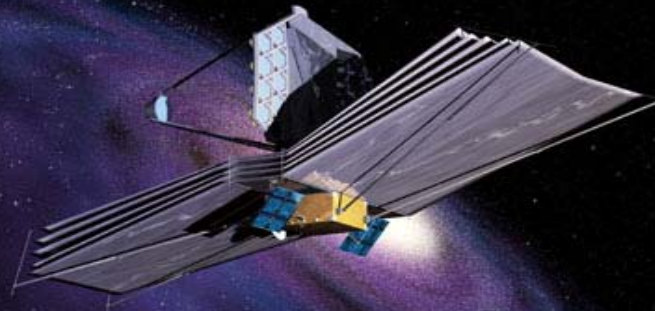
**BepiColombo,
2018
Mercury**



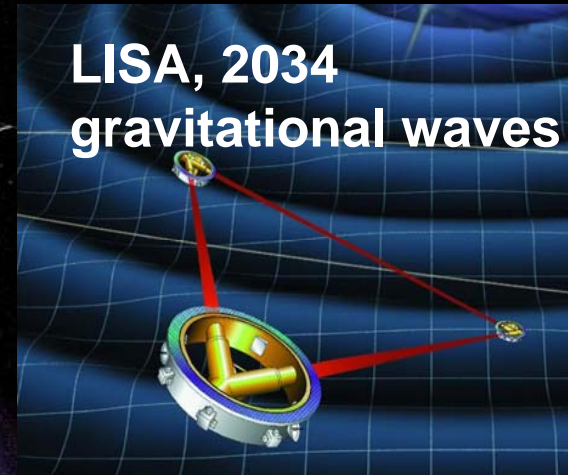
**Solar Orbiter, 2020
Sun**



**JWST, 2019
universe...**



**LISA, 2034
gravitational waves**



Wind of change



ESA: THE European Space Agency

plasma interactions between comet 67P/Churyumov-Gerasimenko and the solar wind