

ISS International Space Station



Il contributo di Thales Alenia Space

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Roma 25 -6- 2013

Fully assembled the ISS will be the largest manned object ever sent to Space:

- Larger than a football field (108 x 74 m)
- 450 tons

It travels at about 400 km altitude, with a speed of ~27000 km/hr.

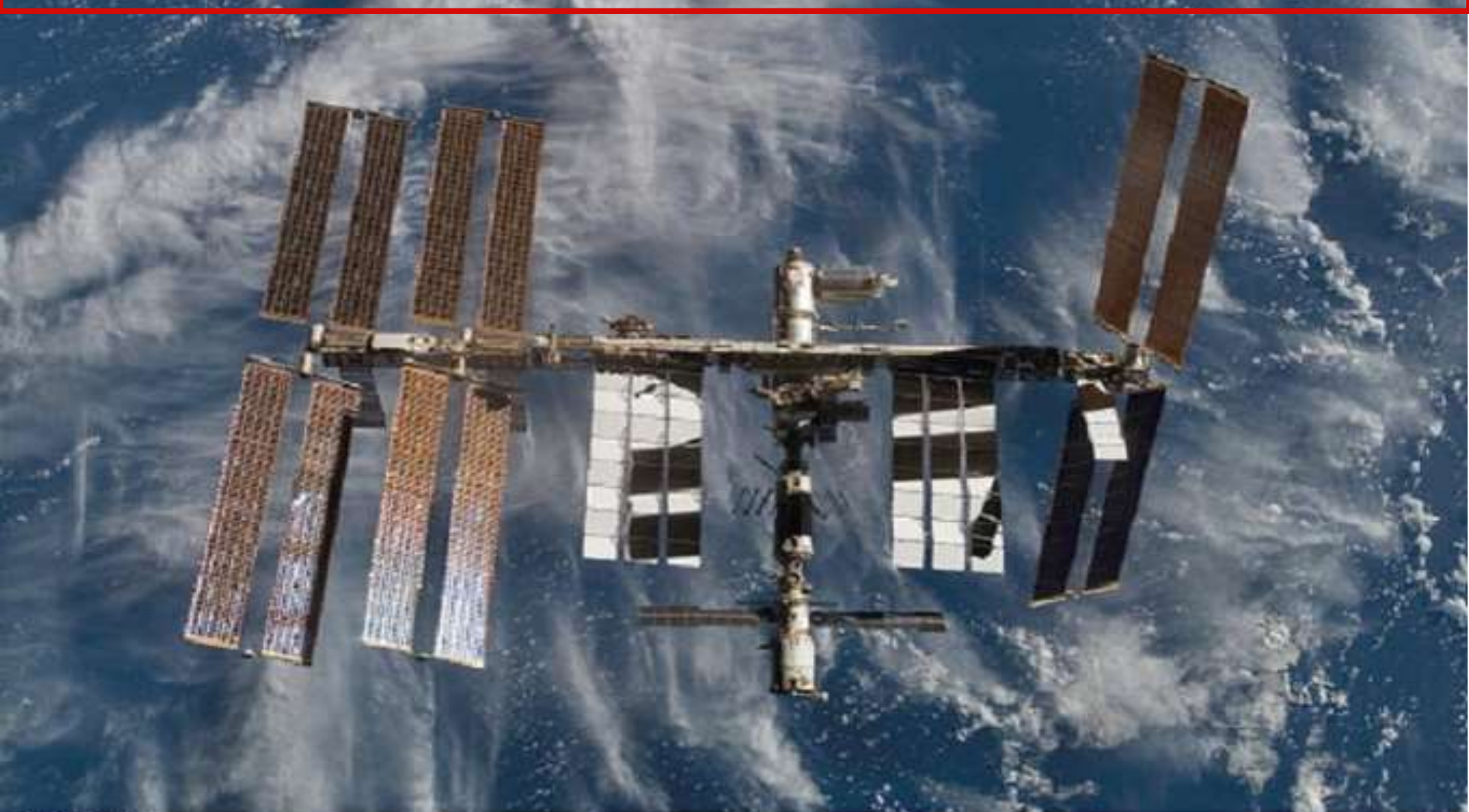
One orbit is completed in about 92 minutes

Orbit inclination 51.6 .

Designed for a permanent crew of 6 astronauts, operations are expected to be extended until 2020

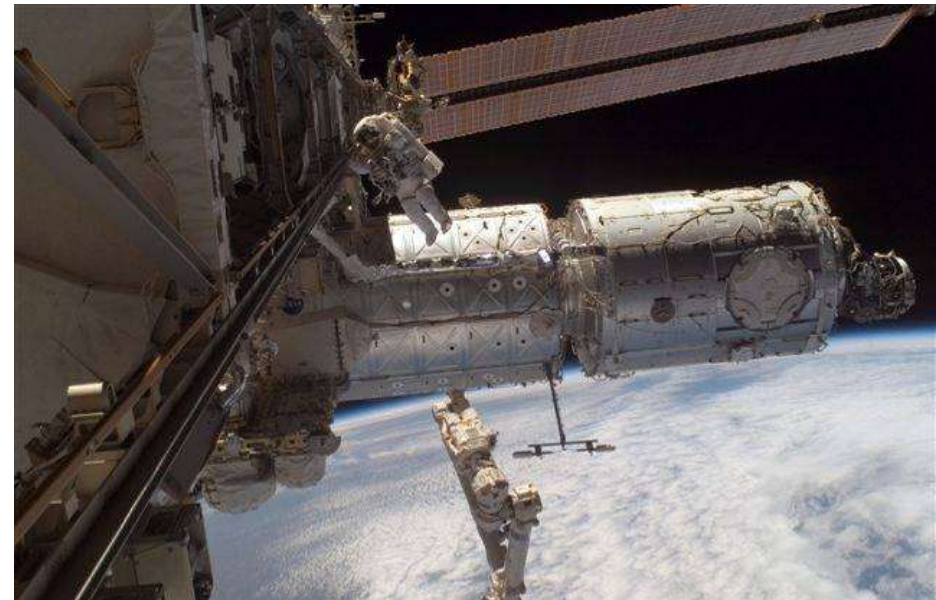


Unico laboratorio al mondo che opera in assenza di gravità



The Space Station is conceived to :

- Create a permanent orbiting science institute in space, capable of performing long-duration research in the materials and life science, in a nearly gravity-free environment
- Conduct medical research in space
- Develop new materials and processes
- Accelerate breakthroughs in technology and engineering, that will have immediate, practical applications for life on earth
- Promote commercial use through creative partnerships with industries and universities
- Inspire and foster the next generation of scientists, engineers, and entrepreneurs and satisfy humanity's ancient need to explore the universe



The Space Station is the natural step to prepare the human exploration of the universe

Space Station Research An Investment in Our Future

• Improving Industrial Processes

- Combustion Science
- Fluid Physics
- Materials Science

• Increasing Fundamental Knowledge

- Fundamental Physics
- Gravitational Biology
- Earth Science
- Space Science

• Looking After Our Health

- Biomedical Research
- Crew Care and Countermeasures
- Protein Crystal Growth Research
- Cell and Tissue Science
- Advanced Medical and Life Support Technologies

• Enabling Exploration

- Engineering Research
- Scientific Research

• Researching Tomorrow's Products Today

- Commercial Cooperative Research
- Testbed for New Commercial Processes, Products, and Services

**Out of the 135 flights performed by the NASA Shuttle,
63 flights carried TAS developed Hardware**

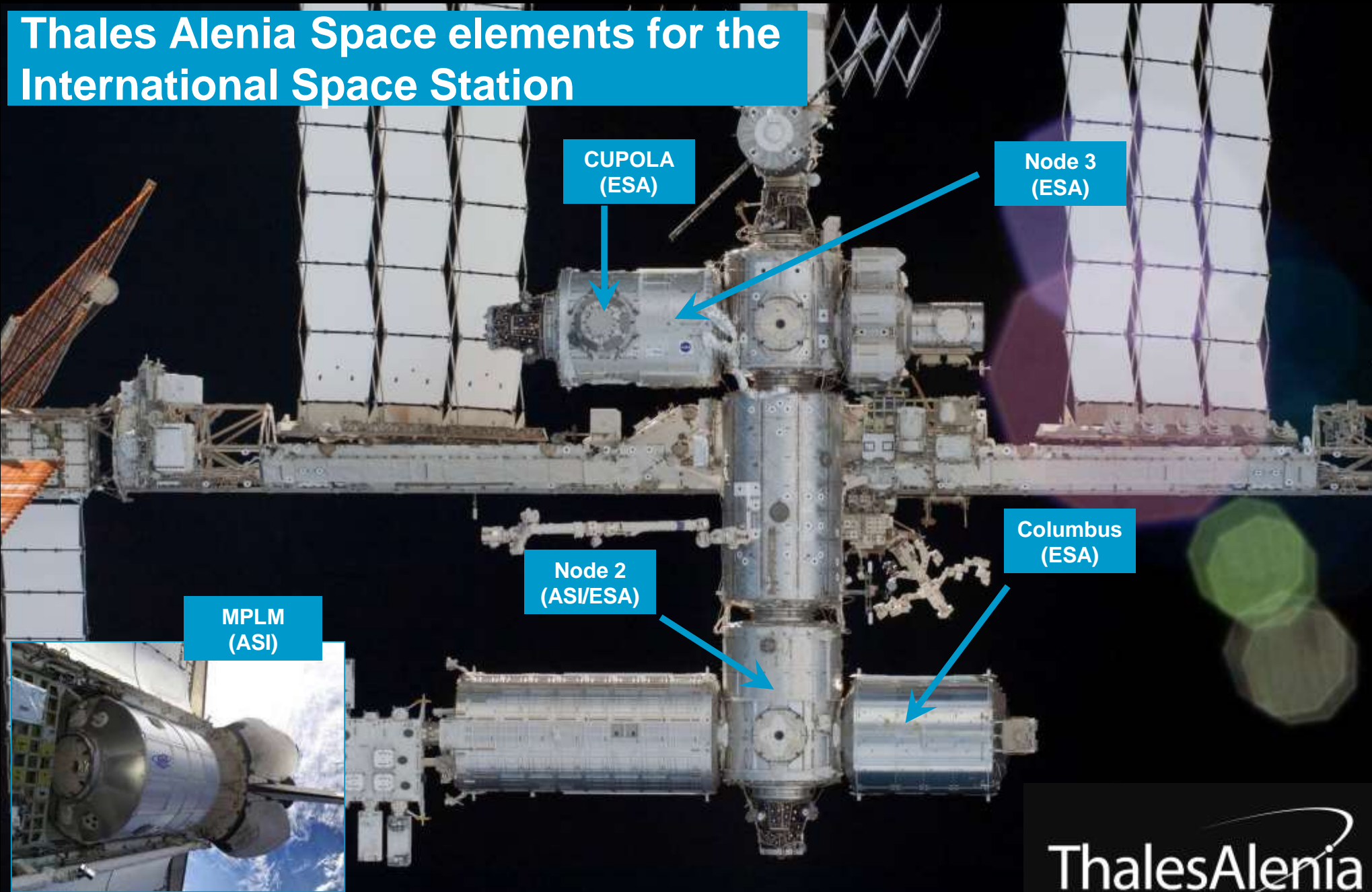
TAS contribution to ISS

25 Elements:

- 12 delivered (8 flown)
- 9 in production
- 4 qualification models

Courtesy of NASA

Thales Alenia Space elements for the International Space Station



CUPOLA
(ESA)

Node 3
(ESA)

Columbus
(ESA)

Node 2
(ASI/ESA)

MPLM
(ASI)

