

Synergies between Aeronautics and Astronautics

Brazilian Perspective

Emilia Villani

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Delimiting our scope...

From Anders Blom <anders.blom@foi.se> ★

Subject **Participation in panel on synergies between aeronautics and astronautics at Aerospace Technology Congress**

To Emilia Villani ★

13.00 –13:10

Introduction to the session – Anders Blom, Innovair

13.10 - 13.30

Possible synergies between Aeronautics and Aerospace

13:30 - 13:40

Brazilian views on these synergies – Emilia Villani, ITA

?
Astronautics
?

?
Aerospace
?

?
Space
?



Delimiting our scope...

AEROSPACE

AERONAUTICS



AIRCRAFT

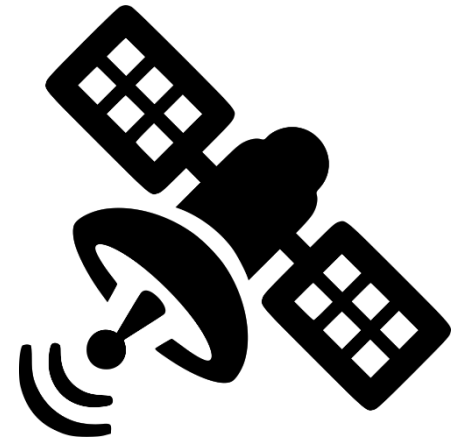
AEROSPACE

AEROSPACE



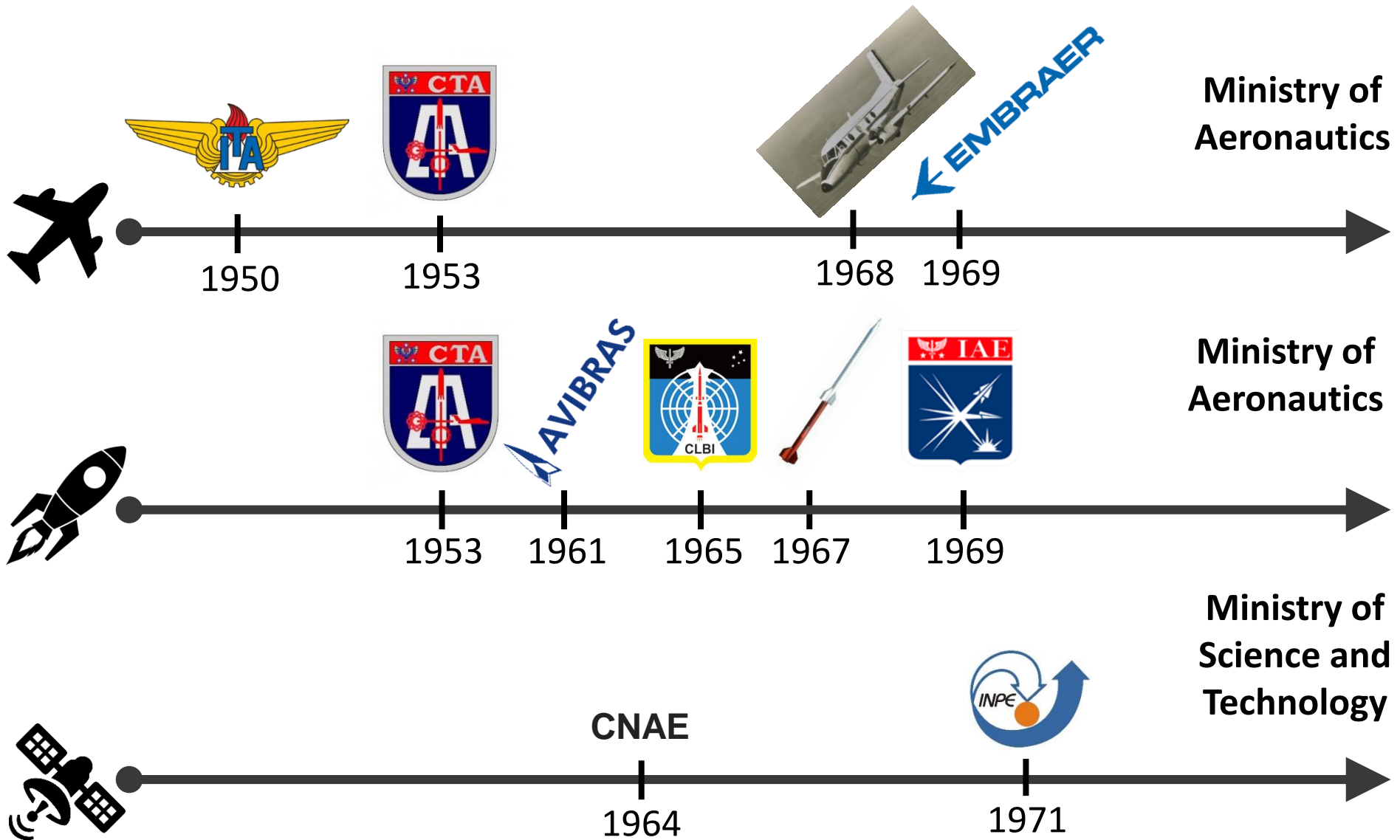
ROCKET
LAUNCHER

ASTRONAUTICS
& SPACE



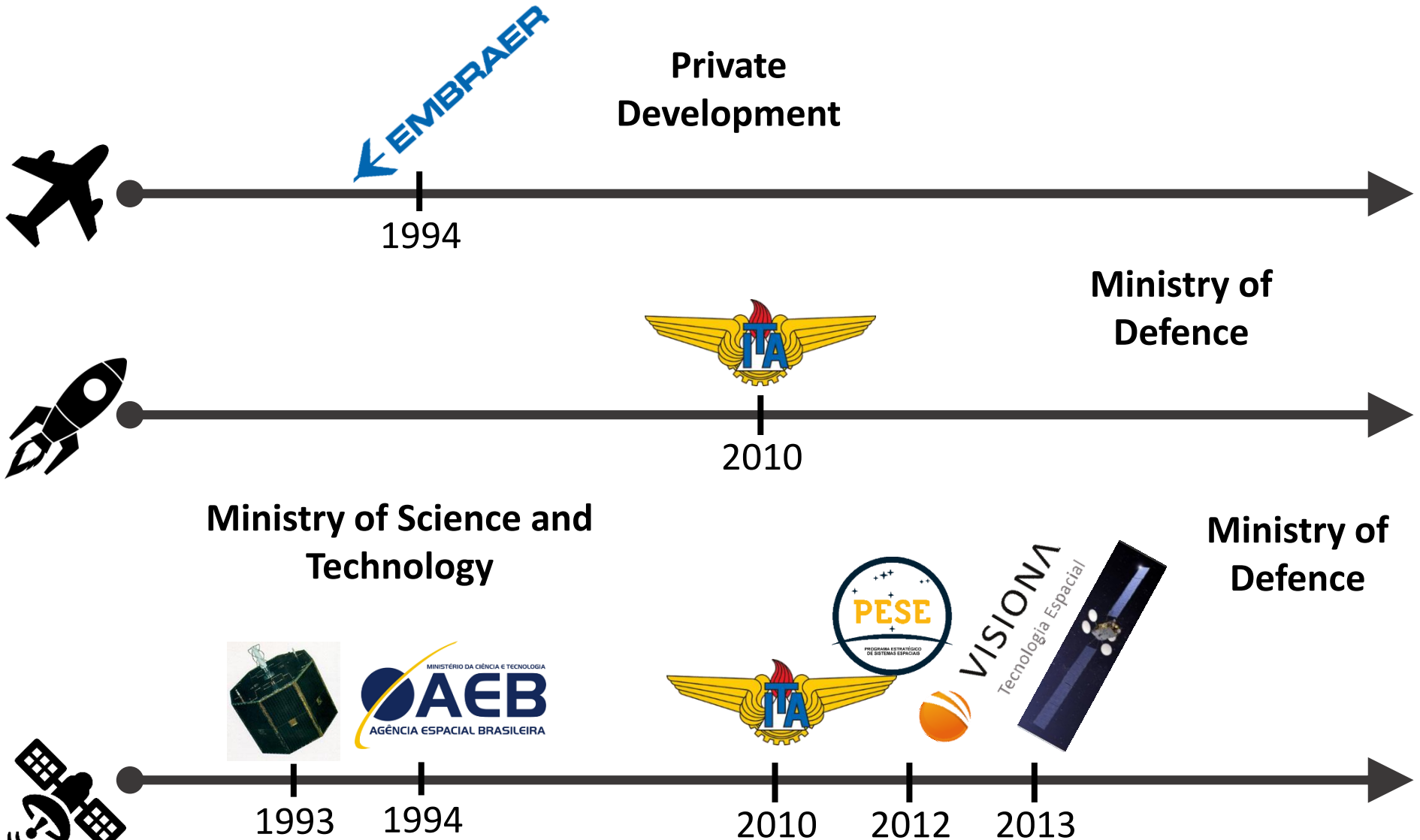
SATELLITE

Historical Background



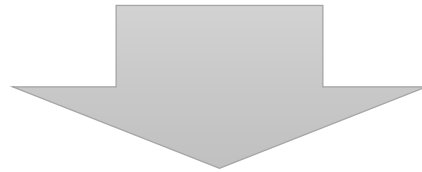
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Historical Background



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“In order to defend our airspace
we need to be in Space.”



Surveillance and
Communication

Physical Location

São Jose dos Campos



Synergic Environment



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Aeronautics



Aerospace



Mechanical Core: Solid Mechanics, Structures
Thermal Analysis, Materials

System Engineering, Navigation and Control,
Critical Embedded Systems

Common Challenges



Distributed

Multiagent

Intelligence

Security

Autonomous

Complex

Big data

Sustainability

Thank you!



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