FlyMate™

The Next Generation of Picosatellite Deployers

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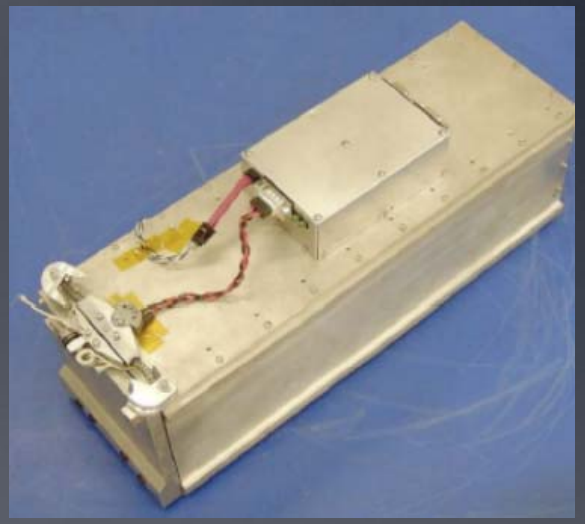
Who we are

- INSA de Lyon – Grande École
  - Dept. of Mechanical Engineering
  - Substantial experience with aerospace technologies in several French projects
- CNES Support (French Space Agency)
  - Technical & legal aspects
- Project birth = CubeSat community needs
  - Increasing number of projects
  - No deployers with increased capabilities

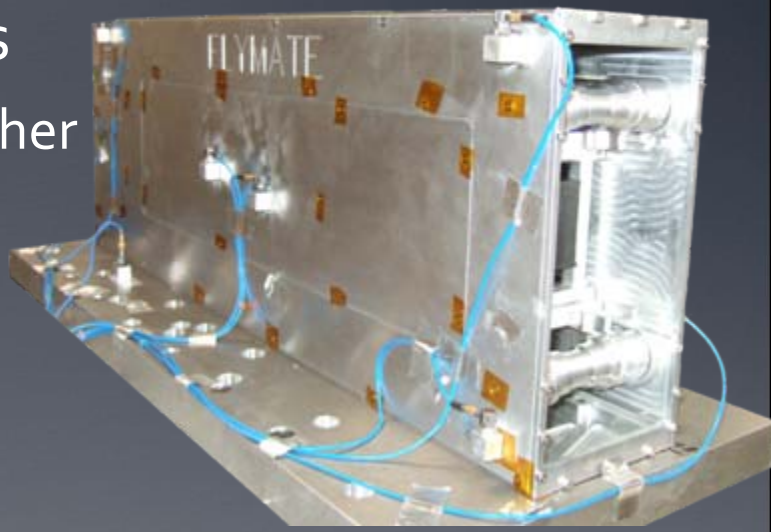
Existing Solutions

- **Different** products:
  P-POD, X-POD, T-POD, ISIS-POD…
  - Most of them flight proven
  - Simple and reliable
- **Same** technical solution for all
  - Satellites compressed inside the body
  - Spring-Based "All-At-Once" Ejection
- No European Flight proven solution



FlyMate ™ : Research Added Value

- Dedicated service for passengers
  - Passengers ejected one after the other
  - Adjustable temporization
  - Adjustable ejection velocity

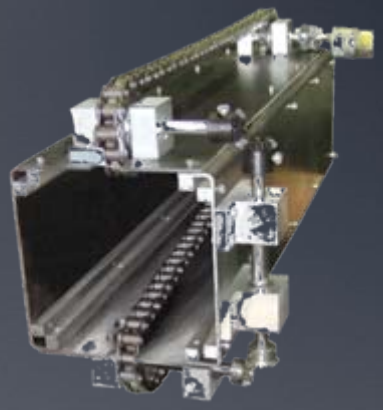


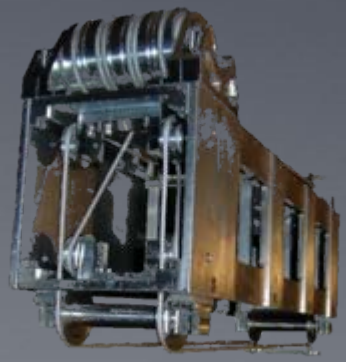
- More space for passengers
  - Accommodation of satellites with protruding elements

- Formation flying ready

FlyMate ™ : Concept

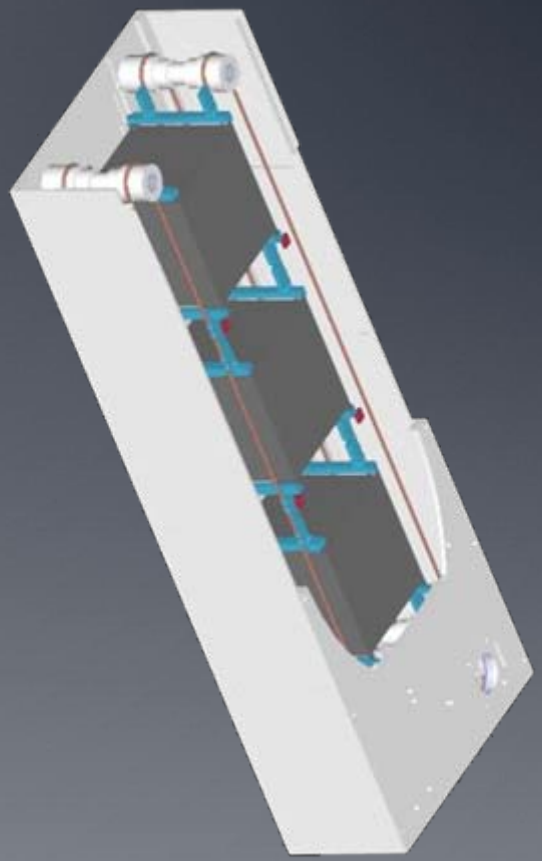
- No springs, No door-locking
  - Controlled ejection mechanism
  - Guidance and locking provided by the same mechanism
- Adaptable on different LVs:
  - VEGA, PSLV, Rockot, American launchers, …
  - Plug'n'play concept: 10 screws / 1 connector
- Energy autonomous





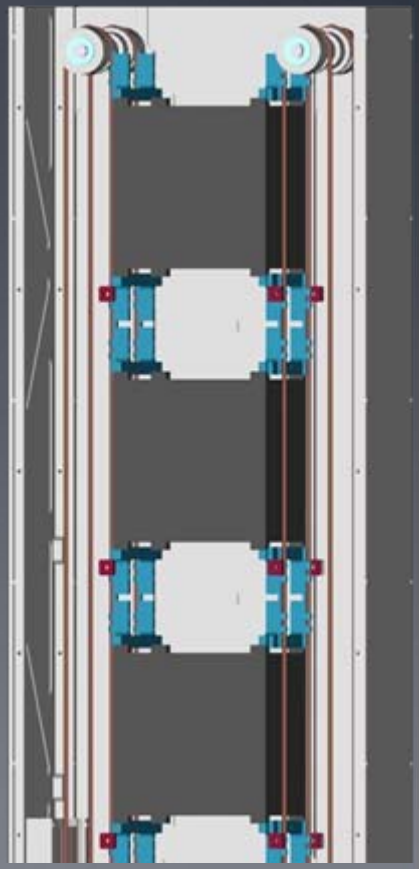
FlyMate™ : Solution

- Ejection system based on:
  - Motorized mechanism
  - Electronic control module
  - Composite ropes
- Rigid body ensures multiple functionalities
  - Protection (thermal, collision, EM, …)
  - Guidance
- Standard mechanical and electrical interfaces
- No hazardous items, no pyrotechnics
- Worldwide Patented system

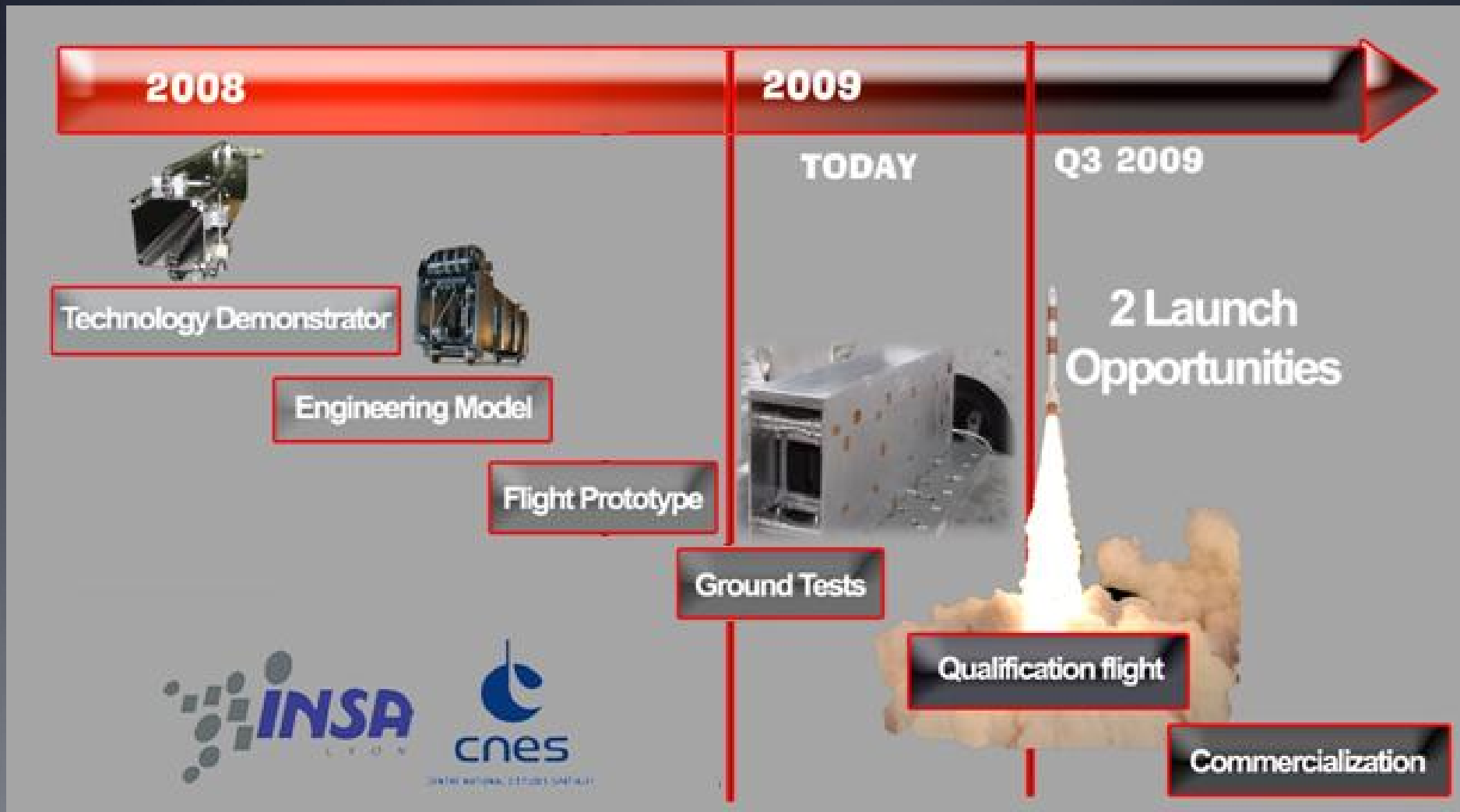


FlyMate™ : Conclusions

- Passenger oriented :
  - Up to 60 mm distance between each cube
  - Easy access by two lateral sides + top side
  - Adjustable ejection speed up to 2m/s
  - Adjustable temporisation up to 10 hours
    - No RF interferences with other CubeSats
    - No cross-tagging errors in multiple launches
  - Possibility of ejection video recording
- Launch operator oriented :
  - Allow to keep control of the ejection process
  - No power consumption
  - Plug'n play interface with launcher



Schedule


2008
2009
TODAY
Q3 2009
Technology Demonstrator
Engineering Model
Flight Prototype
Ground Tests
2 Launch Opportunities
Qualification flight
Commercialization
INSA
cnes

Thank you for your attention

If you are interested in flying with us :

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