The educative nanosatellite of the University of Liège, BELGIUM

Oufti - 1

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Outline

1. The OUFTI-1 project
2. Mission objectives
3. Organization
4. Various actors
5. Involvement of the students
6. Lessons learned
7. Conclusions
1. The OUFTI-1 project

CubeSat standard

Three payloads

VEGA Maiden Flight: October 2010

How to maximize hands-on space education?
2. Mission objectives

Fun and education

Design of the OUFTI-1 system

Launch of OUFTI-1

Satellite alive in space

Operating the satellite

Operating the secondary payloads

Having the D-STAR functional
3. Organization

Work Package 1 (WP1)
- 1 task
- 1 student
- 1 advisor
- 1 specialist

System engineering team

Project Manager
4. Various actors

- Students (university + engineering schools)
- Professors
- Industrials
- Ham-radios
- Graduates
- ... and family!

And also: ESA, manufacturers, general public, scientists, ...
5. Involvement of the students

Unusual MS thesis:

Team spirit

Industrial approach

Discussions & decisions

Communication

→ Students involved in all topics!
6. Lessons learned (1)

1. Need for full-time project manager and well-defined organization chart

2. Technical issues are not the most time-consuming

3. Multidisciplinary team: not easy to manage, but really enriching

4. Strong interest & support from academics, ham-radio community, industrial, and general public

5. Real & great CubeSat community spirit
6. Lessons Learned (2)

6. Crucial need for rigorous documentation

7. Everybody (not only students) learns!

8. Interfaces can not be managed by students

9. Autonomy and initiative spirit must be learned
7. Conclusions

How to maximize hands-on space education?

- Give education the priority amongst the objectives;
- Organize your team:
  - efficiently
  - in a way that gives the students freedom and various contacts…
  - …but within well-defined interfaces;
- Really involve the students in all topics, technical or not;
- Have fun!
Thank you for your attention!