



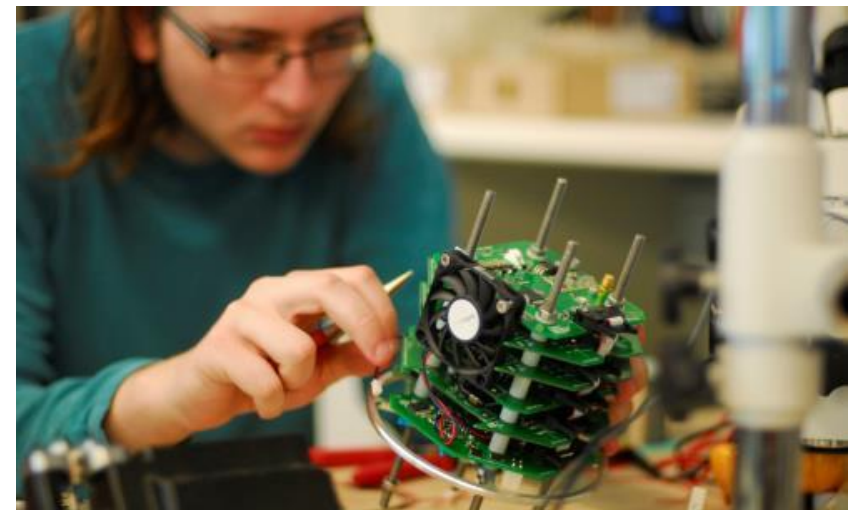
DARE

Students on their way to space

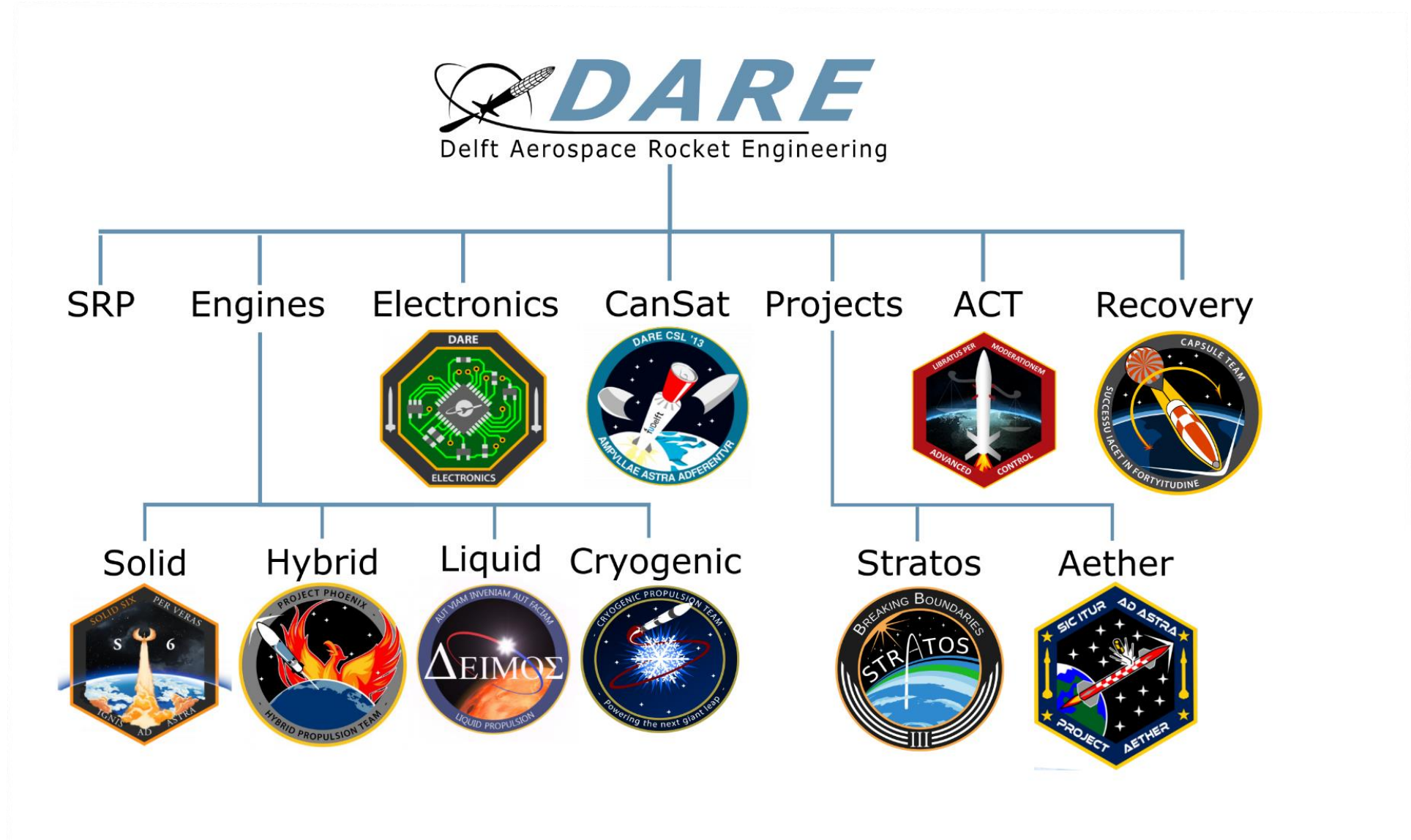


Why DARE?

- We believe that a Student team can reach space with a self built rocket
- We want to educate the next generation of engineers



DARE Structure

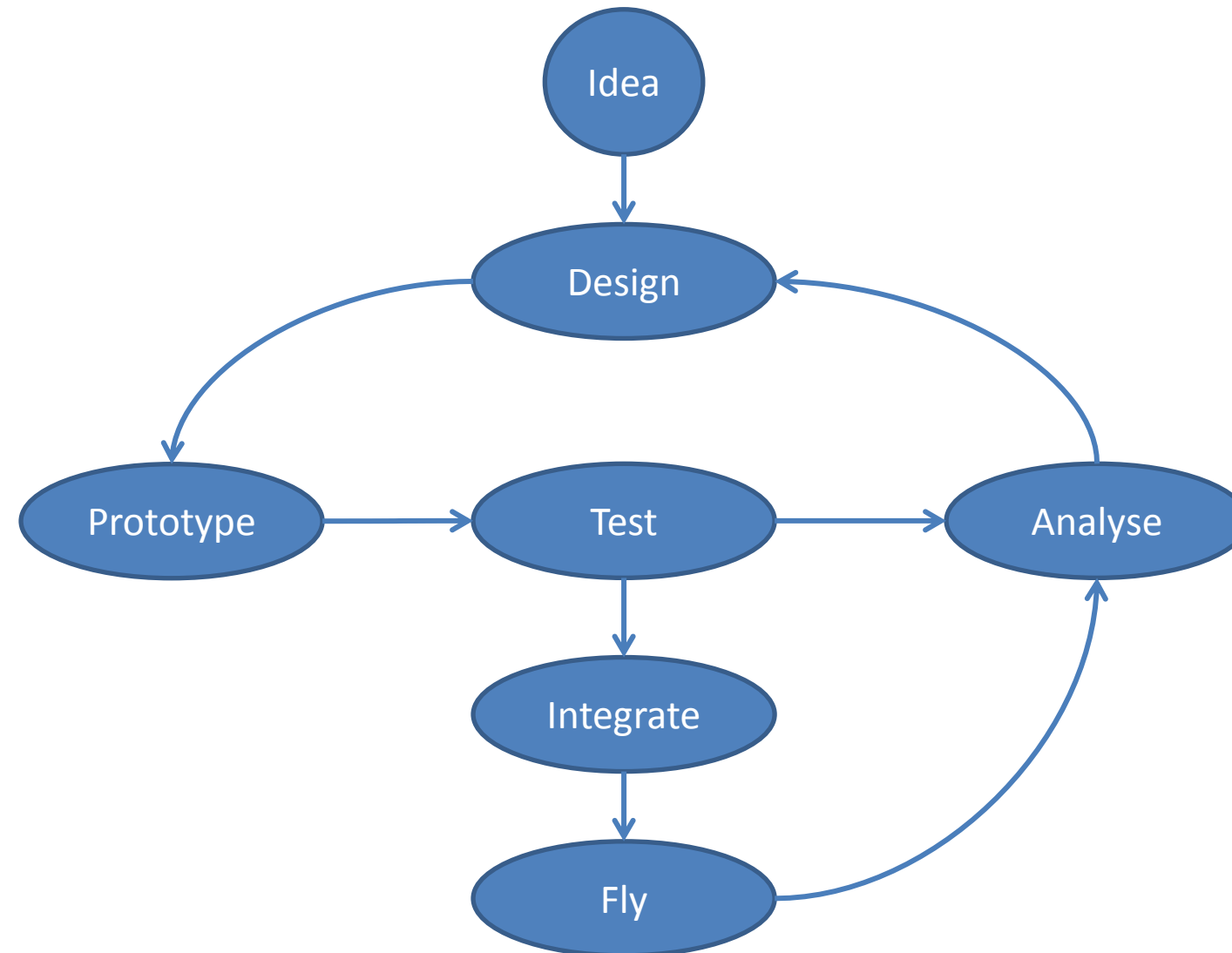


Delft Aerospace Rocket Engineering

- Rocket engineering student team from the TU Delft
- Own development of rocket engines, rockets, and flight electronics.
- Fully independent: Students set the goals and organize the project.
- Aim: To be the first student group to reach space



Development Cycle

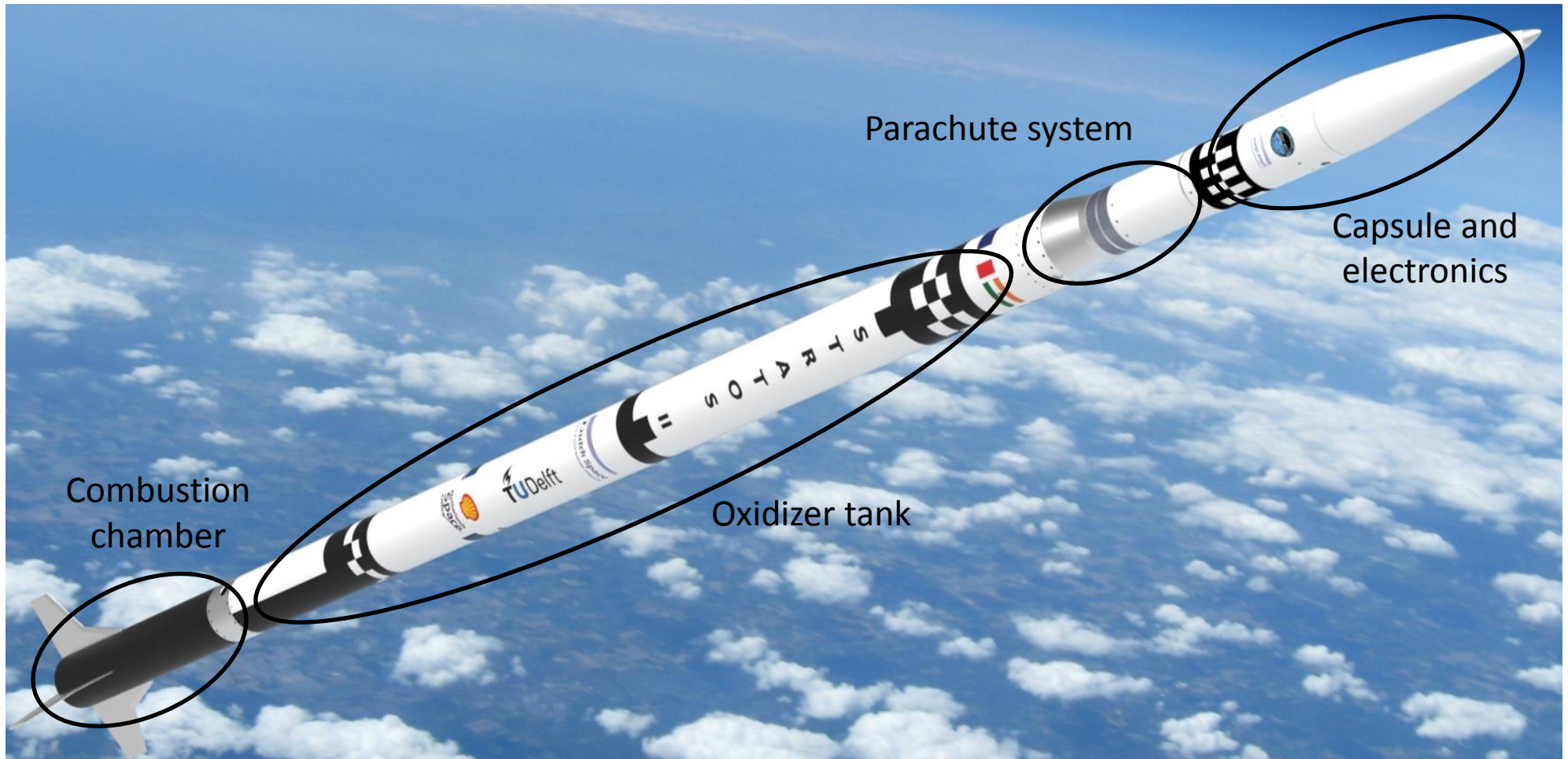


The Idea

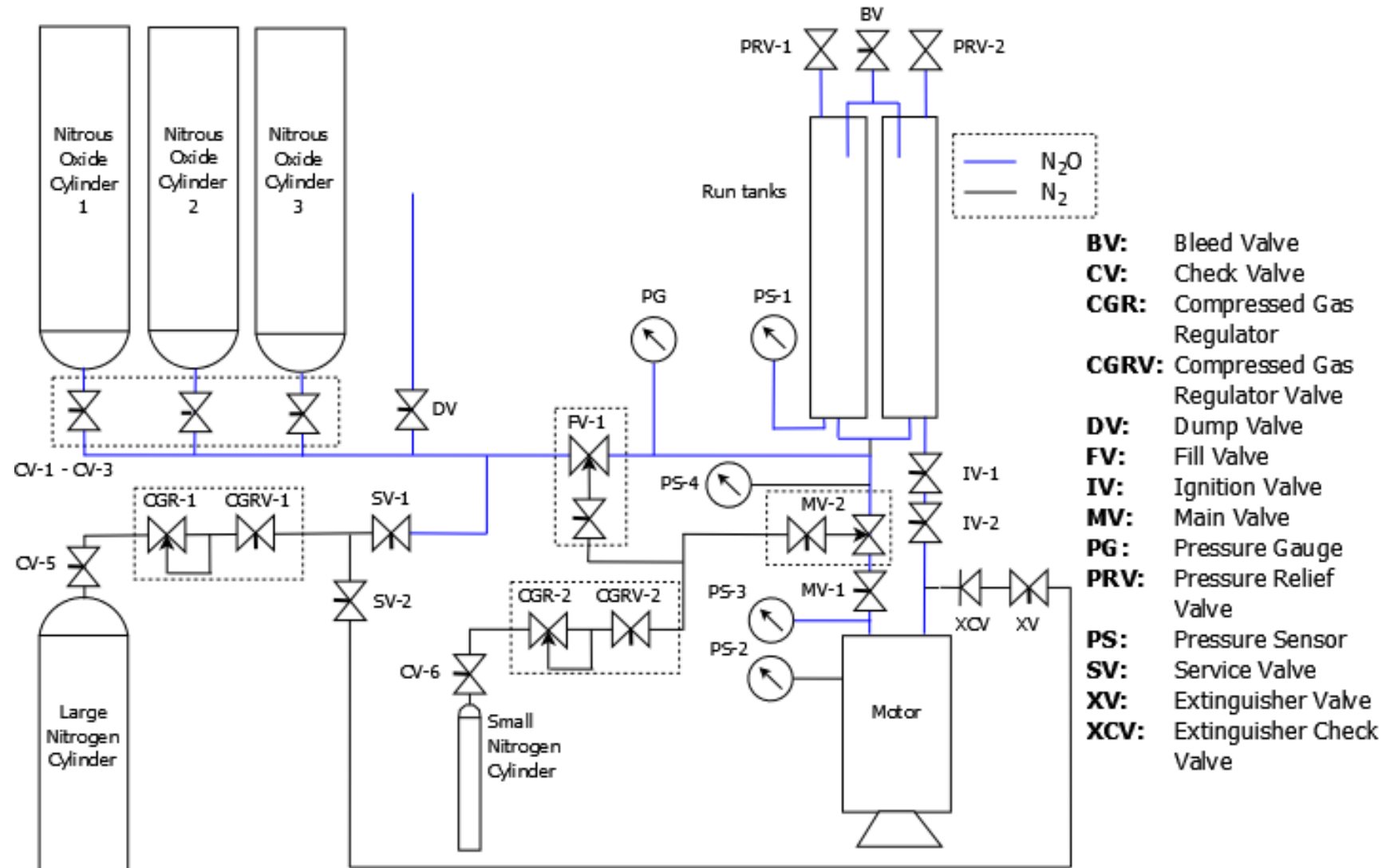
Let's build a hybrid rocket that goes half way to space (50 km)!



The Rocket

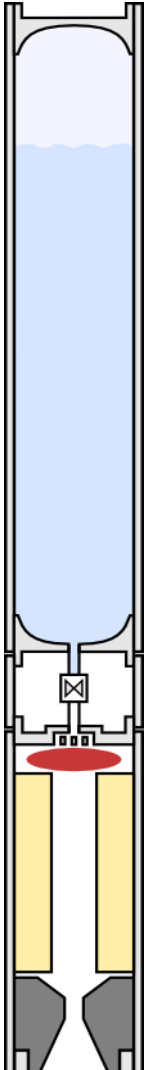


Design

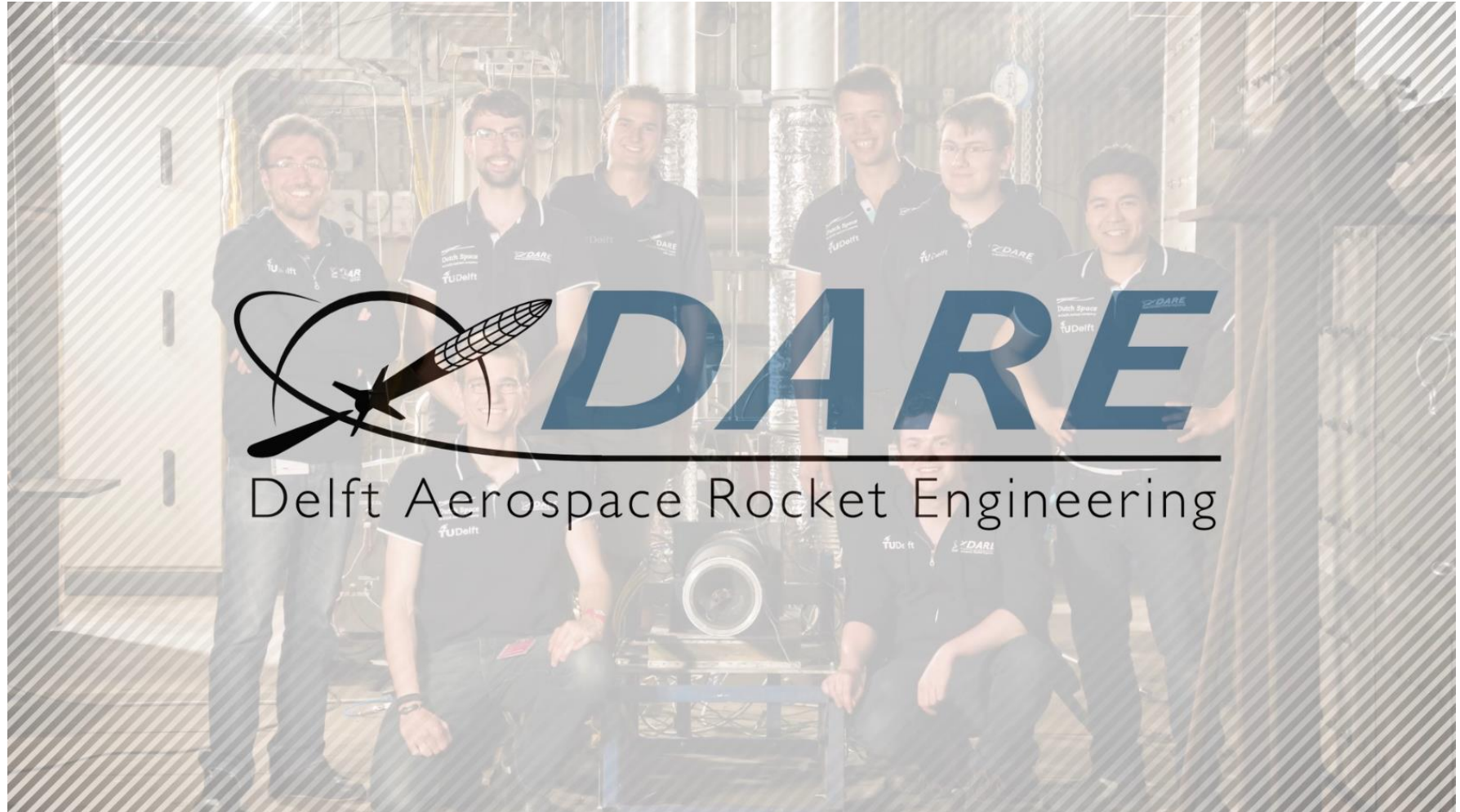


Prototype

- DHX-200 Aurora – Propulsion System of the Stratos II⁺ Rocket



Test





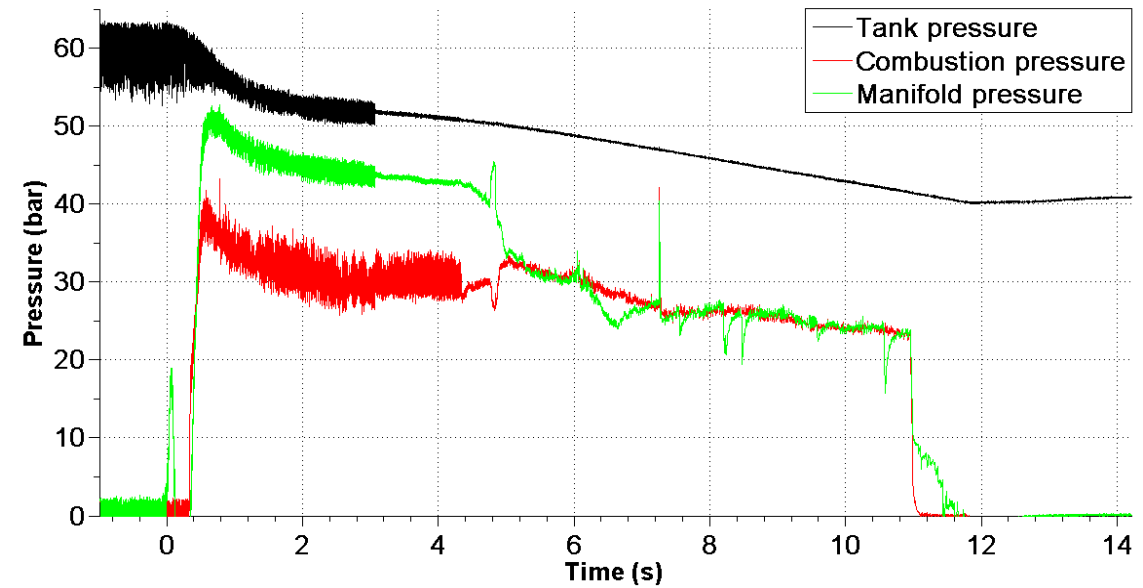
Delft Aerospace Rocket Engineering

Test

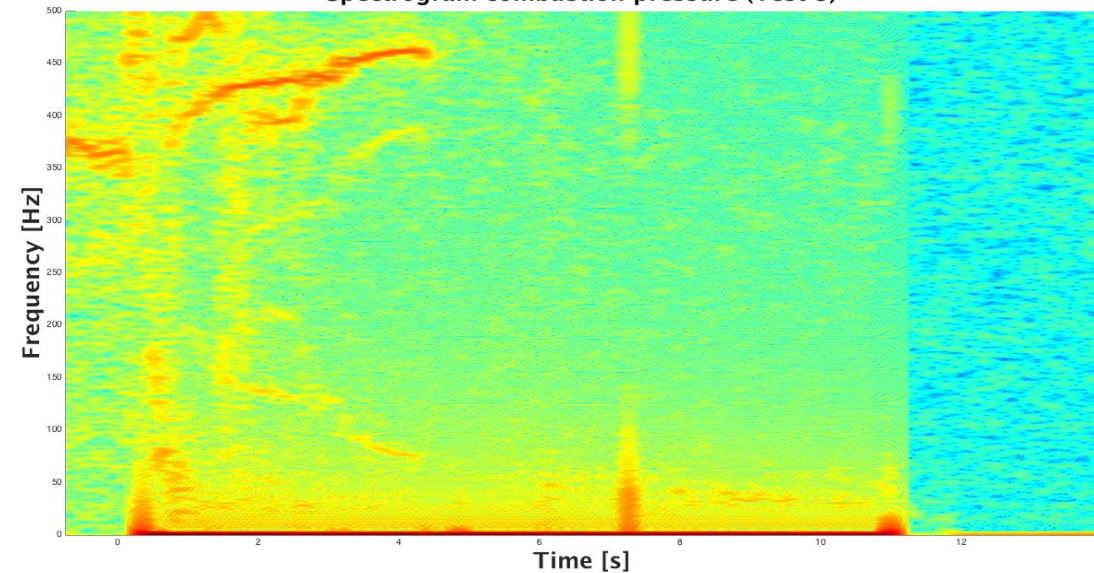


Analyse

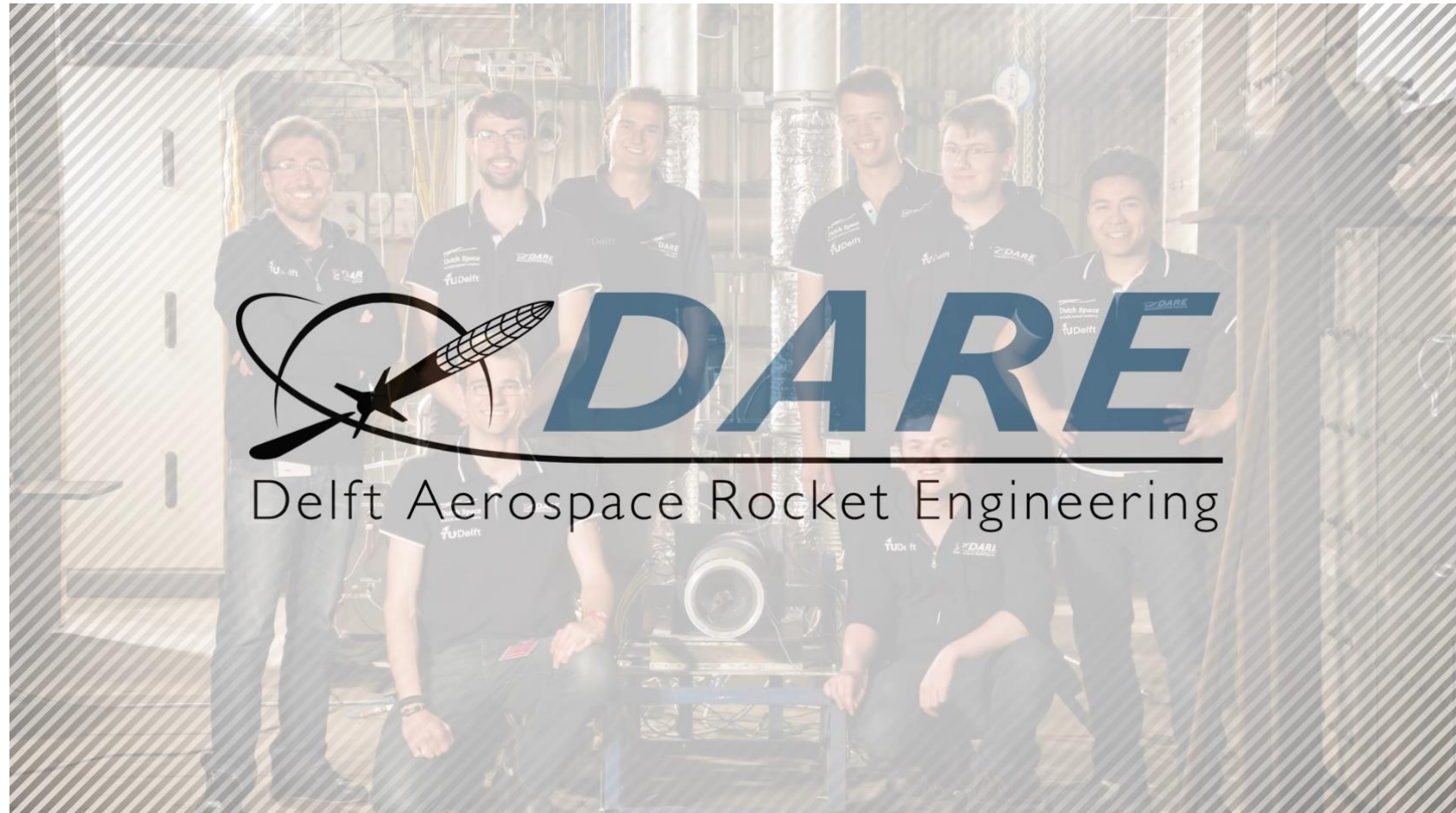
- Try to identify the failure mode of the engine
- Alter the engine design such that the failure is eliminated



Spectrogram combustion pressure (Test 8)



Iterate





DARE

Delft Aerospace Rocket Engineering

Integrate

- Stratos II⁺ subsystem integration and preparation for the launch



Fly

- Stratos II⁺ launched from the CEDEA launch site in the south of Spain
- Stratos II⁺ launched halfway through October 2015





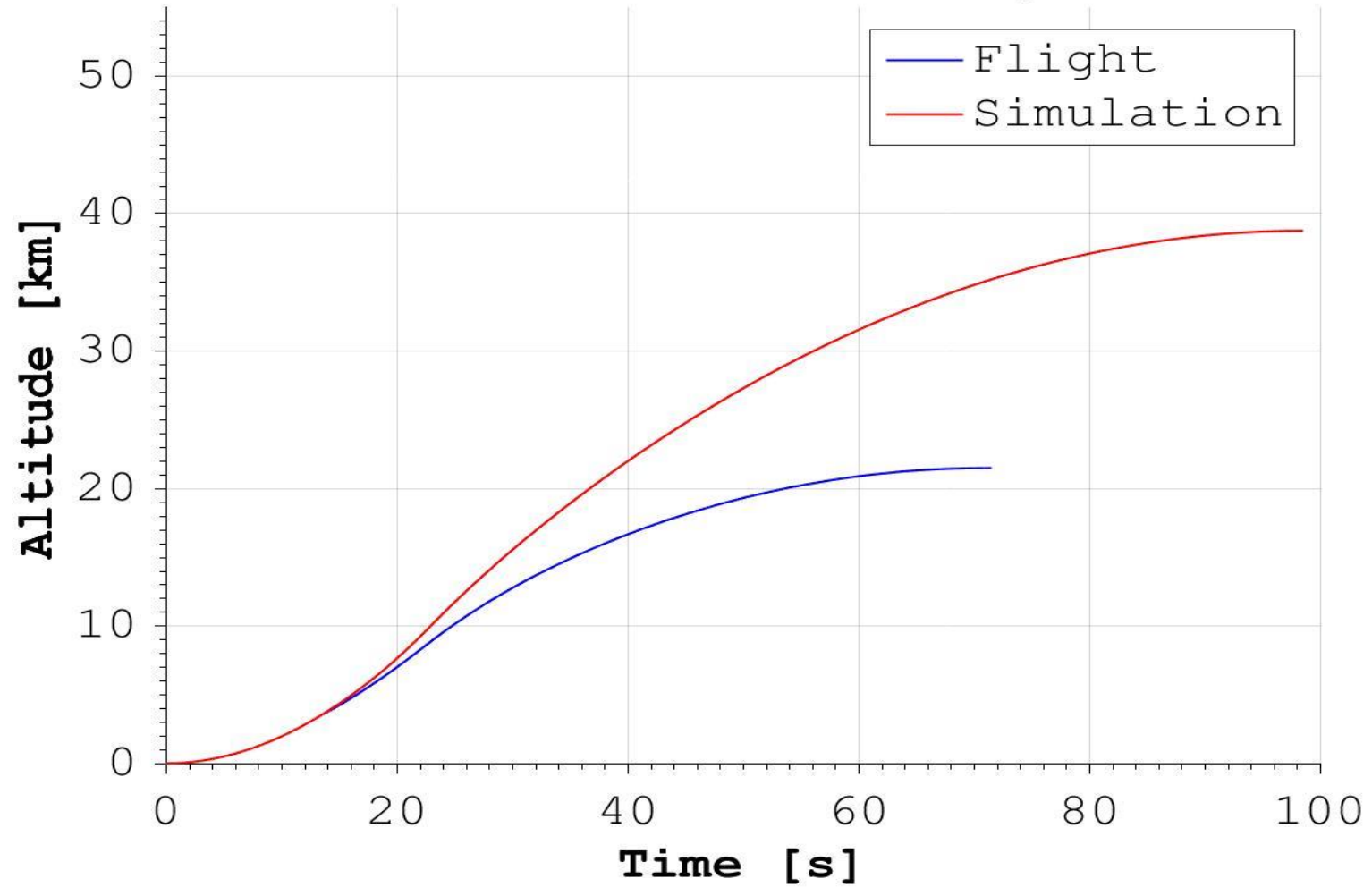
Fly





Analyse

Altitude vs. Time Diagram



Analyse



14:32:45.430

MFL- 0.50°

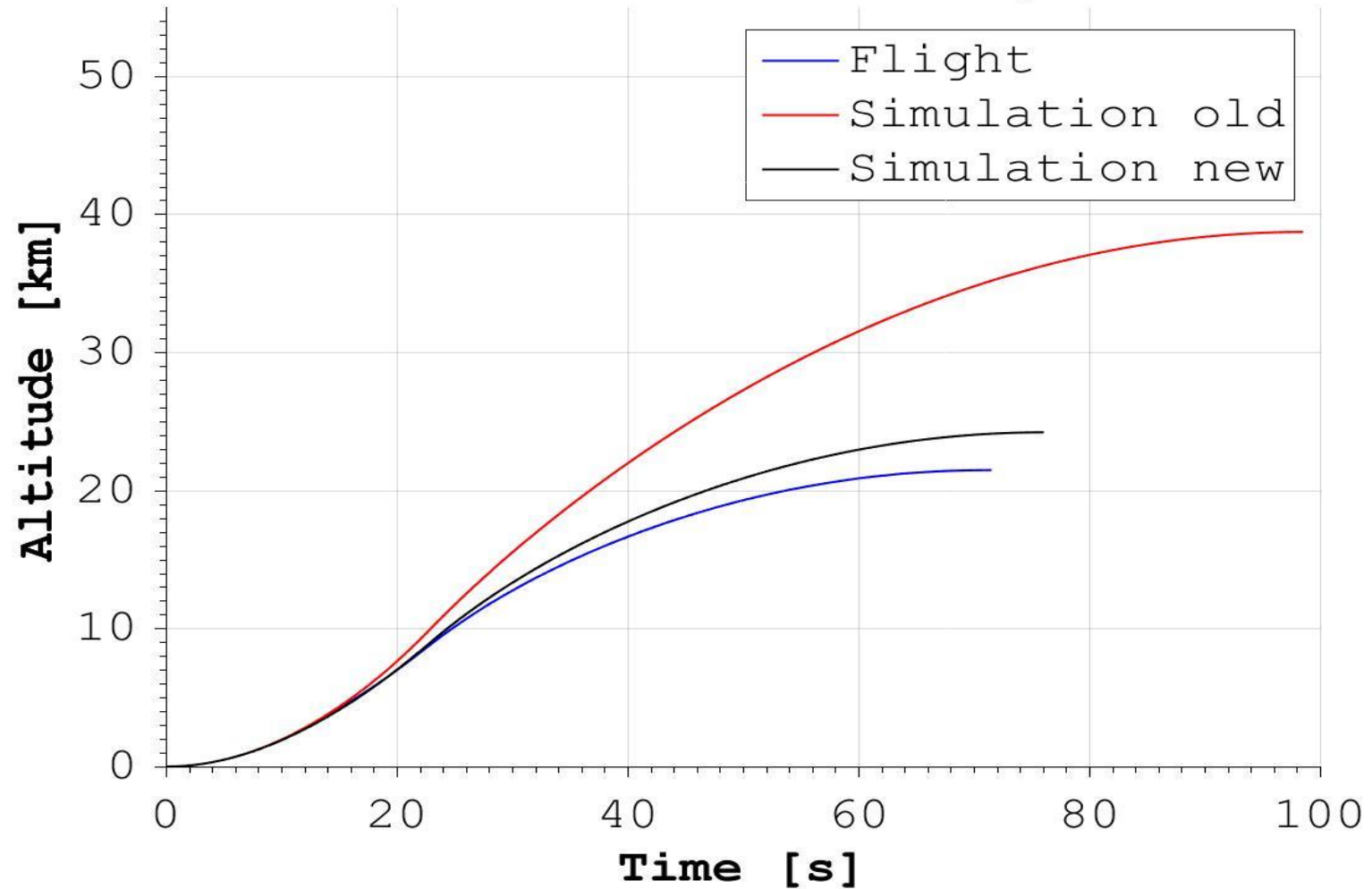
Az-297.5034°

Fl- 3.4324°

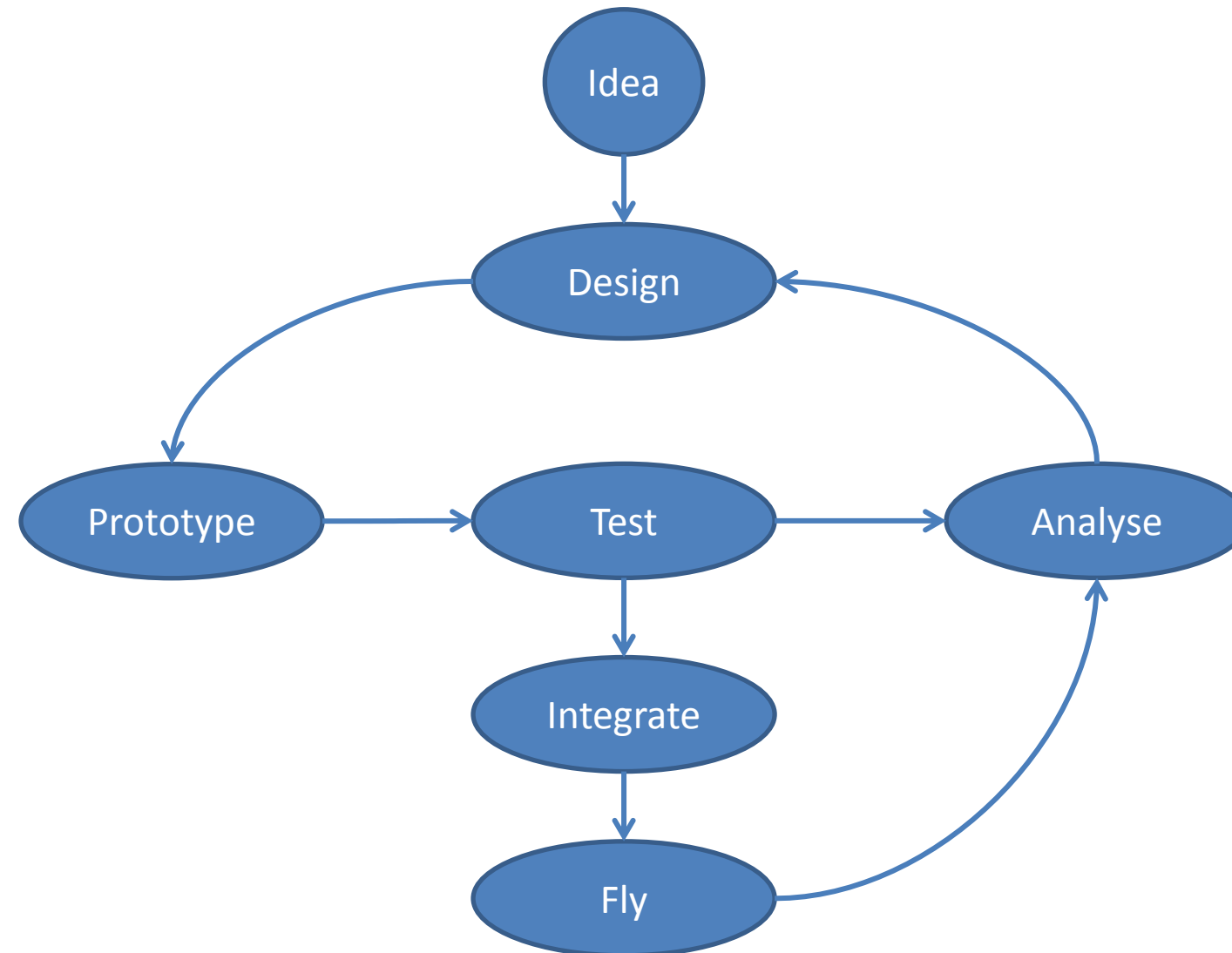
RM- 379.76m

Analyse

Altitude vs. Time Diagram



Development Cycle



What's Next?



Mission Goal Stratos III

- Launch before Fall 2017
- Break European student altitude record for rocketry



Engine Test







[Linkedin.com/company/Delft-Aerospace-Rocket-Engineering](https://www.linkedin.com/company/Delft-Aerospace-Rocket-Engineering)



[Instagram.com/daretudelft/](https://www.instagram.com/daretudelft/)



[Twitter.com/DARE_TUDelft](https://twitter.com/DARE_TUDelft)



[Facebook.com/DelftAerospaceRocketEngineering/](https://www.facebook.com/DelftAerospaceRocketEngineering/)

