

Space Economy Meets Information Economy GLIS 2016

Jeroen Rotteveel, June 6, 2016

Innovative Solutions In Space the nanosatellite specialist



Established in 2006 Small satellite company (1 – 30 kg) Vertically integrated organization

- -Research and development
- -Components and subsystem production
- -Satellite mission design and implementation
- -Satlelite launch services
- -Satellite operations
- 65 FTE based in Delft, The Netherlands



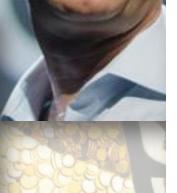


Why start a space company?



Space





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fortune

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What has gone wrong with traditional space programmes?



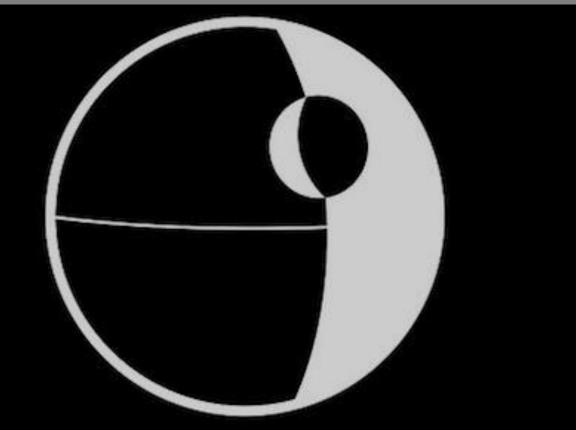


IF YOU THINK THE PROBLEMS WE CREATE ARE BAD, JUST WAIT UNTIL YOU SEE OUR SOLUTIONS. What has gone wrong with traditional space programmes?





What has gone wrong with traditional space programmes?



TOO BIG TO FAIL

A Market for Smaller Satellites





A Market for Smaller Satellites

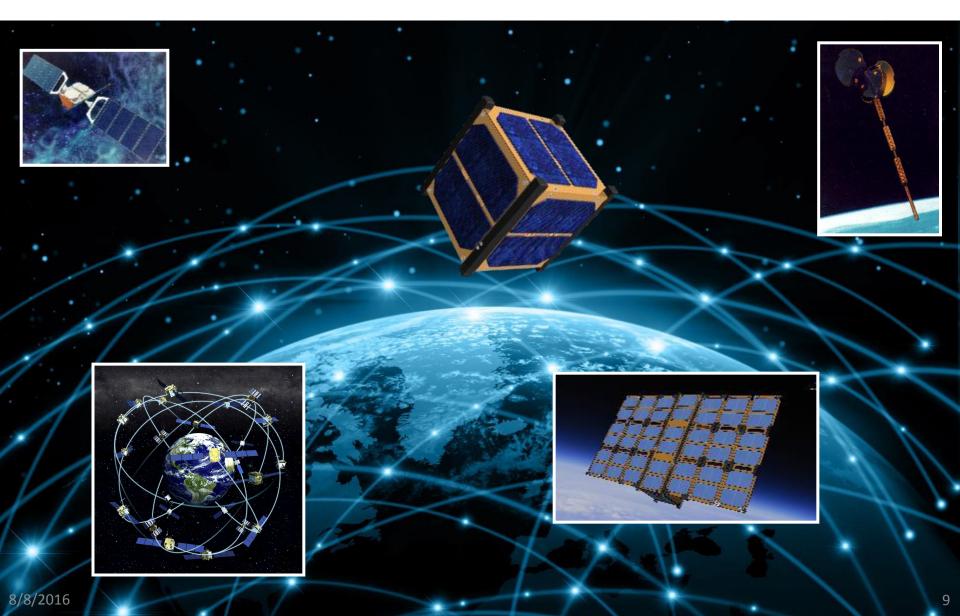




8/8/2016

A Market for Smaller Satellites





Nanosatellites and CubeSats modular spacecraft

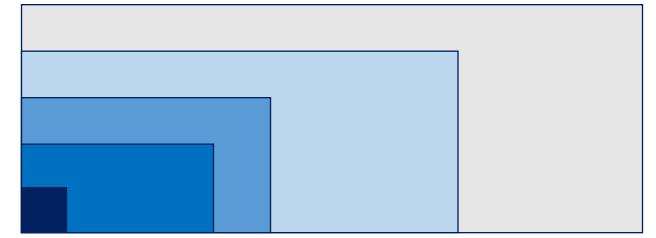


< 100 kg Microsat

< 50 kg Small Microsat

<24 kg Large Nanosat (12U CubeSat) <10 kg Nanosat (6U CubeSat)

<1 kg Picosat (1U CubeSat)





The nanosatellite 'revolution' disruptive concepts in the space sector

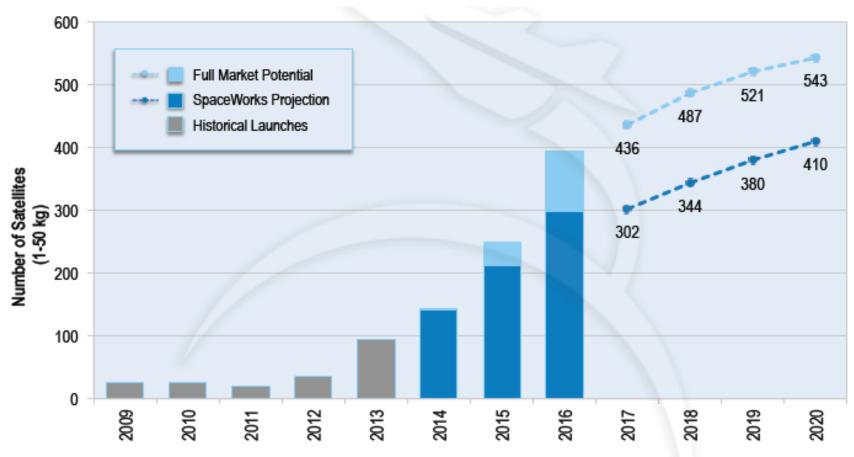






A growing market nanosatellites take flight





Calendar Year

The space sector is changing out of the laboratory, into the factory





New World View Hardware Oriented vs. Software Oriented





Blending ICT and Space **ISIS** Is it important how data is gathered or disseminated?



New issues become apparent New initiatives move at a different pace

78'



New issues become apparent

"The customer is always right," is half a sentence. The rest of it is, "if the customer is reasonable and not an idiot



New issues become apparent

SPAC

ASTRONAUT

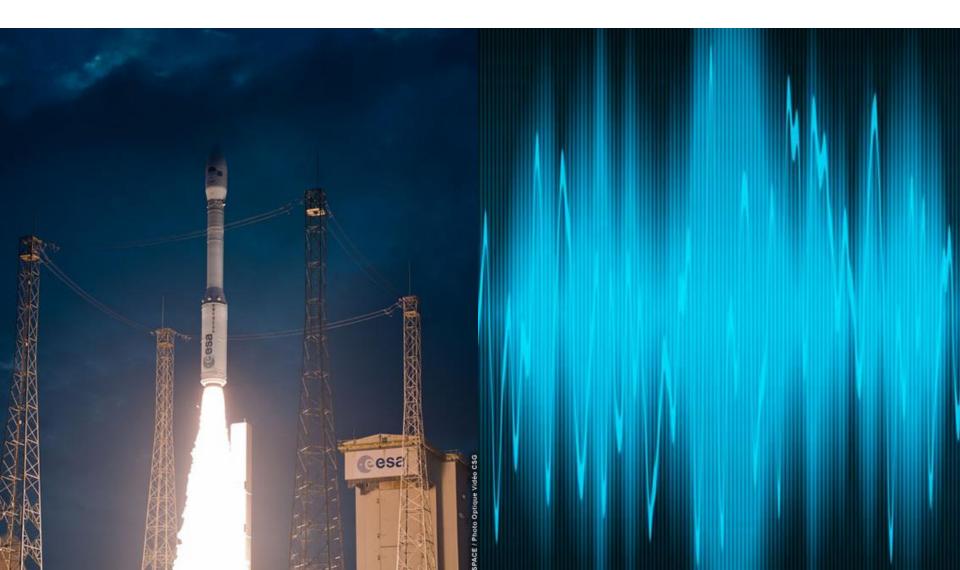
New issues become apparent **SIS** Space enabled systems are not a business in itself



New issues become apparent



New issues become apparent



New issues become apparent Small satellites come in large numbers





New issues become apparent Legislation is slow to catch up





Flags of INconvenience

Conclusions and Recommendations

- Miniaturization, automation, innovation and commercialization are changing part of the space business
- It enables new data driven business models that rely on novel space infrastructure
- It challenges current paradigms and puts focus on the continuous need for (process) innovation, also in classical space programmes
- More players in the space sector offer more opportunities for new ideas to be implemented, but careful use of scarce resources need to be addressed to ensure the benefits of space remains available to all.



Thank you for your attention!

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