ICAO UNOOSA

SPACE2016

Swiss Space Systems

Pascal Jaussi

Founder & CEO

ICAO / UNOOSA Symposium

15–17 March 2016, Abu Dhabi, United Arab Emirates

Man must rise above the Earth – to the top of the atmosphere and beyond –

for only thus will he fully understand the world in which he lives.

Socrates (469-399 BC)

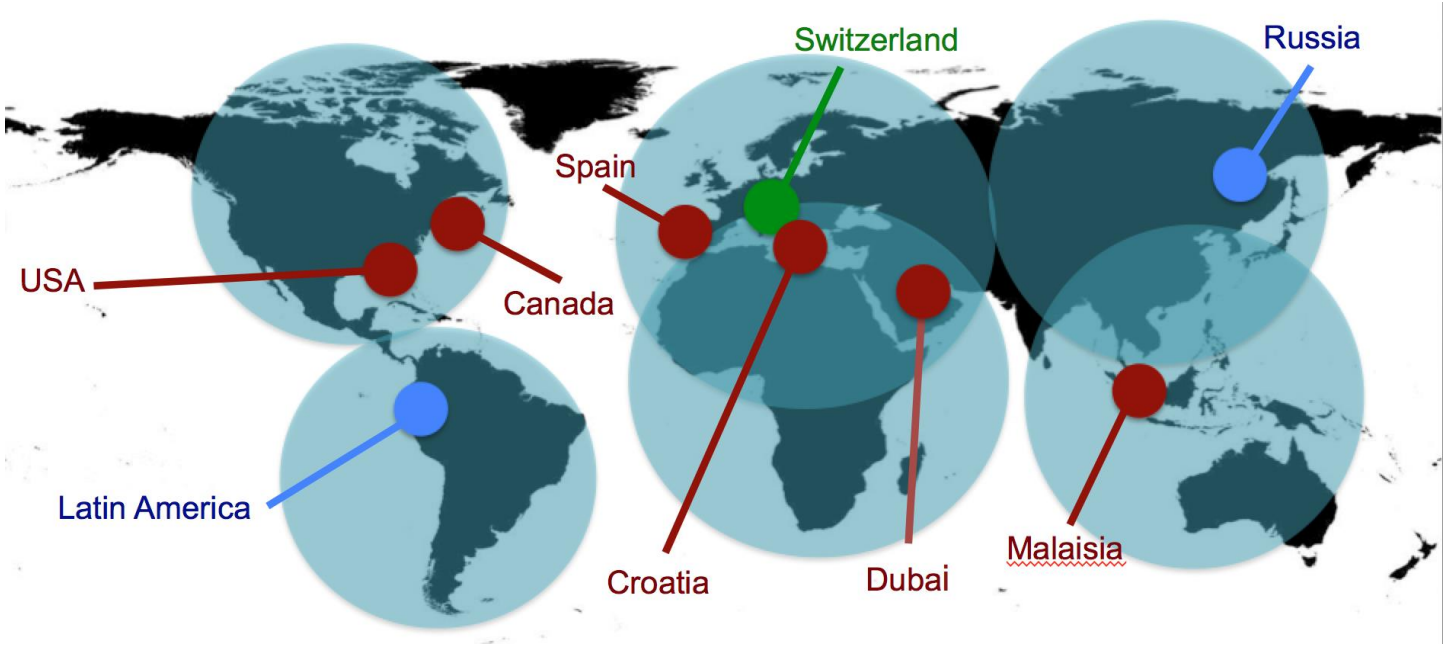
S3 - A swiss aerospace company

- Swiss-headquartered company founded in 2012 that privatises the heritage of the European Space Shuttle program HERMES
- S3's vision is to offer recurrent, flexible and affordable access to space
- The main objective is to develop, manufacture and operate suborbital reusable spaceplanes to launch small satellites up to 250kg
- Designing an evolvable system that will pioneer the future of high-speed suborbital human transportation
- 70 employees and 200 engineers around the world

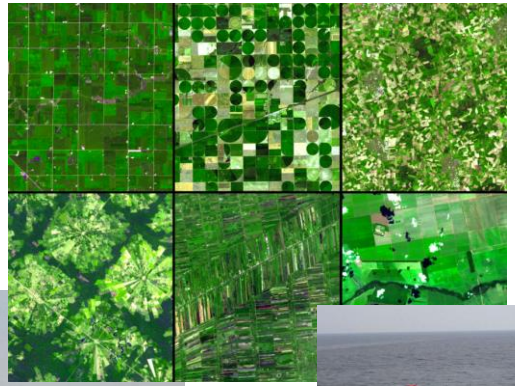
BREITLING
SPACE FOR ALL

SWISS
SPACE
SYSTEMS

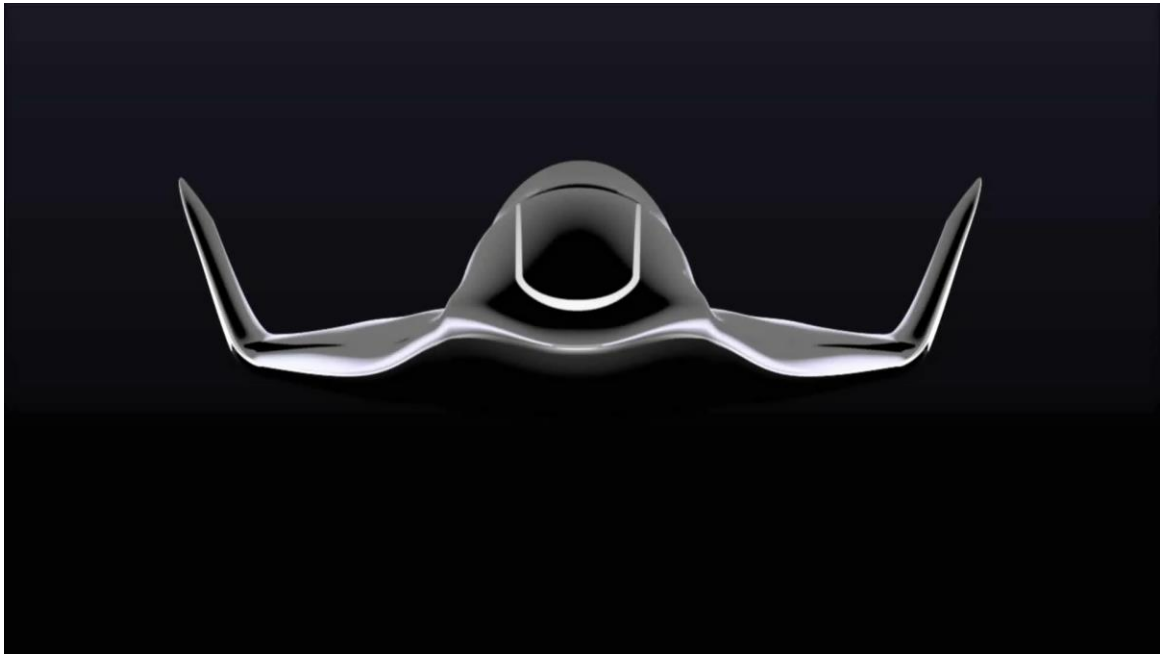
A global regulatory framework



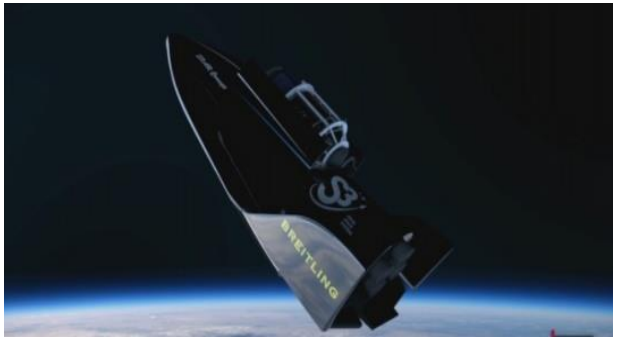
How do we use the satellites?

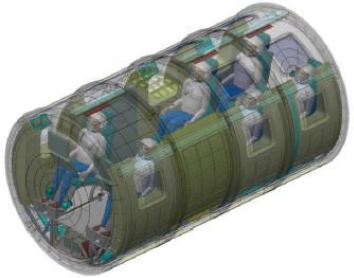


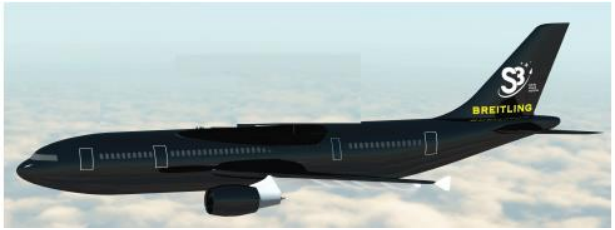
CONCEPT OF OPERATION



TIMELINE







2016 **2019** **2020+**

Why a regulatory Framework?

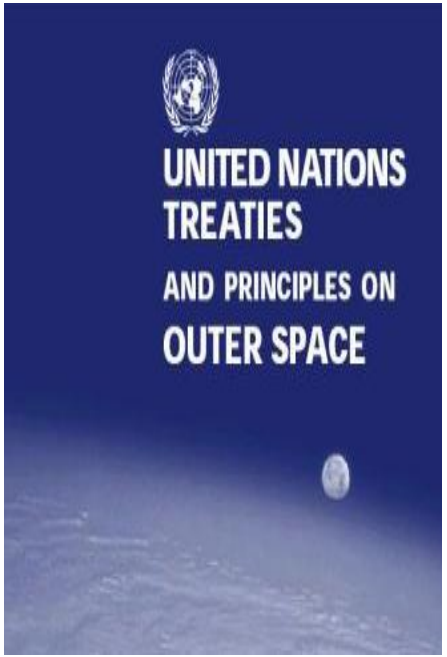
Regulatory framework

Insurance

Bank / Investors

Aviation or space law?

?

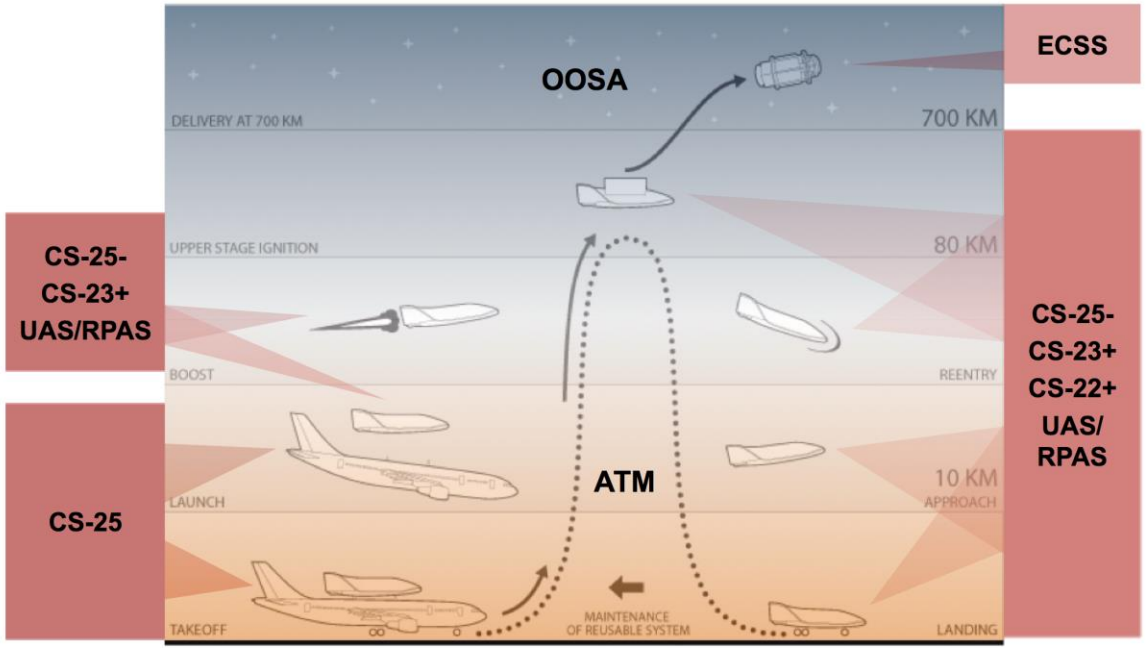


Our philosophy : to tailor existing rules

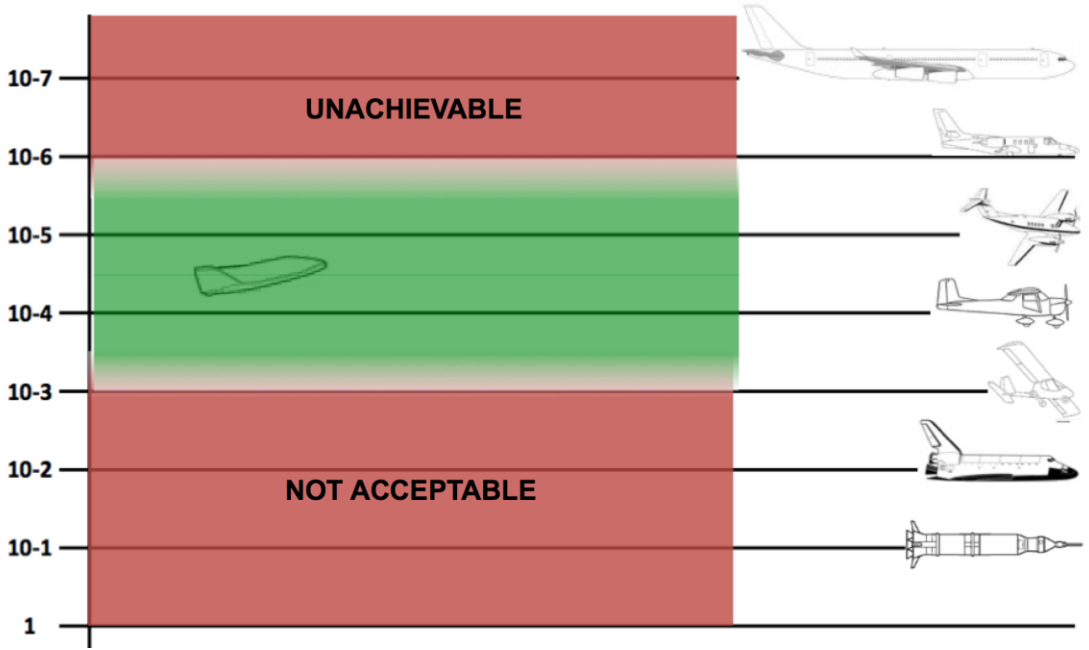
- No change to the engineering baseline.
- No compromise about safety.
- No dedicated airport and/or airspace.
- No written informed consent provided by each flight participant.
- No speed restriction.
- No altitude restriction.

➔ Tailor the rules and use the expertise of existing organisations.

Tailor existing requirements & standards

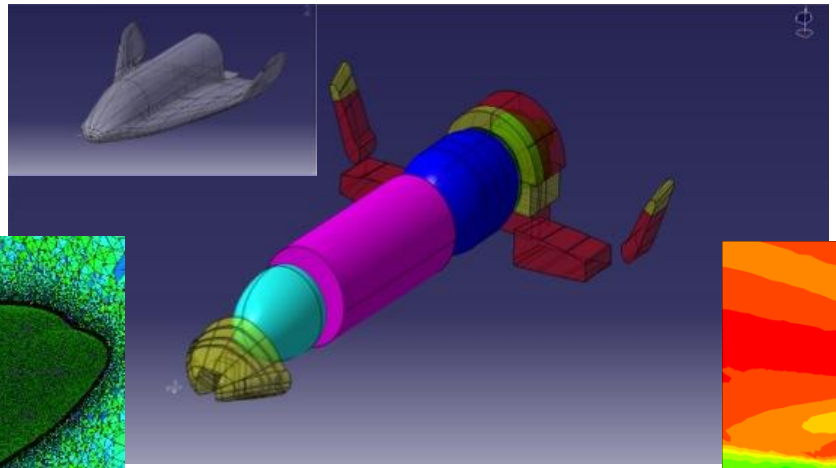


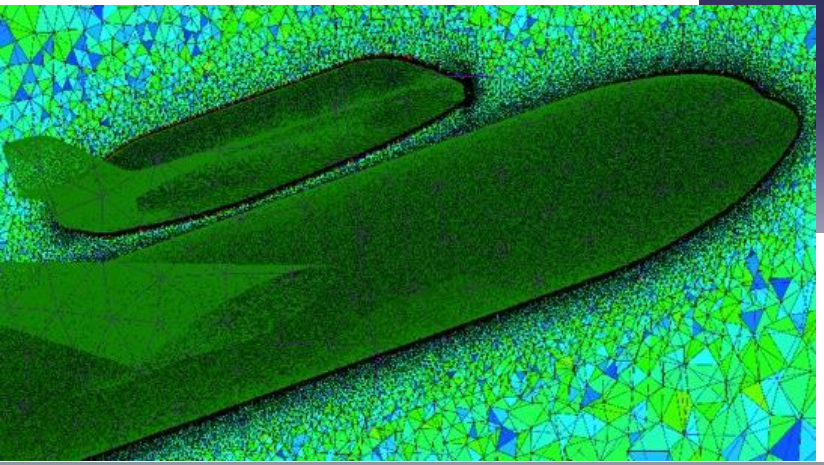
SOAR targeted levels of safety

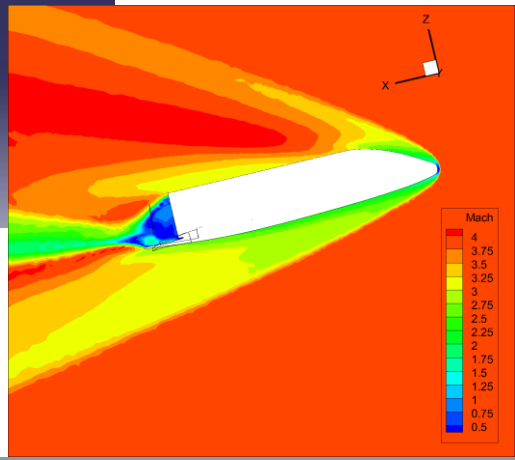


STEP BY STEP

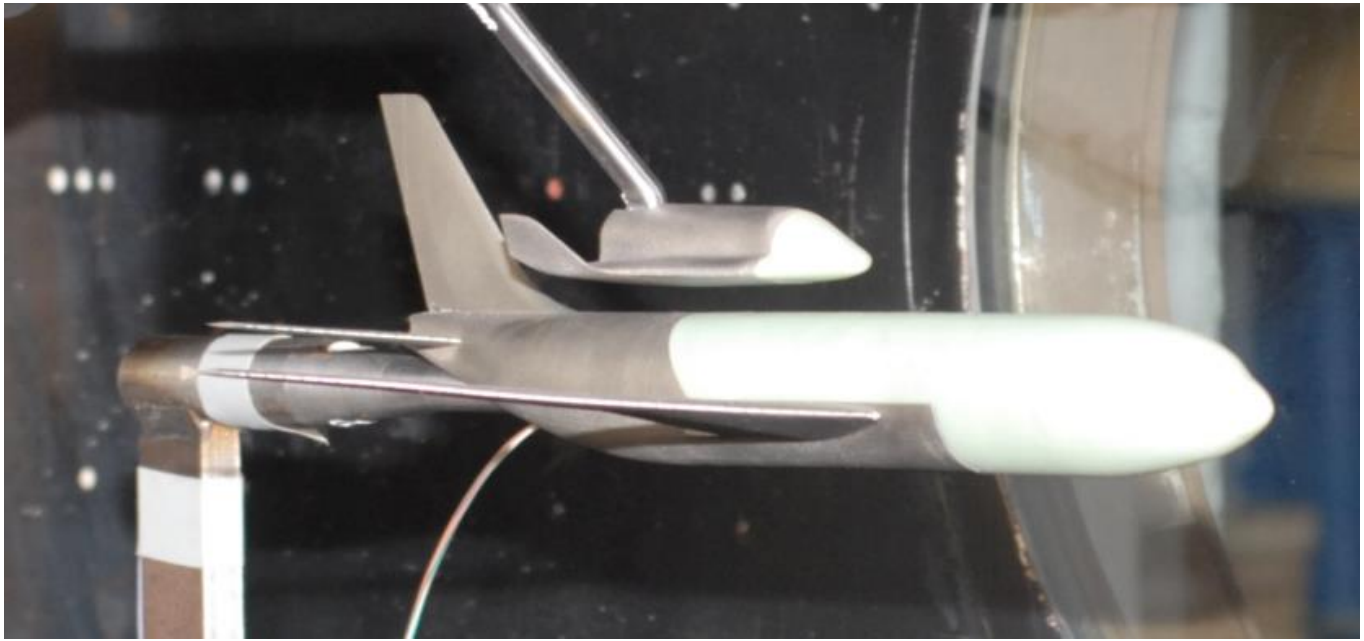
NUMERICAL







WIND TUNNEL



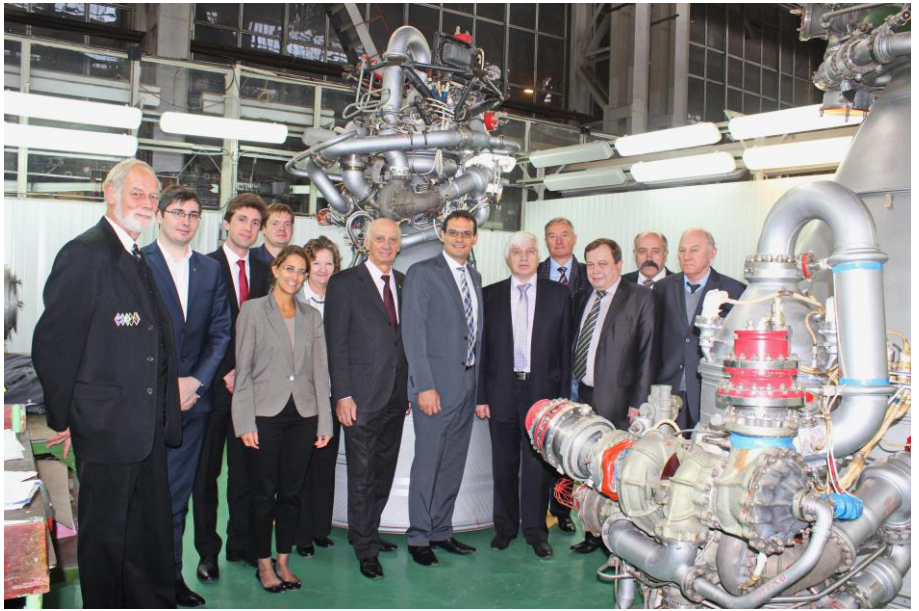
Experimental investigation

DROP-TESTS

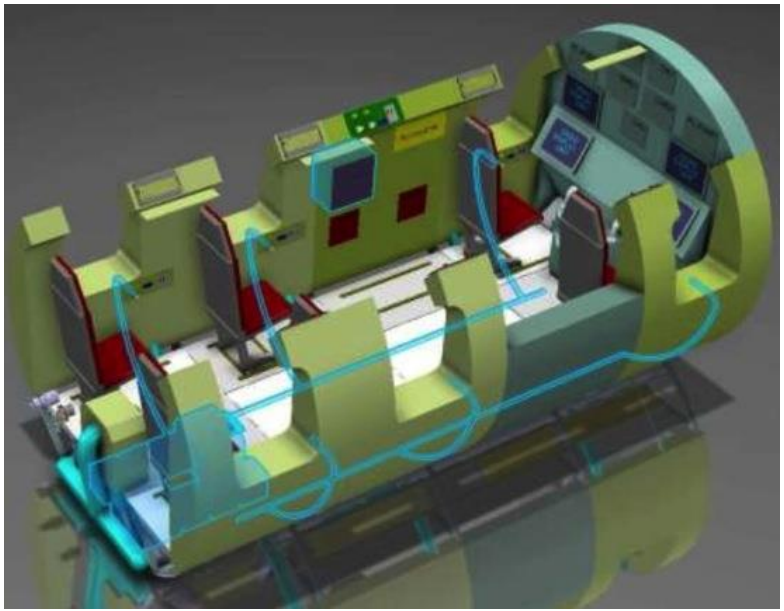
Operations in North Bay, Canada

Captive helicopter flights; telemetry and communications equipment flown in several configurations; validation of equipment for 2016 2nd phase reduced-scale shuttle drop & glide at North Bay's YYB airport

NK-39 and NK-33

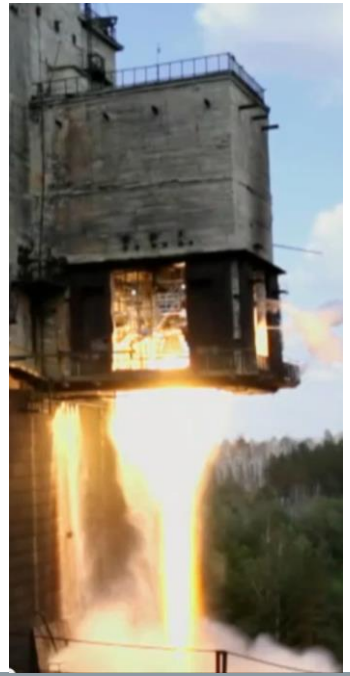


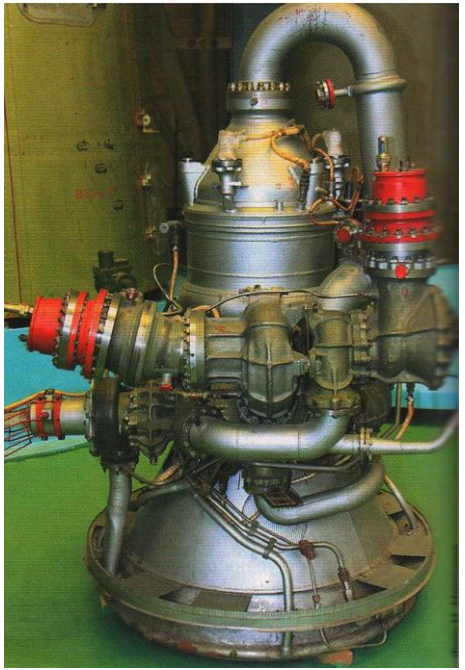
INTERGRATION PAX REQUIREMENTS



2016 Rocket testing

- Refined S3 indigenous rocket propulsion numerical models (thermodynamic cycles) in cooperation with Russia's RKK Energia and OAO Kuznetsov
- Live rocket testing campaign targeted for end-2016





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THANK YOU

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