

World (New)Space Programs & Projects

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SpaceTransportNews.com/Hobbyspace.com

A **sampling** of entrepreneurial “NewSpace” style space projects outside of the USA.

Most of the projects listed here are privately funded. Some are joint private/government. A couple are innovative government projects.

NewSpace broadly defined here as innovative small non-traditional projects developing low cost space services and hardware.

Europe - UK



- **Virgin Galactic**
 - Funding Scaled Composites WK2/SS2
 - Anchor tenant for Spaceport America



- **Starchaser**
 - Hybrid rocket, suborbital vehicle, space tourism, education



- **Reaction Engines**
 - SSTO based on SABRE rocket engine



- **Bristol Spaceplanes** – rocketplane design; *no recent activity indicated*

Europe - UK



- **STERN Project** – *Static Test Expansion deflection Rocket Nozzle* – altitude compensation for possible use with Skylon.



- **Canary Sounding Rocket** – Reusable sub-orbital rocket designed by Airborne Engineering to test expansion deflection nozzle.

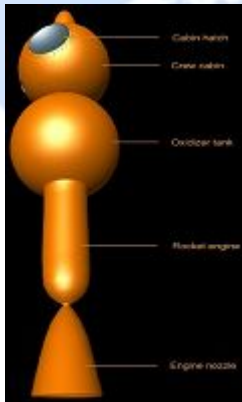


- **Surrey Satellite/Astrium** - low cost smallsats



- **Spaceport Scotland** – Use RAF base at Lossiemouth for WK2/SS2

Europe



- **Project Enterprise - Germany/Switzerland**
 - Suborbital rocketplane
- **ARCA Space - Romania**
 - Suborbital rocket vehicle
 - Google Lunar X PRIZE team
- **Copenhagen Suborbitals - Denmark**
 - Small unmanned sounding rocket
 - Suborbital single person vehicle
- **Orbispace – Austria**
 - Suborbital VTVL rocket vehicles

Europe



- **Spaceport Sweden – Northern Sweden**
 - SS2 operations from Esrange in Kiruna

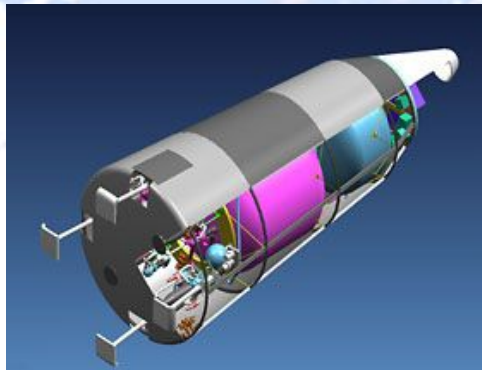


- **Excalibur Almaz – Isle of Man**
 - Space habitat using Russian Almaz modules



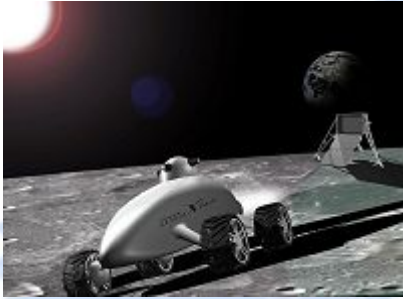
- **Odyssey Moon - Isle of Man/Canada**
 - Google Lunar X PRIZE team

Asia



- **C&Space Inc. – South Korea**
 - Developed CHASE-10 (10 ton thrust) LOX/Methane engine - “now taking orders”
 - Icarus sounding rocket and Proteus space tourism vehicle in development.
- **Reusable Sounding Rocket - Japan**
 - JAXA follow-on project to RVT vehicles
- **Spaceport Singapore**
 - Originally with Space Adventures.
 - Seems to be inactive currently.
- **Rocket Lab – New Zealand**
 - Atea low cost sounding rocket

Asia



- **Selene Team - China**
 - Google Lunar X PRIZE team
 - Includes German & British members
- **Independence-X Aerospace and Team Advaeros - Malaysia**
 - Google Lunar X PRIZE teams
- **PD Aerospace - Japan**
 - Pursuing a sounding rocket and then a low cost manned suborbital vehicle.

Russia



- **Soyuz transport to ISS** – Roscosmos + Space Adventures
 - 6 “spaceflight participants” taken to ISS



- **TAKS-55-5 Aerospace System** - Myasishchev Design Bureau
 - Space Adventures customer
 - Myasishchev Design Bureau merged with another firm recently. Don't know if this project will survive.
 - Aerospace system (AKS) M-91 project – larger vehicle with 14 tourists

Comments

- Number of NewSpace projects in a given region affected by factors such as
 - Size and scope of the private aerospace infrastructure.
 - Regulations governing private rocket/space activities.
 - Entrepreneurial resources, e.g. access to capital, grants, scale of barriers to starting a small company, etc.
 - History of space development in the country.
 - Cultural factors.