

Spaceport
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International perspective

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FAA Commercial Spaceflight Transportation Conference
7 Feb 2013



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ITAR



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.... “gave the President the authority to remove satellites and related technologies from the U.S. Munitions List”

Urgency for a business friendly approach



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Spaceport Sweden is working with the Swedish Government to adopt informed consent and a licensing approach

VS

A full certification approach suggested by EASA and a few other European initiatives

Paramount time for business in Europe



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- **Facing questions addressed by US 10 yrs ago**
- **ESA in 2008 “Cautious interest and informed support...”**
- It is becoming urgent to pay attention to this new industry and find a way to regulate in a safe yet flexible & business friendly manner
 - European suborbital concepts
 - Operating US vehicles
 - Developing spaceports
- Divide on licensing vs certification

The legal framework in Sweden



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Sweden has been in the space industry for 50 years

- Esrange Space Center established by ESRO in 1966
- 500 sounding rockets & 550 balloons since
- Routinely and safe

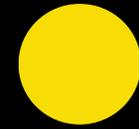
The Swedish Space Act (1982:963)

- Applicable to sub-orbital human space flights

Swedish Government responsible for licensing

- Permit for “space activity” is required
- Conditions for issuing a permit for private human space flight are expected
- The application is processed by the Swedish National Space Board which reviews applications for permits and prepares decision to be taken by the Swedish Government

It's also a question about space



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Sparcely populated, low human density area



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6000 km² restricted NATIONAL airspace



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Norway

Finland



Kiruna – over 100 years of science and innovation



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Europe's premier site for aviation-testing-space



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Europe's premier site for aviation-testing-space

Aviation

In 1916 the first flight, Albatross, landed. In 1960 Kiruna Airport was built with Arena Arctica, built for space related activities, ready in 1990.



ARENA ARCTICA

Testing

The geographical location and unpopulated surroundings offer a unique area for testing in a sub-arctic environment. The first tests in 1924.



Space

In 1961, the first rocket was launched and five years later, Sweden's own rocket base for space research, was founded by ESA.

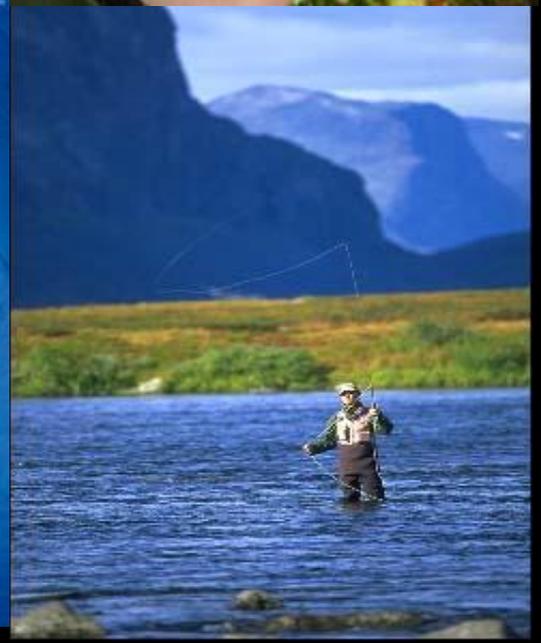


ESRANGESPACE CENTER

Unspoilt nature and world class experiences



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Mission

Spaceport Sweden supplies infrastructure, services and unique experiences to the global consumer market, academia and commercial space operators.

Vision

The aim of Spaceport Sweden is to become a world leading spaceport and Europe's first and foremost destination for commercial human spaceflights and cross-industry innovation.

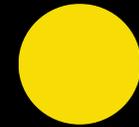
A catalyst for innovation and regional growth



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Science tourism & space adventures



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Sign up! »

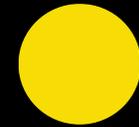
Northern light flights

The northern lights, or aurora borealis, are one of the most spectacular phenomena of the natural world. The Northern Light Flights offers our customers an exclusive experience to get closer to and view this space phenomenon from a front row seat.



7 000 ft

Spaceflight preparation program



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The screenshot shows a mobile application interface. At the top, there is a navigation bar with icons for location, chat, group, rocket, and a wheel. Below this is a header area with a green circle logo and the text "Spaceport Sweden_ your next adventure". A yellow button labeled "Sign up! »" is positioned to the right. The main content area features the title "Spaceflight preparation program" in yellow, followed by a paragraph: "This is where your space adventure begins. Spaceport Sweden has partnered with QinetiQ to develop and deliver a world-class spaceflight preparation program together, where future space travelers will emerge prepared, confident and relaxed, ready to maximise their journey to space." Below the text is a photograph of two people in a flight simulator cockpit. On the right side of the app, there is a vertical scale with the text "1 500 ft".

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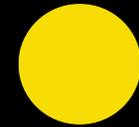
Sign up! »

Spaceflight preparation program

This is where your space adventure begins. Spaceport Sweden has partnered with QinetiQ to develop and deliver a world-class spaceflight preparation program together, where future space travelers will emerge prepared, confident and relaxed, ready to maximise their journey to space.

1 500 ft

Parabolic flights



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Parabolic flight

Have you ever dreamt of flying, defying the laws of gravity and float free in the air like an astronaut? This is your opportunity to experience the ultimate space adventure and magical feeling to float in total weightlessness.



29 000 ft

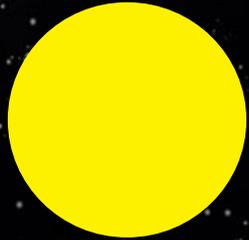
Getting people excited about space - 5 June 2013



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The screenshot shows the TEDx Kiruna website. At the top left is the logo "TEDx Kiruna" with the tagline "x = independently organized TED event". To the right is a search bar. Below the logo is a navigation menu with links for Home, About, Registration, Program, Speakers, and Press. The main content area is titled "About" and features a large image of a woman in a white dress standing on a globe. To the left of the image are social media sharing buttons for Tweet (19), Like (24), and Share. To the right of the image is a text block that reads: "On March 27th, TEDx comes to above the Arctic Circle, bringing an inspiring day full of energy and ideas worth spreading. TEDx is open for everyone, you only need to register [here](#). TEDxKiruna is a cross-disciplinary event for people and minds to meet, listen to fascinating speakers inspiring new thoughts and stimulating discussions on the TEDxKiruna theme: future living." Below this text is a paragraph: "Speakers at TEDxKiruna include motivational people from different disciplines who will share their extraordinary backgrounds and view on the future, as we know it." To the right of the main content is a section titled "Venue and details" which lists: "TEDxKiruna Theme: Future living Kiruna, Sweden March 27th, 2012 09:00-17:00 (9:00am-5:00pm / GMT 2hrs)". Below this is a section titled "TEDxKiruna on Twitter" with a tweet: "What is FUTURE LIVING for you? #TEDxKiruna about 9 hours ago". At the bottom of the page, there is a small text block: "Read about @carlbildt days in @swedishlapland #Kiruna and at @ICEHOTEL_Sweden http://t.co/sgJjJj10 about 10 hours ago".





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Winner at the Swedish Tourism Awards – innovation of the year

Focus going forward



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- **Continue US partnering**
- **Build and extend on the US – Sweden Space Agreement**
- **ITAR**
- **Business friendly framework in Sweden; licensing and informed consent**



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Thank you for your attention

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