



## **Second Announcement**









Thomas Kuch, DLR

Philip Liebrecht, NASA

### Message from the Co-Chairs of the SpaceOps Organization

The co-chairs of the SpaceOps Organization cordially invite you to the 12th SpaceOps Conference in Sweden in June 2012.

The Swedish space technology and service provider SSC and the German Aerospace Center, DLR, represented by its Space Operations Center (GSOC), are the organizers and hosts of SpaceOps 2012. The technical program with plenaries and technical sessions will be enhanced by an exhibition inside the conference facility. During the week we will additionally present the SpaceOps Awards and two keynote addresses will complete a very promising conference week.

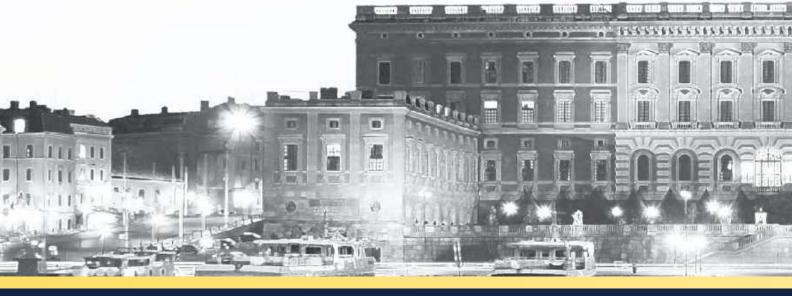
For any project, for any mission, it is a long road through formulation and development to finally get to the operations phase when space operations effectiveness ultimately decides mission success or failure. The achievements and oversights of all of the earlier phases become clearly apparent during operations. This is when the mission team members must perform together like an orchestra, contributing their many diverse skills to accomplish the necessary tasks. All hardware, software and human systems must operate smoothly together to achieve the mission objectives. A careful mission analysis, a scalable system design with redundancies, methodical operations preparation as well as a robust test, training and simulation program are the prerequisites for achieving the mission objectives and to decrease the ever imminent risk. For each mission, a trade-off between adoption of classical or innovative operational approaches must be performed in its formulation and continually optimized through end of mission. The result when executed well is a fine symphony of mission success.

The SpaceOps Conference is a technical forum of the international space operations community that addresses state-of-the-art operations principles, methods and tools. The event has been held biennially since 1990 and attracts technologists, scientists, managers and experts from space agencies, academia, space-related industry and military organizations across the globe. SpaceOps fosters managerial and technical interchange on all aspects of space mission operations, including robotics, human, earth orbiting, and deep space. Collaboration of the SpaceOps Community between conferences is facilitated via the valuable services of the AIAA.

With 8 different topics, SpaceOps 2012 offers a comprehensive view on global space operations covering activities of governments, industry and academia.

We look forward to welcoming you in June 2012 for a thought-provoking and innovative exchange of ideas and concepts. Join us in Stockholm and Kiruna for the SpaceOps 2012 conference, and enjoy midsummer in Sweden.

Thomas Kuch and Philip Liebrecht - Co-Chairs Executive Committee, SpaceOps Organization









### **Message from the Technical Program Committee**

DLR and SSC are delighted to welcome you to Sweden for SpaceOps 2012.

The conference will, as always, provide great opportunities for the space operations community to meet, exchange ideas and discuss potential collaboration. The SpaceOps 2012 Technical Program Committee, composed of experts from the major space organizations in the world, will prepare an ambitious program focused on today's achievements in space operations and outlining trends in the operations of future missions.

We invite to submit abstracts for SpaceOps 2012 at the conference web site www.spaceops2012.org. The submission of abstracts started on 12 September 2011 and is open until 30 November 2011.

We hope to see you in June 2012!

Dr. Martin Wickler, DLR - Chair, Technical Program Committee



Dr. Martin Wickler, DLR

### **Message from the Local Organizing Committee**

On behalf of the Local Organizing Committee, it is my pleasure to extend a warm invitation for the global space operations community to attend SpaceOps 2012 in Stockholm.

The Local Organizing Committee is working hard to make the Stockholm conference an outstanding experience. The setting is perfect: Stockholm in June is fresh and green with glistening waters. The selected venue, the Stockholm Waterfront Congress Centre, is built on the waters' edge right in the city centre and with excellent travel links. It is Stockholm's newest and most versatile large-scale venue, providing everything we will need for a successful conference and exhibition. As always, there will be plenty of opportunities to network and socialize. The program will include receptions and social events, including the Gala Dinner in the spectacular Vasa Museum. As mentioned, if there is enough interest, we also plan for an additional conference day in Kiruna in northern Sweden, a memorable visit in June when the sun never sets. The Local Organizing Committee – with members from SSC, DLR and Congrex – welcomes you to Sweden. We are confident that you will return home with new ideas, new friendships and the wish to visit this beautiful country again in the future.

Annika Benson, SSC - Chair, Local Organizing Committee



Annika Benson, SSC



## About SpaceOps



#### **Contact and Information**

#### SpaceOps Secretariat

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# The International Committee on Technical Interchange for Space Mission Operations and Ground Data Systems

The International Committee on Technical Interchange for Space Mission Operations and Ground Data Systems (SpaceOps Organization, also known as the SpaceOps Committee) is a spacecraft operations oriented international association consisting of representatives from most of the space-faring nations. SpaceOps was founded in 1990 to foster continuous technical interchange on all aspects of space mission operations and ground data systems, and to promote and maintain an international community of space operations experts.

The SpaceOps Organization was formed to provide an organized community and technical forum for the large number of people involved in space mission operations. The main objective is the monitoring of the evolution in all major fields of space operations including unmanned and manned missions and embracing space missions from near Earth to deep space.

The SpaceOps Organization is formed by representatives of the major world space agencies and is open to space industry representatives.

The organization is managed through two committees, an Executive Committee and a Committee-at-Large.

- ★ The Executive Committee consists of one member from each agency authorized to represent the entire agency delegation in matters addressed by the Executive Committee.
- ★ The Committee-at-Large consists of members from each space agency installation of each country or international consortium and industrial representatives from the participating countries.

The American Institute for Aeronautics and Astronautics (AIAA) organization provides secretarial support to both committees.





# SpaceOps Members worldwide



| Agenzia Spaziale Italiana<br>(ASI)   | Japan Aerospace<br>Exploration Agency (JAXA)                      |
|--|---|
| American Institute of Aeronautics and Astronautics (AIAA)                          | Johns Hopkins University (JHU) Applied Physics Laboratory         |
| Canadian Space Agency (CSA)  | Korea Aerospace<br>Research Institute (KARI)                      |
| Centre National d'Etudes Spatiales (CNES)  | National Aeronautics and Space Administration (NASA)              |
| Computer Sciences Corporation (CSC)  | National Oceanic and Atmospheric Administration (NOAA)            |
| Deutsches Zentrum für Luft- und Raumfahrt (DLR) / German Space Operations Center   | Rutherford Appleton Laboratory<br>RAL Space                       |
| EADS Astrium   | Space Research Institute of the Russian Academy of Sciences (IKI) |
| European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) | ssc   |
| European Space Agency (ESA) / European Space Operations Centre                     | Telespazio  |
| Indian Space Research<br>Organisation (ISR0)                                       | Thales Alenia Space   |
| Instituto Nacional de<br>Pesquisas Espaciais (INPE)                                | VEGA Space  |

## **Conference Program**



The title "Space Operations for the Benefit of our World" encapsulates the main focus of worldwide space program activities in the coming years, with emphasis on:

- ★ Earth Observation, the purpose of which is to monitor the status and evolution of the Earth's environment and its atmosphere, providing data for the protection of mankind and our environment.
- ★ Exploration missions in near Earth and deep space, including the robotic exploration of the Solar system and far beyond (astronomy, astrophysics) as well as human spaceflight in the Low Earth Orbit, and for Lunar and Martian exploration.
- ★ Navigation and Communication missions, to allow us to better understand each other
- Sounding Rockets and Balloons, missions that allow us to know more about research under microgravity conditions and research of the atmosphere

The SpaceOps 2012 Technical Program Committee, composed of experts from the major space organizations in the world, will prepare an ambitious program focused on today's achievements in space operations and outlining trends in the operations of future missions.

The program consists of presentations (oral, e-posters and posters) on the following areas:

- ★ Mission Execution
- **★** Data and Communications System Facilities
- ★ Mission Design and Mission Management
- **★** Training and Knowledge Transfer (**NEW!**)
- ★ Cross Support, Interoperability and Standards
- ★ Commercial Space Operations
- ★ Launcher, Rockets and Balloon Operations
- ★ University Space Operations (NEW!)

Additionally, there are plenaries on the topics:

- **★** Earth Observation
- ★ Exploration and Human Spaceflight
- ★ Communication and Navigation, Commercial Aspects
- ★ Sounding Rockets and Balloons

#### Preliminary Conference Program - Overview of the conference week

|  | Sunday<br>10-jun-2012    |        | Monday<br>11-jun-2012                     |            | Tuesday<br>12-jun-2012              |            |        | Wednesday<br>13-jun-2012            |           |       | Thursday<br>14-jun-2012  |            | Friday<br>15-jun-2012 |  |
|--|--------------------------|--------|---|------------|-------------------------------------|------------|--------|-------------------------------------|-----------|-------|--|------------|-----------------------|--|
|  |                          |        | Stockholm                                 |            | Stockholm                           |            |        | Stockholm                           |           |       | Stockholm  |            | Stockholm             |  |
| 07:00 - 07:30<br>07:30 - 07:40                                   |                          |        | Registration (-18:00)                     |            | Registration (-18:00)               |            |        | Registration (-18:00)               |           |       | Registration (-18:00)  |            |                       | 07:00 - 07:30<br>07:30 - 07:40                                   |
| 08:00 - 08:20  |                          |        | , ,                                       |            | Speakers' briefing                  |            | г      | Speakers' briefing                  |           |       | Speakers' briefing   |            | Speakers' briefing    | 08:00 - 08:20  |
| 08:30 - 09:00<br>09:00 - 09:30                                   |                          |        | Speakers' briefing (-08:50)               |            | Plenary Exploration/HumanSpacefl.   |            |        | Plenary<br>Earth Observation        |           |       | Plenary<br>Communication / Navigation                            |            | Oral Presentations    | 08:30 - 09:00<br>09:00 - 09:30                                   |
| 09:30 - 10:00  |                          |        | Opening Plenary                           |            |                                     |            |        | <u>_</u>                            |           |       | ű  |            |                       | 09:30 - 10:00  |
| 10:00 - 10:30  |                          |        | -py                                       |            | Coffee Break                        |            |        | Coffee Break                        |           |       | Coffee Break   |            | Coffee Break          | 10:00 - 10:30  |
| 10:30 - 11:00<br>11:00 - 11:30                                   |                          |        | Coffee Break                              |            | Oral Presentations                  |            |        | Oral Presentations                  |           |       | Oral Presentations   | _          | Closing Plenary incl. | 10:30 - 11:00<br>11:00 - 11:30                                   |
| 11:30 - 12:00<br>12:00 - 12:30                                   |                          |        | Oral Presentations                        |            | Ofair resentations                  | ٥          |        | Orai i resentations                 | _         |       | Oral i resentations  | =xhibition | Highlight Lecture     | 11:30 - 12:00<br>12:00 - 12:30                                   |
| 12:30 - 13:00<br>13:00 - 13:30                                   |                          |        | Lunch<br>(13:10 Speakers' Briefing)       |            | Lunch<br>(13:10 Speakers' Briefing) | Exhibition | bition | Lunch<br>(13:10 Speakers' Briefing) | xhibition | oster | Lunch<br>(13:10 Speakers' Briefing)                              | Exh        | Lunch                 | 12:30 - 13:00<br>13:00 - 13:30                                   |
| 13:30 - 14:00<br>14:00 - 14:30<br>14:30 - 15:00<br>15:00 - 15:30 |                          | Poster | Oral Presentations                        | Exhibition | Oral Presentations                  | Exh        | Poster | Oral Presentations                  | Exh       |       | Oral Presentations   |            |                       | 13:30 - 14:00<br>14:00 - 14:30<br>14:30 - 15:00<br>15:00 - 15:30 |
| 15:30 - 16:00  |                          |        | Coffee Break                              |            | Coffee Break                        |            |        | Coffee Break                        |           |       | Coffee Break   |            |                       | 15:30 - 16:00  |
| 16:00 - 16:30<br>16:30 - 17:00<br>17:00 - 17:30<br>17:30 - 18:00 | Registration<br>ome      |        | Oral Presentations                        |            | Oral Presentations                  |            |        |                                     |           |       | 16:00 - 16:30<br>16:30 - 17:00<br>17:00 - 17:30<br>17:30 - 18:00 |            |                       |  |
| 18:00 - 18:30<br>18:30 - 19:00<br>19:00 - 19:30<br>19:30 - 20:00 | Regi<br>Welcome<br>Drink |        | (e-)Poster<br>Presentations<br>Icebreaker |            | Public Event                        |            |        | Social Event                        |           |       |  |            |                       | 18:00 - 18:30<br>18:30 - 19:00<br>19:00 - 19:30<br>19:30 - 20:00 |
| 20:00 - 20:30<br>20:30 - 21:00<br>21:00 - 21:30<br>21:30 - 22:00 |                          |        |   |            |                                     |            |        |                                     |           |       | Gala Dinner<br>& Awards Presentation                             |            |                       | 20:00 - 20:30<br>20:30 - 21:00<br>21:00 - 21:30<br>21:30 - 22:00 |





## **Instruction to authors**

### **Abstract preparation**

- ★ The conference language is English.
- ★ Abstracts should not exceed 300 words.
- ★ Please do not include graphics, drawings and tables in the abstracts.
- ★ For formulas please use the toolbox provided in the submission tool.
- ★ Abstracts should specify purpose, methodology, results and conclusions.
- ★ Please include a short presenter's biography (not more than 200 words).

#### **Abstract submission**

- ★ The submission of abstracts started on 12 September 2011 at the conference web site www.spaceops2012.org.
- ★ Simply click on Paper Submission and you will be forwarded to our web-based abstract and paper submission tool.
- ★ At first you will need to register yourself. Please click on Create a new account. After registration you will receive an e-mail confirmation. You can immediatety log into the system.
- ★ In order to start the submission please click on the "submission" tab in the upper right hand corner of the login page and then choose "Create an new submission" in the left navigation menu. Please follow the detailed instructions during the submission procedure.
- ★ The abstract submission closes on 4 November 2011.

#### **Abstract selection**

The submitted abstracts will be evaluated by the Technical Program Committee. Criterias for the selection are relevance, innovation, substance merit, future practical application and presentation style.

#### **Book of abstracts and conference proceedings**

A book of the accepted abstracts will be available at the onsite registration.

The conference proceedings will be published within three months after the conference and sent to the registered participants off the conference.

#### Paper and presentation submission

Details on how to prepare your final paper or presentation will be available on www.spaceops2012.org. Paper submission closes 30 April 2012, presentation submission closes 31 May 2012.

#### SpaceOps 2012 Awards

Following the initiative adopted for the first time at the SpaceOps 2006 conference, two awards will be presented during the SpaceOps 2012 conference:

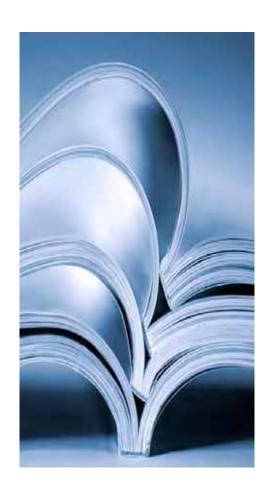
- ★ International SpaceOps Award for Outstanding Achievement
- ★ International SpaceOps Distinguished Service Medal

The Awards shall be presented during the SpaceOps 2012 Gala Dinner.

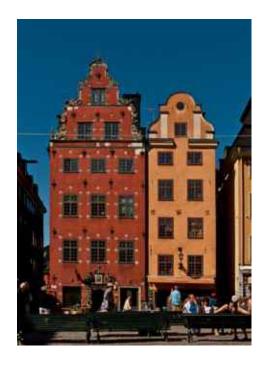
### **Important dates**



| Abstract submission opens            | 12 September<br>2011 |
|--------------------------------------|----------------------|
| Abstract submission closes           | 4 November 2011      |
| Online registration opens            | 28 November<br>2011  |
| Notification to authors              | 1 March<br>2012      |
| Final paper submission closes        | 30 April<br>2012     |
| Final presentation submission closes | 31 May<br>2012       |
| Conference dates                     | 11-15 June<br>2012   |



## **Stockholm**



### A city on water

Sweden's beautiful capital has a picturesque setting that makes the city unique. Founded in the 13th century, it was built at the strategic point where the vast Lake Mälaren flows into the Baltic Sea. The central part of Stockholm spreads over 14 islands connected by some 50 bridges. The islands are continuous with the Stockholm archipelago, a cluster of 24,000 islands and islets.

Stockholm is known for its beauty, its buildings and architecture, its abundant clean and open water, and its many parks. Over 30% of the city area is made up of waterways and another 30% is made up of parks and green spaces. The water is so clean that you can drink it and catch salmon in the middle of the city. The difference between seasons is quite large, the summers green with mild light nights, and the winters dark, cold and often snowy.

Stockholm is a lively cosmopolitan place with both modern Scandinavian architecture and fairytale towers. Stockholm's oldest section is the Old Town (Gamla Stan), one of the best preserved medieval city centres in the world. With its 750 year history and rich cultural life, Stockholm offers a wide selection of world-class museums and attractions. Most of the city's attractions can be reached on foot, and there's a good chance of experiencing a lot of things in a short time. Visitors will also find great shopping, quality eateries in abundance, fabulous standard hotels and an internationally renowned music scene.

For more information about Stockholm, please visit www.visitstockholm.com.

#### **Accommodation**

The Stockholm Waterfront Congress Centre features an on-site four-star hotel, the Radisson Blu Waterfront Hotel. Directly connected to the congress centre via the lobby, the hotel offers 414 comfortable and well-equipped rooms. Within a radius of 300 metres from the Stockholm Waterfront Congress Centre there are some 2,800 additional rooms to be found in different local and international three-star to five-star hotels.

Accommodation options will be presented for online reservation on www.spaceops2012.org from 28 November 2011.





## **Travel**

### Travel to and from the airports

Stockholm is at the natural centre of Scandinavia and it has all of the region's important cities within comfortable reach.

You can get to all of northern Europe's major cities in less than two hours by air.

**Stockholm-Arlanda Airport** is Sweden's largest airport. It is located 42 kilometers north of downtown Stockholm. Around 80 airlines from more than 180 destinations serve the airport.

The Arlanda Express train is the fastest way into town from Stockholm-Arlanda Airport. It only takes 20 minutes from the airport to the Central Station in Stockholm.

The Flygbussarna airport buses run regularly between the airport and the City Terminal, next to the Central Station, and stop at other bus stops in Stockholm and the inner suburbs. The drive takes 45 minutes.

Taxis are available directly outside all terminals at Stockholm-Arlanda Airport.

**Stockholm-Bromma Airport** is located about 10 km west of downtown Stockholm. The airport is served primarily by domestic flights. Brussels Airlines is one of the foreign operators that fly to Stockholm-Bromma. Flygbussarna airport buses take 20 minutes to the City Terminal in downtown Stockholm. Taxis are also available.



### **Public transportation in Stockholm**

Stockholm is often praised for its comfortable, efficient and safe transportation. Stockholm Public Transport, SL, is responsible for buses, underground trains, commuter trains, trams and certain ferry lines in Greater Stockholm. The underground is the easiest way to get around town. Prepaid cards are the best alternative for those making few trips. There are also cards of various validity periods, including the Stockholm Card which also allows entry to museums and attractions.



## **Congress Information**



### **Stockholm Waterfront Congress Centre**

SpaceOps 2012 will take place at the Stockholm Waterfront Congress Centre, the city's newest and most versatile large-scale venue.

Built on the waters' edge right in the heart of Stockholm, it offers experiences out of the ordinary. Flexible sectioning and high tech solutions give vast possibilities to create the perfect venue. The spectacular architecture also features world-class energy solutions.

Stockholm Waterfront Congress Centre is conveniently located next door with the Central Station and the Bus Terminal and with cultural activities, sightseeing and shopping within walking distance. More information on www.stockholmwaterfront.com.

#### **Exhibition**

The SpaceOps 2012 exhibition will be held in a central hall of the congress centre. The hall is spacious and light thanks to its all-glass façade facing the lake and the City Hall. The exhibition will serve as a natural transfer and meeting point, not only during coffee and lunch breaks but also for the welcome reception and other events.

Floor space may be booked in blocks of minimum 6 or 9 m<sup>2</sup> and costs 4,400 SEK/m<sup>2</sup>. The basic standard exhibition package includes separating walls when needed, carpet, electrical power, WiFi, conference bag, two free exhibitor registrations, lunch and coffee all exhibition days and company profile in final program.

The exhibition will be open Monday-Thursday 11-14 June 2012.

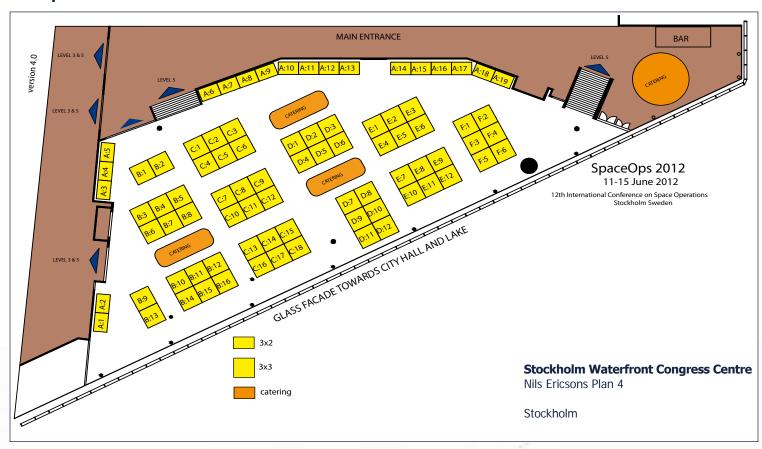
More information about the exhibition opportunities, including an application form, is provided in the Invitation to Exhibitors on www.spaceops2012.org.

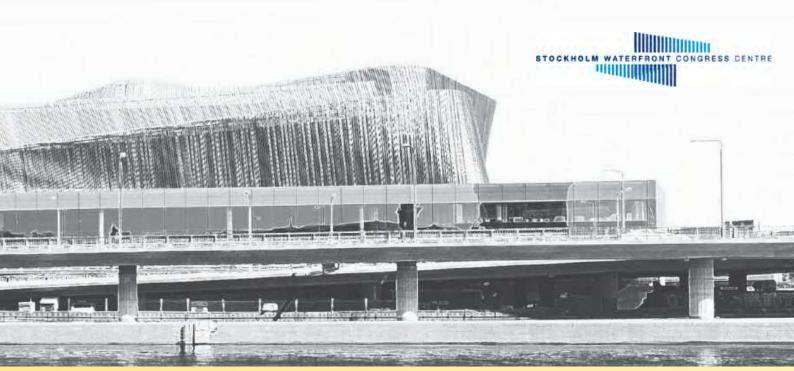






### Floor plan level 4





## **Kiruna**



Kiruna, Sweden's northernmost town, is in many ways a place of extremes. In this area, the light is lighter, the cold is colder, the peaks are higher and the nature wilder than anywhere else in Sweden. With its 20,000 km², Kiruna Municipality is about half the size of the Netherlands, but has only 23,000 inhabitants. Some 18,000 of them live in the town of Kiruna and the remainder in some 50 small villages. With Swedish, Sami and Tornedalen Finnish cultures living side-by-side, Kiruna has three official languages.

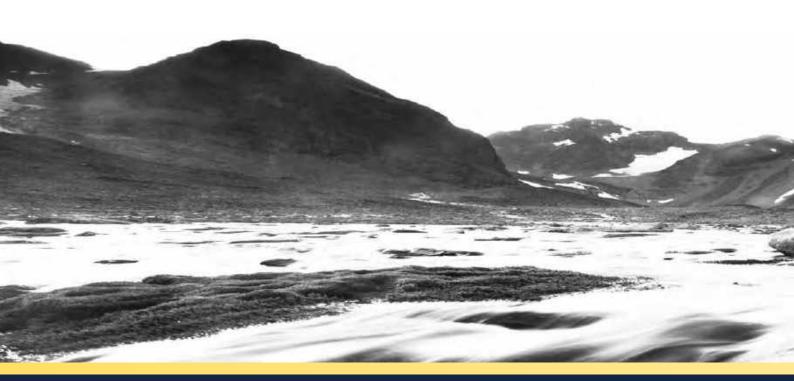
Here in Swedish Lapland, the landscape is wild and vast. In the summertime, many tourists come here for hiking and fishing. The air is pure and the summer nights are bright. Kiruna enjoys 50 days of midnight sun every summer, from the end of May to mid-July. On the other hand, for 20 days in December the sun never rises over the horizon, and the winters are long and snowy – a perfect destination for skiers.

Kiruna is the number one tourist destination in northern Sweden. One of the main attractions is the ICEHOTEL, which since the start in 1990 has grown into Sweden's internationally best-known tourist destination. Kiruna is also well known for its mining industry as well as space-related research and operations.

### **Technical Conference Tour to Kiruna and Esrange Space Center 16-17 June**

A 2-days technical conference tour to Sweden's northernmost town, the "space town" Kiruna, will be offered. The main attraction is an in-depth facility tour of the Esrange Space Center, including specialized presentations and opportunities to meet key staff and partners at a barbeque event.







## Esrange Space Center

SSC's facility Esrange Space Center is located 40 km north east of Kiruna. Esrange started in 1966 on the initiative of the European Space Research Organisation, ESRO, which needed a site where research using sounding rockets could take place. In a reorganization of ESRO a few years later, it was decided that member states should now run their research programs on a national basis, which is why Sweden took over the Esrange facility.

The Swedish National Space Board and the Swedish Space Corporation – now SSC – was set up, and SSC was commissioned to run Esrange. Today, Esrange Space Center is a busy site with some 180 employees.

Since the start in 1966, more than 500 sounding have been launched from Esrange. In 1974, a launching facility for scientific balloons was completed. It has been continuously upgraded to enable launches of 1,000,000 m³ balloons with payloads weighing up to many ton. Over 550 balloons have been launched this far.



Since 1978, there is also the Esrange Satellite Station, the world's largest civil ground station for satellite communication. Today, the station has around 140 daily contacts with satellites in various orbits.

The location above the Arctic Circle is particularly advantageous for accessing polar orbiting satellites. The station at Esrange is a vital node of the PrioraNet, SSC's global network of ground stations.





## **Social Program**



#### Pre-registration drink, Sunday 10 June

A welcome drink will be served in connection with the registration at the Stockholm Waterfront Congress Centre on Sunday evening.

### Welcome reception, Monday 11 June

The welcome reception will be held in the exhibition area of the congress venue on Monday evening. The reception is included in the conference fee, but delegates are asked to give advance notice about their attendance.

#### Choice of sightseeing activities, Tuesday 12 June

For Tuesday evening, some sightseeing options will be presented and available for reservation on the conference website. These activities are not included in the conference fee.

#### Public evening, Tuesday 12 June

Plans are ongoing for a possible event for the public on Wednesday evening. More information will be released as the work progresses.

#### City of Stockholm complimentary visit of the City Hall, Wednesday 13 June

For Wednesday evening, the City of Stockholm have invited all delegates to a complimentary visit and presentation of the beautiful City Hall, most known for its hosting of the annual Nobel Prize banquet. Advance registration is required.

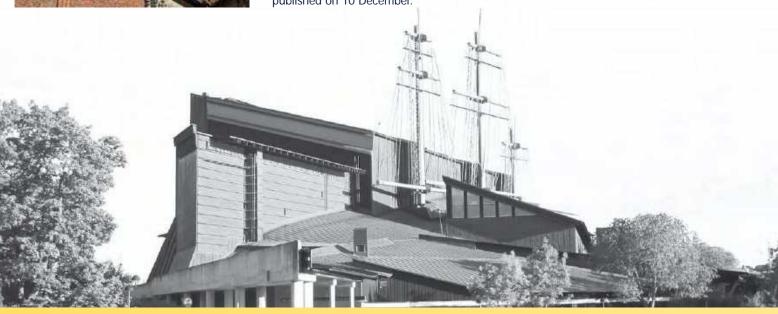
#### **Gala Banquet, Thursday 14 June**

The gala banquet will be held on Thursday evening at the spectacular Vasa Museum, housing the Royal Ship Vasa that sank on her maiden voyage in 1628 and was recovered in 1961. The banquet is included in the conference fee.

#### Technical Conference Tour to Kiruna and Esrange Space Center 16-17 June

A 2-days technical conference tour to Sweden's northernmost town, the "space town" Kiruna, will be offered. The main attraction is an in-depth facility tour of the Esrange Space Center, including specialized presentations and opportunities to meet key staff and partners at a barbeque event. The tour package will include transfers, accommodation, meals and visits to tourist attractions. Two package options will be offered, one with arrival Friday and one for those arriving Saturday. Flights must be booked and paid individually. The tour is subject to a minimum number of participants. More information and online registration for the tour will be published on 10 December.







#### About the hosts

#### SSC

SSC, formerly the Swedish Space Corporation, enables governmental agencies, companies and other commercial or research institutes to make better use of space. SSC's technologies and services enable successful space projects for the telecommunications, security, meteorology, positioning, scientific research, remote sensing or other industries.

Through the unflagging efforts of its 600 employees, SSC provides specialized competence in satellite subsystems, space operations, rocket and balloon systems, launch services, flight test services and maritime surveillance.

Supporting customers with local presence on all continents, the SSC Group of companies offer extensive application-specific solutions comprised of systems, sub-systems, instruments, technology and support services. 40 years of experience make SSC one of the most experienced and established businesses in its field. SSC helps customers gain new understanding of the potential resources in space – as well as to utilize space for the benefit of business and mankind on Earth.

#### **DLR GSOC**

DLR's German Space Operations Center is the central institution for spaceflight operations in Germany. This responsibility includes satellite missions for earth observation, communication and technology missions as well as for the exploration of the solar system and human spaceflight missions. GSOC hosts and operates the Columbus Control Center, a European contribution for the International Space Station. Furthermore, sounding rockets are developed and launched from sites around the world. Eventually, DLR works on new technologies, such as on-orbit-servicing in order to master even the most difficult space projects of the future.

In close cooperation with other DLR institutions and together with public and industrial partners, groundbreaking space projects are realized and new ideas for spaceflight of tomorrow are developed. As a versatile interface between technology, operations and utilization, DLR GSOC serves everyone involved in spaceflight and the general public.

SpaceOps 2012 is commonly arranged by DLR and SSC supported by Congrex Sweden and the American Institute of Astronautics and Aeronautics (AIAA).

#### **Contact and Information**

#### SpaceOps 2012

### **Key Contact and Conference Secretariat**

Congrex Sweden AB Attn: SpaceOps 2012 P.O. Box 5619

SE-114 86 Stockholm, Sweden

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#### **Technical Program Committee**

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### **Local Organizing Committee**

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#### **Congress venue**

Stockholm Waterfront Congress Centre www.stockholmwaterfront.com

#### **Conference web site**

www.spaceops2012.org

#### Key statistics from SpaceOps 2010

- ★ Over 700 attendees
- ★ 24 countries represented
- ★ Over 300 technical papers
- ★ 30 exhibitors

