Berlin - Gatineau / November 15, 2013

Welcome to the German Canadian Concourse 2013

Greetings from Canada's Ambassador to Germany



Her Excellency Marie Gervais-Vidricaire
Ambassador of Canada in Germany

Dear Members of the Canada Meets Germany Alumni Forum and guests at the German Canadian Concourse.

I congratulate the Forum on its second German Canadian Concourse, which is taking place at the Canadian Embassy in Berlin to discuss bilateral cooperation in the space sector. Aerospace research and earth observation represent the longest-standing segment of Canadian-German cooperation in science and technology. Formal collaboration has existed since the early 1970s, with airborne radar systems and joint research in processors and data utilization - crucial for technological evolution of capabilities for both countries. This cooperation continues to flourish as we can see from new projects between institutions in our countries, like the German Aerospace Centre and the Canada Centre for Remote Sensing at Natural Resources Canada.

Canada and Germany have strong political, cultural and academic linkages underpinned by healthy commercial relations.

We believe that these strong commercial relations between Canada and Europe in general will grow even stronger in the near future. Last month, Prime Minister Harper and European Commission President José Manuel Barroso reached an agreement in principle on the Canada-EU Comprehensive Economic and Trade Agreement — CETA, for short. Studies tell us that CETA has the capacity to boost bilateral trade between Canada and the EU by 20 per cent.

Economic and political issues aside, it is people who actually fill the Canadian-German relationship with life. The Canada Meets Germany Alumni Forum is a very good example of this. This forum brings together young German and Canadian professional leaders who share an interest and enthusiasm for the other country. It is a great asset to the Embassy and I am impressed by the program of this second annual German Canadian Concourse organised by the CMG Alumni Forum.

I am certain that the Concourse will be of great interest to Forum members in Germany and Canada alike and will continue to expand its networks and reach.



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Greetings from the Canada Meets Germany Alumni Forum



Dr. Matthias MückPresident, Canada Meets Germany Alumni Forum
Chairman of the German Canadian Concourse

The goal of the annual German Canadian Concourse (GCC) events, as a transatlantic conference format, is the stimulation of exchange on topics of importance to Canada and Germany. The Concourse aims to bring together people who share a common interest in a range of bilateral topics and who are motivated to put the theme in a Canadian-German context. With the kind and very much appreciated support of the Concourse patron, the Embassy of Canada in Berlin, we invite you today to discuss with our knowledgeable speakers and panelists the multifaceted aspects of Canada and Germany working together in the space sector.

The Canadian-German partnership in the area of technology and innovation has a long-standing tradition manifested by the *German-Canadian Intergovernmental Agreement on Scientific and Technological Cooperation* signed in 1971. Under this framework, the space sector became an important field of collaboration. Not much later, in 1979, Canada signed an agreement with the European Space Agency to become an associated member of ESA through which it established indirect links with Germany, a founding member state of the Agency, for cooperation on space programs.

The domain of Earth observation has since developed as a major field of bilateral space activities. A recent and prominent example of this successful partnership is the German Aerospace Center's (DLR) ground antenna at Canada's Inuvik Satellite Station inaugurated in August 2010. The intention to continue the established joint work in space was officially expressed at the beginning of this year when DLR, the Canadian Space Agency (CSA) and Canada's Centre for Remote Sensing held consultations to boost bilateral space technology cooperation and signed a memorandum of understanding. As a side note, the fact that Canada and the European Union reached a political understanding on the Comprehensive Economic and Trade Agreement (CETA) four weeks ago, will set a new framework for transatlantic commercial endeavors that is expected to positively influence German-Canadian space programs, among others.

Despite numerous examples of fruitful German-Canadian joint ventures, cooperation in the space sector is a little-known success story within the growing bilateral economic relationship between Canada and Germany. This Concourse will deliver insight into this important field of cooperation.

During conversations in preparation for this conference with people from the space community, I made remarkable discoveries about the connections of German and Canadian players in the space sector. These include:

- A Canadian-German consortium built Europe's deep-space antennae;
- A Canadian spacecraft manufacturer built a Canadian-German Earth observation fleet;
- A German launch service provider injected a CSA satellite into orbit;
- A Canadian ground segment is supporting German satellites;
- A strong radar satellite partnership;
- Berlin-built equipment is enabling Canadian video streaming from space;
- Business incubation for European and Canadian space-related companies.

A conference theme which started out as a niche event has turned out to be a hot topic in the respective space communities.

I wish you an insightful and inspiring afternoon.





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Event Program

Field Trip - Morning Session





Berlin Space Technologies GmbH Max-Planck-Str. 3, 12489 Berlin

Active Space Technologies GmbH Rudower Chaussee 29, 12489 Berlin

08:45	Meeting point
	Leipziger Platz 17, 10117 Berlin (in front of Embassy of Canada)
09:00 - 10:00	Transfer
	to Berlin Adlershof (shuttle organized by GCC)
11:00 – 12:00	Visit (in groups) to
	Berlin Space Technologies (BST) and Active Space Technologies
12:00 – 13:00	Transfer
	to conference venue at the Embassy of Canada (shuttle organized by GCC)

Conference – Transatlantic Session



Embassy of Canada

Leipziger Platz 17, 10117 Berlin

Environment Canada

200 Sacré Cœur Boulevard, Gatineau, K1A OH3

13:00 – 18:55 (CET) 08:30am – 12:55pm (EST) Detailed schedule on next page.

Reception – Evening Session



EADS Astrium Berlin Office

Potsdamer Platz 1, 10785 Berlin

18:55 – 19:00	Walk to evening reception
19:00 – 21:00	Reception and get-together at EADS Astrium Berlin Office
	Welcome remarks by Mr. Klaus-Peter Ludwig, Director Institutional Relations, Astrium





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Conference – Transatlantic Session

13:00 – 14:30	Lunch break at the Embassy of Canada		
14:30 (CET)	Welcome remarks		
8:30am (EST)	Mr. Eric Walsh, Deputy Head of Mission, Embassy of Canada		
14:40 (CET)	Opening remarks		
8:40am (EST)	Dr. Matthias Mück, President, Canada Meets Germany Alumni Forum		
14:45 – 15:45 (CET) 8:45 – 9:45am (EST)	Presentations (first part)		
	"Space Cooperation across the Atlantic" [B]		
	Dr. Thomas Weißenberg , Head of International Cooperation, DLR – German Aerospace Centre		
	"Space solutions for emerging markets" [B]		
	Mr. Andreas Dippelhofer , Project Manager, ESA Business Incubation Centre Bavaria /Anwendungszentrum GmbH Oberpfaffenhofen (AZO)		
	"Attractive Launch Solutions for Future Canadian Small Satellite Missions" [B]		
	Mr. Peter Freeborn, Director Sales, Eurockot Launch Services GmbH		
15:45 – 16:15 (CET) 9:45 – 10:15am (EST)	Coffee break		
16:15 – 17:15 (CET) 10:15 – 11:15am (EST)	Presentations (second part)		
, ,	"The World's first HD Video from Space" [G]		
	Mr. Wade Larson, President & COO, UrtheCast		
	"Ground Station Antennas, Cooperation Canada – Germany" [B]		
	Mr. Klaus Düspohl, Director Sales/Marketing, Vertex Antennentechnik		
	"German-Canadian Radar Co-operation Potential" [B]		
	Mr. Alexander Kaptein , Head of Future Programs, Astrium GEO Information Services (Infoterra GmbH)		
17:15 – 17:45 (CET) 11:15 – 11:45am (EST)	Coffee break		
17:45 – 18:30 (CET) 11:45am – 12:30pm (EST)	Panel discussion		
11.43am – 12.30pm (L31)	"Space Commercialization: Canadian-German Perspectives"		
	Moderator:		
	Mr. Daniel Scuka, EJR-Quartz for ESA – European Space Agency [B]		
	Panelists: Nr. John Powers, MacDonald, Dottwiler and Associates (MADA) (B)		
	Mr. John Bowers, MacDonald, Dettwiler and Associates (MDA) [B] Dr. Gordon Deecker, Natural Resources Canada [G]		
	Mr. Peter Freeborn, Eurockot Launch Services GmbH [B]		
	Mr. Alexander Kaptein, Astrium GEO Information Services (Infoterra) [B]		
	Dr. Thomas Weißenberg, DLR – German Aerospace Centre [B]		
18:30 – 18:45 (CET) 12:30 – 12:45pm (EST)	Question & Answer session with the plenum		
18:45 (CET)	Conclusion of the conference		
12:45 (EST)	Dr. Matthias Mück, President, Canada Meets Germany Alumni Forum		
	[B] – from Berlin, [G] – from Gatinea		



canadian-german cooperation in the space sector

Conference Folder

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Program Contributors

Speakers and Panelists

John Bowers Director & General Manager, Ground Systems MacDonald, Dettwiler and Associates (MDA)





John Bowers joined MDA in 1991. He is currently the General Manager of the MDA Ground Systems Business Unit. The Ground Systems Business Unit delivers operational systems that support reception and processing of data from the world's leading commercial earth observation satellites, including SAR and Optical satellites. Prior to his current position, Mr. Bowers was responsible for the overall business development of the Ground Systems business unit. He has also held a number of engineering, business development and business management roles at MDA in the areas of satellite ground systems, and land information products. Prior to MDA, Mr. Bowers worked at the European Space Operations Centre in Darmstadt, Germany for 5 years in various management roles.

Dr. Gordon Deecker Senior Advisor Natural Resources Canada



Natural Resources

Ressources naturelles

Currently a Senior Advisor within the Canada Centre for Mapping and Earth Observation, Gordon is a gold medalist from St. Michael's College in the University of Toronto. He obtained a PhD in Computing Science from the University of Alberta and subsequently spent 5 years lecturing at the University of Canterbury in Christchurch, New Zealand. On return to Canada he spent a long career at Statistics Canada where he was ultimately responsible for the digital geographical base for statistical processing. For the past five years he has been at Natural Resources Canada at the Canada Centre for Remote Sensing, now called the Canada Centre for Mapping and Earth Observation with a keen interest in the development of the Inuvik Satellite Station Facility. In addition Gordon is the chair of the GIS Advisory Board at Algonquin College in Ottawa as well as the Cartographic Research Centre Advisory Board in Carleton University.

Andreas Dippelhofer Project Manager ESA Business Incubation Centre Bavaria Anwendungszentrum GmbH Oberpfaffenhofen (AZO)







Andreas Dippelhofer provides extensive knowledge and practical experience comprising both social and project management competences. He brings a high level of experience in European projects and international initiatives. Since 2009 Andreas works at AZO, which is situated in Oberpfaffenhofen – a well-known hub of the aerospace industry near Munich, Germany. At AZO, we focus on supporting company foundations and commercial applications based on space technologies and infrastructures since 2004. On behalf of the European Space Agency (ESA), we conduct our business activities in Oberpfaffenhofen, Nuremberg, and Berchtesgadener Land as part of ESA BIC Bavaria – one of eight ESA Business Incubation Centres in Europe. For years, we have also been supporting Europe's space programmes in the fields of satellite navigation and earth observation through two innovation competitions: the European Satellite Navigation Competition (ESNC) and Copernicus Masters. Being embedded in the resulting international network of research, industry, and regional partners enables us to help prepare over 500 business concepts and product innovations for launch every year.



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Klaus Düspohl Director Sales / Marketing Vertex Antennentechnik GmbH

VERTEX ANTENNENTECHNIK GmbH

A GENERAL DYNAMICS COMPANY



Since 1993 Vertex Antennentechnik (VA) is known as a global player in the fields of precision ground stations for Satellite Communications, TT&C, Remote Sensing, Deep Space Missions, Geodesy and Radio Telescopes for the Astronomy.

Prior to VA, Klaus worked for 10 years at Krupp Antennentechnik as a Project Manager of international ground stations and radio telescopes.

Peter Freeborn
Director Sales
Eurockot Launch Services GmbH



As the joint venture of EADS Astrium and Khrunichev Space Center, Eurockot Launch Services GmbH provides commercial launch services to operators of Low Earth Orbit remote sensing, science and communication satellites. Eurockot uses the Russian Rockot launcher with a 2-ton payload capability from Plesetsk Cosmodrome. Presently, Eurockot has a backlog of 4 launches for the European Space Agency, the launch of 3 Swarm satellites being imminent.

Peter Freeborn has held international marketing, sales and contracting positions in the aviation and space industry for many years and presently is the Director Sales of Eurockot Launch Services.

Alexander Kaptein Head of Future Programs

Astrium Services GEO (Infoterra GmbH)





Astrium GEO Information Services is one of the globally leading suppliers of optical and radar satellite imagery (incl. Spot, Pleiades, TerraSAR-X / TanDEM-X) and of geo-information services. Infoterra GmbH, as part of Astrium GEO, holds the exclusive commercial exploitation rights of the TerraSAR-X and TanDEM-X program that is implemented as a public-private-partnership between Germany's DLR and Astrium.

Future Programs, as part of Corporate Development, is in charge of improving today's space and service infrastructure, establishing global industrial partnerships and developing future missions (such as TerraSAR Next Generation).





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Wade Larson
President & COO
UrtheCast





Wade Larson is Co-Founder and President and COO of UrtheCast (pronounced "Earth-Cast"), the Vancouver-based company which—in an exclusive partnership with Russia's Energia—is building, installing and will operate the world's first ever HD video camera in space.

Wade developed the original vision for the UrtheCast venture while working as Vice President Business Development at the space missions division of MDA, where he worked for ten years.

Prior to MDA, Wade worked for seven years at the Canadian Space Agency where he managed Canada's international partnerships in Earth Observation.

Dr. Thomas WeißenbergHead of International Cooperation
DLR – German Aerospace Centre





DLR is the national research institute for aeronautics and space and acts on behalf of the German government as the German space agency. With 7.900 employees across the 32 institutes DLR carries out basic to applied research in the fields of space, aeronautics, energy, transportation, and security.

Dr. Thomas Weißenberg entered DLR in 2002. First as a desk officer in the department for international cooperation before he was responsible for industrial policy aspects in the department of space strategy and programmatics. Since 2010 Thomas Weißenberg heads the department for international cooperation within the staff of the chairman of the executive board at DLR headquarters in Cologne. The department supports the DLR in general and especially the executive board in its relations to international partner organizations and agencies. Beside that the department supports the institutes in their projects with partners from abroad for example by dedicated scholarship-programs or by coordinating agreements with international partners. Above that, the department for international cooperation prepares space related statements for several ministries and supports the German industry in its export business by political means or by supplementing research cooperations.

Moderator

Daniel ScukaSenior Editor for Spacecraft Operations
EJR-Quartz for ESA



Originally from Toronto, Canada, Daniel has worked as Web editor at ESOC, ESA's Space Operations Centre, in Darmstadt, Germany, since 2004. As part of the ESA online team, he reports on ESA's Human Spaceflight and Operations activities for the main Agency website and via ESA's blogs and social media. He moved to Germany in 2003 after almost ten years in Tokyo as a journalist covering technology, mobile Internet and venture business, and as an in-house translation editor at several Japanese companies. He studied Math and Physics at Canada's Royal Military College, and worked 1986-1994 as a system engineer in the Canadian Army in Canada and Germany.





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List of Participants

Name	Position	Company / Organization	
Christina Arend	Corporate Communications	Investitionsbank des Landes Brandenburg	[B]
Cem Avsar	Research Assistant	Technische Universität Berlin	[B]
Merlin Barschke	Project Manager	TU Berlin	[B]
Rainhard Bengez	Visiting Professor	TU München & National University Taipei	[B]
Kathrin Bergemann	Junior Projection Management	EADS Astrium	[B]
Alexander Bernhardt	Journalist	94,3 rs2	[B]
John Bowers	Director and General Manager, Ground Systems	MDA	[B]
Melanie Braukmann	Contracts&Sales	Astrium GmbH (an EADS company)	[B]
Jeremy Cairns	Student	Hertie School of Governance	[B]
Pradeep Dass	President	Space Engine Systems Inc.	[G]
Jurriaan De Bruin	Aerospace Engineer & MBA student	Telespazio VEGA Deutschland GmbH	[B]
Dr. Jennifer Decker	Counsellor, Science & Technology	Embassy of Canada, Germany	[B]
Dr. Gordon Deecker	Senior Advisor	Natural Resources Canada	[G]
Pierre Delestrade	President & CEO	EADS Canada	[G]
Andreas Dippelhofer	Project Management	Anwendungszentrum GmbH Oberpfaffenhofen	[B]
Janine Dokas	Director, Corporate Business Development (Europe/Canada)	COM DEV	[B]
Klaus Düspohl	Director Sales/Marketing, Procurist	VERTEX ANTENNENTECHNIK GmbH	[B]
Grégory Fassbender	Mechanical Engineer, Technical Authority Ariane 5 Upper Stage	Astrium GmbH (an EADS company)	[B]
Peter Freeborn	Director Sales	Eurockot Launch Services GmbH	[B]
Benita Freeborn	Student		[B]
Benjamin Frey	Development Engineer	ASTRIUM	[B]
Paul Gaskin	Director, Governance Secretariat	Fisheries and Oceans Canada	[G]
Dr. Wolfhard Geile	Senior Advisor & Delegate to Canada	DLR - German Aerospace Center and Space Agency	[G]
Jeffrey-George Gerakis	Senior Engineer	Rolls Royce Deutschland	[B]
Dr. Axel Griesche	Senior Civil Servant	BAM Federal Institute for Materials Research	[B]
Martin Grzymek	Director Sales Europe	Teledyne DALSA GmbH	[B]
Bente Hansen	Project Assistant	greenstorming	[B]
Ralf Heyen	CEO	GRAVIONIC GmbH	[B]
Dr. Gerd Hoor	Partner	Osborne Clarke	[B]
Alexander Kaptein	Head of Future Programs	Astrium Services GEO (Infoterra GmbH)	[B]
Philipp Kardinahl		·	[B]



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Dr. Caroline King	Director, Government Relations	SAP AG	[B]
Agnes Kolodziej	Political Affairs Officer	Embassy of Canada	[B]
Jonas Kuhn		Hertie School of Governance	[B]
Wade Larson	President and COO	UrtheCast	[G]
Emilio Lozano	Development Engineer of Ariane 5 ME	Astrium	[B]
Siddharth Merchant	Student	Hertie School of Governance	[B]
Cara Miller			[B]
France Morin	Senior Advisor, Intl Affairs	Natural Resources Canada, Earth Sciences Sector	[G]
Dr. Matthias Mück	Mission Manager	Eurockot Launch Services GmbH	[B]
Dr. Daniel Novak	Consultant	CGI	[B]
Joseph Odhiambo	Senior Analyst	Environment Canada	[G]
Michael Oxfort	СТО	BlackBridge AG	[B]
Uwe Pape	Senior Manager Commercial ISS Services	Astrium Space Transportation	[B]
Thomas Probst	Mechanical Engineer	Astrium GmbH	[B]
Brian Robertson	Director, Strategic Business Development	MDA	[B]
Tessa Rodewaldt	Senior Consultant	Hans Bellstedt Public Affairs	[B]
Viktor Roezer	Graduate	Freie Universität Berlin	[B]
Bernhard Schmidt	Business Development	Kayser-Threde GmbH	[B]
Felicitas Schott	Program Assistant Executive Master of Public Management & Open Enrolment	Hertie School of Governance	[B]
Soeren Schwartze	Senior Manager Sales & Business Consulting	Werum Software & Systems AG	[B]
Daniel Scuka	ESA/ESOC Communication Office	ESA	[B]
Tom Segert	Geschäftsführer	Berlin Space Technologies GmbH	[B]
Dr. Christian Steimle	System Engineer, EPP Business Development	Astrium Space Transportation	[B]
Bruno Sylvestre	Operations Engineering Specialist	Neptec Design Group Ltd.	[G]
Frederick (Rick) Thomas	President	RMT Consulting Inc.	[G]
Jens Walter	Geschäftsführer	combridge media	[B]
Dr. Stephan Walther	Director Market Development North America & Russia	Astrium GmbH	[B]
Dr. Thomas Weissenberg	Head International Relations	DLR	[B]
Cornelia Wiemeyer	CEO	greenstorming GmbH	[B]
Dr. Zizung Yoon	Research Fellow	Technische Universität Berlin	[B]
Cornelius Zünd	Financial Controller	EADS Astrium	[B]

[B] – in Berlin, [G] – in Gatineau



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Appendix: Company Presentations

Field Trip Host - Berlin Space Technologies GmbH



Berlin Space Technologies (BST) was founded to commercialise the TUBSAT— know-how by senior staff of TU Berlin in 2010. BST positions itself as a low cost company for small satellites in the international market. The core team of BST works in space projects since 2002 and participated in a number of small satellite missions. This includes the assembly and operation of the LAPAN-TUBSAT Mission (since 2005), development of sub systems

for the LAPAN-A2 and LAPAN-ORARI mission, as well as reaction wheels for the 2nd generation of ORBCOMM satellites. Since 2012 BST is also involved in the Canadian Earth Video camera project that will bring a high resolution video camera for earth observation purposes onto the International Space Station. Consequently BST has recently upgraded its facilities to 625sqm which are located in one of the regions most modern laboratory buildings. With its experienced and motivated staff, labs as well as class 100,000 clean rooms readily available in-house and all relevant test facilities located within 500m, BST is well prepared to design and build satellites in the 30-100kg class for the booming export market.

Field Trip Host - Active Space Technologies GmbH



Active Space Technologies is a German Engineering SME offering a broad range of services to the space sector and technology sectors:

- Thermal Engineering and Fluids Modelling
- Project Management and Systems Engineering
- Mechanical Design and Structural Engineering
- Prototyping & Manufacturing
- Technology Transfer
- Test Services

Active Space Technologies provides design, development and manufacturing solutions, guaranteeing the highest quality and short lead times, with the flexibility and competence needed even by the demanding customers.

Active Space Technologies also supplies a range of products to the aerospace industry:

- Transport Containers
- Support Systems (MGSE, EGSE) and Test Adapters
- Vacuum Systems
- Insulation Systems and Materials
- Heat Capacitors

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Thanks to our large partnership network and our international nature (11 nationalities in the team), we can operate efficiently, providing a system engineering approach and cutting edge technology perspective.

Active Space Technologies has been working, between others, for ESA, DLR, OHB, Thales Alenia Space, Kayser Threde, ESO (European Southern Observatory), Selex Galileo and NASA/JPL.





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Crown Sponsor – Eurockot Launch Services GmbH

Raumfahrt Concret 3/2012

RC-SPECIAL ILA Berlin Air Show

Eurockot Launch Services Expands Order Book and Offers Payload Growth



Eurockot Launch Services GmbH, with its head offices in Bremen, Germany, has recently been able to expand its order book for additional launches of two low Earth orbit remote sensing satellites: The joint venture operated by Astrium (holding 51%) and Khrunichev Space Center (holding 49%) concluded two Launch Service Agreements with the European Space Agency's Earth Observation Directorate in February 2012, resulting in an order backlog of four launches in total. Furthermore, the Rockot launch vehicle which Eurockot employs from Plesetsk Cosmodrome in Northern Russia, has gained a substantial increase in payload.

Following the successful launches of ESA's Earth Explorer satellites GOCE and SMOS (together with Proba-2) in March and November 2009, Eurockot will shortly begin the launch campaign for the Swarm mission for ESA. Swarm is a con-

stellation of three satellites which will be launched together on a Rockot into a polar orbit of approx. 500 km altitude. Swarm will measure the Earth's gravity field with an unprecedented precision for climatic research purposes. Swarm is a challenging mission insofar as the three satellites will be separated from the Breeze upper stage simultaneously. For this purpose a specific adapter and separation system was designed and built by Khrunichev. The Swarm satellites were built by Astrium Satellites in Friedrichshafen, Germany.

By way of the two contracts recently signed with ESA, Eurockot will support the European GMES Earth Observation programme in the form of launching the Sentinel-2A and Sentinel-3A satellites in 2014. Sentinel-2A is a land-imaging mission, while Sentinel-3A is an ocean, ice and land-imaging mission, both in support of the global environment and security.

The fourth mission for the European Space Agency is the so-called "Generic Mission" for which the customer will define the payload towards the end of 2012

The Rockot launch vehicle which also is in regular use for Russian Federal launches, has meanwhile achieved a payload growth of some 200 kg into orbits typical for Earth observation missions through mass optimisations. Please refer to the User Guide published on www.eurockot.com. On average, the payload mass growth is about 200 kg.

With an availability of Rockot until at least the end of this decade, Eurockot will continue to provide its dependable, customer-oriented and competitively priced services internationally to institutional and commercial satellite operators.







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Sponsor - Vertex Antennentechnik GmbH



VERTEX ANTENNENTECHNIK (VA)

builds turn-key precision ground station antennas with modern servo&drive and control systems, complete ground stations with all transmit/receive electronics including M&C for nearly all frequency bands up to terahertz in the fields of satellite communications, TT&C, remote sensing, geodesy, deep space missions, astronomy.

Services include link budget calculations, design/engineering, software development, simulations, manufacturing supervision, in-plant integration and testing, packing / shipping, on-site installation, commissioning, acceptance testing, program management and after-sales-services.

VA operates at Duisburg, Germany, a warehouse with standard antennas on stock.

VA is ISO 9001, ISO 14001, BS OHSAS 18001 certified and accepted as a supplier with worldwide installations for commercial and governmental customers as well as for international organizations such as Space Agencies and Satellite Operators.

VA's personnel comprises mainly engineers with RF, mechanical, electrical, civil engineering background. The annual turnover is in the order of 30 Mio€.



VERTEX ANTENNENTECHNIK GmbH A GENERAL DYNAMICS COMPANY

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