

C-SIGMA IV

CORK • IRELAND

June 26 & 27



Workshop hosts



www.c-sigma.org

Event partners & sponsors



ORBCOMM



PROGRAM

26 & 27 June 2013

C-SIGMA is an international initiative intended to foster wider cooperation and exchange in the use of and access to satellite based maritime surveillance information at a global level. The 2013-workshop, C-SIGMA IV is being hosted by National Space Centre Ltd, Ireland, with sessions taking place in Elfordstown Earthstation and Fota Island Resort Hotel.

At C-SIGMA IV, in addition to progressing unclassified space systems information and technology to benefit maritime awareness on a global scale, C-SIGMA IV will also showcase demonstrations of the several dynamic data analysis tools now in use or under development, using National Space Centre's control room at Elfordstown Earthstation Ireland.

DAY 1 Fota Island Hotel 26 June

- 8.30am Registration
- 9.00am Welcome by host, **Rory Fitzpatrick**, CEO National Space Centre Ltd (Ireland)
- 9.15am Session 1: C-SIGMA & NORTH ATLANTIC EZ: Entrypoint to Europe, Global Gateway**
Session Chairman - Chris Reynolds, Director, The Irish Coast Guard (IRCG)
4 Presentations & Questions
- 10.45am Coffee Break
- 11.00am Session 2a: C-SIGMA INTERNATIONAL: Requirements**
Session Chairman - Prof Guy Thomas Co-Founder C-SIGMA
4 Presentations & Questions
- 12.35pm **Orbcomm** Lunch
- 1.45pm Session 2b: C-SIGMA INTERNATIONAL c'td - Initiatives & Capabilities**
Session Chairman - Prof Guy Thomas, Co-Founder C-SIGMA
4 Presentations & Questions
- 3.15pm Session 3: C-SIGMA ADVISORY COMMITTEE REPORTS & NEXT STEPS**
Session Chairman - Rory Fitzpatrick CEO National Space Centre Ltd (Ireland)
Presentation from Advisory Committee members
Discussion & Planning
- 4 – 4.30 Coffee & Networking
- 6.30pm Bus departs to Crosshaven from Fota Island Resort
- 7.00pm exactEarth drinks reception at Irish Coast Guard new Southern Headquarters
- 7.30pm Dinner at Royal Cork Yacht Club, the worlds oldest Yacht Club, Crosshaven

DAY 2 Elfordstown Earthstation 27 June

- 8.45am Bus departs for Elfordstown Earthstation from Fota Island Resort Hotel
- 9.00am Session 4: SYSTEMS DEMONSTRATIONS.
- 9.15am Interactive Systems Demonstrations from:
>> e-GEOS
>> Orbcomm
>> Channel Logistics LLC
- 11.15 am Coffee Break
- 11.30 am Interactive Systems Demonstrations from:
>> KSAT
>> exactEarth Ltd
>> MDA Corporation
>> CLS
- 1.30pm **CLS America** Artisan Irish Bar-B-Que On-Site
- 3.30pm Visit to Titanic final departure point, Cobh & Reception on board Irish Naval Service vessel
- 6.00pm Return to Hotel

C-SIGMA IV

www.c-sigma.org

Session 1 NORTH ATLANTIC EZ

fota island hotel, 26 June

WELCOME



RORY FITZPATRICK, CEO, National Space Centre Ltd

National Space Centre Ltd, located in Elfordstown in Co Cork, Ireland provides commercial carrier grade teleport facilities from Europe's most westerly teleport.

National Space Centre partners with Irish and Global organisations and institutions on commercial and space related R&D Projects and has invested heavily in Earth Observation Technology and Platforms in recent years. The company is a partner in several environmental and maritime tracking projects including Anistiampo, Metsar, Sagres, IAP RMP.

North Atlantic EZ: Global Gateway Entrypoint to Europe

The Irish Coast Guard (IRCG)



CHRIS REYNOLDS
*Director
Irish Coast Guard*

The Irish Coast Guard (IRCG) is the nationwide marine emergency organisation.

One of its principle objectives is to prevent or minimise damage the marine environment within the Irish Exclusive Economic Zone.

Including it's seabed area, Ireland is the third largest EU state in the North Atlantic with a combined land and marine resource of 990,000 km², and a coastline of 7,500km

Chris Reynolds presentation will focus on the benefits of integrated maritime surveillance in the promotion of Blue Growth and innovation.



European Maritime Safety Agency (EMSA)



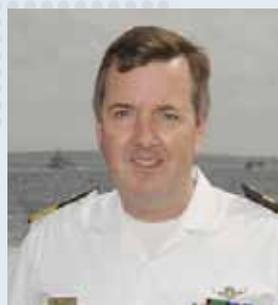
SAMY DJAUIDNIA
*Project Officer
Integrated Maritime Services*

The European Maritime Safety Agency is one of the EU's decentralised agencies. Based in Lisbon, the Agency provides technical assistance and support to the European Commission and Member States in the development and implementation of EU legislation on maritime safety, pollution by ships and maritime security, and has been given operational tasks in the field of oil pollution response, vessel monitoring and in long range identification and tracking of vessels.

A major political impetus to the setting up of EMSA in 2003 was the fallout from the Erika (1999) and the Prestige (2002) accidents and their resulting oil spills. The European Parliament and Council Regulation (EC) No 1406/2002 provides the legal basis for the establishment of EMSA



Irish Naval Service



CDRE MARK MELLET
*Flag Officer Commanding
Irish Naval Service*

The Naval Service is the Irish State's principal seagoing agency with a general responsibility to meet contingent and actual maritime defence requirements. It is tasked with a variety of defence and other roles.

Defence roles include defending territorial seas, deterring intrusive or aggressive acts, conducting maritime surveillance, maintaining an armed naval presence, ensuring right of passage, protecting marine assets and contributing to a blockade if required.



Revenue – Irish Tax & Customs



TONY BUCKLEY
*Assistant Secretary
South West Region*

The Office of the Revenue Commissioners (Revenue) is responsible for the collection of State taxes and duties and the implementation of customs controls in Ireland.

There are over 100 Revenue offices nationwide, with a total staffing of about 6,000. There are four operational Regions, of which the South West also has national responsibility for coastal and maritime issues.



Session 2 INTERNATIONAL

fota island hotel, 26 June

SESSION CHAIRMAN



Prof GUY THOMAS, Co-Founder, C-SIGMA

C-SIGMA Co-Founder, Prof Guy Thomas is a former Science & Technology Advisor to the US Coast Guard & US National Office for Global Maritime Awareness. He has been involved in surveillance for over 40 years, as operator, systems engineer, Test Director (EP-3E & RC-135W), inventor and developer (Satellite AIS).

Prof Thomas is retired from the US Navy, the USCG, and Johns Hopkins University's Applied Physics Lab, and holds 6 warfare qualifications, USN Surface/Air/Submarine/Space & USAF Air & Space.

Session 2a INTERNATIONAL

Requirements & Initiatives

ESA Policies Department



ISABELLE DUVAUX-BECHON *Head of Future Preparation and Strategic Studies Office*

The Future Preparation and Strategic Studies Office of the European Space Agency is in charge of the preparation of future activities at corporate level.

It includes the General Studies Programme Office and the Advanced Concepts Team. The Office is also in charge of the coordination across ESA of activities of a transverse nature at the service of citizens, ensuring global knowledge of existing activities, communication on those activities, identification of user needs, and supporting the study of the development of future projects including Energy, the Arctic, the Antarctic and the Oceans.



JAXA Japan Aerospace Exploration Agency



KOICHI OSHIMURA *Associate Senior Engineer Satellite Applications and Promotion Center*

JAXA was established in 2003, as the independent administrative institution by governmental funding to perform the R&D activities from basic research and development to utilization; i.e:

- Space Transportation Mission
- Satellite Application Mission
- Human Spaceflight Mission
- Space and Astronautical Science
- Aeronautical Technology
- Aerospace Research and Development.



Defence Technology Agency, NZ



MATT HOPKINS *Research Leader*

The Defence Technology Agency (DTA) is a business unit of the New Zealand Defence Force (NZDF). DTA provides applied research, exploratory development and policy studies on science and technology with applications in military technology, force developments and operations.

DTA's primary customers are the NZDF and the Ministry of Defence (MoD).



LOOKNorth



WILLIAM JEFFERIES *Technical Director*

LOOKNorth (Leading Operational Observations and Knowledge for the North) is a national Centre of Excellence for Commercialization and Research in Canada.

In collaboration with a broad network of industry, business and research partners, LOOKNorth validates and drives the commercialization of monitoring technologies to support the safe and sustainable development of Canada's northern natural resources. It promotes the use of remote sensing (RS) technologies in environmental monitoring for northern stakeholder groups.



Session 2b INTERNATIONAL Capabilities

JRC European Commission



HARM GREIDANUS
Senior Research Scientist

As the Commission's in-house science service, the Joint Research Centre's mission is to provide EU policies with independent, evidence-based scientific and technical support throughout the whole policy cycle.

The JRC has a number of current initiatives relevant to C-SIGMA, including maritime data sharing and regional and global maritime awareness. These include:

- CISE
- MARSUR
- EUROSUR
- EMSS
- IFS-CMR
- Copernicus Maritime Security



German Aerospace Center (DLR)



SUSANNE LEHNER
Remote Sensing Technology Institute

The Earth Observation Center (EOC) at the German Aerospace Center (DLR) consists of the German Remote Sensing Data Center (DFD) and the Remote Sensing Technology Institute (IMF) and is the center of competence for earth observation in Germany.

DLR's extensive research and development work in aeronautics, space, energy, transport and security is integrated into national and international cooperative ventures.



Mitsubishi Space Software Co. Ltd



Dr. MOTOFUMI ARII
Radar Science Manager

Mitsubishi Space Software Corporation (MSS) excels in a broad range of industrial fields, which continue to expand hand in hand with the ever-diversifying needs of customers and society.

MSS is developing aerospace systems, defense systems, bioinformatics, information and communication systems, disaster-prevention and environmental systems, system integration, ASP/ products.



Astrium GmbH



JOERG HERRMANN
Senior Manager Strategy

Astrium, a wholly owned subsidiary of EADS, operates in three business units:

- Space Transportation for launchers and orbital infrastructure

- Satellites for spacecraft and ground segment

- Services for comprehensive end-to-end solutions covering secure and commercial satcoms and networks, high security and broadcast satellite communications equipment and systems, and bespoke geo-information services.



Session 3 ADVISORY COMMITTEE Reports & Road Map

Session Chairman: Rory Fitzpatrick

REPORTS from C-SIGMA Advisory Group members
DISCUSSION and Road Map for going forward

ADVISORY GROUP

Karna BRYAN, (CMRE, formerly NURC)

Gordon CAMPBELL, ESA/ESRIN

Rory FITZPATRICK, NSC

Harm GREIDANUS, JRC

John MITTLEMAN, US Navy

Brian PAGE, US Coast Guard

Guy THOMAS, Co -Founder C-SIGMA

Session 3 SYSTEMS SHOWCASES

elfordstown June 27

e-GEOS



MARCELLO MARANESI
Chief Executive Officer

e-GEOS, an Italian Space Agency and Telespazio company, is a leading international player in the geo-spatial business.

e-GEOS offers a whole range of products and services in Earth Observation and in the geo-spatial application domains, based on both optical and radar satellites as well as on aerial surveys.

e-GEOS and its subsidiary GAF/Euromap operate their own data processing services at the Earth Observation Space Centers of Matera, Italy (radar and optical) and Neustrelitz, Germany (optical).

ORBCOMM



GEORGE T BEST
Director of AIS Sales, EMEA & APAC

ORBCOMM is a leading global satellite Machine-to-Machine (M2M) and data communications provider.

ORBCOMM has pioneered the detection of Automatic Identification System (AIS) messages from space by including AIS receivers on its spacecraft, and the company is now the leading commercial provider of global satellite AIS data services.

Channel Logistics

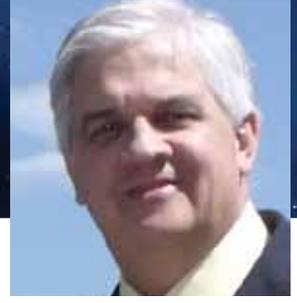


BRENT BAKER
Chief Technology Officer Satellite Enabled ANTS

Channel Logistics LLC's CATETM System provides a combination of actionable Intelligence and real world situational awareness suited to the stakeholder's particular mission.

The system ingests and correlates various types of data. In the next step Artificial Intelligence Agents perform forensics based on a multitude of criteria. These include Safety; Security; EEZ Governance; Poaching; Piracy, Pollution; Offshore Infrastructure Protection etc. The subsequent risk parameters associated with non-state actors provide derived value in being able to identify each surface target in any given area and determine its intention whether legal or nefarious. CATETM System acts as a decision support system for Command and Control.

Greenline Systems



PAUL KERSTANSKI
Vice President Maritime Solutions

GreenLine Risk Application tool helps analysts and decision-makers make better and more efficient risk assessments and interdiction decisions. Complementing existing Command and Control Systems (C2) with operational analysis, CAMTES is a comprehensive decision-support platform that leverages the different sub-sets of illicit, natural, and normal maritime activities to provide a clearer understanding of the actors, assets and actions occurring daily.

By providing an unclassified and open-source backbone for information sharing, CAMTES enhances Maritime Security Cooperation, MDA/MSA operations and assists in inter-agency and coalition collaboration.

e-GEOS

ORBCOMM



GREENLINE SYSTEMS

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Session 3 SYSTEMS SHOWCASES

elfordstown June 27

KSAT Kongsberg Satellite Services



TONY BAUNA
*Director, Product and
Service Development*

KSAT is a commercial enterprise providing TT&C and data acquisition services for polar orbiting satellites, and in addition provides and develops services based on the utilisation of the data from these satellites. KSAT provides operational space-based near real-time services for oil spill and vessel detection around the world.

The KSAT Vessel Detection Service uses data from Earth Observation satellites to locate vessels on the ocean. The main sensor used is the Synthetic Aperture Radar (SAR) on-board several satellite systems that provide images of the ocean surface even at night and in overcast conditions.

KSAT'S will demonstrate how their online web-GIS based delivery portal is presenting the information from this service.

exactEarth Ltd



JOHN ALLAN
*VP Sales &
Marketing*

exactEarth, based in Cambridge, Ontario, is a data services company providing the most advanced location-based information on maritime traffic available today.

Using world-leading satellite detection technology, exactEarth delivers to customers an unrivalled view of the recognized maritime picture at a global scale.

exactEarth will be showing and demonstrating a variety of applications that utilise the exactAIS data service and covering a range of industries including Fisheries, Environmental and Security.

The key focus will be on the identification of suspicious vessel activity.

MDA Corporation



WAYNE HOYLE
*Director Business
Development*

MDA is a global communications and information company providing operational solutions to commercial and government organizations worldwide.

MDA conducts a significant amount of advanced technology development in the areas of satellite communication systems aviation solutions, robotics, space and unmanned surveillance services and develops tailored information systems to the individual requirements of military, civilian, and commercial customers.

CLS GROUP



BEN MINICHINO
*VP Strategic Security
Programs, CLS America*

Collecte Localisation Satellites, is a subsidiary of the French Space Agency CNES since 1986, created to promote, develop and operate satellite based services for institutions, today providing VMS, AIS, SAT-AIS, LRIT, DCS and EO services worldwide.

Through its renowned expertise and experience acquired from 20 years of operating satellite systems, CLS is a major contributor to global efforts to protect the environment and enhance security, offering direct operational support to government, institutions and industries working in these areas.

Service-oriented, CLS designs unique service chains and services for various governmental entities towards environmental monitoring, maritime surveillance and sustainable management of marine resources.



KONGSBERG





BOOKINGS

2013

Workshop Package includes:

- Workshop sessions on 26 & 27 June
- Coffee/networking sessions on both days
- **Orbcomm** Lunch at Fota Island Hotel on 26 June
- C-SIGMA Dinner on 26 June
- **exactEarth** pre-dinner drinks reception
- **CLS** Artisan Irish Bar-B-Que at Elfordstown Earthstation on 27 June
- Visit to Titanic final departure point and reception on board Irish Naval Service vessel on 27 June
- Bus to/from all venues from Fota Island Hotel

RATES

- Delegate rate** €300
- Early booking rate** €275 (to May 30)
- Partners Package** €90

Partners Package includes:

- C-SIGMA Dinner on 26 June
- Visit to Titanic final departure point and reception on board Irish Naval Service vessel on 27 June
- Bus to/from all venues from Fota Island Hotel

Please see website for further information and accommodation suggestions.

BOOKING ESSENTIAL • ONLINE REGISTRATION AVAILABLE



C-SIGMA IV

workshop booking form

Organisation/Company

Delegate Information:

Title	Firstname	Surname	Position
1.....
2.....
3.....
4.....

Address

Country

Contact e-mail

Contact tel no

I attach cheque amt €

Cheques to be made payable to C-SIGMA

- Post forms to : C-SIGMA Project Office
National Space Centre, Elfordstown Earthstation, Cork, IRELAND
- e-mail forms to: bookings@c-sigma.org

