7-11 November 2016 | Seoul City Hall, Seoul, Korea

# Third International Symposium 2016



#### Partnership for Technology in Peacekeeping

Information and Communications Technology Division United Nations Department of Field Support



# Table of Contents

Welcome Note	05
Plan Your Experience	06
Agenda at a Glance	07
Agenda Topics	80
Welcome Address	09
Keynote Speakers	10
Presenters	12
Moderators	13
Daily Agenda for Symposium	14
Daily Agenda for Open UN GIS Initiative	16

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Seoul City Hall, Seoul, South Korea

# Welcome Note

On behalf of the United Nations and the Republic of Korea, thank you for joining us for the 3rd Annual Partnership for Technology in Peacekeeping Symposium.

This year's Symposium – Awareness, Protection, Innovation – addresses the significant challenges facing Peacekeeping today: how to we manage vasts amounts of data available at our fingertips today, and transform it into the critical information needed to protect our troops, civilians and camps?

We have a very full week planned for you, including a keynote address from former High Level Panel on Technology expert A. Walter Dorn; the UN Open GIS Initiative workshops; informative breakout sessions and engaging tech, operational and policy discussions from thought leaders from both the United Nations and some Member States.

Throughout the Symposium, we invite you to delve into the big issues of the day. You'll also have the opportunity to put those ideas and theories into practice during the Working Groups that will result in tangible outcomes.

The Partnership for Technology in Peackeeping Symposium is a great opportunity for you to join the dialogue, learn from another, collaborate with peers, experts and the United Nations staff.

Thank you for joining us. We hope you enjoy the event!



Anthony O'Mullane Director Information and Communications Technology Division, United Nations

#### Focused Content. New Ways of Thinking.

# Plan Your Experience

We have three in-depth Topics and the United Nations Open GIS Initiative that will provide you with the opportunity to dive in. We've divided each topic into four Break-out Sessions that cover important areas that you, as technical professionals, will focus on.

Some sections of this agenda focus on the nontechnical aspects of peacekeeping technology such as training, coaching, guidance, leadership development, planning, testing and evaluating. We welcome new ideas that challenge conventional thinking, represent new approaches, and reflect emerging trends and emerging technology. We invite you to participate fully.

#### Build Your Agenda Based on Your Specific Needs and Areas of Interest

Focus on the strategic insight that supports the development or implementation of an actionable plan.

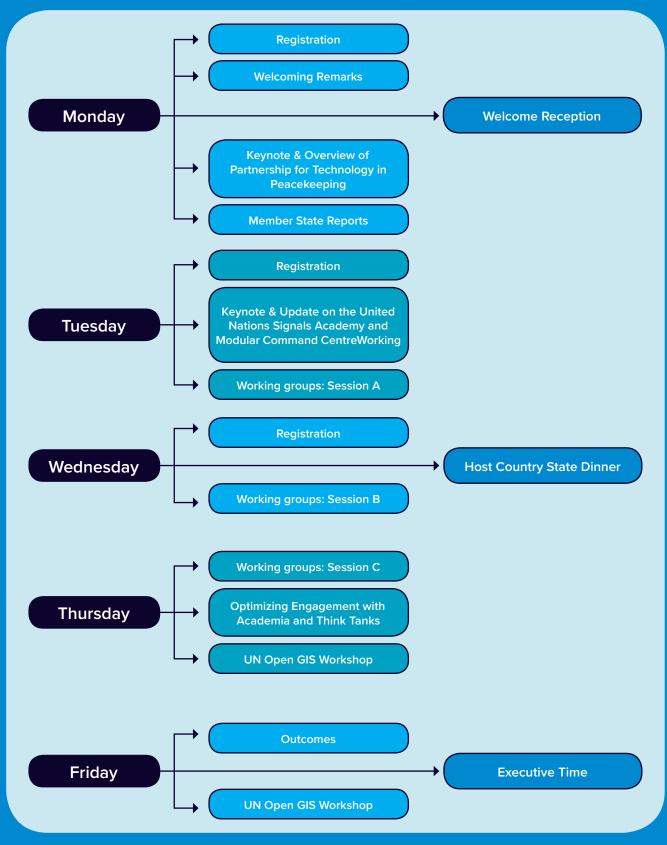
#### Interact with Colleagues from Other Member States and UN Staff

- Moderated discussions are for exchanging ideas and best practices with your peers with a focus on the reality and challenges in peacekeeping today.
- Breakout-Sessions and Power Networking/Coffee breaks offer small scale and interactive opportunities to drill down on specific topics.

#### Sponsor or Engage in a Project and/or Initiative

Walk away with actionable ideas for the topics, projects and initiatives that you are most interested in.

## Agenda At a Glance



### **Agenda** Topics

#### **Geospatial Information Services and Situational Awareness**

Enabling Geospatial Information Services (GIS) with the best available data for modelling and simulation, while setting a framework to control its dissemination to improve situational awareness and understanding of the operational environment, will provide peacekeeping with greater analysis at the service of decision making.

#### **Protection Technologies: Sensors, Security and Reconnaissance**

Increasingly, highly sensitive information needs to be collected, classified, correlated and shared in UN peace operations. Policies, procedures and platforms must be developed that protect and manage such information.

#### Innovation in Information and Communication Technologies

Applying innovative thinking to your challenges as a leader is one step in creating an innovative, organizational response to change and challenge. But developing a culture of innovation, where others throughout the organization apply innovative thinking to solve problems and develop new products and services, requires additional training. When direction, alignment, and commitment are created around innovation, organizations emerge as more productive and more innovative.

#### **Optimizing Engagement with Academic and Research Institutions**

Combining existing research and development with academic and UN Peacekeeping expertise to forge a strong partnership is the way to advance next generation technological innovations that serve peacekeeping and sustainable development.

#### **United Nations Open GIS Initiative**

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Won Soon Park Mayor Seoul Metropolitan Government



Hervé Ladsous Under Secretary General Department of Peacekeeping Operations, United Nations



**Atul Khare** 

**Under Secretary General** Department of Peacekeeping Operations, United Nations

# Welcome Address



#### Anthony O'Mullane

**Director** Information and Communications Technology Division, United Nations



**In-Moo Hwang Vice Minister** Ministry of National Defense, Republic of Korea



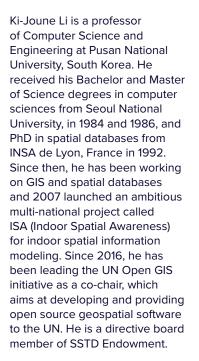
**Dong-Ju Kim President** Korea Research Institute for Human Settlements, Republic of Korea

Walter Dorn is Professor of Defence Studies at the Royal Military College of Canada (RMC) and the Canadian Forces College (CFC). He holds a Ph.D. in Chemistry from the Univ. of Toronto. He addressed parliamentary bodies on several continents and drafted a parliamentary declaration on the ratification and implementation of the treaty that was signed by over a thousand parliamentarians. A former member of the United Nations Expert Panel on Technology and Innovation in UN Peacekeeping, Dr. Dorn has written several books, including Keeping Watch: Monitoring, Technology, and Innovation in UN Peace Operations, and most recently edited the volume, Air Power in UN Operations: Wings for Peace.



Walter Dorn xx xxxxx

Mr. Raey-Ho Park is the **Director General for** Information Planning in the Office of Planning and Coordination in the Ministry of National Defense. Within the Ministry, he has served as Commander, **Defense Command** and Communication Command and Chief of the Information Communication Division, Republic of Korea headquarters.





Raey-Ho Park Director General Information Planning, Office of Planning and Coordination, Ministry of National Defense, Republic of Korea



Ki-Joune Li Professor, OpenGDS and Co-Chair UN Open GIS Initiative

## Keynote Speakers Keynote

Mr. Kyoung-Soo Eom has been serving as Chief of the Geospatial Information Section (formerly UN Cartographic Section) since 2005 in the United Nations. He has over 30 years of technical and management experience in the public and private sectors as well as military service.

Prior to his work with the United Nations, Mr. Eom worked for LG-CNS (formerly LG-EDS Systems, a System Integration Company) in Seoul, Korea as General Manager and Project Manager. He also served in the Korean Army as the Chief of Combined Terrain Analysis Team of Korea-USA Combined Force Command in Seoul. Mr. Ricardo Arias is a NASA Subject Matter Expert in Security and Defense Operational Requirements and Capabilities. He is also a member of the USAFRICOM Science, Technology & Innovation Office, Strategic Capability Division, Resources & Assessments Directorate (J804). He plans, coordinates and manages execution of S&T activities that seek to fill U.S. forces' capability gaps or enhance Partner Nation capacity.

Mr. Arias coordinates and manages activities funded by the Joint Capability Technology Demonstration (JCTD), Enabling Technology (ET), Rapid Reaction Technology Office (RRTO), and Rapid Innovation Fund (RIF) programs, as well as technical exchanges, joint experimentation and collaboration with both traditional and non-traditional partners in the African theater. Dr. HaeKyong Kang is Research Fellow for Korea Research Institute for Human Settlements supervised by Prime Minister's office and funded by the republic of Korean government. She is the program manager of OpenGDS Research and **Development Group responsible** for developing open source GIS software, supervising 80 researchers from 9 organizations. She is a member of UN OpenGIS Initiative which aims to develop open source GIS solutions for UN missions like peacekeeping operation.



Kyoung-Soo Eom Chief UNGIS and Co-Chair UN Open GIS Initiative



Ricardo Arias xx xxxxx



HaeKyong Kang PhD.

**Research Fellow** Korea Reasearch Institute for Human Settlements, Republic of Korea

## Speakers Keynote Speakers



#### Eduardo Artigas

#### Chief

Field Mission Support Section, Information and Communications Technology Division, United Nations



#### Athanasios Dimitriou

Military Communications Policy and Equipment Officer Information and Communications Technology Division, United Nations

#### Juan A. Hurtado

Science and Technology Advisor US South Command and Co-Chair, UN Open GIS Initiative





David Hemphill Vice President of Engineering Boundless Spatial Inc.

#### **J.Y. Kang Director** Ministry of Foreign Affairs, Republic of



Stefan Lemm

Head Military Operations Unit Information and Communications Technology Division, United Nations



Mr. Brian Monheiser

**Director of U.S. Federal Programs** Boundless Spatial Inc



Korea

#### Lt. Colonel Axel Weber

Head Policy and Standardisation Section German Armed Forces, Federal Republic of Germany



**Katrina Miles** 

Senior Technology Analyst Military Operations Unit, Information and Communications Technology Division, United Nations

# Moderators

#### Suzanne Shanahan

**Acting Deputy Director** Information and Communications Technology Division, United Nations

#### **Dirk Druet**

Political Affairs Officer (Policy and Planning) Department of Policy Evaluation and Training, United Nations

#### Christina Goodness

**Chief of Information Management** Office of the Under Secretary General Department of Field Support and Department of Peacekeeping Operations, United Nations

#### Widmark Valme

**Chief of Communications and Information Technologies** MINUSCA, United Nations

#### Allan Canonizado

**Chief of Communications and Information Technologies MINUSMA**, United Nations

Group Working

#### **Ricardo Arias**

Science and Technology Advisor

#### Maria A. Brovelli

Professor

#### Dimitri Dello Buono PhD.

**Chief of Information Management** 

#### **Anthony Calamito**

**Chief Technology Officer** 

#### Massimiliano Cannata

Professor OSGeo and Univ. of Applied Sciences & Arts of **Gyooshik Choi** 

**ICT Architect** 

#### **Guillaume Criloux**

**Chief Geo Analysis** 

#### **Diego Gonzalez**

**GIS Officer** 

#### Joon-Seok Kim PhD.

Pusan National University, Republic of Korea

#### Kais Zouabi **Chief GIS**

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	13:15 – 13:20	Host
	13:20 – 13:25	Host
	13:25 – 13:30	Host Korea
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	Tuesday 08.11	_
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09:00 – 12:00	Registration/Check-in (ongoing)
09:00 – 12:00	United Nations Open GIS Workshop Meeting (UN Open GIS participants only) Kyoung-Soo Eom, Prof. Ki-Joune Li and Mr. Juan A. Hurtado, Moderator
10:00 – 11:00	Moderators Meeting (Moderators only)
13:00 – 13:05	General Welcome – Won Soon Park , Mayor, Seoul Metropolitan Government, Republic of Korea
13:05 – 13:15	Welcome/Symposium Opening Remarks – Anthony O'Mullane, Director, Information and Communications Technology Division, UN
13:15 – 13:20	Host Country Welcoming Remarks I : In-Moo Hwang, Vice Minister of National Defense, Republic of Korea
13:20 – 13:25	Host Country Welcoming Remarks II : In-Moo Hwang, Vice Minister of National Defense, Republic of Korea
13:25 – 13:30	Host Country Welcoming Remarks III – Dong-Ju Kim, President of Korea Research Institute for Human Settlements, Republic of Korea
13:30– 14:00	Welcoming Remarks Video – Under Secretary General Hervé Ladsous, United Nations Department of Peacekeeping Operations; and Under Secretary General Atul Khare, United Nations Department of Field Support
14:00 - 14:30	Group Photo (15 mins) and Networking Coffee Break (15 mins)
14:30 – 15:00	Keynote : 'ROK MND ICT Policy' – Raey-Ho Park, Director General General for Information Planning, Office of Planning & Coordination, Ministry of National Defense, Republic of Korea
15:00 – 15:30	<b>Overview of Partnership on Technology for Peacekeeping</b> – Eduardo Artigas, Chief of Field Mission Support Section, Information and Communications Technology Division, United Nations
15:30 – 16:00	Multi-National Partnership Report: UN Open GIS Initiative – Kyoung-Soo Eom, Chief of GIS, Information and Communications Technology Division, United Nations
16:00 – 17:30	Member State Reports: Working Through Partnerships – Project Process, Experience and Lessons Learned with a brief introduction by: Eduardo Artigas
16:00 – 16:15	France: "Protection and Security Technology Services Project"
16:15 – 16:30	Networking Coffee Break (15 mins)
16:30 – 16:50	Israel: Israel and UN Peacekeeping: Technology for peacekeeping partnership
16:50 – 17:10	Korea: MOFA Peace Keeping Operation with UN – J.Y. Kang, Director, Ministry of Foreign Affairs, Republic of Korea
17:30 – 17:50	United States: Juan A. Hurtado : Science & Technology Advisor, US South Command and Co-Chair of UN Open GIS
17:50- 18:00	Logistics I – Program: Katrina Miles, Senior Technology Analyst, Information Communications and Technology Division, UN Logistics II – Local Info: HaeKyong Kang, PhD. Research Fellow, Korea Research Institute for Human Settlements, Republic of Korea
19:00 – 21:00	Welcome Reception – Hosted by Republic of Korea, President Hotel Mozart Suite
Tuesday 08.11	2016
07:00 – 08:00	Registration/Check-in (ongoing)
08:00 - 09:00	<b>Keynote/Q&amp;A – "United Nations Peacekeeping: Toward Smart Tech Operations"</b> — A. Walter Dorn, PhD. Professor of Defense Studies at the Royal Military College of Canada and the Canadian Forces College, Government of Canada.
09:00 - 09:45	Update on the United Nations Signals Academy and Modular Command Centre/ Q&A — Athanasios Dimitriou, Information and Communications Technology Division, United Nations, and Lt. Colonel Axel Weber, Head Policy and Standardisation Section, German Armed Forces
09:45 – 10:00	Networking Coffee Break (15 mins)
10:00 – 10:30	Methodologies and Mechanisms of the Engagement Process: Trust Funds, Letters of Assist and In-Kind Support – Eduardo Artigas, and Kyoung-Soo Eom
11:15 – 11:30	<b>Reality and Current Challenges for Technology in Peacekeeping: Introduction to Working Groups/</b> — Stefan Lemm, Head Military Operations Unit, Information Communications and Technology Division, United Nations
11:30 – 14:00	Lunch Break (150 mins) and Short Tour
14:00 – 17:00	<ul> <li>Working Groups Session A:         <ul> <li>(i) Geospatial Information and Situational Awareness – Kyoung-Soo Eom and Suzanne Shanahan, Acting Deputy Director, Information and Communications Technology Division, United Nations, Moderators</li> <li>(ii) Protection Technologies: Sensors, Surveillance, and Reconnaissance – Dirk Druet, Political Affairs Officer (Policy Planning), Department of Policy Evaluation and Training, United Nations, Moderators</li> <li>A. Walter Dorn, Subject Matter Expert</li> <li>(iii) Innovation in Information and Communications Technologies – Gyooshik Choi, ICT Architect, Information and Communications Technology Division, United Nations; Christina Goodness, Chief of Information Management, Office of the</li> </ul> </li> </ul>
	Under Secretary General, United Nations and Eduardo Artigas, Moderators LtCol Axel Weber, Subject Matter Expert

Networking Coffee Break (15 mins)

15:00 – 15:30

Wednesday 09.11.2016	
08:30 - 10:45	Working Groups Session B:
	(I) Geospatial Information and Situational Awareness – Kyoung-Soo Eom and Suzanne Shanahan, Moderators
	(II) Protection Technologies: Sensors, Surveillance, and Reconnaissance – Dirk Druet and Widmark Valme, Chief of Communications and Information Technologies, MINUSCA, United Nations, Moderators
	A. Walter Dorn, Subject Matter Expert
	(III) Innovation in Information and Communications Technologies – Gyooshik Choi, Christina Goodness and Allan Canonizado, Chief of Communications and Information Technologies, MINUSMA, United Nations, Moderators
	LtCol Axel Weber, Subject Matter Expert
10:45 – 11:00	Networking Coffee Break (15 mins)
11:00 – 12:00	Working Groups Summary Session (Plenary Room)
12:00 – 14:00	Lunch Break (60 mins)
	End of UN Events for the Day
14:00 – 17:00	Korea National Activities: Technology Fair
18:00 – 20:00	Host Country State Dinner - Sam Chung Gak International Conference Centre (Business Formal)
20:00	Return to Hotels

#### Thursday 10.11.2016

08:00 – 11:00	Working Groups Session C:
	(I) Geospatial Information and Situational Awareness – Kyoung-Soo Eom and Suzanne Shanahan, Moderators
	(II) Protection Technologies: Sensors, Surveillance, and Reconnaissance – Dirk Druet and Allan Canonizado, Moderators
	A. Walter Dorn, Subject Matter Expert
	(III) Innovation in Information and Communications Technologies – Gyooshik Choi and Widmarlk Valme, Moderators
	LtCol Axel Weber, Subject Matter Expert
9:45 – 10:00	Networking Coffee Break (15 mins)
11:00 – 12:00	Power Networking Coffe Break (60 mins)
12:00 – 13:30	Lunch Break (90 mins)
	Working Groups: Session D:
	(II) Protection Technologies: Sensors, Surveillance, and Reconnaissance – Dirk Druet and Widmark Valme, Moderators
13:30 – 16:00	A. Walter Dorn, Subject Matter Expert
	(III) Innovation in Information and Communications Technologies – Gyooshik Choi and Eduardo Artigas, Moderators
	Lt Col Axel Weber, Subject Matter Expert
	(IV) Optimizing Engagement with Academia anf Think Tanks – Suzanne Shanahan, Moderator
	UN Open GIS Workshop – Kyoung-Soo Eom, Prof. Ki-Joune Li and Ricardo Arias, Moderator

Friday 11.11.2016	
08:00 – 9:00	Working Groups Summary Session (Plenary Room)
09:00 - 09:30	Symposium Recap and Goals – Stefan Lemm
9:30 - 11:00	Outcomes: Possible Projects/Area of Cooperation – Dr. Hae-Kyong Kang
11:00 - 11:30	Networking Coffee Break (15 mins)
11:30-12:00	Next Steps for Partnership Engagements – Eduardo Artigas, and Kyoung-Soo Eom
12:30- 12:50	Farewell Speech – J.Y. Kang, Director, Ministry of Foreign Affairs, Republic of Korea
12:50- 13:00	Closing Remarks – Anthony O'Mullane, Director, Information and Communications Technology Division, United Nations
13:00 – 17:00	UN Open GIS Workshop – Kyoung-Soo Eom, Prof. Ki-Joune Li and Juan A. Hurtado, Moderators
13:00 - 17:00	Executive Time
14:00-17:00	War Memorial Museum of Korea and Performance, Hosted by Republic of Korea
14:00 - 14:30	Bus from Seoul City Hall to War Memorial of Korea
14:30 – 16:30	Watching Performance at Peace Plaza (1h), War Memorial Museum United Nations Exhibit (Exhibition Room 3F)
16:30 – 17:00	Back to Seoul City Hall
17:00	End of Symposium

# UN Open GIS Initiative: Workshop Agenda

09:00 – 09:30       Arrival of Participants and Registration         SESSION *OG-1: OPENING AND WEL         09:30 – 10:00    Moderator: Mr. Kyoung-Soo Eom, Chief UNG	
Moderator: Mr. Kyoung-Soo Fom. Chief UNG	COMING
Moderator: Mr. Kyoung-Soo Eom, Chief UNG	COMING
	SIS and Co-Chair UN Open GIS
Welcome Remarks: Mr. Anthony O'Mullane, Dong-Ju Kim, President, Korea Research Ins	Director of Information and Communications Technology Division, United Nations and Dr. titute for Human Settlements (KRIHS)
10:00 – 10:15 Networking Coffee Break (15 mins)	
SESSION OG-2: UN OPEN GIS VISIO	N AND ROADMAP
Moderator: Mr. Kyoung-Soo Eom, Chief UNG	SIS and Co-Chair UN Open GIS
	enGDS and Co-Chair UN Open GIS, Mr. Juan A. Hurtado, Science & Technology Advisor, US and Mr. Ricardo Arias, Science & Technology Advisor, US Africa Command, Interim Deputy
Laboratory, Italy, Prof. Massimiliano Cannata, Director, Geospatial Information Division, Se	litecnico di Milano and Chair of UN Open GIS Spiral-II, Dr. Dimitri Dello Buono, Head of geoSDI , OSGeo and Univ. of Applied Sciences & Arts of Southern Switzerland, Mr. Bong-Yeon Cho, oul Metropolitan Government, Ms. Andrea Leong, Senior Policy Officer, Singapore, Mr. David ok-Joon Kim, Vice President, KT, Mr. Kais Zouabi, Chief GIS, UNIFIL and Mr. Guillaume Criloux,

Tuesday 08.11.2016	
	SESSION *JO-1: WORKING GROUP - GEOSPATIAL INFORMATION AND SITUATIONAL AWARENESS
	Operational requirements and challenges for UN peacekeeping operations, and review and progress update as well as lessons learned for the activities in 2016
	Moderator: Ms. Suzanne Shanahan, Deputy Director of ICTD/DFS/UN and Mr. Kyoung-Soo Eom, Chief UNGIS and Co-Chair UN Open GIS
14:00 - 16:30	Keynote Presentation: Mr. Guillaume Criloux, Chief Geo Analysis, UNGIS
	Panel Discussion: Mr. Juan A. Hurtado, Science & Technology Advisor, US Southern Command, Co-Chair UN Open GIS, Brigadier General, Syed Mazhar Hussain, Ministry of Defense, Pakistan, Prof. Ki-Joune Li, OpenGDS and Co-Chair UN Open GIS, Dr. Dimitri Dello Buono, Head of geoSDI Laboratory, Italy, Prof. Maria A. Brovelli, Politecnico di Milano and Chair of UN Open GIS Spiral-II, Dr. HaeKyong Kang, OpenGDS and UN Open GIS Secretariat, Mr. Ricardo Arias, Science & Technology Advisor, US Africa Command, Interim Deputy Chair UN Open GIS, Mr. Kais Zouabi, Chief GIS, UNIFIL and Mr. Timur Obukhov, GIS Officer, UNGIS
16:00 – 16:30	Networking Coffee Break (30 mins)
16:30 - 18:00	[CONTINUE] SESSION *JO-1: WORKING GROUP - GEOSPATIAL INFORMATION AND SITUATIONAL AWARENESS
	Operational requirements and challenges for UN peacekeeping operations, and review and progress update as well as lessons learned for the activities in 2016
*OG Session: UN Open GIS Initiative Session, JO Session: Joint Session within the UN Symposium Programme	

Wednesday 09.11.2016		
	SESSION JO-2: WORKING GROUP - GEOSPATIAL INFORMATION AND SITUATIONAL AWARENESS	
	Identify areas of interest as new initiative to improve situational awareness and geospatial information services (operational & geospatial data collection, mobile data collection/ validation, web application, Internet of Things (IoT), open GIS solutions, etc.)	
	Moderator: Ms. Suzanne Shanahan, Deputy Director of ICTD/DFS/UN and Mr. Kyoung-Soo Eom, Chief UNGIS and Co-Chair UN Open GIS	
08:30 – 10:45	Keynote Presentation: Dr. Dimitri Dello Buono, Head of geoSDI Laboratory, Italy and Mr. David Memphill, Vice President, Boundless	
	Panel Discussion: Mr. Younghoon Choi, Director-General for IT, Seoul Metropolitan Government, Ms. Andrea Leong, Senior Policy Officer, Singapore, Mr. Ricardo Arias, Science & Technology Advisor, US Africa Command, Interim Deputy Chair UN Open GIS, Prof. Maria A. Brovelli, Politecnico di Milano and Chair of UN Open GIS Spiral-II, Prof. Youngok Kang, OpenGDS and Ewha Womens University and Lt. Commander. Jean-Antoine Pompei, Ministry of Defense, France	
10:45 - 11:00	Networking Coffee Break (15 mins)	
11:00 - 12:00	Working Group Summary Session (Plenary Room)	
Thursday 10.11. 2	016	
	SESSION JO-3: WORKING GROUP - GEOSPATIAL INFORMATION AND SITUATIONAL AWARENESS	
	Operational requirements and challenges for UN peacekeeping operations, and review and progress update as well as lessons learned for the activities in 2016	
	Moderator: Ms. Suzanne Shanahan, Deputy Director of ICTD/DFS/UN and Mr. Kyoung-Soo Eom, Chief UNGIS and Co-Chair UN Open GIS	
08:00 - 11:00	Keynote Presentation: Prof. Ki-Joune Li, OpenGDS and Co-Chair UN Open GIS	
	Panel Discussion: Brigadier General, Syed Mazhar Hussain, Ministry of Defense, Pakistan, Mr. Juan A. Hurtado, Science & Technology Advisor, US Southern Command, Co-Chair UN Open GIS, Dr. Dimitri Dello Buono, Head of geoSDI Laboratory, Italy, Lt. Commander. Jean- Antoine Pompei, Ministry of Defense, France, Ms. Andrea Leong, Senior Policy Officer, Singapore, Mr. Ricardo Arias, Science & Technology Advisor, US Africa Command, Interim Deputy Chair UN Open GIS, Prof. Maria A. Brovelli, Politecnico di Milano and Chair of UN Open GIS Spiral-II, Dr. HaeKyong Kang, OpenGDS and UN Open GIS Secretariat, Mr. Seok-Joon Kim, Vice President, KT, Mr. David Memphill, Vice President, Boundless, Mr. Guillaume Criloux, Chief Geo Analysis, UNGIS and Mr. Timur Obukhov, GIS Officer, UNGIS	
11:00 - 12:00	Power Networking Coffee Break (60 mins)	
12:00 – 13:30	Lunch Break (90 mins)	
	SESSION OG-3: UN OPEN GIS SPIRAL REPORT	
	Moderator: Mr. Juan A. Hurtado, Science & Technology Advisor, US SouthCom and Co-Chair UN Open GIS	
	Spiral-1 (GeoPortal): Mr. Ricardo Arias, Science & Technology Advisor, US Africa Command, Interim Deputy Chair UN Open GIS and Mr. David Memphill, Vice President, Boundless	
16:00 - 18:00	Spiral-2 (CB/Training): Prof. Maria A. Brovelli, Politecnico di Milano and Chair of UN Open GIS Spiral-II and Mr. Diego Gonzalez, GIS Officer, UNGSC	
	Spiral-3 (Applications): Dr. Hae-Kyong Kang, OpenGDS and UN Open GIS Secretariat	
	Spiral-4 (New initiative): Prof. Ki-Joune Li, OpenGDS and UN Open GIS Co-Chair	
	UN Open GIS Architecture: Dr. Joon-Seok Kim, OpenGDS, Pusan National University, Korea	
Friday 11.11.2016		
08:00 - 09:00	Working Group Summary Session (Plenary Room)	
	SESSION OG-4: DISCUSSION ON UN OPEN GIS ARCHITECTURE AND SPIRALS	
13:00 – 15:30	Moderator: Prof. Ki-Joune Li, OpenGDS and Co-Chair UN Open GIS	
13:00 - 15:30	Panel Discussion: Mr. David Memphill, Vice President, Boundless, Prof. Ki-Joune Li, OpenGDS and Co-Chair UN Open GIS, Dr. Dimitri Dello Buono, Head of geoSDI Laboratory, Italy, Dr. Seok-Joon Kim, Vice President, KT, Mr. Sanghee Shin, CEO Gaia3D, Mr. Kais Zouabi, Chief GIS, UNIFIL, Mr. Guillaume Criloux, Chief Geo Analysis, UNGIS and Dr. Joon-Seok Kim, OpenGDS, Pusan National University, Korea	
15:30 – 16:00	Networking Coffee Break (30 mins)	
	SESSION OG-4: FUTURE PLAN, REVIEW AND CLOSING	
	Moderator: Mr. Kyoung-Soo Eom, Chief UNGIS and Co-Chair UN Open GIS	
16:00 - 17:30	Summary Presentation: Prof. Ki-Joune Li, OpenGDS and Co-Chair UN Open GIS	
	Panel Discussion: Mr. Juan A. Hurtado, Science & Technology Advisor, US Southern Command, Co-Chair UN Open GIS, Dr. Dimitri Dello Buono, Head of geoSDI Laboratory, Italy, Brigadier General, Syed Mazhar Hussain, Ministry of Defense, Pakistan, Mr. Ricardo Arias, Science & Technology Advisor, US Africa Command, Interim Deputy Chair UN Open GIS, Prof. Maria A. Brovelli, Politecnico di Milano and Chair of UN Open GIS Spiral-II, Ms. Andrea Leong, Senior Policy Officer, Singapore, Dr. Seok-Joon Kim, Vice President, KT, Mr. David Memphill, Vice President, Boundless, Lt. Commander. Jean-Antoine Pompei, Ministry of Defense, France, Dr. HaeKyong Kang, OpenGDS and UN Open GIS Secretariat, Mr. Kais Zouabi, Chief GIS, UNIFIL, Mr. Guillaume Criloux, Chief Geo Analysis, UNGIS and Mr. Timur	
	Obukhov, GIS Officer, UNGIS	





For Information on the Symposium Contact:

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