



DISSEMINATION REPORT AND PLAN – MONTH 36

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EXECUTIVE SUMMARY

This report comprises four parts:

- A short introduction and overview (Chapter 1).
- Dissemination plans for the final year of IQmulus (Chapter 2).
- An overview of the dissemination in year 3 (Chapter 3).
- Detailed description of the in person dissemination activities (Chapter 4).

The main dissemination event in year 3 of IQmulus was the second IQmulus workshop organized as the GeoBigData'15 workshop 1-2, October, 2015, La Grande Motte, France, during ISPRS Geospatial Week 2015. In addition IQmulus has had high visibility also during many other events.

In year 3 a total of 27 peer reviewed papers were published including both the papers of the second and third year workshop.

The year 4 workshop is planned during the Geometry Summit 2016, in Berlin June, 20-24 addressing the geometric modelling and computer graphics communities. The geospatial community is planned address with participation and a booth at the ISPRS Congress in 12 – 19, Prague, July 2016. The big data community is addressed in a workshop organized the day after European Data Forum 2015, November 18, in Luxembourg.

Table of Contents

1	Introduction.....	6
2	Dissemination Plan year 4	7
2.1	Internet dissemination	7
2.1.1	IQmulus web.....	7
2.1.2	IQmulus on LinkedIn.....	7
2.1.3	Workshop during International Geometry Summit 2016	7
2.1.4	Booth at ISPRS Congress 2016.....	7
2.2	Publication of papers.....	7
2.3	IQmulus book - Heterogeneous Spatial Data: Fusion, Modeling, and Analysis for GIS Applications	8
2.4	Dissemination at Big Data Events.....	8
2.5	Dissemination at Computer Graphics Events.....	8
2.6	Dissemination at Computational Geometry Events	8
2.7	Dissemination at Remote Sensing Events	9
2.8	Dissemination at GIS Events	9
3	Year 3 dissemination	10
3.1	Annual Workshop YEAR 3 – GeoBigData 2015.....	10
3.2	IQmulus processing contest year 3	10
3.3	Booth at CPExpo 2014 & SRC Security Research Conference 2014	10
3.4	Publication of papers.....	11
3.4.1	Papers in special section of Computers & Graphics as the result of the first IQmulus workshop.	11
3.4.2	IQmulus Papers from the second IQmulus workshop: ISPRS GeoBigData 2015.....	11
3.4.3	Other papers in year 3.....	13
4	Detailed description of in-person dissemination	14
4.1	Dissemination during geopsatral week	14
4.1.1	IQmulus Scalability Testing - First Results	14
4.1.2	3D octree based watertight mesh generation from ubiquitous data	15
4.1.3	Distributed dimensionality-based rendering of Lidar point clouds.....	16
4.1.4	Automatic trees detection from laser scanning point clouds	17
4.1.5	Tree separation and classification in mobile mapping lidar data.....	18
4.1.6	NoSQL for storage and retrieval of large LiDAR data collections	19
4.1.7	Classification of big point cloud data using cloud computing.....	20
4.1.8	Approximation and Analysis of Rainfall Fields for Environmental Applications	21

4.1.9	Automated large scale parameter extraction of road-side trees sampled by a Laser mobile mapping system.....	22
4.1.10	Visualization of marine sand dune displacements utilizing modern GPU Techniques .	23
4.1.11	Locally Refined Splines Representation for Geospatial Big Data	24
4.1.12	Towards time-series processing of VHR satellite images for surface deformation detection and measurements.....	25
4.1.13	GeoBigData'15 - Managing, Processing, and Rendering Remotely-Sensed Big Geospatial Data	26
4.1.14	Water detection and classification on multi-source remote sensing and terrain data.....	27
4.1.15	Raster data partitioning for supporting distributed GIS processing	28
4.1.16	Automatic tree breast height diameter estimation from laser mobile mapping data in an urban context	29
4.1.17	Evaluating voxel enabled scalable intersection of large point clouds.....	30
4.2	Other presentations and posters related to GIS	31
4.2.1	IQmulus poster at European Geosciences Union General Assembly 2015.....	31
4.2.2	Using big geospatial data for fast flood detection: developments from the IQmulus project.....	31
4.2.3	IQmulus - Cloud Platform for Point Cloud Processing.....	32
4.2.4	Big LiDAR Data Processing Using Cloud Computing	33
4.2.5	A High-volume Fusion and Analysis Platform for Geospatial Point Clouds, Coverages and Volumetric Data Sets	34
4.2.6	IQmulus, Year 3 - CWI, Amsterdam,.....	34
4.2.7	Research highlights of Geospatial Data Processing and Big Data	35
4.2.8	Smart City Clouds - Frankfurt a.M.	36
4.2.9	Smart City Clouds - Potsdam	36
4.2.10	Processing Smart City Data in the Cloud with Domain-Specific Languages	37
4.2.11	IQmulus projekt a nagy tömegű, heterogén téradatok felhasználásának megkönnyítéséért.....	38
4.2.12	Change detection in the domain of geospatial data modelling: case studies in the IQmulus project	38
4.3	Presentations and posters related to computer graphics.....	39
4.4	Presentations and posters related to big data	39
4.4.1	Big Data in a GeoSpatial context	39
4.4.2	BIM & Big Data	40
4.5	Presentations and posters related to geometry	41
4.5.1	Compact representation of big geospatial data by locally refinable splines – IGA 2015.....	41

4.5.2	Compact Representation of Big Geospatial Data by Locally Refinable Splines – ICIAM 2015	42
4.6	Presentations and posters related to remote sensing	43
4.6.1	Huge LMMS Point Cloud Data	43
4.6.2	IQmulus: A High-volume Fusion and Analysis Platform for Geospatial Point Clouds, Coverages and Volumetric Data Sets	43
4.6.3	34. Wissenschaftl.-Techn. Jahrestagung & Workshop on Laser Scanning Applications	44

1 INTRODUCTION

This deliverable is related to the activities of Task 8.1 Dissemination described in the DoW. This includes the subtasks:

- Set up and maintain the IQmulus project web site for open dissemination of project developments and results to the scientific community and general public;
- Develop a dissemination plan to coordinate the publication of scientific papers and presentations at international conferences, which is then updated regularly;
- Organize the project's outreach activities to the general public;
- Organize annual workshops (typically in conjunction with an important international conference in the field) on the main scientific IQmulus results.

It should be noted that the reporting on general dissemination activities in the third year of IQmulus is part of the Period Progress Report and that activities concerning the IQmulus User Group are covered in D8.4.3 (User Group Activities – Year 3, including the detailed activities concerning the project web site).

The dissemination instruments described in the Description of Work and the overall status relative to each of these are listed below:

		Report Year 3	Plans for Year 4
a)	Website	The new web-site Section 2.1.1	Further augmenting contents, Section 2.1.1
b)	Conferences/Workshops	Increased activity Section 2.2 and 3.1	Increased activity Section 2.2
c)	Journal articles	Maintaining level Section 2.3, and 3.4	Increased publication Sections 2.3 and 2.4
d)	Direct dissemination	User workshops D8.6.2	User workshops Sections 2.5, 2.6, 2.7, 2.8, 2.9
e)	Training material	D8.7.1	Continuing
f)	Processing contest	Second contest D8.8.2	Third contest
g)	Collaboration with other projects	Progress Report	Workshop after EDF 2015, Section 2.5
h)	Other material	Posters Chapter 4	Augmented hand-out
i)	Multimedia presentations	Too early	Planned M48
j)	Articles and press releases (general public)	Gather material for articles Section 2.3	Articles, white paper

The scientific dissemination to the research communities that the partners usually address is ongoing. Participation in the European Data Forum 2014 and EDF 2015 boost dissemination to the European Big Data community. However, dissemination to the general public is only now being initiated.

2 DISSEMINATION PLAN YEAR 4

2.1 INTERNET DISSEMINATION

2.1.1 IQmulus web

The IQmulus web-site, <http://www.iqmulus.eu/>, was up and running as planned by the end of project month 3 containing general information on IQmulus. However, to get a more professional web presence IQmulus has subcontracted specialists to rebuild the web-site and give it a more modern and professional appearance and structure. See D8.4.2 for more details. This was ready just before the M24 review and has in project year 3 been actively taken into use. The web-site of IQmulus contains comprehensive information on all aspects of IQmulus.

2.1.2 IQmulus on LinkedIn

The LinkedIn group of IQmulus <https://www.linkedin.com/groups?gid=7470531> was by the end of year 2 changed to an open group to increase its audience and no longer requiring an invitation. The target of the group is now the general audience and not only the IQmulus User Group. To further increase the LinkedIn visibility IQmulus now use the Company format of LinkedIn for the presentation.

The LinkedIn group will continue in year 4 to be used to announce events, start general discussions and guide the members of the LinkedIn group to different sections of the IQmulus web-site and Year 4 activities in IQmulus.

2.1.3 Workshop during International Geometry Summit 2016

The year four IQmulus Workshop will be technology-oriented and is planned to be organized during the International Geometry Summit 2016, in Berlin 20-24 June. The link of the event is <http://www.geometrysummit.org>.

2.1.4 Booth at ISPRS Congress 2016

To address the Geospatial community IQmulus plans a booth at International Society for Photogrammetry and Remote Sensing, XXIII Congress, July 12 - 19, 2016, Prague. <http://www.isprs2016-prague.com/>

2.2 PUBLICATION OF PAPERS

There has been a steady growth of publications of publication of papers from the first year to the third year of year of IQmulus, Year 1 - 6 papers, Year 2 – 9 papers and Year 3 27 papers. Of the 27 papers in year 3 seven relates to the special issue of Computer & Graphics made after the first IQmulus workshop, adjusting for this the publication distribution over the years is Year 1 - 6 papers, Year 2 – 16 papers and Year 3 - 20 papers. We expect the publication level to be at least on the level of year 3 in year 4.

2.3 IQMULUS BOOK - HETEROGENEOUS SPATIAL DATA: FUSION, MODELING, AND ANALYSIS FOR GIS APPLICATIONS

In 2015, partners in Work package 4 have actively collaborated on the preparation of the draft of the book “Heterogeneous Spatial Data: Fusion, Modeling, and Analysis for GIS Applications”, edited by Giuseppe Patanè and Michela Spagnuolo, CNR-IMATI. The book, which covers the main research topics of work package 4 of IQmulus. It has been submitted to the Editor, Morgan & Claypool Publishers, by the end of October 2015 for revision. The publication of the book is expected in late 2016 or early 2017. For additional details on the book outline and content, we refer to D4.1.3.

The main chapter of the book are:

1. Introduction
2. Spatio-temporal data fusion
3. Spatial and Environmental Data Approximation
4. Feature Extraction and Classification
5. Applications

2.4 DISSEMINATION AT BIG DATA EVENTS

IQmulus plans participation at:

- IQmulus co-organizes a workshop "Linked Data Europe: Big Geospatial Data" on November 18, 2015, in Luxembourg the day after the European Data Forum 2015, see: http://linkeddataeurope.eu/?page_id=11 for the program. Lead partner: SINTEF
- 2016 Conference on Big Data from Space (BiDS), Santa Cruz de Tenerife, Spain. The conference is jointly organized by ESA, SatCen, and JRC, in collaboration with the IAC, PCTT and the Council of Tenerife. Bring together researchers, engineers and users working in the area of Big Data from Space. IQmulus. Both presentations and posters are planned. Lead partner: FÖMI. <http://congrexprojects.com/2016-events/16m05/introduction>
- Living Planet Symposium 2016, Prague, Czech Republic, 9-13 May 2016, organized by European Space Agency (ESA). Both presentations and posters are planned. Lead partner: FÖMI, UCL. <http://congrexprojects.com/2016-events/16m05/introduction>

2.5 DISSEMINATION AT COMPUTER GRAPHICS EVENTS

IQmulus plan to participate at:

- International Society for Photogrammetry and Remote Sensing (ISPRS) XXIII Congress, July 12 - 19, 2016, Prague. <http://www.isprs2016-prague.com/>. Lead partner Fraunhofer

2.6 DISSEMINATION AT COMPUTATIONAL GEOMETRY EVENTS

Computational geometry events where IQmulus considers participating:

- Ninth International Conference on Mathematical Methods for Curves and Surfaces, Jun 23, 2016 - Jun 28, 2016, Tønsberg, Norway. Presentations and papers. Lead partner: SINTEF. <http://www.mn.uio.no/math/english/research/groups/cm/events/conferences/ninth-curves-and-surfaces/>

2.7 DISSEMINATION AT REMOTE SENSING EVENTS

The following activities are planned:

- GRSG 26th Annual Conference 'Challenges in Geological Remote Sensing', ESA ESRIN, Frascati, Italy – 9th to 11th December 2015. Lead partner: UCL. <https://www.grsg.org.uk/events/grsg-26th-annual-conference-challenges-in-geological-remote-sensing-esa-esrin-frascati-italy-9th-to-11th-december-2015-2/#sthash.L1fGupl0.dpuf>
- Living Planet Symposium 2016, Prague, Czech Republic, 9-13 May 2016, organized by European Space Agency (ESA). Both presentations and posters are planned. Lead partner: FÖMI, UCL. <http://congrexprojects.com/2016-events/16m05/introduction>
- Agu Fall Meeting, 14-18/12/2015, San Francisco. Lead partner UCL. <http://fallmeeting.agu.org/2015/#>

2.8 DISSEMINATION AT GIS EVENTS

GIS related events where IQmulus plans participating:

- International Society for Photogrammetry and Remote Sensing (ISPRS) XXIII Congress, July 12 - 19, 2016, Prague. <http://www.isprs2016-prague.com/>. Lead partner Fraunhofer
- The Eighth International Conference on Advanced Geographic Information Systems, Applications, and Services, April 24-28, 2016, Venice, Italy. Presentations and posters. Lead partner FÖMI. <http://www.iaria.org/conferences2016/GEOProcessing16.html>
- 7th Hungarian GIS Conference and Exhibition, 2016 May, University of Debrecen, Hungary
- GeoHab : Marine Geological and Biological Habitat Mapping, 2-6 May, 2016, Winchester, UK. Presentation will be proposed concerning full wave form processing developed by Ifremer.

3 YEAR 3 DISSEMINATION

This chapter provides an overview of the dissemination in the 3rd year of IQmulus.

3.1 ANNUAL WORKSHOP YEAR 3 – GEOBIGDATA 2015

IQmulus has organized annual scientific workshops from project year 2 onwards, typically in conjunction with an important international conference in the field. The first such workshop took place in Cardiff, UK on July 8, 2014. The workshop was organized back-to-back with the Symposium on Geometry Processing, a Eurographics symposium in cooperation with ACM SIGGRAPH, one of the premier venues for the geometry processing community. For details on this workshop see D8.6.1.

GeoBigData, <http://www.isprs-geospatialweek2015.org/workshops/geobigdata/>, the second IQmulus workshop, took place during the ISPRS Geospatial Week, September 28 – October 2, 2015, La Grande Motte, France, <http://www.isprs-geospatialweek2015.org/index.html>. The workshop included 23 presentation out of which 12 were from IQmulus. The results of the IQmulus processing contest year 3, reported in D8.8.3, was presented during the workshop in a special track. IQmulus had a high visibility during the whole of the ISPRS Geospatial Week. The event gathered 512 persons from all over the world, out of which more than 44 participated in the GeoBigData workshop and poster presentations (a participant list was circulated during the workshop). In addition to presentation in the GeoBigData workshop an additional 5 presentations were given in 4 other workshops during ISPRS Geospatial Week. For details on the IQmulus visibility during ISPRS Geospatial Week and the GeoBigData workshop, see D8.6.1.

3.2 IQMULUS PROCESSING CONTEST YEAR 3

The IQmulus processing contest is reported in D8.8.3 and included 3 tracks:

1. Evaluation of automatically generated 2d footprints from urban Lidar data. At the time of the presentation at the GeoBigData Workshop (October 2nd, 2015), one participant applied to this track.
2. Water detection and classification on multisource remote sensing and terrain data. At the time of the presentation at the GeoBigData Workshop (October 2nd, 2015), one participant applied to this track.
3. Tree separation and classification in mobile mapping lidar data. At the time of the presentation at the GeoBigData Workshop (October 2nd, 2015), three participants applied to this track.

3.3 BOOTH AT CPEXPO 2014 & SRC SECURITY RESEARCH CONFERENCE 2014

IQmulus had a booth at the CPExpo 2014 & SRC Security Research Conference 2014, Genoa, Italy December 9-11, 2014, coordinated by CNR-IMATI-GE, Regione Liguria was invited to participate as speaker in one of the Thematic Sessions of CPExpo 2014, Genova, Italy, 9-11 December 2014, see <http://www.centrocongressigenova.it/cp-expo-2014/>.

3.4 PUBLICATION OF PAPERS

3.4.1 Papers in special section of Computers & Graphics as the result of the first IQmulus workshop.

Following the first annual workshop of IQmulus the IQmulus partners CNR-IMATI-GE and UCL been responsible for publication of the papers presented in a special section of Computers & Graphics, Volume 49, June 2015. [http://dx.doi.org/10.1016/S0097-8493\(15\)00076-X](http://dx.doi.org/10.1016/S0097-8493(15)00076-X).

Computers & Graphics is a well renowned journal from Elsevier addressing Systems and Applications in Computer Graphics. The journal provides a medium to communicate information concerning interactive Computer Graphics and applications. The journal focuses on interactive computer graphics, visualization and novel input modalities including virtual environments, and, within this scope, on graphical models, data structures, languages, picture manipulation algorithms and related software. So the impact of this special section is relating to those designing and developing technology and systems for geospatial big data (Target group information scientists).

The contributions in the special section from IQmulus are as follows:

1. Jan Boehm, Roderik Lindenbergh, Michela Spagnuolo, Preface to the special session on processing of large geospatial data Comput Graph, 49 (2015), Pages A1–A2, <http://dx.doi.org/10.1016/j.cag.2015.04.006> (WP4)
2. Roberto Giachetta, A framework for processing large scale geospatial and remote sensing data in MapReduce environment, Comput Graph, 49 (2015), pp. 37–46, <http://dx.doi.org/10.1016/j.cag.2015.03.004> (WP4)
3. Martin Weinman, Steffen Urban, Stefan Hinz, Boris Jutzi, Clément Mallet, Distinctive 2D and 3D features for automated large-scale scene analysis in urban areas, Comput Graph, 49 (2015), pp. 47–57, <http://dx.doi.org/10.1016/j.cag.2015.01.006> (WP4)
4. Vibeke Skytt, Oliver Barrowclough, Tor Dokken, Locally refined spline surfaces for representation of terrain data Comput Graph, 49 (2015), pp. 58–684, <http://dx.doi.org/10.1016/j.cag.2015.03.006> (WP4)
5. Michel Krämer, Ivo Senner, A modular software architecture for processing of big geospatial data in the cloud, Comput Graph, 49 (2015), pp. 69–81, <http://dx.doi.org/10.1016/j.cag.2015.02.005>
6. Peter van Oosterom, Oscar Martinez-Rubi, Milena Ivanova, Mike Horhammer, Daniel Geringer, Siva Ravada, et al., Massive point cloud data management: design, implementation and execution of a point cloud benchmark, Comput Graph, 49 (2015), pp. 92–125, <http://dx.doi.org/10.1016/j.cag.2015.01.007> (WP4)
7. Bruno Vallet, Mathieu Brédif, Andres Serna, Beatriz Marcotegui, Nicolas Paparoditis, TerraMobilita/IQmulus urban point cloud analysis benchmark, Comput Graph, 49 (2015), pp. 126–133, <http://dx.doi.org/10.1016/j.cag.2015.03.004> (WP4)

3.4.2 IQmulus Papers from the second IQmulus workshop: ISPRS GeoBigData 2015

The second IQmulus Workshop (October 2, 2015) was named GeoBigData'15. <http://www.isprs-geospatialweek2015.org/workshops/geobigdata/>. The workshop was part of the ISPRS Geospatial Week (September 28 to October 2) in La Grande Motte, France. <http://www.isprs-geospatialweek2015.org/index.html>. Details of the workshop, and the IQmulus participants and contribution is reported in D8.6.2 IQmulus second Workshop.

The papers from the second IQmulus workshop: ISPRS GeoBigData 2015 were published in ISPRS Journals as follows:

8. Locally Refined Splines Representation for Geospatial Big Data, Y3, Tor Dokken, Vibeke Skytt and Oliver Barrowclough, The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XL-3/W3, 2015, 565-570, doi:10.5194/isprsarchives-XL-3-W3-565-2015, (WP4, WP5)
9. 3D octree based watertight mesh generation from ubiquitous data, Y3, Laurent Caraffa, Bruno Vallet and Brédif Mathieu.(IGN), The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XL-3/W3, 2015, 613-617, doi:10.5194/isprsarchives-XL-3-W3-613-2015, (WP4)
10. A Comparison of Methods for The Approximation and Analysis of Rainfall Fields in Environmental Applications, Giuseppe Patané(IMATI), Andrea Cerri(IMATI), Vibeke Skytt(SINTEF), Simone Pittaluga(IMATI), Silvia Biasotti(IMATI), Tor Dokken(SINTEF), Michela Spagnuolo(IMATI) and Davide Sobrero(IMATI), ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences Volume II-3/W5, 2015, 523-530, doi:10.5194/isprsannals-II-3-W5-523-2015, (WP4)
11. A Semi-Automatic Procedure for Texturing of Laser Scanning Point Clouds with Google Streetview Images, Y3, J. F. Lichtenauer and B. Sirmacek, Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci, Volume XL-3/W3, 2015, 109-114, doi:10.5194/isprsarchives-XL-3-W3-109-2015, (WP4)
12. Automated large Scale Parameter Extraction of Road-Side Trees Sampled by a Laser Mobile Mapping System, Y3, R. C. Lindenbergh, D. Berthold, B. Sirmacek, M. Herrero-Huerta, J. Wang, and D. Ebersbach, Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., Volume XL-3/W3, 2015, 589-594, doi:10.5194/isprsarchives-XL-3-W3-589-2015, (WP4)
13. Automatic Classification of Trees From Laser Scanning Point Clouds, Y3, B. Sirmacek and R. Lindenbergh, ISPRS Ann. Photogramm. Remote Sens. Spatial Inf. Sci, Volume II-3/W5, 2015, 137-144, doi:10.5194/isprsannals-II-3-W5-137-2015, (WP4)
14. Classification of big point cloud data using cloud computing, Y3, Kun Liu and Jan Boehm, The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XL-3/W3, 2015, 553-556, doi:10.5194/isprsarchives-XL-3-W3-553-2015, (WP4)
15. Distributed dimensionality-based rendering of Lidar point clouds, Y3, Mathieu Brédif (IGN) , Bruno Vallet (IGN) and Benjamin Ferrand (Université Paris-Est), The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XL-3/W3, 2015, 559-564, doi:10.5194/isprsarchives-XL-3-W3-559-2015 , (WP4)
16. Evaluating Voxel Enabled Scalable Intersection of Large Point Clouds, Y3, J. Wang, R. Lindenbergh, and M. Menenti, ISPRS Ann. Photogramm. Remote Sens. Spatial Inf. Sci., Volume II-3/W5, 2015, 25-31, doi:10.5194/isprsannals-II-3-W5-25-2015, (WP4)
17. NOSQL for Storage and Retrieval of Large Lidar Data Collections, Y3, J. Boehm, K. Liu, The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XL-3/W3, 2015, 577-582, doi:10.5194/isprsarchives-XL-3-W3-577-2015, (WP4)
18. Raster data partitioning for supporting distributed GIS processing, Y3, Binh Nguyen and Angéla Olasz, The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XL-3/W3, 2015, 543-551, doi:10.5194/isprsarchives-XL-3-W3-543-2015 , (WP4)
19. Towards time-series processing of VHR satellite images for surface deformation detection and measurements, Y3, Andre Stumpf, Christophe Delacourt (UBO) and Jean-Philippe Malet(IGN), The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XL-3/W3, 2015, 595-599, doi:10.5194/isprsarchives-XL-3-W3-595-2015, (WP4)
20. Tree Separation and Classification in Mobile Mapping Lidar Data, Y3, B. Gorte, S. Oude Elberink, B. Sirmacek, and J. Wang, Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci, Volume XL-3/W3, 2015, 607-612, doi:10.5194/isprsarchives-XL-3-W3-607-2015, (WP4)

21. Visualization of Marine Sand Dune Displacements Utilizing Modern GPU Techniques, Y3, Gierlinger, T, Brodtkorb, A R, Stumpf, A, Weiler, M, Michel, F, ISPRS - International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XL-3/W3, 2015, 503-508, [10.5194/isprsarchives-XL-3-W3-503-2015](https://doi.org/10.5194/isprsarchives-XL-3-W3-503-2015), (WP4, WP5)
22. Water detection and classification on multisource remote sensing and terrain data., Y3, A.Olasz, D.Kristóf, M.Belényesi, K.Bakos, Z.Kovács, B. Balázs, Sz. Szabó , The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XL-3/W3, 2015, 583-588, [doi:10.5194/isprsarchives-XL-3-W3-583-2015](https://doi.org/10.5194/isprsarchives-XL-3-W3-583-2015), (WP8)

3.4.3 Other papers in year 3

23. Local barycentric coordinates, J. Zhang, B. Deng, Z. Liu, G. Patanè, S. Bouaziz, K. Hormann, L. Liu, ACM Transactions on Graphics (TOG) - Proceedings of ACM SIGGRAPH Asia 2014, Volume 33 Issue 6, November 2014, Article No. 188, ACM Press, New York, <http://dx.doi.org/10.1145/2661229.2661255>, (WP4)
24. Controlling the Processing of Smart City Data in the Cloud with Domain-Specific Languages, Michel Krämer, Proceedings of the 8th IEEE/ACM International Conference on Utility and Cloud Computing UCC 2014, IEEE, London, UK, 824-829, <http://dx.doi.org/10.1109/UCC.2014.134> (WP3)
25. An Introduction to Ricci Flow and Volumetric Approximation with Applications to Shape Modeling, G.Patanè, X.D. Gu, X.S. Li., SA '14 SIGGRAPH Asia 2014 Courses, Article No. 4, ACM Press, New York, [10.1145/2659467.2659469](https://doi.org/10.1145/2659467.2659469) (WP4)
26. Big geospatial data processing, Angela Olasz, Daniel Kristof, Binh Nguyen Thai, 5th GIS Conference book: Theory meets practice, Volume VI., Debrecen University Press, Hungary, Debrecen, Hungary, <http://geogis.detek.unideb.hu/TKonferencia/2015/index.php?lang=en>, 21-30, (WP3, WP4)
27. Using big geospatial data for fast flood detection: developments from the IQmulus project, Dániel Kristóf, Roberto Giachetta, Angéla Olasz, Márta Belényesi, Binh Nguyen Thai, Melinda Harsányi, International Geoscience and Remote Sensing Symposium (IGARSS) 2015 Proceedings, IEEE Geoscience and Remote Sensing Society, Milan, Italy, 838-841, (WP1, WP2, WP4).

4 DETAILED DESCRIPTION OF IN-PERSON DISSEMINATION

4.1 DISSEMINATION DURING GEOPSATIAL WEEK

4.1.1 IQmulus Scalability Testing - First Results

Type of activities	Poster; Presentation
Year	Y3
Workpackage	WP6; WP7
Target audience	Policy Makers; Technical Users; Information Scientists; Data providers
Main leader	MOSS
Name of event	ISPRS Geospatial Week 2015
Session name	GeoBigData
Place	La Grande Motte, France
Date	1 October2015
To (If more than one day)	2 October2015
Organizer	IQmulus + International Society for Photogrammetry and Remote Sensing
Title	IQmulus Scalability Testing - First Results
Author(s) and affiliation	Ewald Quak (SINTEF), Michela Spagnuolo (IMATI), Holweg Daniel (MOSS), Mathieu Brédif(IGN), Michel Kraemer(Fraunhofer), Binh Nguyen Thai (FÖMI), Jan Boehm (UCL) and Norman Kiesslich (MOSS)
DOI. and/or Link material	<ul style="list-style-type: none"> Slides: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/data/p23_presentation.pdf Poster: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/data/p23_poster.pdf
Type of audience	Scientific community (higher education, Research); Industry; Civil society; Policy makers
Size of audience	43
Countries addressed	53 countries where present at the Geospatial Week as a whole.
Cost claimed in IQmulus	Norman Kiesslich (MOSS)
Contribution to objectives, dissemination and impact of IQmulus	Scalability of the IQmulus Services with respect to big data is essential for IQmulus, very important both for the dissemination and impact of IQmulus. These first result demonstrates to the Geospatial community that IQmulus is on the right track.

4.1.2 3D octree based watertight mesh generation from ubiquitous data

Type of activities	Publication; Poster; Presentation
Year	Y3
Workpackage	WP4
Target audience	Policy Makers; Technical Users; Information Scientists; Data providers
Main leader	IGN
Name of event	ISPRS Geospatial Week 2015
Session name	GeoBigData
Place	La Grande Motte, France
Date	1 October2015
To (If more than one day)	2 October2015
Organizer	IQmulus + International Society for Photogrammetry and Remote Sensing
Title	3D octree based watertight mesh generation from ubiquitous data
Author(s) and affiliation	Laurent Caraffa, Bruno Vallet and Brédif Mathieu.(IGN)
DOI. and/or Link material	<ul style="list-style-type: none"> • doi:10.5194/isprsarchives-XL-3-W3-613-2015 • Event: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Program: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Abstract: http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-3-W3/613/2015/isprsarchives-XL-3-W3-613-2015.html • Paper: http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-3-W3/613/2015/isprsarchives-XL-3-W3-613-2015.pdf • Poster: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/data/p22_poster.pdf
Type of audience	Scientific community (higher education, Research); Industry; Civil society; Policy makers
Size of audience	43
Countries addressed	53 countries where present at the Geospatial Week as a whole.
Cost claimed in IQmulus	No

4.1.3 Distributed dimensionality-based rendering of Lidar point clouds

Type of activities	Publication; Poster; Presentation
Year	Y3
Workpackage	WP4
Target audience	Policy Makers; Technical Users; Information Scientists; Data providers
Main leader	IGN
Name of event	ISPRS Geospatial Week 2015
Session name	GeoBigData
Place	La Grande Motte, France
Date	1 October 2015
To (If more than one day)	2 October 2015
Organizer	IQmulus + International Society for Photogrammetry and Remote Sensing
Title	Distributed dimensionality-based rendering of Lidar point clouds
Author(s) and affiliation	Mathieu Brédif (IGN) , Bruno Vallet (IGN) and Benjamin Ferrand (Université Paris-Est)
DOI. and/or Link material	<ul style="list-style-type: none"> • doi:10.5194/isprsarchives-XL-3-W3-559-2015 • Event: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Program: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Abstract: http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-3-W3/559/2015/isprsarchives-XL-3-W3-559-2015.html • Paper: http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-3-W3/559/2015/isprsarchives-XL-3-W3-559-2015.pdf • Slides: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/data/p16_presentation.pdf • Poster: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/data/p17_poster.pdf
Type of audience	Scientific community (higher education, Research); Industry; Civil society; Policy makers
Size of audience	43
Countries addressed	Europa, Asia, Americas. 53 countries were present at the Geospatial Week as a whole.
Cost claimed in IQmulus	No

4.1.4 Automatic trees detection from laser scanning point clouds

Type of activities	Publication; Conference; Presentation
Year	Y3
Workpackage	WP4
Target audience	Technical Users; Information Scientists
Main leader	TU Delft
Name of event	ISPRS Geospatial week 2015
Session name	ISPRS Laser Scanning workshop, Classification session
Place	La Grande Motte, France
Date	28 September 2015
To (If more than one day)	2 October 2015
Organizer	ISPRS
Title	Automatic trees detection from laser scanning point clouds
Author(s) and affiliation	B. Sirmacek and R. Lindenbergh, Dept. of. Geoscience and Remote Sensing, Delft University of Technology
DOI. and/or Link material	<ul style="list-style-type: none"> • doi:10.5194/isprsannals-II-3-W5-137-2015 • Program: https://silvilaser2015.teledetection.fr/ • Abstract: http://www.isprs-ann-photogramm-remote-sens-spatial-inf-sci.net/II-3-W5/137/2015/isprsannals-II-3-W5-137-2015.html • Paper on pages 244-246 in https://silvilaser2015.teledetection.fr/files/Proceedings_Silvilaser_22_09_2015_2.pdf
Type of audience	Scientific community (higher education, Research); Industry; Civil society
Size of audience	50
Countries addressed	53 countries where present at the Geospatial Week as a whole
Cost claimed in IQmulus	B. Sirmacek
Contribution to objectives, dissemination and impact of IQmulus	This paper and presentation describe the algorithm behind an IQmulus service that is part of the US2 showcase. As such it directly disseminates results from the IQmulus project.

4.1.5 Tree separation and classification in mobile mapping lidar data

Type of activities	Publication; Conference; Poster
Year	Y3
Workpackage	WP4; WP8
Target audience	Technical Users; Information Scientists; Data providers
Main leader	TU Delft
Name of event	ISPRS Geospatial week 2015
Session name	Geobigdata Workshop: IQmulus Processing Contest
Place	La Grande Motte, France
Date	1 October 2015
To (If more than one day)	2 October 2015
Organizer	IQmulus + International Society for Photogrammetry and Remote Sensing
Title	Tree separation and classification in mobile mapping lidar data
Author(s) and affiliation	B. Gorte, S. Oude Elberink, B. Sirmacek, J. Wang; Dept. of Geoscience and Remote Sensing, TU Delft, the Netherlands; ITC, University of Twente, the Netherlands
DOI. and/or Link material	<ul style="list-style-type: none"> • doi:10.5194/isprsarchives-XL-3-W3-607-2015 • Event: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Program: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Abstract: http://www.int-arch-photogramm-remote-spatial-inf-sci.net/XL-3-W3/607/2015/isprsarchives-XL-607-2015.html • Paper: http://www.int-arch-photogramm-remote-spatial-inf-sci.net/XL-3-W3/607/2015/isprsarchives-XL-607-2015.pdf • Slides: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/data-iqpc-trees.pdf
Type of audience	Scientific community (higher education, Research); Industry; Civil society
Size of audience	30
Countries addressed	53 countries where present at the Geospatial Week as a whole.
Cost claimed in IQmulus	B. Gorte (TU Delft)
Contribution to objectives, dissemination and impact of IQmulus	The IQmulus processing contest is a major track for disseminating and benchmarking results (WP8). This contest notably addresses Task 4.3 services. During the Geospatial Week to additional external groups showed interest in this track. We will try to let them participate as well.

4.1.6 NoSQL for storage and retrieval of large LiDAR data collections

Type of activities	Publication; Poster; Presentation
Year	Y3
Workpackage	WP4
Target audience	Policy Makers; Technical Users; Information Scientists; Data providers
Main leader	UCL
Name of event	ISPRS Geospatial Week 2015
Session name	GeoBigData
Place	La Grande Motte, France
Date	1 October2015
To (If more than one day)	2 October2015
Organizer	IQmulus + International Society for Photogrammetry and Remote Sensing
Title	NoSQL for storage and retrieval of large LiDAR data collections
Author(s) and affiliation	Jan Boehm and Kun Liu (UCL)
DOI. and/or Link material	<ul style="list-style-type: none"> • doi:10.5194/isprsarchives-XL-3-W3-577-2015 • Event: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Program: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Abstract: http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-3-W3/577/2015/isprsarchives-XL-3-W3-577-2015.html • Paper: http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-3-W3/577/2015/isprsarchives-XL-3-W3-577-2015.pdf • Slides:http://www.isprs-geospatialweek2015.org/workshops/geobigdata/data/p19_presentation.pdf • Poster: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/data/p19_poster.jpg
Type of audience	Scientific community (higher education, Research); Industry; Civil society; Policy makers
Size of audience	43
Countries addressed	Europa, Asia, Americas. 53 countries where present at the Geospatial Week as a whole.
Cost claimed in IQmulus	1 / Jan Boehm
Contribution to objectives, dissemination and impact of IQmulus	This work presents a file-centric storage and retrieval system for large collections of LiDAR point cloud tiles based on scalable NoSQL technology, which can be used as a data management method in IQmulus.

4.1.7 Classification of big point cloud data using cloud computing

Type of activities	Publication; Poster; Presentation
Year	Y3
Workpackage	WP4
Target audience	Policy Makers; Technical Users; Information Scientists; Data providers
Main leader	UCL
Name of event	ISPRS Geospatial Week 2015
Session name	GeoBigData
Place	La Grande Motte, France
Date	1 October 2015
To (If more than one day)	2 October 2015
Organizer	IQmulus + International Society for Photogrammetry and Remote Sensing
Title	Classification of big point cloud data using cloud computing
Author(s) and affiliation	Kun Liu and Jan Boehm (UCL)
DOI. and/or Link material	<ul style="list-style-type: none"> • doi:10.5194/isprsarchives-XL-3-W3-553-2015 • Event: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Program: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Abstract: http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-3-W3/553/2015/isprsarchives-XL-3-W3-553-2015.html • Paper: http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-3-W3/553/2015/isprsarchives-XL-3-W3-553-2015.pdf • Slides: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/data/p15_presentation.pdf • Poster: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/data/p15_poster.jpg
Type of audience	Scientific community (higher education, Research); Industry; Civil society; Policy makers
Size of audience	43
Countries addressed	Europa, Asia, Americas. 53 countries where present at the Geospatial Week as a whole.
Cost claimed in IQmulus	1 person, Kun Liu
Contribution to objectives, dissemination and impact of IQmulus	This work is an implementation of the internal service 68 in IQmulus. It demonstrates the potential of cloud computing for classification problems.

4.1.8 Approximation and Analysis of Rainfall Fields for Environmental Applications

Type of activities	Publication; Presentation
Year	Y3
Workpackage	WP4; WP5
Target audience	Policy Makers; Technical Users; Information Scientists; Data providers
Main leader	CNR-IMATI-GE
Name of event	ISPRS Geospatial Week 2015
Session name	GeoBigData
Place	La Grande Motte, France
Date	1 October 2015
To (If more than one day)	2 October 2015
Organizer	International Society for Photogrammetry and Remote Sensing
Title	Approximation and Analysis of Rainfall Fields for Environmental Applications
Author(s) and affiliation	Giuseppe Patané(IMATI), Andrea Cerri(IMATI), Vibeke Skytt(SINTEF), Simone Pittaluga(IMATI), Silvia Biasotti(IMATI), Tor Dokken(SINTEF), Michela Spagnuolo(IMATI) and Davide Sobrero(IMATI).
DOI. and/or Link material	<ul style="list-style-type: none"> • doi:10.5194/isprsannals-II-3-W5-523-2015 • Event: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Program: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Abstract: http://www.isprs-ann-photogramm-remote-sens-spatial-inf-sci.net/II-3-W5/523/2015/isprsannals-II-3-W5-523-2015.html • Paper: http://www.isprs-ann-photogramm-remote-sens-spatial-inf-sci.net/II-3-W5/523/2015/isprsannals-II-3-W5-523-2015.pdf
Type of audience	Scientific community (higher education, Research); Industry; Civil society; Policy makers
Size of audience	43
Countries addressed	Europa, Asia, Americas. 53 countries where present at the Geospatial Week as a whole.
Cost claimed in IQmulus	Giuseppe Patané(CNR-IMATI), Vibeke Skytt (SINTEF)
Contribution to objectives, dissemination and impact of IQmulus	This paper focuses on the evaluation of methods to approximate and track the evolution of the maxima of observed rain data, in real conditions of sparsity of the observations. The novelty stands in the selection of a particularly complex area, Liguria region, located in the north-west of Italy, where the orography and the closeness to the sea causes complex hydro-meteorological events.

4.1.9 Automated large scale parameter extraction of road-side trees sampled by a Laser mobile mapping system

Type of activities	Publication; Conference; Poster
Year	Y3
Workpackage	WP4
Target audience	Technical Users; Information Scientists; Data providers
Main leader	TU Delft
Name of event	ISPRS Geospatial week 2015
Session name	GeoBigData
Place	La Grande Motte, France
Date	1 October 2015
To (If more than one day)	2 October 2015
Organizer	IQmulus + International Society for Photogrammetry and Remote Sensing
Title	Automated large scale parameter extraction of road-side trees sampled by a Laser mobile mapping system
Author(s) and affiliation	R.C. Lindenbergh (TU Delft), Dietmar Berthold (LEHMANN + PARTNER GmbH), Beril Sirmacek (TU Delft), Monica Herrero (TU Delft), Jinhu Wang (TU Delft) and Dirk Ebersbach (LEHMANN + PARTNER GmbH).
DOI. and/or Link material	<ul style="list-style-type: none"> • doi:10.5194/isprsarchives-XL-3-W3-589-2015 • Event: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Program: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Abstract: http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-3-W3/589/2015/isprsarchives-XL-3-W3-589-2015.html • Paper: http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-3-W3/589/2015/isprsarchives-XL-3-W3-589-2015.pdf • Slides: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/data/p25_presentation.pdf • Poster: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/data/p25_poster.jpg
Type of audience	Scientific community (higher education, Research); Industry; Civil society
Size of audience	43
Countries addressed	53 countries where present at the Geospatial Week as a whole.
Cost claimed in IQmulus	R.C. Lindenbergh (TU Delft)
Contribution to objectives, dissemination and impact of IQmulus	On the MOLAS 2014 workshop I presented IQmulus and a first version of the US2 workflow. Within this paper we present this workflow extended by two additional steps which makes it meet the requirements on tree inventories of the German Bundesland of Sachsen. This clearly demonstrates the interest of external parties in the work done in IQmulus

4.1.10 Visualization of marine sand dune displacements utilizing modern GPU Techniques

Type of activities	Publication; Conference; Poster
Year	Y3
Workpackage	WP5
Target audience	Policy Makers; Technical Users; Information Scientists; Data providers; Media
Main leader	Fraunhofer
Name of event	ISPRS Geospatial Week 2015
Session name	GeoVIS 2015: Rendering and Cognition with Images and Hybrid Visualizations
Place	La Grande Motte, France
Date	1 October 2015
To (If more than one day)	2 October 2015
Organizer	International Society for Photogrammetry and Remote Sensing
Title	<i>Visualization of marine sand dune displacements utilizing modern GPU Techniques</i>
Author(s) and affiliation	Thomas Gierlinger (Fraunhofer), André Brodtkorb(SINTEF), André Stumpf (UBO) and Frank Michel (Fraunhofer)
DOI. and/or Link material	<ul style="list-style-type: none"> • doi: doi:10.5194/isprsarchives-XL-3-W3-503-2015 • Event: http://www.isprs-geospatialweek2015.org/workshops/geovis/ • Program: http://www.isprs-geospatialweek2015.org/workshops/geovis/ • Abstract: http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-3-W3/503/2015/isprsarchives-XL-3-W3-503-2015.html • Paper: http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-3-W3/503/2015/isprsarchives-XL-3-W3-503-2015.pdf
Type of audience	Scientific community (higher education, Research); Industry; Civil society; Policy makers; Medias
Size of audience	50
Countries addressed	Europa, Asia, Americas. 53 countries where present at the Geospatial Week as a whole.
Cost claimed in IQmulus	Frank Michel
Contribution to objectives, dissemination and impact of IQmulus	Dissemination of project results. Presentation of project results developed in WP5.

4.1.11 Locally Refined Splines Representation for Geospatial Big Data

Type of activities	Publication; Poster; Presentation
Year	Y3
Workpackage	WP4; WP5
Target audience	Policy Makers; Technical Users; Information Scientists; Data providers
Main leader	SINTEF
Name of event	ISPRS Geospatial Week 2015
Session name	GeoBigData
Place	La Grande Motte, France
Date	1 October 2015
To (If more than one day)	2 October 2015
Organizer	IQmulus + International Society for Photogrammetry and Remote Sensing
Title	Locally Refined Splines Representation for Geospatial Big Data
Author(s) and affiliation	Tor Dokken, Vibeke Skytt and Oliver Barrowclough (SINTEF)
DOI. and/or Link material	<ul style="list-style-type: none"> • doi:10.5194/isprsarchives-XL-3-W3-613-2015 • Event: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Program: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Abstract: http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-3-W3/565/2015/isprsarchives-XL-3-W3-565-2015.html • Paper: http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-3-W3/565/2015/isprsarchives-XL-3-W3-565-2015.pdf • Slides: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/data/p17_presentation.pdf • Poster: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/data/p17_poster.pdf
Type of audience	Scientific community (higher education, Research); Industry; Civil society; Policy makers
Size of audience	43
Countries addressed	Europa, Asia, Americas. 53 countries where present at the Geospatial Week as a whole.
Cost claimed in IQmulus	Tor Dokken (SINTEF)
Contribution to objectives, dissemination and impact of IQmulus	The first presentation to the geospatial community of the novel Locally Refined Spline approximation methods for compact surface representation of big geospatial data sets. The approach is very relevant for representing large sets of geospatial point data as a compact smooth surface thus reducing the data bulk significantly and converting the data to information that is easy to access and evaluate. Consequently this presentation is a significant contribution to the objective, dissemination and future impact of IQmulus.

4.1.12 Towards time-series processing of VHR satellite images for surface deformation detection and measurements

Type of activities	Publication; Conference; Poster; Presentation
Year	Y3
Workpackage	WP4
Target audience	Policy Makers; Technical Users; Information Scientists; Data providers
Main leader	UBO
Name of event	ISPRS Geospatial week 2015
Session name	GeoBigData workshop
Place	La Gande Motte, France
Date	1 October 2015
To (If more than one day)	2 October 2015
Organizer	International Society for Photogrammetry and Remote Sensing (ISPRS)
Title	Towards time-series processing of VHR satellite images for surface deformation detection and measurements
Author(s) and affiliation	Andre Stumpf, Christophe Delacourt (UBO) and Jean-Philippe Malet(IGN)
DOI. and/or Link material	<ul style="list-style-type: none"> • doi:10.5194/isprsarchives-XL-3-W3-595-2015 • Event: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Program: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Abstract: http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-3-W3/595/2015/isprsarchives-XL-3-W3-595-2015.html • Paper: http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-3-W3/595/2015/isprsarchives-XL-3-W3-595-2015.pdf • Poster: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/data/p20_poster.jpg
Type of audience	Scientific community (higher education, Research)
Size of audience	43
Countries addressed	53 countries where present at the Geospatial Week as a whole.
Cost claimed in IQmulus	No
Contribution to objectives, dissemination and impact of IQmulus	Part of the results of the T4.5 toolkit, focuses and service 60 and 103.

4.1.13 GeoBigData'15 - Managing, Processing, and Rendering Remotely-Sensed Big Geospatial Data

Type of activities	Publication; Workshop; Poster; Presentation; Organization of event
Year	Y3
Workpackage	WP4
Target audience	Policy Makers; Technical Users; Information Scientists; Data providers; Media
Main leader	IGN
Name of event	ISPRS Geospatial Week 2015
Session name	GeoBigData Workshop
Place	La Grande Motte - France
Date	1 October 2015
To (If more than one day)	2 October 2015
Organizer	IQmulus and International Society for Photogrammetry and Remote Sensing
Title	GeoBigData'15 - Managing, Processing, and Rendering Remotely-Sensed Big Geospatial Data
Author(s) and affiliation	Mathieu Brédif (IGN), Guiseppe Patanè (CNR-IMATI), Tor Dokken (SINTEF)
DOI. and/or Link material	<ul style="list-style-type: none"> • Event: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/index.html • Scope and topics: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/topics.html • Program: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/program.html
Type of audience	Scientific community (higher education, Research); Industry
Size of audience	44
Countries addressed	Europa, Asia, Americas. 53 countries where present at the Geospatial Week as a whole.
Cost claimed in IQmulus	No
Contribution to objectives, dissemination and impact of IQmulus	Dissemination of scientific results to the international Geospatial Community IQmulus had total 12 presentations. See D8.6.2 for details.

4.1.14 Water detection and classification on multi-source remote sensing and terrain data

Type of activities	Conference; Poster; Presentation
Year	Y3
Workpackage	WP8
Target audience	Policy Makers; Technical Users; Information Scientists; Data providers; Media
Main leader	FOMI
Name of event	ISPRS Geospatial week 2015
Session name	GeoBigData: IQPC special session
Place	La Gande Motte, France
Date	28 September 2015
To (If more than one day)	2 October 2015
Organizer	International Society for Photogrammetry and Remote Sensing (ISPRS)
Title	Water detection and classification on multi-source remote sensing and terrain data
Author(s) and affiliation	A. Olasz, D. Kristóf, M. Belényesi, K. Bakos (FÖMI), Z. Kovács, B. Balázs, Sz. Szabó (University of Debrecen)
DOI. and/or Link material	<ul style="list-style-type: none"> • doi:10.5194/isprsarchives-XL-3-W3-583-2015 • Event: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Program: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Abstract: http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-3-W3/583/2015/isprsarchives-XL-3-W3-583-2015.html • Paper: http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-3-W3/583/2015/isprsarchives-XL-3-W3-583-2015.pdf • Presentation: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/data/gbd15-iqpc-water.pdf
Type of audience	Scientific community (higher education, Research); Industry; Civil society; Policy makers; Medias
Size of audience	50-70
Countries addressed	International (Europe, Asia, overseas countries), 53 countries where present at the Geospatial Week as a whole.
Cost claimed in IQmulus	No

4.1.15 Raster data partitioning for supporting distributed GIS processing

Type of activities	Conference; Poster; Presentation
Year	Y3
Workpackage	WP4
Target audience	Policy Makers; Technical Users; Information Scientists; Data providers; Media
Main leader	FOMI
Name of event	ISPRS Geospatial week 2015
Session name	GeoBigData workshop
Place	La Grande Motte, France
Date	28 September 2015
To (If more than one day)	2 October 2015
Organizer	International Society for Photogrammetry and Remote Sensing (ISPRS)
Title	Raster data partitioning for supporting distributed GIS processing
Author(s) and affiliation	Binh Nguyen and Angéla Olasz
DOI. and/or Link material	<ul style="list-style-type: none"> • doi:10.5194/isprsarchives-XL-3-W3-543-2015 • Event: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Program: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/ • Abstract: http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-3-W3/543/2015/isprsarchives-XL-3-W3-543-2015.html • Paper: http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-3-W3/543/2015/isprsarchives-XL-3-W3-543-2015.pdf • Slides: http://www.isprs-geospatialweek2015.org/workshops/geobigdata/data/p26_presentation.pdf
Type of audience	Scientific community (higher education, Research); Industry; Civil society; Policy makers; Medias
Size of audience	50-70
Countries addressed	International (Europe, Asia and Overseas countries), 53 countries where present at the Geospatial Week as a whole.
Cost claimed in IQmulus	No

4.1.16 Automatic tree breast height diameter estimation from laser mobile mapping data in an urban context

Type of activities	Publication; Conference; Poster
Year	Y3
Workpackage	WP4
Target audience	Technical Users; Information Scientists; Data providers
Main leader	TU Delft
Name of event	ISPRS Geospatial week 2015
Session name	Silvilaser workshop,
Place	La Grande Motte, France
Date	28 September 2015
To (If more than one day)	2 October 2015
Organizer	ISPRS + Silvilaser
Title	Automatic tree breast height diameter estimation from laser mobile mapping data in an urban context
Author(s) and affiliation	M. Herrero-Huerta and R. Lindenbergh
DOI. and/or Link material	<ul style="list-style-type: none"> • Event: https://silvilaser2015.teledetection.fr/ • Program: https://silvilaser2015.teledetection.fr/index.php?page=program • Paper on pages 268-270 in https://silvilaser2015.teledetection.fr/files/Proceedings_Silvilaser_22_09_2015_2.pdf
Type of audience	Scientific community (higher education, Research); Industry; Civil society
Size of audience	100
Countries addressed	53 countries where present at the Geospatial Week as a whole.
Cost claimed in IQmulus	No
Contribution to objectives, dissemination and impact of IQmulus	This poster reports on work done to extend the IQmulus US2 showcase such that it meets tree registration requirements from the German Bundesland of Sachsen. In this way it demonstrates how IQmulus work meet requirements of external users.

4.1.17 Evaluating voxel enabled scalable intersection of large point clouds

Type of activities	Publication; Conference; Presentation
Year	Y3
Workpackage	WP4
Target audience	Technical Users; Information Scientists
Main leader	TU Delft
Name of event	ISPRS Geospatial week 2015
Session name	ISPRS Laser Scanning workshop, - Session: Voxelization and denoising
Place	La Grande Motte, France
Date	28 September 2015
To (If more than one day)	2 October 2015
Organizer	ISPRS
Title	Evaluating voxel enabled scalable intersection of large point clouds
Author(s) and affiliation	J. Wang, R. Lindenbergh and M. Menenti, Dept. of Geoscience and Remote Sensing, Delft University of Technology
DOI. and/or Link material	<ul style="list-style-type: none"> doi:10.5194/isprsannals-II-3-W5-25-2015 Event: http://www.cirgeo.unipd.it/laserscanning2015/index.html Program: http://www.cirgeo.unipd.it/laserscanning2015/program.htm Paper: http://www.isprs-ann-photogramm-remote-sens-spatial-inf-sci.net/II-3-W5/25/2015/isprsannals-II-3-W5-25-2015.pdf
Type of audience	Scientific community (higher education, Research); Industry
Size of audience	50
Countries addressed	53 countries where present at the Geospatial Week as a whole.
Cost claimed in IQmulus	Yes, J. Wang
Contribution to objectives, dissemination and impact of IQmulus	This peer reviewed publication + presentation discusses WP4 Service #101, Point cloud intersection, from Task 4.2. It discussed scalable processing and reports on one of the first examples within IQmulus of a scalability test.

4.2 OTHER PRESENTATIONS AND POSTERS RELATED TO GIS

4.2.1 IQmulus poster at European Geosciences Union General Assembly 2015

Type of activities	Articles Published in popular press; Poster
Year	Y3
Workpackage	
Target audience	Policy Makers; Technical Users; Information Scientists; Data providers
Main leader	HRW
Name of event	European Geosciences Union General Assembly 2015
Place	Vienna, Austria
Date	12 April 2015
To (If more than one day)	17 April 2015
Organizer	European Geosciences Union
Title	IQmulus poster
Author(s) and affiliation	
DOI. and/or Link material	
Type of audience	Scientific community (higher education, Research); Industry; Civil society; Policy makers

4.2.2 Using big geospatial data for fast flood detection: developments from the IQmulus project

Type of activities	Conference; Poster
Year	Y3
Workpackage	WP1; WP3; WP4
Target audience	Policy Makers; Technical Users; Information Scientists; Data providers; Media
Main leader	FOMI
Name of event	2015 IEEE International Geoscience & Remote Sensing Symposium (IGARSS)
Session name	Monitoring Natural Disaster: Floods and Landslides
Place	Milan, Italy
Date	26 July 2015
To (If more than one day)	31 July 2015
Organizer	IEEE Geoscience and Remote Sensing Society
Title	Using big geospatial data for fast flood detection: developments from the IQmulus project
Author(s) and affiliation	D. Kistof, R. Giachetta, A. Olasz, M. Belenyasi, B. N. Thai, M. Harsanyi
DOI. and/or Link material	
Type of audience	Scientific community (higher education, Research); Industry; Civil society; Policy makers; Medias
Size of audience	100
Countries addressed	International
Cost claimed in IQmulus	No

4.2.3 IQmulus - Cloud Platform for Point Cloud Processing

Type of activities	Presentation
Year	Y3
Workpackage	WP4
Target audience	Policy Makers; Technical Users; Data providers
Main leader	UCL
Name of event	96th OGC Technical Committee
Session name	Point Cloud DWG
Place	Nottingham, UK
Date	15 September 2015
To (If more than one day)	15 September 2015
Organizer	Open Geospatial Consortium (OGC)
Title	IQmulus - Cloud Platform for Point Cloud Processing
Author(s) and affiliation	Jan Boehm, UCL
DOI. and/or Link material	https://portal.opengeospatial.org/index.php?m=projects&a=view&project_id=82&tab=2&artifact_id=64672 https://portal.opengeospatial.org/files/?artifact_id=64883
Type of audience	Scientific community (higher education, Research); Industry; Policy makers
Size of audience	50
Countries addressed	International
Cost claimed in IQmulus	Jan Boehm, UCL
Contribution to objectives, dissemination and impact of IQmulus	The OGC (Open Geospatial Consortium) has formally started the Point Cloud Domain Working Group (Point Cloud DWG). IQmulus will be working with this standardization committee to influence the future standard for exchange of point cloud data. This is a crucial topic for IQmulus as it defines the way how we offer the services over the web. The inaugural meeting was held in Nottingham. I have joined this DWG and was elected co-chair. I gave a presentation to represent and disseminate the IQmulus project.

4.2.4 Big LiDAR Data Processing Using Cloud Computing

Type of activities	Presentation
Year	Y3
Workpackage	WP4
Target audience	Policy Makers; Technical Users; Information Scientists; Data providers
Main leader	UCL
Name of event	EuroSDR Board of Delegates Meeting
Place	Winchester, UK
Date	21 October 2015
Organizer	Ordnance Survey
Title	Big LiDAR Data Processing Using Cloud Computing
Author(s) and affiliation	J Boehm (UCL), K Liu (UCL), C Alis (UCL)
DOI. and/or Link material	https://project.sintef.no/eRoomReq/Files/math/IQmulus/0_401c9/EuroSDR%20Programme%2021%20Oct.docx
Type of audience	Scientific community (higher education, Research); Industry; Policy makers
Size of audience	40
Countries addressed	pan-european
Cost claimed in IQmulus	No
Contribution to objectives, dissemination and impact of IQmulus	EuroSDR (www.eurosdrr.net) is a not-for-profit organisation linking National Mapping and Cadastral Agencies with Research Institutes and Universities in Europe for the purpose of applied research in spatial data provision, management and delivery. It is thus an ideal target for disseminating IQmulus activities. Attendance includes NMAs which are potential users and potential data sources for IQmulus. As the event was hosted by OS this talk had a particular impact on the UK NMA. The topic of the talk was of particular interest to the EuroSDR delegates as point cloud processing and mobile mapping is seen as a potential market for future business expansion for NMAs. We were invited for a follow-up meeting with OS as they already host data in the cloud on Amazon AWS.

4.2.5 A High-volume Fusion and Analysis Platform for Geospatial Point Clouds, Coverages and Volumetric Data Sets

Type of activities	Workshop; Poster
Year	Y3
Workpackage	WP1
Target audience	Policy Makers; Data providers; Media
Main leader	FOMI
Name of event	Exhibition and interactive professional event.
Place	Ministry of Agriculture, Budapest, Hungary
Date	2 June 2015
Organizer	Institute of Geodesy, Cartography and Remote Sensing.
Title	Téradat-felhők, -fedvények és térfogati adatkészletek nagy kapacitású fúziós és elemző rendszere (A High-volume Fusion and Analysis Platform for Geospatial Point Clouds, Coverages and Volumetric Data Sets)
Author(s) and affiliation	FÖMI
Type of audience	Policy makers; Medias
Size of audience	50-100
Countries addressed	Hungary
Cost claimed in IQmulus	No

4.2.6 IQmulus, Year 3 - CWI, Amsterdam,

Type of activities	Presentation
Year	Y3
Workpackage	WP1; WP2; WP3; WP4; WP5; WP6; WP7; WP8; WP9; WP10
Target audience	Technical Users; Information Scientists; Data providers
Main leader	TU Delft
Name of event	Final project meeting, Massive point clouds for escience meeting
Place	CWI, Amsterdam, The Netherlands
Date	7 October 2015
Organizer	Escience
Title	IQmulus, Year 3
Author(s) and affiliation	Roderik Lindenbergh + IQmulus
DOI. and/or Link material	https://www.esciencecenter.nl/project/massive-point-clouds-for-esciences
Type of audience	Scientific community (higher edu, Research); Industry; Civil society
Size of audience	20
Countries addressed	Mainly The Netherlands
Cost claimed in IQmulus	No costs claimed
Contribution to objectives, dissemination and impact of IQmulus	Massive point clouds for escience is a smaller Dutch brother of IQmulus with emphasis on point cloud access and querying. In my presentation of 20' I gave an overview of the status of IQmulus near the end of Year 3, with some more details on the TU Delft contribution.

4.2.7 Research highlights of Geospatial Data Processing and Big Data

Type of activities	Presentation
Year	Y3
Workpackage	WP4
Target audience	Policy Makers; Technical Users; Data providers
Main leader	UCL
Name of event	Geo Business Week 2015
Session name	Exhibitor Workshop
Place	London, UK
Date	27 May 2015
To (If more than one day)	28 May 2015
Organizer	Divcom
Title	Research highlights of Geospatial Data Processing and Big Data
Author(s) and affiliation	Jan Boehm, UCL
DOI. and/or Link material	
Type of audience	Industry
Size of audience	50
Countries addressed	UK & EU
Cost claimed in IQmulus	No
Contribution to objectives, dissemination and impact of IQmulus	Inform industry of research initiative, gauge interest and collect input for further research direction. All participants of the event are potential users and are a target group for exploitation.

4.2.8 Smart City Clouds - Frankfurt a.M.

Type of activities	Presentation
Year	Y3
Workpackage	WP3; WP6
Target audience	Policy Makers; Technical Users
Main leader	Fraunhofer
Name of event	Geoinformation in der Cloud – Kommunale Anwendungen und Services
Place	Frankfurt a.M.
Date	22 June 2015
To (If more than one day)	22 June 2015
Organizer	InGeoForum
Title	Smart City Clouds
Author(s) and affiliation	Michel Krämer, Fraunhofer IGD
DOI. and/or Link material	
Type of audience	Scientific community (higher education, Research); Industry; Policy makers
Size of audience	40
Countries addressed	Germany
Cost claimed in IQmulus	Michel Krämer
Contribution to objectives, dissemination and impact of IQmulus	Dissemination of project results. Presentation of project results developed in WP3 and WP6.

4.2.9 Smart City Clouds - Potsdam

Type of activities	Presentation
Year	Y3
Workpackage	WP3; WP6
Target audience	Policy Makers; Technical Users
Main leader	Fraunhofer
Name of event	Geoinformation in der Cloud – Kommunale Anwendungen und Services II
Place	Potsdam
Date	11 November 2015
Organizer	InGeoForum
Title	Smart City Clouds
Author(s) and affiliation	Michel Krämer, Fraunhofer IGD
Type of audience	Scientific community (higher education, Research); Industry; Policy makers
Size of audience	40
Countries addressed	Germany
Cost claimed in IQmulus	Michel Krämer
Contribution to objectives, dissemination and impact	Dissemination of project results. Presentation of project results developed in WP3 and WP6

4.2.10 Processing Smart City Data in the Cloud with Domain-Specific Languages

Type of activities	Publication; Conference; Workshop; Presentation
Year	Y3
Workpackage	WP2; WP3
Target audience	Technical Users; Information Scientists
Main leader	Fraunhofer
Name of event	UCC 2014 - 7th IEEE/ACM International Conference on Utility and Cloud Computing
Session name	Workshop SCCTSA'14
Place	London, UK
Date	8 December 2014
To (If more than one day)	11 December 2014
Organizer	IEEE/ACM
Title	Processing Smart City Data in the Cloud with Domain-Specific Languages
Author(s) and affiliation	Michel Krämer, Fraunhofer IGD
DOI. and/or Link material	
Type of audience	Scientific community (higher education, Research); Policy makers
Size of audience	
Countries addressed	International
Cost claimed in IQmulus	Michel Krämer
Contribution to objectives, dissemination and impact of IQmulus	Dissemination of project results. Presenting project results from WP2 and WP3, in particular the Domain-Specific Language developed in WP2 and how we apply them to Cloud processing in WP3.

4.2.11 IQmulus projekt a nagy tömegű, heterogén téradatak felhasználásának megkönnyítéséért

Type of activities	Conference; Presentation
Year	Y3
Workpackage	WP1
Target audience	Policy Makers; Technical Users; Information Scientists; Data providers
Main leader	FOMI
Name of event	XIX. GISopen 2015
Place	Székesfehérvár, Hungary
Date	25 March 2015
Organizer	Óbuda University, Institute of Geoinformatics
Title	IQmulus projekt a nagy tömegű, heterogén téradatak felhasználásának megkönnyítéséért
Author(s) and affiliation	Kristóf Dániel, Olasz Angéla, Belényesi Márta
Type of audience	Scientific community (higher education, Research); Civil society; Policy makers
Size of audience	100-150
Countries addressed	Hungary
Cost claimed in IQmulus	No

4.2.12 Change detection in the domain of geospatial data modelling: case studies in the IQmulus project

Type of activities	Workshop; Presentation
Year	Y3
Workpackage	
Target audience	Information Scientists
Main leader	CNR-IMATI-GE
Name of event	
Place	Zurich, Switzerland
Date	3 May 2015
To (If more than one day)	
Organizer	
Title	Change detection in the domain of geospatial data modelling: case studies in the IQmulus project
Author(s) and affiliation	
DOI. and/or Link material	
Type of audience	Scientific community (higher education, Research); Industry
Size of audience	~50

4.3 PRESENTATIONS AND POSTERS RELATED TO COMPUTER GRAPHICS

The ISPRS Geospatial week 2015 posters and presentations addressing Computer graphics are addressed in Sections 4.1.10

4.4 PRESENTATIONS AND POSTERS RELATED TO BIG DATA

The ISPRS Geospatial week 2015 posters and presentations addressing big data are addressed in Sections 4.1.1 and 4.1.3.

4.4.1 Big Data in a GeoSpatial context

Type of activities	Workshop; Presentation
Year	Y3
Workpackage	WP4; WP8
Target audience	Policy Makers; Technical Users; Information Scientists; Data providers
Main leader	SINTEF
Name of event	Big Data
Place	Oslo, Norway
Date	18 September 2015
Organizer	SINTEF
Title	Big Data in a GeoSpatial context
Author(s) and affiliation	Tor Dokken (SINTEF)
DOI. and/or Link material	<ul style="list-style-type: none"> Event: http://bigdatavalue.no/ Presentation: http://bigdatavalue.no/wp-content/uploads/2015/08/IQmulus-SINTEF-September-18-2015_Tor_Dokken.pdf
Type of audience	Scientific community (higher education, Research); Industry; Civil society; Policy makers
Size of audience	30
Countries addressed	Norway
Cost claimed in IQmulus	No
Contribution to objectives, dissemination and impact of IQmulus	Presentation of IQmulus to the Norwegian Big Data Value and Geospatial community to prepare for national exploitation of the IQmulus results in Norway

4.4.2 BIM & Big Data

Type of activities	Presentation
Year	Y3
Workpackage	WP4; WP6
Target audience	Technical Users
Main leader	UCL
Name of event	UCL- Historic England Town Meeting
Place	UCL, London
Date	14 May 2015
Organizer	UCL
Title	BIM & Big Data
Author(s) and affiliation	J. Boehm, UCL
DOI. and/or Link material	
Type of audience	Policy makers
Size of audience	50
Countries addressed	United Kingdom
Cost claimed in IQmulus	No
Contribution to objectives, dissemination and impact of IQmulus	Announce and demonstrate some of the capabilities of the IQmulus platform to the Heritage Community. Heritage includes Natural Heritage, such as landscapes. Thus there is an interest in geospatial data processing in the Heritage community, and they are a potential user group.

4.5 PRESENTATIONS AND POSTERS RELATED TO GEOMETRY

The ISPRS Geospatial week 2015 posters and presentations addressing geometry are addressed in Section 4.1.11.

4.5.1 Compact representation of big geospatial data by locally refinable splines – IGA 2015

Type of activities	Conference; Presentation
Year	Y3
Workpackage	WP4
Target audience	Technical Users; Information Scientists
Main leader	SINTEF
Name of event	III International Conference on Isogeometric Analysis
Session name	Session 2A - Spline Spaces
Place	Trondheim, Norway
Date	1 June 2015
To (If more than one day)	3 June 2015
Organizer	NTNU, and SINTEF
Title	Compact representation of big geospatial data by locally refinable splines
Author(s) and affiliation	Oliver Joseph David Barrowclough, Vibeke Skytt, Tor Dokken.
DOI. and/or Link material	<ul style="list-style-type: none"> Conference: http://congress.cimne.com/iga2015 Program: http://congress.cimne.com/iga2015/frontal/ProgIntro.asp
Type of audience	Scientific community (higher education, Research); Industry
Size of audience	100
Countries addressed	Europa, USA and Asia
Cost claimed in IQmulus	No
Contribution to objectives, dissemination and impact of IQmulus	Presentation of IQmulus and the results of Locally Refined spline approximation of big geospatial data to the Isogeometric Analysis community. The IQmulus results will facilitate analysis and simulation in a more accurate way for geospatial related challenges such as water flow, and wind

4.5.2 Compact Representation of Big Geospatial Data by Locally Refinable Splines – ICIAM 2015

Type of activities	Conference; Presentation; Mini-symposium
Year	Y3
Workpackage	WP4
Target audience	Information Scientists
Main leader	SINTEF
Name of event	ICIAM 2015 - The 8th International Congress on Industrial and Applied Mathematics (ICIAM)
Session name	MS-Tu-D-23, Locally Refinable Splines and its Application in Isogeometric Analysis
Place	Beijing
Date	10 August 2015
To (If more than one day)	14 August 2015
Organizer	The International Congress on Industrial and Applied Mathematics
Title	Compact Representation of Big Geospatial Data by Locally Refinable Splines
Author(s) and affiliation	Tor Dokken, Vibeke Skytt and Oliver Barrowclough (SINTEF)
DOI. and/or Link material	http://www.iciam2015.cn/Manual.pdf <link to presentation>
Type of audience	Scientific community (higher education, Research); Industry; Civil society; Policy makers; Medias
Size of audience	In mini-symposium 25 in Conference 3400
Countries addressed	Global conference.
Cost claimed in IQmulus	No
Contribution to objectives, dissemination and impact of IQmulus	Presentation of IQmulus and the work in IQmulus to the International Applied Mathematical community

4.6 PRESENTATIONS AND POSTERS RELATED TO REMOTE SENSING

The ISPRS Geospatial week 2015 posters and presentations addressing remote sensing are addressed in Sections 4.1.4 4.1.16, and 4.1.17.

4.6.1 Huge LMMS Point Cloud Data

Type of activities	Workshop; Presentation
Year	Y3
Workpackage	
Target audience	Technical Users; Information Scientists; Data providers
Main leader	TU Delft
Name of event	MoLaS Technology Workshop 2014 on Key Technology Drivers in Mobile Laser Scanning,
Place	Freiburg, Germany
Date	26 nov 2014
To (If more than one day)	27 December 2014
Organizer	Fraunhofer IPM
Title	Huge LMMS Point Cloud Data
Author(s) and affiliation	
DOI. and/or Link material	http://rs.tudelft.nl/~rlindenbergh/LindenberghMolas14.pdf
Type of audience	Scientific community (higher education, Research); Industry
Size of audience	~110
Countries addressed	13 countries, including Germany, Austria, Switzerland, Australia, Finland and France

4.6.2 IQmulus: A High-volume Fusion and Analysis Platform for Geospatial Point Clouds, Coverages and Volumetric Data Sets

Type of activities	Poster
Year	Y3
Workpackage	
Target audience	Information Scientists
Main leader	CNR-IMATI-GE
Name of event	
Place	Zurich, Switzerland
Date	3 May 2015
Organizer	
Title	IQmulus: A High-volume Fusion and Analysis Platform for Geospatial Point Clouds, Coverages and Volumetric Data Sets
Author(s) and affiliation	
DOI. and/or Link material	
Type of audience	Scientific community (higher education, Research); Industry
Size of audience	~50

4.6.3 34. Wissenschaftl.-Techn. Jahrestagung & Workshop on Laser Scanning Applications

Type of activities	Presentation
Year	Y3
Workpackage	
Target audience	Technical Users; Data providers
Main leader	MOSS
Name of event	Wissenschaftl.-Techn. Jahrestagung & Workshop on Laser Scanning Applications
Place	Cologne
Date	16 mar 2015
To (If more than one day)	18 mar 2015
Organizer	DGPF
Title	34. Wissenschaftl.-Techn. Jahrestagung & Workshop on Laser Scanning Applications
Author(s) and affiliation	
DOI. and/or Link material	
Type of audience	Civil society
Size of audience	
Countries addressed	Germany