



Australia's Representative  
International Cartographic Association

# MSI- Connected!

Newsletter of the Mapping Sciences Institute, Australia

SEPTEMBER 2013 EDITION

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## FROM THE EDITOR

Many years ago, an old university colleague gave me some self-help books. One of those books was by Tom Peters, renowned for re-engineering and branding on-self publications. Self-help books have grown in popularity over the last decade as people attempt to find quick fixes and become instant 'experts'. Self-help book however can be counter-productive, like the Dummy guides that cover almost any topic. And yes, you can buy on Amazon the following titles: 'GIS for Dummies', 'Hacking for Dummies' and 'Raising Chickens for Dummies'. Sadly, I recently purchased a copy of 'Project Management for Dummies' and after flicking through the pages,



relegated it to the scrap heap to take it out of circulation. Life is too short to read books that lack content. Anthony Robbins quoted an interesting statistic in that only 10% of people read past the 1<sup>st</sup> chapter of a book. Noting this, I will move on to the more important aspect of this editorial and promote the material within. In this edition, Don Pearce, MSIA National President scribes about his recent travels to Europe, there is an exclusive press release about UAV technology available in Australia, and details of the IMIA regional map award winner. As promoted in the August edition, registration to the MSIA NSW 2013 seminar is now open – please fill out and return the form on page 8 to attend. Enjoy the read during your coffee/tea break! Pass it on.

*Adam Ladhams*

## PRESIDENT'S REPORT



I recently returned from 4 weeks holiday in Europe, mostly in Italy but also in France and England and a wonderful time it was. As is my custom when travelling, I bought maps in every new location to assist in sight -seeing. Most were excellent with plenty of detail and accurately presented. Most cities have hop-on, hop-off bus services connecting with all the main attractions and you can hop-off, see what you want and then hop-on the next bus. They all have maps of their tours with the appropriate bus stops marked. Most were OK but many stops marked could be a block away from the actual spot thus causing much confusion.

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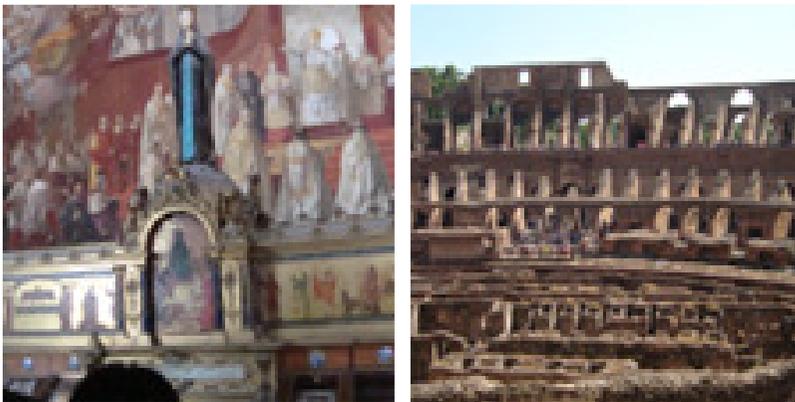


It emphasised to me the importance of accurate maps. Modern technology was also on view when we had difficulty on the Paris underground trains .A young Frenchman saw our confusion and offered to help when we could not locate the stations we required. Within seconds he called up a map of the whole underground on his mobile phone, quickly located the stations and then physically guided us to the right line.

I had 2 my daughters with me, both cartographers and the eldest one still runs our mapping business and we marvelled at how far we have come in map production. At the opposite end of the scale we viewed the maps of ancient Rome in the Vatican and felt some pride in the profession that we had embraced in that it covered such a wide field from ancient Rome until now.

Some years ago we heard the prediction that paper maps would disappear but in the bookshops and tourist centres there were piles of paper maps of every city and every tourist where we were was carrying a map.

I was further encouraged when I saw the July issue of David Fraser's "Cartography" where he has listed 65 unique applications of cartography as diverse as Mapping Sexual Assaults in Egypt to the Power of Maps in Politics. I recommend to readers to have a look at these if only to see what a wonderful profession that we are part of and for students to see the incredibly diverse areas that they can specialise in.



When I was the Secretary General of the ICA, I came across many of these applications in my travels but was very frustrated on returning to Australia where such applications of cartography were restricted by Government Agencies and private firms under the control of surveyors. We were also restricted by a lack of tertiary qualifications which has now been rectified.

I was recently impressed at the Awards Ceremony of the Department of Spatial Sciences in May at Curtin University with the number of Awards presented in Mapping and Geographical related sciences. It would seem to me that our cartographic future is assured with these students but it imposes responsibility on MSIA to provide a satisfactory vehicle in which the profession can flourish.

*Don Pearce*  
*President, MSIA*

Top-bottom (clockwise): St Marks, Venice; The Vatican, Rome;  
The Colosseum, Rome.

TIME FOR A PICTURE...



©Jason Hawkes/Britain From Above

Wrong turns: Longleat maze near Bath is the largest in Britain

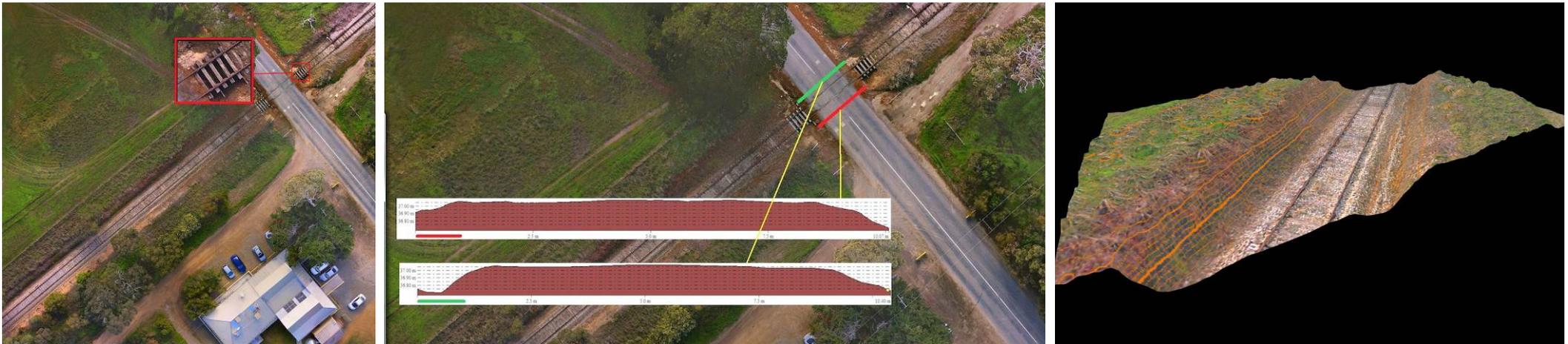
**DRONEMETREX MAPS A RAILWAY WITH UNSURPASSED ACCURACY FROM ITS TOPODRONE-100.**

By Elena Tadrowski, August 15, 2013

DroneMetrex has successfully performed a high-precision railway mapping project in Australia. The company's in-house developed TopoDrone-100 flew and reliably mapped 0,5 km on each of the four sides of the approach to the crossing intersection of the railway and the bitumen road with the unsurpassed accuracy: the company's UAV captured 2,5cm GSD aerial imagery with 25mm absolute accuracy in height. So far, no other manufacturer of drones has claimed such an accuracy, neither relative, nor absolute. DroneMetrex was able to achieve great results due to the fact that its TopoDrone-100 is a true photogrammetric mapping system which addresses geometric errors (tip, tilt, yaw, forward and lateral motion, blur) from the start and eliminates them right at the point of capturing the data.

The mapping project was aimed, in the first instance, at creating 3D "real world" for obscurity analysis when approaching an intersection from a train driver's perspective, and from a vehicle driver's perspective. Secondly, high accurate mapping was performed for future civil works involving repair as well as upgrading of the existing railway.

Traditionally such projects presuppose aerial photography, LiDAR and corridor mapping from large manned aircrafts, which was not economically justified in this particular case, since the project area was quite small. At the same time, conventional ground surveying techniques were either inapplicable, as it would mean temporarily closure of the railway in order to observe all health and safety standards.



Tom Tadrowski, Executive Director of DroneMetrex, commented in this respect: “The whole process of data capture took us only 2 hours and our TopoDrone-100 let us easily meet all the client’s requirements. The launches and landings happened from the nearby field, therefore no interference with rail movements, no disturbance for road traffic ever occurred – in fact, they didn't even know we were there! As you can see, aerial mapping no longer needs to be time-consuming, no longer expensive and certainly should be readily available. We have dramatically increased the productivity, data reliability and reduced the costs.”

The aerial photography was performed with 70% forward and 40% side overlap. Based on the captured data, DroneMetrex’ photogrammetrists produced very dense 3D point cloud, digital orthophotos and DTMs, as well as they performed 3D line mapping via photogrammetric 3D “heads-up” digitising. Mirahmad Chabok, Development Manager, said: “Because the photogrammetry from our accurate TopoDrones allows, we can match and produce a point cloud density of 1600 points per sq metre, i.e. 1 point per pixel!”



### About DroneMetrex



DroneMetrex Pty Ltd is a company specialising in the autonomous data acquisition, near real-time data feeds, and accurate survey and photogrammetric mapping information services from “Drones”. This provides alternative solutions to costly data acquired from aircraft or similar airborne and/or vehicular platforms over areas that are not economically justified to be captured by such large aircraft, or may be difficult and/or dangerous for “manned” aircrafts or vehicles or ground survey teams. With its TopoDrones the company produces truly accurate mapping data - 25mm accuracy in height - reliably, repeatedly, accurately.

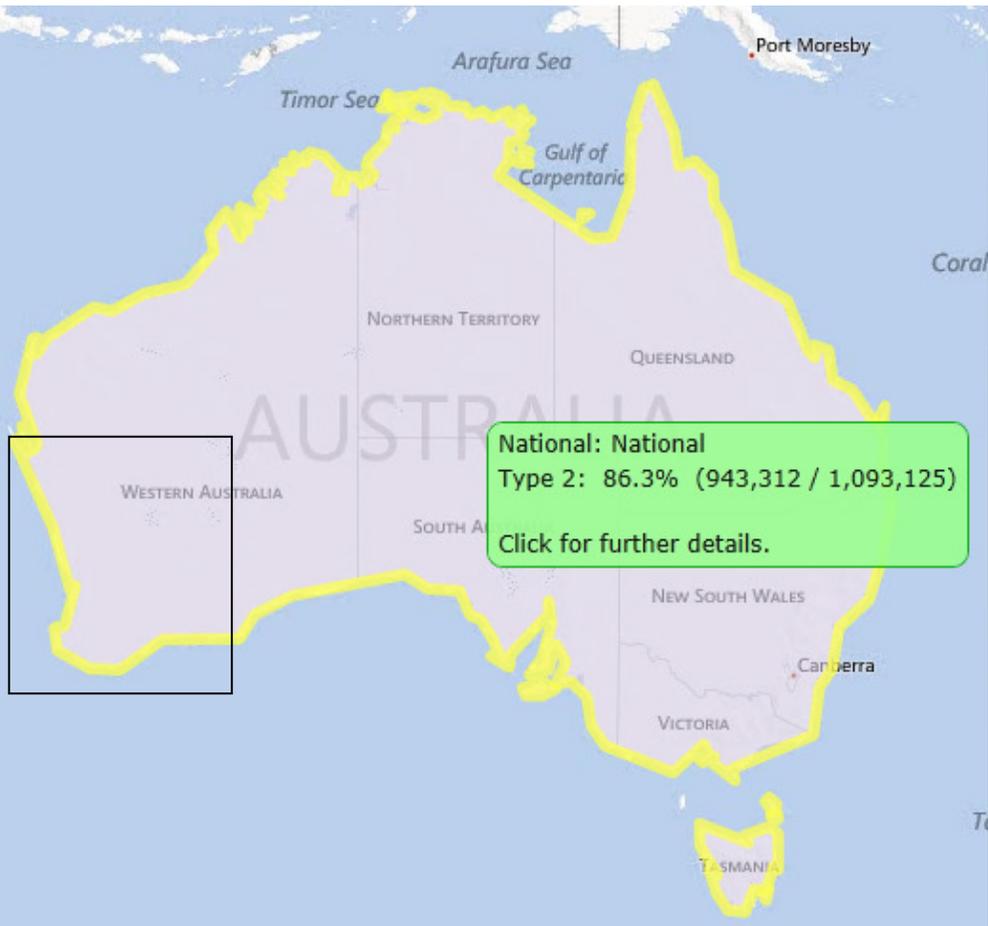
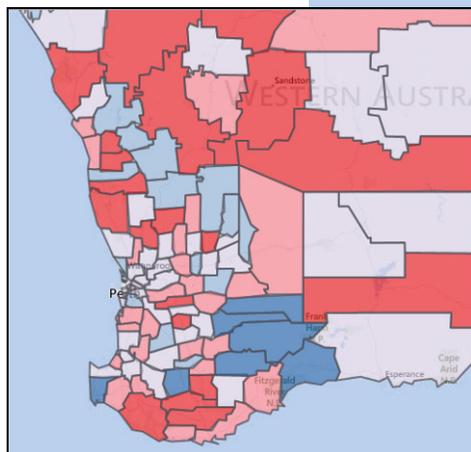
### Contact

If you would like more information about this topic, please contact:  
Elena Tadrowski  
Tel: +61 (0)8 8243 1280

**MAPPING AN EPIDEMIC – DIABETES MAP OF AUSTRALIA RELEASED IN AUGUST 2013**

**Fact:** Over 1 million Australians are registered with having diabetes

**Inset map:** Thematic map of diabetes type by local government (and you thought it was an election map)



**Diabetes Type**  
 Type 2

Auto zoom [?](#) [Help/About](#)

Show health services [?](#) [Provide Feedback](#)

Very Low Low High Very High

Search for an area

**National**

Data: Type 2 Area: National  
 Percentage of Pop.: 5.1% 1,093,125 / 21,453,512  
 NDSS Registrant Percentages:

Diabetes Type	Area %	National %
Type 2	86.3 %	86.3 %
Type 1	10.9 %	10.9 %
Gestational	2.3 %	2.3 %
Other	0.5 %	0.5 %

[Source: <http://www.ndss.com.au/en/Australian-Diabetes-Map/Map/>]

# NEW MEMBER

A warm welcome to MSIA's newest member from Queensland, Stephen Trent.

## LOOKING FOR CONTRIBUTIONS

Got a story to tell, want to honour a work colleague, promote your company, or provide a product review, contact Adam Ladhams on adam.ladhams@hotmail.com to forward contributions.

## PRESS RELEASE

### WORLDS BIGGEST ATLAS WINS AWARD

The overall winner of the International Map Industry Association (IMIA) regional map awards this year was the Millennium House Australia entry Earth Platinum World Atlas published by Gordon Cheers. The Atlas will be the IMIA Asia Pacific region entry into the IMIA Global Map Awards to be held in Cambridge MA, USA in September.

This magnificent Atlas is truly amazing standing 6 feet high x 9 feet wide when opened. Over 60 cartographers from around the world worked on this fantastic atlas, with many IMIA member cartographers involved.



**For any media enquiries  
please contact:**

Noleen Zander  
Executive Director  
IMIA (Asia Pacific) Region  
Phone: +61 8 8357 1777  
Email:  
[imiaap@chariot.net.au](mailto:imiaap@chariot.net.au)

Seminar & lunch  Tick Box  
 \$150 MSIA Membership\*\*   
 \$180 Non-members   
 \$100 F/T Students/Commonwealth Seniors card

\*\* MSIA membership include all grades excluding students  
 Attendance fees for bono fide members of kindred institutions will be the same as for MSIA members.

MSIA is a non profit organization and GST is included within the Hotel package

RSVP by 5:00pm on Tuesday 22nd October 2013

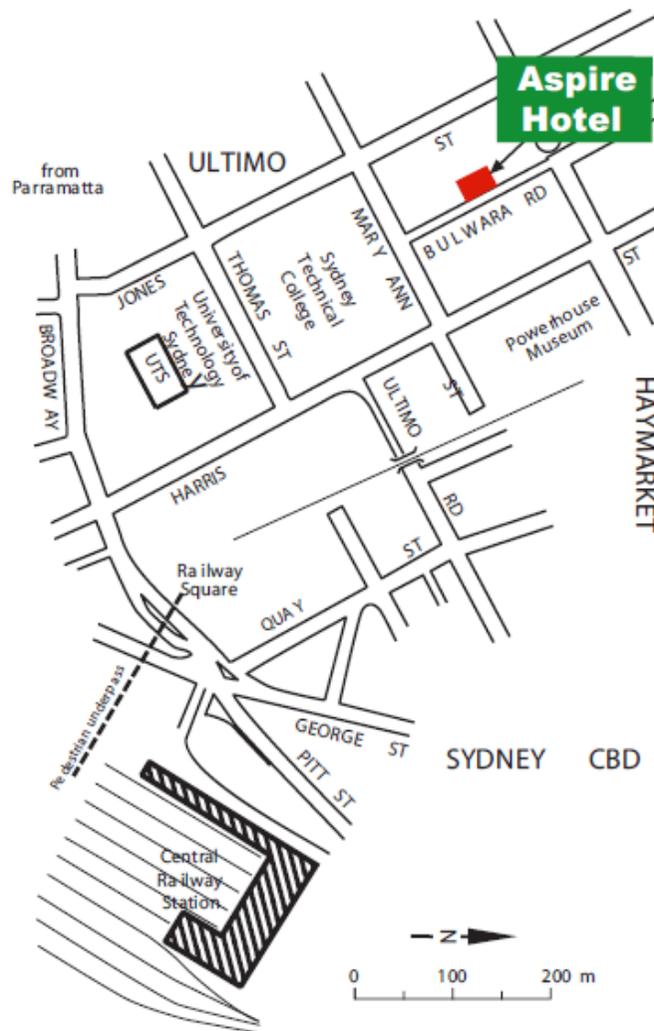
Name \_\_\_\_\_  
 Grade \_\_\_\_\_  
 Organisation \_\_\_\_\_  
 Address \_\_\_\_\_

Cheque in mail   
 Payment on the day. (No credit card facilities available)   
 IFT & Deposit Payments :   
 WESTPAC BANK Wollongong  
 BSB : 032-695 Account No. 185713  Tick Box

ABN 38 243 794 988 ACN 004 301 811

Please fax or email the above details to confirm your attendance to Hank Staal on 8396 1640 (fax) or email to msia-nsw@bigpond.com or Staal1@bigpond.com. Enquiries can be made on 8396 1675 (W) or 9872 1405 (H).

Cheques to be made payable to:  
 MSIA - NSW Division  
 Addressed to:- Seminar 2012  
 MSIA - NSW Division  
 GPO Box 4365  
 Sydney 2001



Mapping Sciences Institute Australia  
 New South Wales Division  
 invites you to a  
 Professional Development Seminar

**Mapping Census Data,  
 New Datums,  
 Point Cloud Data,  
 Web GIS Apps &  
 SKA Telescope siting**

MSIA members are allocated 10 CPD points for seminar attendance  
 SSSI members are allocated 5.0 CPD points for seminar attendance.  
 ISNSW members are allocated 5.5 CPD points for seminar attendance.  
 Event code for ISNSW is IS13.00

Applications for membership of the Mapping Sciences Institute, Australia are welcomed from any person involved in the mapping sciences. Any person applying for and completing membership requirements prior to this seminar will receive full membership entitlements. For membership Details see NSW Division Web Page at <http://www.msia-nsw.org.au>

