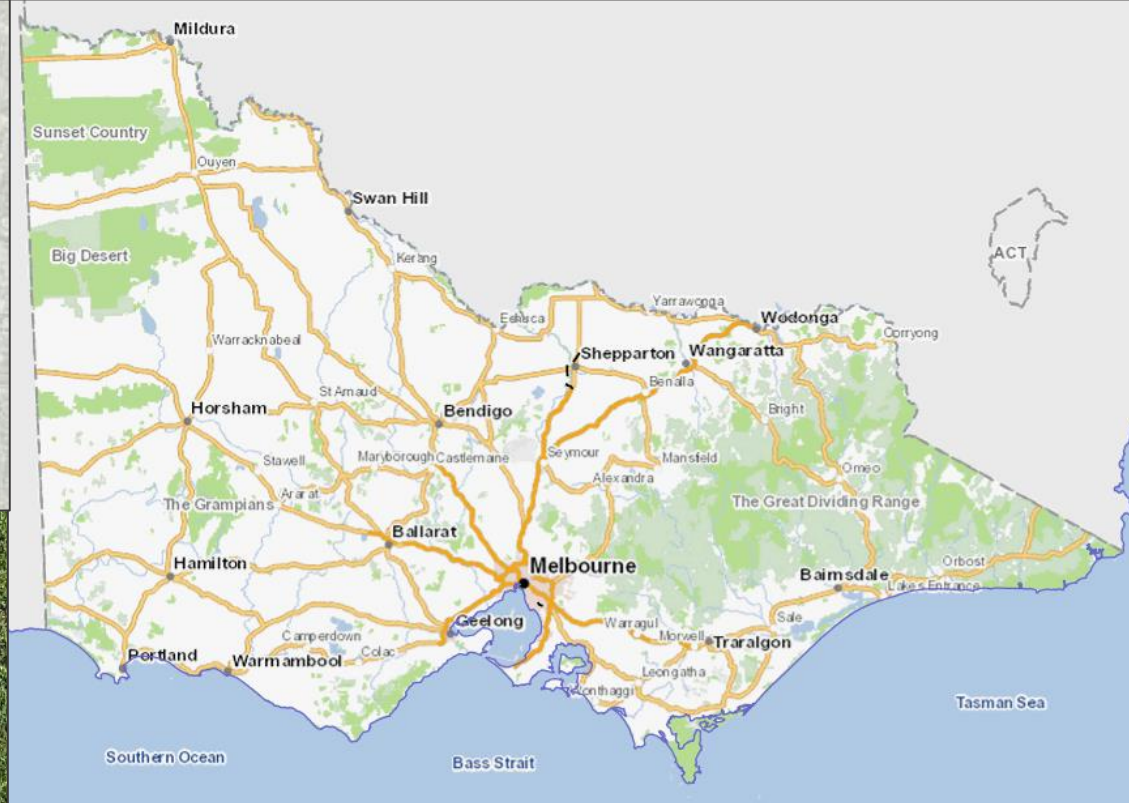


Survey Marks Enquiry Service (SMES)

Survey Marks Enquiry Service



Webinar 2

Join us at
[slido.com](https://www.slido.com)
#SMES



Environment,
Land, Water
and Planning

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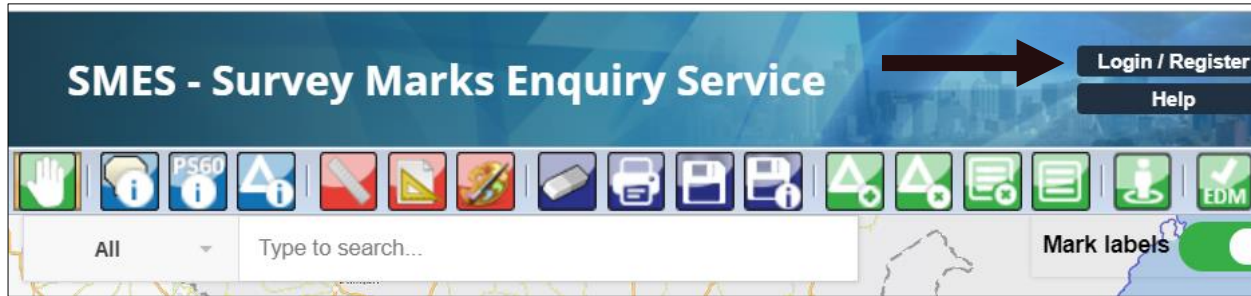
Part 1

- What is SMES
- History
- SMES in action
- SMES under the hood

Part 2 (This week)

- Registered user functionality
- Survey Control Network and uncertainty
- API, development and roadmap
- Deep dive into your questions

How to register as a new user



Authorised User Login

An authorised login is only required for SMES users wishing to submit survey mark information and internal Land Use Victoria users.

Username:

Password:

Login

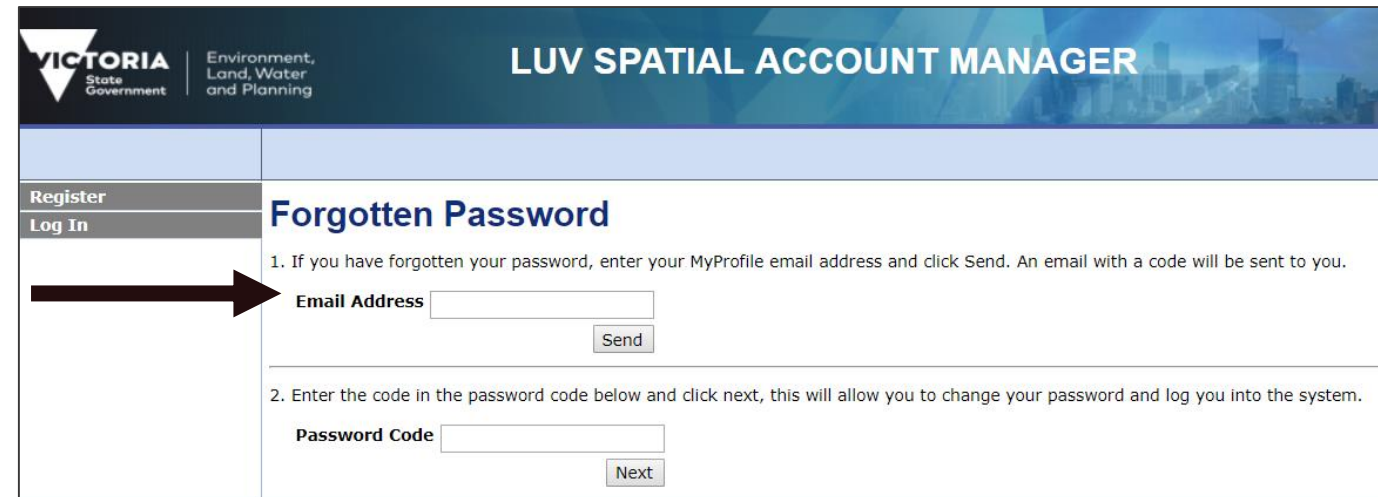
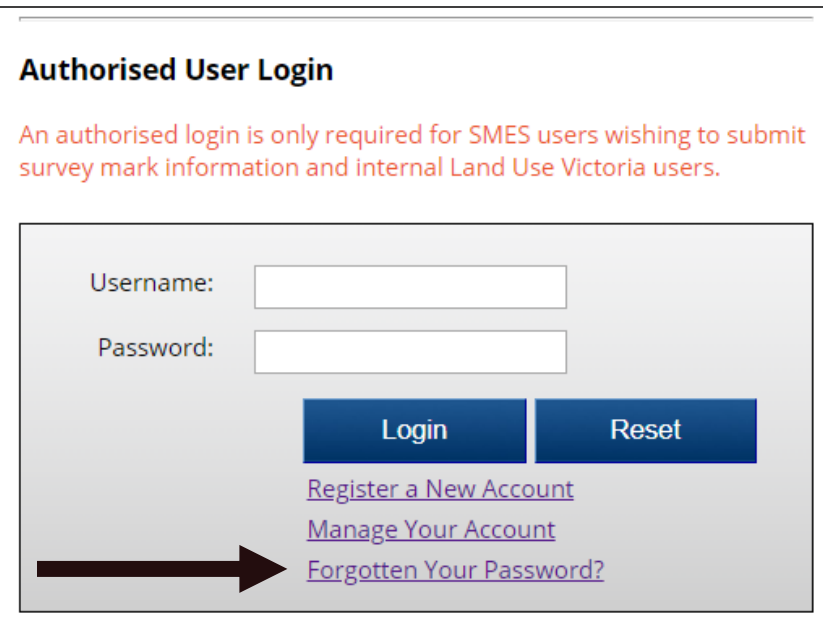
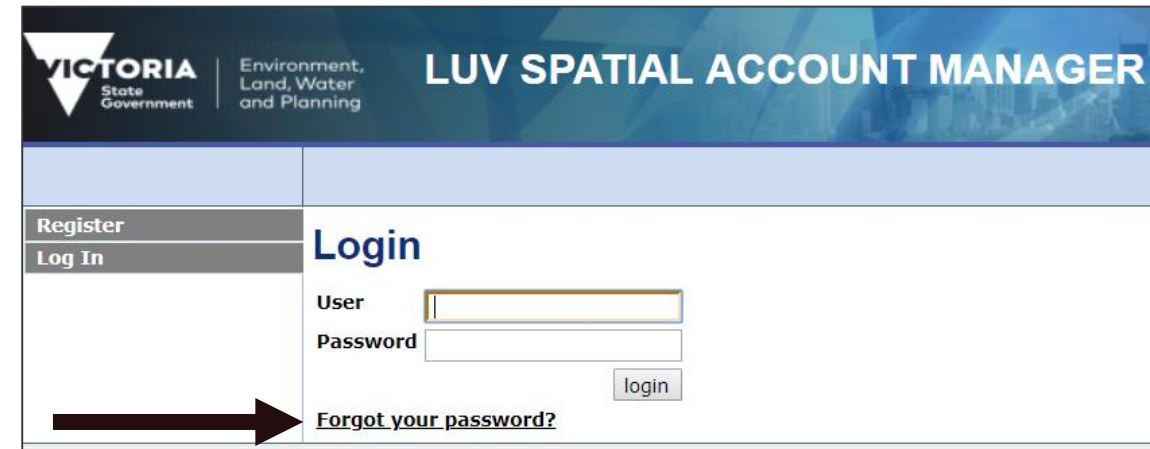
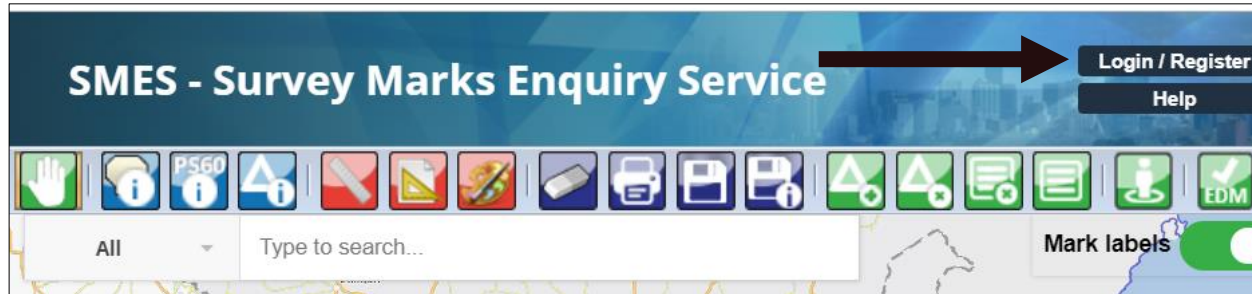
Reset

[Register a New Account](#)

[Manage Your Account](#)

[Forgotten Your Password?](#)

How to reset your password



How to Lodge a New Survey Mark

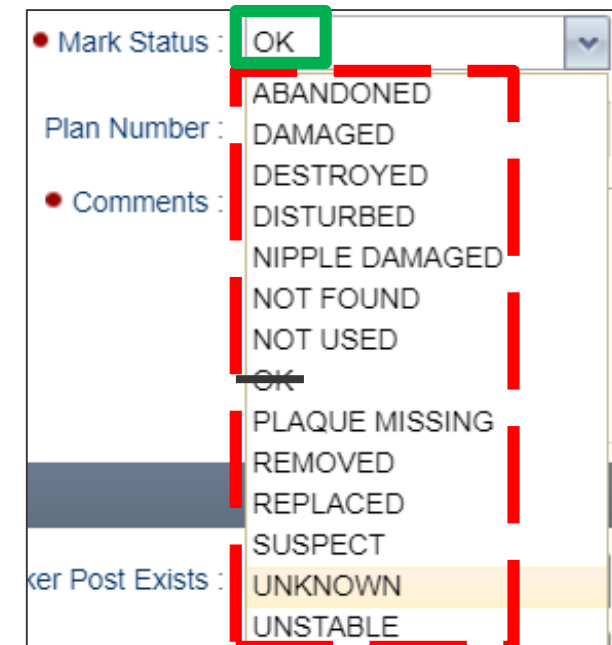
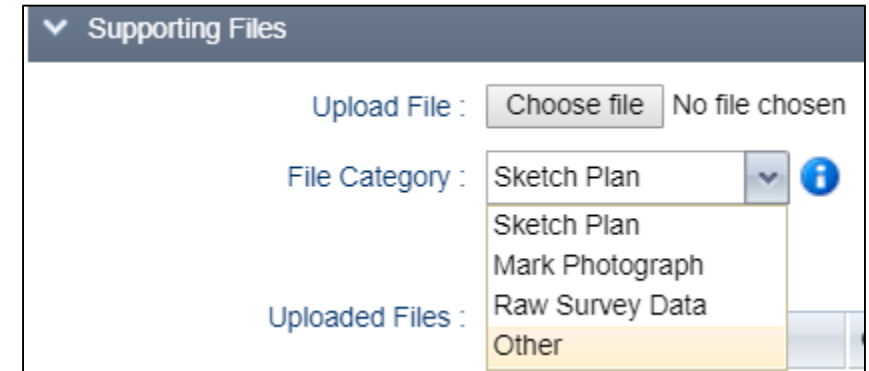
- Reserve Survey Mark Names
- Lodge a New Survey Mark

How to Update an Existing Survey Mark

- Mark Status
- Additional Files
 - Mark Photos
 - New Sketch Plan
 - Raw Survey Data & Booking Sheet

SMES Website Resources

- Sketch Plan Templates
- Protection & Maintenance of Survey Marks
- GNSS Data Submission & Booking Sheet



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Class & Order

- Based on equipment & technique
- Empirically derived
- Assigned (with help of Least Squares)
- Useful when classifying new survey network to existing network

Uncertainty

- Based on uncertainty of each measurement, control coordinates
- Statistically derived (Least Squares)
- Useful when adjusting all measurements simultaneously

In 2014, ICSM SP1 (Standard for the Australian Survey Control Network) transitioned to uncertainty as the basis for evaluating and expressing the quality of measurements and positions.

SMES, SCN and Uncertainty – Horizontal Coordinates


- **SCN(GDA) – Coordinates derived from National Adjustment in GDA2020**
- **Horizontal (Positional) Uncertainty derived from National Adjustment**

National Adjustment Statistics

~500,000 Stations
 ~1.9 million Measurements

Victorian Component of National Adjustment

~44,000 Stations
 ~280,000 Measurements


KOROROIT PM 15 					
Nine figure	292700150	Status	OK	Type	SCN (GDA), Non-SCN (AHD)
Easting	292998.036	Northing	5823989.518	AHD height	103.57
Latitude	-37° 42' 28.7115"	Longitude	144° 39' 06.2070"	Zone	55
Hz uncertainty	0.023	Ellipsoid height	108.420	CSF	1.0001116
Datum	GDA2020	Vt uncertainty		Vt order	4
		Hz order	3		
		Plan ref			

SMES, SCN and Uncertainty – Vertical Coordinates

- **SCN(AHD)** – Height derived from Victorian Levelling Network (part of Australian National Levelling Network)
- **Vertical (Positional) Uncertainty** mostly derived from Victorian Levelling Network Adjustment

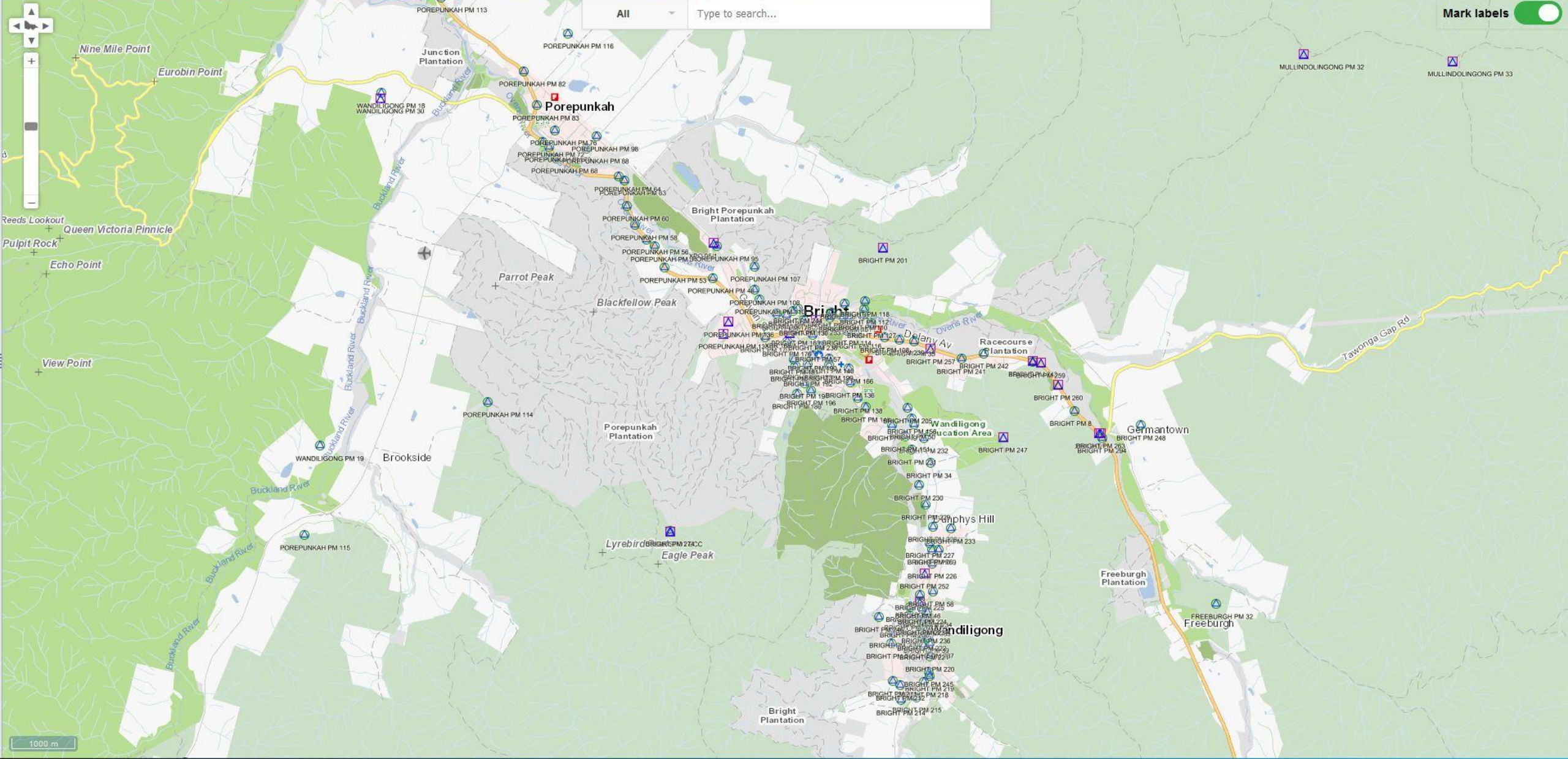
Victorian Levelling Network Adjustment

- ~300 Constraining Stations
- ~25,000 Stations
- ~31,000 Measurements

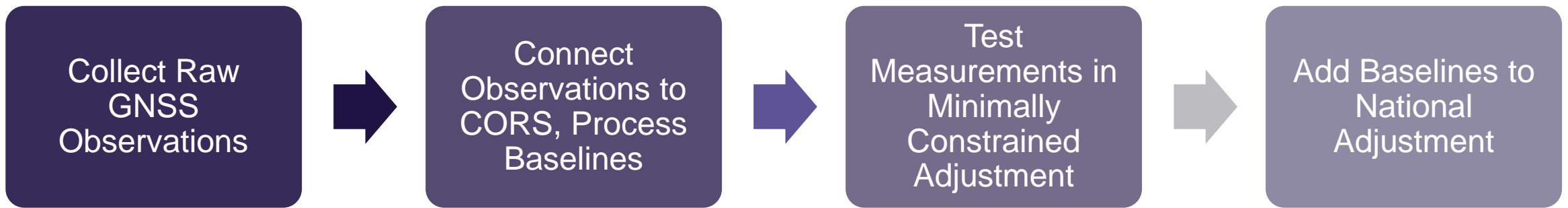
						SR78H74 	
				Type		Non-SCN (GDA), SCN (AHD)	
Nine figure	878080740	Status	OK	AHD height	86.115	Zone	55
Easting	287965	Northing	5815411	Ellipsoid height		CSF	1.0001403
Latitude	-37° 47' 02.7"	Longitude	144° 35' 31.8"	Vt uncertainty		Vt order	3
Hz uncertainty		Hz order	99				
Datum	GDA2020	Plan ref					

An Example of Improving Coordinates Bright

Metro



Collection and Processing of GNSS Data



Contribute your Raw GNSS Observations

- RINEX format or Manufacturer Raw Format (e.g. T02, m00)
- 1 Second Interval
- 5 min Metro, 10 min Regional/Remote (the longer the better!)
- 2x sessions >1hr apart
- Completed Booking Sheet

Submit through SMES or smes.support@delwp.vic.gov.au

Please post any questions in Slido



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SMES Web Services Application Programming Interface

Version 2.13

Last Updated 06/03/2019

Supports REST and SOAP Protocols

Function examples:

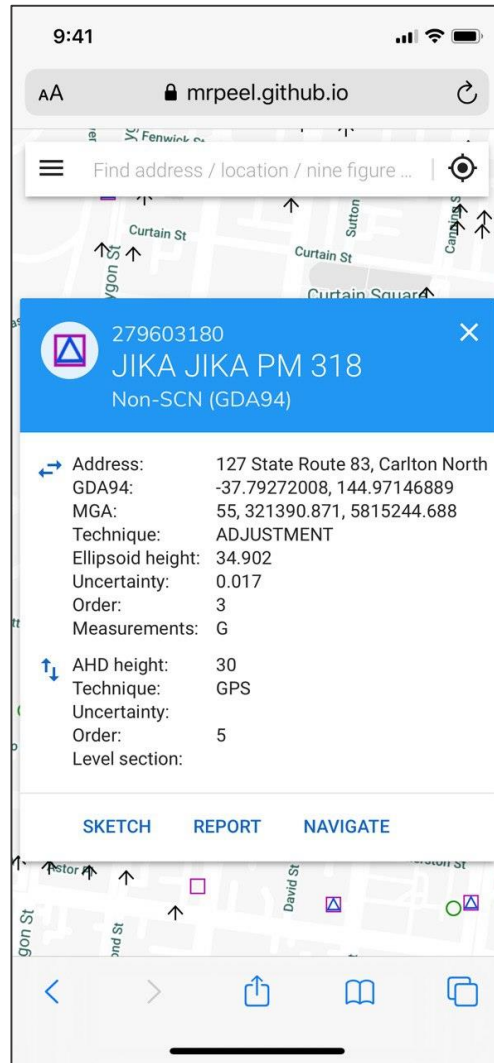
`getMarkInformation`

`getSurveyMarkSketches`

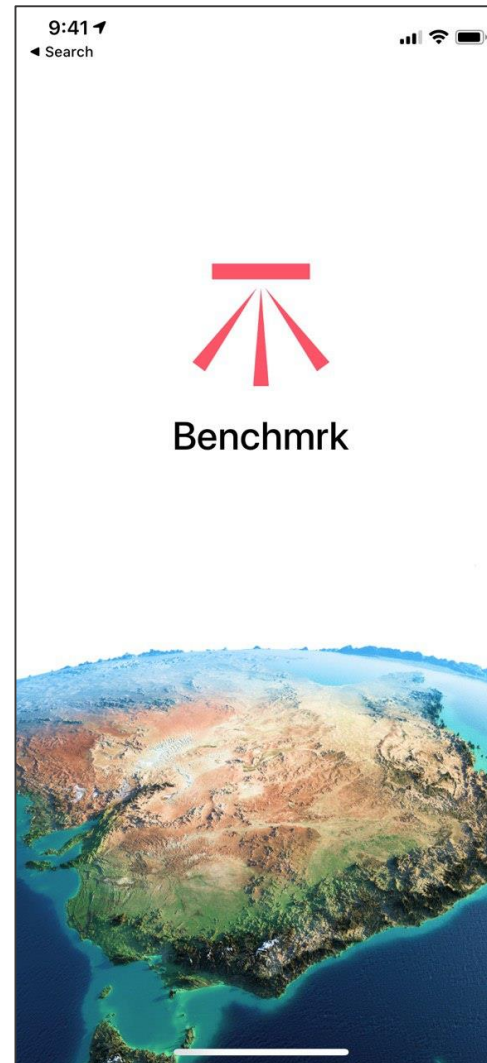
`getSurveyMarkReports`

`updateMarkDetailsSubmission`

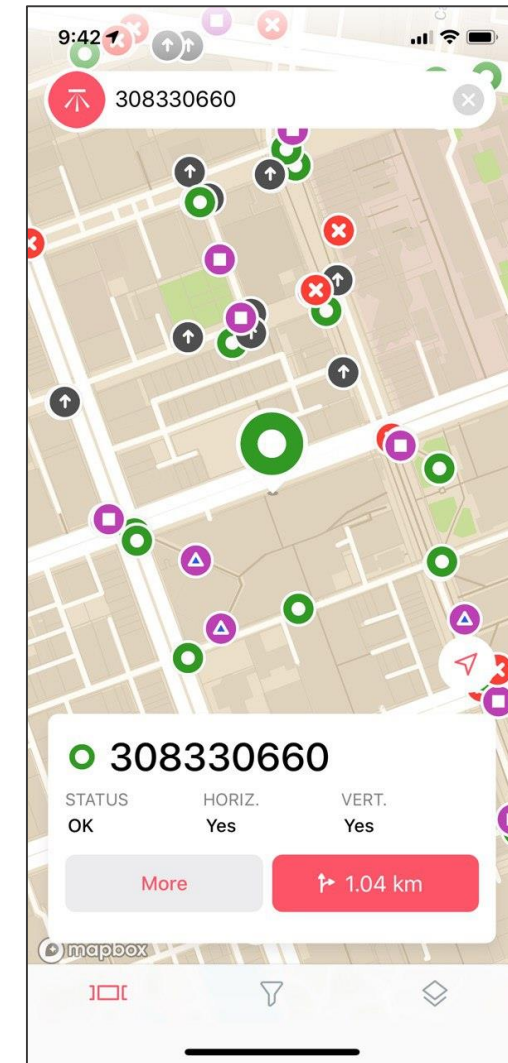
Third Party SMES Apps



<https://mrpeel.github.io/smes-on-the-go/>



<https://benchmrk.com.au>





<http://services.land.vic.gov.au/SpatialDatamart/>

Search for 'SMES'

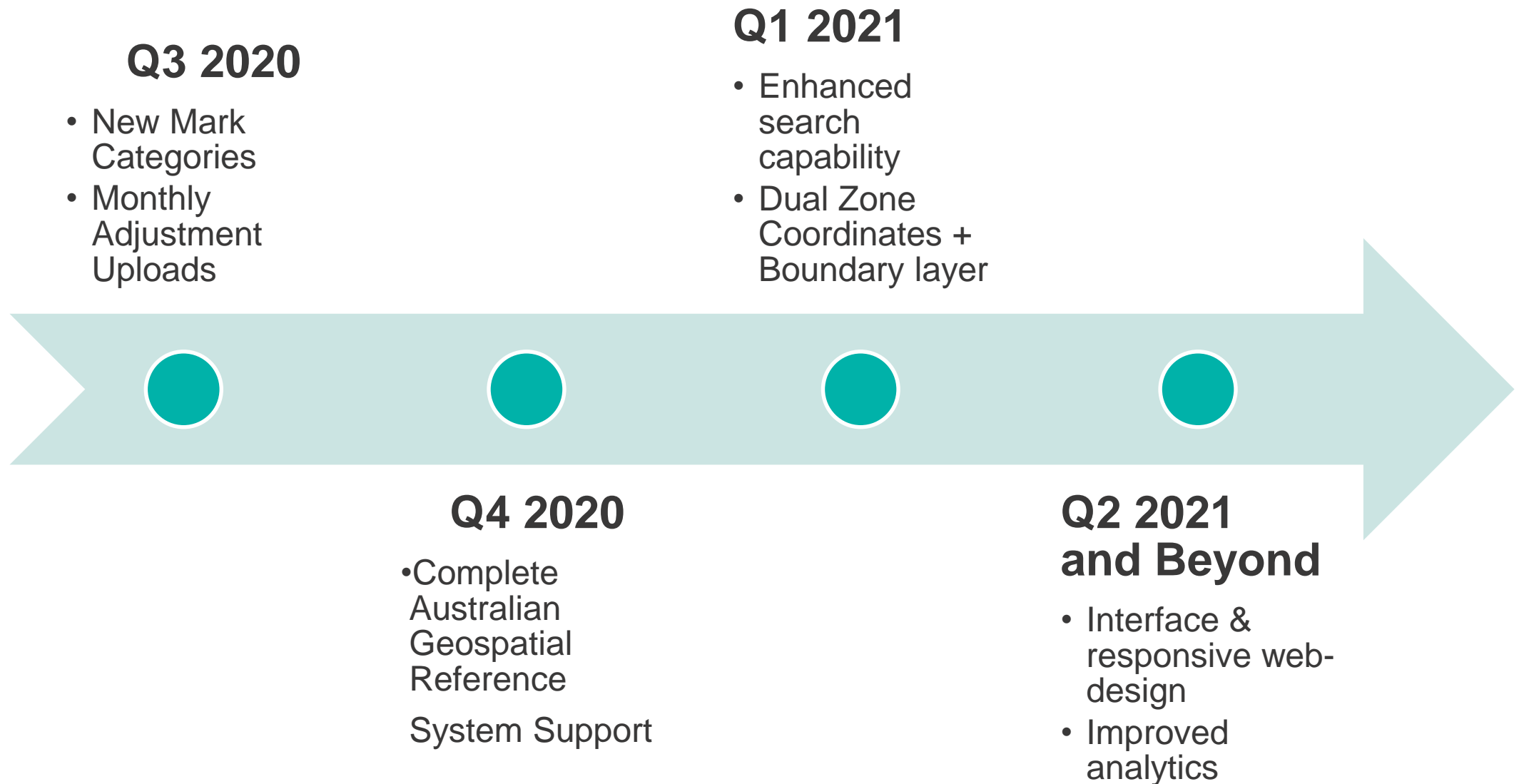


SMES_FULL

Survey Control Mark Information

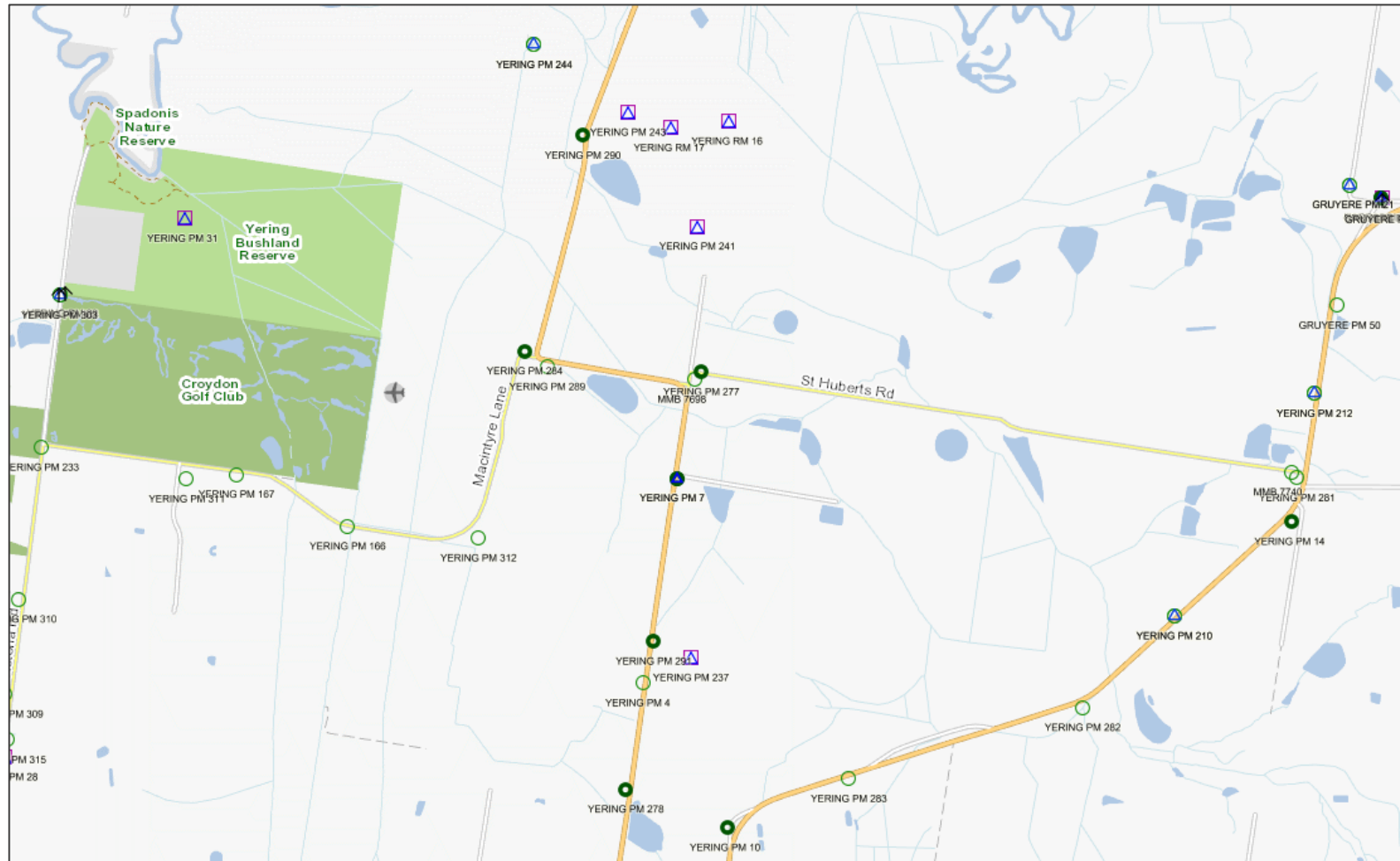
Published: 19 December 2017

This dataset provides information on every survey control mark in the Survey Mark Enquiry Service (SMES). SMES contains online information on survey marks in Victoria such as status, location, elevation, coordinates and accuracy. A web application to access this information is available at <https://maps.land.vic.gov.au/smes>



* Along with backend and administrator improvements

New Symbology



Session 1

- Lodge a New Survey Mark
- Update an Existing Survey Mark

Session 2

- Survey Control Network & Uncertainty
- GNSS Data Submission & Impact on Adjustment

Session 3

- API and Applications
- Development Roadmap



Future Webinars

Date: TBC

- New functionality updates
- The Future of SMES
- User focused engagement
- Other Geodesy related topics

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**Thank you for your time.
Stay tuned for future webinar events!**