

# With SiReNT, you do NOT need to operate GPS base station



GPS Base Station

DGPS Corrections

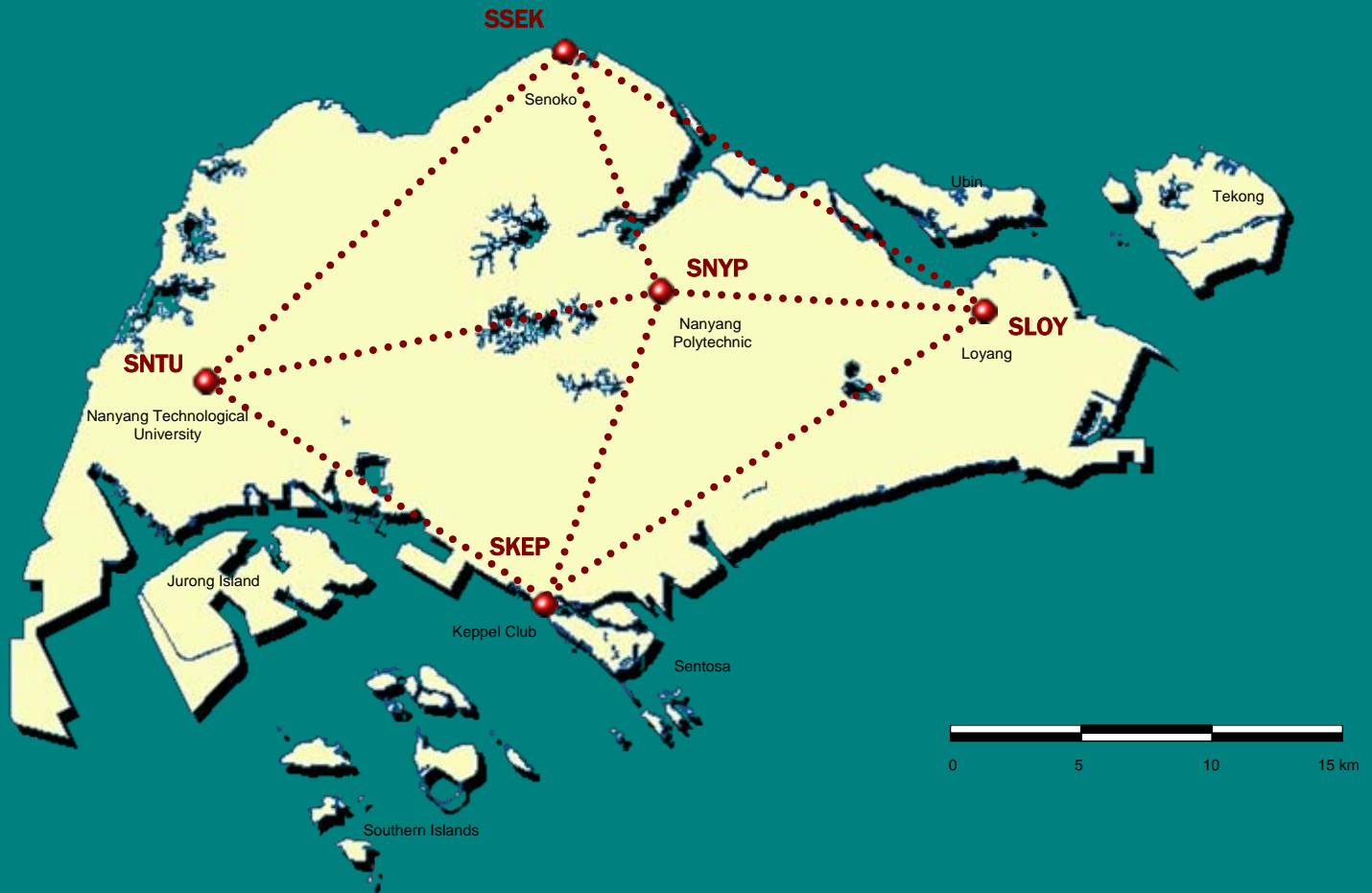


GPS Rover

# SiReNT provides Differential GPS (DGPS) Services

- Nationwide Coverage
- 5 Permanent GPS Reference Stations operates 24 by 7
- Work with all brands of GPS equipment
- High Productivity, High Reliability and High Accuracy
- Coordinate System – SVY21
- Plug-and-Play
- GPRS communication

# SiReNT Network – Nationwide Coverage



# SiReNT Services and Usage

PP-On-Demand (Post-Process)	5 – 30 mm (+ 1ppm)	ISN Survey Control Survey
RTK (Real-Time Kinematic)	1 – 5 cm (+ 1ppm)	Control Survey Engineering Survey / Setting Out Detail & Topographical Survey Hydrographical Survey
DGPS (Code-based DGPS)	0.5 – 3 meter (depending on receiver)	Mapping for GIS Detail & Topographical Mapping Hydrographical Survey Telematics (Navigation and Tracking)

# Comparison

<u>SiReNT DGPS Services</u>	<u>Own Local Base Station</u>	<u>Other DGPS Services</u>
SVY21 local reference frame which is adopted by the cadastral survey system	Local reference system	Other global reference frame such as WGS-84 or ITRF2000
Corrections disseminates via wireless internet (i.e. GPRS)	Short range MF (radio)	MF, Satellites communication
System redundancy for high reliability and high system availability (99%)	No redundancy	No redundancy / not known
Sub-meter accuracy down to centimeter	Sub-meter accuracy down to centimeter	Meter
Helpdesk Service	No helpdesk service / not known	No helpdesk service / not known

# SiReNT Basic Service Price Plan

<u>Product</u>	<u>Unit Fee (inclusive GST)</u>	<u>Subscription Fee (inclusive GST)</u>
PP On-Demand (Post-Process)	\$0.315/min (for 15s, 30s, 60s data rate); \$0.525/min (for 1s, 5s, 10s data rate)	\$157.50/mth (Free 500min) (Free 300min)
RTK (Real-Time Kinematic)	\$0.525/min	\$157.50/mth (Free 300min) to \$3,150/mth (Unlimited)
DGPS (Code-based Differential GPS)	N.A.	\$1,260/yr (Unlimited)

# Cost Comparison

<u>Items</u>	<u>SiReNT (S\$)</u>	<u>Own Local Base Station (S\$)</u>
Base Station GPS (Hardware)	0	20 K – 50 K (depreciation 10K per year)
Base Station Software	0	5 K – 10 K (depreciation 2K per year)
Man-power to operate base station	0	50 K – 60 K (per year)
Usage fee + GPRS communication	18 K (2 hrs connection daily)	0
<b>Total</b>	<b>18 K (per year)</b>	<b>72K (per year)</b>

Total saving of about 50 K per year

# Comparison RTK Vs conventional survey method

- To obtain a coordinate of a point up to an accuracy of 1 to 2 cm (for detail survey)
- Time Saving
  - RTK – 1 to 2 minutes
  - Conventional survey – 60 to 120 minutes
- Man Power Saving
  - RTK – 1 person
  - Conventional survey – 2 to 3 persons