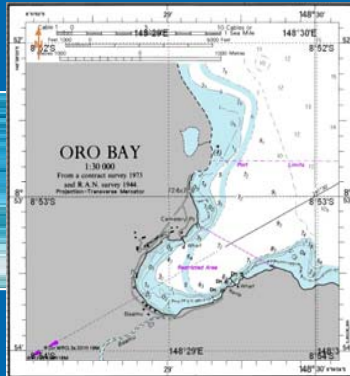




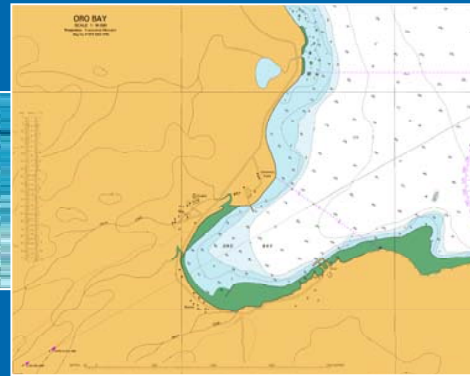
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Hydrographic Capacity Building in the Pacific PNG Case Study



Imperial



Metric



ENC



Australian Hydrographic
Service



National Maritime Safety Authority
Papua New Guinea



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(HSA Systems Ltd)



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Outline

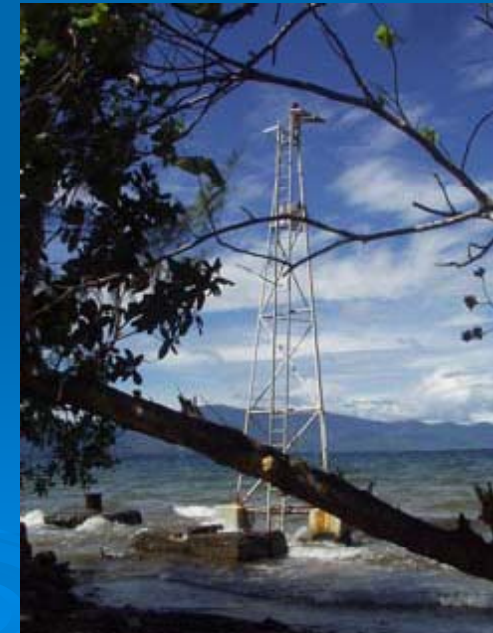
- **Hydrographic Capacity Building**
 - IHO

- **PNG Project**
 - Re-Vitalisation of Navigational Aids
 - Hydrographic Chart/ENC Production
 - Developing Capability

- **Benefits**

- **Future Projects**

- **Industry Participation**





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Hydrographic Capacity Building



■ IHO

■ Definition

Capacity Building is the process by which the IHO assesses and assists in sustainable development and improvement of the States, to meet the objectives of the IHO and the Hydrography, Cartography and Maritime Safety obligations and recommendations described in UNCLOS, SOLAS V and other international instruments.

■ Consists of 3 Phases

Phase One - Awareness

Encourages States which have navigable waters, to recognise their national responsibilities for the provision of hydrographic services.

Phase Two – Assessment/Analysis

Provision of advice and training assistance to support the creation of a basic hydrographic (survey) capability in a particular country.

Phase Three - Action

Supports further development of a national hydrographic service including promulgation of MSI, production of paper charts, ENCs & nautical publications.



How?

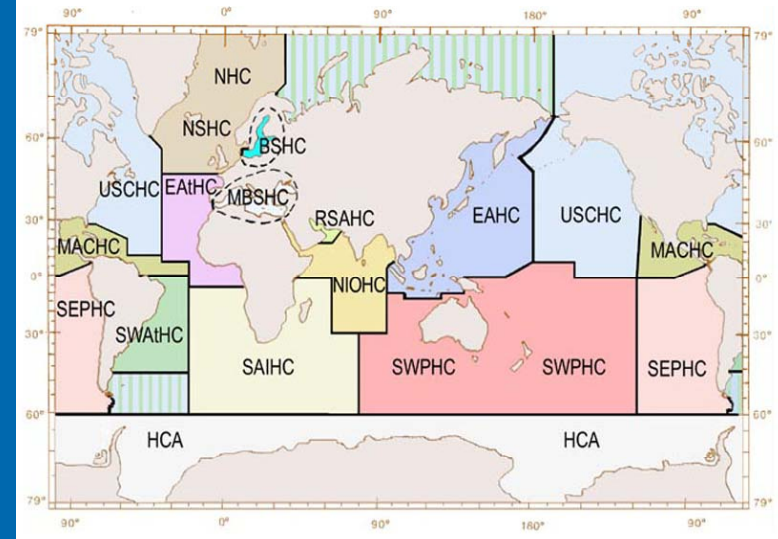
■ Inter-Regional Coordination Committee (IRCC)

- Establish & coordinate cooperation in hydrographic capacity building activities
- Monitor capacity building programs
- Promote co-operation
- Review and implement the IHO Capacity Building Strategy
- Works in conjunction with Regional Hydrographic Commissions

■ Regional Hydrographic Commissions

- 14 x RHCs
- Any country may belong, do not have to be a member of the IHO
- Cost is to attend meetings
- First step towards capacity building

Regional Hydrographic Commissions





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PNG Project

■ **Re-Vitalisation of Navigational Aids**

■ **Why?**

- To improve safety to mariners, trade, tourism and reduce the impacts of shipping on the environment.

■ **Lead Project was the Re-establishment & ongoing maintenance of hydrographic navigational infrastructure in PNG**

- Asian Development Bank sponsored project.
- Planning commenced in 2002.
- 4 Phase Project completed in 2008.
- 213 functional navigational aids rehabilitated under ADB funding.
- Now managed by NMSA.
- Self funding via Oil/Shipping levies

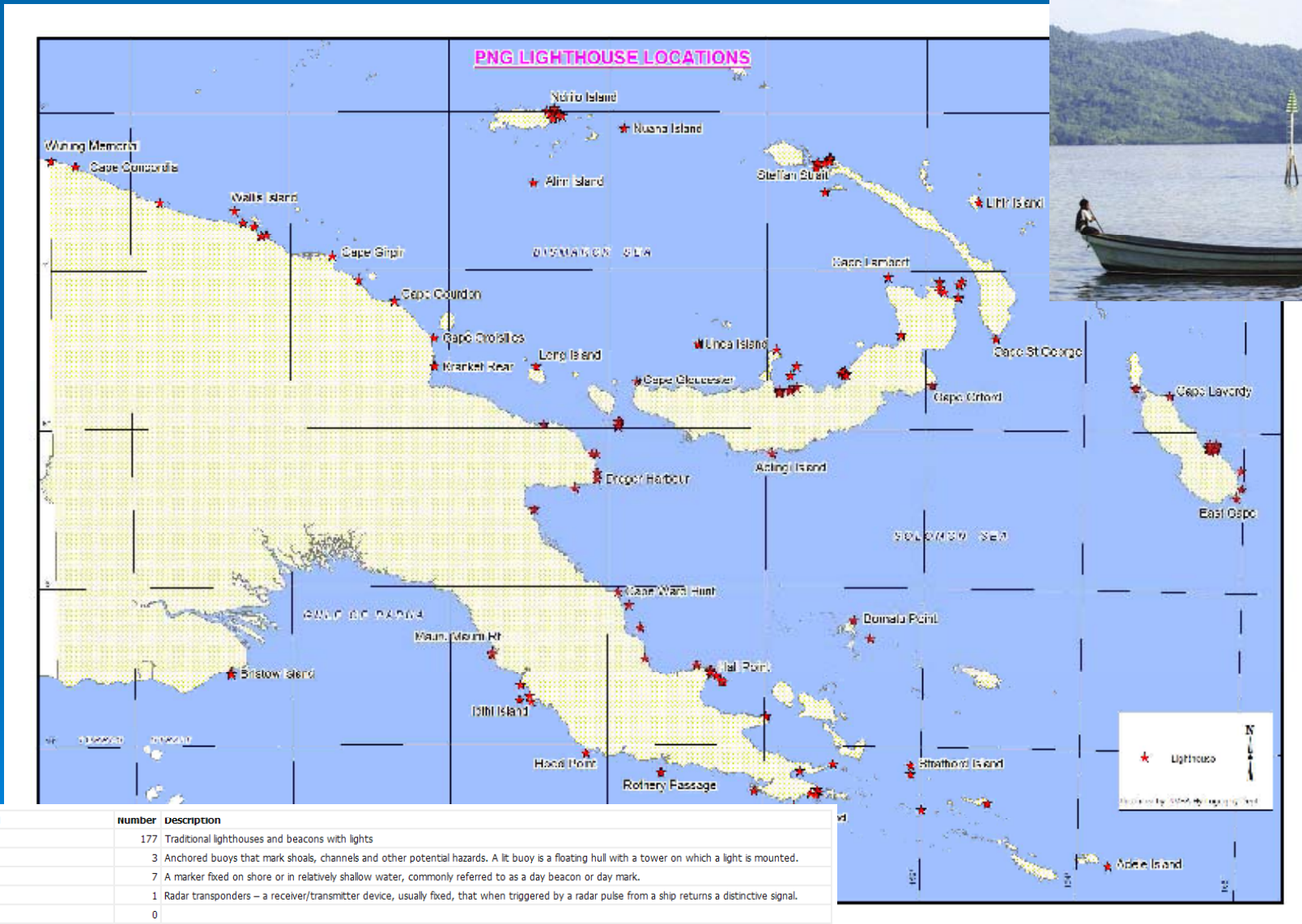




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PNG Project – Nav Aids



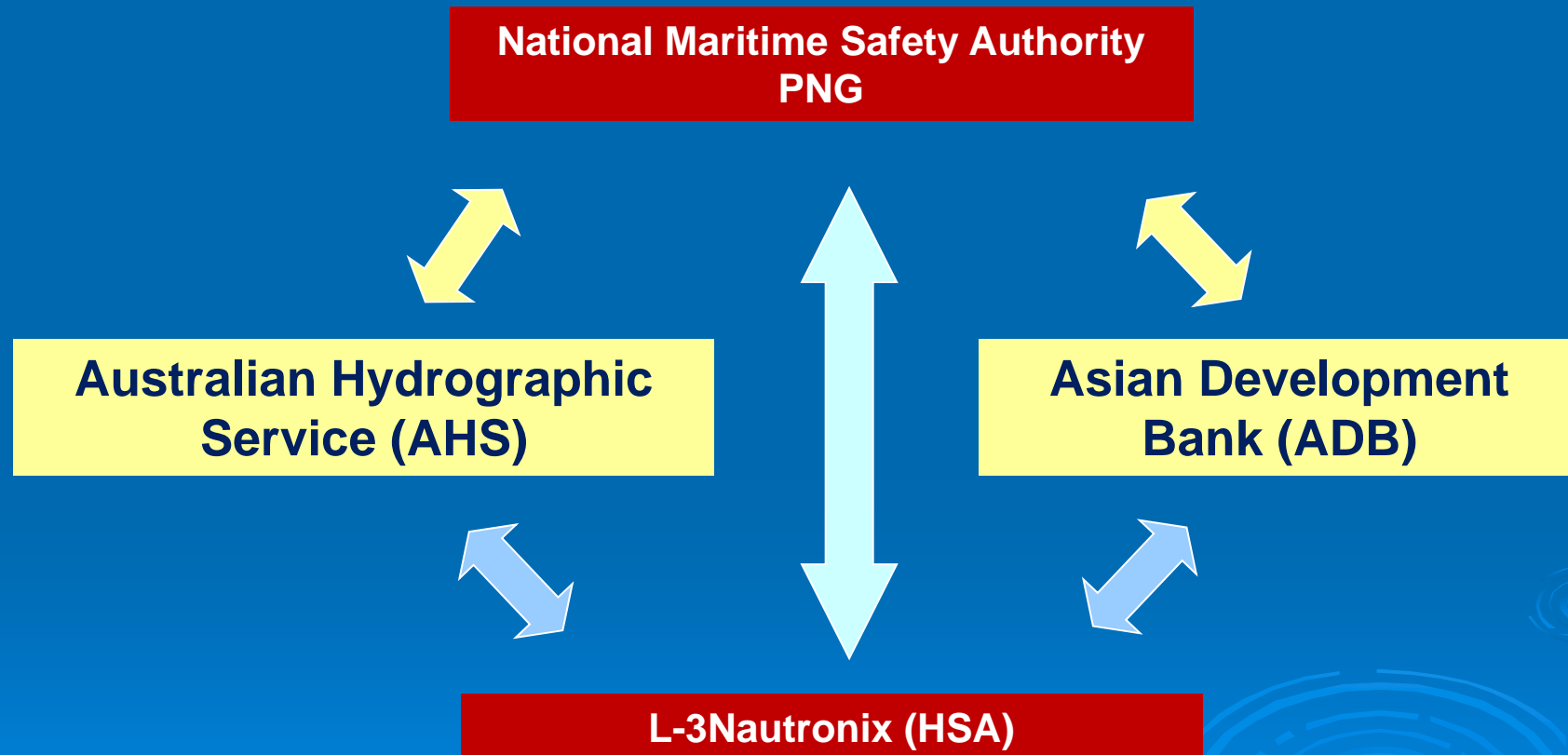


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PNG Project - Stakeholders

■ PNG Stake Holders



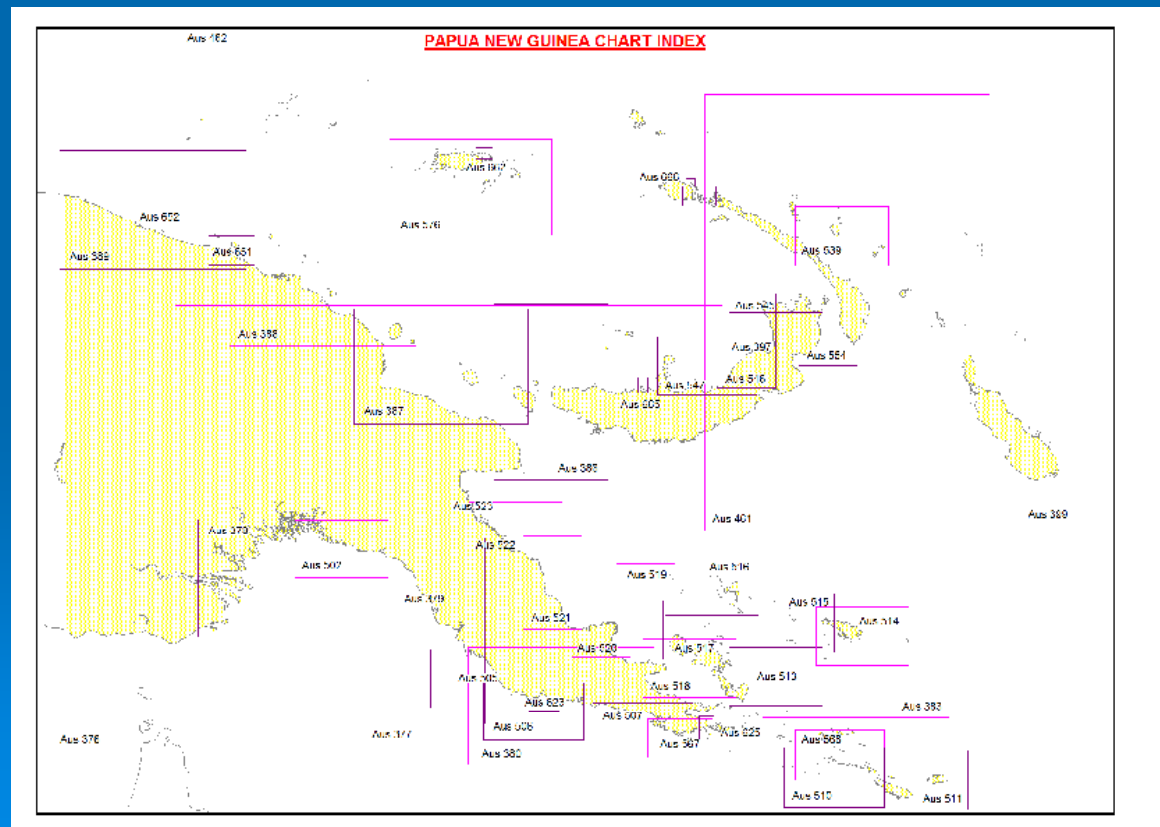


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PNG Project – Chart & ENC Production

- Sub component: Provision of a modern hydrographic paper chart & ENC portfolio.
 - AHS is responsible for the PNG chart portfolio





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PNG Project – Chart & ENC Production

■ Chart/ENC Production

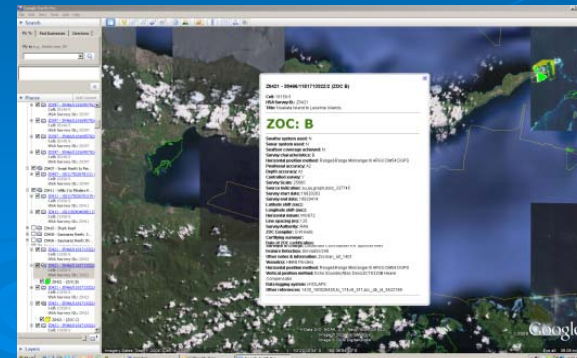
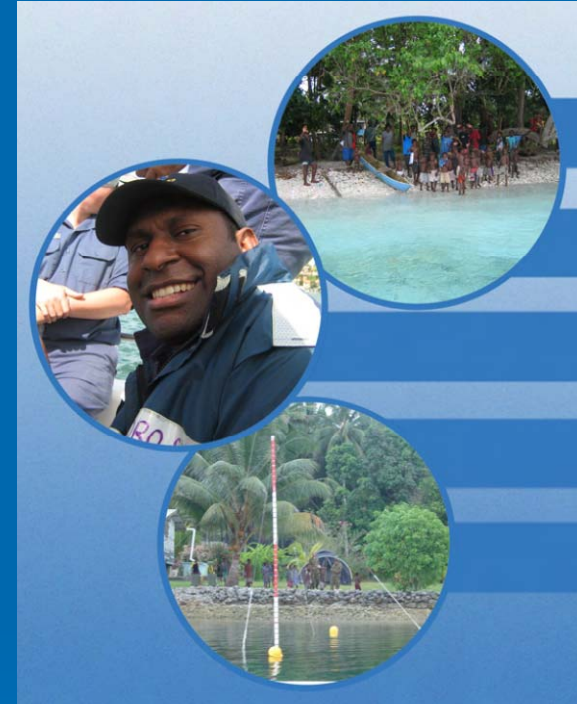
Initial start up required:

- New production methodologies required i.e. parallel production Paper/ENC
- Requirement for Independent QA
- New tools developed i.e. ZOCdB, ENC Cartographer

4 Phases:

1. Data Pack Assembly

- Ground truthing i.e. Geodetic control, Datums, tides
- ZOC assessment i.e. quality indicators for all surveys





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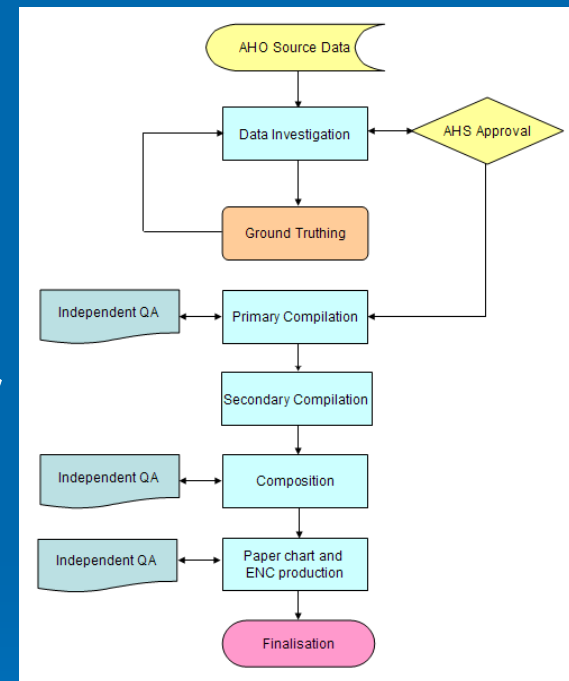
PNG Project – Chart & ENC Production

2. ENC Remediation & Maintenance

3. Chart/ENC Production

4. Delivery & Acceptance

- IHO S57 data sets for 17 existing S57 datasets (remediated and updated)
- Digital reformat for 39 new metric paper charts
- IHO S57 data sets for 39 new ENC's
- Associated Seafarer RNC's





PNG Project – Parallel Projects

■ **Developing Capability**

– **Governance**

- NMSA was established by parliament.
- NMSA took over the marine regulatory & operational functions of the Dept of Transport & Civil Aviation.

– **Maritime Safety Information**

- Fully functioning & effective network of maritime navigational aids
- Availability of high-quality, up-to-date navigational charts
- All vessels to meet safety standards required by PNG & IMO
- Seafarer competency
- Coordinate responses to distress calls.

– **Hydrographic Survey Capability**

- Training of personnel
- Basic survey capability established

– **Additional Training**

- MSI i.e. radio operators, nav. aids maintenance
- AIS/LRIT (web enabled)

– **Vessel Monitoring Capability**

- Establishment of a national AIS/LRIT infrastructure

– **Establishment of SAR & Oil Spill Response capability**



Benefits

Improved quality of hydrography and charting which supports the safety of navigation, maritime trade and contributes to the protection of the marine environment.

■ Shorter Safer Routes

- Vessels save time and fuel by taking short cuts through newly charted waters.
- Reduced marine accident rate.
- Improved access/trading routes.
 - Note: 90% of waters still uncharted

■ Increased Economic Activity

- Nav aids & charts enable more people to fish and travel in the evenings.
- Increased economic activity is supported by a lively interisland shipping sector.

■ Sustainability

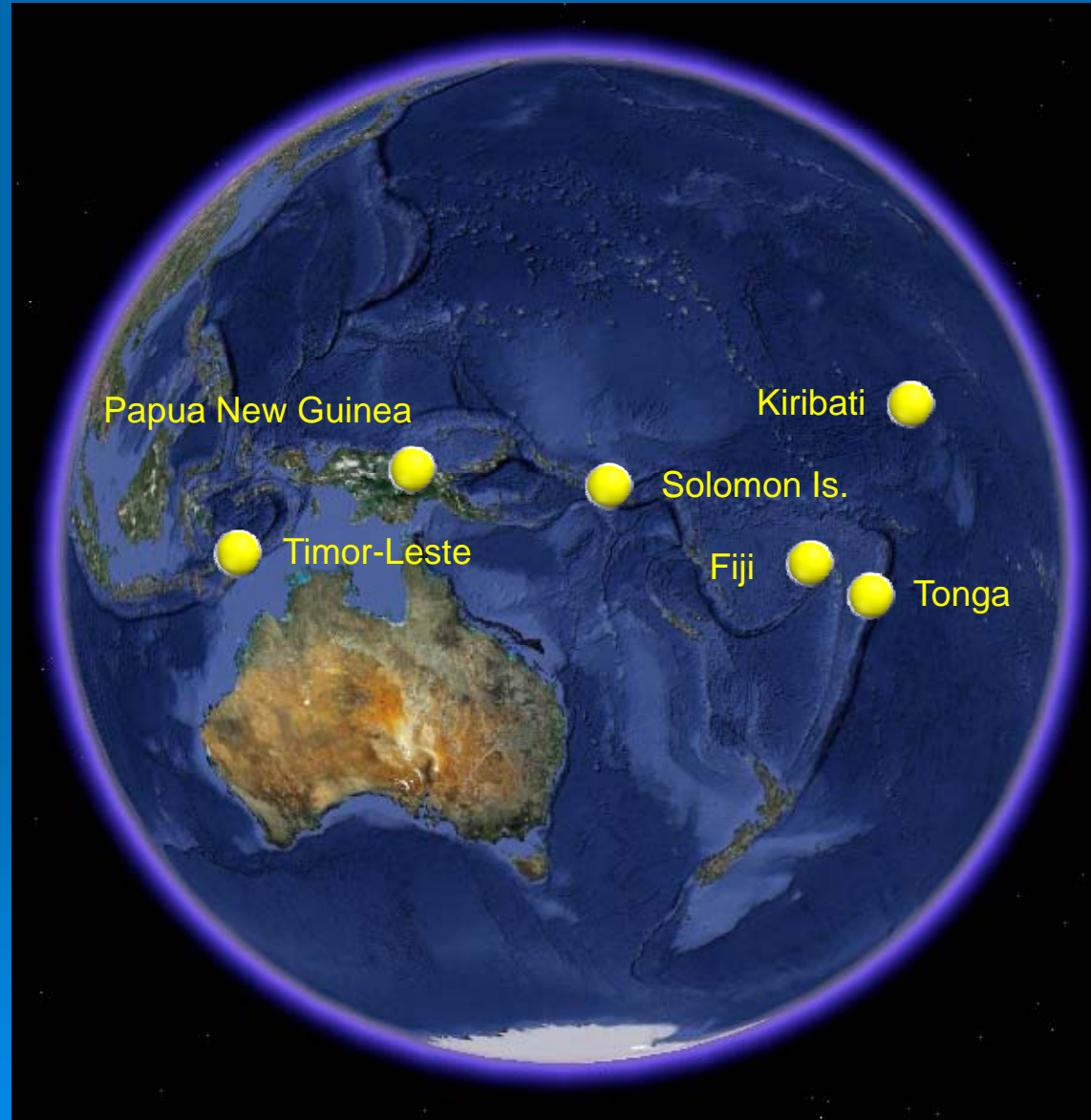
- The NMSA is self funding.
- Communities are being paid to maintain light houses & safeguard them from vandalism.
- Charts and ENC's are being maintained by the AHS with information supplied by NMSA.



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Future Projects



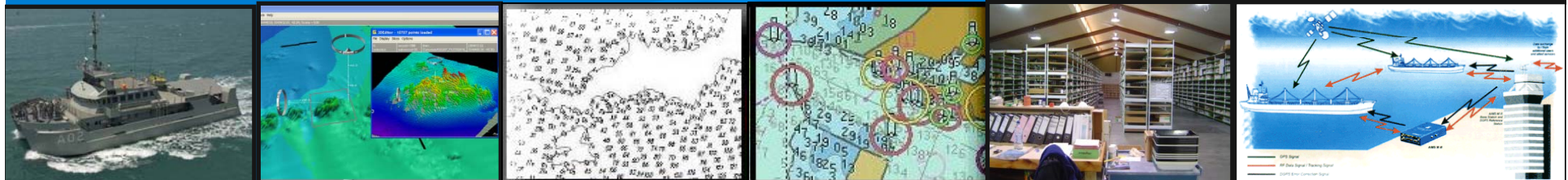


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Industry Participation

- Consultancy i.e. assisting with aid applications
- Hydrographic Surveys
- Cartographic Production Services
- Survey Equipment
- Chart/ENC Production Tools
- Chart Printing, Warehousing & Distribution
- Vessel Monitoring Tools & Services
- Training





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Summary

- IHO model works
- Scalability is essential
- Collaboration is key
- PNG NMSA is evidence of what can be achieved





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Thanks to



**Australian
Hydrographic Service**

www.hydro.gov.au



**National Maritime Safety Authority
Papua New Guinea**

www.nmsa.gov.pg