Programme Janus

Investigation Phase

New Zealand Hydrographic Authority

Oct 2021

Content

Where we are at

DB preparation for S-100 and D1DC

Customer engagement plan

What's next

Timeline

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Where we are at

	WP 1	WP 2	WP 3	WP 4	WP 5	Sprint 6
Aug	Sep	Oct	Nov	Dec	2022	Feb	Mar	Apr	May

Today

DB Structure

100% Process

S-101 / Dual Fuel

30% Process

Implementation

40% Process

Grid Schema

0% Process

High Level Topics

New DB structure
- Data conflation
- New DB structure
- Scale less usages

S-101 / Dual Fuel
- Training
- Test conversion
- Analysis
- Guideline
- Metadata

Implementation Plan
- Data cleaning
- Scale less
- Recompilation
- Transition Plan

Grid Schema
- Define grid Schema

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Existing Source Database

➢18 Usages

➢Product Centric (Paper Chart)

➢With unneccessary overlaps

➢Not seamless coverage

➢Inefficient to maintain

☑ 1a Overview (6m and smaller)
☐ Deleted Features
☑ 1b Overview (3m-5 999 999)
☐ Deleted Features
☑ 1c Overview (1.5m-2 999 999)
☐ Deleted Features
☑ 2a General (700k-1 499 999)
☐ Deleted Features
☑ 2b General (350k-699 999)
☐ Deleted Features
☑ 3a Coastal (260k-349 999)
☐ Deleted Features
☑ 3b Coastal (180k-259 999)
☐ Deleted Features
☑ 3c Coastal (90k-179 999)
☐ Deleted Features
☑ 4a Approach (70k-89 999)
☐ Deleted Features
☑ 4b Approach (45k-69 999)
☐ Deleted Features
☑ 4c Approach (36k-44 999)
☐ Deleted Features
☑ 4d Approach (30k-35 999)
☐ Deleted Features
☑ 4e Approach (22k-29 999)
☐ Deleted Features
☑ 5a Harbour (17k-21 999)
☐ Deleted Features
☑ 5b Harbour (12k-16 999)
☐ Deleted Features
☑ 5c Harbour (8k-11 999)
☐ Deleted Features
☑ 5d Harbour (4k-7 999)
☐ Deleted Features
☑ 6 Berthing (Larger than 4k)
☐ Deleted Features
☐ Markers

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Proposed solution

➤ Rationalised Scales but not data

➤ Data Centric

➤ No overlaps

➤ Seamless data

➤ S100/101 Compliant
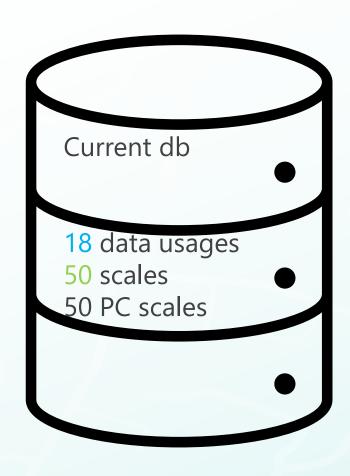
	Stage 1	Stage 2
Overview	10.000.000	10.000.000
	3.500.000	3.500.000
Transit	700.000*	
	350.000	
	180.000	180.000
Port Entry - Small	45.000	
	22.000	22.000
Port Entry - Medium	12.000	
	8.000	
Port Entry - Large	4.000	4.000
	2.000	2.000

*only available in the Pacific and Antarctic area.

Feature list (left panel):
- ☑ 1a Overview (6m and smaller)
- ☐ Deleted Features
- ☑ 1b Overview (3m-5 999 999)
- ☐ Deleted Features
- ☑ 1c Overview (1.5m-2 999 999)
- ☐ Deleted Features
- ☑ 2a General (700k-1 499 999)
- ☐ Deleted Features
- ☑ 2b General (350k-699 999)
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- ☑ 3a Coastal (260k-349 999)
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- ☑ 3c Coastal (90k-179 999)
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- ☑ 4a Approach (70k-89 999)
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- ☑ 4b Approach (45k-69 999)
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- ☑ 4c Approach (36k-44 999)
- ☐ Deleted Features
- ☑ 4d Approach (30k-35 999)
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- ☑ 4e Approach (22k-29 999)
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- ☑ 5a Harbour (17k-21 999)
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- ☑ 5d Harbour (4k-7 999)
- ☐ Deleted Features
- ☑ 6 Berthing (Larger than 4k)
- ☐ Deleted Features
- ☐ Markers

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2 stage implementation

Current db

18 data usages
50 scales
50 PC scales

Smart
Rationalisation

~70%
~80%

Produce gridded
ENCs instantly

Stage 1

5 data usages

10 scales

Smart
Rationalisation

~80%
~90%

Long-term project

Stage 2

4 data usages
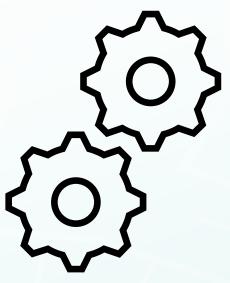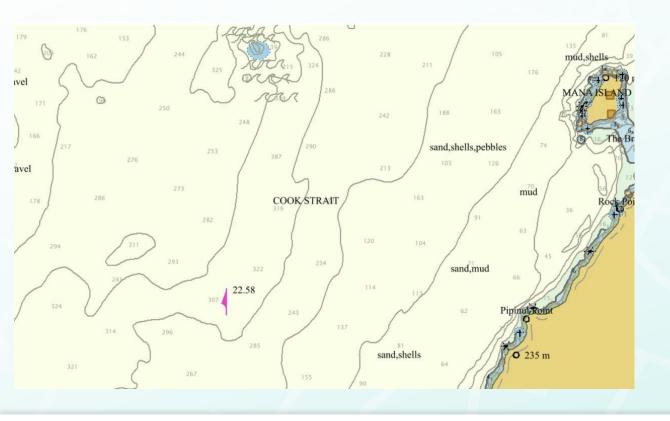
5 scales

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Smart rationalisation
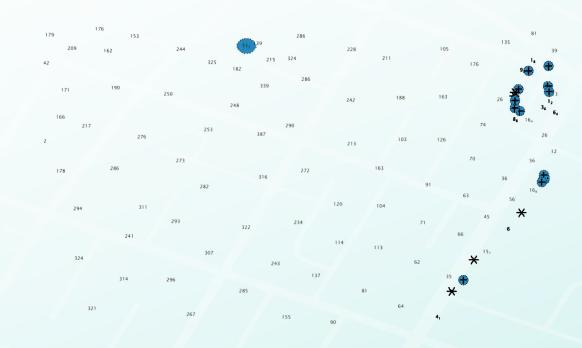
➢ Rationalise Scales but not DATA

➢ Retain scale less objects

  ▪ AtoNs, Soundings... everything that is scale less

➢ Improved data by recompiling only area of interest

➢ Rationalise only scale based objects

  ▪ Depth contours, depth areas, coastline..

Scale less Objects

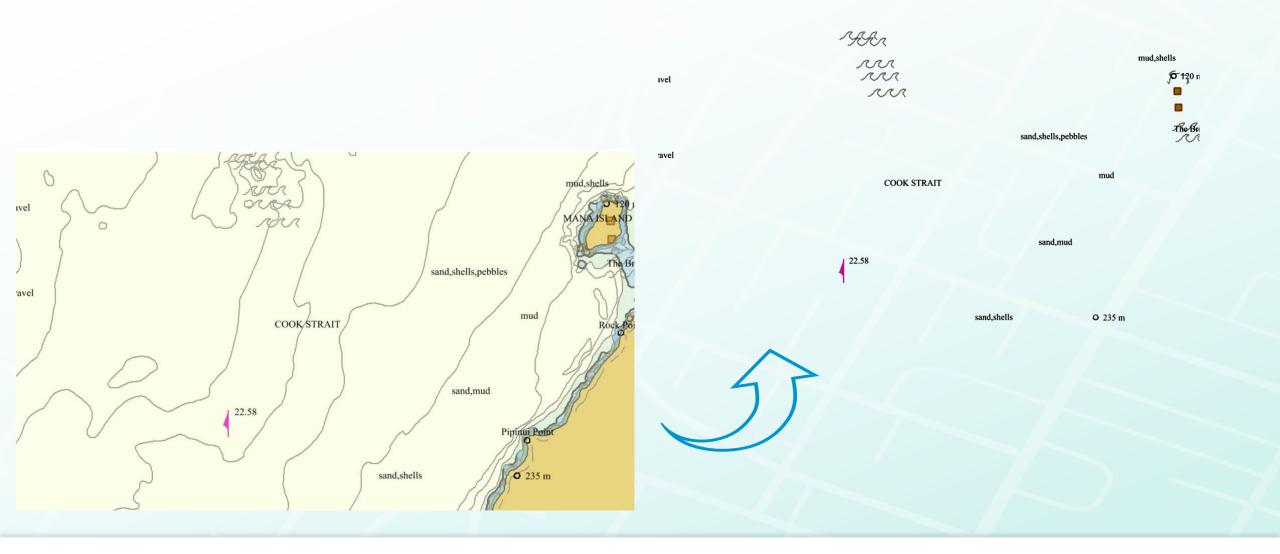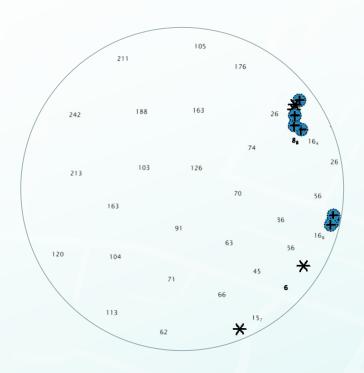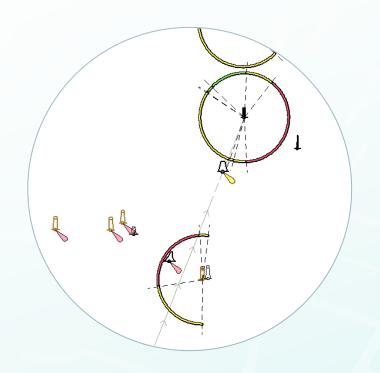➢ Define a scale-less or scale independent feature
  ▪ Point feature defined by coordinates
  ▪ Line features defined by coordinates
  ▪ Feature is unchanged
  ▪ Easy Feature maintenance

➢ Moving features to scale-less layers
  o Improve efficiency and vertical consistency
    ✓ Reducing maintenance
    ✓ Streamlining the sounding selection process

➢ Product creation
  ▪ SCAMIN in source vs.
  ▪ SCAMIN at product stage

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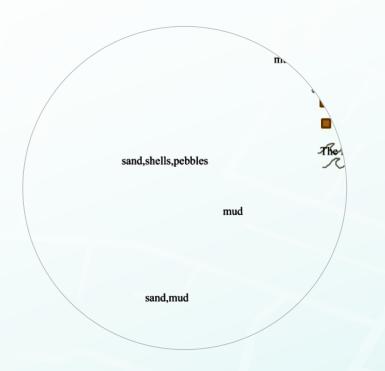Toitū te whenua

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Soundings

➢ Soundings management
➢ Features to include on this layer
  o Soundings
  o Soundings and underwater rocks
  o Soundings, underwater rocks and M_QUALs
➢ Sounding density
➢ How SCAMIN would work in the source database
  o Defining a new set of SCAMIN rules for soundings
  o Scale filter tool

Aids to Navigation (AtoNs)

➢ Is ther something wong with the current capture of the AtoNs?
➢ Discussued option of seperating the AtoN features in dB and combining only in the product eg
   o Lights on scale-less
   o Support structure on scale based usage
➢ Can other features be considered fo incluions?
➢ Current thoughts on moving foward.

sand,shells,pebbles

mud

sand,mud

Other Layer

➢ What other features could we define scale-less?
  ➢ Magnetic variations
  ➢ Cables
  ➢ Bottom qualities
  ➢ Locations/Geograhic names (if we capture these only as point features)
  ➢ Wrecks and obstructions

New Generation Chart Products

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1. S-101 ENCs, gridded with more consistent scale bands

2. Official Paper Charts replaced with an online create-and-print tool
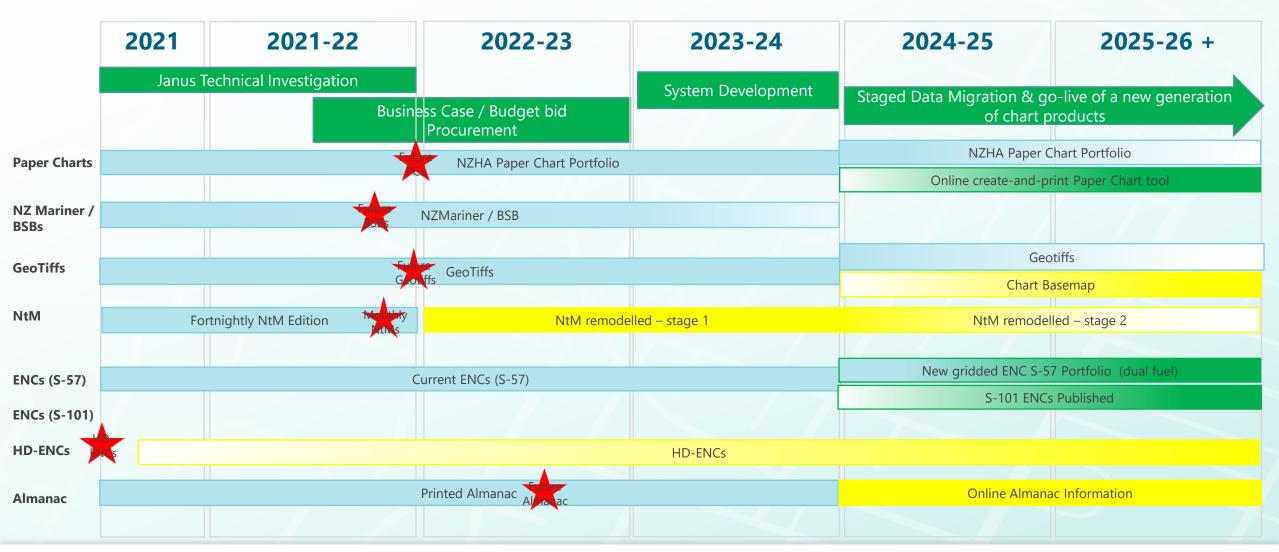
HD-ENCs

Withdrawal NZ Mariner

NtM remodelled

Chart Basemap ??

Customer engagement plan

Engagement Timeline

2021	2021-22	2022-23	2023-24	2024-25	2025-26 +
Janus Technical Investigation		Business Case / Procurement	System Development	Staged Data Migration & go-live of a new generation of chart products	

MNZ

| Partner with MNZ | Comms | Develop Collateral | MNZ/ LINZ partnership engaging Chart Product Users |

Customers:

Comms

Promote ENC use & NZ Service

Mariners
Engage Primary Customers and Mariners — Education and Awareness for Navigation Customers

Non-Nav
Engage Non-Nav Customers — Education and Awareness of Non-navigation Customers

Data Users
Engage key Data Users — Education and Awareness of Chart Data Users

Service Providers
Consult & Raise Awareness with Service Providers

International Stakeholders
Consult with key Pacific stakeholders — Education and Awareness for Chart Product Users

Sharing Knowledge with other HOs

Internal Stakeholders
Project Status updates to LILT & NZHA — Project Status updates to ELT, LILT & NZHA

Build support with LILT & ELT

Maori/ Iwi
Engagement with Maori / Iwi (TBD)

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➢ S-100 / S-101

➢ Gridding

➢ Transition Plan (What comes first)

➢ BC

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Investigation Phase
Thanks
Questions?

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