
# Inventory Management with Roundabout DataBase

Connor Ahearn and Hannah Brewer

# Inventory Management in Oceanographic Facilities

We have had problems that you all can relate to:

- “Where’s that _____?” (instrument, gear box, ship???)
- “How did we do this before?”

***Motivations*** - Efforts to maintain and track Inventory were varied and inconsistent. Opportunities to further leverage our knowledge were lost. Existing industry solutions were insufficient

***Challenges*** - inventing a new, operable/reliable database is not just about transferring the “catalogue” in somebody’s hard drives/spreadsheets to digital...it involves a lot of communication, almost working on shifting work culture a bit.

After some evaluation of available products, we began an Open Source Software Project!

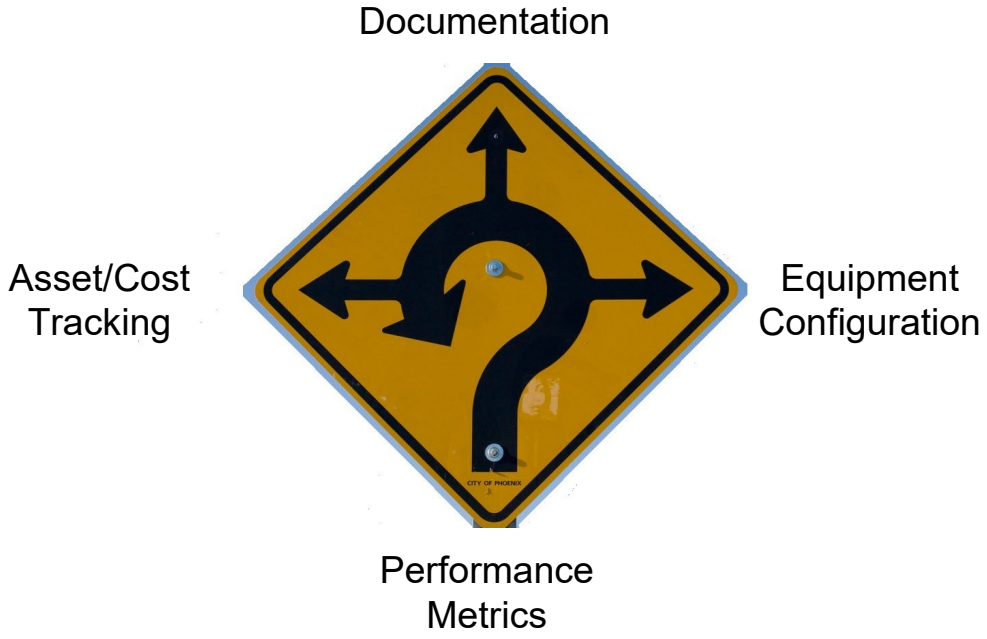
# Starting Points

We came at this with certain needs,

- Tracking
- Documentation
- Metadata Management

But there are lots of starting points

- Cost Analysis
- Performance Metrics



# What is Roundabout?

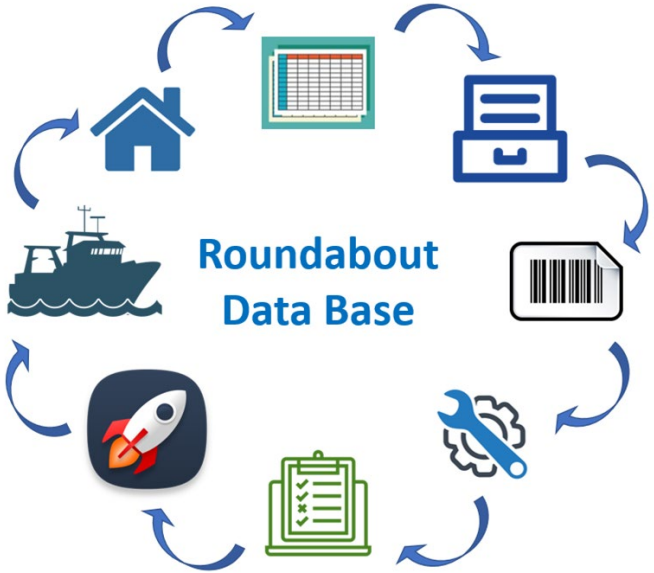
## A way to collect and organize electronic records of high-value equipment

- Tracks history of individual inventory items
- Maintains equipment records, including subassemblies, to any level of detail
- Interactive, searchable, importable/exportable

# Roundabout DataBase (RDB)

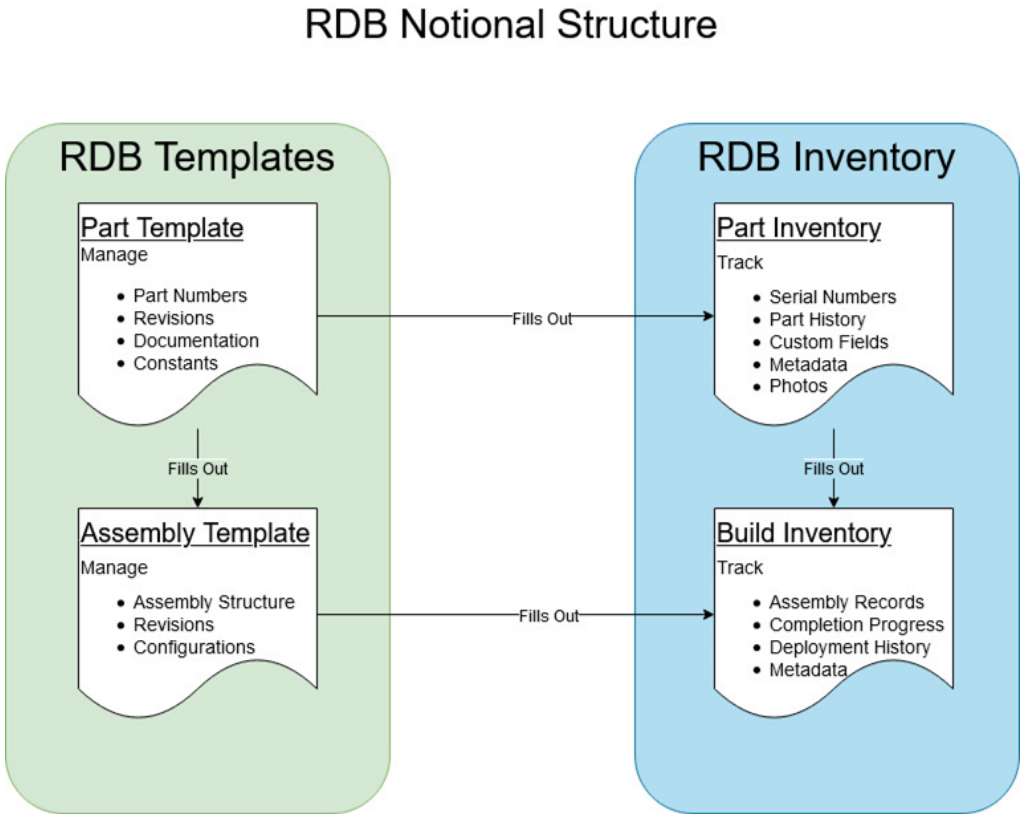
We care about the **LIFECYCLE** of our equipment. To track this we begin with the premise that we must know ***WHAT*** we have and ***WHERE*** it is.

In the world of Roundabout, all inventory must have two things: a Serial Number and a Location

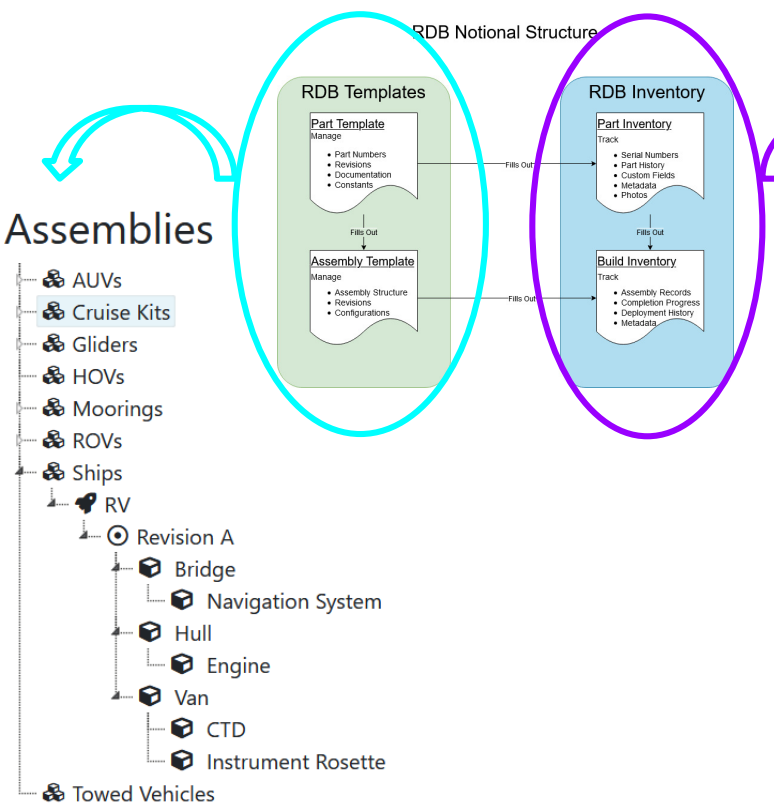


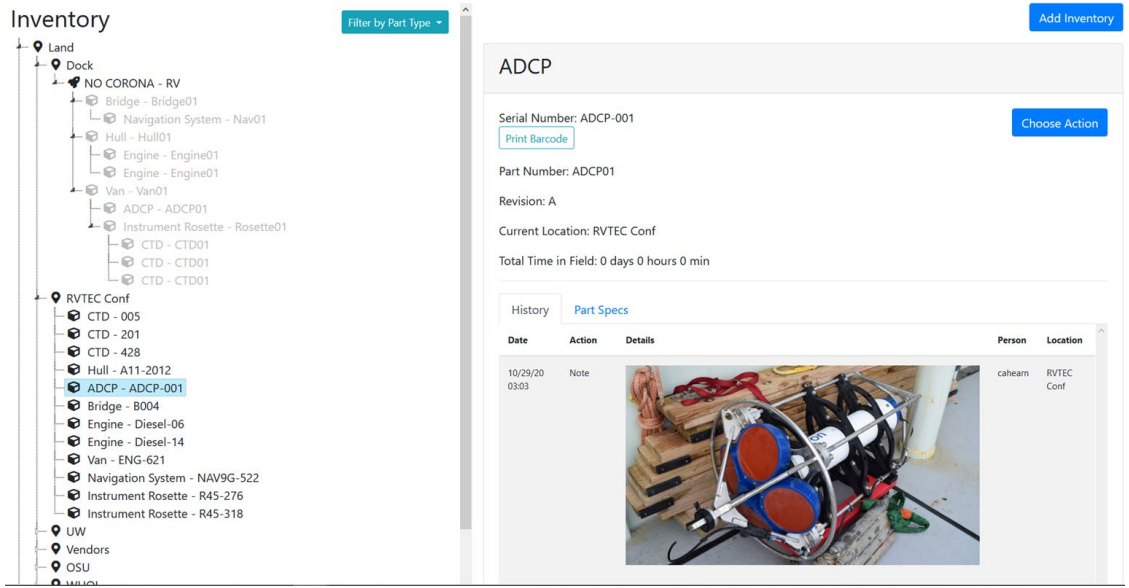
# Useful Features of RDB

- Subassemblies
- History
- Revisions
- Custom Fields
- Costs
- Manuals
- Configurations
- Refurb Cycle
- Metadata

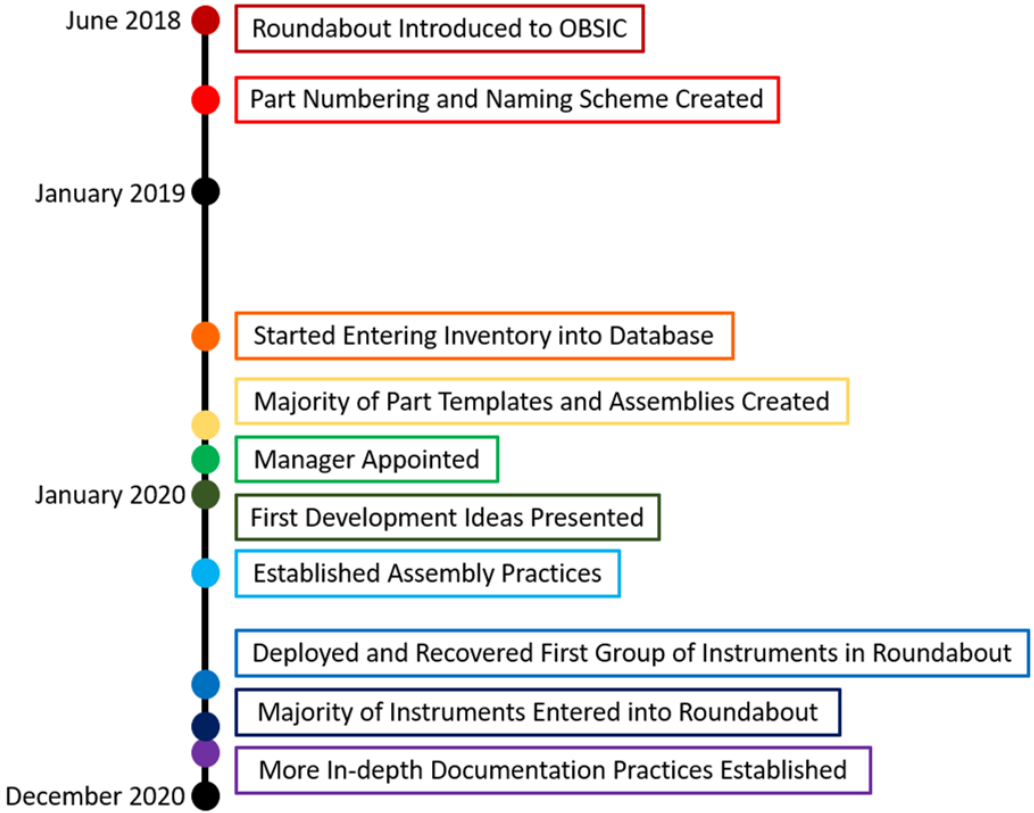


# Demo

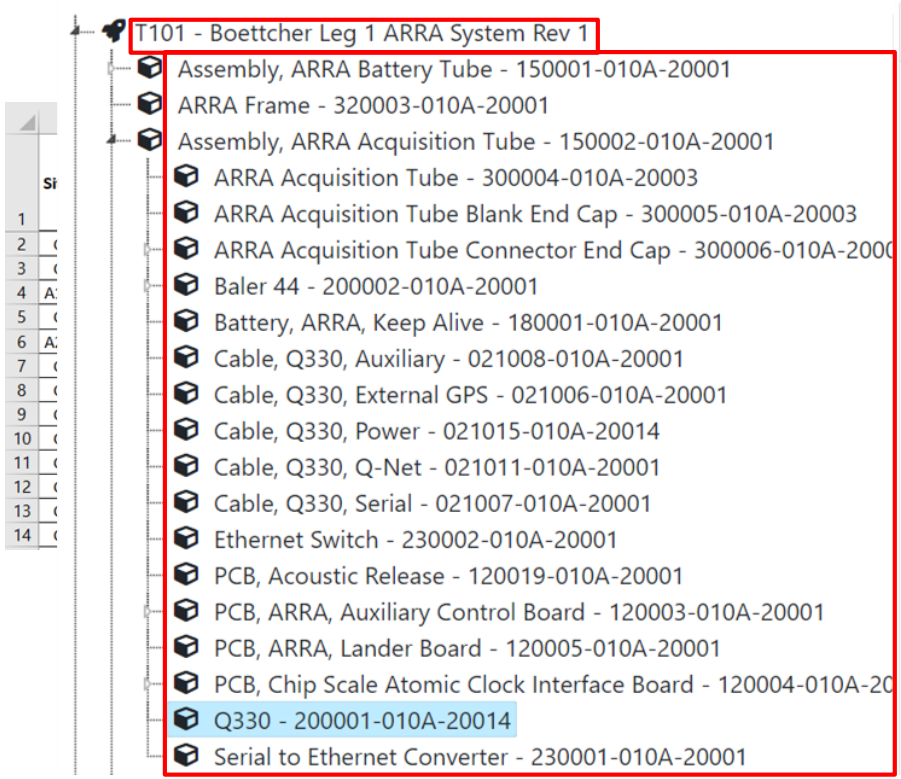

RDB Notional Structure
RDB Templates
Part Template
Manage
• Part Numbers
• Revisions
• Documentation
• Constants
Fills Out
Assembly Template
Manage
• Assembly Structure
• Revisions
• Configurations
RDB Inventory
Part Inventory
Track
• Serial Numbers
• Part History
• Custom Fields
• Metadata
• Photos
Build Inventory
Track
• Assembly Records
• Completion Progress
• Deployment History
• Metadata
Assemblies
AUVs
Cruise Kits
Gliders
HOVs
Moorings
ROVs
Ships
RV
Revision A
Bridge
Navigation System
Hull
Engine
Van
CTD
Instrument Rosette
Towed Vehicles

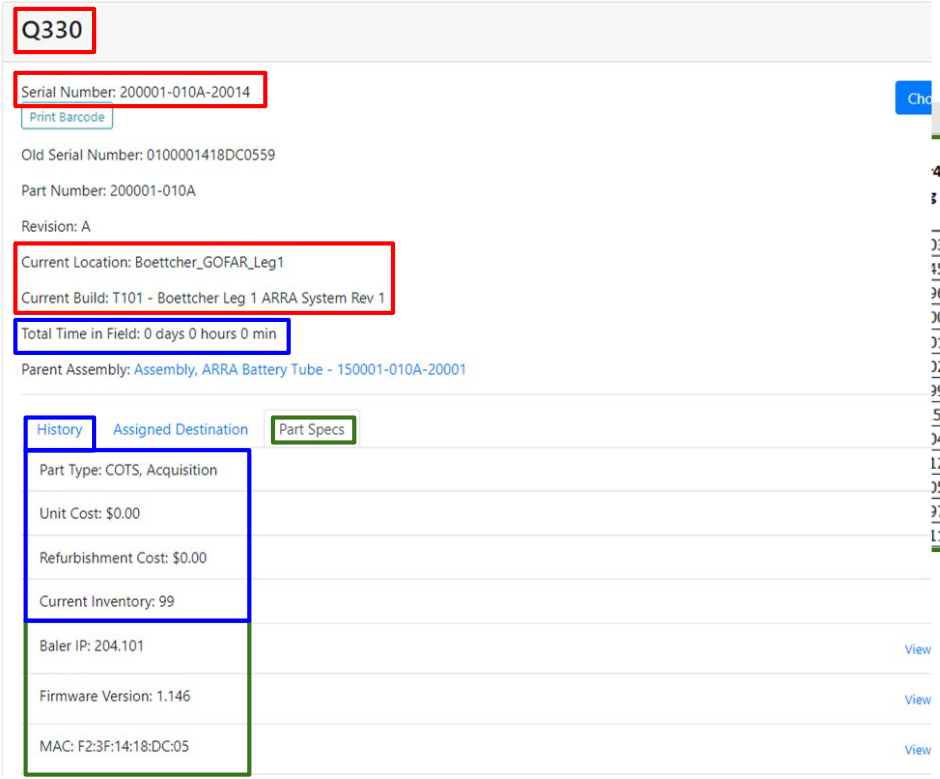

Inventory
Filter by Part Type
Land
Dock
NO CORONA - RV
Bridge - Bridge01
Navigation System - Nav01
Hull - Hull01
Engine - Engine01
Engine - Engine01
Van - Van01
ADCP - ADCP01
Instrument Rosette - Rosette01
CTD - CTD01
CTD - CTD01
CTD - CTD01
RVTEC Conf
CTD - 005
CTD - 201
CTD - 428
Hull - A11-2012
ADCP - ADCP-001
Bridge - B004
Engine - Diesel-06
Engine - Diesel-14
Van - ENG-621
Navigation System - NAV9G-522
Instrument Rosette - R45-276
Instrument Rosette - R45-318
UW
Vendors
OSU
Add Inventory
ADCP
Serial Number: ADCP-001
Print Barcode
Choose Action
Part Number: ADCP01
Revision: A
Current Location: RVTEC Conf
Total Time in Field: 0 days 0 hours 0 min
History
Part Specs
Date
Action
Details
Person
Location
10/29/20 03:03
Note
cahearn
RVTEC Conf

# OBSIC Timeline



# Transition from Excel Spreadsheets to Roundabout Database



# Roundabout Flexibility

## Builds

- Land
  - Assemble Here
  - Boettcher_Leg1_DeMob
  - Boettcher_Leg2_Prep
  - Lizarralde_Leg1_Prep
  - RoundAbout Testing
    - -20001 - Test Part Number
    - Test 3 - Test System with Unknown Guralp Type
    - Test 2 - Test System with Guralp **Deployed - Test**
    - Test 1 - Guralp Passive Leveling System **Recovered - Test**
  - Storage Containers
  - Unallocated
  - Worthington_Leg1
  - Worthington_Leg1_Prep
- Out for Repair
- Sea
- Retired

## Cable, ARRA, Q330, Power

Serial Number: 0210013-010A-20001

Print Barcode

Part Number: 021015-010A

Revision: A

Current Location: Land

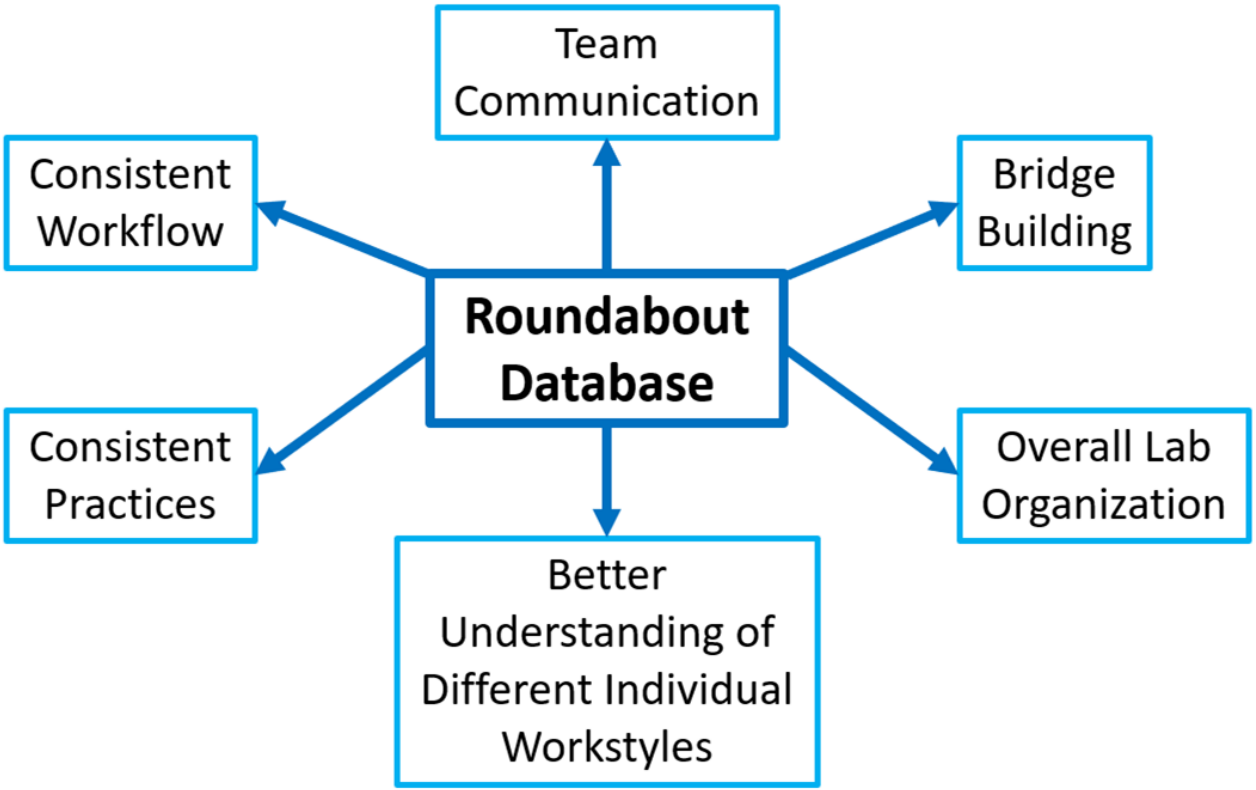
Total Time in Field: 0 days 0 hours 0 min

Current Test Status: CableEye Test: Pass Pressure Test: Pass

History | Part Specs

| Date | Action | Details |
|---|---|---|
| 10/28/20 03:01 | Test | Incoming Test: Pass. |

# Broader Impacts



# Meeting the Challenges of Integration

## How do I RDB?

- Identify Coordinator / Configuration Manager / Point-Person
- Organizational Effort
  - Part numbering / Serialization
  - Locations
  - Clarifying Vocabulary
  - Metadata Requirements
  - Use in Field
- Staged Implementation
- Set Proper Expectations
- This is not a cure all, RDB only solves some of your problems.

# Technical Considerations

Required Elements:

- Linux-based VM with Docker and Git
- 1 core, 8GB RAM, user-dependent storage reqs
- https://github.com/WHOIGit/ooicgsn-roundabout
- Get in touch - rdb@whoi.edu
  - Connor Ahearn - cahearn@whoi.edu
  - Hannah Brewer - hbrewer@whoi.edu

# Where Do We Go From Here?

Development - Next Steps

- Expanding CSV Input/Output & API functions to provide Metadata for CI
- Field Testing “At-Sea” portability Feature
- Improving UI - Mobile version

Community Considerations

- CI Improvements
- Ship-to-Shore Data could be available
  - Must improve Internet Reliability

# Acknowledgements

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