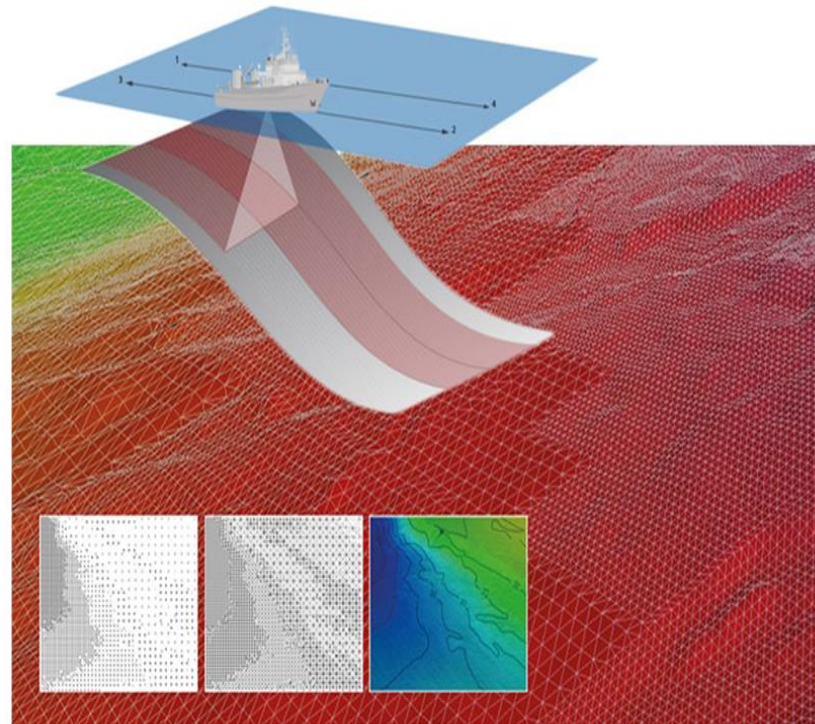


# 18th North Indian Hydrographic Commission Meeting April 9-12, 2018, Goa, India

## Teledyne Marine Solutions for Hydrography



Alejandro Gerones

Regional Sales Manager  
Asia Pacific  
Teledyne CARIS

Stefan Könnecke

Sales Director, Deep Water  
Product Manager, Deep Water  
Teledyne RESON

IMAGING • INSTRUMENTS • INTERCONNECT • SEISMIC • VEHICLES



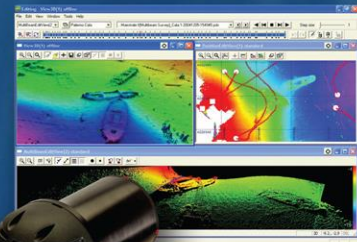
## INTERCONNECT

AG Geophysical  
DGO • Impulse • ODI  
Storm Cable  
VariSystems



## SEISMIC

AG Geophysical • Bolt  
Geophysical Instruments  
Real Time Systems



## IMAGING

BlueView • Bowtech  
CARIS • Odom Hydrographic  
RESON



## INSTRUMENTS

Benthos • CDL  
Cormon • Oceanscience  
RD Instruments • TSS



## VEHICLES

Benthos • Gavia • Oceanscience • SeaBotix • Webb Research



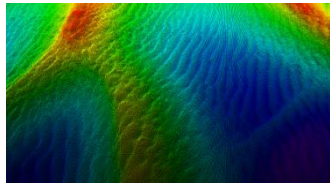


# Teledyne Solutions for HYDROGRAPHY

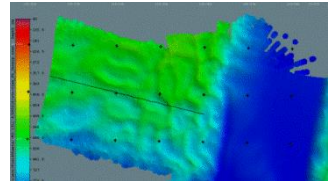
## Platforms



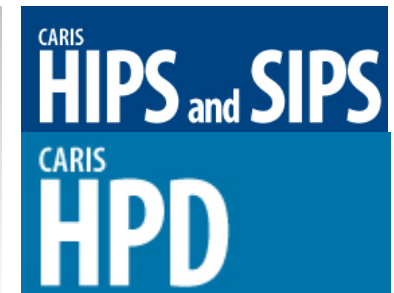
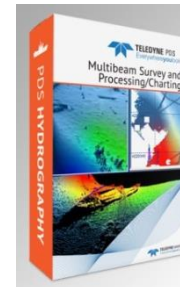
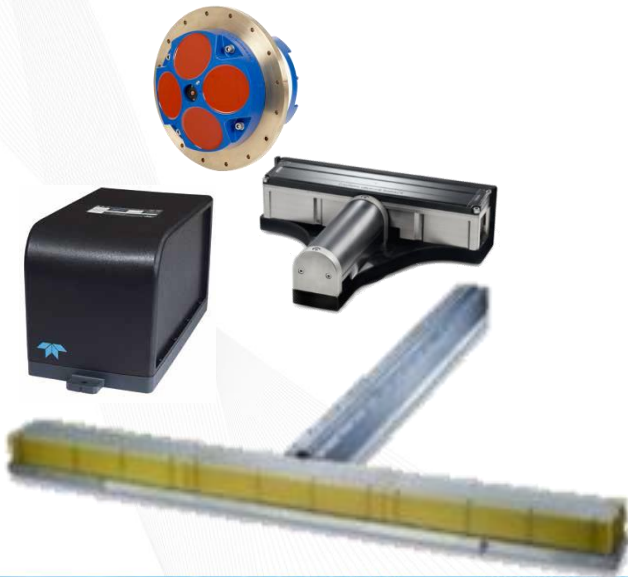
Sensor



Data  
Acquisition



Data  
Processing



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**TELEDYNE  
MARINE**  
Everywhere you look™

# Teledyne Solutions for HYDROGRAPHY

## Japanese Coast Guard

Deep Water Vessel	Survey Motor Launch	Mid Water Vessel
Deep Water Multibeam HydroSweep DS		Mid-Water Multibeam SeaBat 7160
Shallow Water Multibeam SeaBat T50-R	Portable Shallow Water Multibeam SeaBat T50-P	Shallow Water Multibeam SeaBat T50-R
SV Keel Sensor SVP70	SV Keel Sensor SVP70	SV Keel Sensor SVP70
ADCP OceanSurveyor 150		ADCP OceanSurveyor 150
ADCP Workhorse Marine 600		ADCP Workhorse Marine 600
RapidCast		
Caris OnBoard		Caris OnBoard
Caris HIPS/SIPS		Caris HIPS/SIPS



- Supply of multi-sensor Survey System for Japanese Coast Guard two new research vessels.
- Turn-key solutions for hydrography and oceanography data acquisition and processing.

# Teledyne Solutions for HYDROGRAPHY

Japanese Coast Guard

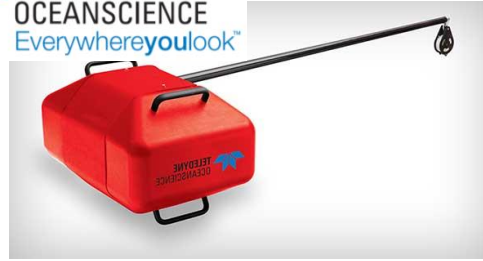
## Sensor



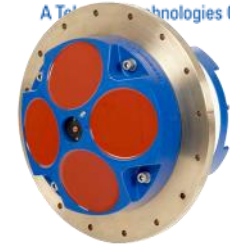
**TELEDYNE RESON**  
Everywhereyoulook™



**TELEDYNE OCEANSCIENCE**  
Everywhereyoulook™



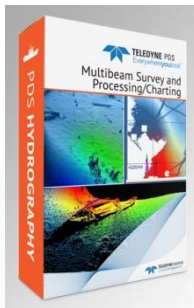
**TELEDYNE RD INSTRUMENTS**  
A Teledyne Technologies Company



## Data Acquisition



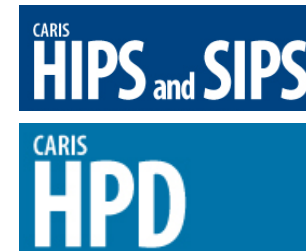
**TELEDYNE PDS**  
Everywhereyoulook™



## Data Processing



**TELEDYNE CARIS**  
Everywhereyoulook™



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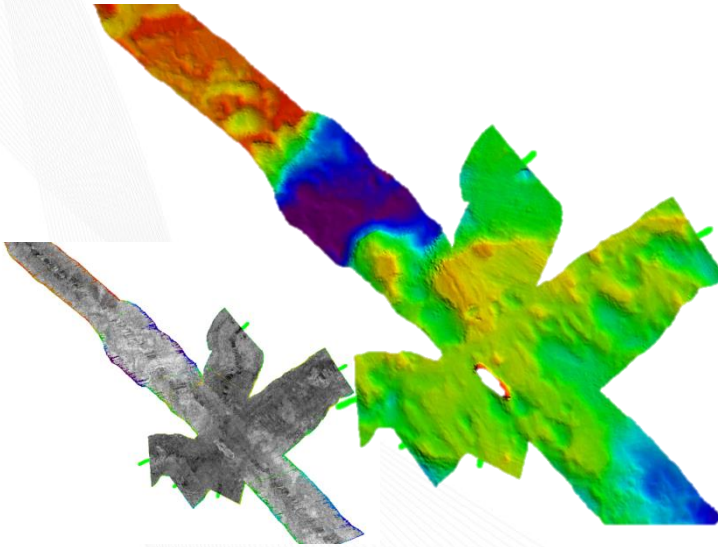
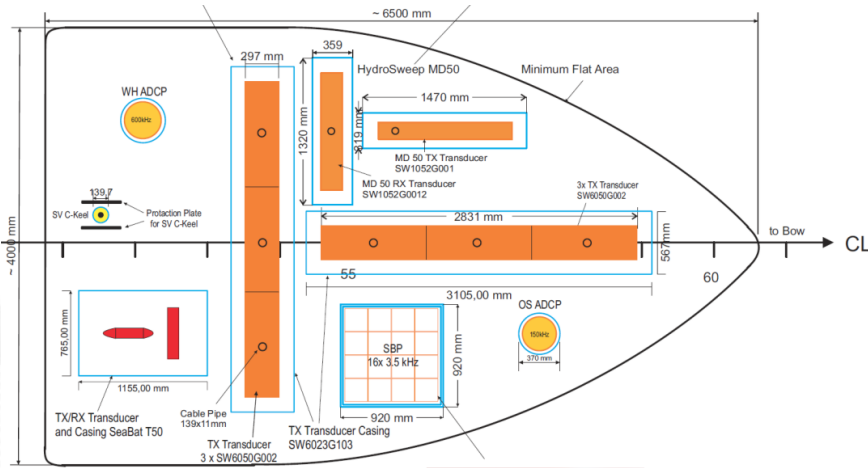


**TELEDYNE MARINE**  
Everywhereyoulook™



# Teledyne Solutions for HYDROGRAPHY

## Japanese Coast Guard



- **Teledyne Reson SeaBat and Teledyne**  
Highest resolution multibeam, optimized for clean bathymetry at best efficiency.
- **Teledyne PDS software**  
best-in-class acquisition software with easiest and powerfull calibration toolset
- **Teledyne RapidCast**  
Underway SV-Profiler, get precise SV and CTD profiles on-the-fly during survey
- **Teledyne RDI ADCPs**  
Industry standard ADCPs, with leading technology and analytics
- **Teledyne TSS Saturn and MK31**  
Precise and rock-solid FOG INS systems (available also in MIL standard)
- **Teledyne CARIS**  
Industry standard post-processing solution

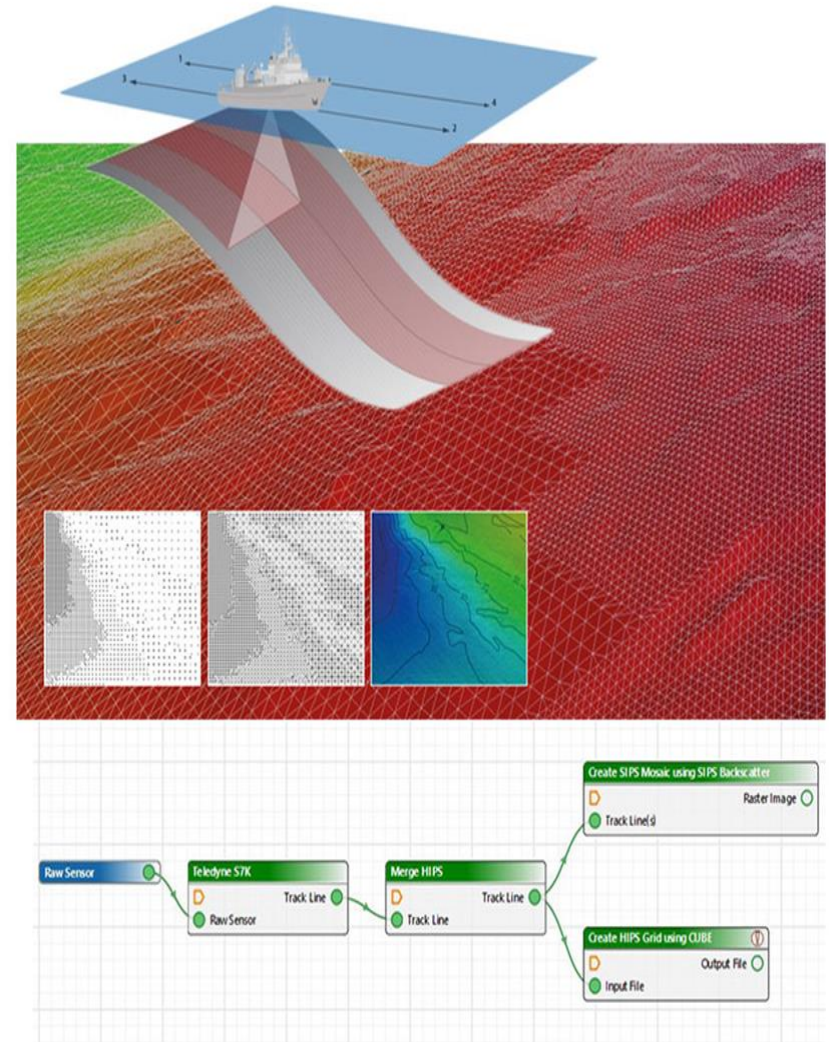
Comprehensive technical solutions for a fully integrated data flow in a compelling technically sound turnkey solution out of ONE Hand.

Enabling You to produce best Results

# Teledyne Solutions for HYDROGRAPHY

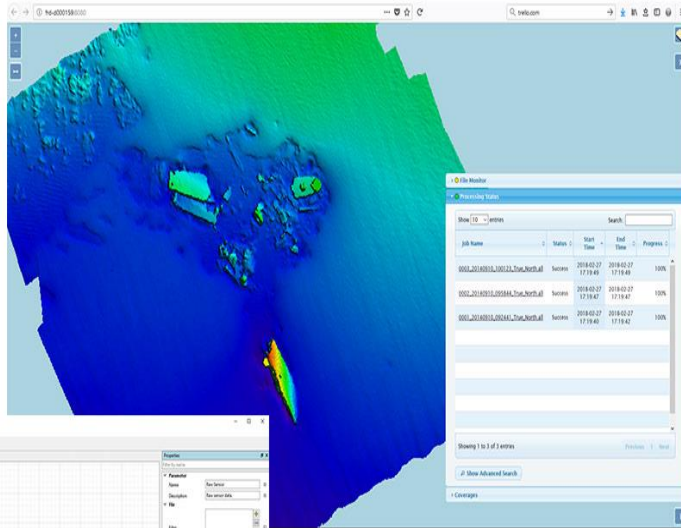
## CARIS HIPS and SIPS

- Automatic Boresite Calibration
  - Objectively resolves and corrects for pitch, roll and yaw alignment
- Variable Resolution Surfaces
  - Combines data from different sensors and over varying depth ranges in a single surface
  - Improved seafloor model to better reflect the shape and details
  - Workflow efficiencies for the creation, analysis and management of surfaces
- Process Designer to Graphically build a customized workflow
- Drag & drop processing
- No project setup required



# Teledyne Solutions for HYDROGRAPHY

## CARIS Onboard



### Process automation

- Process Designer allows full workflow customization
- Reduce complex workflows to an On/Off switch

- Apply real-time corrections
- Generate multiple processed products
- Focus on collecting quality data the first time
- Automated processing in parallel with acquisition
- Processed data and products available during acquisition
- User interaction begins at Quality Control and Final Edits
- Quick product turn around

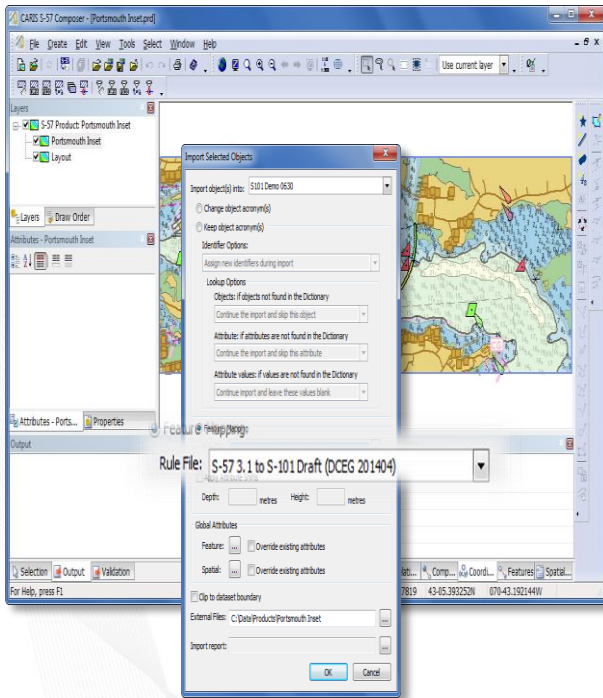


# Teledyne Solutions for HYDROGRAPHY

## S-101 Migration

### S-57 Composer:

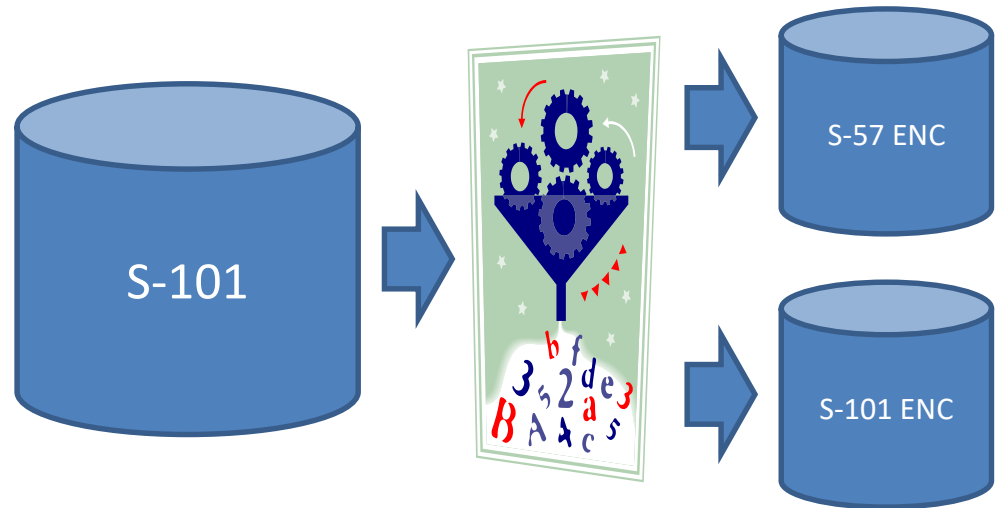
Convert S-57 features to S-101 features



CARIS tools includes both  
*conversion*  
and *production* capabilities

### CARIS HPD

- Conversion of existing S-57 ENC into S-101 ENC is first migration step
- Additional steps needed
  - Populate new information for S-101 ENCs that cannot be converted from the S-57 ENCs
  - New features, attributes, metadata, scales of use, etc.
- Support for S-100 based products in HPD 4.0 in 2018



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DGO • Impulse • ODI  
Storm Cable  
VariSystems



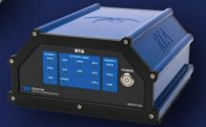
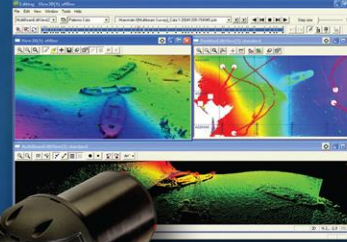
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