



**NOAA**

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# ASSESSING THE VALUE OF OCEANOGRAPHIC OBSERVATIONS

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- **General Framework for Valuing Information and Observations**
- **Current Valuation Efforts at NOAA**
- **Example: NOAA Fleet Study (time permitting)**

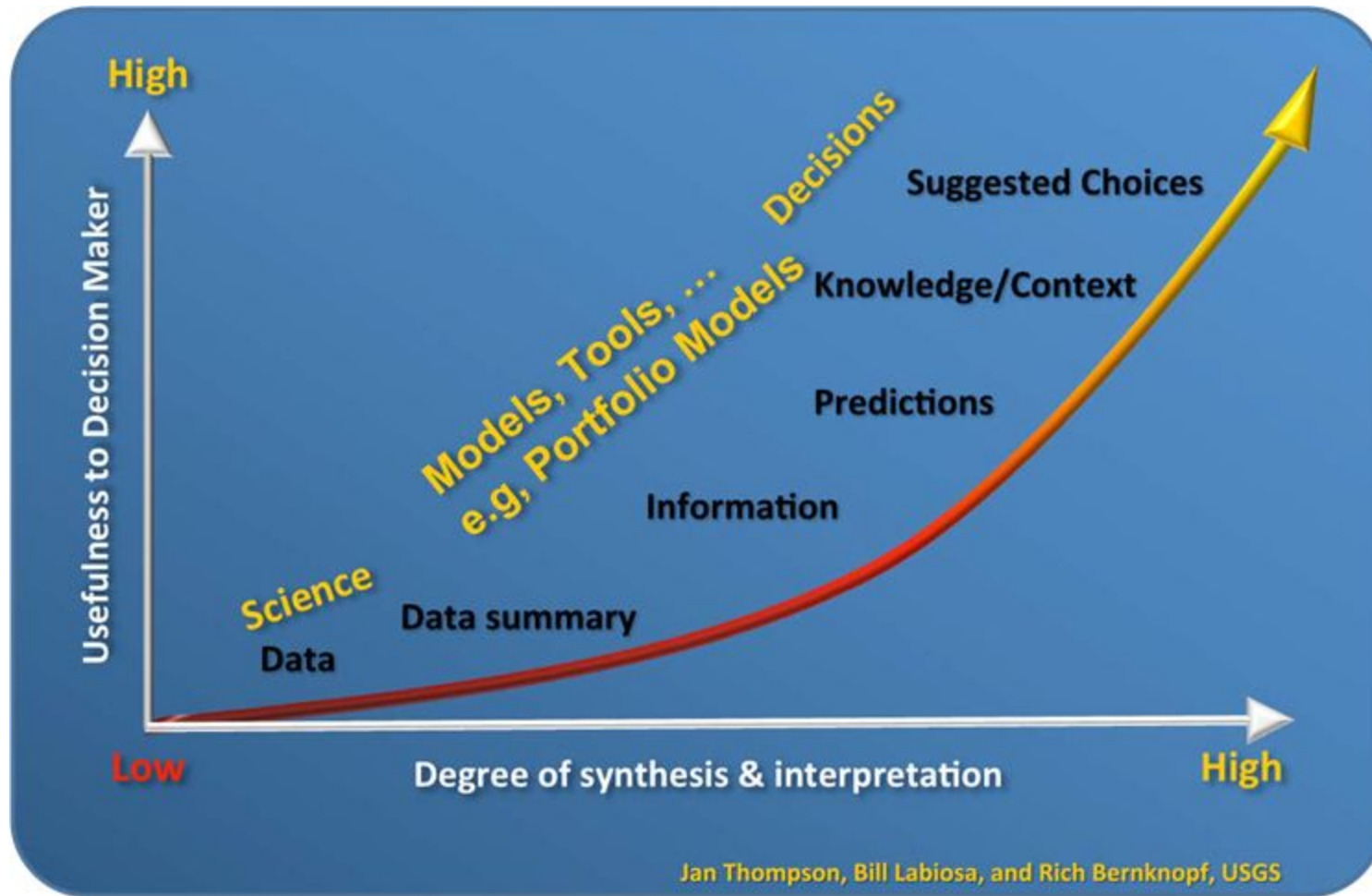
# Economic Benefit of Oceanographic Observations

Importance of measuring the **Economic Benefit** of oceanographic observations

How do you measure the **Economic Benefit** of oceanographic observations?

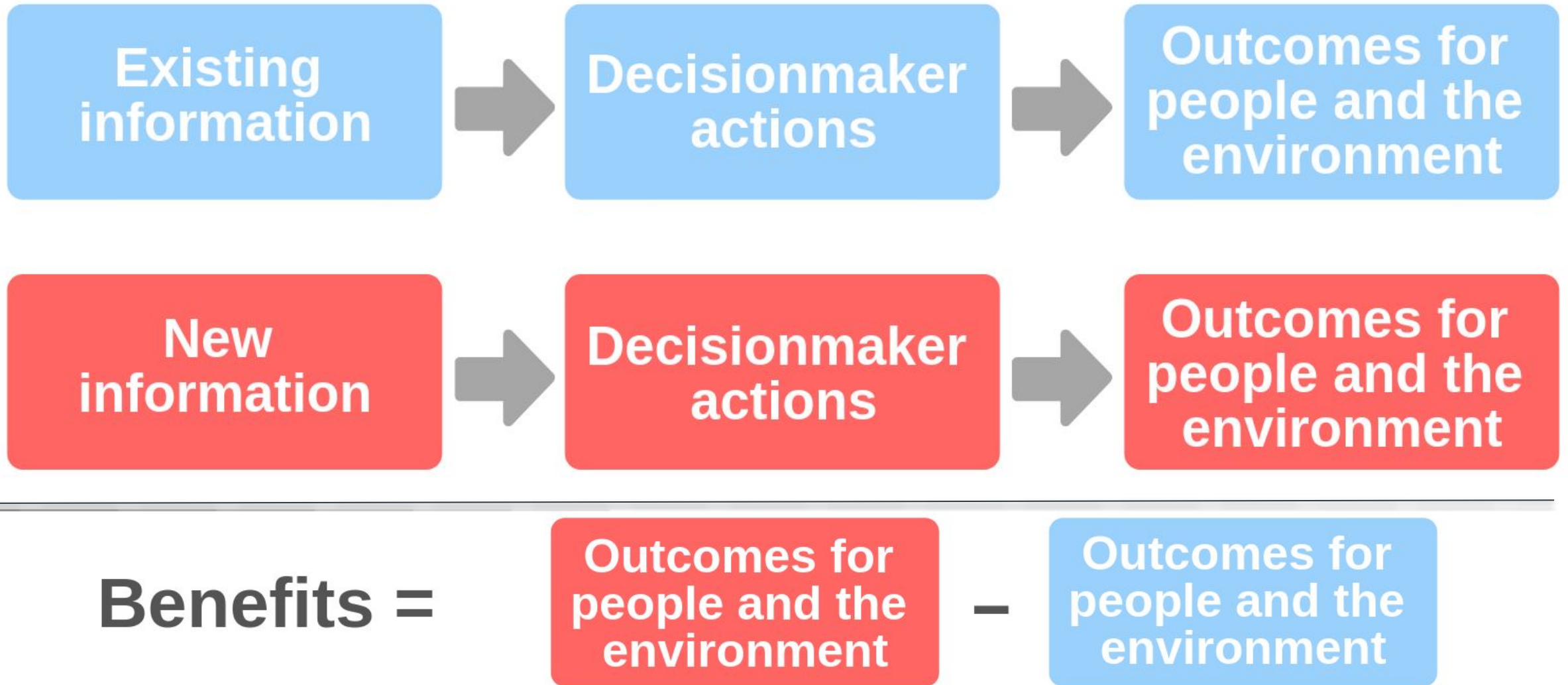
⇒ First need to understand **value of information**

# HOW TO INFORM MANAGEMENT AND DECISIONS?



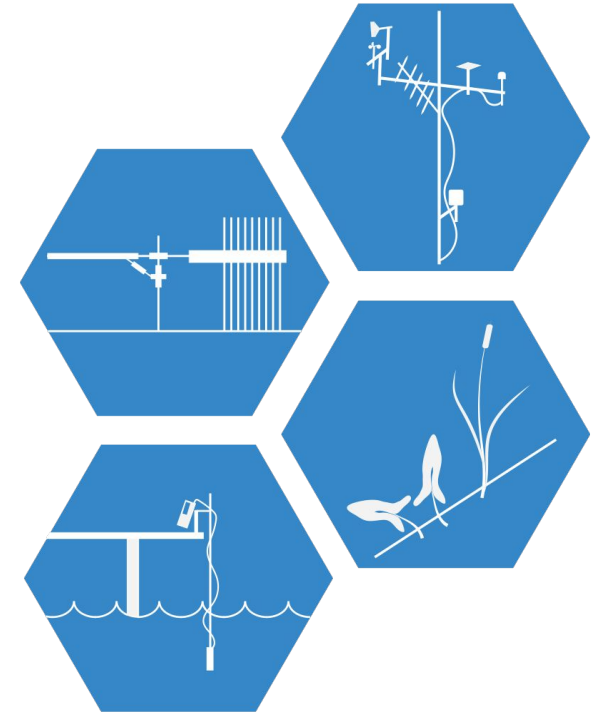


# THE THEORY OF “CHANGE”



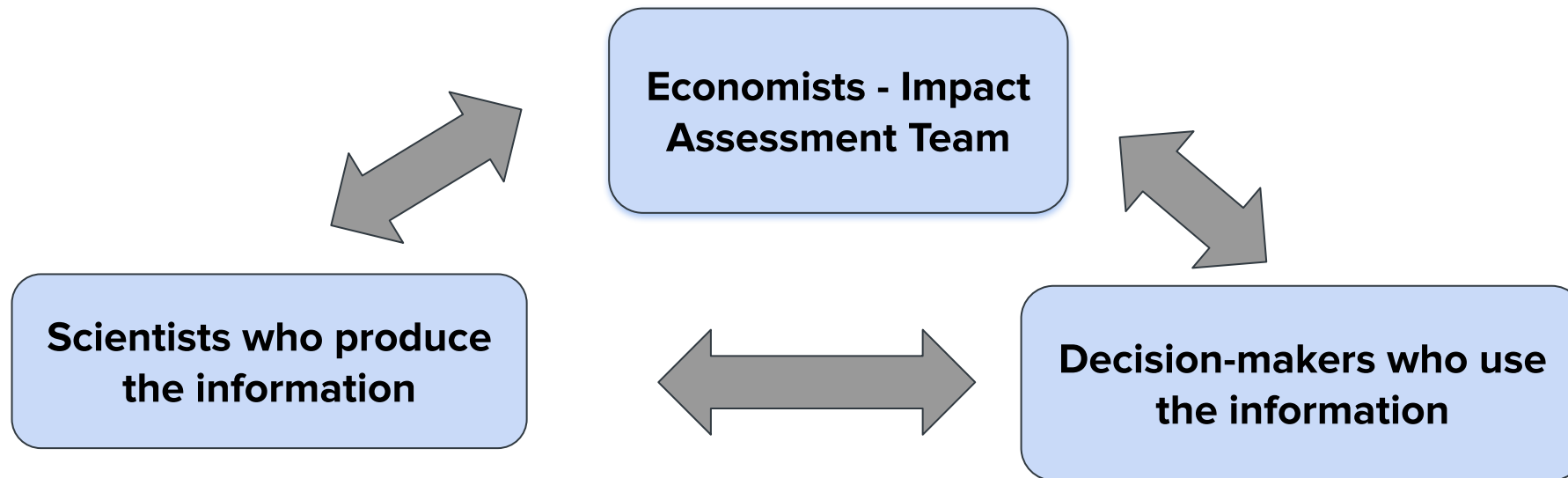
# KEY QUESTIONS

- What is the product?
- Who uses the product (**user**)?
- How do they use it? What decision is made?
  - e.g. Public sector - disaster response, regulatory
  - e.g. Private sector - agriculture, insurance, tourism, transportation, energy;
- What gets better because of the use of this product?
- How much better do things get?



# IMPORTANCE OF COLLABORATION

Significant collaboration between scientists, decision makers and economists is necessary!



# CURRENT VALUATION INITIATIVES

## ECONOMIC VALUATION

- OAR Portfolio Analysis
- **Technology Partnerships Economic Impact (OAR)**
- Big Data Project Economic Assessment (NOAA wide)
- Valuation of Satellite Data (NESDIS)
- **Value of Marine Vessel Observations (OMAO)**
- **IOOS Ocean Enterprise Study (NOS - IOOS)**
- **Benefits of Ocean Observing Systems (NOS - IOOS)**
- Benefits of Impact-Based Decision Support Services (NWS)
- **Precision Navigation (NOS - IOOS)**
- Space Weather (NESDIS)

## COORDINATION/COLLABORATION





## EXAMPLE: NOAA FLEET SOCIETAL BENEFIT STUDY

- Estimated the value of data collected by NOAA ships
- **638** products supported by NOAA ships
- **12** product value chain descriptions
- Estimated the **value** for **5 NOAA products** (ENSO outlook, Coral Status and Trends Report, Sea Level Rise Viewer, Nautical Charts, Sanctuaries Condition Reports)





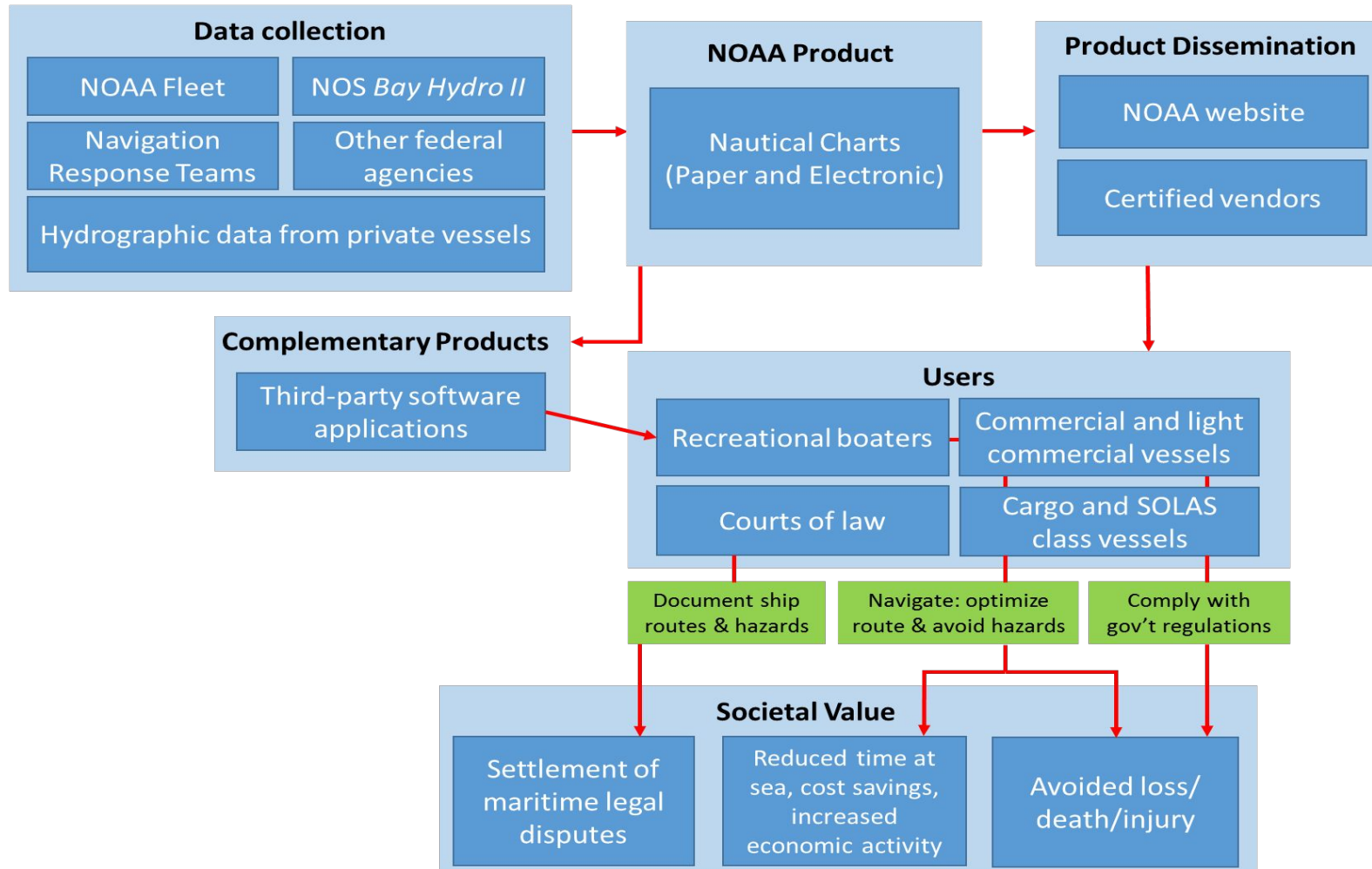
## 12 PRODUCTS SELECTED FOR VALUE CHAINS

- 1. Coral Reefs:** Coral Reef Status and Trends Report
- 2. Sea Level Rise:** Sea Level Rise Viewer
- 3. Bathymetry/Hydrographic Surveys:** Nautical Charts
- 4. Seasonal Forecasts:** El Nino Southern Oscillation Outlook
- 5. Ecosystem Management:** National Marine Sanctuary Conditions Report
- 6. Fisheries Management:** Fisheries Stock Assessments
- 7. Tsunamis:** Tsunami Inundation Forecast Model
- 8. Harmful Algal Blooms:** HAB Forecasts and Mitigation Capability (Gulf of Maine)
- 9. Hypoxia:** Hypoxia Watch (Gulf of Mexico)
- 10. Ocean Noise:** Ocean Noise Mapping
- 11. Hurricanes:** Hurricane Outlook
- 12. Emergency Response**

**\*Mission Service Area:** Product



# VALUE CHAIN: NAUTICAL CHART





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