NDSF Video & Data Management

- Last DeSSC Meeting
  - Described NLF award for Data Convergence & Telepresence
  - Described experiences with strawman systems on *Sally Ride* SVC
- Analysis of those experiences
- Status of telepresence study

NDSF Video & Data Management Analysis

- Discussed common products and delivery mechanism
  - Prototype use of OpenVDM, Data Management/ Access infrastructure
- Despite outstanding support from *Capable Solutions*, concluded that OpenVDM was not really addressing the challenge we face
  - Our challenge is making access to our data—both time series/video/samples--for analysis simpler and more aligned.
  - Current focus is on using event logger/frame grabber/ VV for data and metadata generation and access, tie to imagery
  - Extension of event logger to *Alvin/Sentry*
- Expect serious effort to begin late summer

NDSF Video & Data Management
Engineering Use of Telepresence

- "Telepresence Use for Operational/Engineering Purposes"
  - Emphasis on telecommunications vice telepresence
- Motivation: reduction in at-sea manpower
  - Berth space issues
- Willis Group engaged to perform study/analysis
- Multiple draft reports received/revised
- Expect final delivery in immediate future, pending WHOI review and collaborative effort on recommendations with DeSSC Subcommittee on telepresence

Preliminary Findings

- No large capital investment necessary to support high bandwidth telecommunication functions on UNOLS vessels
  - Primarily bandwidth costs
  - Some equipment standardization and “capital” expenditures on software/techniques could dispel some of the nagging bandwidth fears we all have
- Low hanging fruit is shoreside data processing for *Jason*, which could save a berth.
  - On *Alvin* & *Sentry* could extend capabilities without berth space savings
  - Serious constraints imposed by launch/recovery and other “gotta be there” needs
  - Vehicle watchstanding, real-time capabilities not seen as practical by vehicle managers and others

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- Development of extensive cost/benefit model
  - Evaluates financial impact of scenarios
  - Compares costs of shipboard technical support to shoreside support
  - Full evaluation of bandwidth costs/satellite technologies
  - Includes capitol investments, travel, operational cycles
  - Allowance for capitol investments and continuing costs over 24 years
  - Should be of benefit to Telepresence-Enabled Science Committee
- Five scenarios developed and presented in the report

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- Scenarios
  - *Jason* data processing ashore—WHOI employee replaced
  - *Jason* data processing ashore—contractor replaced
  - *Alvin* w/ data processing ashore
  - *Jason* w/ engineer (WHOI) left ashore
  - *Jason* data processing ashore w/ shoreside monitoring/situational awareness
- Intent is not that these are complete but that they are examples
- Model will be available for use by others, in particular, DeSSC subcommittee

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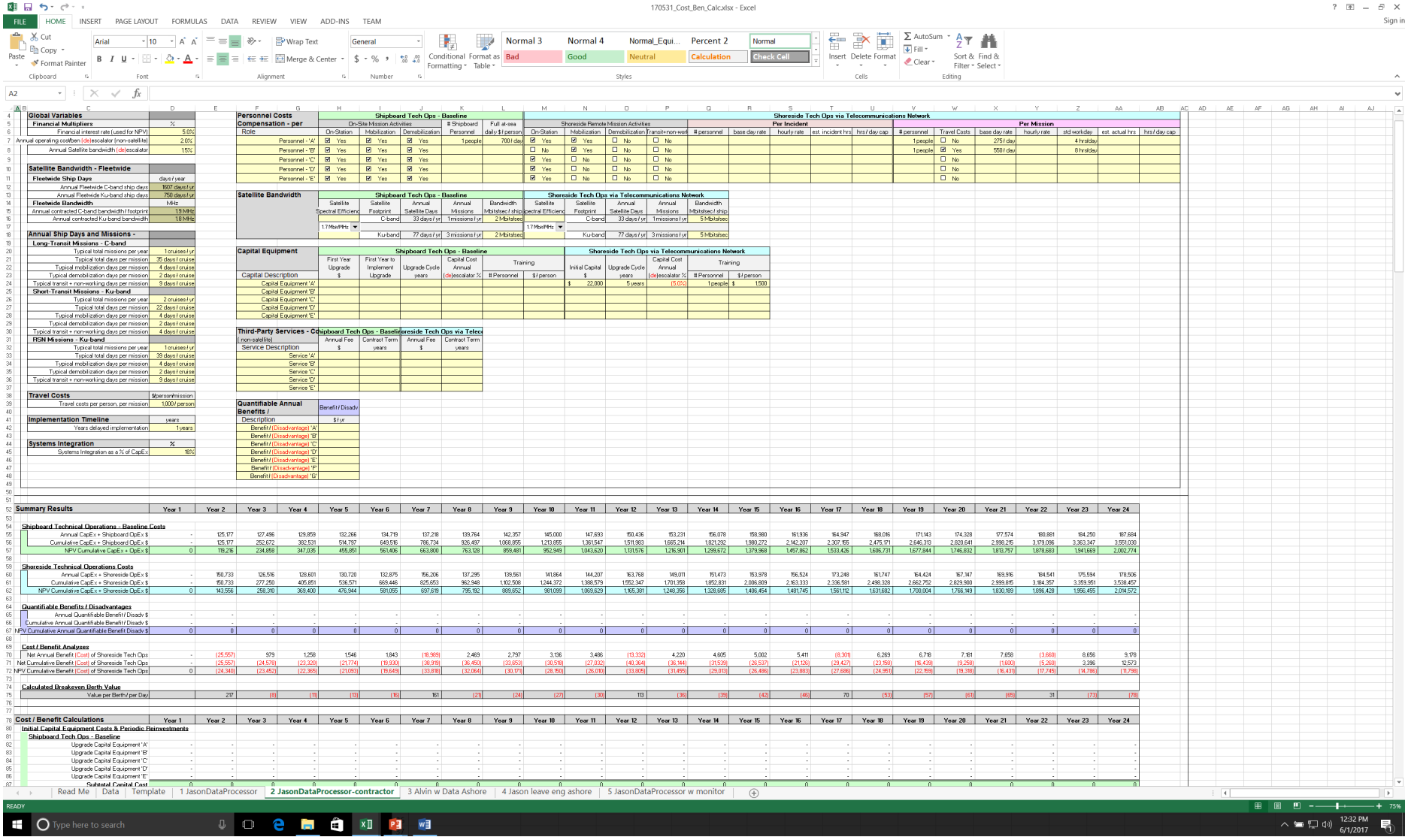

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- Scenarios
  - Some scenarios, such as *Jason* Data Processor, could conceivably pay for themselves after several years
  - More analysis necessary before we drink the Kool-Aid
  - "Value of Berth" analysis performed—what would a berth have to be worth to break even?
  - Non-quantifiable benefits
    - Additional processing
    - Productivity gains/tools?
    - Value of shoreside monitoring?
- Challenges
  - Independent operation of vessels/infrastructure
  - Infrastructure security
    - Address by cloud computing?