3X’s New Focus

Philip W. Garrison, Deputy Director
Engineering and Science Directorate
Strategic Products & Functions

Engineering and Science Directorate

- Systems & Software
  - S/W and Sys Eng Best Practices
  - Msn & Sys Architecture
  - Project, Flt, PL Sys Engr, EEIS
  - Launch Approval
  - Msn System Eng & Planning
  - MOS & GDS Design, Implementation and Operations
  - Sys Autonomy & Control
  - Adv Concepts & Technologies
  - Collab. Eng
  - Proj & Prog Support
  - Cost & Sys Analy

- Science
  - Science Leadership
  - Planetary Science
  - Life Detection
  - Earth Sciences
  - Astrophysics & Space Sciences
  - Flt Science Experiments
  - Computational Science R&D
  - Adv Concepts & Technologies

- Communications, Tracking, & Radar
  - Deep Space Comm Excel
  - Telecom Sys Eng
  - Tracking systems
  - Ground Telecom
  - Flight Telecom
  - Optical Comm
  - Radars
  - Adv Concepts & Technologies

- Autonomous Systems
  - End to End Robotic Excel
  - Msn Dsgn
  - Mobility Systems
  - C&DH
  - Power
  - GNC Eng & S/W
  - Art Control H/W
  - Precision Motion
  - Control & Celestial Sensors
  - Adv Concepts & Technologies

- Mechanical Systems
  - Mechanical Eng & Design
  - Thermal & Propulsion
  - Planetary Protection
  - Adv Concepts & Technologies

- Enterprise Engineering
  - Service Center Best Practices
  - Institutional IT & Config Mgmt
  - SAF Facility
  - Environ. Test
  - Measurement and Test Support
  - Instrumentation & Test Lab Services
  - Electronic & Mechanical Fabrication
  - Adv Concepts & Technologies

- Instruments & Science Data Systems
  - Instr Sys Engr
  - Interferometers and Advanced Optical Systems
  - Microwave/Sub-mm/far-IR
  - IR/Visible
  - In-Situ science and instruments & MDL
  - Science Data Systems
  - Instrument Software
  - Adv Concepts & Technologies
Plans Relating to Industry

 반드시

  The number of flight and instrument projects provide more work than we can handle in-house

  Strategic work force issues will influence decisions on the implementation of future projects

  We will increase our use in both the number and technical depth of industry partners
    - Subcontracts
    - TSEP Contracts
    - Task Contracts

  Plans change throughout the life cycle of a project
    - Staying in touch with the Divisions is essential
## ESD Near Term Work Demand to be Filled

### jobs to be filled in next 6 months

<table>
<thead>
<tr>
<th>Category</th>
<th>Min</th>
<th>Max</th>
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</thead>
<tbody>
<tr>
<td><strong>Mechanical</strong></td>
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<tr>
<td>Mechanical Design</td>
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<tr>
<td>Structural/Configuration Design</td>
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<td>9</td>
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<tr>
<td>Stress, Loads &amp; Dynamics Design/Analysis/Tests</td>
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<td>11</td>
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<tr>
<td>Mechanical System Engineering</td>
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<td>12</td>
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<tr>
<td>Mechanical Fabrication / Tech Sp SC</td>
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<td>5</td>
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<td>Thermal Systems Engineering</td>
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<td>5</td>
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<tr>
<td>Mechanisms Engineering</td>
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<td>9</td>
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<tr>
<td>Cabling Engineering</td>
<td>4</td>
<td>8</td>
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<tr>
<td>Flight Hardware &amp; Assembly Technician Services</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Computer Numerical Controlled Prototype Machining</td>
<td>5</td>
<td>12</td>
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<tr>
<td><strong>Systems Engineering</strong></td>
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<tr>
<td>Flight System Engineering</td>
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<td>10</td>
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<tr>
<td>Project System Engineering</td>
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<td>5</td>
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<tr>
<td>Verification &amp; Validation Testing</td>
<td>3</td>
<td>12</td>
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<tr>
<td>Architecture &amp; Systems, Incl. Modeling &amp; Simulation</td>
<td>5</td>
<td>7</td>
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<tr>
<td>Configuration/Project Information Management</td>
<td>3</td>
<td>4</td>
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<tr>
<td><strong>Subsystems</strong></td>
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<tr>
<td>Autonomous S/C Pointing &amp; Control Systems Des/Dev</td>
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<td>4</td>
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<tr>
<td>Flight Telecom Systems Engineering</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Flight Proximity Radios</td>
<td>6</td>
<td>8</td>
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<tr>
<td><strong>I&amp;T</strong></td>
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<tr>
<td>Fabrication Of Electronic/Micro-Electronic Assemblies</td>
<td>6</td>
<td>6</td>
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<tr>
<td>Measurement Systems Engineering</td>
<td>8</td>
<td>12</td>
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<tr>
<td>Mechanical Ground Support Equipment</td>
<td>3</td>
<td>4</td>
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<tr>
<td>Packaging Design of Electronic Assemblies &amp; Subassemblies</td>
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<td>4</td>
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<tr>
<td><strong>Total</strong></td>
<td>97</td>
<td>179</td>
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</table>
Resources that ESD Utilizes

• Subcontracts
  – Ground and Flight Hardware & Software
  – Spacecraft & Instrument Subsystems, Subassemblies, Components
  – Competitive selection
  – Divisions/Sections responsible for make/buy decisions
  – Divisions/Sections responsible for managing contracts
Resources that ESD Utilizes (cont.)

- Temporary support effort personnel (TSEP)
  - Work is undefined
  - Requires day-to-day direction
  - JPL Supervisor is responsible for managing work
  - Three companies provide services
    - Columbus Technologies and Services, Inc.
    - Santa Barbara Applied Research (SBAR)
    - Skillstorm, Inc.
Resources that ESD Utilizes (cont.)

- Blanket Task-Driven Contracts
  - Competition not required, already established
  - Work is issued via Subcontract work order (SWO) or other contractual process
  - Ability to clearly define task
  - Supplier is responsible for managing task completion
  - Work can be done at contractor facility (Category X)
  - Work can be done at JPL facility (Category A)
## Current Blanket Task Order Contracts

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Type of Work</th>
<th>Performance Period</th>
<th>Subcontracts Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ball Aerospace</td>
<td>Flight Instruments &amp; Subsystems (FIST)</td>
<td>4/3/99–09/30/06</td>
<td>John Davis (818) 354-2055</td>
</tr>
<tr>
<td>Raytheon</td>
<td>Scientific Data Systems</td>
<td>9/18/98–9/17/06</td>
<td>Adolfo Delgado (818) 354-2898</td>
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<tr>
<td>Lockheed Martin</td>
<td>Desktop &amp; Network Services</td>
<td>11/14/97–12/31/06</td>
<td>Steve Simpson (818) 354-7243</td>
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<td>Information Technology</td>
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<tr>
<td>Swales Aerospace</td>
<td>Mechanical and Thermal Engineering</td>
<td>9/1/02–9/30/07</td>
<td>John Schofield (818) 354-5681</td>
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<tr>
<td>Northrup-Grumman</td>
<td>Engineering Tech. &amp; Modeling, Engineering Support Software</td>
<td>10/1/99–9/30/06</td>
<td>Tim Mathews (818) 354-2912</td>
</tr>
</tbody>
</table>
# Current Blanket Task Order Contracts (cont.)

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Type of Work</th>
<th>Performance Period</th>
<th>Subcontracts Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace</td>
<td>Engineering Support</td>
<td>6/15/04–6/14/09</td>
<td>Ginger Loesch (818) 393-7579</td>
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<tr>
<td>SRS Technologies</td>
<td>Reliability Engineering</td>
<td>10/01/04–7/30/06</td>
<td>Alicia Dangerfield-Benn (818) 354-0783</td>
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<tr>
<td></td>
<td>Support</td>
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<tr>
<td>Alliance Spacesystems, Inc.</td>
<td>Composite Structure Support</td>
<td>3/25/03 - 6/30/07</td>
<td>Ginger Loesch (818) 393-7579</td>
</tr>
<tr>
<td>Draper Labs</td>
<td>Avionics Systems Support</td>
<td>1/10/02–1/10/07</td>
<td>Kirk Bilby (818) 354-7332</td>
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</tbody>
</table>
Questions?...
and Answers