DEPARTMENT OF HOMELAND SECURITY SCIENCE AND TECHNOLOGY

Evolution of Systems Engineering

Dr. Phil DePoy
Former Director Wayne E. Meyer Institute of Systems Engineering
DHS HISTORY

• 9/20/2001  -  President’s Address to Congress
• 10/8/2001  -  Executive Order 13228
• 10/29/2001 -  HSPD-1
• 6/2/2002    -  President’s Address to Nation
• 6/18/2002  -  Proposal Submitted to Congress
• 1/24/2003   -  DHS Became Operational
AGENCIES MOVED TO DHS

• U.S. COAST GUARD
• U.S. SECRET SERVICE
• U.S. CUSTOMS SERVICE
• FEDERAL EMERGENCY MANAGEMENT
• IMMIGRATION AND NATURALIZATION
• TRANSPORTATION SECURITY
• FEDERAL PROTECTIVE SERVICE
AGENCIES MOVED TO DHS (CONT)

• CBRN COUNTERMEASURES PROGRAM
• ENVIRONMENTAL MEASUREMENTS LABORATORY
• NATIONAL BIOLOGICAL WARFARE DEFENSE ANALYSIS CENTER
• PLUM ISLAND ANIMAL DISEASE CENTER
S&T DIRECTORATE DIVISIONS

• CHEMICAL AND BIOLOGICAL
• EXPLOSIVES
• INFRASTRUCTURE AND GEOPHYSICAL
• BORDERS AND MARITIME
• COMMAND, CONTROL, & INTEROPERABILITY
• HUMAN FACTORS
SmartCheck Image of a Person with Multiple Threats

- Gun
- Explosives
- Belt buckle and zipper
- Watch
- Ceramic Knife
- Liquid Explosives

Without Privacy Filter
OmniView Gantry:
Transmission + Backscatter

Two 9mm handguns inside pallet of soda

Artillery shell behind barrels of sugar
Three Cartons of cigarettes inside of computer monitor

Three 2lbs bags of sugar inside computer monitor

3lb Delrin block in place of soda

Two 2lb bags of sugar side of sugar pallet
ALLOCATION OF S&T BUDGET

Basic Research       25%

Applied Research     15%

Transition           60%
<table>
<thead>
<tr>
<th>Research Type</th>
<th>DHS</th>
<th>DOD</th>
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<tbody>
<tr>
<td>Basic Research</td>
<td>25%</td>
<td>15% (1.7B)</td>
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<tr>
<td>Applied Research</td>
<td>15%</td>
<td>37% (4.2B)</td>
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<tr>
<td>Transition</td>
<td>60%</td>
<td>48% (5.6B)</td>
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DHS S&T ISSUES

• REQUIREMENTS AND SPECIFICATIONS
• PRIORITIZATION
• TRANSITION FROM TECHNICAL CAPABILITY TO OPERATIONAL SYSTEM
• CUSTOMER INVOLVEMENT
• INTEGRATION
• TESTING
DHS S&T Capstone IPTs
Gathering Mechanism for Customer Requirements: