Testing in the Design Phase

Regis Luther
Measuring and Validating Reliability
Modeling/Simulation/Validation

Initial
RAM-D
Calculation

Analyze
Requirements
and Results

Pro/E
FEA
DADS
NRMM
SCAAN

3D
Printer

PM / TACOM / TARDEC

Final
RAM-D
Calculation

TEST TRACK
Sealy, TX

Analysis
Simulation
Validation

RAILS
SORTS
Warranty
ATC
Model Based Definitions
S&S Blast Mine Test
- Founded in 1996 - Headquarters in Jacksonville, Florida

- Public Company (NYSE - AH)
  - Market Cap of $1.898 billion (as of 8/16/06)

- Revenue
  - 2004 Revenue - $980 million
  - 2005 Revenue - $1.637 billion
  - 2006 Revenue - $2.4 billion anticipated

- 6,200 Employees in Three Business Units
  - Aerospace & Defense Group (ADG) $1,189m
  - Stewart & Stevenson, Pinzgauer $726m
  - Products Group $309m
  - Centigon $139m

- Manufacturing Operations
  - AL, AZ, CA, FL, KY, MA, MI, NH, OH, PA, TN, TX, WY
  - Brazil, Colombia, France, Germany, Mexico, United Kingdom, Venezuela, Switzerland
AH 2005 Revenue*

* Exclusive of 2005 Stewart & Stevenson and Pinzgauer revenue of $726 million
AH Global Reach

16 facilities* United States

Safariland, ABA Tijuana, Mexico

Tactical Vehicle Systems Sealy, TX

Centigon D.F., Mexico

Centigon Bogota, Colombia

Centigon Sao Paulo, Brazil

Pinzgauer Fareham & Guildford, UK

API Manchester, UK

Centigon Lamballe, France

Centigon Caracas, Venezuela

Centigon Bremen, Germany

Projectina Herbrugg, Switzerland

Tactical Vehicle Systems Adelaide, Australia

Armor Holdings has sold product to all countries in blue

Aerospace & Defense Group
Centigon (Mobile Security)
Products Group
Test Capabilities

- Rolling road and test track facilities
- Complete vehicle testing
- Military Packaging
- Ballistics testing
- Materials testing
- Static testing
- Dynamic testing
- Full-scale impact testing
- Outdoor and indoor drop towers
- Horizontal sled
- High speed photography and video
Test Track

- West Loop: 90' diameter
- 18° Step and 24° Step
- Fence Line
- Random 3.3 rms Offroad profile
- Random 2.4 rms Offroad profile
- Frame Twister: 15% and 20% opposing grades
- Vee Ditch: 20 degrees both sides
- Approach Ramp: 20 degrees one side
- Visitor Path: 6'-0' wide
- 8'-10' Bumps (1 to 4): 4' to 33' spacing
- 10" Pot-Holes: 7', 10', 13' spacing
- 2" Washboard: uniform 2' spacing
- Random radials:
  - Random Washboard Loop: 120' diameter
  - 2" to 4" bumps
  - 2' to 5' spacing
  - 5' to 25' spacing
  - 2.0 rms
- Existing Offroad:
  - Rails = 0.3 rms
  - Moguls = 3.0 rms
- Existing brake test area
- Random Washboard:
  - 2" to 5" bumps
  - 5' to 25' spacing
  - 2.0 rms

Existing offroad rail = 0.3 rms
Moguls = 3.0 rms
Random washboard loop 120' diameter
2' to 5' bumps
5' to 25' spacing
2.0 rms
### Ultra-Reliability

#### Demonstrated Reliability

<table>
<thead>
<tr>
<th>Vehicle</th>
<th>Required MMBHMF</th>
<th>Demonstrated MMBHMF</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMTV A1</td>
<td>5,500</td>
<td>13,333</td>
<td>TECOM Test #1-VG-120-MTV-037, 5 vehicles, 120k total miles, S&amp;S FMTV A1</td>
</tr>
<tr>
<td>FMTV A0</td>
<td>2,700</td>
<td>~7,000</td>
<td>TECOM Test #1-VG-12D-MTV-019, 28 vehicles, 488K total miles</td>
</tr>
<tr>
<td>M1070 HET</td>
<td>3,000</td>
<td>1,781</td>
<td>TECOM Test #1-VS-120-HET-003, 3 vehicles, 57k total miles, M1070 HET</td>
</tr>
<tr>
<td>M44A3</td>
<td>2,400</td>
<td>2,857</td>
<td>TECOM Test #1-VG-120-035-044/050, 2 vehicles, 10k total miles, M44A3</td>
</tr>
<tr>
<td>HMMWV</td>
<td>1,170</td>
<td>1,681</td>
<td>TECOM Test #1-VG-120-HMV-079/085, 9 vehicles, 180K total miles, HMMWV</td>
</tr>
</tbody>
</table>

* Fleet average of test vehicles including all failures attributed to CR changes and A1 baseline.

| TECOM = Test and Evaluation Command | MMBHMF = Mean Miles Between Hardware Mission Failure |

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