Topics for Discussion

• GSE Corporate Update
  – Recent Acquisitions
• ONYX – RELAP-HD Platform
• ONYX – Control Platform
GSE Corporate Update
Serving The Power & Process Industries

GSE Systems, Inc., traded on Nasdaq under symbol "GVP", is a team of dedicated people helping customers meet performance improvement goals and reduce risk. We do this by combining expertise in simulation, visualization, engineering and training to improve both plant and human performance.

**POWER**

**NUCLEAR**
- World leader - significant installed base
- All major reactor types
- Expert onsite training and consulting services

**FOSSIL**
- Coal; clean coal technology
- Natural gas, including IGCC

**PROCESS**

**UPSTREAM OIL AND GAS**
- Computer-based tutorials and simulation of production and LNG systems

**REFINING / PETROCHEMICAL**
- Computer-based tutorials and simulation of all major unit operations
- System and control verification
- Advanced capabilities around concepts, designs and system interactions
WHO IS GSE SYSTEMS?

- We provide technical engineering and highly-skilled personnel to the global power and process industries

Performance Improvement Segment
- We are a market leader in simulation and engineering programs for the nuclear/fossil power industry
- We provide computer-based tutorials and simulators to the process industry

Nuclear Training & Consulting Segment
- We staff nuclear power plants with specialized personnel, primarily in white-collar training and operating roles

- Our solutions enhance employee and plant performance, reduce risk, increase revenue and lower costs for clients

<table>
<thead>
<tr>
<th>Ticker</th>
<th>Exchange</th>
<th>GVP</th>
<th>Nasdaq</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Maryland</td>
<td></td>
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<tr>
<td>Headquarters</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Number of Employees</td>
<td>~500</td>
<td></td>
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<tr>
<td>Recent price (9/18/18)</td>
<td>$3.75</td>
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<tr>
<td>Shares outstanding</td>
<td>~20M</td>
<td></td>
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<tr>
<td>Market cap (9/18/18)</td>
<td>~$75M</td>
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<tr>
<td>Total cash¹ (6/30/18)</td>
<td>~$10M</td>
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<tr>
<td>Total debt¹ (6/30/18)</td>
<td>~$10M</td>
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<tr>
<td>Enterprise value¹,²</td>
<td>~$75M</td>
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<tr>
<td>Revenue¹ (LTM)</td>
<td>~$100M</td>
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<tr>
<td>EV / Revenue¹,²</td>
<td>~0.75x</td>
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¹ Pro forma True North Consulting acquisition on May 11, 2018 and for the Absolute Consulting acquisition on September 20, 2017
² Enterprise Value and EV/Revenue are estimates based on the Recent Price, Market Cap, Total Cash and Total Debt amounts as of the dates provided herein and do not represent the Enterprise Value or EV/Revenue as of the date of this presentation.
Top Line Distribution

PRO-FORMA REVENUE – ~$100M (LTM)

By Segment:
- Performance Improvement: 48%
- Nuclear Training & Consulting: 52%

By Industry:
- Nuclear: 91%
- Fossil: 6%
- Non-Power/Process: 3%

By Geography:
- North America: 87%
- Europe: 7%
- Asia: 6%

By End-User:
- Utilities: 75%
- Other: 25%

1 Pro forma for the Absolute Consulting acquisition on September 20, 2017 and the True North Consulting acquisition on May 11, 2018; LTM as of March 31, 2018
2 Segment & industry data is updated for Pro-Forma LTM as of 6/30/2018
3 Geography & end-user data is updated for Pro-Forma LTM as of 12/31/2017
Vision for Growth

A). **Maximize Value** in our Existing Companies
   - GSE Performance Solutions
   - Hyperspring
   - Absolute Consulting
   - True North Consulting

B). Utilize GSE Systems as an **Acquisition Platform**

Drive at Least 200 Million USD Top Line Revenue by 2020
Hyperspring evaluates, develops and delivers comprehensive training programs for the nuclear industry, with special emphasis on Senior Reactor Operator Training.

Areas of Focus:

- ANSI Fundamentals (Math and Sciences)
- Generic Fundamentals Exam Services
- Accredited Training Review (ATV) Preparation
- Train the Trainer
- Control Room Operator Qualification
- Operator Training
- Power Plant Familiarization
- Maintenance Training
- Licensed & Non-Licensed Operator
- Scenario Development Training
- Licensed Operator Requalification Training Program
- Lesson Plan Upgrades
Specialties

- Procedures
- Engineering
- Technical Support
- Project Management
- Training
- Project Controls
- Corrective Actions
- QA/QC
- Documents and Records
- Licensing
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<tr>
<th>Thermal Performance</th>
<th>Engineering Programs</th>
<th>BOP Programs</th>
<th>Software Services</th>
<th>Specialty Engineering</th>
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<td>Program Assessment</td>
<td>ASME OM Code Programs</td>
<td>Flow Accelerated Corrosion (FAC)</td>
<td>EP-Plus ENGAGE™</td>
<td>ASME XI In-service Inspection (ISI)</td>
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<td>Program Testing Services</td>
<td>10 CFR50 Appendix J Programs</td>
<td>Erosion or Mechanical Degradation</td>
<td>TP-Plus™</td>
<td>Risk Informed ISI</td>
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<tr>
<td>Cycle Isolation Tools</td>
<td>10 CFR 50.69</td>
<td>Underground Pipe and Tank Integrity</td>
<td>TP-Plus™ CIM</td>
<td>Containment ISI</td>
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<tr>
<td>Thermal System Monitoring</td>
<td>Snubbers</td>
<td>Service Water Programs (G.L. 89-13)</td>
<td>TP-Plus™ TSM</td>
<td>Pressure Testing</td>
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<tr>
<td>Modeling &amp; Analysis</td>
<td>Maintenance-Based Programs</td>
<td>Heat Exchanger Programs</td>
<td>TP-STEAM™</td>
<td>Cyber Security</td>
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<tr>
<td>Training</td>
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<td>Training</td>
<td>AutoCAD Services</td>
<td>License Renewal (Programmatic)</td>
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<td>Training</td>
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<td>Fire Protection</td>
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ONYX - RELAP
Industry Need?

- GSE RELAP-HD is used in many simulators worldwide to model the RCS. It is based on INL’s RELAP-3D Code.
- RELAP5-3D is premier safety analysis tool used by research organizations, plant engineering and education
- While robust, it is also cumbersome to work with
- Batch processing reduces efficiency

Continue to Integrate Engineering and Simulation for Integrated Plant Solutions
New Approach to Modeling TH Systems

**Traditional Approach**

1. Build model in SNAP
2. Export input file for RELAP
3. Start RELAP program
4. Wait for RELAP to finish solving the calculations (minutes to hours)
5. Collect output data and analyze results
6. Are the results satisfactory?
   - NO: This process is iterated hundreds of times
   - YES: Model development complete!

**Onyx with RELAP5-3D Approach**

1. Build model in SNAP
2. Export input file for RELAP
3. Start the RELAP program
4. Analyze results in real-time as RELAP runs
5. Are the results satisfactory?
   - NO: Make changes to model in real-time
   - YES: Model development complete!

Tune model parameters dynamically within Onyx
Solution

• An interactive platform that integrates RELAP5-3D code with the powerful GSE real-time simulation engine
Key Features

- Save and reload model state to streamline testing
Key Features

- Interact with model by monitoring and modifying parameters during model execution
Key Features

- Pause and step through a transient; speed up and slow down execution
Onyx with RELAP5-3D

- Simple setup with no compiler dependencies
- Import existing RELAP input files
- View internal parameters using INL naming convention
- More Repeatable than RELAP
- Plug-in architecture to support future development
- Configurable interface layout
- Debug RELAP crashes
  - i.e. view flow or pressure oscillations during execution
- Initial Condition (IC) reset feature is more comprehensive than restart file
Enhanced Data Visualization
ONYX - Control
Overview

• GSE has used the Onyx platform to develop a tool that helps users use the simulation engine to design, modify, debug, and tune control systems
Modeling Perspective
Testing Perspective
The Onyx-Control Solution

- Control system design work performed in the Onyx design environment
  - Control sheets drawn using object oriented drag and drop interface
  - I/O list and Equipment list integrated with control sheets
  - Sheets printed for distribution directly from Onyx

- System tested by the design engineer throughout development
  - Errors more likely to be caught in the early stages of project
  - Minimize rework due to test failures

- Design modifications tracked throughout project
  - Simplify communication and collaboration between teams and organizations
  - Maintain justifications for changes
Thank you.

For more information, go to:

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Or call +1 410-970-7800