

# Facilitator's Guide

**Presenter:** Lockheed Martin

**Presentation Date:** April 30<sup>th</sup>, 2008

**Award:** Preparing the Workforce for the 21<sup>st</sup> Century

Topic	Slide #	Presentation	Related Content in Instructional Manual
<p><b>Session Introduction</b></p>	<p><b>Slide 2</b></p>	<p><b><u>Agency Introductions</u></b></p> <p>The two sponsoring agencies, the Mayor's Office of Employment Development and the Baltimore County Office of Workforce Development, will briefly introduce themselves and explain the BREI concept. They will then introduce YOU.</p> <p><b><u>Presenter Introduction:</u></b></p> <p>Provide some biographical information, if you like. Perform any housekeeping duties (how to get to the restrooms, for example)</p> <p><b><u>Participant Introductions</u></b></p> <p>Ask participants to take turns:</p> <ul style="list-style-type: none"> <li>• Introducing themselves</li> <li>• Briefly describing their business</li> <li>• Explaining why they were interested in attending today's event.</li> </ul>	<p><b>Pages 4 - 5</b></p>
<p><b>Background</b></p>	<p><b>Slide 3</b></p>	<p><b><u>Introduction to Lockheed Martin</u></b></p> <p>Provide a brief overview of what Lockheed Martin does, globally, and where MS&amp;SS fits into that scheme.</p> <ul style="list-style-type: none"> <li>▪ 140,000+ Employees</li> <li>▪ \$42 Billion in Sales</li> <li>▪ Four Major Business Areas</li> <li>▪ LM Values               <ul style="list-style-type: none"> <li>○ Do What's Right</li> <li>○ Respect Others</li> <li>○ Perform with Excellence</li> </ul> </li> </ul>	<p><b>Page 6</b></p>

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<b>Getting Started</b>	<b>Slide 4</b>	<p>Explain the driver for MS&amp;SS’s educational initiatives - - the long range need for more engineers and other STEM-based high-skill workers.</p> <p>Talk about the numbers - - the 10,000 qualified workers you will need over the next ten years.</p>	
	<b>Slide 5</b>	<p>Explain to Participants that MS&amp;SS has, over the years, developed a four-pronged approach to their educational outreach programming:</p> <ul style="list-style-type: none"> <li>• Community Outreach</li> <li>• In-House Showcase Days</li> <li>• Intern Program</li> <li>• Philanthropic Giving</li> </ul>	<b>Page 7</b>
	<b>MANUAL RESOURCE</b>	<p>Also mention, at this point, that there are resources listed in the Manual on page 8 that will guide employers to free national and state resources that provide employment projections across a spectrum of industries.</p>	<b>Page 8</b>
<b>Community Outreach</b>	<b>Slide 6</b>	<p><b><u>Community Outreach</u></b></p> <p>Explain that information on each of these events is included in the manual, along with contact information for anyone interested in getting involved to support these efforts.</p> <p><b>The Baltimore Science Fair</b></p> <ul style="list-style-type: none"> <li>○ Describe the event, generally.</li> <li>○ Describe MS&amp;S’s support, specifically:</li> </ul> <p><i>As one of the key sponsors of the event, Lockheed contributed \$2000 to the event, and recruited six employees to serve as judges. The organization presented five awards to competitors:</i></p> <p><i>Four “Creative Scientific Applications” awards—the winners of the biological and physical science categories in Middle school and high school competitions received a framed certificate and other prizes.</i></p> <p><i>and</i></p>	<b>Page 9 - 10</b>

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		<p><i>One \$250.00 scholarship to the Grand Prize winner of the High School Physical Science competition.</i></p> <p><b>First LEGO League</b></p> <ul style="list-style-type: none"> <li>○ Describe event generally.</li> <li>○ Describe MS&amp;SS's support:</li> </ul> <p><i>In 2008, Lockheed Martin contributed \$1000 to support the state-level competition hosted by the University of Maryland Baltimore County (UMBC).</i></p> <p><b>FIRST Robotics</b></p> <ul style="list-style-type: none"> <li>○ Describe event generally.</li> <li>○ Describe MS&amp;SS's support:</li> </ul> <p><i>Lockheed Martin employees support the FIRST team at Parkville High School by sharing technical expertise, and making a significant financial contribution to cover the \$10,000 investment required to participate in the competition.</i></p> <p><b>The STEM Academy</b></p> <ul style="list-style-type: none"> <li>○ Describe event generally.</li> <li>○ Describe MS&amp;SS's support:</li> </ul> <p><u><i>Chat &amp; Chew</i></u></p> <p><i>Engineers from Lockheed visit Chesapeake High School every other month to eat lunch with students interested in learning more about the profession of engineering.</i></p> <p><u><i>Ask the Expert</i></u></p> <p><i>MS&amp;SS engineers share their expertise with students virtually, by answering their questions via email exchanges moderated by the classroom teacher.</i></p> <p><u><i>Externship Program</i></u></p> <p><i>Lockheed Martin committed to hosting five Chesapeake teachers for 10 days over the summer. During these 10 days, teachers will spend their work day learning about various segments of Lockheed's business - real-life lessons that they can incorporate into their lesson plans during the school year. During the internship experience, teachers will rotate through the various engineering disciplines (software, electrical, mechanical, systems and test), finance, operations and facilities, community and public relations and business development, and tour the Middle River facility and offices in Washington DC. In addition to bringing back enriched lesson</i></p>	

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		<p><i>plans to their classrooms, teachers also report back on their experience to their home school administration and colleagues.</i></p> <p><b>Small Engineering Projects Engineering Club</b></p> <ul style="list-style-type: none"> <li>○ Describe event generally.</li> <li>○ Describe MS&amp;SS’s support:</li> </ul> <p><i>Lockheed Martin employees take time off from their work day once a month to visit the school. They bring their creative ideas for activities and the supplies kids will need to craft engineering solutions.</i></p> <p><b>Big Brothers / Big Sisters</b></p> <ul style="list-style-type: none"> <li>○ Describe event generally.</li> <li>○ Describe MS&amp;SS’s support:</li> </ul> <p><i>Nearly 40 MS&amp;SS employees volunteer to participate in the Big Brothers / Big Sisters organization. Every Tuesday, from 12—1, these employees visit their kids at Hawthorne and Sandlewood Elementary Schools in Baltimore County, to eat lunch together, share fun activities, or work through homework assignments together.</i></p>	
<b>In-House Activities</b>	<b>Slide 7</b>	<p><b>Technology Day and Women in Engineering Day</b></p> <p>The slide for this (slide #7) shows a pic from each event.</p> <p>Give an overview of the goals for each of these events.</p> <p>Focus for a minute on each picture, describing what the kids are doing.</p>	<b>Page 11</b>
	<b>Slide 8</b>	Organizing Events like Technology Day and Women in Engineering Day	<b>Page 11</b>

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	Slide 9	<p><b><u>Internships</u></b></p> <p><b>Tell Dawn Hedgpath’s success story...</b></p> <p>Lockheed Martin enthusiastically supports engineering students at the university level, too, through a formal internship program. Dawn Hedgpath was one beneficiary of this program. Dawn was a sophomore at Morgan State University in 2004, majoring in engineering when she was selected to participate in MS&amp;SS’s interns program. Dawn interned for two summers and, upon earning her B.S. in Engineering in 2006, was promptly hired by MS&amp;SS as a full-time systems engineer. During her tenure with the company she was selected for MS&amp;SS’s Engineering Leadership Development Program, designed to identify new employees with potential and prepare them for leadership positions in the business. She is now pursuing her Doctorate in Engineering at Michigan State University. Her research is focused on modeling and design of electroactive polymer-based biomimetic robots.</p>	Page 12
Philanthropic Giving	Slide 10	<p><b><u>Philanthropic giving</u></b></p> <p>Remind participants that information is included in the manual for each of the programs you’re going to talk about.</p> <p><b>Baltimore Polytechnic Institute’s new Aerodynamics Flight Laboratory</b> The mission of the Ingenuity Project is to prepare highly capable and motivated Baltimore students to achieve at nationally competitive levels in mathematics and science. The goal is to give city students the classroom advantages that wealthier county and private schools offer their populations with the expectation that Ingenuity students will take advanced placement courses in high school, attend college, and ultimately be prepared to become leaders in their chose professions.</p> <p><b>Junior Science and Humanities Symposium</b>—Morgan State University is the Maryland academic lead institution for this national program, which is jointly sponsored by the Army, Navy, and Air Force. The Junior Science and Humanities Symposia (JSHS) Program promotes original research and experimentation in the sciences, engineering, and mathematics at the high school level and</p>	Page 13-14

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		<p>publicly recognizes students for outstanding achievement. By connecting talented students, their teachers, and research professionals at affiliated symposia and by rewarding research excellence, JSHS aims to widen the pool of trained talent prepared to conduct research and development vital to our nation. Want to learn more about this impressive initiative? Contact Dr. Carl White at Morgan State University’s School of Engineering at:  Tel. 443-506-3057  email: <a href="mailto:white@eng.morgan.edu">white@eng.morgan.edu</a>  Web: <a href="http://www.camracer.org/JSHS/index.htm">www.camracer.org/JSHS/index.htm</a></p> <p><b>UMBC’s Department of Mechanical Engineering</b>—The Department offers undergraduate and graduate programs leading to B.S., M.S. and Ph.D. degrees in Mechanical Engineering. Research is focused in biomechanics, design and manufacturing systems, mechanics and materials and thermofluid mechanics. Collaborative efforts by mechanical engineering department faculty-student research teams have led to number of notable discoveries, including a new kind of percussion drill bit, an automated machine for assembling fireworks and a controller for a pump with no moving parts. The department plays a vital role in the design and development of systems that harness energy and motion-with important applications in industries from manufacturing to medicine.</p> <p><b>Camp Invention</b> is a nationally acclaimed weeklong summer enrichment day experience for children entering in grades one through six nationwide. The top priority of the Camp Invention program is to provide quality enrichment programming in the fields of science, mathematics, history, and the arts. Lockheed Martin funds scholarships to needy elementary and middle school children to attend this science summer camp at Hawthorne Elementary. Would you like to learn more about sponsoring a child or children to attend Camp Invention? The organization’s Maryland Regional Coordinator is Helen Campbell. You can contact her at:  410.823.6434 Phone  410.382.4614 Cell  <a href="mailto:campinvention@comcast.net">campinvention@comcast.net</a></p> <p><b>Carson Scholars Fund</b>—The Carson Scholars Fund was founded in 1994, by Johns Hopkins pediatric neurosurgeon, Dr. Benjamin Carson and his wife, Candy, to recognize and reward students in grades 4-11 who strive for academic excellence (3.75 GPA or</p>	

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		<p>higher) and demonstrate a strong commitment to their community. The scholarships are awarded without regard to race, creed, religion or financial need. Scholarships are awarded for attendance at four-year colleges and universities upon the student's graduation from high school. Would your organization be interested in supporting this fund? You can learn more at <a href="http://www.carsonscholars.org/difference.php">http://www.carsonscholars.org/difference.php</a></p> <p><b>Black Engineers of the Year Awards</b>—The Lockheed Martin organization was one of the lead sponsors of the 2008 Awards Conference, which recognized among notable honorees, a local APL-JHU systems engineer, Nancy Linton, with the 2008 Black Engineering Award for Outstanding Technical Contribution in Government. Ms. Linton was quoted as saying, “Throughout my career, I have always had mentors that taught, guided, and challenged me to go farther than I thought I could go.” What better testament to the importance of “giving back” to one’s community?</p>	
<b>Volunteers</b>	<b>Slide 11</b>	<p><b><u>The Volunteer Effort</u></b></p> <p>Reiterate, if you haven’t already stated, the scope of the involvement/hours contributed by your employees.</p>	<b>Page 15</b>
	<b>Slide 12</b>	<p><b><u>Tracking Volunteer Hours</u></b></p> <p>Describe the web-based system for tracking volunteer hours.</p> <p>If you are able to access your intranet, this would be a good opportunity to actually walk through the process one of your employees would perform to log their hours on the website.</p>	<b>Page 15</b>
	<b>Slide 13</b>	<p><b><u>Celebrating Volunteer Efforts</u></b></p> <p>Talk about the recognition/certificates you provide to employees.</p> <p>Describe your annual breakfast/lunch appreciation event.</p>	<b>Page 15</b>

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<b>Employee Service</b>	NA	<p><b><u>Employee Service</u></b></p> <p>Refer participants to the article in the manual, running from page 16 – 19. This article provides guidance in selecting good outreach opportunities for one’s business, and concrete steps for recruiting and managing employee volunteers.</p>	<b>Pages `16 - 19</b>
<b>Resources</b>	NA	<p>Tell participants that the internet is a rich educational resource – a few links are provided in the manual, for those interested in learning more about web resources available for getting kids excited about engineering, in particular.</p>	<b>Page 20</b>
<b>Closing</b>	NA	<p>Take any questions and show participants to lunch.</p>	<b>NA</b>