White House Unveils Updated Strategy for American Innovation

by Bob Bengel, NWIRC President/CEO

In October 2015, the Obama Administration unveiled an updated Strategy for American Innovation. The strategy, first issued in 2009, provides an overview of the Administration’s efforts to ensure America continues to lead as the world’s most innovative economy, to develop the industries of the future, and to harness innovation to help address our nation’s most important challenges.

The Strategy has three core components that focus on:

1. The importance of investing in research and development (R&D) and the other building blocks of long-term economic growth.
2. Strategic areas from advanced vehicles to precision medicine where focused effort can advance national priorities and help create shared prosperity.
3. New efforts to make the federal government more innovative to improve performance and create a better environment for innovation by the private sector and civil society.

For an advanced economy such as the United States, innovation is a wellspring of economic growth as well a powerful tool for addressing our most pressing challenges as a nation – such as enabling more Americans to lead longer, healthier lives, and accelerating the transition to a low-carbon economy. In fact, from 1948-2012 over half of the total increase in U.S. productivity growth, a key driver of economic growth, came from innovation and technological change.

Because it supplies nearly three-quarters of all U.S. private-sector research and development, American manufacturing is central to the Administration’s strategy for innovation – both to discoveries being made today and the country’s ability to drive productivity and job growth in the future. The strategy highlights several new areas of strategic opportunity – including advanced manufacturing – where a more focused public-private effort could advance national priorities and help create shared prosperity.

The Administration’s strategy is available at: www.whitehouse.gov.

Global Fabrication Gains Apprentice Insights

Global Fabrication, Inc. of Dubois, PA was looking to increase sales and reduce operating costs by streamlining engineering procedures and improving production efficiency. The Northwest Industrial Resource Center (NWIRC) helped develop the framework for an apprentice project that would support their existing engineering staff to improve estimating, scheduling, and manufacturing operations.

NWIRC’s Advanced Manufacturing Apprentice Program is positioned to match university STEM students with specific technology and innovation needs at manufacturing companies in Northwest Pennsylvania. NWIRC’s Manufacturing

(Continued on Page 2)
Global Fabrication Apprentice (Continued from page 1)

things more efficiently,” said Luke Sicard, P.E., Global’s General Manager of Technical Services. Sicard noted that McKee was also able to adapt her experiences into a senior mechanical engineering group project which Global Fabrication was happy to sponsor.

“The hardest part of any job is defining problems,” McKee said. “You really need to dig deep and completely understand a process before you can start seeing areas for improvement.” One of McKee’s takeaways from the experience was to “become familiar with all of the resources available at an organization and don’t be afraid to use them.”

Griffith outlines a key benefit of the apprentice program as filling a gap for manufacturer’s limited time and resources. “We can scope the project and identify quality candidates through our relationships with regional colleges and universities,” he said. He also cites the program having great benefit for students because it connects them with manufacturers that have real projects, and not just busy work. “For our program, we require projects that are going to have a significant and sustainable impact for their business.” he said. “Students can see first-hand the satisfaction and impact achieved from working with small- and medium-sized manufacturers.”

Upon completion of her apprentice hours, McKee presented a thorough report which offered solutions for potential implementation. The company noted that the findings will increase scheduling, tracking, and operating efficiency with anticipated impact of $250K cost savings and potential increase in sales of $2M.

“WE appreciate the services and support that NWIRC provides to the region,” said Molly Kelsey, Global’s Chief Financial Officer, “Their assistance with the apprentice program has provided us a valuable candidate whose work will allow us to grow our business, better manage our costs, and improve our throughput. Their service allowed us to find a highly qualified candidate in a short amount of time.”

Global Fabrication manufactures vessels, piping, and structural welding for the power and petroleum industries. The company was formed in 2004 and currently has 40 employees.

CYBERSECURITY SERIES
Part 5 of 5: Handling a Breach
by David J. Peck, CISSP, C|EH, EnCE
President, David J. Peck & Associates, LLC

“We have been hacked!” This is not something a chief executive officer would ever want to hear from his/her information technology staff. In addition, a consumer would not want to hear the same words coming from a company in which they entrust their sensitive information.

In recent news, there have been multiple breaches among companies that consumers do business with on a daily basis. Many questions arise as to how the company is dealing with the cleanup, and if any further data loss is occurring. But how do companies respond to a breach and how do they prevent it from re-occurring?

As a result of an incident, it’s critical to follow an established incident response procedure which follows specific steps. Each one of these steps are necessary to effectively investigate an incident and resume normal business operations.

Step 1 - Preparation: You should have a well-trained team ready to respond to any type of incident at a moment’s notice. Your responders should have the ability to manage various incidents such as power outages, hardware failures, and malicious activity. Several key elements must be in place to mitigate any problems that may cause an issue while attempting to handle an incident.

- Policies must be in place which provide guidance on acceptable use, behavior, and the consequences associated with not adhering to the policy.
- A response plan and strategy should be created to prioritize incidents based on the impact to the organization.
- A communication plan is necessary to contact key individuals during an incident.
- Documentation is extremely critical so that you may answer basic questions such as who, when, where, why, and how. If the incident leads to a criminal investigation, the documentation could prove valuable as evidence in the investigation.

(Continued on Page 3)
Handling a Breach (Continued from page 2)

- The Incident Response Team should be made up of several people of different experiences, so that they may handle the various issues that may arise during an incident.

**Step 2- Identification:** This phase involves the detection and determination of an event, where a deviation from normal operations has occurred. Indicators may be in the form of log files, error messages, intrusion detection systems and firewall alerts, and other resources.

**Step 3- Containment:** The primary purpose of this phase is to limit the amount of damage and prevent any other further damage from happening. This may be as simple as removing the network connection to the compromised system.

**Step 4- Eradication:** This phase of the incident response process involves removing the threat from the system and returning it to a normal state. For example, removing a virus from an affected system would be considered eradication.

**Step 5- Recovery:** This involves bringing affected systems back into the production environment. Special care must be taken to ensure that additional damage will not occur through additional monitoring.

**Step 6- Lessons Learned:** This is the last and most critical phase. The purpose is to complete any documentation which focuses on the step-by-step remediation process. Lessons learned can also be used as training for any future team members.

Having handled many incidents as a response team leader, the major shortcomings are:

- A lack of personnel that are well trained to handle an incident
- A lack of evidence available to conduct those investigations

As with any preparation, training and testing for various types of incidents is most important. Tabletop exercises can assist in identifying deficiencies and readiness.

David Peck is a former Electronic Warfare Technician with the US Navy, a retired PA State Trooper and a former CIA officer. In addition to being a licensed private investigator in PA, David holds several leading certifications in the field of Cybersecurity.

**Cybersecurity 101 for Manufacturers**

NWIRC is bringing together all of the experts who contributed to our Cybersecurity Series for a forum on February 16, 2016 from 8:30am-10:00am in Erie, PA. Visit our website events schedule for more details and to register.
If you have questions, or would like to speak with someone from NWIRC about services, please contact your Strategic Business Advisor:

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**UPCOMING EVENTS**

**AS9100 Internal Audit**  
**February 24-25**  
Location: Meadville  
AS9100 is a widely adopted and standardized quality management system for the aerospace industry. The course will provide you with a detailed overview of the AS 9100 (Rev C.) Requirements and prepare you to conduct internal audits to the AS 9100 standard.

**ISO 9001:2015 Internal Audit**  
**March 8-10**  
Location: St Marys  
(Spring sessions also scheduled for Erie and Meadville)  
The revised ISO 9001:2015 was recently published, so this course will provide a detailed review of the quality standard and all the changes. Participants will learn how to conduct an audit, write the audit report, take corrective actions, and more.

**HACCP Certification**  
**March 22-23**  
Location: Erie  
Geared for food manufacturers, this course will prepare a Safe Quality Food (SQF) practitioner with an understanding of the SQF Code and provide detail to implement and maintain an SQF System. Participants will earn the NSF International Certification.

**Lean Six Sigma Green Belt**  
**March 29-May 20**  
Location: St Marys  
The program will include 10 sessions spanning over 3 months. Apply lean tools and the DMAIC methodology (define, measure, analyze, improve, control) to improve your bottom-line. You will receive coaching specific to the process improvement project you bring to the course.

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For more information or to register for training, visit www.nwirc.org