

# Innovation with Purpose

## Social Media Storytelling



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October 2014

# Our Storytelling Goals



## **DEMONSTRATE INNOVATION WITH PURPOSE**

By sharing how we use technology to address the world's most pressing challenges and advance scientific discovery

## **INSPIRE INNOVATION WITH PURPOSE**

By leading a dialogue on engineering a brighter future through emerging technology

## **RECOGNIZE INNOVATION WITH PURPOSE**

By highlighting our employees, partners and suppliers who help our customers meet their most pressing challenges

# Identifying Opportunities...



## Adopt a Newsroom Mentality

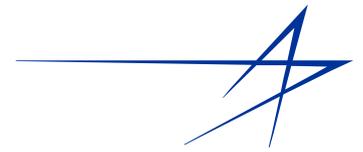
- **Ask who's creating the big ideas**
  - 60,000 scientists, engineers & IT professionals have stories to tell...
- **Gather internal status reports**
  - Interesting nuggets are often squirreled away in the day-to-day operations.
- **Step AWAY from your desk!**
  - Talk to the experts. Go where they go. Grab coffee, observe meetings, tag along to conferences and events.





# Shaping the Story

## *Speaking of the Future* Videos



Fellows Speech



Overview



Nanotechnology



Data Analytics



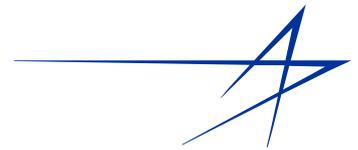
Robotics



Energy

# Shaping the Story

## Website Feature Articles

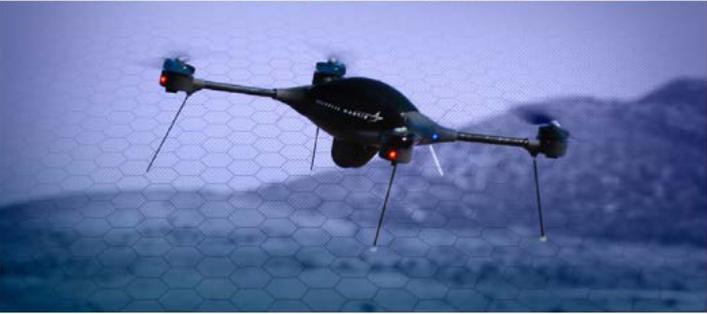


**Robots to the Rescue**

Facebook Like 103 Tweet 0

+1 46 Share 293

**TO REACH GREAT HEIGHTS, START WITH A GREAT PURPOSE** **INNOVATION WITH PURPOSE**



Roadside bombs in Afghanistan, mines in the Persian Gulf's shipping lanes, blazing infernos in downtown neighborhoods – danger seemingly lurks around every corner.

Throughout time, the question for military, government and local leaders has been how to make the world safer for troops, sailors, first responders and others in harm's way. Today, the answer increasingly focuses on unmanned systems that reduce risk by replacing humans on the front lines with machines to conduct perilous resupply, reconnaissance and situational assessment missions.

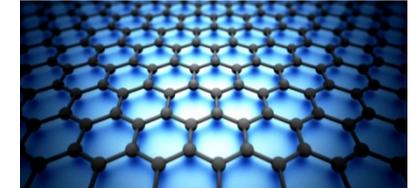
Unmanned systems have come of age during the Iraq and Afghanistan wars, proving their worth time and again. The value of unmanned systems is seen every day in Afghanistan, where they reduce the threats to coalition forces.

**DARPA Robotics Challenge**

As part of the DARPA Robotics Challenge, Lockheed Martin developing autonomous systems that work together with human operators.

Watch

According to the Department of Defense (DOD), U.S. casualties in Afghanistan from improvised explosive devices (IEDs) dropped by nearly half in 2012 thanks largely to the decreasing number of troops and improved methods of avoiding and detecting them. However, these home-made bombs still caused 61 percent of the wounds and deaths suffered by U.S. troops last year.



**+390%**  
Page Views

**INNOVATION WITH PURPOSE**

# Shaping the Story

## Consistent Graphic Treatments



# Shaping the Story

## Listicles, Infographics & More



### Fighting Infection with Missile Defense Algorithms



#### Healthcare Powered by Data Analytics

The early detection of threats around the globe is a basic tenet in Lockheed Martin's approach to missile defense, seeking to deliver technologies that predict and defend against attacks. Today, that same innovative technology is being integrated into health care technology. Using the same algorithm that tracks missile trajectories, Lockheed Martin's Sia™ platform is configured to detect sepsis in large patient datasets.

#### Sepsis: Unremarkable Symptoms with Extraordinary Impact

Sepsis is the 10th leading cause of death in the United States. An estimated 750,000 cases are identified annually, and the mortality rate is nearly 40 percent. Sepsis is also one of the most common causes of death in hospital critical care units, according to research from Penn Medicine. Often associated only with those critically ill or the elderly, sepsis does not discriminate on basis of age or condition.

Caught early, sepsis can be treated with strong antibiotics. However, the timeline for a sepsis infection to turn life-threatening is often measured in hours. In fact, for every hour of delay in treatment the mortality rate increases by 7 percent, underscoring the need for a sophisticated early warning system that follows changes in a patient's condition.

The symptoms of a sepsis infection are common and often confused with the flu, resulting in a large number of false diagnoses. As a result, testing and treatment for sepsis are often initiated unnecessarily, putting a huge burden on hospital staff who must provide the around-the-clock care. Add to that the impact of costs. A recent study labels sepsis as the most expensive condition treated in hospitals today—a accounting for more than \$20 billion in annual costs to the U.S. health care system.

#### Insight Gained from Missile Detection

Automated sepsis detection systems aren't new, but the differences between Lockheed Martin's Sia™ algorithm platform and the conventional sepsis detection systems are timing and accuracy. The current Sepsis System Inflammation Response Syndrome (SIRS) method of detecting sepsis accurately flags sepsis patients 69 percent of the time; however, it also wrongly flags 65 percent of uninfected patients as well. This means almost all patients are flagged as septic one time or another.

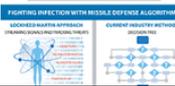
In contrast, Lockheed Martin's approach continually monitors changes in patient vital

### INNOVATION WITH PURPOSE

#### Story Highlights:

- Sepsis is the 10th leading cause of death in the United States. An estimated 750,000 cases are identified annually, and the mortality rate is nearly 40 percent.
- Using the same algorithm that tracks missile trajectories, Lockheed Martin's Sia™ platform is configured to detect sepsis in large patient datasets.
- Lockheed Martin's solution correctly identified cases of sepsis more than 90 percent of the time and, on average, 14 to 16 hours before the conventional approach reached diagnosis.

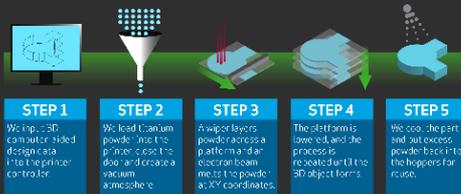
### PREDICTIVE ANALYTICS POWERED BY ROCKET SCIENCE



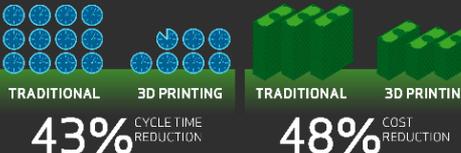
### 3D PRINTING 101

Lockheed Martin is streamlining satellite production with 3D titanium printing to lower cycle times and reduce costs.

#### HOW 3D PRINTING WORKS



#### BENEFITS OF 3D PRINTING



#### FUTURE OF 3D PRINTING



[www.lockheedmartin.com](http://www.lockheedmartin.com)

LOCKHEED MARTIN

### Top 10 Things You Didn't Know You Could Print



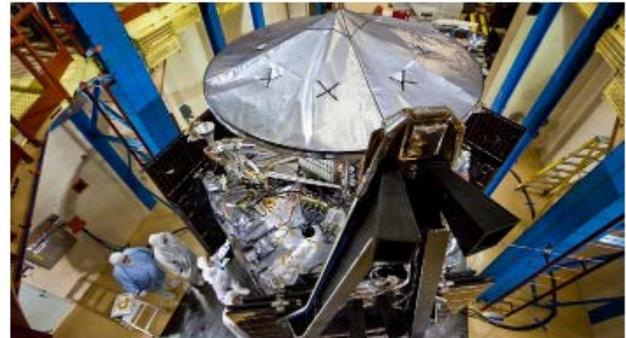
TO REACH GREAT HEIGHTS, START WITH A GREAT PURPOSE

INNOVATION WITH PURPOSE



Industrial 3D printing, known as additive manufacturing, is the process of creating a product layer-by-layer from a digital design — often at a fraction of the time it would take for traditional manufacturing. Beyond colorful objects and models, this new technology is truly revolutionizing industries around the world — from dentistry to aerospace and defense. Read on for our list of the top 10 things you didn't know you could print.

1. **Human Tissue** — Using bioprinting, scientists are imagining a world where we can print fully functioning organs. In fact, they have already printed small amounts of organ tissue and are researching bioprinted tissues that mimic organs like the heart, liver and lungs.



2. **Parts that Fly in Space** — Merging space exploration and advanced manufacturing, Lockheed Martin is using additive manufacturing to make components for the A2100 commercial satellite. Not to mention, additively manufactured components are now on their way to Jupiter on board the Juno spacecraft, which will arrive and begin orbiting the planet in July 2016.

# INNOVATION WITH PURPOSE

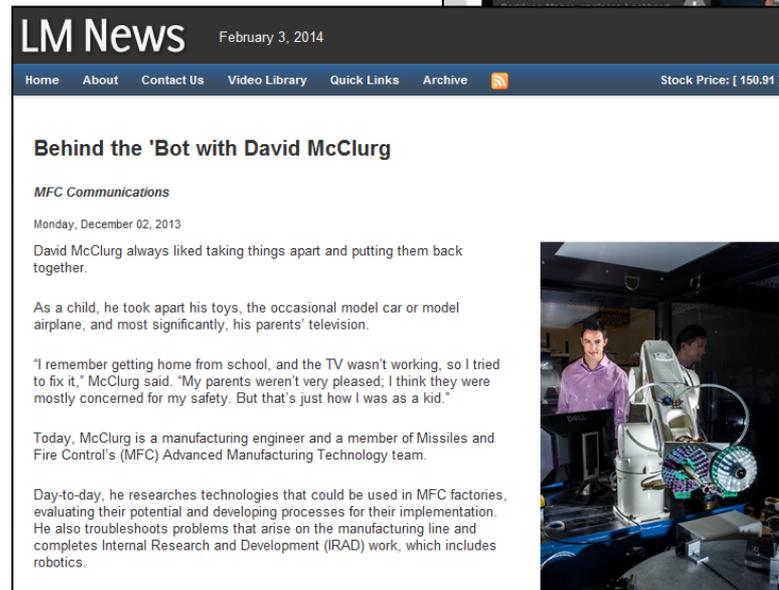
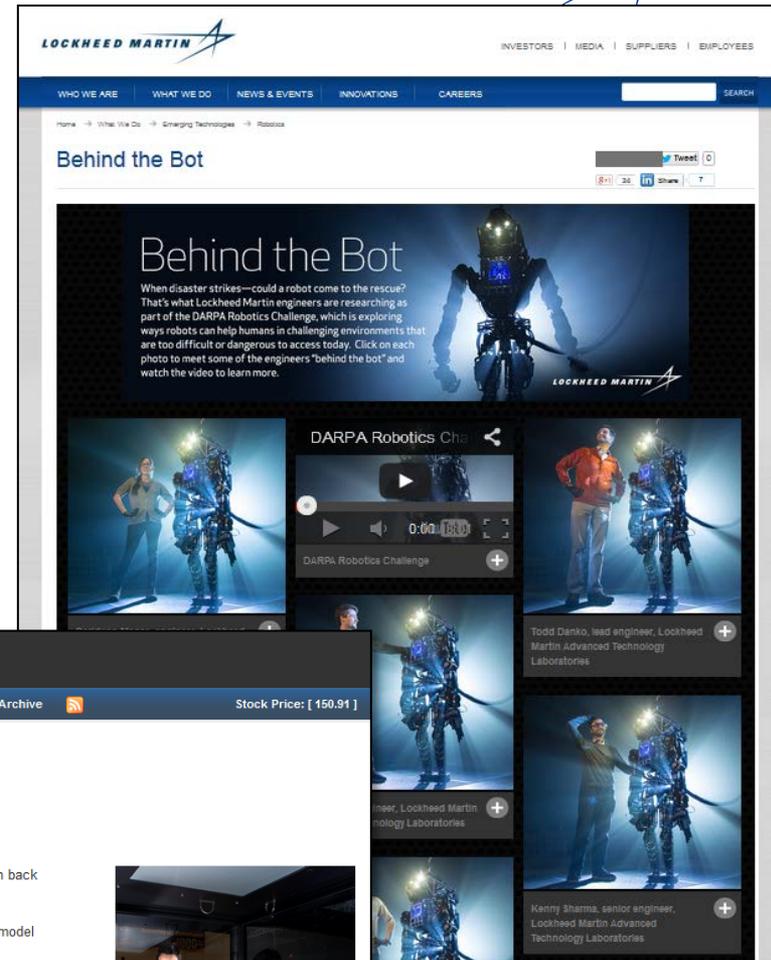
# Shaping the Story

Internal + External Channels

- **Encourage employees to share stories with their own networks**
  - Offer “exclusive extras” employees can in their own social profiles

- **Expand on your Intranet**

- Despite our best efforts, not everyone uses social media!



**20+**  
Experts Featured



# Sharing the Story

## Connecting with Online Audiences



### Speaking of the Future: Energy Video



**Simon Vickers** That's pretty much the goal I've set for my life's work, to make a positive difference to the world through engineering. I'm really glad you posted this, it paints a really good picture for the company and shows your diverse and forward thinking. I'm also looking forward to living in one of those cities of the future. [less](#)  
24 days ago

### Rick Ambrose AIAA SciTech Speech / 3D Printing Infographic:



**Doug Threatt** I found this article very intriguing, especially the CHIL's ability to reproduce designs in an interactive 3D environment. You can literally use the old method of trial and error without damaging or wasting any resources and be able to develop the best solution to any problem you are working. [less](#)  
15 days ago

### BioMass feature:



**George Weil** Outstanding! Another move forward in positive global stewardship by two top caliber companies. The statement "What a waste" may have new meaning in the future.  
17 days ago



**INNOVATION WITH PURPOSE**

**16K+**  
Engagements

**+41%**  
Community Growth

# Sharing the Story

## Connecting with Online Audiences



- **Help the conversation start online...and allow it to continue offline**

- Tease a topic with language that invites a broad audience in, then build to more specific discussion

- **Invite experts to tell the story themselves**

- Tweet chats, Reddit AMAs, etc. offer a chance for SMEs and customers/partners to shine

**Multi-functional Materials**

**Electronics & Sensors**

**Integrated Computational Materials Engineering**

**Energy Storage**

Imagine a world where unique phenomena at the molecular scale can lead to entirely new, innovative, and transformative product designs—all done by harnessing properties of materials at the nanoscale level. Nanoscale materials are not new to nature or in science. What is new is the ability to engineer nanomaterials, specifically designed with controlled sizes, shapes and compositions.

Since 2007, Lockheed Martin has built an extensive technology portfolio through internal research and development, collaboration with leading academic institutions and industry and government partnerships. Nanotechnology may hold the key to addressing some of the most pressing issues of sustainability, energy management, healthcare and security.

**Contact Information**

Travis Earles  
travis.m.earles@lmco.com  
@TMEarles

**Lockheed Martin** @LockheedMartin · Nov 14  
@USCViterbi A4 We are working to quantify that now. We have evidence that shows it will be significant. #QuantumChat

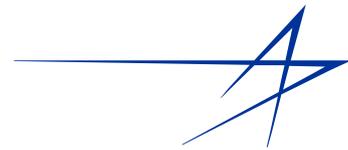
**USC Viterbi School** @USCViterbi · Nov 14  
@lockheedmartin Q4 via @Eulerianial: What's cost comparison of software testing using D-Wave machine vs classical tools? #QuantumChat

**Lockheed Martin** @LockheedMartin · Nov 14  
@howzhiyuan Actual programming is straightforward. Problem set-up may be more difficult depending on the problem. #QuantumChat

**Albert Yefimov** @abulaphia · Nov 14  
Get Answers to questions about the Dwave Quantum Computer at the #quantumchat that starts in a few ... tinyurl.com/lvmogxz

**USC Viterbi School** @USCViterbi · Nov 14  
@dwavesys A3: Programming QC application in the DW processor does not really require a background in quantum mechanics \*IH #QuantumChat

**D-Wave Systems** @dwavesys · Nov 14  
@USCViterbi Q3 from @jadeigador: How do you teach applications of QC to engineers without the quantum mechanics framework? #QuantumChat



# Sharing the Story

## Multipurposing for Media Engagements



**+5%**  
Article Volume

# Inspiring Future Stories

## Thought Leadership on LinkedIn





**Marilyn Hewson**  
Chairman and CEO at Lockheed Martin  
Bethesda, Maryland | Defense & Space

Current: Lockheed Martin  
Previous: Lockheed Martin  
Education: University of Alabama

✓ Following Know Marilyn? Connect

18,846 followers

[www.linkedin.com/pub/marilyn-hewson/79/631/247](http://www.linkedin.com/pub/marilyn-hewson/79/631/247)

Posts

Published by Marilyn  
See more ▶



**Why I'm a Determined Optimist... And You Should Be...**  
January 8, 2014



**Four Principles to Inspire Innovation**  
December 10, 2013



**The Value of Veterans**  
November 25, 2013

Jan 28, 2014, 1:19pm EST | UPDATED: Jan 28, 2014, 1:51pm EST

### Which D.C.-area companies are the most linked in?

◀ 9 of 10 ▶

◀ Back to article



No. 2  
**Company:** Lockheed Martin Corp.  
**CEO:** Marilyn Hewson (above)  
**LinkedIn Likes:** 221,580

# Inspiring Future Stories

## Community Outreach



 **Lockheed Martin**   
@LockheedMartin 

Thank you to all our #Scifestselfies contest participants! Lots of great selfies! Congrats to our winners:

 Reply  Retweet  Favorite  More




Lockheed Martin Tweet Chat: #EweekChat14  45  23  112  Share  114

lockheedmartin Lockheed Martin, Project Lead The Way

 Project Lead The Way @PLTWorg

Let's meet #eweekchat14 experts. @jeffwilcox, @vincembertram, @USAScienceFest, @BU\_ENGR, @thor\_misko: Where are you tweeting from tonight?

8 months ago

1 / 64 

 Storify  livefyre

Experts from Lockheed Martin, the USA Science and Engineering Festival, Project Lead The Way, and Bucknell University came together on Twitter to discuss their path to a career in science, technology, engineering, and math for the #EweekChat14 on Feb. 19, 2014.

**ENGINEERS WEEK**  
FEBRUARY 16-22, 2014

**Meet the STEM Experts**

Jeff Wilcox, Vice President of Engineering, Lockheed Martin

Jeff Wilcox is Vice President of Engineering for Lockheed Martin Corporation. He will be tweeting in this discussion as @Wilcojef

As Vice President of Engineering since 2009, Jeff works to ensure the right people, processes, tools, and technologies are in place to successfully deliver innovative engineering solutions to the most complex challenges.

Prior to joining Lockheed Martin, Jeff served for 17 years with Science Applications International Corporation (SAIC).

Previously, Jeff served as a Vice President of Systems and Software Engineering and led several critical initiatives for Lockheed Martin including engineering for affordability, advanced manufacturing, and the Energy Solutions Center launch. Prior to joining Lockheed Martin, Jeff served for 17 years with Science Applications International Corporation (SAIC).

Jeff is an adjunct professor at Miami University in Oxford, Ohio, an associate fellow of the American Institute of Aeronautics and Astronautics, and a senior member of the Institute of Electrical and Electronics Engineers.



Learn more about Lockheed Martin's STEM education outreach programs

 Engineering a Sustainable Future

This resources needed to support a future with sustainable energy.

