PRINT IS EVERYWHERE



The print industry has come a long way since the invention of the printing press. Though newspapers and magazines are still being printed on a large scale, we know the power of print doesn't stop there. In recent decades we've turned the page to a new chapter in print. The industry has literally jumped off the page and into the third dimension. Print will surprise you with what it can do, how it's developing and where it's been hiding all along.

### THE FUN IN FUNCTIONAL

Everything has to be printed, even the conductive paths on a circuit board have to be printed. Though print has evolved tremendously over time, it's always had the power to surprise us by showing up in unlikely places. Before video games invaded almost every home across the nation, arcades used the combination of bright lights and flashy designs

printed on plastic to create a gamer's sanctuary. Whether on a pinball machine or the circuit board that powers it, our world has adapted to rely on Industrial Print.

### TECHNICAL TACTICS

Industrial Print is the most demanding of all printing methods. Each job requires a customized solution that involves unique software, inks and substrates and a standard of excellence typically unmatched in traditional printing.

For example, a car speedometer can never fade. A serial number on electronics or firearms must always be legible. The Apple logo on a smart phone must look exactly the same every time it's printed and withstand extreme conditions for long periods of time. Industrial printing remains in a league of its own.



## **BEYOND THE PAGE**

The printing industry has evolved to be able to print on almost anything. Industrial Print is the method which makes this possible. From letters on a keyboard, mappings on a globe and the numbers on a credit card, Industrial Print techniques are a key enabler in the functionality of a product. Industrial Print is on the forefront of manufacturing.

# **IDEAS REALIZED**

In 1983, Chuck Hull was creating a new process that would change the way we think of printing forever. Hull invented a process known as stereolithography which uses UV lasers to create 3D objects from photo-polymer layer by layer.

Since the 80s we have expanded the types of materials we can 3D print to create things like drones, prosthetics, jewelry, furniture, and even homes. It's even been used to create props for movies such as *Iron Man*, *The Hobbit, Jurassic Park* and *The Avengers*.

3D printing has done a lot for the sustainability of space travel. Astronauts in space are able to print tools and materials as they need them as opposed to relying on shipments from Earth. NASA is also researching ways to send robots to print and assemble livable structures on the moon! 3D printing could lead to the creation of a "Moon Village" in the next 10-15 years.

3D Printing is the next chapter in the evolution of print, but it is in no way the "final frontier". Print has touched every aspect of our lives and always will.







#### Mo' Money Mo' Printing

Ever wondered who prints our money? There is actually an agency within the United States Department of Treasury that designs and prints a variety of government documents including, of course, MONEY. They're called The Bureau of Engraving and Printing (BEP) and in addition to paper currency this agency designs and prints: awards, clearance cards, invitations and certificates. Oddly they do not print any coins. That job is left for the United States Mint (the department, not the candy).

#### How 3D Printing Is Saving Soldiers

Before they're deployed, some military branches have started to scan soldier's bodies. If the soldier is injured in battle, the doctors could use the image for reconstruction, allowing for perfectly fitting implants and plates—all because the printing is completely customizable!

# Is Your Refrigerator Talking to You? Thank a Printer.

The market for printed electronics is growing because the Internet of Things is expanding and requires low-cost, lightweight technology that can sense, store information securely and transmit data. If you have a "smart" device in your home, you can bet it includes "printed electronics."





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