The Lifecycle of MacBook Pro Computers

If one looks around any college campus, it is inevitable to see students doing their work and projects on MacBook Pro computers. The MacBook Pro computer, created by Apple, is one of the world's most mass produced consumer products. According to *Forbes* magazine, “There is still no PC as desirable as a Mac.” Apple does an incredible job marketing its product to all people around the world. Their marketing techniques are based on simplicity and intuitiveness. They use the concept that ‘less is more’ and their advertisements and commercials are very basic concepts using less words and more pictures.

Many resources are used to create MacBook Pros. Aluminum from Australia, nickel from Russia, gold from South Africa, and cobalt for the rechargeable batteries from the Democratic Republic of Congo, and seventeen rare earth metals from China are all used in the MacBook Pro’s manufacturing. Apple avoids using beryllium, mercury, lead, arsenic, polyvinyl chloride, brominated flame retardants, and phthalates because they can be harmful to the environment. MacBook Pros are assembled in China, but their parts are manufactured all throughout the world. For example, Intel processors are produced in Arizona, LCD (liquid crystal display) displays are made in North Korea, China, and Poland, hard drives are made in Thailand, graphic chips are made in Taiwan, and many more parts are made in other countries as well.

The manufacturing process of the MacBook Pro begins with a block of aluminum. The solid block of aluminum is guided through an extrusion machine to make it flat so it can be cut into blocks for the base of the computer. This process, known as computer numerical control
(CNC), is the same that the aerospace industry uses when creating mission critical, high
precision components. These blocks are then sent through milling operation until they can be
sent to assembly. The CNC machine then precision cuts the keyboard holes, carves out the
“thumbscoop” that is used to open the lid of the computer, creates complex patterns on the
inside, and uses lasers to make the speaker holes. The MacBook Pro is made with a LED (light
emitting diode) backlit display and requires less energy and heat to operate.

MacBook Pro packaging was carefully designed to be as small as possible. It consists of
a white rectangular box with the Apple Inc. logo on the top center. The box has many
compartments for the computer power cord, charger, instruction manual, and the laptop. The
packaging was designed to keep the product safe for transportation and shipping. Smaller boxes
allow for there to be more boxes when shipping the computers on planes, boats, or other forms of
transportation. With less forms of transportation needed to ship the computers, there will be less
CO2 emissions which is ultimately better for the environment.

Apple Inc. is known for its employment of multiple distribution channels. It has plants in
California, Singapore, and throughout Europe which cater to the customers throughout the globe.
It was only a few years ago that they began adding channel partners and large scale retailers such
as AT&T, Wal-Mart, and Best Buy. These strategies help the company optimize its distribution
cost while having a direct approach to customers. The company emphasizes a lot on the
customer’s buying experience. MacBook Pro computers are purchased by people all over the
world but the largest consumers are from the United States. These computers are often used for
about five years by the consumer. Most likely, new upgrades and products incentivize people
into buying an enhanced model of the product. Apple continues to research and develop new products and enhancements to reach its consumers’ needs.

One of the benefits of using an Apple product is that Apple recycles responsibly. They disassemble all equipment and key components that can be reused. In order to be used in new products, the recycled glass and metals are reprocessed. Most of the recycled plastics can be transformed into raw secondary material. Apple has a 90 percent recovery rate of the original product. Apple’s recycling program is free to all people that live in the United States.
Marketing

Manufacturing
Packaging
Resources

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www.apple.com/recycling/

www.apple.com/environment/

http://appleinsider.com/articles/08/10/14/apple_details_new_macbook_manufacturing_process