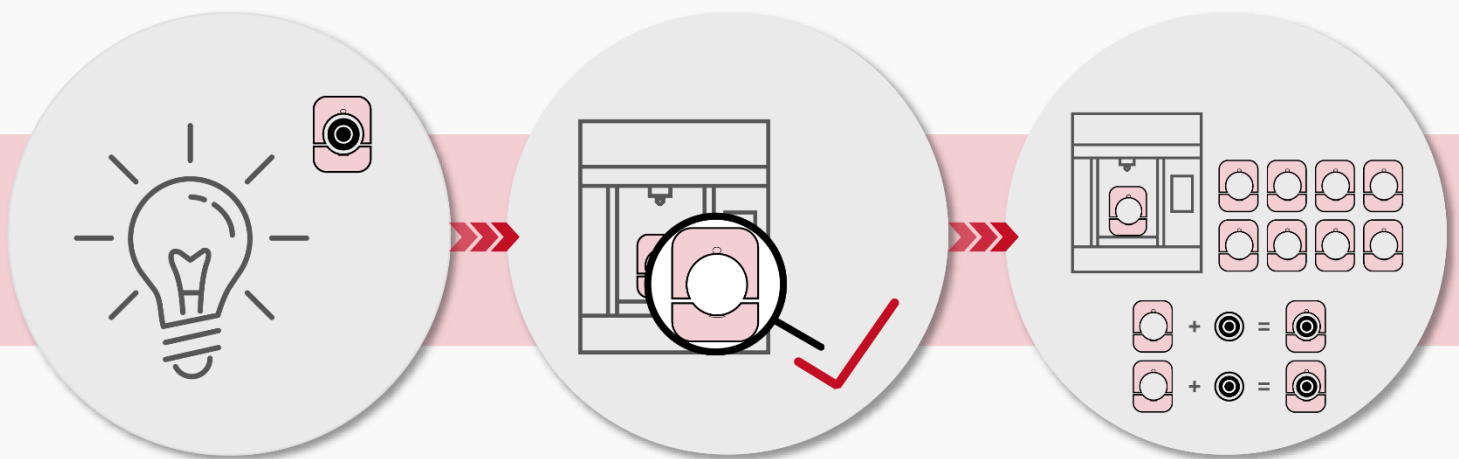


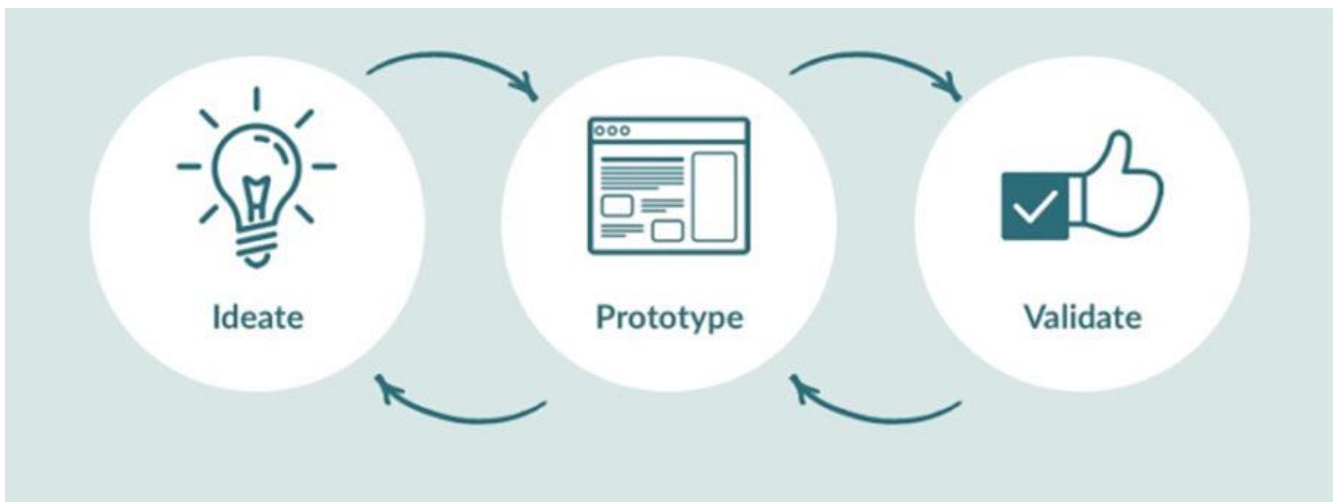
# 3D Printing Elevates Diversity in Electronic Products Market



In recent years, product manufacturers face challenges in product development and setting up production lines, mostly due to changing consumer preferences. These preferences change at a faster rate than they did before, which requires faster product development. Not only do consumer tastes easily change, but they are also more unstable, and this means that market segments are diverse and small. Traditional industrial processes are ineffective against these challenges.

## Frequent Prototyping Needs Electronics Product Development

The electronics industry must continuously come up with new looks and product exteriors to attract consumers. This means that prototyping is frequently needed during the development stage. Traditional prototyping relies on basic resources like tools, limited machines, adhesives, materials, and human labor. Even with all resources at hand, there is not a set of standard steps to follow. Engineers need to create parts one by one and assemble them. Also, traditional machining cannot cut out a cavity structure such as a bottle or an enclosed box. In situations like this, traditional prototyping requires a large investment of time to craft structures by hand, making numerous single parts, and assembling them.



Source: Just UX Design

## How 3D Printing Helps Rapid Prototyping

3D printing eliminates a large amount of the time-consuming work that exists in the traditional prototyping process. A 3D printer's method of manufacture allows it to form any geometry in a single print job. Such an advantage enables 3D printing to create complicated parts in hours that traditionally would take days of manual work. For example, an [acoustics manufacturer](#) can swiftly create [hollow and intricate frame](#) prototypes, designed for a 360-degree audio experience.

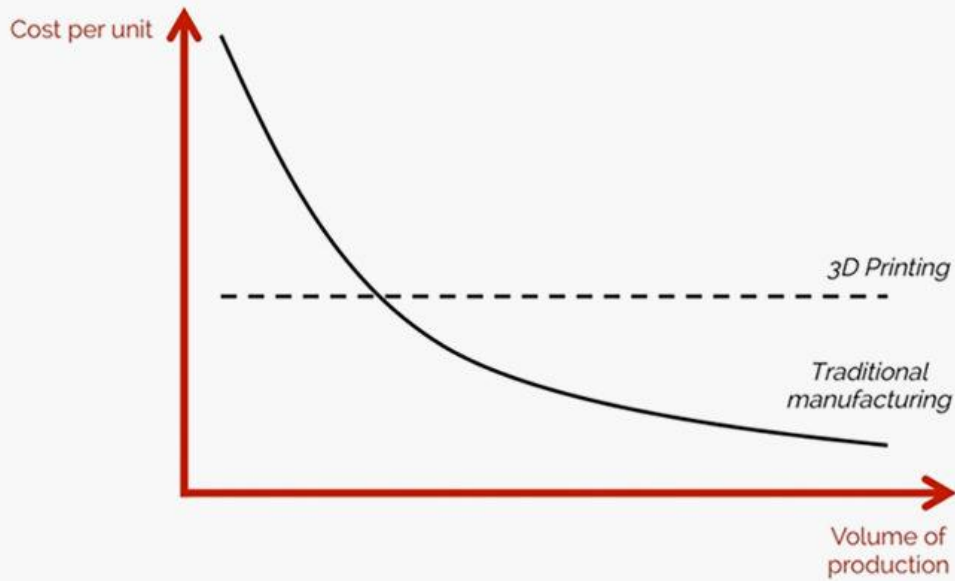


3D printed prototypes can now be more detailed than a handmade prototype. During the development of [Brainy Bee UAV](#), the engineering team created a 3D printed camera mount that had a structure resembling that of a final product. Before fabricating the camera mount using 3D printing, the team used to improvise a rough mount made hand-cut fiber-reinforced sheets all glued together. Many of these entrepreneurial users have witnessed an extraordinary reduction in prototyping lead time thanks to 3D printing.



## How FFF 3D Printing Helps On-Demand Production of Electronics Products

On-demand production's popularity echoes the emerging fragile market. However, traditional streamlined manufacturing only generates profit with mass production and requires a heavy asset investment. This is an obstacle for small-batch production. However, 3D printing has a different cost-quantity ratio. The unit cost is far lower than it would be in a streamlined conventional process with a low quantity output. Meanwhile, every 3D printer is an independent production center, unlike in the conventional process, which is made up of groups of different equipment. This means small business owners only need a single printer to start production and to acquire only a few more to be able to increase their production capacities.



Source: 3dnative.com

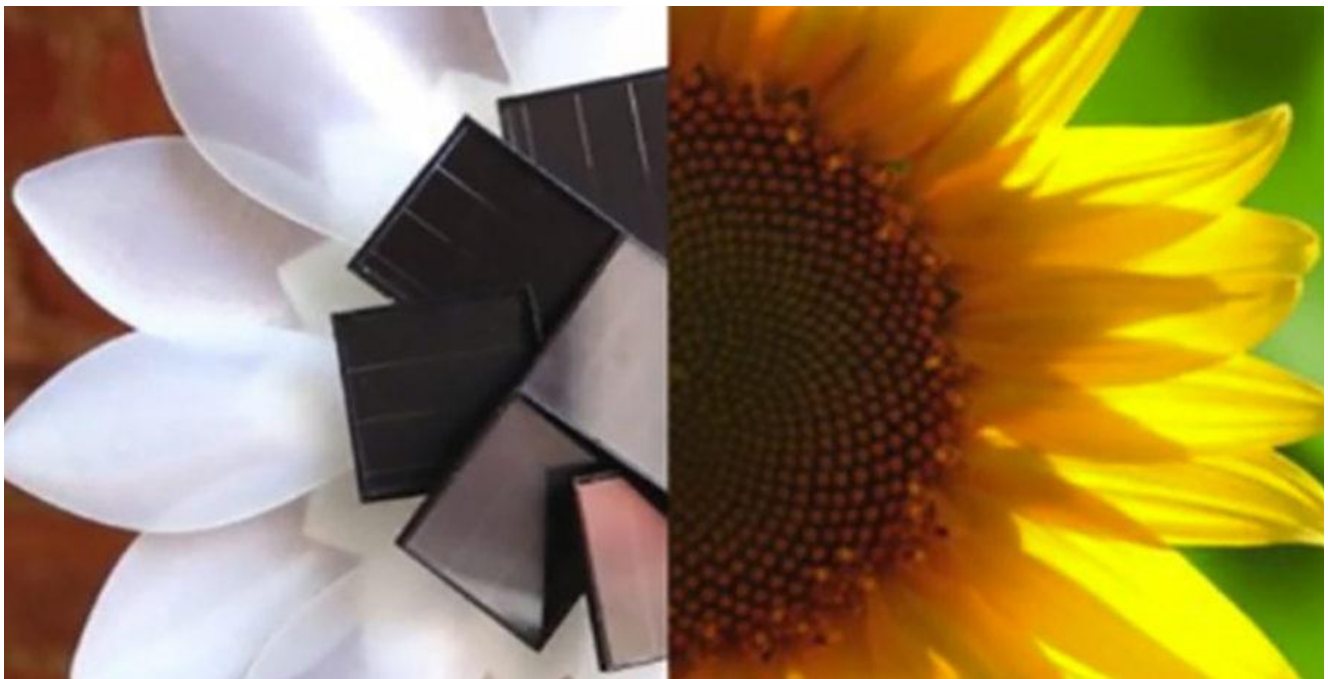
The [material compatibility of the FFF 3D printer](#) is another key factor that makes 3D printing so valuable in small batch production. Products usually contain more than one type of material to each with different properties that, when combined, result in the product's required performance. FFF 3D printers can adapt multiple kinds of high-grade thermoplastic that are commonly used in household, commercial, and engineering products, such as ABS, Polycarbonate, Polypropylene, PETG, Carbon Fiber Reinforced Nylon, and TPU just to name a few. Depending on the mechanical properties of each filament, printed pieces can be used as final parts. Nightingale Security Inc. designs its [Black Bird UAV](#) with different material behavior requirements for each part. However, it is too expensive for Nightingale Security to invest in several distinct molds for each one of these parts since it only receives a relatively small number of monthly orders. 3D printing was chosen as a production solution, printing each part with a different filament for distinct performance. For example, the frame perimeter is printed with Polycarbonate for best impact resistance.



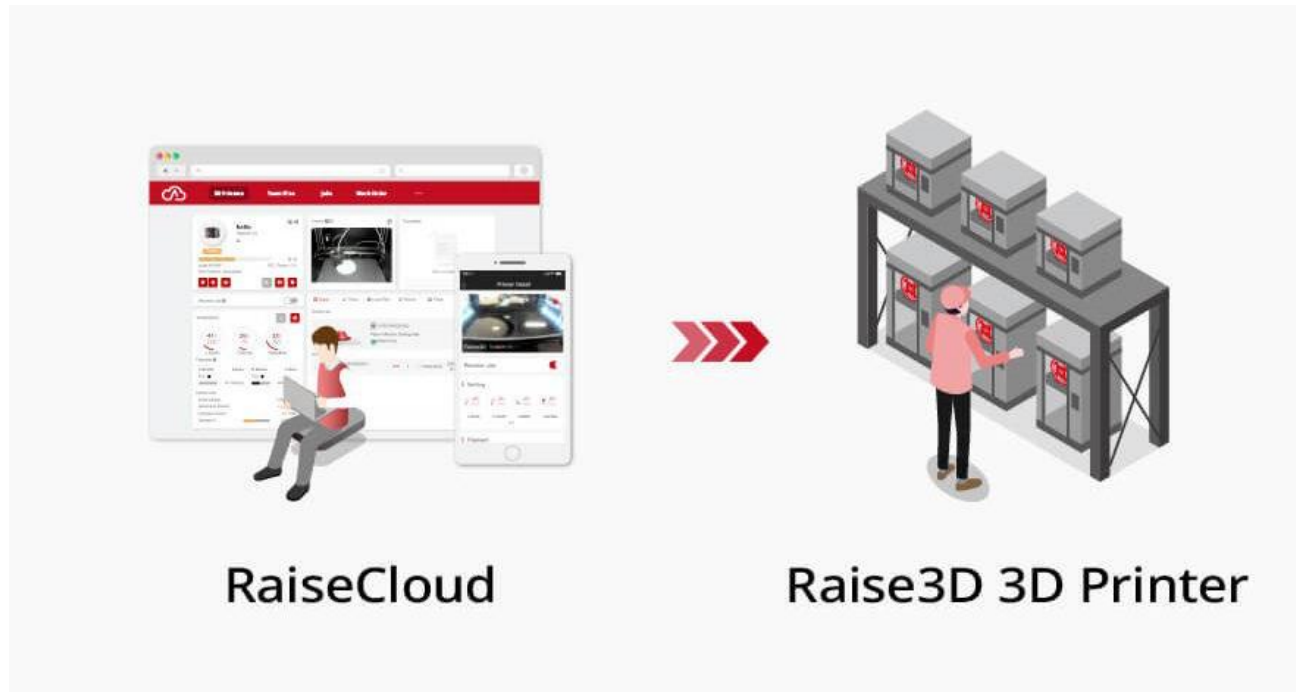
## Strength from Raise3D

From rapid prototyping to on-demand production, Raise3D products provide unique features to help in these situations. In the production process, engineers consider material options for their performance and processing compatibility. The Pro2 Plus features a high heat extrusion system with a maximum temperature of up to 300° C and special nozzle options for highly abrasive materials. The higher heating capacity allows the printer to process higher performance filaments than those with lower heating capacity. Raise3D also offers [ideaMaker Library](#) which is an online library collecting print templates of many filaments. 3D printer owners can import optimized templates for free and use it for 3D printing immediately.

For electrical products, the quality of their appearance is critical for the product's appeal. Raise3D's FFF printers feature high printing stability and precision, which are possible thanks to industrial-grade components and unique mechanical technology. The high-quality build of the 3D printers allows them to produce 3D printed pieces of any size and geometry with smooth surfaces and clear angles. One typical case is [Still Alive Lights](#), which specializes in creative lighting. They printed a petal-shaped lampshade that was only 1mm thick. The thickness was designed to give the petal a certain transparency, so that light can shine through them but slightly less brightly and harsh.



Most small and medium business owners have limited budget and space for industrial-grade 3D printers, which are expensive and considerably large. The Pro2 Plus and other Raise3D printers provide industrial-grade performance but at a desktop 3D printer level of budget and space. These features allow business owners to easily deploy multiple Raise3D printers if necessary, and expand their overall printing capacity as required. In addition, [RaiseCloud](#), Raise3D's cloud-based platform, allows users to run their printers more efficiently. Via RaiseCloud, the printers' owner can connect and command all the printers from a remote terminal, such as a personal computer or smartphone. It is most useful when coordinating multiple printers for numerous printing tasks.



## Conclusion

With 3D printing technology, electronics manufacturers are now able to meet and keep ahead of consumer preferences. With the capacity to apply a wide range of materials and shapes with precision, 3D printers are changing the pace of manufacturing and supply. Raise3D has advanced to add more value to the 3D printing process in terms of production quality and effectiveness.

### Connect with Raise3D

Do you have a great 3D printing success story and think it would be cool to be featured on [www.raise3d.com](http://www.raise3d.com), we would love to learn more! Write to us at [inquiry@raise3d.com](mailto:inquiry@raise3d.com)

For more information about Raise3D printers and services, browse [our website](#), or [schedule a demo](#) with one of our 3D printing experts.