3D Printing in the Toy Industry

Toys, generally refers to items that can be used for play. Toys are often used as a way of teaching and learning in human society. According to the reports, North America and Europe are the two largest regions in the world for toy consumption, and they are also the world's two largest toy import regions. One-third of the US imported toys and two-thirds of the EU's imported toys are made in China. China is a large toy manufacturing country, more than two-thirds of the products on the global market (excluding mainland China) come from China.

Case Study

The traditional production method of toys is to pursue the mass production of the assembly line to reduce the cost of the product. This scale economic benefit is also an important way for enterprises to obtain profits, and it is also the so-called traditional manufacturing production mode. With the development of society and the upgrading of consumption structure, and the uniform manufacture of mass-produced goods has become difficult to meet the diversified and personalized pursuit of products in the information age. New and exotic products are being more and more popular. On this basis, brands and manufacturers must change their directions and adjust strategies to improve corporate competitiveness. Only through design innovation, product development cycle shortening, cost reduction, and new product release speed, companies can respond quickly to changing market demands in order to gain considerable market share and profits in market competition. With fast and new production standards, 3D printing technology can undoubtedly help companies cope with the changing tastes of consumers.

Stereolithography Apparatus (SLA) 3D printing technology is widely used in the toy industry, it uses photosensitive resin as raw material and relies on photopolymerization to cure. This technology does not cause thermal diffusion and thermal deformation, and the chain reaction can be precisely controlled. It ensures that the polymerization reaction does not occur outside the laser spot, has high processing precision and good surface quality, and is the most widely used technology at the industrial end.

China's largest toy production bases are concentrated in Guangdong Province. UnionTech has more than 1,500 3D printing equipment in Guangdong Province, including nearly 100 sets of 3D printing equipment in the Chenghai area. The most typical customers such as Rastar, Sising, Ligo, Jiajiao Toys, etc.

UnionTech

Create your imagination

Advantage:

3D printing technology simplifies the production process, realizes moldless production, accelerates the development and launch of new products, and reduces the overall cost of products. The forming principle is that by adding, layering and superimposing, the required raw materials and energy are only one tenth of the traditional production methods. Moreover, the production process is not affected by the product structure, and any curved surface and hollow product can be printed, which increases the individualization and customized production capacity.

UnionTech 3D printing technology and EPM cloud platform are truly embodied in digital manufacturing, from high-end toys to animation IP, puzzle, education and adult leisure toys.

Industry coverage:

Education

In recent years, the education industry has developed rapidly in China, and educational products have great market demand. They have broad prospects in the future, which will also become the new trend of the Chinese toy market. Educational supplies such as learning machines, preschool education products, and teaching aids for kindergartens have increased year by year. According to the Guangzhou International Toy Fair in 2019, there are nearly 30 exhibitors of preschool education and amusement facilities, more than 80 early childhood toy exhibitors who integrate artificial intelligence and AR technology, and nearly 300 exhibitors who have building blocks for learning physics and mechanical structure, sensor robots for learning the application of acoustic and optoelectronic and other educational functional toys. Science and education products have been widely used in the market and are one of the important directions for the development of the toy industry in the future.

Puzzle

Toy intelligence has become a new trend in the development of the toy industry. High-tech intelligent toys not only satisfy children's curiosity, but also strengthen the interaction between children and toys. Toy companies have grafted advanced technology in the fields of computer, electronics and communication into toy products, breaking through the limitations of traditional toys, giving toys the ability to listen and speak, and interact with people. The intelligent toys are diverse in form, rich in content, and entertaining. They can communicate emotionally with children, cultivate good habits of children, help children learn and experience life in pleasure, and truly achieve the purpose of fun and education.

Anime IP

Among various international toy exhibitions, only the fashionable products and IP derivative toys of Guangzhou Toys and Education Products Exhibition are rich in variety, and the design, production and creative ideas all lead the trend of the market. Guangdong is also a strong province of China's animation industry. The prosperous animation industry and the mature toy industry are intertwined and developed, and the industrial model of animation IP plus toys is carried forward here. According to the public report of the Guangdong Provincial Department of Culture, 80% of the global animation derivative products are made in China, and more than half of them are made in Guangdong.

The toy industry is one of the early adopters of 3D printing technology. In the early days, it was mainly applied to product design, such as assembly verification, appearance verification, product display, etc. 3D printing eliminated the time of toy mold development and reduced the overall cost. It has accelerated the speed and iteration of new products. With the development and deepening of the industry, the toy industry and the game & animation industry are becoming more and more integrated. Personalized customization and small batch production will open another door to the toy application industry. Facing the niche and diverse needs of the toy market, the demands for the toy market are gradually showing diversity, variety and individuality.

About UnionTech: Established in 2000, UnionTech shows nearly 20 years of proven leadership of globally-sourced SLA 3D Printing Systems and is now the market leader of SL equipment in Asia. We have broadened our market reach to support a quickly growing customer base in North America, Europe, and Russia.

Our long-time approved CE-certified SL technology with reliable technical support and maintenance options is widely established in multiple industries like mold making & tooling, automotive, footwear, arts, dental & medical, education & research, etc. We also strengthen our leadership as an Additive Manufacturing (AM) equipment and solutions supplier by actively focusing on the evolution of new photopolymer AM technologies. Nearly 30% of our growing professional team is dedicated to research and product development. All of these benefits are supported by our global affiliation with other marketplace leaders. By living our core values day-by-day, we dedicate ourselves to developing innovative technologies and efficient models which evoke the potential of 3D-Printing, to serve the needs of our customers and pave our way to global success, under adherence of a continuous pursuit towards perfection.

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