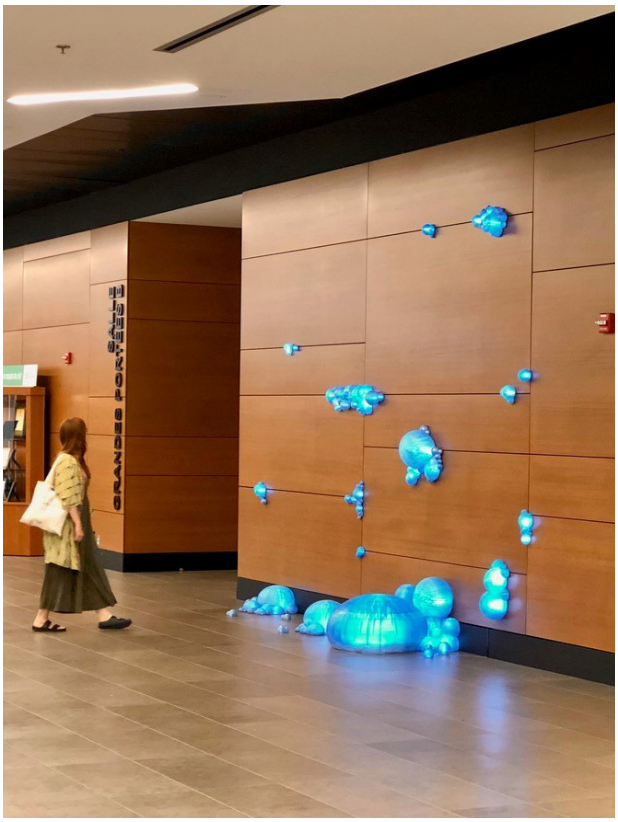
SUCCESS STORY

CQFA CARREFOUR QUÉBÉCOIS DE LA FABRICATION ADDITIVE

3D PRINTING TAKES ON A PRIVILEGED ROLE IN THE CULTURAL SECTOR

With a passion for special effects in film, Rino Côté chose the art department at Cégep, where his fascination with sculpture and moulding took root. Despite his desire to specialize in film, the appeal of artistic autonomy, rarely affordable in cinema, won him over. He deepened his knowledge by studying visual arts at university before joining Cirque du Soleil, where he worked as a sculptor moulder, and later as a technician/analyst and R&D specialist for the costume and props departments. It was here, in the performing arts, that he discovered additive manufacturing technologies. The emergence of 3D printing was revelatory. Mr. Côté now owns his own workshop, where he fervently pursues his craft using these innovative technologies. As an artist, his understanding of 3D-printed parts goes well beyond mere mechanics by incorporating his singular artistic vision.



Exhibition of 3D-printed parts at Sherbrooke University in Longueuil

CREATIVE INNOVATION

The 3D printing revolution has transformed the way physical objects are produced, providing Mr. Côté with a method by which to shape his virtual concepts. Additive manufacturing software, 3D scanners and new printing capabilities have dramatically expanded design and production possibilities for customized parts. One benefit of this process is speed, which allows a more efficient use of one's time. 3D printing accounts for nearly three-quarters of the parts produced in his workshop, while the rest involves the traditional manufacturing methods used in specific applications, like casting or design for silicone and foam parts. The constant evolution of materials available for 3D printing, along with the advent of conductive and flexible materials and composites, continues to transform the additive manufacturing landscape, particularly in sculpting and moulding. Meanwhile, improvements in 3D printing speeds promise to significantly accelerate the production process, opening up new creative possibilities.

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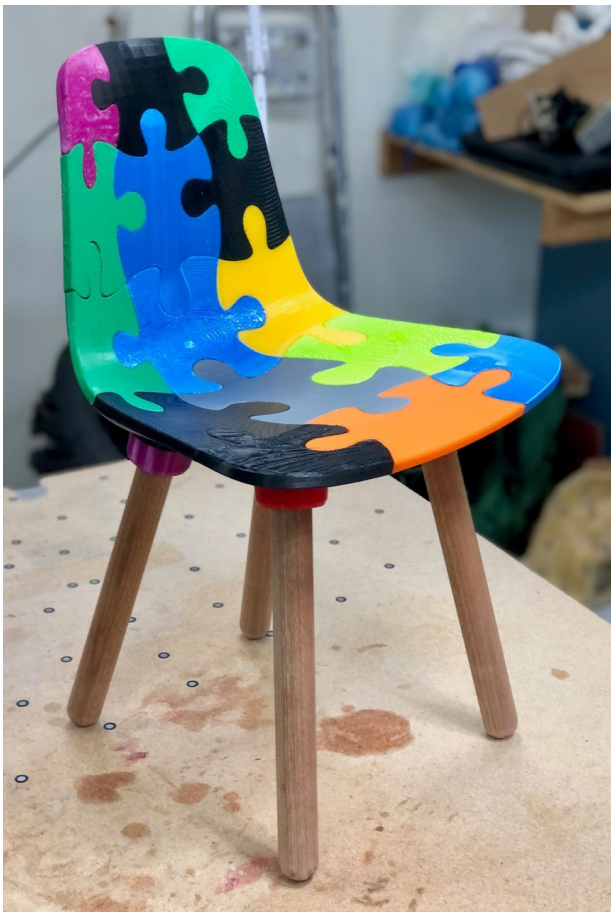
THE IMPORTANCE OF COLLABORATION

Additive manufacturing integrates harmoniously with other technologies, providing a complementary tool for sculpting and moulding. Understanding the entire 3D printing process becomes crucial since the value chain assigns a decisive role to each individual at a precise stage in the process. The quality of the end result is closely linked to the meticulous preparation of each part and the precise execution of each stage. Mistakes at any phase in the process will often compromise the final product. For that reason, teamwork is paramount to Mr. Côté. Everyone involved must acknowledge and respect the other's work to create synergy when achieving a coherent and functional end result.



Various 3D printed chair parts produced by students

THE FUTURE OF ADDITIVE MANUFACTURING

Mr. Côté encourages his colleagues to attend training courses that can enhance their expertise and keep them at the cutting edge of this constantly evolving technology. In the field of additive manufacturing, where materials undergo constant evolution, 3D printing provides an opportunity to explore an increasing variety of materials. Mr. Côté leads a continuing education course in 3D printing at the Cégep du Vieux Montréal while actively seeking to expand training at the college level, highlighting the relevance of 3D printing in sectors like the visual arts, jewellery, reprography and architecture. His vision is part of an overall drive to democratize the technology, particularly in the cultural sector, while broadening the usage and production possibilities offered by 3D printing. With a noticeable rise in interest regarding this technology, Mr. Côté highlights the ever-increasing need for knowledge and skills, seeking its gradual integration into the labour market across several activity sectors.

Additive manufacturing, however, is not an end in itself, nor is 3D printing and the tools that come with it. Rather, it represents an upgrade to the traditional tools and techniques used in moulding and sculpting. These new technological tools should always be used alongside manual ones. An understanding of traditional tools and techniques can help us identify potential avenues when using these new technological tools, pushing us even further in their application.

Clearly, 3D technology will continue to make a big imprint!