3D Printing at the Centre for **Innovation** in **Manufacturing** (CIM-TAC)

Do you develop innovative products or processes? Have a new device that can help your company or customers? Do you need to get your product idea into a prototype? Want to reverse engineer an obsolete part? Whether it's prototypes or production-grade parts, the Centre for Innovation in Manufacturing (CIM-TAC), located on the Red Deer Polytechnic campus, can make them for you.

We use the latest additive manufacturing technology to build functional parts in a multitude of materials. 3D printing is a powerful tool for generating custom builds, often with complex geometries, and serves industries from aerospace and automotive, to medical and dental, and beyond. The CIM-TAC's services can be used to create conceptual models, working prototypes, and to manufacture tools and end-use parts.

Print costs are calculated by an hourly rate for machine time and CAD time (if necessary), materials and supplies, and a set-up fee. Total cost varies with the selected materials, resolution, and density, and CAD support is also available upon request at an hourly charge out.

ExOne Innovent+	
Additive Manufacturing Type	Binder Jet
Material Library	Metal or ceramic (inquire for more details)
Layer Height	30 - 200 µm (0.001 - 0.008 in)
Build Envelope	160 x 65 x 65 mm (6.3 x 2.5 x 2.5 in)
Setup Fee	Project specific

Stratasys 400MC	
Additive Manufacturing Type	FDM
Material Library	ABS, PC, PC-ABS, ASA, Nylon, Ultem
Layer Height	127 - 330 µm (0.005 - 0.013 in)
Build Envelope	406 x 355 x 406 mm (16 x 14 x 16 in)
Setup Fee	$35 - $75 (material dependent)

Ultimaker 3	
Additive Manufacturing Type	FDM
Material Library	PLA, others available on request
Layer Height	127 - 300 µm (0.005 - 0.012 in)
Build Envelope	197 x 215 x 200 mm (7.7 x 8.5 x 7.9 in)
Setup Fee	$15 - $35 (material dependent)

Markforged Mark Two	
Additive Manufacturing Type	FDM
Material Library	Onyx with Carbon Fiber, Fiberglass or Kevlar reinforcement, others available on request
Layer Height	100 - 200 µm (0.004 - 0.008 in)
Build Envelope	320 x 132 x 154 mm (12.6 x 5.2 x 6.1 in)
Setup Fee	$35 for pure Onyx, $75 for Onyx and reinforcement

Formlabs Form 3	
Additive Manufacturing Type	SLA
Material Library	Photopolymer resin (inquire for more details)
Layer Height	25 - 300 µm (0.001 - 0.012 in)
Build Envelope	145 x 145 x 185 mm (5.7 x 5.7 x 7.3 in)
Setup Fee	$35 - $75 (material dependent)

Density: Depending on the intended purpose of your product, you may be able to print in sparse, double sparse, or solid interior. Each of these options will affect the strength and the cost of the product.

Resolution: Layer height selection is very important. Depending on the detail required for your product, you could choose a smaller layer height to get finer detail, or a larger layer height to save costs.

The CIM-TAC's engineering team provides rigorous quality control measures, and our facility houses commercial and industrial-grade printers that deliver part-to-part consistency with no feature variance.

Contact us to discuss how our industrial 3D printing service can help you to develop functional prototypes and end-use production parts faster and more economically than before.

Inquiries: 403.343.4076 | innovation@rdpolytech.ca

RDC