



The Madawaska Highlands Observatory

www.madawaskahighlandsobservatory.com

Our Partners

OTTAWA, Canada — December 2016

This unique facility will host a state-of-the-art 3D digital planetarium with the highest resolution in the world, the world's largest and most powerful public telescopes. And it will be the world's most energy efficient building, being self-powered and off the grid with a very innovative building design. The Madawaska Highlands Observatory will host the Wide-Field-Telescope, which is expected to be the most powerful in Canada.

The company has partnered with several high profile firms who have been selected for their outstanding abilities to deliver world leading solutions. Dream Telescopes will produce the Public Telescopes and the Wide-Field-Telescope, Christopher Simmonds Architect Inc. will design the unique energy efficient building and Sky-Skan Inc. will produce our world-class 3D digital planetarium, custom designed for our facility.



Dream was founded in 2003 By Shane Santi.

Dream is an avant-garde engineering company producing advanced carbon-fiber assemblies and sub-assemblies, high performance mirrors, and complete telescopes of exceptional performance.

Dream will produce the wide-field-telescopes (WFT), the most powerful in Canada, and the public telescopes, the largest and most powerful in the world.

Their innovative approach and their extreme attention to detail based on empirical data while also using the latest engineering tools such as FEM/FEA, CAD/CAM, CNC equipment, thermal analysis and their expertise across many fields gives them unique abilities to produce exceptional telescopes and related structures.



We design and install the world's top full-dome planetariums and visualization theaters. Our products and services range from Definiti digital full-dome theater systems to full-dome content, project management, theater design, and related hardware and software.

1967-1990s: Special Effects and Automation

Sky-Skan began in 1967 creating special effect visuals for planetariums. To augment the star projector, the special effects projectors would show astronomical phenomenon such as solar wind. These projectors were fabricated in-house, requiring precision engineering coupled with a view to creativity to keep improving the effects. Sky-Skan became synonymous with special effect projectors during this period, with hundreds of customers still using these products today.

By the 1980s, planetarium coves (the space where projectors are just behind the dome screen edge) were crowded with special effects and slide projectors. Each one was integral to the show and had to be turned on at just the right moment. Sky-Skan saw the opportunity for a new product category and developed SPICE Automation. A comprehensive solution to theater automation, SPICE components quickly became the industry standard. Today, planetariums and giant-screen theaters rely on SPICE components to keep their shows perfectly synchronized.

1990s-present: The Digital Revolution

In the 1990s, Sky-Skan began work on a new class of planetarium, one that used the dome as a giant digital canvas. The first product, SkyVision, covered every square meter of the giant dome screen with full-motion video. Even though multiple projectors were used, Sky-Skan aligned, masked, and blended the video to form one seamless image. Before SkyVision, shows were limited to rectangular video windows that could move around on the dome, but never cover it completely. The advent of all-dome video sparked content creators to begin telling stories using the largest theater canvas known -- the giant dome screen of planetariums.

With the success of SkyVision, Sky-Skan began work to use video to digitally replicate stars. Rather than having a preset, pre-rendered sequence of star movements, the approach was for a real-time simulation. The resulting software, DigitalSky, brought about a whole new theater type: the Definiti digital full-dome theater. DigitalSky, coupled with the advanced hardware required to handle extremely high-resolution real-time visualizations, are at the heart of every Definiti theater installed today.

Sky-Skan's Definiti theaters immerse audiences using a giant, seamless dome screen and surround sound. Typical shows include real-time flights through astounding data sets, and playback shows with ultra-high definition video. Our customers include science centers and museums, universities, school districts, custom venues, and even residential installations.

Current Definiti Projection Systems

The success of DigitalSky software and Definiti theaters continues. Sky-Skan offers a range of Definiti projection system options from the portable Definiti PD II through mid-range DLP and D-ILA-based projection systems to the high-end Definiti 4K and Definiti 8K systems. Each Definiti projection system is developed using the highest quality components, and often uses unique hardware developed by Sky-Skan such as lenses, projector mounts, and LED cove lighting.

Launched in 1996, Christopher Simmonds Architect (CSA) is recognized as one of Ottawa's leading practitioners of contemporary architecture. Their commitment to design excellence has led to a diversity of award-winning projects, including modern, single-family homes and cottages, as well as cultural institutions, multi-unit residential buildings, and commercial spaces.

**Christopher
Simmonds**
Architect

They integrate innovation and creativity, conceiving modern designs that recognize the needs of both the client and the community. Christopher Simmonds Architect has a reputation for maintaining an open dialogue with their clients, listening closely to their needs and providing solutions that exceed expectations. They accomplish this by beginning with the essential elements of each project — the client's goals, the site, and the environment — and using those elements to guide the process.

Christopher Simmonds Architect designed the first LEED gold certified building in Ottawa (Rideau Valley Conservation Centre) and, in 2008, was awarded a Canada Green Building Council's Leadership Award for "fostering sustainable design, construction, and management in buildings in the national capital region of Canada." Their designs have won numerous awards and have been published locally and nationally.

On Sustainability

CSA believes the Earth must be viewed as a sacred place. This is the starting point for re-examining the way they build, putting environmental responsibility and human health at the forefront of their approach. Under the guidance of their inventive team of architects, the engineers, energy-modeling experts, builders, and building owners achieve visionary designs shaped by their surroundings.

Holistic Design

Christopher Simmonds Architect believes that design must be an inclusive process. They strive to understand exactly how clients aspire to experience a building before designing according to their needs. They then use an intuitive approach that promotes harmony and balance in the environment — if a building is connected with its environment, we believe the inhabitants will benefit from the sustaining energy that nature provides.