

CASE STUDY

TRIMBLE INDOOR MOBILE MAPPING SOLUTION (TIMMS)

TIMMS DELIVERS FULL 3-DIMENSIONAL INDOOR COVERAGE FOR 50% LESS THAN STATIC METHODS



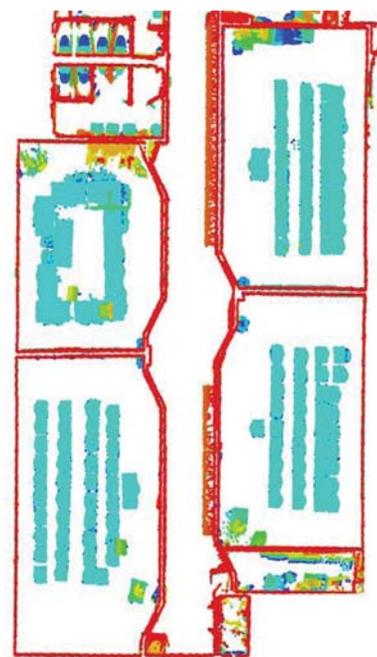
Historic St. Mary's University College

St. Mary's University College in Calgary was initially located at the St. Anthony's School campus, but was relocated to the historic Father Lacombe Centre in 1999. Since that time, the site has undergone extensive construction and renovation, most recently with the full renovation of the school's gymnasium to a brand new athletics centre. The campus includes several heritage buildings that require ongoing preservation and documentation. The many recent changes that the campus has undergone, coupled with the historic nature of the site, meant that up-to-date plans and blueprints for most of the buildings simply did not exist.

Building Documentation

St. Mary's required up-to-date building plans that could be used for campus navigation, safety and emergency planning, and space allocation. They also had a need for visual material that could be used to promote the school and give prospective students a better idea of what their experience at St. Mary's might be like.

What was required was a technology that fell somewhere between static scanners and handheld methods. Traditional static scanners are difficult to use in tight spaces, time consuming, invasive, and can be expensive, especially in large facilities. Handheld measurement tools are quicker to use, but are much less accurate due to human error. They also make it harder to measure and record features like ledges or beams, and cannot identify wall deformations. St. Mary's needed an accurate, cost-effective method that was more accurate than handheld equipment and less costly and time-intensive than static scanners while still offering full wall coverage in three dimensions.



TRIMBLE INDOOR MOBILE MAPPING SOLUTION

Solution

InView Solutions, Ltd. used Trimble's Indoor Mobile Mapping System (TIMMS) to solve all of these issues.

TIMMS scans interior spaces at walking speed with dual LiDAR heads that collect 27,000 points per second. This results in a full 3D scan of the building that can then be used to create accurate, as-built floor plans.

Because TIMMS gathers information while moving, it does not require a new set-up for each room that needs to be scanned. This results in a scan time that is 10 times faster than static scanners.

At the same time as scan data is being collected, TIMMS also takes a 360° panoramic image for every metre it is moved. These images can be used to view rooms in digital panoramas, which can be grouped into custom virtual tours giving total situational awareness.



InView Solutions at St. Mary's

In September 2011 the InView team scanned 6 major structures on the St. Mary's University College Campus in just 20 hours. From these initial scans, the team created a total of 14 floor plans to cover all buildings, as well as a full-campus virtual tour.

The team returned to the campus in March 2012 upon the completion of renovations in the new fitness centre. This dataset was integrated with the original scan to provide a completely updated model, as well as a before/after virtual panorama of the facility.

From data collection to delivery of final products, the entire process took approximately 55 hours – just over a week to create complete digital models of an entire campus at a cost saving of over 50% compared to static methods.

