Success by Design

Boyé Geometre used a new workflow to serve its clients with high-quality 2D and 3D products

Trimble TX8 laser scanner combined with RealWorks and SketchUp software brings new capabilities to the architectural field.

Solutions

- **Trimble TX8 laser scanner:** Fast, accurate performance for engineering, construction and industrial measurement
- **Trimble RealWorks software:** High performance processing and analysis for laser scanning professionals.
- **SketchUp software:** Comprehensive 3D modeling for design and visualization

overview

For more than two decades, Boyé Geometre was a market leader in its specialty of architectural surveying. But in the years leading up to 2012, the surveying firm saw its leadership position begin to erode. Widespread availability of new technologies by its competitors made Boyé Geometre's traditional processes and products less competitive.

Location
BRANNE,
FRANCE

To address the new, more competitive environment, the company developed a new solution: Boyé Geometre introduced the use of laser scanning together with additional capabilities offered by advanced hardware and software tools. The decision paid off quickly.

Boyé Geometre is a 30-year-old surveying firm based in Branne, France. In the architectural field, the firm ranks among the top firms in the Gironde and Aquitaine regions. Boyé has always worked with optical and GNSS instruments, providing its clients with 2D CAD plans, elevations and cross-sections of buildings and infrastructure.

In the years prior to 2012, the firm's leadership in the market declined as geospatial technologies became more accessible. Many of Boyé Geometre's competitors adopted new instruments and capabilities that strengthened their market positions. In spite of its long-term experience, Boyé Geometre's final products were no different from those of its competitors. The tough competition was keeping the firm from achieving its financial goals.

If Boyé Geometre was to maintain sustainable levels of growth and profitability in the face of new market challenges, the firm needed to make a change.

CHALLENGE

Managers at Boyé Geometre knew exactly how to face the problem. Their idea was to introduce a new operational approach that would present their clients with high-quality products that could outperform the competition. This new approach would take into account the role that three-dimensional information plays nowadays in the design, construction and management of buildings. Boyé Geometre's goals included:

1. Produce highly-detailed 2D products to satisfy his traditional clients' needs, and

2. Create state-of-the-art 3D deliverables for the rapidly expanding BIM market.

To achieve this, Boyé Geometre identified laser scanning technology as a possible solution to the firm's needs. Their efforts began in 2013, when Boyé Geometre acquired a Trimble® TX5 scanner.

Almost immediately, the team realized that rather than selecting a technological solution, the real challenge came in developing the specific skills needed to implement the strategy.

The team quickly learned to manage the field data acquisition and registration processes, but challenges arose during the post-processing of the point clouds. With their lack of experience in the 3D field, the time needed for processing was too long. The problem prevented Boyé Geometre from achieving the expected high-quality results within acceptable delivery times.

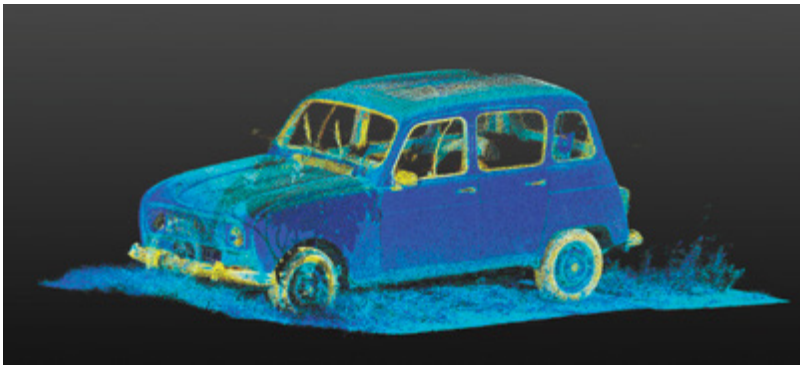
SOLUTION

Despite the initial challenges, managers at Boyé Geometre remained convinced that laser scanning technology should be part of the firm's workflow. They had already seen multiple benefits of laser scanning: time in the field was reduced and the team could capture every detail of a building, which made it possible to conduct virtual revisits to the site at any time.

The firm decided to focus on the deliverables they knew well: 2D CAD plans, elevations and cross-sections of buildings and infrastructure. This time, however, the value of their products was enhanced by extraordinary detail and reduced delivery times. At the same time, the team worked to develop the necessary skills to provide 3D products for the BIM market.

Already proficient in creating 2D CAD models from conventional data, Boyé Geometre technicians enhanced their skills in point cloud registration and producing orthophotos for the models. Using the scanning technology, the firm could offer its clients greater detail and improved efficiency.

In 2015, Boyé Geometre added a Trimble TX8 laser scanner and Trimble Realworks® software to its workflow. The firm quickly achieved higher productivity from the RealWorks-TX8 integration. RealWorks provided reliability and ease of use in dealing with large amounts of data. Its powerful algorithms eliminated the need for reference targets in the field. The TX8 allowed the team to acquire millions of points per second while providing the measurement range needed for their projects.



The TX8 also proved to be an extremely reliable instrument and enabled Boyé Geometre to complete surveys in a variety of weather conditions.

Along with its Trimble TX8, Boyé Geometre worked to acquire the skills needed to produce 3D deliverables. The firm developed the ability to integrate RealWorks with SketchUp® software and began to use the RealWorks point clouds to generate SketchUp models. From there, they could easily extract classic 2D models or provide clients with full 3D deliverables.

"Once you create the 3D model with SketchUp, very little time is required to generate 2D models," says Guillaume Boyé. "SketchUp's user-friendly 3D environment and plugins for the management of RealWorks point clouds helped our team overcome the challenges we initially encountered in seeking to enter the 3D world."

RESULTS

Currently, Boyé Geometre carries out surveys of complex structures such as hospitals and public places. Even working in crowded locations, teams complete projects in less time and with high accuracy.

By introducing the Trimble TX8 scanner, RealWorks and SketchUp to their workflow, Boyé Geometre was able to deliver detailed 2D and 3D products with very short delivery times. This translated into higher productivity and an almost immediate return on investment, giving the business a competitive advantage. In particular, the integration of the two software packages provided the team with broad new capabilities to create high-value deliverables; its clients are now asking for BIM-quality 3D models.

"The key word is 'integration.' In the future, we will see more and more instruments that are capable of integrating optics, GNSS and lasers with fast and easy-to-use software."

Guillaume Boyé, Boyé Geometre

Contact your local Trimble Authorized Distribution Partner for more information

NORTH AMERICA
Trimble Navigation Limited
10368 Westmoor Drive
Westminster CO 80021
USA

EUROPE
Trimble Germany GmbH
Am Prime Parc 11
65479 Raunheim
GERMANY

ASIA-PACIFIC
Trimble Navigation
Singapore Pty Limited
80 Marine Parade Road
#22-06, Parkway Parade
Singapore 449269
SINGAPORE