

## COMPANY

**Sinh Nam Metal**

## LOCATION

**Vietnam**

## SOFTWARE

**Autodesk® Product Design  
& Manufacturing Collection  
Autodesk® Inventor®  
Autodesk® AutoCAD®  
Autodesk® Navisworks®**

# Paving the Way for More Iconic Skylines across Southeast Asia with 3D Technology

“As more complex projects are coming to developing nations, I think the advanced software that Autodesk offers is becoming more important than ever.”

“It’s vital for Autodesk to become the leader in developing nations so that as industry professionals start training in more advanced software, they become familiar with Autodesk products like Inventor.”

– **Thomas Webb**

SINH NAM METAL  
Inventor and Team Lead



Images courtesy of Sinh Nam Metal

## Summary

While complex building methods and 3D design technology are not widespread in developing nations like Vietnam, the future of construction is certainly advancing in Southeast Asia. People can expect to see large cities across the region possessing more iconic skylines in the coming years, on par with those in neighbouring Japan and even U.S. cities like New York. Thanks to forward-thinking facade design and manufacturing companies like Vietnam’s Sinh Nam Metal, sophisticated architecture with curved lines and triangular features are quickly becoming more prevalent and serve as an example to other companies in the region.

## Introduction

Sinh Nam Metal was launched in Vietnam in 1997, commencing with the construction of the Sheraton Hotel in Saigon. Specialising in curtain wall, windows and doors, the company provides facade design, fabrication and project management services for projects ranging from medium to large in scope and size. Additionally, they provide various aluminum and glass features for large construction projects.

With employees hailing from more than five countries, Sinh Nam Metal’s workforce diversity and staff expertise sets them apart from competitors in the industry. Many employees at all levels have worked for global aluminium and glass companies, which means there is a built-in familiarity when it comes to the execution of more complex construction projects.

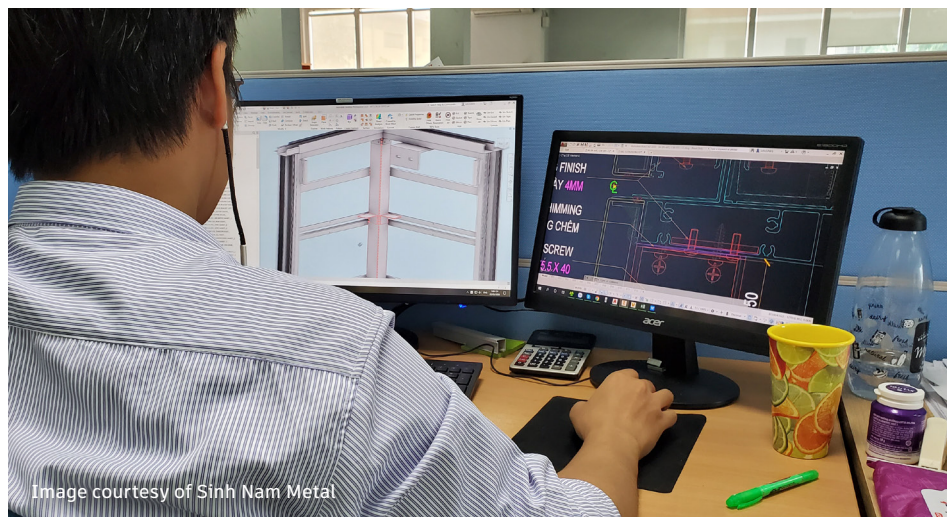


Image courtesy of Sinh Nam Metal

## The challenge

Sinh Nam Metal already stands out in Vietnam when it comes to overall staff aptitude and expertise, but it's rare to find local employees who have worked with software like Autodesk Inventor or Navisworks. "Vietnam is still a developing nation, so much of the workforce doesn't have expertise in more advanced software," says Thomas Webb, Inventor and Team Lead at Sinh Nam Metal. "This means we have to start from scratch in developing our workflows and training all of our staff. This was a big pain point in the beginning."

Prior to the implementation of Autodesk's Inventor software into the workflow, Sinh Nam Metal was working primarily in AutoCAD. With the increase in more complex projects, working in 2D was only slowing down their work processes. They had the added challenge of having only some staff with knowledge of how to use 3D in AutoCAD. In order for their workflow to keep up with the industry demand for more complex buildings, they needed to be able to work more efficiently. "Starting from scratch [in a developing nation] is a major challenge," Webb says, "but it's also fun because you learn a lot, and the staff are also very enthusiastic to learn."

## The solution

Webb's team overcame the initial hump quickly once everyone became familiar with Autodesk software. Inventor and AutoCAD are the two primary products that he and his team utilised in their daily workflow. Inventor, which is part of the Product Design & Manufacturing Collection (PD&M Collection), has enabled them to significantly improve the accuracy of their design because it means no longer working in 2D. The team is now able to work much

faster and more efficiently. Additionally, an accurate bill of materials (BOM) can be extracted from the Inventor assemblies with cut length and volume information. "The work has to be faster or close to traditional methods, otherwise a lot of time is wasted," Webb says of deploying Inventor throughout their design workflows.

Initial concept designs for the team's projects are all completed in AutoCAD. Inventor can then assist the team in designing and visualising more complex areas while displaying 3D views, thus enabling more precise shop drawings. "Inventor helps us with the more detailed drawings," Webb says. "It helps with more complex areas such as the interfacing parts between building features and the curtain wall, or the details that are hard to visualise in 2D."

The Sinh Nam Metal team also uses Inventor to produce drawings for their factory production department, who can use it for the different parts used in their curtain walls. Adopting Autodesk Inventor is the company's first step towards introducing more automation, as they can use it to program and automate production machines by directly importing their Inventor files into the machine software. "We also have the ability to code our own tools or extensions by using the Inventor API to do things such as automate drawings or re-use and edit our existing Inventor models by simply changing parameters in a spreadsheet. The sheet metal functionalities of Inventor are also important to us, as it enables us to model more complex sheet metal parts while automatically producing more accurate flat patterns and other fabrication drawings. It saves time and money while significantly boosting our overall efficiency."

Another key functionality of Inventor is that it can interchange with BIM data from Revit. "BIM is becoming more common in Vietnam, especially with contractors and architects," Webb says. "So, the ability to input BIM models and output our own BIM information will be important in providing Sinh Nam Metal the technical abilities that are needed in the future."

Adopting advanced technology like Autodesk software has allowed Sinh Nam Metal to not only take on more sophisticated and intricate projects, but also improve their workflow efficiencies. Inventor saves their production department a tremendous amount of trial and error, allowing the team to produce more detailed drawings that have already been modelled in 3D. The team also utilises Navisworks when clients send them a 3D model of a building.

## The result

Autodesk technology is fundamental in Webb and his team's workflow, as they rely heavily on the software to complete their tasks. "It starts with AutoCAD," Webb says. "Then, we move into Inventor to validate things and make sure everything we've done in AutoCAD will work out. So, I'd say Autodesk software is essential."

Prior to using Inventor, Webb explains that Sinh Nam Metal did not have the capability to complete more complex building projects with curve features and complicated triangular designs. Nevertheless, projects such as these are becoming more prevalent in Vietnam, so the fact that developers are now prepared to execute them is only going to help the company grow.

"As the demand for more complex projects increase in emerging markets like Vietnam, the advanced software that Autodesk offers is becoming more important than ever," Webb says. "As industry professionals start training in more advanced software, it is vital for Autodesk to continue being at the forefront of the industry in Vietnam and other emerging markets."

To learn more about Autodesk Inventor, visit, <https://www.autodesk.com/products/inventor/overview>

To learn more about Sinh Nam Metal, visit <http://sinhnammetal.com/en/>