woodwork
FOR INVENTOR



SUCCESS STORY

Bico

Good ideas deserve good craftsmanship

Company Context

Bico is a Norwegian company group operating across three business areas:



- Construction
- Retail / Shopfitting
- Bespoke Interior & Furniture Solutions

The company's interior division specializes in highly customized projects ranging from:

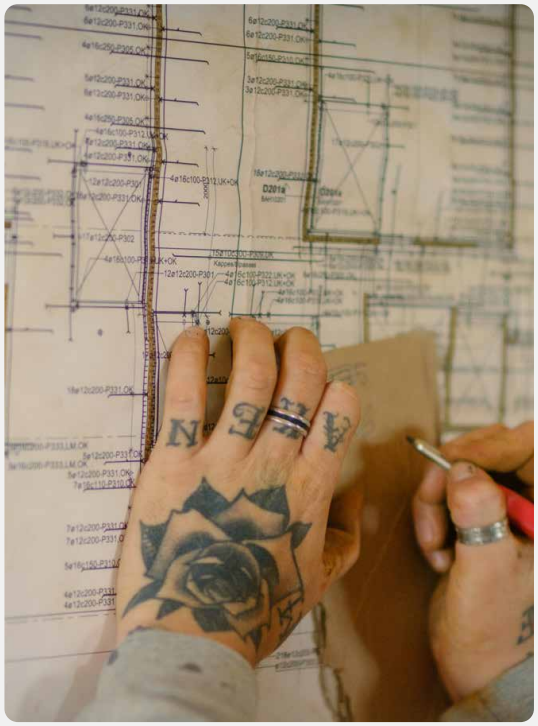
- Hotels
- Offices
- Kitchens
- Bars
- Retail Interiors
- Institutional Projects
- Custom Architectural Elements

Almost every project is unique and designed from scratch.

While repeated units occasionally appear in larger hotel or office projects, the company primarily operates in a highly project-driven manufacturing environment where flexibility and customization are essential.

From Drawings to Digital Manufacturing

Bico's transition toward digital manufacturing happened gradually over several years.



The company evolved from:

Paper Sketches

Handwritten Notes

2D Drawings

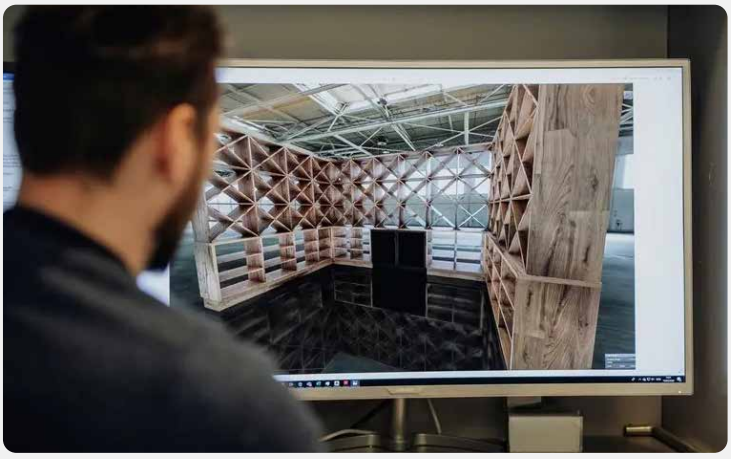
Traditional AutoCAD Workflows

toward a fully 3D model-based process.

As product complexity increased, the limitations of the old workflow became increasingly visible. The key realization was not simply about better design software. Bico needed a system capable of delivering reliable CNC-ready production data directly from the design process.

According to the team:

"We transformed from 2D drawings to 3D modeling over several years and realized we needed software capable of delivering CNC programs directly to our machines."



The Challenge: Scaling Bespoke Manufacturing

Bico's challenge was not the ability to manufacture complex products. The company had always relied on highly skilled craftsmen capable of building almost anything from scratch.

The real challenge was scalability.

Because nearly every project was unique:

- engineering effort remained high
- production relied heavily on interpretation
- workflows depended on individual experience
- repeatability was difficult to maintain



At the same time, the company was growing and handling increasingly demanding projects. Without a more structured workflow, scaling the business further would have been extremely difficult.



As Bico stated directly:

"Without this workflow, I don't think it would be possible to upscale."

Before Woodwork for Inventor

Before implementing Woodwork for Inventor, design information was transferred mainly through drawings.

However, production teams often had to:

- interpret missing details
- rely on verbal clarification
- adjust solutions directly on the shop floor

Version management also created significant operational challenges. Old drawing revisions could accidentally remain in circulation, increasing the risk of mistakes and unnecessary waste.



Bico's production team consisted of highly skilled carpenters capable of solving problems manually when needed. But as project complexity and production demands increased, this approach became difficult to scale efficiently.

Discovering Woodwork for Inventor

After working with standard Autodesk Inventor for approximately five years, Bico discovered Woodwork for Inventor.

Alternative solutions such as SolidWorks and Fusion were evaluated, but none were considered a strong fit for Bico's workflow requirements and manufacturing approach.

The team quickly recognized that Woodwork for Inventor addressed critical gaps between:

01. Design

02. Production Preparation

03. CNC Manufacturing



Michael Peter Espebu,
Bico CAD/CAM Engineer

Woodwork for Inventor is an extremely well thought-out tool. It solves things that should have been solved in Inventor long ago.

Implementation: Scaling While Building Structure

Implementation happened during a period of active company growth and expansion of manufacturing capabilities.



At the same time, Bico was:

- developing its CNC department
- improving communication between engineering and manufacturing
- creating more standardized workflows

The rollout included:

- engineers
- CNC operators
- production-related staff



Training was carried out in multiple stages as the organization gradually adapted to the new workflow.

One of the biggest challenges was not the software itself, but **ensuring proper integration** between:

- engineering workflows
- CNC machinery
- manufacturing processes

Over time, Woodwork for Inventor became deeply integrated into daily operations.



Today, the company works with a **hybrid model** where:

- larger and repeatable projects are managed through the CAD/CAM workflow
- some traditional methods are still used for smaller one-off projects

Operational Impact

Woodwork for Inventor fundamentally improved the structure and reliability of Bico's manufacturing workflow.

Rather than simply "making design faster," the system enabled the company to:



- create significantly more detailed engineering information
- standardize production data
- improve repeatability
- reduce ambiguity in manufacturing communication

Several automation capabilities became especially valuable:

- automatic part dimensioning
- material assignment
- autoplot functionality
- keyword automation
- BOM generation



The transition also improved production flow.

Today:

01. Carpenters access 3D models and drawings directly on tablets

02. Production always works from the latest updated model

03. Communication between engineering and manufacturing is clearer and more structured

04. Paper drawings are largely eliminated



According to Bico:

"We now use the latest updated model directly in production."

Scaling Complexity with Better Flow

Bico emphasizes that the biggest improvement was not necessarily the ability to produce more products faster.

Instead, the company gained the ability to manage complex manufacturing with a smoother and more scalable workflow.

The engineering team can now produce:

- more detailed models
- more reusable elements
- more consistent production information

within a similar timeframe.

As repeated units and project size increase, the value of the CAD/CAM-driven workflow becomes even more important.

This is particularly visible in:

- Hotels
- Office Projects
- Larger Interior Installations

where consistency and repeatability are critical.

Reduced Waste & Better Control

Another important improvement came through better version management and digital continuity.

Previously:

outdated drawings could remain in circulation

manufacturing errors were often corrected manually on the shop floor

waste could accumulate without being systematically tracked

Today:

production works directly from the latest approved digital model

engineering changes are easier to manage

errors become visible earlier in the workflow

As a result, Bico reports:

smoother production flow

reduced waste

improved manufacturing consistency



Teamwork & Communication



The new workflow significantly improved communication between:

- Engineering
- CNC Operators
- Production Teams



Because all information now exists within a shared digital system:

- project communication is clearer
- data transfer is more structured
- fewer verbal clarifications are needed

This has become increasingly important as projects and teams continue to scale.

Strategic Value & Future Direction

Today, Woodwork for Inventor is no longer viewed simply as a software tool.

Together with Ardis optimization software, it has become part of Bico's broader manufacturing infrastructure.

According to the company:

"Together with Ardis optimizer, it is part of our manufacturing system."

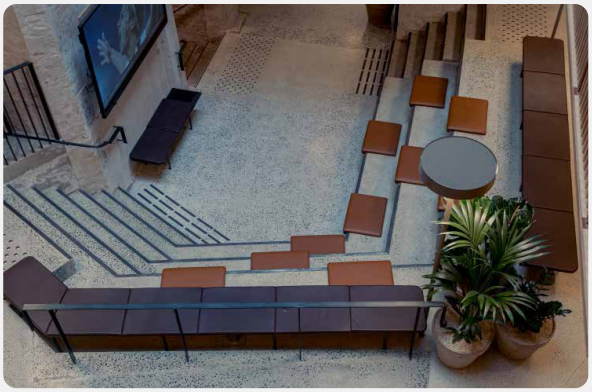
Bico sees the platform as a foundation for:

- Scalable Growth
- Standardized Engineering
- Improved Manufacturing Consistency
- Future Automation

The company plans to continue expanding and refining its digital manufacturing workflow in the years ahead.



Customer Voice







Without this workflow, I don't think it would be possible to upscale.

We now use the latest updated model directly in production.

We have highly skilled carpenters, but with Woodwork for Inventor we are able to increase production.

Woodwork for Inventor is now an essential part of the workflow.

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