

CASE STUDY

SilverTech helped Starrett overcome technical complexity in B2C Commerce with customized BigCommerce and Sitefinity implementations and integrations.



Starrett®



SILVERTECH

STARRETT – GLOBAL TOOL MANUFACTURER

Starrett, a leading global manufacturer of precision tools with annual revenues of more than \$250 million, has worked with SilverTech for more than 5 years in the modernization and optimization of its digital experience. SilverTech's relationship with Starrett began when Starrett faced a series of technical and operational challenges with their existing ecommerce platform. With multiple integrations required across different systems, an outdated CMS, and security vulnerabilities, Starrett needed a strategic technology partner to modernize their digital experience. SilverTech stepped in to lead this complex integration, ensuring seamless ecommerce functionality while enhancing security, inventory management, and customer trust.

WHY STARRETT CHOSE SILVERTECH

Starrett came to SilverTech with a website on an older version of Sitefinity that was no longer being supported. The site had a lot of customizations and integrations with Oracle ERP and an outdated ecommerce platform.

A few major challenges of the old website were:

- Too many clicks to purchase

- Highly customized with no reasonable upgrade path

- Old site had a lot of legacy development

- Functionality was breaking on the current site and the site had intermittent outages.

- The Starrett team had challenges effectively managing the website

SilverTech performed an in-depth technical assessment and evaluation of content management and ecommerce solutions. During discovery and after much due diligence, the combined team of client and agency made the decision to stick with Sitefinity for front end and with BigCommerce headless for the shopping cart experience as the chosen platforms. At the same time Starrett found a PIM (Product Information Management) system called Catsy that was integrated into the new website for product management adding to the Tech stack.

THE CHALLENGES

Technical Integration Complexity: The existing system was a custom-built CMS that lacked scalability and was heavily reliant on a single person for maintenance. With that individual leaving, Starrett faced operational risks, including missing source code and no clear system ownership.

Inventory Synchronization Issues: Customers attempting to place orders would often encounter inaccurate inventory statuses, leading to frustration and lost sales.

Security Concerns & Fraud Prevention: The old system lacked proper address validation, resulting in an increase in fraudulent orders.

Tax Calculation Complexity: Starrett's intricate tax rules required dynamic adjustments based on customer locations, which needed to be automated.

Lack of Internal Web Management: With limited website management resources SilverTech needed to provide ongoing strategic and technical support.

SILVERTECH'S SOLUTION: SEAMLESS MULTI-SYSTEM INTEGRATION

Starrett's goals for the new website included a better shopping experience, and ease of user management resulting in increased revenue. SilverTech evaluated and developed the technology and data architecture for the new site and provided documented strategy that included a product data inventory, ecommerce and hosting/security. Following an in-depth discovery phase, we determined that Sitefinity would remain the front-end CMS, while BigCommerce's headless commerce functionality would power the shopping cart experience.

Key implementations of the BigCommerce platform include:

Complex Cross-Application User Scheme

BigCommerce users are synchronized with accounts in Sitefinity and Oracle ERP, ensuring a unified and secure customer experience.

Rich Product Catalog with Extensive Attributes

Products contain 165+ attributes, many of which are searchable and used for filtering. Data is sourced from the Catsby PIM via a nightly product feed with transformative processing. Custom fields dynamically render specific business logic for product details.

Blended Search and Filtering Technology

A hybrid approach using GraphQL and REST API supports advanced filtering across the extensive product catalog.

ERP-Aware Real-Time Cart Management

The shopping cart dynamically checks inventory levels in both BigCommerce and Oracle ERP to ensure accurate stock representation.

Optimized BigCommerce-Hosted Checkout

Despite a headless implementation, checkout is securely hosted on BigCommerce. Customers and cart data are transferred via JWT token to BigCommerce's checkout environment. After checkout, customers are redirected to Sitefinity, where Oracle ERP finalizes the order. A custom listener for credit card validation ensures seamless transactions, flagging unsupported cards within Chase Paymentech.

Leveraging the BigCommerce Dashboard

Customer service representatives efficiently manage orders, addressing issues such as invalid credit cards and low inventory through the BigCommerce dashboard.

Extensive API Utilization

SilverTech implemented and leveraged 11 production-level API accounts with varying permission levels, supporting:

- Search and filtering functionalities
- Product detail rendering
- Related product recommendations
- Cart and checkout operations
- Order confirmation and processing

Live Site Controls and Alerts

A custom toggle allows BigCommerce ecommerce functionality to be turned on/off instantaneously to mitigate purchase process disruptions.

An automated site setting alert system flags misconfigurations, allowing developers to take immediate corrective action.

Dedicated Sandbox for Testing and Innovation

A fully functional sandbox store was set up to enable rigorous developer testing and creative problem-solving.

The robust technical implementation included these integrations:

Catsy for product management

Oracle PIM for warehouse and inventory management

Google Maps API for sales distribution and rep location

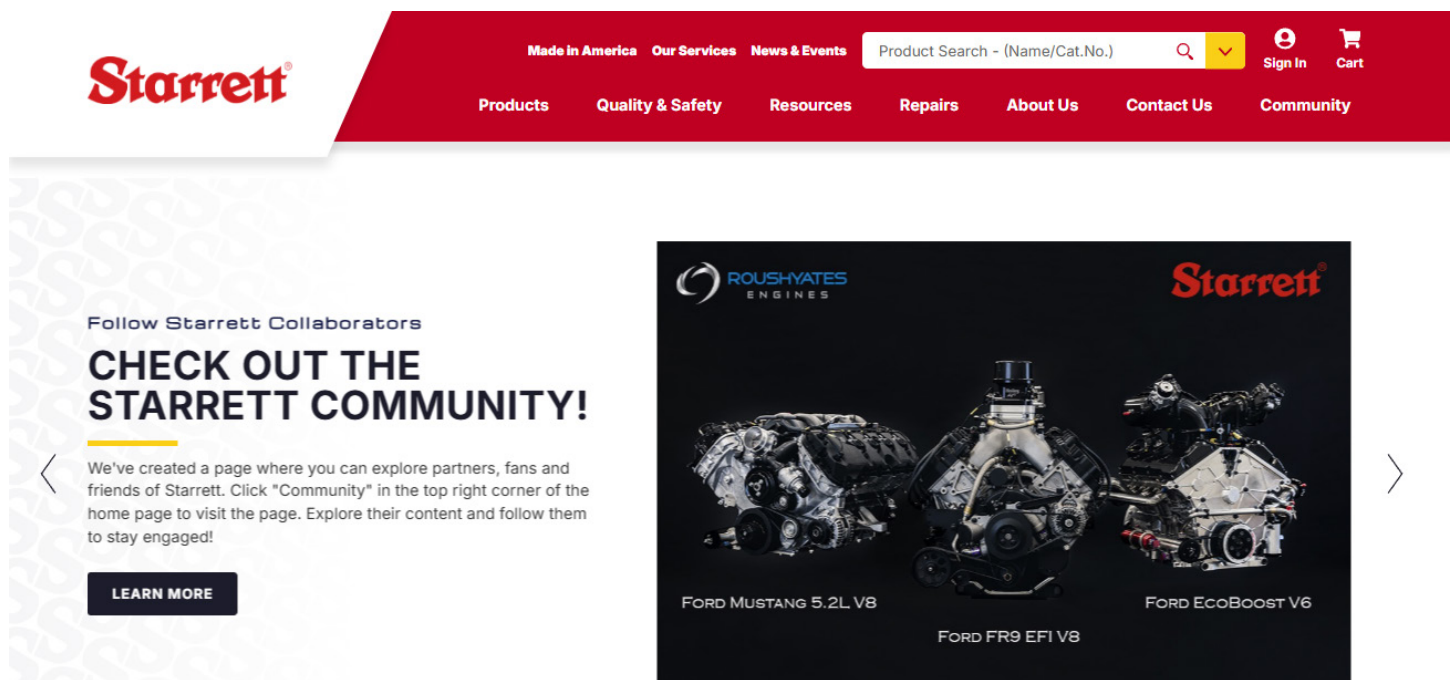
User Authentication to avoid fraud

Google Tag Manager for better analytics data

Advanced Address Validation API to ensure accurate and legitimate customer orders

In addition to other features of the check-out process, to manage Starrett's unique tax requirements, SilverTech advised and implemented a streamlined tax automation process to adjust in real time as customers changed their shipping details.

THE CUSTOMER JOURNEY: A FRICTIONLESS B2C EXPERIENCE



Product Discovery – Customers can seamlessly browse Starrett’s extensive product catalog, with advanced filtering capabilities built around robust product specifications.

Product Visualization – 3D CAD files and rotating product models enhance the digital shopping experience.

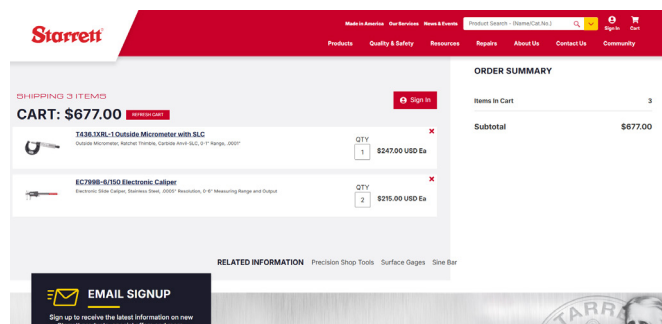
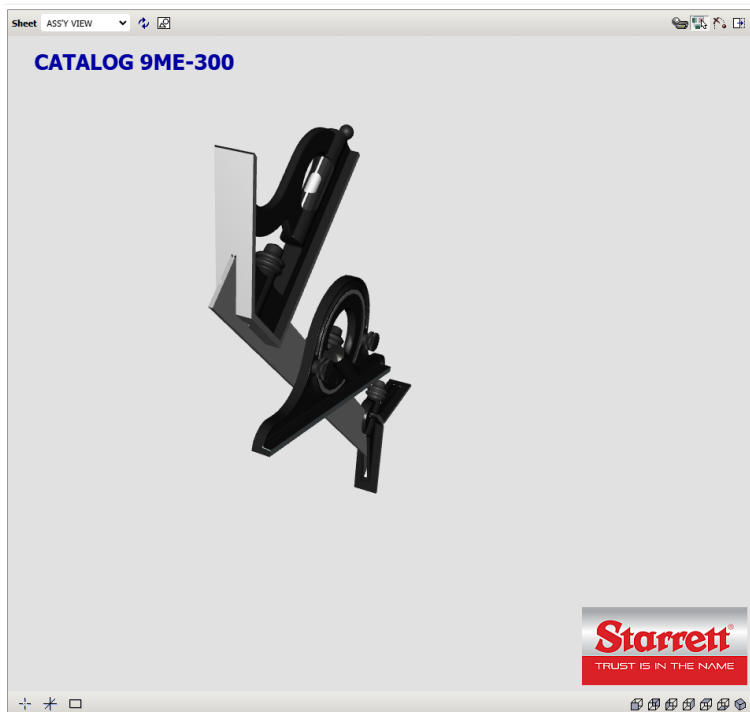
Inventory Accuracy – Real-time updates from Oracle ensure customers only see accurate stock levels.

Secure and Trustworthy Checkout – Address validation reduces fraudulent transactions, and tax calculations are dynamically applied based on shipping details.

Enhanced Order Fulfillment – Orders are finalized and managed through Oracle, improving operational efficiency.

Sales Rep & Store Finder – Integrated with Google Maps, customers can easily locate distributors and sales representatives.

THE RESULTS: A DIGITAL TRANSFORMATION



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Shipping Cale Sweeney
SilverTech 603.669.6600
9101 Wesleyan Road / Suite 400
Indianapolis, Indiana, 46268 / United States
Flat Rate Standard \$5.00

Billing Cale Sweeney
SilverTech 603.669.6600
9101 Wesleyan Road / Suite 400
Indianapolis, Indiana, 46268 / United States

Payment

☒ Credit Card

Credit Card Number

☐ Visa ☐ Mastercard ☐ American Express

Expiration

Order Summary

3 Items	
1 x TA36.1XRL-1 Outside Micrometer with SLC	\$247.00
2 x EC799B-6/150 Electronic Caliper	\$430.00
Subtotal	\$677.00
Shipping	\$5.00
Tax	\$81.24
Coupon/Gift Certificate	
Total (USD)	\$763.24

Reliable and Scalable Platform: Migrating to a Sitefinity-fronted BigCommerce solution eliminated previous risks and provided a modern, manageable infrastructure.

Improved Inventory & Order Management: Real-time synchronization with Oracle significantly reduced out-of-stock issues and ensured smoother transactions.

Enhanced Security & Fraud Prevention: Address validation eliminated fraudulent orders, increasing customer trust, and reducing operational losses.

Streamlined Tax Automation: Customers now experience seamless pricing adjustments based on location without delays or errors.

Stronger Business Insights: An executive dashboard for BigCommerce analytics enables better decision-making and performance monitoring.

AN ONGOING PARTNERSHIP

Starrett's ecommerce transformation underscores the importance of a well-integrated, secure, and scalable platform in commerce. By addressing technical complexities, SilverTech not only enhanced Starrett's digital presence but also built a lasting partnership based on trust and expertise. The new website structure streamlines the purchases process, providing a better customer experience. This website solution solves numerous marketing, technology, and business challenges for Starrett, including additional layers of security, and is a large step forward in their digital maturity. SilverTech continues to help optimize Starrett's ecommerce operations, ensuring a seamless experience for customers and proactively identifying areas for improvement. With 50,000 SKUs and plans for expansion, Starrett now has a future-proofed digital strategy that supports ongoing growth.



SILVERTECH

SilverTech is a digital experience agency redefining how businesses engage with their customers. Founded in 1996, SilverTech delivers digital strategies and solutions that connect user experiences with innovative tech to maximize results. With services such as digital consultation and strategy, website design and development, content management implementation, custom application development and full-service digital marketing, SilverTech provides an unexpectedly enjoyable experience to solving even the most complex business problems.

SilverTech has worked with national and global brands such as Segway, Actors' Equity Association, Nova Scotia Power, Fulton Bank, Palmer Gas & Oil, State of New Hampshire Travel and Tourism, Allison Transmission and American Dental Association.

CONTACT US FOR HELP GETTING STARTED

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