

BC Automation

Advanced Drive Technologies for Modern Industry

Tech Primer - 09/10/25

Manufacturers face rising energy costs, sustainability pressures, and performance demands that legacy drive technology struggles to meet. At BC Automation, we close this gap by integrating Silicon Carbide (SiC) drive systems into existing infrastructure. These modern drives deliver higher efficiency, compact design, and improved reliability—while still respecting legacy control investments. Upgrades can be deployed quickly as drop-in replacements, improving performance and reliability while maintaining system continuity.

PROBLEM: Legacy IGBT Drives Hold Industry Back

- Slower silicon IGBT switches limit performance
- Require additional cooling systems and parasitic components like filters and sine wave chokes
- Higher energy losses during normal operation and braking
- Force shielded motor cables and short lead lengths, raising installation costs
- Requires more expensive and less efficient Inverter Duty motors
- Produce harmful harmonics that reduce motor life and impact power quality
- Cannot efficiently support regenerative braking or variable duty cycles

SOLUTION: Next-Gen Silicon Carbide (SiC) Drives

- Higher efficiency: Up to 30% energy savings, near-unity power factor, no cooling required
- Efficient design: Smaller, lighter, no filters or auxiliary components required
- Drop-in upgrades: Compatible with existing systems for rapid deployment
- Process intelligence: Edge-based control improves stability, predictive maintenance, energy use
- Future-Ready Resilience: Hardened edge cybersecurity and seamless bridge from Industry 4.0 to Industry 5.0

OUR IMPACT: Real Solutions. Real ROI.

- Regenerative ROI: Recover braking energy; payback in under 12 months
- Rapid ROI: Especially on regenerative and cyclical loads, combining energy efficiency, regenerative preservation, extended asset value, and avoiding costly downtime
- Process Unlock: Higher resolution, faster switching, and cleaner signals enhance stability and throughput
- Frictionless Upgrades: Drop-in replacements minimize downtime and integration risk
- Lower Lifecycle Costs: Reduced maintenance, improved uptime, and extended equipment lifespan



101+

clients served

712+

unique processes automated

\$4.9B+

client dollars saved

“A huge asset to any company looking to improve their cost and reliability.”

Chris Whitehair
SVP Global Operations at SunOpta

“[BC Automation’s] solutions are most thorough and comprehensive.”

Ned Mitenius
Founder & Sr Consultant at Periscope Consulting

Let’s Transform Your Manufacturing Together.



Admin@bcautomation.io



Tucson, AZ operations
Florida headquarters