

SHED Bible

Smart Highly Efficient Distributed-Manufacturing System

Version 1.5

Prepared by AtlanTech Vision Corporation (ATVICO)

Date: October 01, 2025, 02:14 PM MDT

Contact: Tony Valdez, tony@atvico.com | <https://atvico.com>

Table of Contents

Marketing

1. **Overview and Brand Positioning**
2. **Target Markets and Applications**
3. **Cost Projections and Competitive Edge**

Engineering

4. **Frame Specifications**
5. **Utilities Integration**
6. **Modular Channel Extensions**
7. **Self-Replication and Damage Restoration**

Specifications

8. **Addendum: Aluminum Extrusion Suppliers**
9. **Comparable Modular Systems Costs**
10. **Modular Construction Trends 2025**

Marketing

1. Overview and Brand Positioning

The SHED system, developed by AtlanTech Vision Corporation (ATVICO), is a standalone, portable manufacturing platform that brings the factory to your site. Branded as "Downtown ReBake," SHED transforms vacant spaces into thriving hubs with the tagline: "Manufacture in Place: Revive, Restore, Replicate." Housed in a weather-resistant enclosure, it leverages AI-driven HMI, IoT sensors, and blockchain for precision and quality, positioning SHED as a leader in modular innovation for urban revitalization, emergency response, and transport sectors.

2. Target Markets and Applications

- **Property Owners & Developers**: Revive downtowns with office, retail, or entertainment modules.
- **Entrepreneurs**: Insert custom businesses (e.g., kitchens, VR pods) with plug-and-play ease.

- **Disaster Responders**: Deploy temporary shelters post-event.
- **Transport Industry**: Build mobile staterooms for cruise ships, aircraft, trains, and RVs.
- **Key Use Cases**: Commercial spaces (offices, receptions), custom modules (manufacturing, entertainment), and restoration hubs.

3. Cost Projections and Competitive Edge

- **Cost Projections**: Entry-level 8-ft unit: \$5,000-\$7,000; 12-ft: \$7,000-\$9,000; 16-ft: \$8,000-\$10,000. Bulk (50+ units) drops 20-30% to \$4,000-\$8,000. Materials (\$600-\$1,000), labor (\$1,400-\$2,200), utilities (\$1,000-\$2,000), overhead included.
- **Competitive Edge**: 20-40% cost/timeline savings vs. traditional builds (\$150-225/sq ft). Outpaces container retrofits (\$10K-\$55K) and pods (\$4K-\$150K) with on-site fab and self-replication.

Engineering

4. Frame Specifications

- **Design Principles**:
 - Attachment via e-track slots (every 4 feet) with hooks/bolts for a "floating" structure.
 - Force mitigation with cross-bracing and tunable dampers (50-70 Shore A) for 2,000 lbs dynamic load.
 - Modularity via quick-connect joints (500+ cycles).
 - Clearance: 4-6 inches for insulation, wiring, airflow.
 - Weight limit: 10-15% of enclosure (max 500 lbs), 75% for equipment.
 - Assembly: 2-4 hours with HMI.
- **Materials**: 6061-T6 aluminum tubing or carbon fiber; powder-coated with neoprene dampers, stainless steel pins.
- **Dimensions**:
 - 8-ft: 7'6" L x 6'6" W x 7'6" H, 250 lbs, 1,000 lbs load.
 - 12-ft: 11'6" L x 7'6" W x 7'6" H, 350 lbs, 1,500 lbs load.
 - 16-ft: 15'6" L x 7'6" W x 7'6" H, 450 lbs, 2,000 lbs load.
- **Features**: Scalable with extension kits; 10+ year durability.

5. Utilities Integration

- **General Approach**: IP67-rated quick-connects at frame edges, daisy-chaining via sealed bulkhead fittings (up to 4 modules). Permits: \$2,000-\$5,000.
- **Electrical**: 120/240V or 208/480V, 50A, NEMA outlets, GFCI-protected, grid/meter tie-ins.
- **Plumbing**: 80 psi water, 10-20 gpm, 4" PVC drains, PEX couplings, water main/sewer connections.
- **HVAC**: 18-24 SEER, 1,000-2,000 BTU/sq ft, 6-12" ducts, gas/electric tie-ins.
- **Mechanicals**: 100 psi air lines, RJ45/fiber ports, compressor/internet links.
- **Wide Channels**: 4-6" x 2-3" extruded 6063-T6 aluminum, 1/4" dielectric barriers for separation, pre-installed with access panels.

6. Modular Channel Extensions

- **Types**: T-slot (4-6" wide, 1-2" slots), U/C-channel (6" x 3" with covers), multi-compartment (6" with 2-4 slots), custom H-channels.
- **Applications**: Utility routing (20-30% time savings), bolt-on expansion (M6-M8), safety via dividers, versatility for shelters/frames.
- **Integration**: Aligns with edges, pre-drilled for quick-connects, supports 24-hour setups.
- **Benefits**: Enhances safety/scalability, adds 10-20 lbs, requires ± 0.01 " tolerance.

7. Self-Replication and Damage Restoration

- **Self-Replication**: Manufactures 4-ft, 16-ft, or components via CNC/3D printing, with HMI minimizing waste; chaining for mini-factories.
- **Damage Restoration**: Builds temporary shelters/workshops (weatherproof panels, 90 mph wind-resistant) in 24 hours, with utility-ready channels.

Specifications

8. Addendum: Aluminum Extrusion Suppliers Near Delta, Colorado

- **Local/Regional (Within 100 Miles)**
 1. **Grand Junction Metal Supermarkets** (35 miles): Stock T-slots/channels, cutting services. Contact: 970-241-5555.
 2. **Montrose Metal Supply** (20 miles): Tubing, basic extrusions, local delivery. Contact: 970-249-3311.
- **Statewide (100-300 Miles)**
 3. **Richardson Metals, Inc.** (300 miles): Precision T-slots, anodizing. Contact: 719-390-9533.
 4. **The T-Slot Store** (250 miles): 80/20 systems, custom kits. Contact: 303-465-3050.
 5. **TCI Aluminum** (250 miles): Custom channels, powder coating. Contact: 303-288-8120.
- **Broader Western U.S.**
 6. **Coast Aluminum & Stainless Steel** (250 miles): T-slots, rapid shipping. Contact: 303-287-6840.
 7. **Sierra Aluminum Company** (250 miles): Insulated channels, high-volume. Contact: 303-287-6840.
- **Strategy**: Local pickup from Montrose/Grand Junction (\$200-500/pallet freight); \$2-5/ft, \$1,500-5,000 dies. Contact Tony Valdez.

9. Comparable Modular Systems Costs

- **Per-Square-Foot**: Basic (\$20-40), Mid-range (\$50-200), High-end (\$150-300), Average (\$150-225), saves \$50,000+ vs. traditional on 1,000 sq ft.
- **Shipping Container Retrofits**: 10-20 ft (\$11,500-27,500), 40 ft (\$18,000-55,000), Manufacturing (\$10,000-30,000).

- **Prefab Pods/Staterooms**: Small (50-85 sq ft, \$4,000-9,600), Standard (100-215 sq ft, \$11,000-27,000), Larger (81-491 sq ft, \$30,000-150,000), Soundproof (\$5,000-15,000).
- **Factors**: 20-40% savings, 10-20% utility add-on, SHED-scale (200-500 sq ft) \$10,000-50,000.

10. Modular Construction Trends 2025

1. **Sustainability Focus**: Eco-materials cut waste by 90%, support LEED.
2. **Technological Advancements**: BIM, AI, IoT optimize design/production.
3. **Labor and Productivity Gains**: 30-50% timeline cuts address shortages.
4. **Market Expansion**: 9% of U.S. multifamily starts, growing in healthcare/data centers.

This SHED Bible v1.5 reorganizes content into Marketing, Engineering, and Specifications sections, incorporating all SHED configurations (8-ft to 16-ft, transport variants) as of October 01, 2025, 02:14 PM MDT.