

smartBuild

MODERNIZING WIRE HARNESS PRODUCTION



ACCELERATE
BUILDS

25%

INCREASE PROFIT
MARGINS

4%+

Per Harness

MATERIAL SCRAP
& RE-WORK

<1%

RE:BUILD
MANUFACTURING



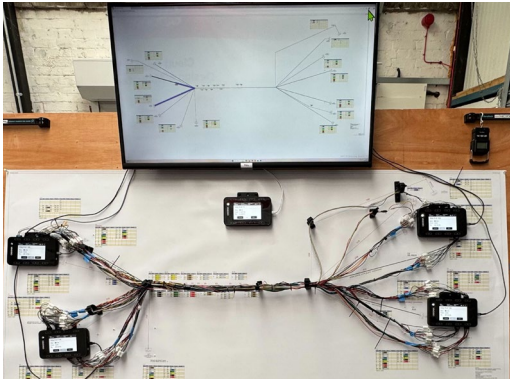
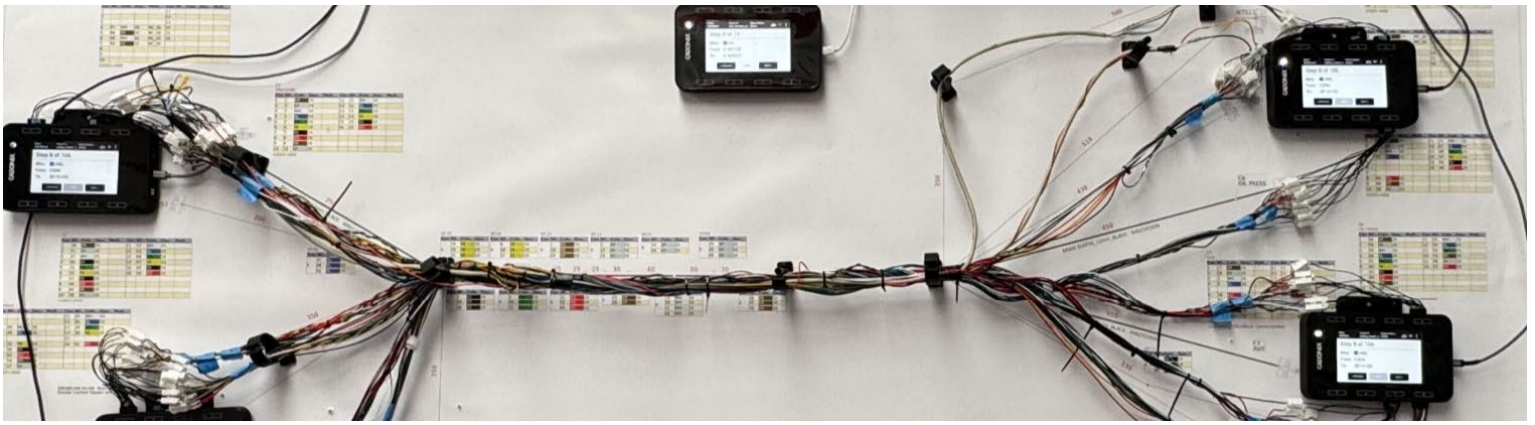
CADONIX

Introducing **smartBuild**

Harness manufacturing has struggled to keep pace with electrification and rising product complexity. The gap between design and production creates delays, adds labor, and slows innovation, especially in prototyping and low-volume builds. Executives need scalability, resilience, and data visibility to stay competitive.

SmartBuild by Cadonix is the connected manufacturing platform that bridges design and production. It enables manufacturers to enhance traditional formboards with guided build instructions and at-station testing to improve speed and quality without disrupting established processes. As operations evolve, teams can also deploy fully digital build stations that bring the same connected intelligence to any harness size or volume. SmartBuild delivers enterprise-level traceability, resilience, and data-driven visibility across operations, empowering manufacturers to choose the build approach that best fits their needs while turning harness assembly into a competitive advantage.





25% ACCELERATED PRODUCTION

Visual guidance highlights each wire path, including splices and twisted pairs, while directing terminal placement into connectors and cavities.

100% TRACABILITY IN EVERY HARNESS

Gain full visibility into manufacturing with cloud-based traceability of revisions, build sequences, test results, and key metrics to improve performance across stations and sites.

95% REDUCTION IN DESIGN TO BUILD

Virtual formboards deploy to SmartBuild instantly, eliminating printing and storage costs while delivering ready-to-use designs in under a minute that can move straight to assembly and be revised without delay.

1/2 Day TO TRAIN NEW TECHNICIANS

New technicians are productive in days with Guided Build instructions that adapt to their experience level, reducing training from weeks or months to just days or even hours.

\$0 SPENT ON FORM-BOARD STORAGE

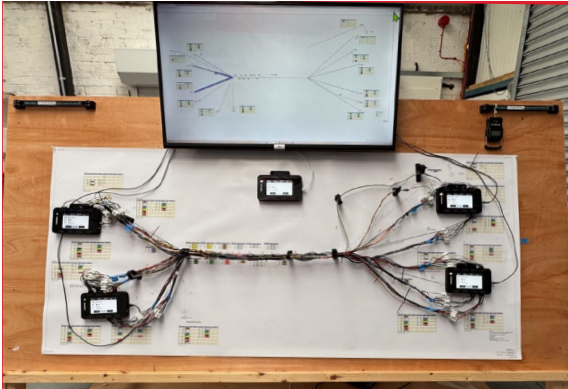
Eliminate printed build sheets, formboards, and storage costs with SmartBuild's virtual warehouse, cutting overhead, preventing errors, and keeping updates instant.

Flexible Deployment Options

SmartBuild lets you augment traditional formboards or go fully digital, delivering every build sequence instantly from your cloud-based warehouse.

Augment Existing Formboards

- Aid wire harness assembly with Guided Build instructions.
- Refine existing build sequences instantly.
- Test directly at your formboard with your controllers.
- Multiple SmartBuild Controllers can be used to test harnesses of any size



Digital Build Station

- Project harness layouts at actual size on 75” Samsung BED-H 4K Display.
- Build directly on the acrylic covering using compatible fixtures.
- Combine multiple displays to scale to any harness size.
- Instantly deploy formboards, reducing change-over time.

| TV Build Station (Optional Hardware) | |
|--------------------------------------|--|
| Footprint | 162 cm W x 68 cm D x 172 cm H |
| Maximum Harness Weight | 50 lbs per TV Build Station |
| Features | 75” Samsung BED-H 4K Display (Or Similar) Five adjustable heights (3.8 cm increments) Casters with leveling feet Top and bottom mounting rail for SmartBuild Controllers Acrylic display surface |



Guided Build Instructions

Build faster and smarter with automated, step-by-step instructions that cut training time, reduce errors, and free your team for higher-value work.

Interactive, Step-by-Step Wiring Guidance

Dynamic Instruction Grouping

- Instantly creates build instructions from wire harness design for assembly accuracy.
- Automatically groups connections by type, including multi-core, multi-crimp splices, single wires, and twisted pairs.

Customizable Build Sequence

- Re-order or group build sequence instructions based on assembly preference.
- Store multiple build sequences for each wire harness design.

Wire-by-Wire Instructions

- Directions guide precise wire placement, with visual animated cues highlighting special harness features like splice networks and twisted pairs.

Color-Coded Guides

- Paths are animated with each wire's primary, secondary, and tertiary color providing clear visual guidance.

Digital Harness Assembly Guidance

- Animated connector images, automatically imported from Arcadia's Intelligent Component Database, highlights the exact cavity for each wire to ensure accurate, error-free connections.

Simplified Process for Faster Training

- Simplified instructions enable faster on-boarding and quick assembly regardless of skill level.

SmartBuild Touchscreen Interface

Navigate Guided Build and Test with WiFi-connected touchscreen

- Use up to 10 touchscreen devices simultaneously for complex harness builds.
- Each Controller provides mirrored display and interface, spreading interface points across the build station for large-scale assemblies.

Integrated Harness Testing

Eliminate separate test stations, validate quickly, and reduce handling time with at station continuity testing accelerating error detection and correction.

At-Station Testing

Continuity Testing & Validation

- Validate harness assembly based on self-generated test sequences.
- Visual error indicators guide the technician to correct mis-pinned or missing wires.
- Correct harness errors at the build station, eliminating movement to separate testing-stations.

Supports Large & Complex Harnesses

- Supports up to 128 channels per Controller.
- Connect up to 10 Controllers for up to 1,280 channels for large and complex harnesses.

The logo for smartBuild BY CADONIX is centered on a black rectangular background. The word "smartBuild" is written in a bold, sans-serif font, with "smart" in white and "Build" in red. Below "Build", the words "BY CADONIX" are written in a smaller, red, all-caps font. A grey circular graphic element is partially visible behind the text.

Harness Build Report

Capture complete traceability from build time and location to every wire, connector, and splice. Harness Build Reports give full visibility into every harness.

Per-Harness Reporting

- Individual report generated for every harness.
- Includes:
 - Formboard Name & ID
 - Build Location
 - Build Duration
 - Build Sequence Used
 - Tester Mapping
 - All Test Results

Cloud-Based Traceability

- All data is stored securely in the cloud.

Efficiency Metrics

Cut costs, reduce build time, and drive continuous improvement across your process with full cloud-based visibility into your build process.

Build Station–Centric Metrics

- Utilization (active time)
- Quality (first-pass yield, defects per unit)
- Productivity (harnesses per hour)

Formboard–Centric Metrics

- Time to complete
- Yield performance
- Defect types and locations (e.g., mis-pins on large connectors)

CONTACT US

Let's Get Started!

SmartBuild is the connected manufacturing platform that bridges design and production, delivering speed, quality, and traceability at scale. Work with the Cadonix team to calculate precise savings for your operations, tailored to your unique processes. **Reach out to our sales team to see SmartBuild in action during a personalized demonstration.**

[BOOK A DEMO NOW](#)

603.288.1753

“

We haven't had a single failure in any of our harnesses that we have built, and tested, and we have been making multiple design changes.

“

In production the huge benefits are space, the traceability, and the ability to train people quickly. The learning curve is minimal.

RE:BUILD
MANUFACTURING



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