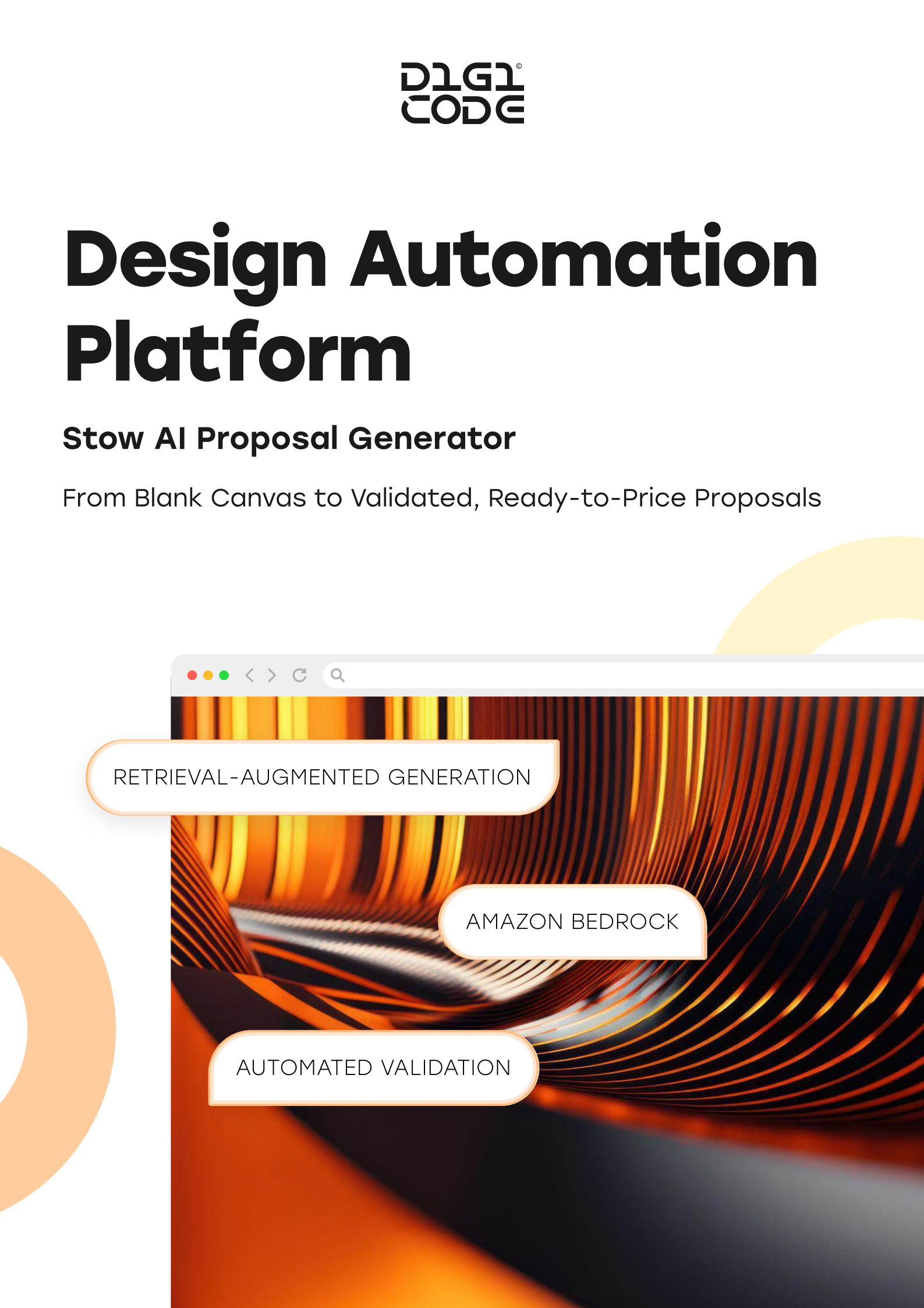




Design Automation Platform

Stow AI Proposal Generator

From Blank Canvas to Validated, Ready-to-Price Proposals



RETRIEVAL-AUGMENTED GENERATION

AMAZON BEDROCK

AUTOMATED VALIDATION

At a Glance

Industry: **3D Product Design & Configuration Software**

Scope: **AI proposal generation engine, integrated into Stow's existing platform**

Focus: **Design automation, validation & proposal generation**

Outcome:

- ~80% of each layout pre-completed automatically, before a designer opens it
- Three validated proposals generated per request, with Good, Better, Best pricing
- Every design checked against real manufacturing rules before a designer sees it

The Situation

A design process that worked until the manual work behind every proposal outgrew the team building it.

- Every client proposal built by hand from a blank canvas, request after request
- Skilled designers spending 20 - 30 minutes per layout on repetitive placement work
- Clients typically saw only one proposal option, with no time to build alternatives
- No easy way for customers to compare price points or configurations before deciding
- Any automation had to guarantee designs stayed physically and mathematically valid

What Changed

- **From Blank Canvas to Validated Start**

The engine turns a plain-language request into three base layouts, pre-completing roughly 80% of each one automatically

- **Automated Pricing, Instantly**

Good, Better, and Best proposal tiers are generated automatically, giving customers a clear way to compare options.

- **Every Design, Checked Before It's Seen**

A two-layer validation loop catches manufacturing and collision issues before a design ever reaches a designer.

- **Built Around the Platform, Not Into It**

The engine runs alongside Stow's existing platform without modifying a single line of core code.

How It Was Delivered

- **Phase 1**

Mapped the design workflow to find where automation would remove the most repetitive work

- **Phase 2**

Built a retrieval-augmented generation layer grounded in company's own design templates and constraints

- **Phase 3**

Integrated Amazon Bedrock to process natural-language design requests securely

- **Phase 4**

Engineered a two-layer validation loop to guarantee every design meets manufacturing rules

- **Phase 5**

Deployed the engine as decoupled middleware, integrating with the existing configurator without touching legacy code

Impact

- ~80% of each layout pre-completed automatically
- Three distinct base layouts generated per request, up from one
- Good, Better, Best pricing tiers generated instantly, on every request
- Every proposal validated against real manufacturing constraints before delivery
- Designer role shifted from manual building to strategic curation
- Delivered with zero modifications to company's legacy core code

Why It Matters

Most AI proposal generator projects fail on one of two problems: output that looks fast but nobody downstream can trust, or a system that requires reworking whatever it's supposed to plug into.

Grounding the model in own templates, and validating every design against the platform's real rules, is what makes the output usable instead of merely fast.

The result isn't only speed. It's a design team that spends its time on judgment instead of data entry, and a sales conversation that now starts with three priced options instead of one.

That's the difference between automating a task and changing how a business sells.

Validated Designs. Every Time. On the First Pass.

See how an AI Proposal Generator can turn your design backlog into curated, ready-to-price proposals without touching your existing platform.

Book Your Strategy Call →

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