AI BASICS // CASE STUDY

The speed-to-insight research engine

Architecting a strategic research engine for under $1 with AWS and Claude.

> **Travis's short version:** spotting a hot lead is only step one. Your competitors are looking at the same public data, so the race is speed to insight. We added a research layer that turns a hot lead into a personalised battle card in under 3 minutes.

The problem: a race against the clock

Sales teams are under enormous pressure to gather data and draw insights before the trail goes cold. Too often the effort and money are wasted because the research produces only a generic pitch, when businesses now expect a personalised strategy that addresses their specific needs. AI research tools don't fail because they can't pull data. They fail because they cast an incredibly wide net, and asking a model to "research a company" gets you a highly generic summary.

The method: three steps

1. **Target ingestion.** We don't scrape the whole site. We take the site map, cross-reference the AI summary from the triage stage against our best offering, and identify the **five most relevant pages** rather than scraping 200.
2. **Signal filtering.** We strip out navbars, about pages and other noise, and feed the model only the gold-standard data. That's where the magic happens.
3. **Strategy synthesis.** Insights are packaged into our **facts, impact, act** engine, so the output isn't just a summary. It's a strategic answer to "how do we win this deal?"

The stack

Tool	Role	What it does
n8n	Orchestrator	The command centre. Manages the handshakes (API calls) that move a lead from raw submission to finished strategy.
Firecrawl	Data source	A specialised scraper that maps a business's digital footprint in seconds and provides the site map the system navigates by.
AWS Lambda	Processing	Runs the code that filters out noise and picks the best links.
Claude on Bedrock	Reasoning	Takes the refined data and builds the strategy.
PDFMonk	Delivery	Turns the battle card into a polished PDF, pushed straight to Slack.

Under the hood

Pick the pages. One token gets the entire site map, which is far cheaper in cost and token usage than scraping thousands of links. A Lambda function takes the persona of a sales engineer, finds the top five URLs that link to our offering, and uses an exclusion list (social media and similar) to cut noise.

Batch scrape. Firecrawl pulls all five pages into one combined output. Models rely on context, so one combined picture gives sharper insights than going page by page.

Write the battle card. A second Lambda function calls Claude as an AI solution architect, which makes the output consistent for any lead. **Facts:** their current tech stack and pain points. **Impact:** the cost of staying on this path, such as leakages and prolonged inefficiencies. **Act:** personalised insights on how our offering solves the gaps.

Deliver it. A markdown node turns the text into HTML, CSS styles it, and PDFMonk produces the PDF. It posts to Slack with the hook, all in less than 3 minutes from the lead being identified.

The result: manual versus automated

	Manual research	Our engine
Speed	About an hour per analyst	Less than 3 minutes
Depth	Surface-level discovery	Deep-dive analysis that finds inefficiencies and leakages
Consistency	Variable human error	The same battle card engine every time
Cost per lead	$25 to $50 for an analyst	Less than a dollar in tokens and compute

The bottom line

You scale output without scaling overhead. Because it runs on AWS, you're not locked into one provider: if a new model comes along, you call it from Bedrock instead of rebuilding the workflow. And it travels: in SaaS or professional services, look at documentation and integration pages; in travel and tourism, audit the booking process and FAQs. **We're not pitching features, we're mapping pain points to what we offer.**

Want to talk this through for your business?

Book a free 15-minute call. We'll look at your situation and give you a straight answer, with no jargon and no sales pitch.

Let's Chat

Opens the request form on our website. Free, no obligation.