

The Heist 2026 - Agentic AI Vault: Problem Statements

Prepared by Alex Okounev, (MBA '06) |
Global Head of Channel, Honeywell Building Automation

October 2026

The following four challenges reflect realistic commercial opportunities for applying agentic AI solutions.

Each challenge has:

- **A clear customer.** A specific group with the problem, and someone who would pay to solve it.
- **Pain with numbers behind it.** The background gives teams enough for a credible market slide without separate research.
- **Genuinely agentic work.** The job takes several steps of judgment across documents, systems and people. An agent has to get something done, not just answer a question.
- **Buildable in ten days.** Public or synthetic data is enough for a working prototype.

Problems 1 and 2 lean technical, and Problems 3 and 4 lean toward business and policy, but all four reward mixed teams. None overlaps the MedTech or Sustainability vaults.

Each brief gives teams the problem and a starting customer; how to solve it is up to them.

“Where to start” names the group that feels the pain most and would try an unfinished product, plus the markets it opens next. Strong submissions pick one specific first customer, show why that customer would be very disappointed to lose the product, and name the assumption most likely to break the idea.

Problem 1 - The Graveyard Shift: turning dead patents into live businesses.

Problem statement. Most patents die young. Owners stop paying the fees to keep them in force, and the technology quietly becomes free for anyone to use. Nobody systematically searches that graveyard for ideas worth building a business on, or asks whether there is a market for them now. Meanwhile, student and first-time founders rarely check whether their own idea is new, or whether someone else's patent stands in the way, because a professional search and opinion cost more than they can spend.

Background

- Only about 40% of US patents are kept in force for their full term. Roughly 60% lapse early because owners stop paying maintenance fees; the final fee for large companies is now \$8,280 ([Patently-O, Mar 2026](#)).
- A US patent lasts up to 20 years from filing. After that, the invention is free to use. Expiry can open whole industries: the core 3D-printing patent expired in 2009, and low-cost desktop printers followed.
- A professional patent search costs \$500–1,000, and an attorney's patentability opinion starts around \$1,000 ([IPWatchdog](#)). Student founders usually skip both.
- The data is public: full text of US patents and applications, maintenance-fee records, citations between patents, and the earlier patents that examiners cite against new applications (USPTO open data, Google Patents).
- Funded AI tools serve law firms and large corporations. Patlytics raised \$14M in February 2025 ([TechCrunch](#)). Founders, small companies and people scouting for opportunities are not their focus.

Who experiences it

- **Primary:** student and early-stage founders, and the entrepreneurship centers and university tech-transfer offices that screen their ideas.
- **Secondary:** small manufacturers and product companies looking for technology they can use without a license, and investors scouting for opportunities.

Where to start. One technology area, such as consumer hardware, medical devices or materials, and one user: a founder deciding whether an idea is worth pursuing. Next markets: tech-transfer offices with unlicensed patents, small manufacturers, corporate scouting teams.

Constraints and considerations

- **No legal opinions.** Formal patentability and freedom-to-operate opinions must come from a registered patent attorney or agent. The output is research and triage.

- **“Expired” is not the same as “free to use.”** Related follow-on patents, newer improvement patents, trade secrets and regulatory exclusivity can still block use, and the work must check for them.
- **Most lapsed patents deserved to lapse.** Owners usually stop paying because the patent isn't worth it. The valuable finds are the exceptions: the owner ran out of money or pivoted, the market arrived late, or a new enabling technology made an old idea practical.
- **Commercial potential can be estimated from public evidence, not proven.** Teams should name the one assumption a founder would need to test first.
- **Use the supplied example inventions, not your own.** Anything entered into a search tool should be treated as disclosed, so students should not enter ideas of their own that they haven't protected.
- **Commercialization:** consider the costs (outlined above) that early stage founders must incur to conduct proper patent availability evaluation or research. Based on this, determine WTP (willingness to pay) to quantify the potential value of this agentic start-up/workstream.

Questions to crack

1. How would you tell a dead patent with a future from one that deserved to die?
2. What evidence of commercial potential can an agent gather on its own, and how confident should it be?
3. How would you show that your agent finds the earlier patents a patent examiner would find?
4. How would you deploy super agents or how would multiple agents interact together in executing this?

Problem 2 - Quote It Before They Do: the estimating bottleneck in contract manufacturing

Problem statement. Small machine shops and contract manufacturers win work by quoting. Each request for quote (RFQ) arrives as drawings, 3D models and spec sheets. A senior estimator then works out material, machine time, tooling and outside processes, mostly by hand. Quotes take days, the estimator is the bottleneck, and the buyer often awards the job to whoever answered first.

Background

- 74% of US manufacturers have fewer than 20 employees ([NAM](#)). Most have no dedicated estimating team.
- One study of 1,794 RFQs over a year found that more than half of a shop's winning bids were received within three days of the RFQ. Its conclusion: a quote that takes longer usually arrives after the work is already in someone else's shop ([The Fabricator](#)).
- The estimator is usually the owner or a veteran machinist. The pricing logic lives in one person's head and a spreadsheet, so quoting capacity cannot grow with demand.
- Quoting software and ERP systems exist, yet many shops still quote in spreadsheets. Why they stay there is part of the problem.

Who experiences it

- **Primary:** owners and estimators at job shops of 5 to 50 people making custom metal or plastic parts in low volumes. Rochester has many of them, supplying optics, medical device and defense customers.
- **Secondary:** engineers and buyers at larger manufacturers who wait on quotes and chase suppliers.

Where to start. Shops that quote many small, low-volume CNC jobs and already lose work to slow turnaround. They feel it every week. Next markets: sheet-metal fabricators, injection molders, then the buyers who send the RFQs.

Constraints and considerations

- Customer drawings are confidential and often export-controlled. Use public sample drawings or synthetic parts during the event.
- A wrong quote is worse than a slow one. Too low loses money on every part; too high loses the job. The shop must see how each number was reached.
- The estimator signs off. Nothing goes to a customer without human review.
- Inputs are messy: scanned PDFs, 3D files, email threads and partial specs.
- Material prices and machine rates differ by shop and change often.

Questions to crack

- Which part of a quote takes longest, and which part truly needs the estimator's judgement?
- How could an owner check the agent's numbers in minutes rather than redo them?
- Does a faster quote win more work, or just produce more quotes to lose?

Problem 3 - The Money Left on the Table: enforcing contracts after they're signed

Problem statement. Companies negotiate rebates, price caps, discounts and service credits into supplier contracts, then pay invoices that ignore them. Nobody owns enforcement after signature: procurement negotiates the terms, accounts payable pays against purchase orders, and legal stores the paper. The gap leaks cash every month, and most of it is never recovered.

Background

- World Commerce & Contracting estimates the average business loses about 9% of annual revenue to poor contract management, and over 15% in complex industries. Common causes include invoicing errors and missed entitlements, and contracts sit across an average of 24 systems ([CFO.com, Aug 2025](#)).
- An entire industry of recovery auditors finds billing errors, missed rebates and duplicate payments after the fact, paid as a share of what it recovers. PRGX serves 75% of the top global retailers and a third of the Fortune 500 ([2019 10-K](#)), which shows companies will pay to get this money back.
- Those audits sample transactions months or years later, and mid-size companies rarely get them at all.
- Accounts payable checks invoices against purchase orders, not contracts. The average invoice takes 9.2 days and costs \$9.40 to process ([Ardent Partners, 2025](#)).

Who experiences it

- **Primary:** controllers and procurement leads at mid-size companies (\$50M–\$1B revenue) that buy from dozens or hundreds of suppliers.
- **Secondary:** suppliers, who want disputes settled cleanly, and consumers and renters who face the same problem with deposits, refunds and fees.

Where to start. One spend category with clear contract math, such as industrial supplies, freight or software subscriptions, at a mid-size distributor or manufacturer. Next markets: the seller's side (customers who were under-billed), then consumer recoveries.

Constraints and considerations

- A wrong claim damages a supplier relationship. Every claim needs the contract clause, the calculation and the invoices behind it.
- Amendments, effective dates and spending thresholds change which terms apply, and contracts are often scanned PDFs.
- Disputes and claims against strategic suppliers go to a person.
- Real contracts are confidential. Use synthetic contracts and payment records.

Questions to crack

- Which contract terms leak the most money, and which can be checked automatically?
- When should an agent send a claim on its own, and when should it ask first?
- How would a company know the agent found everything, not just the easy cases?

Problem 4 - Duty Calls: responding when tariffs change overnight

Problem statement. When duty rates change, importers have days to work out which products are affected, what each now costs to land, which customer quotes and contracts are now losing money, and whether a refund, exclusion or different source country is available. The work is split across customs brokers, pricing and purchasing, mostly in spreadsheets, and margin leaks while it catches up.

Background

- Gaia Dynamics estimates manual customs compliance at about 10 hours per US cargo shipment, roughly \$930 at \$186 an hour, across 56 million shipments a year. Classifying one product by hand takes 15 minutes or more ([FreightWaves, Feb 2025](#)).
- US tariff rates have changed repeatedly since 2025. Each change ripples through product classifications, landed costs, customer prices and supplier choices.
- The US tariff schedule (HTSUS) and customs rulings are public.
- Tools that classify products are emerging. Acting on a change (re-pricing, notifying customers, finding refunds and alternatives) is still mostly manual.

Who experiences it

- **Primary:** trade-compliance and pricing leads at mid-size importers and distributors.
- **Secondary:** customs brokers serving many such importers, and the importers' customers who receive the price changes.

Where to start. Distributors importing a few thousand products from a handful of countries, with open quotes and contracts that allow cost increases to be passed on. Next markets: customs brokers, then manufacturers with imported components.

Constraints and considerations

- Classification is the importer's legal responsibility, often signed off by a licensed customs broker. Every classification needs a written rationale.
- A misclassification that favors the importer is an opportunity. One that goes against it is an obligation to correct and report.
- Customer price changes depend on contract terms and relationships.
- Use the public tariff schedule and a synthetic product catalog. The rule change itself will be invented for the event.

Questions to crack

- In the first 24 hours after a change, what does a company most need to know, and in what order?

- How can an agent show its classification reasoning well enough for a broker to sign off?
- Which actions can run automatically, and which must wait for a person?