

HOYDICH PLAY

A HOYDICH ENTERPRISES COMPANY

SIGNALSAURS

The brand.
The product.
The business.



Research and go-to-market plan

Prepared for Michael Hoydich / October 17, 2026

Concept work. No supplier quotes, prototypes, partnerships, certifications, customer orders or legal clearances have been obtained.

A clear direction, with gates that matter.

Recommendation: establish Hoydich Play under Hoydich Enterprises and validate ROOK / REX-01 as the first SIGNALSAURS product for families and adult collectors.

DECISION	WORKING BASELINE
First product	Original stationary two-axis expressive dinosaur; offline play; four AA cells; no mic or camera.
AI proposal	Optional adult mission planner; bounded action packages. California classification remains an early stop/go gate.
Price / unit economics	\$199 MSRP test; ~\$49 modeled landed at 5,000. ~\$62.56 DTC or ~\$33.08 wholesale contribution before fixed program costs.
Capital	\$30k-\$60k discovery within the overall program. Full workbook funding target ~\$1.40m including reserves and liquidity.
Schedule	Late 2027 / early 2028 controlled release, subject to engineering, legal, quality, funding and demand evidence.
El Segundo	Keep design, expert review and play testing local; source production through comparable domestic and overseas RFQs.

Evidence labels

Verified facts come from cited official, research or supplier pages. Supplier capability is self-reported. Estimates are analyst models, not quotations. Proposals have not been executed. Product images are generated concept studies, not manufacturing or performance evidence. This is a broad desk-research foundation; hands-on evaluation, customer tests, supplier diligence and professional review remain necessary.

From character to company.

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18 / COMPLIANCE Budget a product-specific test program.

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20 / FIRST NINETY DAYS Make the next decision concrete.

After the twenty chapters: financial snapshot, manufacturing cost table, RFQ and team checklist, and linked source register. The separate brand book contains identity rules, two mood boards, packaging and campaign concepts. The editable workbook owns the scenario and cash calculations.

Build a toy company, starting with one excellent creature.

HOYDICH PLAY is the proposed toy division of HOYDICH ENTERPRISES. SIGNALSAURS is its first original world: optimistic robot dinosaurs with the visual confidence of an imagined 1980s future.

The first commercial bet

Develop ROOK, product code REX-01, as one original, stable, expressive robot dinosaur for families with children ages 8-12 and adult collectors. Both audiences lead the creative program. Start with one chassis, two durable motion axes, authored sound, tactile controls and repeatable offline missions. A \$199 retail price is the planning baseline; test \$149, \$199 and \$249 before committing.

Make the AI claim earn its place

The proposed AI lives in an optional adult-controlled mission planner. Core toy behavior is deterministic and remains useful without a phone, account or cloud. California's new AI companion-toy moratorium makes exact product classification an immediate gate. This concept does not establish an exemption.

The recommended next commitment

The immediate recommendation is a staged \$30,000-\$60,000 discovery and feasibility program, included within the larger budget. It should produce testable play, an engineering brief, a legal classification and comparable supplier proposals. It does not justify production tooling or accepting customer orders. All names are provisional: preliminary web screening found no clear exact competing toy brand for HOYDICH PLAY or SIGNALSAURS, but comprehensive trademark, design and domain clearance remains outstanding.

Sources: [01], [02]. Linked references in the source register. Uncited design and financial targets are proposed assumptions.

Two audiences. One hero platform.

Families and adult collectors should encounter the same original character through different reasons to play, collect and share.

Family proposition

For an adult buying for an 8-12-year-old, the purchase should make a room feel like an adventure. ROOK offers short missions, direct physical feedback and an obvious stop control. Parents need a clear account of batteries, sound, data, service and what the toy actually does. Age grading follows professional assessment of the real product; the suggested age is a design brief.

Collector proposition

For an adult collector, ROOK is a character object that rewards handling. Lead with silhouette, material, graphics and demonstrable expression. A collector finish can use the same mechanics and approved materials. An adult label does not remove children's-product obligations where the product is primarily intended for children.

Earn the expansion

TRACK-02, a future quadruped, and SKY-03, a future pterosaur, are world-building concepts. Their mechanics are unbudgeted and uncommitted. Mission cards and decorative collectibles can follow observed repeat use; do not dilute the initial program with several molds, apps or battery systems. A separate adult developer platform may eventually explore locomotion and open software, with its own intended use, rights review and safety assessment. Present it as a future research path, not a launch SKU. Share character assets and storytelling across the portfolio while keeping every physical product's capabilities explicit.

Sources: [03]. Linked references in the source register. Uncited design and financial targets are proposed assumptions.

Compete on a clear play promise.

The category spans inexpensive expressive toys, coding robots, conversational learning products and increasingly capable movement platforms. Their prices do not establish demand for our concept.

The current shelf

Official listings observed October 17, 2026 show Miko 3 at \$299 and Mini promoted at \$149 versus \$199. Loona Petbot Premium is listed at \$499. Sphero identifies \$199 as the regular single-unit BOLT+ price. Hasbro's 2026 lookbook places Furby Vibes at approximately \$44.99 retail. Miko emphasizes learning, Loona expressive mobility, Sphero coding and Furby bounded creature play. Prices vary by promotion, bundle and region.

The adjacent history

WowWee's Roboraptor Blue page documents an 8+ dinosaur with remote/app control, sensors and behavior modes, released in 2015. A current page is not verified current inventory. Moxie is a caution about service continuity: present official pages describe pairing existing robots and paid app/video interaction, but we established neither new-hardware availability nor current service uptime. Avoid describing it as simply dead or fully restored.

The proposed position

SIGNALSAURS should combine a memorable original form, tactile family missions, adult-worthy presentation and a useful offline core. A retro finish alone offers little protection. Reliability, authored physical personality, repair logistics and satisfying repeat play are the harder assets to build. The first research must test whether those benefits outweigh cheaper electronic toys or more capable robots.

Sources: [04], [05], [06], [07], [08], [09], [10], [11]. Linked references in the source register. Uncited design and financial targets are proposed assumptions.

Learn from the duck. Do not assume a commercial reskin.

Microduck is the central reference for affordable physical AI, expressive motion and open development. Its offering is materially different from the proposed family toy.

What the official offer establishes

Pollen opened \$399 introductory preorders on August 27, 2026, before taxes and shipping. Its approximately 25 cm, 0.8 kg biped has 15 motors, camera/depth sensing and two IMUs. A controller and learned movements are offered; first deliveries are targeted before Christmas 2026. These are manufacturer claims and a delivery target, not our tested performance or verified fulfillment. Its launch explanation describes creature sounds rather than spoken language.

The license boundary

The runtime and reinforcement-learning code use Apache-2.0. That software permission does not grant Microduck branding or automatic rights to every asset. The RL repository separately applies CC BY-NC-SA 4.0 to specified mesh directories, imposing a noncommercial condition. Commercial reuse requires asset-by-asset review and any necessary written permissions. A dinosaur shell does not resolve those restrictions or other design and patent questions.

The useful lesson

Immediate fun can coexist with deeper creation tools, and movement can communicate character without conversation. Study the public software and simulator only within their licenses. Any altered body changes mass, inertia, clearances and sensing, requiring new engineering validation. Later compare an unmodified evaluation unit, a properly negotiated commercial relationship or an original adult biped; no partnership, wholesale price or supply commitment is assumed.

Sources: [12], [13], [14], [15], [16], [17]. Linked references in the source register. Uncited design and financial targets are proposed assumptions.

The chatbot moratorium changes the brief.

California signed SB 867 in September 2026. Official state summaries describe a four-year moratorium on manufacturing and selling toys with AI companion chatbots for children under sixteen.

Treat this as a decisive gate

The Toy Association describes the period as January 1, 2027 through January 1, 2031. The definition and its application to our complete hardware, app and content experience must be confirmed against the operative chaptered law. The official legislative portal was inaccessible in this research; a third-party chaptered replica is supporting material, not a substitute for professional verification.

Change the product, not the age sticker

Do not design a child relationship chatbot, persistent emotional companion, always-listening friend or unrestricted conversation system. A proposed adult mission generator with bounded outputs is a narrower direction, but we have not established that it falls outside the law. Calling the app adult-only, relocating a server or applying a collector label does not provide automatic clearance.

A practical decision tree

Before cloud development or public AI claims, have counsel classify the actual end-to-end experience, intended audience, inputs, outputs and proposed sales geography. If that route cannot be supported, investigate a separately reviewed offline toy without an AI sales claim. If the physical concept still depends on prohibited companion behavior, stop or redesign the California launch. Do not accept orders, ship child beta units or describe an exemption while this issue remains unresolved.

Sources: [01], [02], [18], [19]. Linked references in the source register. Uncited design and financial targets are proposed assumptions.

ROOK should be delightful before connecting anything.

The proposed first product is a roughly 22 cm tall tabletop creature with broad planted feet, positioned by the player. Dimensions and artwork are industrial-design targets; working mechanics remain unproven.

A deliberate mechanical scope

Use two geared expressive axes, such as head yaw and jaw/neck movement, subject to design review. Cover gears, control current and torque, add a compliant linkage and validate all accessible gaps. Defer autonomous walking, cameras, microphones, lasers and detachable tiny decorations. A hand-positionable tail or coupled gesture can add expression without another actuator, if the safety and durability work supports it.

The five-minute loop

The player picks a mission card, arranges a small scene, chooses a mode with a physical button and starts ROOK. The creature responds through a short approved motion-and-sound sequence. The player then changes the obstacle, solves the challenge and repeats with a new variation. Design twenty to thirty authored missions before relying on procedural variety. A simple reset and stop must remain understandable.

Power and honest expectations

The budget assumes four AA cells in a screw-secured compartment, no charging circuit and no lithium pack. Validate any permitted rechargeable-cell use and low-battery behavior. Measure runtime, sound and motion before advertising them. The standalone core uses an authored state machine; the optional planner adds AI-assisted mission composition only if built, verified and legally supportable.

Sources: [20], [21]. Linked references in the source register. Uncited design and financial targets are proposed assumptions.

Generate missions, never raw motor commands.

Use AI for constrained composition in the optional adult experience. Keep the robot's physical execution predictable and enforceable without a network.

The real AI function

An adult selects a setting, challenge and play duration from controlled choices. A model proposes combinations of reviewed narration IDs and action primitives. The adult previews the plan before transfer. The service should not accept child speech, personal stories or unrestricted prompts in version one. Do not claim the robot understands feelings, learns its owner or independently reasons about the room.

A small contract between systems

A proposed mission package contains `schema_version`, `mission_id`, `narration_ids` and a bounded action list. Example primitives are `LOOK_LEFT`, `LOOK_RIGHT`, `NOD`, `PLAY_SOUND` and `WAIT`. Each has a fixed parameter range and maximum duration. Schema validation, allowlist checks and a deterministic compiler reject unknown fields, invalid values and excessive sequence length. The toy independently checks version, package authenticity, timing and current limits; generated content cannot override its safety controller.

Bound the service cost

Start with a proposed cap of ten short planning requests per adult account per month, short outputs, rate limits and a monthly spend stop. Test the actual vendor bill and abuse cases before promising an included term. The \$0.75 per-unit AI reserve is only a placeholder envelope, not a price quote or lifetime entitlement. If generation fails, offer an authored offline mission. Privacy and California classification cover the entire experience, including identifiers and logs.

Sources: [21], [22], [23]. Linked references in the source register. Uncited design and financial targets are proposed assumptions.

A bright future with physical presence.

The visual direction translates the supplied robot-dinosaur references into original characters, graphics and packaging. The goal is modern 1980s optimism rather than imitation of an existing franchise.

The identity architecture

HOYDICH ENTERPRISES endorses the company. HOYDICH PLAY marks the maker. SIGNALSAURS owns the character world. ROOK is the character; REX-01 is a product identifier. Use this hierarchy consistently on the box, advertisements, manuals and service page. Keep proposed model codes distinct from real certification or manufacturing marks.

The visual rules

Build around warm ivory molded surfaces, graphite working details, a saturated signal blue and focused tangerine and sunflower accents. Use clear technical labeling, generous margins, rounded industrial forms and precise product photography. Warm daylight and workshop surfaces connect the space-age palette to the South Bay. Use original stripe geometry, logos, sounds and silhouettes; remove unexplained insignia from reference-derived concepts. Commission production-ready identity files only after naming review.

The voice and world

Brand promise: "Make room for play." Family campaign: "Small robot. Big afternoon." Collector campaign: "Grow up. Keep playing." Speak in invitations to create, explore and try again. Avoid calling the object a child's irreplaceable friend. Frame the fictional world as a civilian play laboratory: missions, signals, field notes and curious creatures. "Imagined in El Segundo" or "Designed in El Segundo" requires factual support. Nothing in the design should imply Mattel, military, city or museum endorsement.

Sources: [24], [25]. Linked references in the source register. Uncited design and financial targets are proposed assumptions.

A render becomes a product through evidence.

Use original toy engineering with a named technical owner. The attractive silhouette must survive mechanism design, safety review, manufacturing tolerances and household use.

EVT: prove the mechanism

Engineering validation should use roughly twenty to forty rigs or units after initial bench exploration. Measure motor current, stalls, travel, heat, noise, low-battery response and stability. Validate pairing, firmware integrity and recovery. Maintain a risk register and failure analysis. A proposed twenty-thousand-cycle endurance target per axis supplements the lab program; it is not a certification standard.

DVT: validate production intent

Build approximately eighty to one hundred fifty units using production-intent geometry, materials, decoration, electronics and packaging. Resolve pinch, breakage, sound, battery and electromagnetic issues. Run the applicable professional test program, review the adult app and test four-week use with approved safeguards. Freeze the design only when open issues have documented dispositions. Material substitutions trigger change-control and test-impact review.

PVT: prove repeatable production

Use a proposed three-hundred-to-five-hundred-unit pilot to validate work instructions, fixtures, firmware loading, traceability and inspection. Target at least 95% first-pass yield and 98% final yield as commercial readiness criteria. Every unit receives functional checks and batch identification. No safety-critical defect allowance is acceptable. Release requires appropriate reports, certificates and operating readiness; a successful demonstration or high yield cannot replace compliance.

Sources: [03], [20], [23]. Linked references in the source register. Uncited design and financial targets are proposed assumptions.

Keep judgment local. Quote production competitively.

Base creative direction, engineering oversight, acceptance standards and early repairs in El Segundo or the South Bay. Select production geography using comparable total costs and demonstrated capability.

A credible shortlist to investigate

Torrance-based Genius Factory advertises toy/STEM development, tooling, electronics and assembly, including overseas factory/sourcing options. Its local office does not establish local manufacture. Jetta publishes toy OEM and engineering capability and is a relevant integrated-manufacturing candidate. Protolabs can support prototype or bridge molded parts; its advertised starting molding price is not a complete robot-tool quote. Jabil publishes robotics manufacturing capabilities, but fit for a small toy program is unproven. None has quoted or agreed to this project.

Compare the same package

Ask R4I for independently sourced US, Mexico and Asian candidates. Give each bidder identical drawings, BOM, quantities of 1,000/5,000/20,000, cosmetic standards and test requirements. Separate tooling from piece price. Compare actual factory location, Incoterms, MOQ by color, cavities/tool life, yields, decoration, test time, lead times, payment milestones and warranty responsibility.

Make it quote-ready

The packet needs approved-vendor requirements, critical dimensions, circuit/firmware files, programming and key-handling rules, fixture specifications, traceability, packaging dimensions and lab responsibilities. Require tooling ownership/transfer rights and clear IP/data terms. Verify factory identity, references and samples before nomination. Geography alone does not establish safe quality, lower tariffs or viable margins.

Sources: [26], [27], [28], [29], [30], [31]. Linked references in the source register. Uncited design and financial targets are proposed assumptions.

The baseline lands at \$48.998 at 5,000 units.

Every number below is an analyst planning assumption for the specified two-motor, AA-powered product. No supplier quotation, approved production BOM or actual tariff determination exists.

Factory BOM - 1,000 / 5,000 / 20,000 units

Per-unit dollars: molded plastics/decoration 12.00 / 8.50 / 6.80; two mechanisms 8.50 / 6.20 / 4.90; BLE module 5.50 / 4.60 / 4.00; PCBA/flash/drivers/power 8.00 / 6.00 / 4.80; audio 1.80 / 1.40 / 1.15; sensors/buttons/LEDs 2.80 / 2.10 / 1.60; harness/fasteners/contacts 2.20 / 1.70 / 1.40; four AA cells 1.40 / 1.10 / 0.95; packaging/inserts 2.80 / 2.20 / 1.80; assembly/test 7.00 / 4.80 / 3.80. Factory totals: 52.00 / 38.60 / 31.20.

Landed additions in the same quantity order

Scrap/rework at 3% adds 1.560 / 1.158 / 0.936; freight/insurance 4.00 / 3.00 / 2.50; placeholder duty at 15% of factory value 7.80 / 5.79 / 4.68; brokerage/inbound handling 0.75 / 0.45 / 0.30. Exact modeled landed totals are \$66.110 / \$48.998 / \$39.616. Planning uncertainty bands are \$55-82 / \$40-64 / \$33-53.

What remains outside

Tooling, development, compliance, consumer fulfillment, marketing and overhead are separate. An \$80,000 tool budget equates to \$80 / \$16 / \$4 per unit if allocated only across these respective runs; do not add amortization again after paying tooling. A broker must establish classification, customs value, origin and entry-date measures. The 15% duty assumption is a sensitivity, not a statement of current law.

Analyst planning model. Uncited design and financial targets are proposed assumptions.

DTC first preserves room to learn.

Use \$199 MSRP as the working hypothesis and test \$149/\$199/\$249. Exact workbook costs use \$48.998 landed at 5,000 units; the examples below round this to \$49. Channel terms are planning assumptions.

DTC example

A 10% average discount leaves \$179.10 merchandise revenue before sales tax. Deduct payment \$5.673, outbound shipping \$9, pick/pack \$3.50, returns provision \$10.746, warranty \$5.373, support \$2.50, capped-AI reserve \$0.75, acquisition \$30 and landed product \$49. Contribution is \$62.558 per order before development and fixed overhead. Implement accounting carefully to avoid counting returned revenue, replacement goods and reserves twice.

Wholesale example

At an assumed 50% of MSRP, the invoice is \$99.50. Deduct \$49 landed cost, \$1.50 freight, \$9.95 trade allowance, \$4.975 returns/warranty and \$1 support. Contribution is \$33.075. Retailer and distributor terms, promotions, chargebacks and delayed payment can reduce this further. Specialty retail follows evidence of sell-through and service, not a desire for broad shelf presence.

Downside and payback

At \$64 landed cost, contribution falls to about \$47.56 DTC and \$18.08 wholesale. A \$20 acquisition overrun removes another \$20 from DTC. The workbook uses a \$570,000 program funding budget including contingency: break-even is about 9,112 DTC-only units or 10,612 units at a 70% DTC / 30% wholesale mix, before additional fixed overhead. These contribution thresholds are not cash payback forecasts. A first 5,000-unit run does not recover the full program.

Stage the money around uncertainty.

A simple first-program envelope is \$1,013,988. The more complete workbook recommends about \$1.40 million including a service reserve, contingencies and 10% liquidity buffer. Both are modeled funding cases, not quotes or valuations.

One-time allocations

Plan \$170,000 for industrial design, mechanics, electronics and firmware; \$80,000 for tooling, fixtures and manufacturing engineering; \$100,000 for the adult app, service, security and approved content; \$60,000 for compliance, legal and insurance setup including Bluetooth qualification; and \$65,000 for launch creative and initial marketing. These sum to \$475,000. Add a 20% contingency of \$95,000.

Inventory and working capital

Five thousand units at exact modeled landed cost \$48.998 require \$244,990. A 20% inventory liquidity cushion is \$48,998; it is not an additional unit order. Adding \$150,000 illustrative runway to the \$570,000 program funding budget yields the simple \$1,013,988 envelope. The workbook instead schedules \$8,000 monthly corporate costs and \$5,000 monthly fixed service costs after launch, ringfences remaining five-year service and \$25,000 closure funding, and accounts for cash receipts over time.

Three releases of capital

Commit \$30,000-\$60,000 discovery funding within the existing categories, then release engineering and tooling by evidence. The 24-month workbook reaches a modeled \$1,269,781 peak funding need including unspent reserves, or \$1,396,759 after a 10% liquidity buffer. Its assumptions include 4,165 units sold, no automatic reorder and a \$508,321 program cash deficit before unspent cushions. Contractor engineering/app work is already in one-time allocations; ongoing security/service is separately funded. Validate every timing and cost assumption with actual proposals.

Sources: [32], [33]. Linked references in the source register. Uncited design and financial targets are proposed assumptions.

Aim for late 2027 or early 2028, subject to gates.

Starting in October 2026, use a staged route through design, validation and controlled sales. Dates are planning windows; significant redesign can extend them.

Months 0–6 · October 2026 to April 2027

Complete naming and legal classification, family/collector discovery, bench mechanisms and the first cost comparison. Build five to ten initial rigs, then twenty to forty engineering units. Establish the exact offline play loop, adult-service boundary and test plan. Exit only when the mechanism works, people understand the proposition and the funding path is credible.

Months 6–12 · April to October 2027

Conduct design validation with production-intent materials and eighty to one hundred fifty units. Refine tooling through reviewed samples; finish required tests, privacy/security review and a four-week use study. Plan a three-hundred-to-five-hundred-unit production pilot once design issues close. Prepare support, traceability, certificates and importer processes before stock moves.

Months 12–18 · October 2027 to April 2028

Release controlled DTC quantities only after production and compliance gates pass. Late 2027 is an opportunity, not a holiday promise; early 2028 may be more realistic. Use separate family and collector acquisition cohorts with the same operational platform. Delay broad advertising if quality, returns or support are unstable.

Months 18–24 · April to October 2028

Evaluate replenishment, a small specialty-store trial and a second finish. Begin another mechanism only if the original product earns retention, contribution and reliable service. A separate adult developer project needs its own investment decision.

Sources: [34]. Linked references in the source register. Uncited design and financial targets are proposed assumptions.

The advantage is the intersection, not a factory claim.

El Segundo combines a major toy-company presence, space-systems culture, nearby family/robotics communities and a substantial freight region. That makes a credible design-and-test base, not proof of cheap local production.

Turn proximity into practical help

Mattel lists its headquarters in El Segundo. Los Angeles Air Force Base houses Space Systems Command nearby. These facts support a search for experienced toy and systems specialists; they imply neither available personnel nor endorsement. ESEDC is a relevant introduction route once the product brief and prototype are concrete. South Bay SBDC offers no-cost business advising; ask it to stress-test the cash model and program eligibility.

Use the right local routes

LAEDC can help with confidential business assistance and site searches. R4I offers supplier scouting and total-cost comparisons; confirm fees and scope. Keep a small permitted studio only if necessary and affordable. The city's home-business form restricts area, staffing, noise, storage/display and traffic, so obtain an activity-specific answer before treating a home as a workshop or warehouse.

Build a permissioned play loop

Flight Path Museum, library programming and nearby Da Vinci robotics activity provide possible educational conversations. None is an approved research venue or partner. Arrange supervised, parent-attended sessions with explicit permission. Price production logistics through a broker using actual packed dimensions: LAX helps with samples; the LA-Long Beach port ecosystem supports planned imports. Infrastructure does not guarantee cheap freight, clearance or lead time.

Sources: [24], [25], [35], [33], [36], [26], [37], [38], [39], [40], [41], [42]. Linked references in the source register. Uncited design and financial targets are proposed assumptions.

Require evidence from each audience separately.

These are proposed internal decision thresholds, not industry benchmarks or observed results. A strong collector response cannot conceal weak family play, and a small study cannot prove rare-event safety.

Understanding and qualified interest

Begin with twenty parent-child dyads and twenty adult collectors. At least 70% in each cohort should explain the actual features accurately without inventing capabilities. Use clearly labeled models and do not let a facilitator supply the answer. A later concept test should receive at least 1,000 qualified adult visits, balanced across two messages and two audiences. A proposed progress threshold is 8% valid opt-in conversion and no more than \$15 per qualified lead, with price and feature limits visible.

Repeat use matters more than applause

After appropriate review, study thirty families and thirty collectors over four weeks. Target at least 70% completing the first mission without intervention and 50% using the product on three or more days in week four, in each audience. Record boredom, noise, confusion and failures. Separate stated price preference from paid demand; do not present reservations, emails or views as sales.

Quality and financial gates

For production readiness, target dead-on-arrival below 0.5%, early ninety-day hardware defects below 2% and all-reason returns below 6%. Evaluate uncertainty at small sample sizes; no safety-critical failure allowance exists. Require quote-confirmed landed cost, sustainable service and a funded downside case before inventory. Any material safety or privacy issue triggers stop-ship assessment regardless of commercial metrics.

Sources: [03]. Linked references in the source register. Uncited design and financial targets are proposed assumptions.

Show the object doing the thing.

Launch with parallel family and collector stories, sharing a clear product truth. In the current stage, every visual is concept work and every response mechanism is research-only.

The creative platform

Family execution: "Small robot. Big afternoon." Demonstrate a parent and child arranging a physical mission. Collector execution: "Grow up. Keep playing." Show the same character on a desk, followed by its actual expression. Brand sign-off: "Make room for play." The proposed thirty-second film moves from product portrait to genuine action, family mission, adult display and a clear next step. No ad implies the product is available.

The claims discipline

Label generated product and packaging images "Concept visualization." They cannot stand in for evidence of walking, intelligence, materials or battery life. Later ads should use actual supported behavior with relevant conditions visible. Do not promise therapeutic outcomes, emotional understanding, perpetual cloud service, proven education or universal safety. Do not claim "AI-powered" unless the real supported feature and legal classification justify the description.

The channel sequence

Begin with permissioned research and owned development updates aimed at adults. After validation, use honest prototype demonstrations and a gated DTC release. Test specialty toy/design stores in small numbers once returns and service settle, then consider wider distribution. No retailer, creator, museum or school participation is confirmed. Avoid child-directed behavioral targeting. Any future reservation or crowdfunding offer needs clear delivery risk, refund terms and costed failure contingencies; this package creates no public offer.

Sources: [11], [22]. Linked references in the source register. Uncited design and financial targets are proposed assumptions.

Budget a product-specific test program.

The United States family launch requires an applicable-requirements assessment by qualified toy, radio and privacy specialists. Compliance depends on the final product, materials, age grade and online experience.

Toy and import responsibilities

CPSC identifies ASTM F963-23 as mandatory for applicable toys made from April 20, 2024. Children's products generally require applicable third-party testing and a Children's Product Certificate from the responsible manufacturer/importer. Map mechanical, sound, battery and chemical requirements rather than buying a generic "toy certificate." Accessible substrate lead is limited to 100 ppm and surface coatings to 90 ppm; assess phthalates and tracking marks. CPSC eFiling requirements for most covered imports took effect July 8, 2026, so prepare broker/certificate data before shipment.

Radio and Bluetooth

A certified BLE module must remain within its grant and integration conditions; it does not automatically authorize the complete host. Budget final-host emissions, exposure, labeling and qualification review. Bluetooth SIG requires own-branded product qualification; its March 2026 Adopter schedule lists a \$12,000 first-product qualification fee. Confirm the exact route and current fee before commitment.

Privacy and geography

COPPA analysis includes device identifiers, logs and child-directed use, not only names or recordings. Assess the amended rule, retention, deletion, consent and service providers. Review California privacy/security duties, the AI-toy moratorium and other applicable state requirements separately. AA power reduces the lithium charging/transport scope, but never removes battery or toy-safety obligations.

Sources: [03], [20], [43], [34], [44], [45], [32], [22], [46], [47]. Linked references in the source register. Uncited design and financial targets are proposed assumptions.

A good toy must survive its service.

Plan support, replacement parts and a graceful cloud retirement before accepting the first order. The proposed offline core must remain a useful possession if the optional service ends.

A small, secure system

No onboard camera, microphone or Wi-Fi is proposed. Use explicit physical pairing, a short pairing window, ownership binding and authenticated encrypted BLE. Keep per-device credentials and signing keys controlled. Firmware and content updates require authenticity checks, recovery and rollback; physical limits remain enforced by the toy. Maintain a software bill of materials, vulnerability reporting route and documented retention/deletion processes. These are requirements to implement and test, not existing capabilities.

Service and quality in everyday practice

Hold proposed 2% finished replacement stock, maintain identifiable motor subassemblies and battery-door/foot spares where safe, and price the repair workflow. Record batch, firmware version, supplier changes and support issues. Every shipment needs functioning customer help and an incident escalation path, including stop-ship/recall assessment. Yield and return statistics belong alongside customer stories.

Make the retirement plan specific

The target is five years of security maintenance, subject to a funded commitment before publication. Define any included cloud term and usage; avoid "free forever." If the service closes, notify adults, preserve authored offline missions, offer approved content export/transfer where feasible, honor data-deletion choices and explain what changes. A service-end rehearsal should demonstrate the product without internet. Do not make children's emotional dependence part of retention design.

Sources: [23], [22], [11]. Linked references in the source register. Uncited design and financial targets are proposed assumptions.

Make the next decision concrete.

The founder's first job is to replace the largest unknowns with small, reviewable pieces of evidence. Do not begin with a lease, several tool sets or a large preorder campaign.

Days 1–30

Write one product brief and commission legal classification of the complete AI proposal. Review provisional names and design rights. Engage an independent toy engineer and embedded/mechanical support with relevant references. Ask South Bay SBDC to review the twenty-four-month cash case. Create two appearance models and a rough expressive mechanism; document what the supplied artwork does not resolve.

Days 31–60

Run separate parent-attended family sessions and adult collector sessions, with explicit permission and failures recorded. Turn the chosen form into a quote-ready packet. Ask R4I for supplier scouting and compare at least three candidates across the same specification. Obtain a preliminary lab/test scope. Use ESEDC introductions for specific expertise; approach educational venues only through approved channels.

Days 61–90

Price the packed prototype, freight, repair and support. Reconcile real quotes against the \$48.998 landed hypothesis, including tariff stress and tooling terms. Review the AI schema, privacy boundary and service budget. Decide whether to fund engineering validation, cut features or pause.

The risks that can stop the program

California classification, weak repeat play, infeasible price, unsafe mechanics, unclear asset rights and inadequate cash are genuine stop/go issues. Local enthusiasm and attractive renders cannot resolve them. No outreach, quotes, prototype, permission, certification, retailer commitment or legal clearance has been obtained in this research package.

Sources: [35], [33], [26], [40], [02]. Linked references in the source register. Uncited design and financial targets are proposed assumptions.

What the cash model actually says.

Base case: November 2026-October 2028. This is a scenario, not a revenue forecast. No reorder or financing inflow is assumed.

BASE OUTPUT	MODELED RESULT
One-time spend / funding budget	\$475,000 planned spend / \$570,000 including contingency
First production / saleable	5,000 bought; 4,900 saleable; 100 held as spares
Units sold over 24 months	4,165 total: 2,914 DTC / 1,251 wholesale
Merchandise revenue	\$646,372 before modeled sales-related deductions
Contribution before fixed costs	\$223,679 across the modeled sales
Corporate operating cash	\$192,000 across 24 months
Fixed service spending	\$65,000 in 13 post-launch months
Program cash deficit	\$508,321 before unspent reserves/cushions
Peak funded requirement	\$1,269,781 including ringfenced reserves
Funding target with 10% buffer	\$1,396,759
Inventory at month 24	835 units: 735 unsold + 100 spares

At launch, the reserve includes \$95,000 program contingency, \$48,998 inventory liquidity, \$295,000 remaining fixed service and \$25,000 closure. Cash requirements can materially increase with slower sell-through, delays, higher duties or acquisition costs. The five-year fixed service budget is \$300,000 in total; payments reduce its remaining reserve. The \$0.75 unit AI allowance is separate variable usage, not lifetime funding.

A quoteable cost hypothesis.

US dollars per unit. All costs are modeled estimates for the proposed original toy. Actual design, yield, origin and entry-date tariffs may differ.

FACTORY COST	1,000	5,000	20,000
Plastics / decoration	12.00	8.50	6.80
Two mechanisms	8.50	6.20	4.90
BLE module	5.50	4.60	4.00
PCBA / drivers / power	8.00	6.00	4.80
Audio	1.80	1.40	1.15
Buttons / sensors / LEDs	2.80	2.10	1.60
Harness / contacts / fixings	2.20	1.70	1.40
Four AA cells	1.40	1.10	0.95
Packaging / inserts	2.80	2.20	1.80
Assembly / test	7.00	4.80	3.80
Factory total	52.00	38.60	31.20
3% scrap / rework	1.560	1.158	0.936
Freight / insurance	4.00	3.00	2.50
15% duty PLACEHOLDER	7.80	5.79	4.68
Broker / inbound	0.75	0.45	0.30
Landed total	66.110	48.998	39.616

No quote exists. EXW-to-landed comparison must be rebuilt using the real Incoterm and customs value. Duty is a planning sensitivity, not a current tariff determination. Do not add paid tooling again as an extra cash cost through per-unit amortization.

Give each decision a named owner.

The first stage is a discovery and feasibility program. All roles, vendors and institutional conversations remain to be selected or authorized.

ROLE / OWNER	FIRST CONCRETE DELIVERABLE
Mike / product owner	One hero brief, available funding, audience priority and explicit go/no-go decisions.
Independent toy engineer	Mechanism feasibility, pinch/stall risks, target BOM, prototype and validation plan.
Industrial / character designer	Original sculpt, consistent surface system and engineering-ready appearance direction.
Embedded / app technical owner	Offline behavior, constrained mission format, pairing, secure update and recovery plan.
Qualified counsel / test lab	California classification, intended-use review and product-specific compliance matrix.
Sourcing / operations lead	Comparable RFQs, actual factory identities, tool ownership, samples and inspection contract.
Research / creative lead	Separate family and collector studies, honest prototype demonstrations and measured campaign tests.

RFQ acceptance packet

Send identical design revision, BOM, material/decorating standards, critical dimensions, quantities, test plan and packed dimensions. Require MOQ per finish, tooling ownership and transfer, lead time from approved sample, payment milestones, factory audit/reference access, yield/rework method, test fixtures, firmware/IP/key ownership, spares, warranty, traceability and change-control terms. Compare US, Mexico and Asian offers on actual total cost and capability.

Build the house through earned extensions.

Hasbro is a useful organizational analogy: a company can own several original play properties and shared commercial capabilities. It is not a scale, distribution or capital comparison.

LEVEL	PROPOSED RESPONSIBILITY
Hoydich Enterprises	Capital allocation, ownership of approved IP, financial controls and portfolio decisions. Entity and rights structure need professional setup.
Hoydich Play	Shared design, product development, quality, sourcing, audience research, brand standards, sales and customer support.
SIGNALSAURS / first property	ROOK as the hero; authored missions, a second finish and later physical extensions only after repeat use and contribution are proven.
Later categories / unbudgeted	Construction and mechanism kits, analog games and another original character world. Use provisional category labels until distinct concepts and cleared names exist.
Adult robotics research / separate	An original developer platform or a properly licensed technical relationship. Separate intended use, economics, rights, safety and development investment.

The expansion gates

Year one proves one play pattern and an executable product. Year two earns reliable sales, support and a second production decision. Year three may add another property only if the company can fund it without weakening existing obligations. Develop short original stories and paper missions before expensive animation. Consider licensing only after rights ownership, consumer recognition and partner economics are concrete. No media, licensing or royalty revenue is included in the base model.

Make spending follow observed behavior.

This calendar begins only after engineering, compliance, California classification, funding and stock-release gates pass. It does not imply an announced launch date.

WINDOW	ACTION / DECISION
Weeks 1-2	Release a limited DTC cohort to adult buyers from both audiences. Show actual behavior and complete product/service facts. Track delivery, setup, defects and support by batch.
Weeks 3-4	Review reasons for use and non-use separately for families and collectors. Address failures before expanding acquisition. Compare realized contribution against the model, including refunds and replacement costs.
Weeks 5-6	Test one new adult-directed creative variable at a time. Use measured acquisition cost and returned-order economics. Pause spend if the acquisition ceiling, quality or service capacity fails.
Weeks 7-8	Choose continued DTC learning, a feature/service correction or a small specialty-store test. Request real buyer terms; no distributor, chain or creator is assumed.

The \$65,000 fixed launch allocation

Proposed allocation: \$18,000 demonstration/photo/video assets; \$8,000 packaging copy and manuals; \$10,000 demo fixtures and event materials; \$8,000 commerce/CRM setup; \$8,000 PR/creator production fees; \$6,000 retail sales materials; \$7,000 release operations and contingency. These are planning allocations, not quotes. Keep media and performance acquisition in the separate \$30-per-DTC-order assumption. The base model implies \$87,420 acquisition cost on 2,914 DTC sales; do not count that spend again inside the fixed allocation.

Owned development updates can begin earlier using concept labels. A 1,000-visitor research test needs adult opt-in and explicit feature/price limits; it is a discovery experiment, not evidence of orders.

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