

ASTER PENG

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Technical program manager with 12 years at Google and Nest across strategic sourcing and environmental compliance for consumer hardware. Moved from sourcing into technical program management in Google's Product Integrity Engineering organization, then led compliance for 30+ Pixel, Nest, Fitbit, and AR programs without ever gating a launch. Built the specifications, supplier programs, and packaging research behind Google's plastic-free packaging commitment. Known for turning regulatory and materials complexity into decisions engineers, designers, and suppliers can act on.

EXPERIENCE

GOOGLE, Mountain View, CA

Jun 2014 – Oct 2026

Technical Program Manager, Environmental Compliance · Product Integrity Engineering Sep 2017 – Oct 2026

Environmental compliance lead for Google consumer hardware: Pixel phones and accessories, Pixel Buds, Nest, Fitbit, tablets, and AR prototypes. Owned regulatory, voluntary, and sustainability requirements from concept through launch; promoted twice on the technical program management ladder.

- Served as environmental compliance lead for 30+ hardware programs across nine years, running 6 to 7 concurrently; owned restricted-substances, energy-efficiency, and biocompatibility testing, regulatory registrations, labeling, and sustainability OKRs, and never gated a build or launch.
- Initiated and led a two-year cross-functional Ear Health initiative (product design, UX research, field safety, biocompatibility lab, outside dermatologist) that closed a significant gap in detecting and diagnosing wear-related skin sensitivity during development; introduced a clinician-designed assessment, acrylates-migration testing, and factory in-process material audits, and drove material substitutions into later earbud designs. Briefed VP-level leadership and secured resources for the workstreams.
- Built Google hardware's environmental supplier-engagement function from 2023: led compliance conferences in Shanghai and Shenzhen, plus a virtual session, for the entire hardware supply base; brought strategic material suppliers onto a chemical hazard-assessment platform; co-created a supplier environmental scorecard used in quarterly business reviews with contract manufacturers; and launched a supplier compliance website as the single source for specifications and training.
- Drove EPEAT certification as liaison to UL and the Green Electronics Council: Silver for Pixel 2, then Gold for Pixel 3 and 3 XL, plus Silver for Pixel Slate; supported UL ECOLOGO Gold certification for the 2025 Pixel phone launch.
- As sustainable packaging subject-matter expert, led recyclability and repulpability studies with Western Michigan University and Resource Recycling Systems that set the packaging organization's plastic-elimination goals and drove removal of plastic hang tabs and laminates. The research and the resulting Sustainable Packaging Specification informed Google's October 2020 pledge to make its hardware packaging 100% plastic-free and 100% recyclable by 2025; Google met the plastic-free goal ahead of schedule, and the work fed its published Plastic-Free Packaging Design Guide and Consumer Hardware Carbon Reduction Guide.
- Authored the specifications the compliance team runs on: the Environmental Marking and Labeling Specification used on every hardware program since 2019, the Sustainable Packaging Specification, the Post-Consumer Recycled Materials Reliability Specification, and the Sustainable Plastics Guidance. Led the creation and rollout of Devices & Services' first Biocompatibility Specification with Fitbit and compliance subject-matter experts.
- Ran biocompatibility qualification for every earbud and wearable program from Pixel Buds (2020) through Pixel Buds Pro 2 and the next generation, 16 to 35+ materials each, coordinating product design, contract manufacturers, third-party labs, and toxicologists; added acrylates-migration testing and factory in-process material audits to the NPI process.
- Delivered Google hardware's first in-person Restricted Substances Specification training, reaching 98% of the Asia-Pacific supply base; stood up in-house XRF materials screening and wrote its operating procedure, removing the 10-plus business-day wait for third-party lab results.
- Sustainability design wins: persuaded the Pixel Buds Pro 2 team to drop a lead-containing component in favor of a speaker even though lead was regulation-exempt; eliminated Class I monomer adhesives and a skin-sensitizing hard-coat monomer from the next earbud generation; trialed 20% recycled polycarbonate on the 2018 Pixel USB-C earbuds.
- Co-organized the largest annual team event for Product Integrity Engineering, bringing together hundreds of colleagues across Mountain View and Taiwan, two years running; hosted the compliance team offsite; recognized with a Spot Bonus and four Peer Bonuses.

Global Sourcing Manager, Electro-Mechanical & Audio, Nest / Google Hardware

Jun 2014 – Aug 2017

Sourcing owner for speakers, microphones, buzzers, haptics, batteries, displays, and passive components across 13 Nest and Google hardware programs after the 2016 integration; fluent Mandarin used daily with Asia suppliers.

- Cut the bill-of-materials cost of the wired USB-C headset shipped in the Pixel 2 box by 40% in under three weeks when the program was at risk for cost, through alternative designs, sub-tier supplier pressure, component substitution, and NRE reduction; the cost bridge enabled product management to decide the in-box strategy and delivered multi-million-dollar savings across the production run.
- Led Google hardware's microphone sourcing strategy: a six-vendor RFP, factory audits, and downselect to three long-term partners in five months, with 11 to 31% cost reductions across the portfolio (multi-million-dollar savings across programs), pricing at parity with ODMs ten times Google's volume, and stronger reliability and test coverage at no added cost.
- Ran speaker supplier selection for Pixel 3: RFP, factory audits, and a new supplier's master agreement closed in five weeks before first build; 10 to 27% unit-cost and 60% tooling reductions with better acoustic performance than the prior year.
- Led speaker supplier selection for Google Home Max and Google Home Mini, including a one-week factory visit with ten cross-functional engineers, bringing on a new supplier for Home Max and securing a 26% speaker cost reduction on Home Mini before the P3 build.
- Initiated Google's first Supplier Business Reviews with two strategic speaker suppliers (eight-figure combined spend), built the cross-functional scorecard, and ran the sessions with the VP of Sourcing and supplier CEOs; template adopted by the electro-mechanical team, with follow-on 5 to 10% cost reductions.
- Dual-sourced every key audio and battery commodity, built should-cost models for each, and cut NPI reliability-test costs 23 to 82% per commodity.
- Stepped in during the Nest Thermostat (3rd gen) and Nest Protect (2nd gen) ramps to own PCBs, flex circuits, connectors, and cables across 15+ vendors, including eight days on-site bringing up the thermostat's sensor-flex line; both products launched on time.
- Created the acoustics sourcing strategy for Google and Nest hardware and presented it to the VP of Sourcing and Procurement and engineering leadership, consolidating Google's buying power across programs.

STRATEGIC BUSINESS INSIGHTS, Menlo Park, CA

Apr 2008 – Apr 2012

Former business intelligence division of SRI International (founded as Stanford Research Institute); maps new opportunities from emerging technology and market insights. Clients included Nissan, Intel, Hitachi, NEC, and Mitsubishi.

Technology Consultant

- Led a small project team to design and run technology-foresight workshops on biosensors and pervasive sensing for a U.S. government intelligence client; the engagement converted into a multi-year subscription that was the firm's highest-revenue project of the year.
- Delivered a report on carbon-emission and biofuel trends for Nissan from policy analysis, industry conferences, and executive interviews, leading to a follow-on engagement worth several hundred thousand dollars.
- Developed a research-to-commercial roadmap for portable electronic devices that clients used for technology and policy decisions; grew into leading monthly technology-foresight sessions with clients.

FOUNDATION FOR SUSTAINABLE DEVELOPMENT, Udaipur, Rajasthan, India

Sep 2007 – Dec 2007

Sustainability Research Analyst, placement with the Society for the Promotion of Wastelands Development

- Published a report assessing market linkages for rural agriculturalists from nationwide employment-generation data and regional focus groups; presented recommendations at a conference on the National Rural Employment Guarantee Act. The report became the baseline for social auditing and for a state forum on NREGA in Rajasthan.

EDUCATION

Duke University, The Fuqua School of Business, Durham, NC — MBA, Operations Management and Decision Sciences. President, Hi-Tech Club; member, Net Impact.

May 2014

University of California, San Diego, La Jolla, CA — BA Psychology, minor in Asian Art History. GPA 3.8, magna cum laude, Provost Honors and Eleanor Roosevelt Honors. President, alpha Kappa Delta Phi.

June 2007

SKILLS

Environmental compliance (RoHS, REACH, EPEAT, UL 110 / EcoLogo, ISO 10993, EU ecodesign) · Restricted substances and biocompatibility · Sustainable packaging · Supplier management · Strategic sourcing · NPI program management · Mandarin (fluent)