# Business Case – Perfect Purifiers LLC: Next-Gen HEPA Air Purifier Line

**1. Executive Summary**

Perfect Purifiers LLC plans to launch a redesigned line of HEPA air purifiers that addresses key customer pain points in the current market. The new product line—comprising Basic, Better, and Ultimate models—aims to enhance air purification performance while reducing ozone emissions, noise, and maintenance burden. The business case supports investment in this initiative based on strong market demand, projected returns, and alignment with company strategy.

**2. Problem Statement**

Existing HEPA air purifiers fail to eliminate VOCs, odors, and viruses, produce ozone, require frequent costly maintenance, and offer limited room coverage. These issues present both a risk and an opportunity. PP LLC has the expertise and capability to develop a product line that addresses these gaps and differentiates itself in a growing market.

**3. Strategic Alignment**

The new purifier line supports PP LLC’s vision of improving indoor air quality while expanding its market share and strengthening its brand reputation. This initiative directly contributes to:

* 25% increase in revenue
* 10% market expansion
* 50% reduction in product returns

**4. Market Opportunity**

The air purifier market is projected to grow from $7B (2023) to $13.4B by 2030 (CAGR: 11.4%)

Rising consumer concern about air quality presents a timely opportunity

No competitor currently solves all top pain points in a single product line

**5. Proposed Solution**

* Develop and launch three new HEPA purifier models:
* Basic: Reduced noise and ozone-free
* Better: Adds improved motor for expanded coverage
* Ultimate: Adds filter longevity, odor control, and air freshener module
* Each unit will integrate at least five prioritized features based on customer feedback and engineering feasibility.

**6. Project Scope & Timeline**

* Design Phase: Jan–Feb 2026
* Development Phase: Mar–May 2026
* Beta Testing: June 2026
* Launch Goal: End of Q2 (summer season launch)

**7. Financial Analysis**

| Metric | Value |
| --- | --- |
| Initial Prototype Cost | $80,000 |
| Annual Returns (2 Years) | $200,000/year |
| Total Return | $400,000 |
| Total Net Return | $320,000 |
| Payback Period | 2.14 years |
| Return on Investment (ROI) | 400% |
| Internal Rate of Return (IRR) | 200%+ |
| NPV (10% Discount Rate) | Positive |

*Note: Initial $30,000 funding covers Conceive & Plan phases; full development requires an additional $50,000.*

**8. Risk Assessment**

| Risk Category | Description | Mitigation Strategy |
| --- | --- | --- |
| Engineering Delays | Prototype development may take longer | Dedicated project manager and weekly check-ins |
| Supply Chain Issues | Component shortages or delivery delays | Early sourcing; backup suppliers |
| Cost Overruns | Design or material costs may exceed estimates | Phase budgeting with contingency buffer |
| Channel Pricing Fluctuation | Retail/wholesale channel cost increases | Use multiple distribution models (retail + online) |

**9. Key Performance Indicators (KPIs)**

* Market share (pre- vs. post-launch)
* Sales revenue
* Customer satisfaction (CSAT)
* Product return rate
* Filter repurchases rate

**10. Recommendation**

Proceed with product development and allocate remaining funding to support design, engineering, testing, and launch preparation. The business case demonstrates a strong ROI, market fit, and strategic value to PP LLC.