



LightForge AI

Affordable On-Premise Computer Vision for SMB Manufacturing Defect Detection



Mission

To empower small and medium-sized manufacturers with affordable, cutting-edge computer vision solutions that enhance quality control, reduce defects, and drive operational efficiency through complete, on-premise, AI-driven systems.



Vision

To democratize advanced manufacturing technologies, creating a future where every factory, regardless of size, harnesses the power of artificial intelligence and automation to deliver flawless products and sustainable growth.



Problem

- Manufacturing defects cost over **\$1T annually** in the US.
- Cost of Quality is estimated to be 20% of total sales.
- Existing enterprise computer vision solutions have **\$100K+ setup fees** and are designed for large manufacturers, leaving **SMBs underserved**.
- **Manual quality inspection is slow, error-prone, and misses 30% of defects.**



Problem



Miss 30% defects

Manual Inspection is
slow and incorrect



20% of sales

Cost of Quality (~\$1T
for US Manufacturing)



\$100k

Existing enterprise
solutions initial cost,
prices out most
SMBs

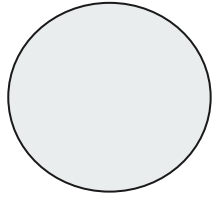


Solution

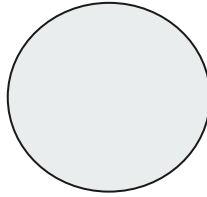
- **Complete, affordable defect detection solution** for SMBs.
- Includes camera installation, edge processors, a simple UI, and AI-based defect detection.
- **\$2,500 setup fee + \$499–\$1,999/month** subscription (10x cheaper than enterprise solutions).
- **No technical expertise required**; two-week installation with full training.
- Micro-models -
- Expected gross margin: 75%+



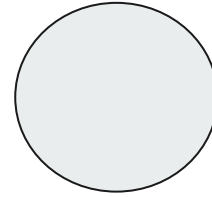
Solution



Complete solution for SMBs.
Includes Camera, AI hardware
and Simple UI



**Affordable solution - 10x
cheaper**



Micro Models - Modular, light
weight and **customer specific**.
2 week deployment.



Market Opportunity

- **Manufacturing quality control market** is worth \$5b in the US.
- SMBs represent a significant market segment, often ignored by existing providers.
 - 50,000+ SMBs in US alone
- Opportunity to dominate a market gap by offering cost-effective, scalable defect detection.
- With incoming administration, the US Manufacturing reshoring gains momentum
 - Companies must **focus human labor on value-added tasks** like production, while **automating inspection** for speed and consistency.



Technology

- **Edge processing** for real-time, low-latency inference directly on the factory floor, without internet dependency.
- AI-driven **object detection, image classification, and anomaly detection** customizable for different manufacturing lines.
- **Integration-ready** for seamless adoption into existing workflows with minimal downtime.



Business Model

Setup Costs

\$2500

Monthly
Subscription

\$499-\$1999

Gross Margin

>75%

Subscription cost depends on the model complexity and training required



Business Model

- **One-time setup fee:** \$2,500.
- **Monthly subscription pricing:** \$499–\$1,999, depending on deployment size and feature set.



Competition

Competitor	Platform	Cost	Cloud Dependency	Ease of Use	Deployment
Keyence/Cognex	Cloud-based	\$100K+	Required	Complex	3-6 weeks
Other companies	On-prem	\$100k+	None	Complex	3-6 weeks
Vision AI	On-premise, edge	10x cheaper	None	Simple UI	2 weeks



Go-to Market

- Start with **pilot deployments** targeting **semiconductor and electronics SMBs**.
 - Focus primarily on Austin, Dallas and San Antonio area
- **Partner with industry associations** for distribution.
- Direct outreach and targeted marketing to **SMB manufacturers** with immediate quality control pain points.



Traction

- MVP ready
- Workflows for different use cases is ready
- Initial UI ready
- Early conversations with potential clients or partners.



Team

- Currently led by Abdul Shaik, an experienced professional with 8+ years in the manufacturing industry.
- Proven track record at Toyota, Peloton, and Applied Materials with a focus on process optimization and quality control.
- Certified Six Sigma Black Belt, bringing expertise in lean manufacturing and defect reduction.
- Actively seeking a co-founder or key technical partners with expertise in:
 - Computer vision and AI deployment for edge devices.
 - Hardware integration and industrial automation systems.



Ask

- Seeking **\$1M** in seed round to fund product development, pilot programs, and initial scaling.
- **Strategic partnerships** with technology providers or manufacturers for faster market access.
- Use of funds:
 - Hire 1 ML engineer and 1 controls engineer
 - Infrastructure for quick model deployment

The Problem: Manufacturing Defects

\$1T

Annual cost of manufacturing defects in the US

20%

Cost of Quality as a percentage of total sales

\$100K+

Setup fees for existing enterprise computer vision solutions

30%

Percentage of defects missed by manual quality inspection