

RETURN ON INVESTMENT

The SR-1 delivers a rapid and superior ROI over traditional hard-guarding and light curtain setups by **eliminating physical barriers, enabling flexible automation, and maximizing machine uptime**, all while ensuring **certifiable safety** in complex, dynamic environments.

Traditional Safety (Baseline Comparison)

- **Hard guards, fencing, and interlocks:** ~\$20K to \$40K per cell (not including floor space costs)
- **Light curtains/scanners:** Additional \$10K to \$25K per cell
- **Fixed layouts:** Costly to reconfigure (engineering, downtime)
- **Safety + productivity tradeoff:** Cannot allow human and robot coexistence without interrupting production

SR-1 ROI Advantages

1. Increased Uptime = Revenue

- **No unnecessary stops:** Unlike traditional systems that stop on entry, SR-1 intelligently differentiates people vs objects and enforces protective zones dynamically.
- **Faster resets:** No need to clear fences or open gates.
- **Estimated gain:** +5 to 10% cell uptime = \$25K to \$50K annual productivity boost (depending on application)

2. More Floor Space Saved = Cost Avoided

- No fences means tighter cell design and better floor utilization.
- Avoided cost of 50 to 150 ft² per cell @ ~\$100 to \$300/ft² (real estate, opportunity cost)
- **Reconfigurable cells:** No rip-and-replace every time the line changes = future-proofing automation

3. Lower Engineering & Maintenance Overhead

- Traditional guarding requires:
 - Custom design, mechanical install
 - Regular maintenance, safety validation
- SR-1 requires:
 - One-time 3D calibration + software updates
 - No moving parts to fail or misalign
- **Estimated savings:** \$5K to \$10K/year in engineering hours and maintenance

4. Reduced Downtime from False Trips

- Light curtains and scanners are notorious for false stops due to debris, reflections, or improper alignment.
- SR-1's 3D detection reduces these nuisance stops while improving actual safety coverage.
- **Avoided downtime:** 60 to 600 minutes/year = ~\$20K to \$40K saved, depending on process cost/hr

5. Faster Time to ROI on CapEx

- Even conservative estimates show payback within 12 to 18 months, vs. traditional systems that may never "pay back" their limitations.

6. Multiple Robot Coverage

- As long as the robots are within view of the sensors, SR-1 can cover up to three robot installations with one system with little additional cost.

ROI Example Calculation (High-Mix, Robot Cell)

Factor	Traditional Safety	SR-1
Upfront cost	\$30 to 50K	\$62K
Downtime / year	80 hrs (\$200/hr) = \$16K	20 hrs = \$4K
Flexibility cost (reconfigurations)	\$15K/year	\$0 to 5K
Lost productivity (interlocks/fencing)	\$25K/year	\$0
1-year ROI	N/A	+\$25 to 60K

Strategic Benefits (Beyond ROI)

- Supports collaborative automation (coexistence of people + robots)
- Speeds up deployment cycles
- Eases compliance with evolving safety standards (e.g., ISO 10218, PLd Cat. 3, UL)
- Unlocks automation in places where fencing is impractical (e.g., mobile AMRs, large parts)