The SSL Sub-Program focuses its efforts on accelerating innovation and product development, improving product efficacy and performance, reducing manufacturing costs, and overcoming technical challenges that inhibit market acceptance.

External Influences: DOE budget, Spin-off products, Electricity prices, Private sector R&D, Market incentives, Legislation / Regulation

Objectives	Activities / Partners	Outputs	Short Term Outcome	Mid-Term Outcome	Long Term Outcome
Improve performance & cost of SSL technologies, products & manufacturing.	Competitive & shared R&D by researchers in lab / test facilities	Research reports Prototypes to fill technical gaps (materials, devices,	Lighting industry equipped with validated solutions to address technical / quality	ighting industry equipped tith validated solutions to ddress technical / quality ssues & reduce cost of SL technologiesLighting industry develops more high- efficiency, low cost SL technologies & improves commercial viability of products.Manufacturers aware of igh performing SSL roducts & equipped with roduction solutionsManufacturers produces technologies & improves commercial viability of products.Manufacturers, retailers, E programs / Bldg. odustry have resources to ifferentiate SSL product uality, control, erformance & cost- ffectivenessManufacturers produce improved SSL products & a treduced costs & bring them to market.takeholders aware of SL products & status of ne marketE Programs, building industry, & government support & push advanced SSL products in the market.	High-efficiency solid state lighting products are regularly innovated by industry; widely installed by consumers; & have a similar or better life- cycle cost but higher efficiency with less environmental impact relative to conventional light sources.
	Shared field testing R&D in applications with industry	luminaires) Sensing & control architecture	issues & reduce cost of SSL technologies		
	Manufacturing R&D & cost reduction with industry	LED & OLED product cost & performance data (e.g. prices, efficacies)	Manufacturers aware of high performing SSL products & equipped with		
Advance awareness of needed product improvements Accelerate technology advances through stakeholder engagement	LED & OLED product testing in national lab & independent lab facilities	Advanced manufacturing solutions	production solutions Manufacturers, retailers, EE programs / Bldg. industry have resources to differentiate SSL product quality, control, performance & cost- effectiveness Stakeholders aware of SSL products & status of the market		
	Support of web-based listings of verified LED performance data, resulting from manufacturer	CALIPER quality test reports LED product validation via LED Lighting Facts® list GATEWAY demo performance reports Market reports / outreach workshops New product benchmarks & industry recognition: • Next-Gen Luminaires™ for commercial LEDs • The L Prize®			
	Outreach to stakeholders with				
	Information & workshops				
	with market research / studies		Lighting industry has incentive to accelerate high efficiency SSL product innovation	Increase in lighting industry R&D capabilities & funding	
	Technology competitions to promote private R&D				
Meet cost & of reducing	performance targets by 2020 to enabl lighting EUI 80%	e technologies that will be capable	Enable the developme technologies that will b reducing bldg. EUI 309	nt of cost-effective be capable of % by 2020	Reduce EUI in all bldgs. 30% by 2030

## Solid State Lighting Research and Development Logic Model

OBJECTIVE	ACTIVITIES	KEY OUTPUT	SHORT-TERM OUTCOME	MID-TERM OUTCOME	LONG-TERM OUTCOME
					pdated Dec. 2015
Reduce cost and develop next-gen SSLs	LED and OLED R&D	Next-gen prototypes			5
	Field test of SSLs	SSL performance reports	Cost- competitive, high- performing SSLs	More cost- effective products in the market	Accelerated high performing
	Manufacturing cost reduction R&D	Validated cost reduction methods			
Increase market knowledge	Host industry competitions	Product benchmarking & industry recognition	Increased market incentives	Increased private R&D dollars	SSL market growth
	Support & outreach to stakeholders	Analysis-based educational material	Increased product awareness		

## **EXTERNAL INFLUENCES**

- DOE Budget
- Spin-off Products
- Market Incentives
- Legislation / Regulation
- Electricity Prices
- Private R&D