When the Road Fades, Luxene Provides Guidance in the Dark

Dutch deep-tech startup launches to make roads safer while preserving the planet

EINDHOVEN, The Netherlands — 1st of September 2025 — At night, when roads fade into darkness and rain blurs the markings, orientation becomes fragile. It is in these vulnerable moments that many of the most serious accidents happen. Luxene, a new Dutch startup, is introducing a breakthrough in road safety: replacing traditional reflective road markings with continuous light lines that remain visible in all conditions, while preserving the normal reflective behaviour drivers are accustomed to.

No electronics in the road surface. Luxene keeps all active components out of the roadbed, making the system, far more reliable, easier and safer to install and maintain over time.

Traditional road markings work by reflecting headlights, but their visibility is limited, especially in rain when wet surfaces scatter the light. This is when orientation is lost and accidents occur. Luxene transforms the concept of road marking by making it actively luminous: clear lines of light embedded directly into the road that guide users continuously, even in the harshest weather, while still functioning as reflective markings.

Earlier concepts explored embedding electronics in the road surface or using glow-in-the-dark (*photoluminescent*) coatings. Each moved the field forward, yet in day-to-day operation these approaches can face challenges, electronics in asphalt are exposed to moisture, vibration and thermal cycling, while photoluminescent coatings can deliver variable visibility over time. Luxene builds on these lessons with a different architecture: no active electronics in the road; serviceable components are housed off-road.

“We don’t want to flood the night with more light. We want to quietly guide people where they feel most exposed, with a fraction of the energy and almost no impact on nature,” says Maarten Tobias, CEO and co-founder.

Luxene’s proprietary solution makes infrastructure both safer and more sustainable:

- Replaces passive reflectiveness with active light guidance, while retaining normal reflective behaviour
- Consumes significantly less energy (-30%) than mast lighting, lowering both costs and CO_2 emissions
- Cuts maintenance and material waste by up to 80%
- Emits minimal light pollution, preserving dark skies and biodiversity
- Uses sustainable, modular components designed for circularity

The result is not just safer travel, but also cleaner skies, quieter nights, and infrastructure that preserves its surroundings as much as it preserves lives.

Deep-Tech Pioneers with Corporate Expertise

Luxene is founded by Maarten Tobias, Bas Boggemann, and Anne Renkema. Together they combine the agility and ambition of deep-tech venturing, proven in building Dimenco into an award-winning and successfully exited global technology company, with the scale and systems knowledge gained at corporates such as Philips, Signify, and Heijmans. This unique blend of

entrepreneurial drive and corporate experience forms the foundation for Luxene's mission: applying high-tech precision to one of humanity's oldest needs, guidance in the dark.

Pilots in 2026, Commercial Launch to Follow
Luxene is preparing customer pilots with Dutch municipalities starting in early 2026, focusing first on cycling paths and rural roads. A broader product release is planned for the end of 2026, followed by further commercialization and expansion into additional markets including smart cities, airports, and industrial campuses in 2027.

Luxene is actively seeking partners committed to safer, cleaner, and more future-proof transport systems to join in this rollout.

About Luxene
Luxene develops intelligent, energy-efficient linear lighting systems that replace traditional reflective markings with luminous guidance lines while keeping all active electronics out of the road surface. These markings continue to function normally as reflective paint but add a new layer of continuous visibility that remains clear in rain and darkness. Luxene's mission is to enhance orientation, safety, and sustainability through technology that provides guidance in the dark, while preserving the night sky and reducing environmental impact.

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