BIKE LANE INSPECTION

For more comfortable and safe traffic lanes



Setting New Standards for Safe Traffic Lanes

XenomatiX cutting-edge lidar technology performs thorough and insightful bike lane inspections.
By identifying defects and potential hazards on the pavement, our innovative approach involves assigning a quality rating to each bike lane, along with recommendations for essential repair methods.



While our solution initially focused on bike lanes, it has since expanded to encompass all types of traffic lanes.

DIGITIZE ANY TRAFFIC LANE

XenomatiX pavement inspection solution is versatile and can be implemented across a range of trails and lanes.

- Bike Lanes
- Pedestrian **sidewalks**
- Urban roadway
- Touristic city centers
- Recreation lanes. i.e. jogging lane
- Towpaths along rivers and canals



Digitizing traffic lane with XenoBike

What is XenoBIKE

XenoBike is a turnkey solution for state-of-the-art pavement inspection, based on the innovative road lidar system, XenoTrack. This laser-based technology scans any narrow lane in great detail, revealing all possible defects and dangers. The obtained digital model is analyzed to give the path a quality label but to also reveal the nature of defects and required repair methods in case of poor quality.

XenoBike is a complete solution equipped with the following:
XenoTrack, road **lidar** to digitally map the surface; a 12-megapixel **camera** to capture HR images; an RTK **GPS/IMU** for precise location data; and the **wheel encoder** for data reliability.
In addition, a **box** to securely store equipment; a **tablet** for a user-friendly interface, and **warning labels** for enhanced safety during rides.



XenoTrack
3D Lidar

XenoCam
2D Camera

RTK GPS/ IMU

Wheelencoder

Box & Tablet

Warning labels

XenoTrack

XenoTrack is a true-solid-state lidar. It provides high-resolution surface measurements that are millimeters accurate, detecting even the most superficial road distress, ensuring detailed safety-centric quality inspection.

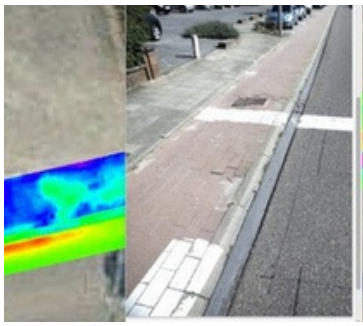


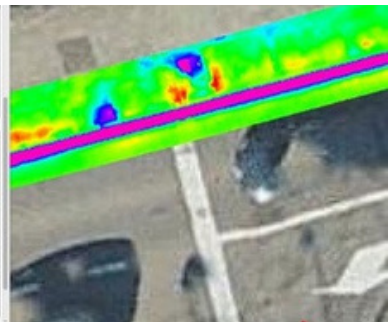
Benefits of analysing traffic lanes with XenoBike











XenoBike features

- Wide 86 cm, the vehicle can **measure any road lane** up to 4m wide.
- Collects data at variable speeds, including start and stop
- Powered by a battery, XenoBike enables eco-friendly and efficient data collection
- No need for a driver's license.
- Operates on any pavement type: asphalt, concrete, dirt roads, gravel, bricks, and more.
- Automatic and rapid post-processing, adhering to pre-defined quality metrics
- Accurate 6D model and 16+ objective characteristics
- Delivers a comprehensive digital pavement model encompassing 3D geometry, markings, and 2D photos.
- Provides precise localization in a world coordinate system.
- Seamless integration with your Project Management System (PMS) or Geographic Information System (GIS)

Who is using XenoBike?

XenoBike is used among roadauthorities,surveyors, and XenomatiX engineers. **Road authorities and surveyors buy Xenobike to conduct in-depth analyses of bike lanes aiming to enhance overall the conditions of bike lanes.** Meanwhile, XenomatiX engineers, commissioned by these stakeholders, rely on XenoBike to perform precise measurements, providing essential data for planning. In the hands of these professionals, XenoBike emerges as a key instrument, facilitating the meticulous examination and optimization of bike lane infrastructure.

Available Formula

BUY

SERVICE

Belgian Road Research Centre
Together for sustainable roads

AGENTSCHAP WEGEN & VERKEER

Vlaamse overheid

What do you get with XenoBike?

XenoBike offers a wealth of data, empowering you to conduct a thorough analysis of pavement conditions. Here are a few examples of the valuable insights you can extract:

3D HEIGHT MAPS Gain detailed insights through a 3D surface model and color-coded pavement model, revealing intricate geometry for comprehensive evaluation.

INTENSITY MAPS Utilize ortho-projected, gray-scale road images to uncover pavement markings and variations in material, providing essential details for a comprehensive assessment.

2D COLOR IMAGES Access high-resolution color pictures for visual checks, offering a clear and detailed view of the pavement condition.

IRI OR EC0.5 AND EC2.5 Quantify unevenness with precision, using indices such as IRI (International Roughness Index) or EC0.5 and EC2.5, serving as crucial measures for both comfort and safety evaluation.

CRACK, POTHOLE AND OBSTACLE DETECTION Identify the location, quantity, and severity of cracks, potholes and other obstacles providing insights crucial for strategic repair planning and ensuring a smoother, safer road for all users.

Optional:

BIKE LANE SLOPE Consider the longitudinal slope of the bike lane, an important factor for attractiveness and overall comfort during cycling.

BIKE LANE WIDTH Evaluate the usable width of the bike lane, a critical safety measure ensuring optimal conditions for cyclists.

BIKE LANE BANKING Assess the lateral slope of the bike lane, emphasizing its critical role in safety measures and ensuring a secure cycling environment.

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