KLEARVIEW 360

For HIGHWAYS - Automated defect recognition and surface analysis

KLEARVIEW360
Machine Learning and AI Tools

"Typically, to close a road and mark-out a 5km stretch of dual carriageway for defect repairs would take three shifts of 8 people and cost between £3k and £10k depending on the size of the job. Using the K-Matic Klearview functionality, we can now achieve the same amount of work in just one shift saving us around £20k on each 5km stretch."

Mike Ambrose, Technical Lead, National Highways

CAPTURE

Capture data from mobile mapping systems to create the foundational dataset for analysis

Utilising high-resolution imagery and 3D point cloud data to automatically identify objects and detect defects

ANALYSE

Revolutionising data analysis through state-of-the-art machine learning and AI algorithms

Combining and evaluating complex geospatial data from various georeferenced sources

Employing AI and machine learning algorithms for automated analysis particularly focused on examining surface defects

Acquiring valuable insights into the highway's condition that may remain concealed to the naked eye

RESPOND

Single and cohesive view of diverse datasets and surveys
Facilitate collaboration, knowledge sharing, and decision-making across departments and stakeholders

EMPOWERING YOU WITH NEXT GENERATION SOLUTIONS TO UNLOCK THE POTENTIAL OF YOUR GEOSPATIAL DATA

Developed by K-MATIC
KOREC Group Company

KLEARVIEW Overview 360

The KLEARVIEW360 AI and Machine Learning tools for HIGHWAYS is a simple and intuitive interface, exclusively designed in collaboration with National Highways UK

Examples of data derived from the AI and Machine Learning Tools

- **High Resolution Ortho:** High resolution Ortho image for detailed analysis of the highway surface using a machine learning based defect analysis tool
- **Intensity Ortho:** Generate an ortho image representing the intensity values extracted exclusively from points classified as part of the road area within the point cloud
- **Inverse Ortho:** An ortho image displaying the depth of road defects, computed by leveling depressions on the road surface from the digital surface model, thereby providing AI-based defect analysis with quantitative metrics to extract, assess, and quantify defect severity
- **Slope Map:** An ortho image revealing variations in slope within a digital surface model, derived exclusively from points classified within the road area of the point cloud. This visualisation is particularly useful for highlighting road surface textures and defects that may not be visible in standard imagery or the inverse ortho image:
- **Flow Map:** An ortho image depicting the flow of surface water across the roadway, designed to emphasise areas with a potential risk of water pooling along the road. This image is generated by analysing the digital surface model using points exclusively classified within the road area of the point cloud
- **Ground Penetrating Radar (GPR):** Import geo-referenced externally captured GPR data to help provide additional information for analysis and decision making by identifying potential subsurface utilities, voids/subsurface deformation and road material thickness
- **High Risk Map:** A tool to create vectorised polygons to delineate high-risk zones through analysis and assigning depth values to the data generated in a spatial manner using

BUSINESS BENEFITS

Improved efficiency and productivity

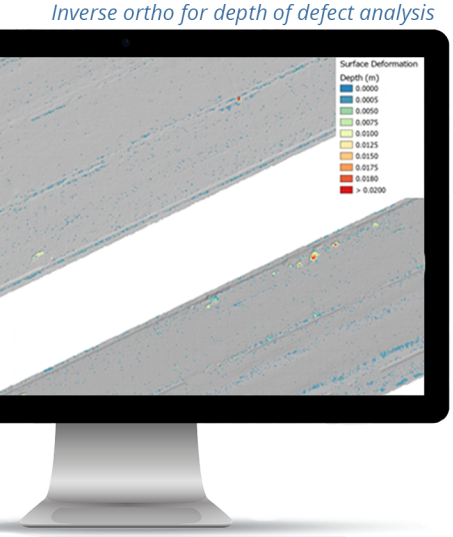
Enhanced decision-making

Cost savings

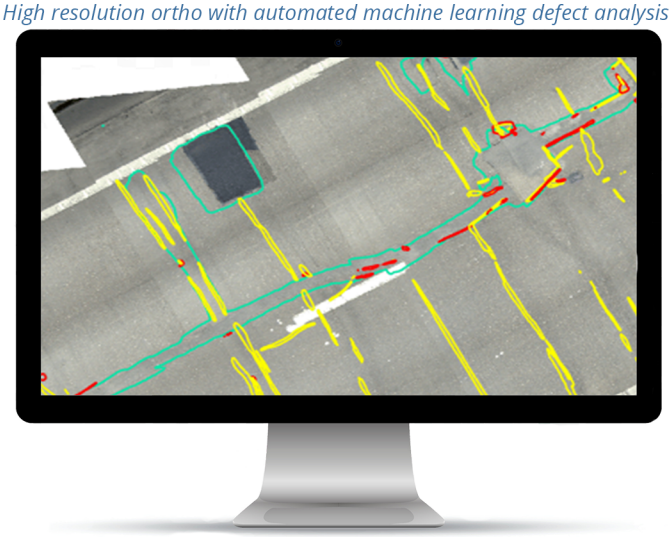
Competitive advantage

Improved collaboration and stakeholder engagement

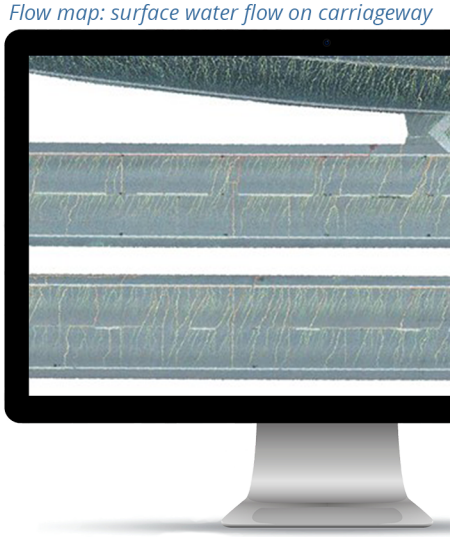
Inverse ortho for depth of defect analysis



High resolution ortho with automated machine learning defect analysis



Flow map: surface water flow on carriageway



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KOREC MAPPING

For latest and/or more detailed product features, please contact KOREC K-MATIC's distribution partner in the UK and Ireland.