

PREFACE

Urban development is critical to modern society's progress, especially in residential areas. With a focus on improving the quality of living and sustainable growth, the town planning process becomes paramount. Our project, "Development of a Geo-Enabled Portal for Monitoring & Maintaining the Medium Density Residential Standards for Meraetai, New Zealand," aims to revolutionise managing and monitoring residential spaces, particularly in medium-density housing.

Meraetai, New Zealand, a vibrant suburban community, exemplifies the dynamic nature of urban expansion. With its unique blend of natural beauty and urban amenities, Meraetai attracts residents seeking an elevated quality of life. However, rapid urbanisation challenges maintaining the equilibrium between development and preserving the essence of community living. This project endeavours to address these challenges through innovative technological solutions grounded in comprehensive town planning principles.

The initial phase of our project involved leveraging cutting-edge technologies such as deep learning algorithms and Light Detection and Ranging (LIDAR) data to extract precise building footprints and height information. By combining these datasets, we obtained a comprehensive overview of the existing urban landscape in Meraetai. Furthermore, we meticulously compared the extracted data with the Medium Density Residential Standards for Auckland protocol, ensuring compliance with the regulatory framework to foster sustainable development practices. This step guarantees adherence to legal requirements and is a foundation for fostering community-centric growth.

The importance of town planning must be balanced in the context of managed spaces. Effective urban planning shapes the physical environment and influences social dynamics and quality of life. By developing a geo-enabled portal, we aim to empower stakeholders with real-time insights into the evolving urban landscape, facilitating informed decision-making and proactive intervention when necessary.

Quality of living in managed spaces is intricately linked to the synergy between infrastructure, amenities, and community engagement. Through our project, we aspire to enhance this synergy by providing a platform that promotes transparency, accountability, and collaboration among all stakeholders involved in the urban development process.