

Project 2.02 | Feature Extraction from Multi-Source Airborne and Space-Borne Imaging and Ranging Data

Project Leader Dr Chunsun Zhang, RMIT University, chunsun.zhang@rmit.edu.au

Research Team Dr Mohammad Awrangjeb, Monash University, mohammad.awrangjeb@monash.edu; Mr Ebadat Ghanbari Parmehr, e.ghanbariparmehr@student.unimelb.edu.au; Mr Yuxiang He, y.he16@student.unimelb.edu.au; Mr Mohsen Azadbakht, m.azadbakht@student.unimelb.edu.au

Project Participants University of Melbourne

AAM, Fugro Spatial Solutions, Jacobs/SKM, RPS Group, Ergon Energy

Geoscience Australia, Dept of Environment & Primary Industries (Vic), Dept of Natural Resources & Mines (QLD), Land and Property Information (NSW), Landgate (WA)

Objectives

Automated feature extraction from airborne and space-borne imaging and ranging sensors for topographic mapping, geo-database generation and updating, and change detection

- Development of a new integrated data concept, the 3D Image, through improved data fusion of multi-source imaging and ranging data
- Development of functional models, algorithms, software systems and methodologies for efficient feature extraction from the 3D images
- Development of algorithms and modelling tools for automated building extraction and reconstruction

Outcomes

Improved methodologies, software tools and computational systems for metric processing of multi-source imaging and ranging data and efficient generation of 3D building models, leading to enhanced production rates for spatial database generation, GIS and 3D urban modelling