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SEERC

Possibilities of applying aerial survey using a helicopter for the purpose of OHL design and maintenance

4-16

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2. Application of the surveyed data – OHL modelling
3. Survey based design services
4. Conclusion

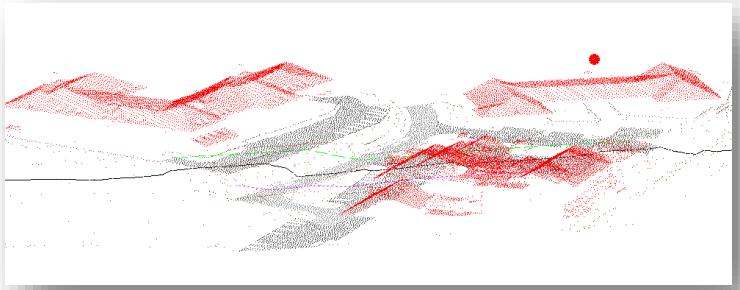
1. Aerial survey

- Helicopter-borne camera used for terrain survey

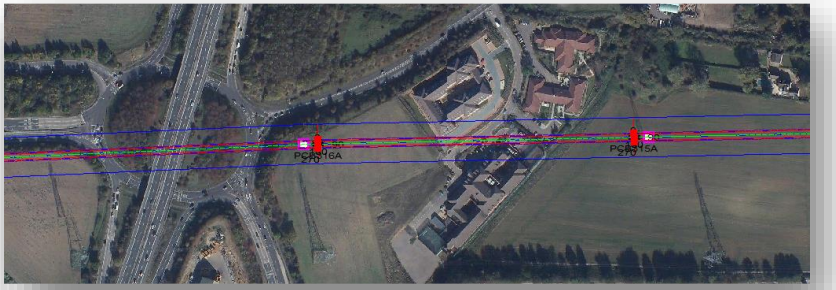
1. Aerial survey

- Various survey options:

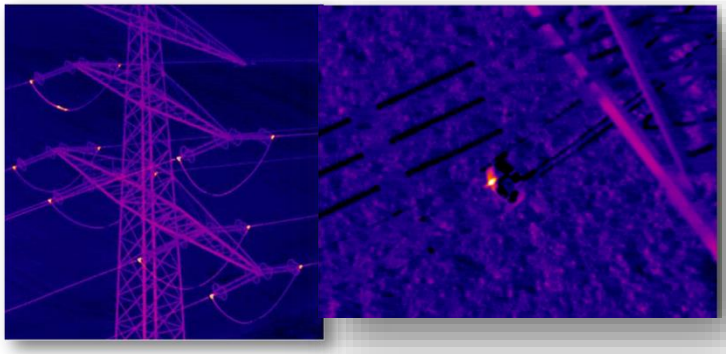
LiDAR



Digital orthophoto



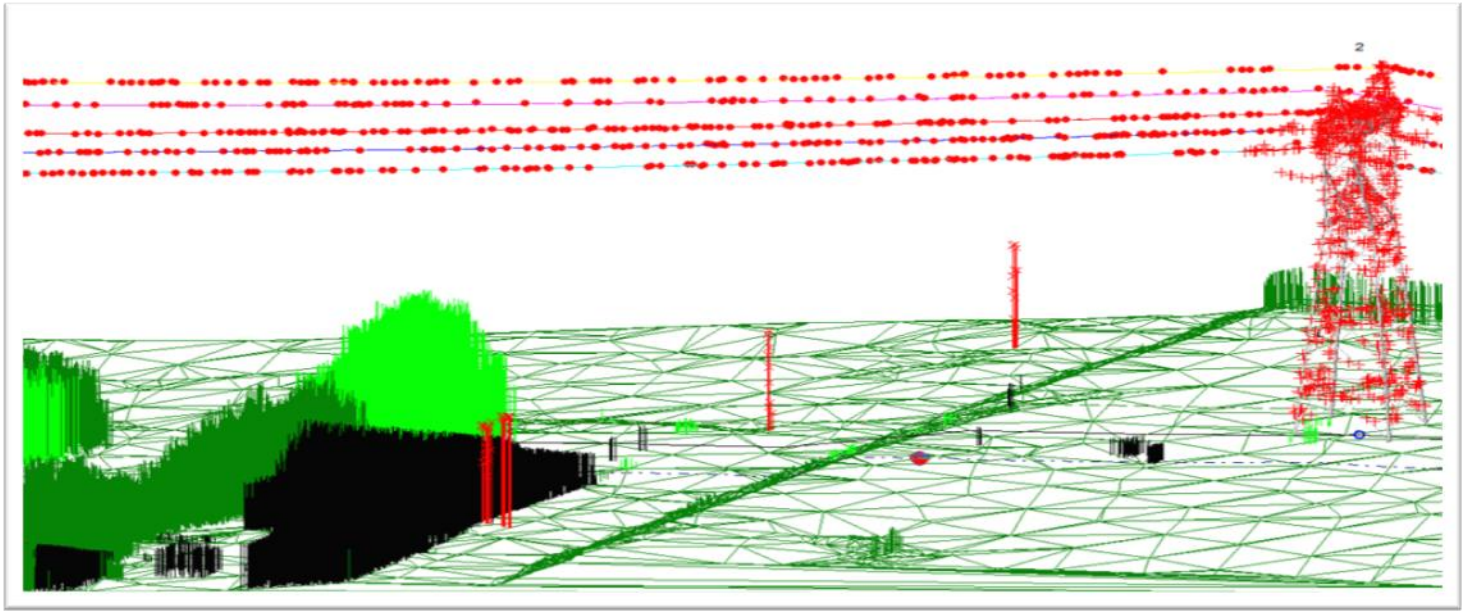
Thermovision



High resolution photo

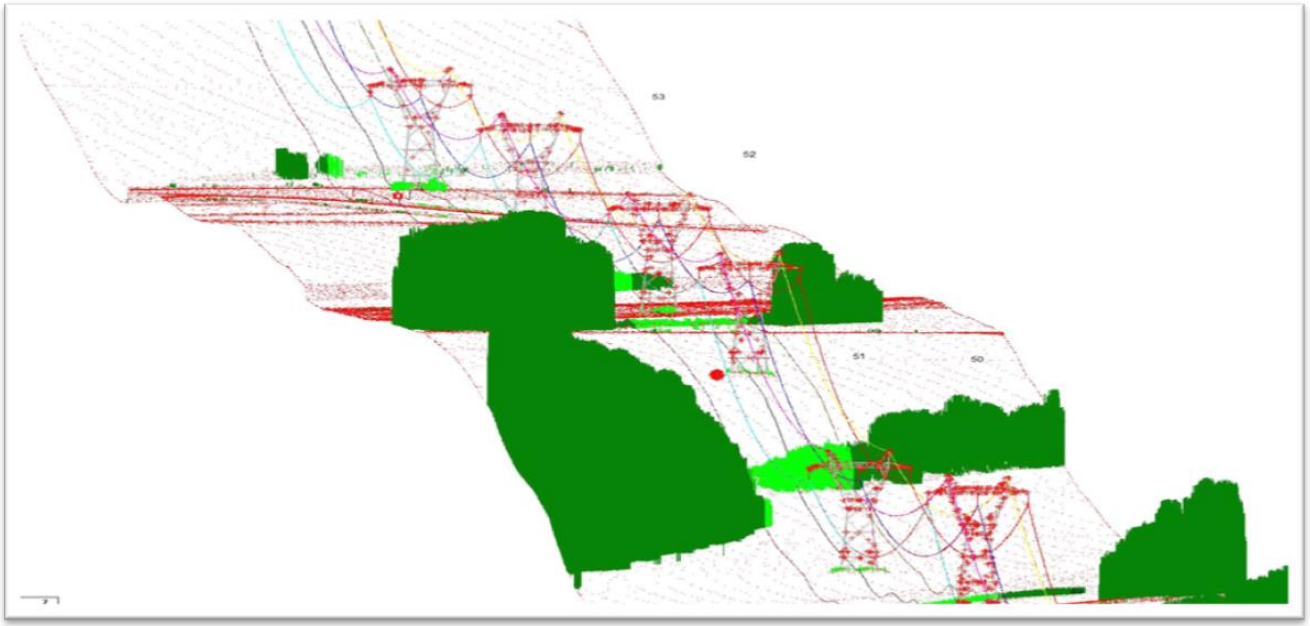
2. Application of the surveyed data

- Processing of the obtained data
- Development of a 3D model
- Geocoding of the model



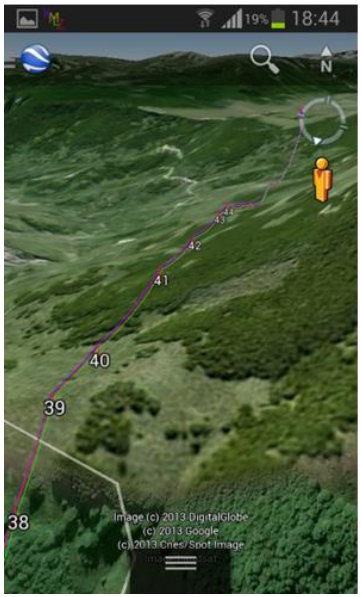
2. Application of the surveyed data

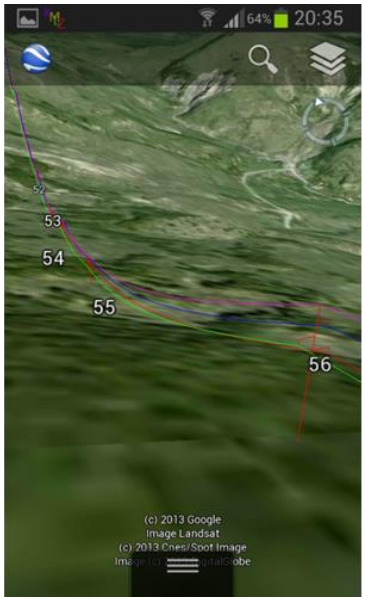
- Checks and calculations
  - Tower positioning and verticality
  - Conductor tension and position
  - Neighbouring infrastructure
  - Clearances



2. Application of the surveyed data

- Implementation of the developed 3D model into Google Earth

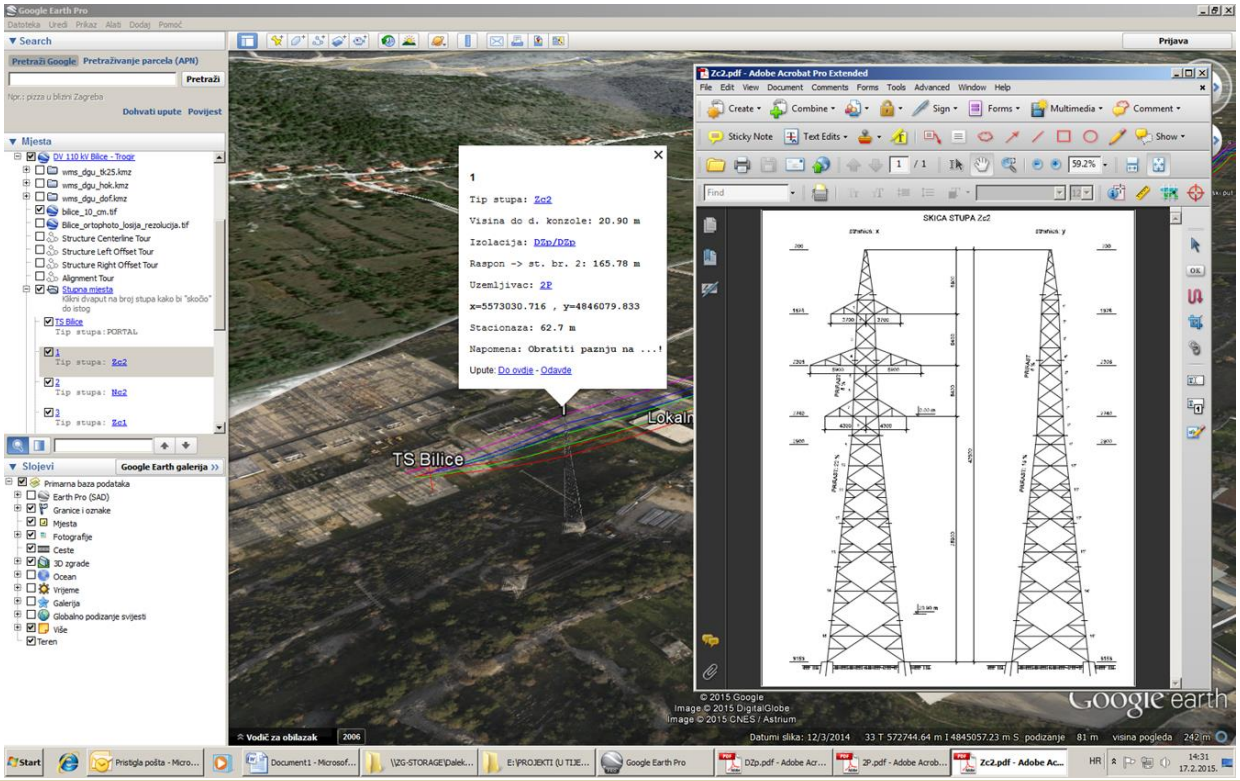




- Model synchronization with GPS devices
  - Site surveys (access roads)
- Availability of the model on tablets and smartphones
  - Practical application

2. Application of the surveyed data

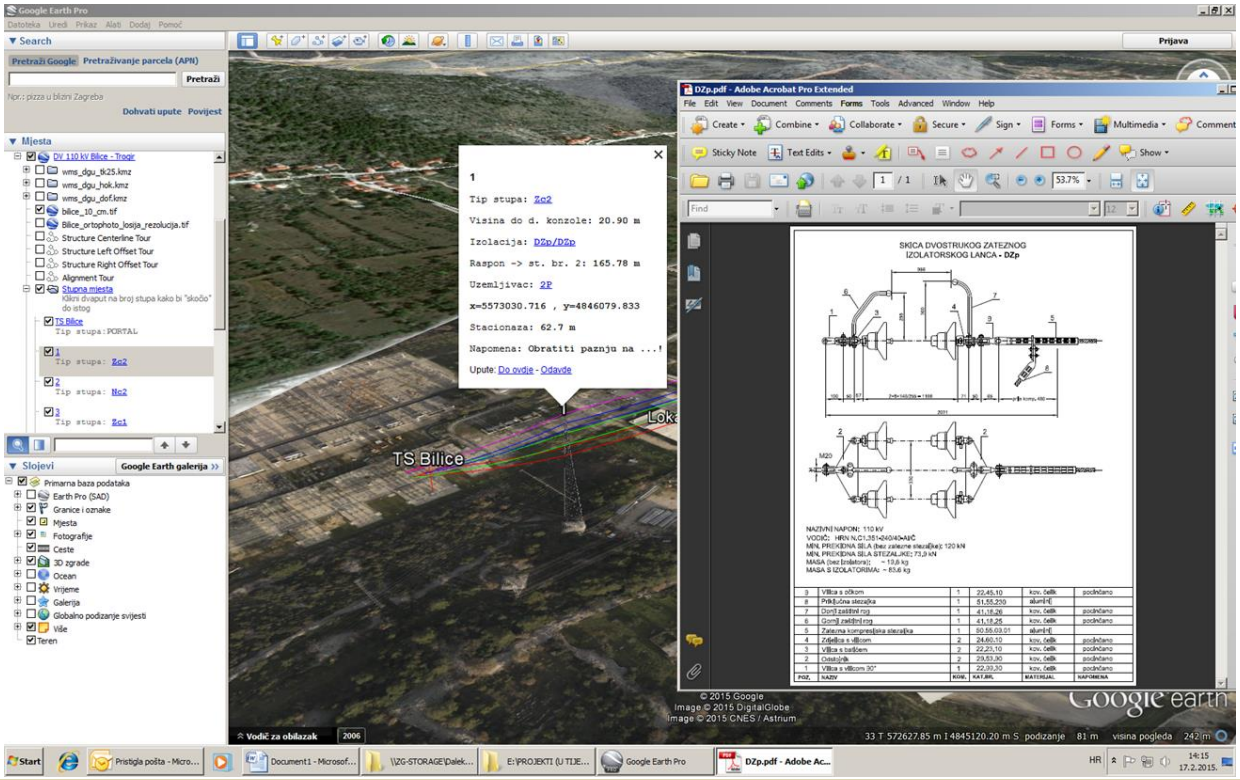
- Implementation of the developed 3D model into Google Earth



– Built-in equipment and tower data

2. Application of the surveyed data

- Implementation of the developed 3D model into Google Earth

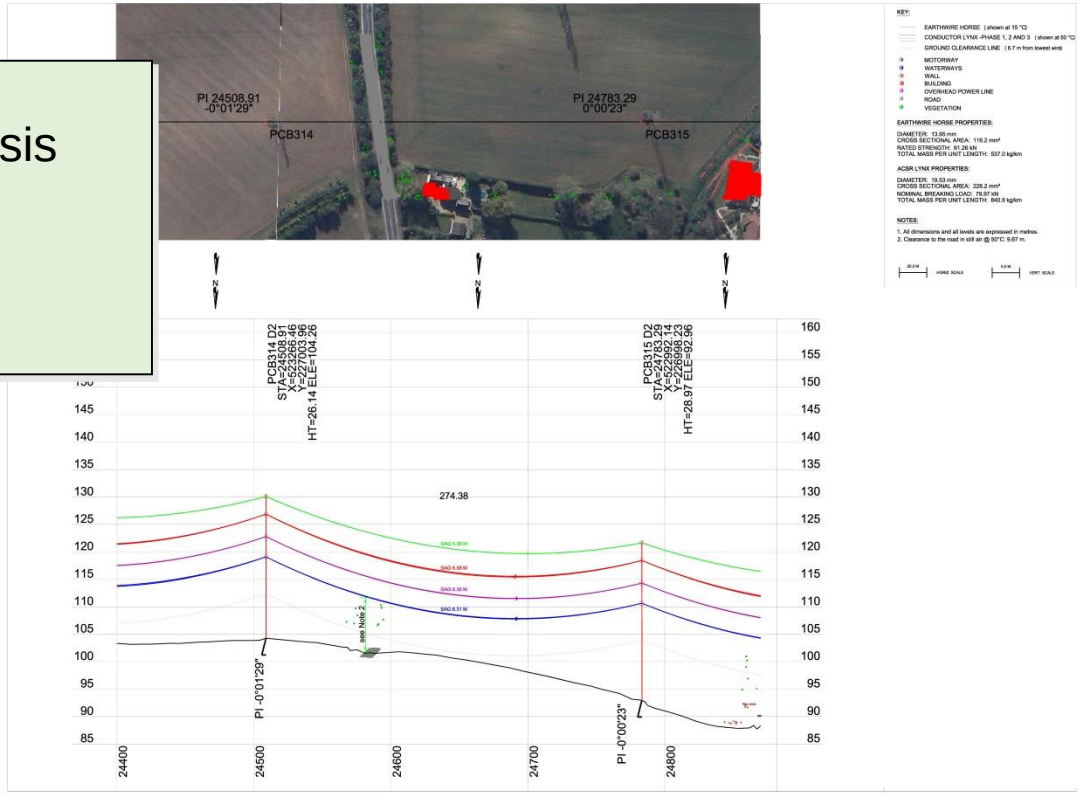


– Built-in equipment and tower data

3. Survey based design services

- A comprehensive design analysis based on the surveyed data and 3D OHL models

  - Existing condition analysis
  - Refurbishment list
  - Feasibility study
  - Detail design



3. Survey based design services

- A comprehensive design analysis based on the surveyed data and 3D OHL models

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- *Built-in equipment overview*
- *Clearance checks*
- *Identification of critical items and elements*

3. Survey based design services

- A comprehensive design analysis based on the surveyed data and 3D OHL models

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- *Based on:*
  - *Historical data*
  - *N-1 analysis*
  - *Economical data (i.e. Loss-of-load probability, operational costs..)*

3. Survey based design services

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- *Load flow calculation*
- *Conductor analysis*
- *Power loss analysis*
- *Calculation of costs*

3. Survey based design services

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- *Workshop drawings*
- *Detail checks and simulations*
- *Construction bill of quantities*
- *Line profiles and tower lists*

4. Conclusion

- Highly accurate 3D model that enables in-depth electrical and mechanical checks
- Possibility of comprehensive feasibility analysis and detail design checks
- Practical use – GPS navigation during site surveys
- Cost and time efficiency

Thank you for your attention!