















surrounding environment. For this reason, this work was designed to find out whether it is possible to use the camera subsystem of the robotic system to obtain environmental information and whether this method of measurement would be suitable for a wheeled or tracked robotic chassis.

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## REFERENCES

- [1] L. Kárník, *Practical applications of service robots* (2011)
- [2] J. Bartušek, *Mobile device for movement in dangerous environment* (2015)
- [3] Ch. Winkler, *Design Technology* [online] (2016)
- [4] *Sensors & Transducers*, **206** (2016)
- [5] M. Marcanik, J. Dvorak, *Use of 3D sensors for the protection of critical infrastructure elements and soft targets* (2015)
- [6] H. Foell, *MEMS Sensors and Actuators* [online]. (2011)
- [7] S.C. Islam, M. Herrmann, R. Beigang, *IRMMW-THz2007* (2007)
- [8] P. Skoupý, *3D optical measurement and scanning systems for engineering* (2007)
- [9] F. Brunet, *Contributions to Parametric Image Registration and 3D Surface Reconstruction* (2010)
- [10] W. Schroeder, K. Martin, B. Lorensen, *Visualization Toolkit: An Object-Oriented Approach to 3D Graphics* (2006)
- [11] M. Janková, J. Dvořák, *Mathematics, Information Technologies and Applied Sciences*, (2014)