Why geodesy is needed for monitoring, or why not

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Abstract:

Deformation monitoring based on multi-epoch network measurements and statistically strict testing for differences of network geometry was an important contribution of (engineering) geodesy to many application fields. It still is. But for many applications, data acquisition with a variety of sensors has become easy and cost effective. Solutions range from embedded and in-situ sensing via classical geodetic methods to air- and spaceborne remote sensing with sometimes highly automated processing pipelines. Machine learning already supports the data analysis and may soon bridge the gap between data processing and interpretation. What does this mean for geodesist? Should they "go with the flow"? Are their key competences not unique enough anymore or even becoming obsolete? In this presentation, I will try a high-level look at the development of the fields of deformation monitoring, and the role of geodesy.