

D. GRAU, W. DUKE. *Industry perceptions on the utilization of identification technologies during the life-cycle of capital projects.* *Gerontechnology* 2012;11(2):292; doi:10.4017/gt.2012.11.02.503.00 **Purpose** Our aim is to identify, investigate, and assess the industry perceptions, both in qualitative and quantitative terms, of the potential for implementing identification technologies by owner, contractor, engineering, and information technology (IT) developer organizations during the life-cycle of capital projects, including processes, benefits, barriers, and drivers considerations for such implementation. **Method** First, a literature review¹⁻³ and a series of interviews with industry experts with a relevant IT-background as well as with IT-developers and researchers was used to identify the processes, benefits, barriers, and drivers associated with the implementation of identification technologies during the life-cycle of capital projects. Second, a web-survey tool was utilized to collect the perceptions from 144 individuals affiliated with owner, contractor, engineering, and IT-firms, with IT-experience ranging from 1 to 20 years. Statistical analyses were used to characterize the perceptions of industry organizations. Follow-up interviews were used aimed at explaining and/or clarifying the questionnaire results. **Results & Discussion** Highlights of the results are characterized and discussed here. For instance, surveyed organizations shared a common opinion on (i) positive impact on key project delivery tasks and processes that could be brought to them by the adoption of identification technologies, and (ii) downstream positive impact of these tasks and processes during the live cycle of a capital project. The top processes with the highest level of combined impact, were, in this order: field materials management, construction supply chain management, and inspection and maintenance of capital facilities. However, notable differences are observed regarding the barriers and drivers as perceived by different types of organizations. Just as an example, IT-organizations consider that the availability of user-friendly IT-solutions is one of the major obstacles for the implementation of identification technologies, while this barrier ranks low from the point of view of owner and contractor organizations. Such organizations, indeed, aim at a large return on investment or at producing more work with fewer people. The study further discusses the relation between the types of the organizations and their perceptions on processes, barriers, and drivers.

References

1. Adriaanse A, Voordijk H, Dewulf G. Adoption and Use of Interorganizational ICT in a Construction Project. *Journal of Construction Engineering and Management* 2010;136(9):1003-1014; doi:10.1061/(ASCE)CO.1943-7862.0000201
2. Gordon C, Akinici B, Garrett J. The Need for Value Analysis and Planning for Effective Quality Control Technology Decision-making. *Proceedings for ASCE Towards a Vision for Information Technology in Civil Engineering*, Nashville; 2003
3. Vorster MC, Lucko G. Construction Technology Needs Assessment Update. *Construction Industry Institute Research Summary* 2002;173-11

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Table 1. Owner perspective of the ranking of improvement vs. impact of the adoption of RFID technologies

Rank	Management process
1	Field materials
2	Construction supply chain
3	Inspection and maintenance of capital facilities / infrastructures
4	Field tools
5	Field information flow
6	Operation of capital facilities / Infrastructures
7	Construction safety
8	Labor field
9	Construction health
10	Labor training and skills