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Representing Engineering Practice

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A t last year's SEFI conference we presented data on engineering workplace practice that came from an online survey of engineering alumni and we proposed that the social and technical nexus of engineering practice needs more research. This paper presents data from a triangulation process to validate our previous data whereby we interview practitioners in engineering companies about their workplace context and practice and we present preliminary results of this on-going research.

In addition, given that engineering is a visual culture, we discuss the need for models to visually represent engineering practice at the macro, meso and micro level and drawing on the work of Gibbons et al., James Trevelyan and Rachel Itabashi Campbell, as well as the empirical data we ourselves have collected, we make proposals for what such representations could look like.

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Subsequently, we describe the qualitative data gathering we are carrying out and share practitioners' experiences on issues relating to technical coordination and to professional judgment relating to delivery deadlines. The fact that our findings regarding the central role of technical coordination in the workplace practice of Portuguese engineers correspond with those reported for engineers in Australia would suggest that this is an important area for future study and is one which merits consideration in the design of engineering education curricula.

In our future research we hope to use empirical data to present further meso and micro models to expand the three-level representation of engineering practice presented here. ■