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Engineering education for sustainability: a multistakeholder case study on ICT and transportation

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Abstract-

Under the auspices of the Spanish Royal Academy of Engineering, a large group of academics, civil servants and industry professionals have thoroughly examined the sustainability of the current transportation model and the implications that Information and Communication Technologies (ICT) could have on increasing transportation sustainability. Based on this work, the authors have developed a model to integrate this subject in engineering education. The research found out the need for additional layers of complexity in the education of engineers. Specifically, engineers need to acquire the corresponding technical competences, the ability to apply them in transportation systems, the transversal integrated competences, and how all this relates to sustainability values.Truthful to their role in society, engineering schools should be centres of debate for the elaboration of technical solutions to current sustainability problems. In this paper the interplay between ICT, transportation and sustainability, has been analysed showing the role that engineering schools should play as scouts of the future and facilitators of social debate.

Index Terms- information and communication technologies (ICT); transport sustainability; transversal competences.

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