

6th German Conference on Rail Human Factors 18th/19th February 2025

Integrating non-technical skills in train driver continuous training and competency assessment

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Background. Non-technical skills (short NTS or NOTECHS) are generally defined as attitudes and behaviours of operational staff that are not directly related to technical skills (knowledge about technical systems, their control & related standard operating procedures). The term is often used interchangeably with “human factors”, “soft skills” or “crew resource management (CRM) skills”, although these are very distinct concepts. HF is generally understood a much broader term than NTS, considering the human element in interaction with the organisational system. Soft Skills and CRM skills are narrowed down to very specific work contexts such as an aircraft cockpit or an office. In railway operations the integration of human and organisational factor (HOF) requirements in the safety management system have only recently been mandated (EU Reg 2018/762). The application of NTS systems for training and assessment are one options to meet the regulatory requirements and enhance railway safety.

Method. Different industries such as aviation and healthcare have adopted the concept for pilots and cabin crew (Flin et al., 2003) and anaesthetists (Flin et. Al, 2017). The most common (classic) NTS are communication/ cooperation, decision making, stress and workload management and leadership and managerial skills. Technical and non-technical skills are interconnected and should therefore be trained and assessed in parallel through examination of observable outcomes, referred to as behaviour markers (Flin et al., 2003). The development and validation on non-technical skills and associated behaviour markers, typically describing positive and negative anchors for training and assessment, is complex and takes time. It requires a deep understanding of the workplace and related operational roles and responsibilities, in order to derive effective non-technical skills that can later be trained and assessed objectively in live operations.

This poster reports results of the development of four NTS and associated behaviour markers for Austrian railway drivers.

Results. The four NTS are based on the scientific literature provided by RSSB UK and the former Association of Train Operating Companies (ATOC, 2013). The four NTS are: self- management, workload management, situation awareness and communication. The NTS, associated behaviour markers, their relationship to technical skills and options to integrate them in the basic and continuous training and assessment for ab initios and licensed train drivers are presented.

Discussion. Allocation of NTS to technical skills and first experiences from test assessments will be shared and critically discussed. Participants are invited to share lesson learnt and experiences on-site.