Outcomes of Workshop 6A
Human and Organisational Factors

#CCRCC2019

EUROPEAN UNION AGENCY FOR RAILWAYS

- Raise awareness of Human and Organisational Factors in Automation leading to more realistic expectations:
    - See Automation as an enabler and not a replacement of humans. The aim of Automation should not be to remove individuals and thereby eliminate human error. The adaptability and resilience shown by human beings in correcting the system cannot be automated;
    - Consider the limitations of Automation e.g. Automation leads to less flexibility (see above), hidden costs of Automation, what happens when Automation fails?;
- Harmonise Human and Organisational Factor requirements (e.g. confusing DMIs for train drivers with frequent changes of information, action/no action required, colour);
- Consider the acceptance of ATO by the general public. Suggestion to keep some sections without ATO;
- CSM, guidance and sharing of best practices are necessary.

- Change management:
  - Ensure continued competence (including in degraded modes) by training, monitoring, mentoring using e.g. simulators and virtual reality. Take into account the effects of Automation on staff of differing experience e.g. taking over in degraded mode – OK for experienced train driver, not OK for inexperienced one;
  - From "start to finish" e.g. specifying the HOF requirements for manufacturers in the tender specifications to when a new system is up and running;
  - Map all stakeholders especially those directly affected by automation e.g. train drivers, signallers, maintenance staff;

- Only by taking Human and Organisational Factors into account can Automation reach its full potential.

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