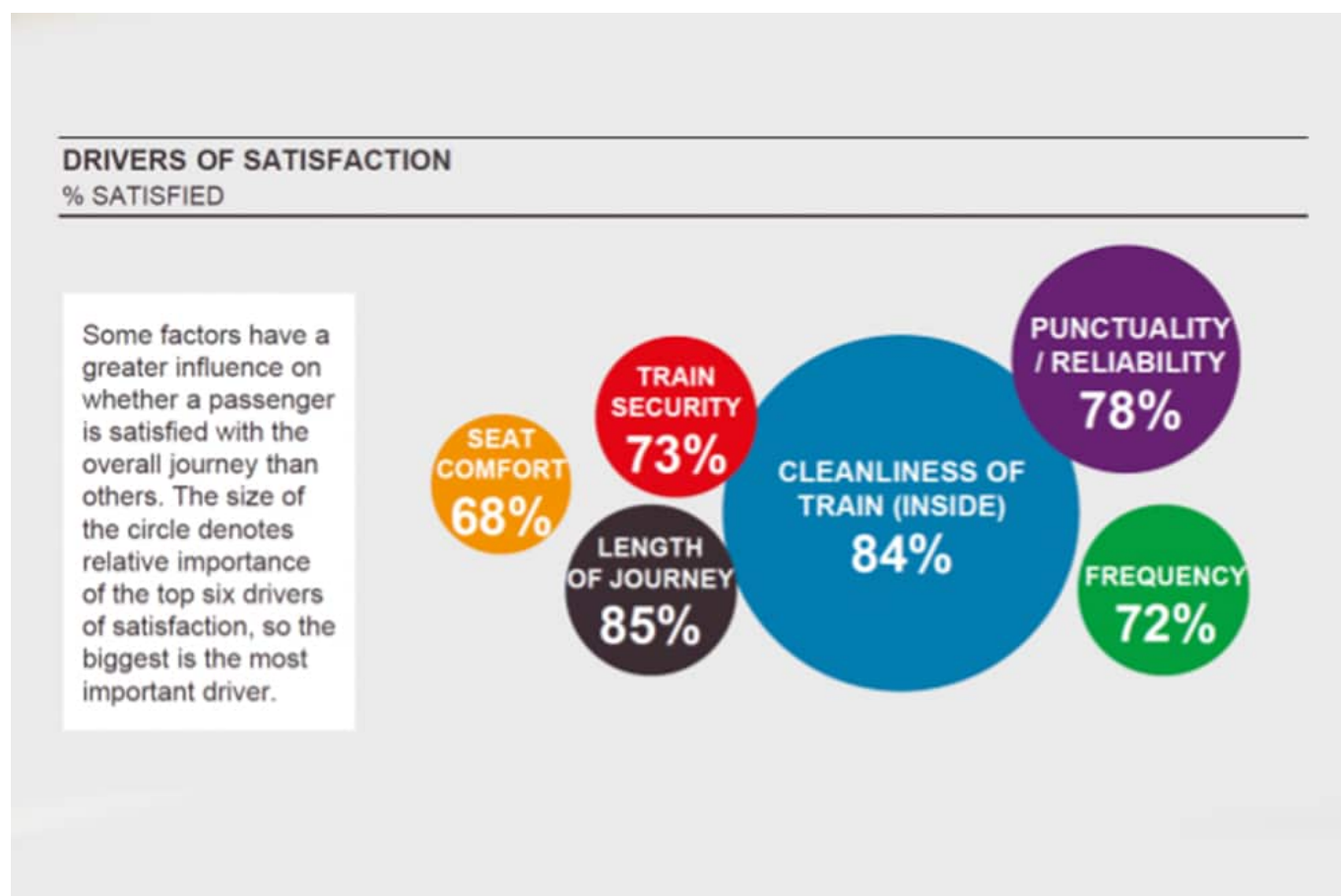


Putting Penn to paper and other waste on trains

September 30, 2022



Have you ever wondered how the inside of a train is cleaned? Who picks up those discarded newspapers and fast-food wrappers?

Penn Engineered Solutions has been working with a train operator to improve and optimise train interior cleaning activities.

Richard Penn, founder and CEO, said: "Cleanliness of the inside of a train is a significant factor in rail passenger satisfaction and we were engaged by a train operator to look at process improvement and optimisation for their train cleaning activities.

"With extensive experience in deploying lean and Six Sigma principles across the transport sector the project provided great opportunities to showcase our skills."

In this case it was how process and value stream mapping could be utilised to significantly reduce the cleaning cycle time and provide robustness to variation in both number of cleaning operatives and touch time with a train.

Discussions with the train operator, cleaning operatives and rail passengers gave insight into both the voice of the customer and voice of the business, defining those all-important critical to quality characteristics.

Richard added: “Following a three-month optimisation study a package of improvements were proposed with significant reductions in process cycle time plus the addition of quality control and assurance steps to ensure all trains left depots to a high and consistent standard of cleanliness.

“With the success of the optimisation project a further challenge was set – how to automate the process optimisation to be responsive to changes in number of cleaning operatives, number of trains and touch time.

“The automation challenge is now part of a funded project through DIGI RAIL, engaging academic partners at the University of Birmingham and the University of Derby to deliver flexible and adaptable software that can support train operators in optimising their cleaning resources.”

Visit www.pennengineeredolutions.co.uk for more details.

Photo credit: Penn Engineered Solutions – Image taken from NRPS-At-a-Glance_A19_London-Overground.pdf