

“Volvo CE Excavator VR Roadmap and Active Control VR Simulation”

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Abstract

Volvo CE Excavator wants to increase the use of simulation and virtual validation and work more cross functional in order to reduce testing, number of design loops and physical builds. Create “Virtual Trust” by:

- **Using operator centric real-time validation in VR for Technology, Operations and Service tasks.**
- **Empowering cross functional collaboration / communication for the entire product development process**
- **Realize better product maturity in the early phases**
- **Reuse available data (CATIA / PDMLink / MPMLink / SBOM)**

The ultimate goal is to support stable releases across the whole development cycle, improve worker ergonomics, as well as support shorten lead time in the development process.

Improving processes and methodologies that would reduce engineering design loops, reliance on physical prototypes and late ECN's. Move teams to perform value added tasks. Refocus teams to the early phases of the development process (A and B release) instead of adding resources late (C release) in order to secure a better outcome at SOP. Supporting Volvo CE Core Principles:

- **Quality:** Ensure a better engineered solution to drive a stable releases
- **Cost:** Reduce the cost of design loops, physical prototypes and reduce late ECN's
- **Delivery:** Drive earlier cross functional collaboration by enabling better communication
- **Environment:** Reduce the number of physical builds - by using virtual methods
- **Safety:** Improve operator safety, by considering worker ergonomics, tooling and accessibility

This presentation include the overall Volvo CE Excavator's VR Vision and Mission, and Benefit through the XR(VR/AR/MR) methodology processed activity, and also introduce the Journey and Roadmap of the Volvo CE Excavator VR and the one of the best Use case practice “Volvo Active Control VR Simulation” which was demonstrated on Smart Expo exhibition on Nov. 2019 at SEOUL Korea with successful feedback from Construction equipment user and industrial audiences and customers.

Volvo CE Excavator VR Core team will keep continue for this Way of Working with XR(VR/AR/MR) for the Digitalization under the Untact and Contactless economy environment.