

## SUMMARIES REZIME

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### VIRTUAL REALITY FOR EFFICIENT VEHICLE LIFECYCLE MANAGEMENT

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**Abstract:**

A clear trend in the automotive industry is that the manufacturers outsource more development work to subcontractors. Consequently, the overall quality of the finished product will depend on how well the automotive companies and the subcontractors work together in the development processes. Lack of harmonization between the subcontractors and the automotive company – but also between different development departments at the manufacturer – causes expensive errors. Therefore, methods and tools have to be developed to support the whole development process and these have to be easy to work with, in order to be applicable. Although research in virtual reality has been done for over 10 years, only a few years ago the non-academic world started to evaluate its use to solve real-world problems. Among others, the automotive industry is evaluating its potential in design, development, and manufacturing processes. In fact, the automotive industry has been among the first, but others, such as suppliers, have begun to evaluate VR, too. The expected benefits of using Virtual Technologies are, therefore, the reduction of development time, the reduction of development costs (better design through virtual pre-checks, less modifications) and increasing quality.

**Keywords:** virtual reality, design, vehicle, product lifecycle, management

### PRIMENA VIRTUALNE REALNOSTI U CILJU EFIKASNOG UPRAVLJANJA ŽIVOTNIM CIKLUSOM VOZILA

**Rezime:** Danas se u automobilskoj industriji može uočiti jasan trend da proizvođači finalnih proizvoda ustupaju sve više razvojnih poslova proizvođačima komponenti. To dovodi do toga da kvalitet završnog proizvoda zavisi od toga koliko dobro su krajnji proizvođač vozila i komponenti uspešno radili zajedno u razvojnim procesima. Nedostatak sinhronizacije između njih, ali takođe između različitih razvojnih službi proizvođača, dovodi do vrlo skupih grešaka. Zato su razvijeni metode i alati za potrebe celokupnog razvojnog procesa koje se lako koriste da bi bile uspešne i primenljive. Iako se istraživanja u virtualnoj realnosti vrše više od 10 godina, tek pre nekoliko godina vanakademska okruženje je počelo da shvata njihov značaj u konstrukciji, razvoju i proizvodnim procesima. U stvari, automobilska industrija je među prvima počela da ih primenjuje. Očekivane prednosti korišćenja virtualnih tehnologija su smanjenje vremena razvoja, troškova razvoja (bolja konstrukcija zahvaljujući virtualnim pred-proverama, manje modifikacija) i povećanje kvaliteta.

**Ključne reči:** virtualna realnost, konstrukcija, životni ciklus proizvoda, upravljanje