



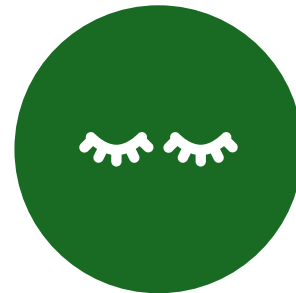
Feb. 28, 2024

EvaRID updates

Background



EvaRID model licensed to IIHS/UVa for a research project of Rear Impact Study and Seat Evaluation, which will pave the road for introduction of IIHS whiplash protection virtual testing protocol by 2026;



CATARC/CNCAP is to include EvaRID model in 2027 whiplash VT roadmap for monitoring;



Good news: IIHS mentioned EvaRID model in multiple occasions and presentations; CATARC is more decided on the introduction of this EvaRID model to the roadmap for monitoring!



Opportunities: seat manufacturers and vehicle OEMs would follow the suit.

Background



Recent (2/14) visit to and meeting with IIHS team: positive impact and open communications/sharing. Stronger relationship is building up and we need follow up with more proactive support actions and feedbacks;



We are still waiting for the official announcement from CATARC CNCAP by early April: with EvaRID model listed on the roadmap.

IIHS

- Marcy Edwards has been sharing IIHS research study on rear impact/whiplash for seat performance evaluation in multiple occasions, seminars, conferences; and plans/concepts for VT protocol development by looking into parameters effects such as seat structure/stiffness, occupant anthropometry, impact Delta V and pulses.
- Her recent update on SAE GIM shows the following promising presentations.
- IIHS will update the research status: 2/29/2024
- Humanetics targeting to release the updated EvaRID v1.5 in the week of 3/4/2024

Virtual testing



IIHS
HLDI

2021



BioRID

EvaRID



- Parametric study to identify model, dummy, seat construction and performance factors of importance
- Traceability protocols for ensuring trust in virtual test results while also maintaining the integrity of OEM intellectual property
- Identify out-of-position rear impact scenarios using SHRP2 dataset



IIHS
HLDI

CATARC/CNCAP

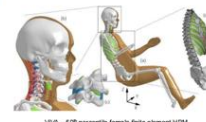
- CNCAP annual conference 3/26-28: will announce for the first time that EvaRID model will be introduced to C-NCAP 2027 VT roadmap;
- This decision has not changed since late last year!
- The decision was referring to IIHS current plan!

IIHS 虚拟测评规划 (计划2024-2026期间实施)

鞭打虚拟测试

Virtual whiplash testing

- Validate manufacturer seat models with BioRID physical tests
- Complement physical tests with virtual tests of occupants of different sizes or out-of-position



- 1、用BioRID假人进行鞭打物理试验验证企业座椅CAE模型准确度;
- 2、采用不同尺寸的假人(女性/EvaRID)或者离位位置的鞭打虚拟测试补充物理试验;

侧面碰撞虚拟测试

Side impact virtual testing to assist physical test development



- 1、侧面碰撞虚拟测试补充物理试验;
- 2、应用在接下来的侧面碰撞耐撞性等级测试。

虚拟测试评分

Virtual-testing-assisted evaluation process



- 1、物理测试+虚拟测试的评价体系;
- 2、采用假人和HBM路线的评级,先从假人的虚拟测试开始评测。

Customer reactions/opportunities

01

Reach out to seat safety group (of OEMs): this seat group is usually separated from occupant safety group;

02

Update with the latest IIHS and NCAP plans (creating the pressure);

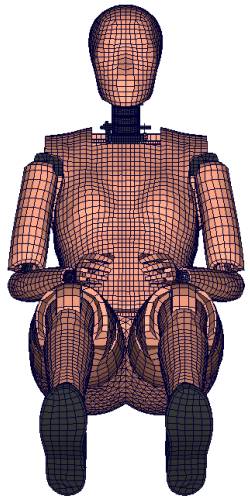
03

Collect the feedback.

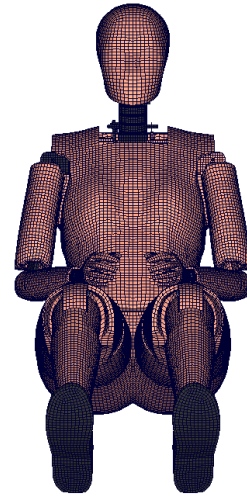
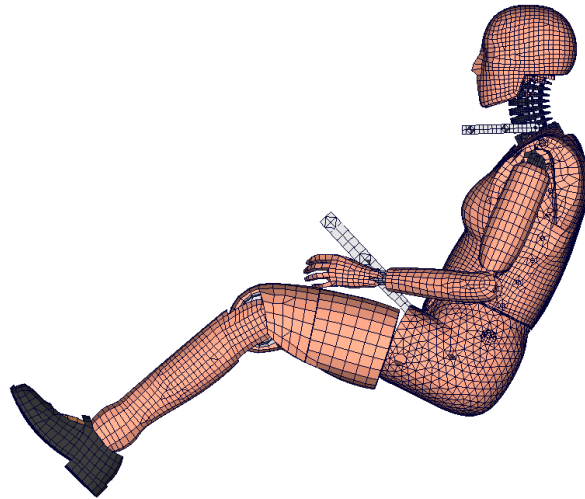
EvaRID v1.5 release updates

Completely re-meshed model to Humanetics standards;

Verified the model performance in all related loading conditions, including volunteer sled tests; and similar or better results obtained in current LS-Dyna development solver version.



v1.1.2



v1.5

