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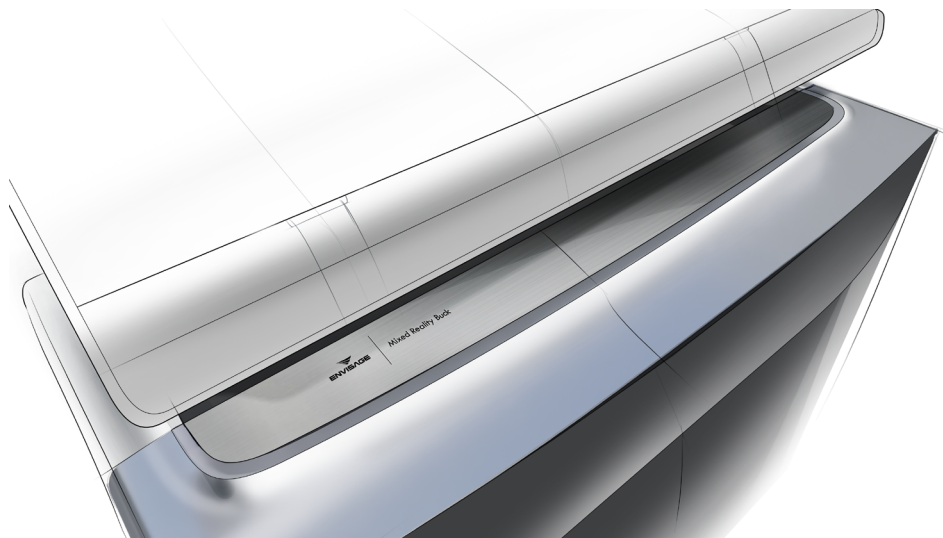


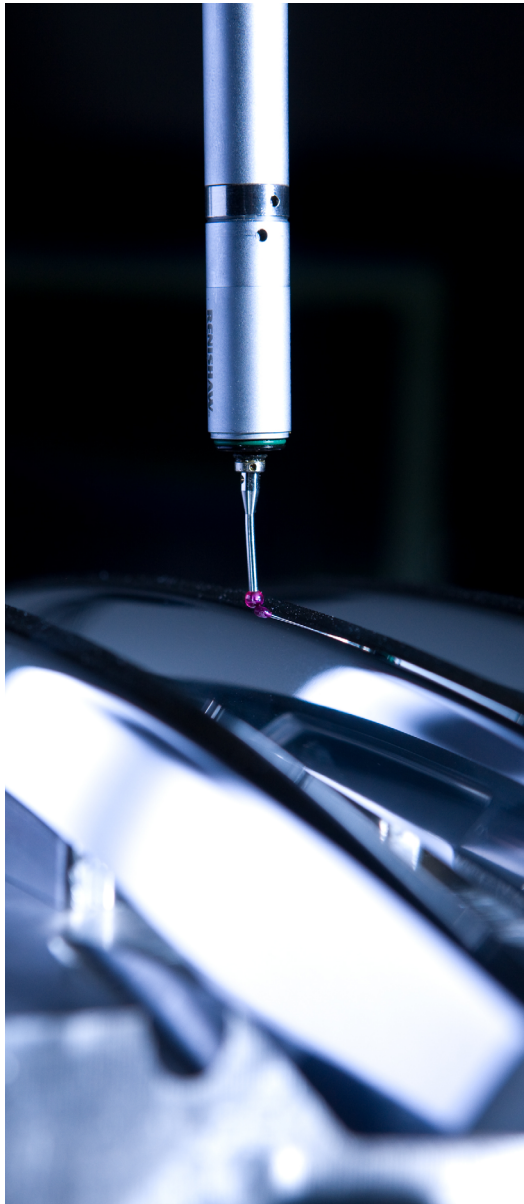
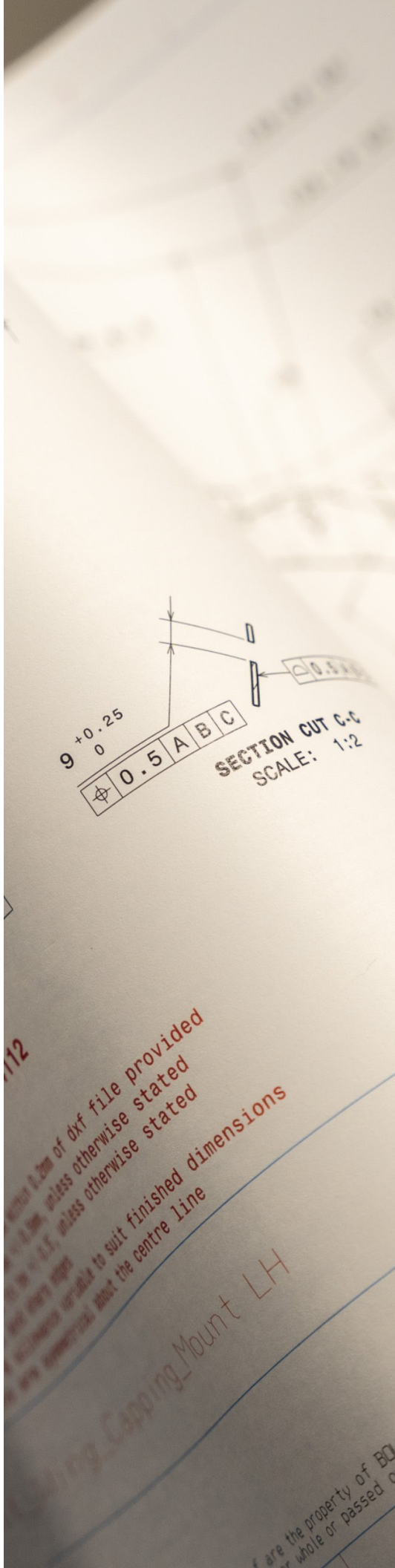
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Tuesday, June 9th 2026

# MIXED REALITY BUCK

BEYOND STATIC REVIEW





# CONTENTS

Brief 02

The Realities 03

The Limits of Static Review 04

Mixed Reality Buck 05

The Benefit 06

Self-Assessment 07

Moving Forward 08



# BRIEF

A handwritten signature in black ink that reads "J. Ford". The signature is fluid and cursive.

– Electronics Project Manager

At Envisage Group Developments Inc., we know that many of the most important vehicle decisions are not purely technical. They are decisions about how a space is understood, experienced, and ultimately trusted by the teams responsible for bringing it to life.

In early development, digital models, CAD environments, and static review methods provide essential guidance. But they do not always give engineering, design, ergonomics, and leadership teams a fully shared understanding of how a layout will feel when experienced in physical space. Especially in seating design, questions around reach, posture, visibility, spatial balance, and user interaction can remain open longer than expected. This is not because teams lack expertise, but because conventional evaluation methods do not always make those questions easy to interrogate with confidence.

As vehicle architectures become more complex and customer expectations continue to rise, that confidence matters. Teams need more efficient ways to assess concepts in a form that is adjustable, repeatable, and closer to real human experience than a screen or static fixture alone can provide.

This paper explores why confidence in spatial and ergonomic decisions has become a more critical part of early vehicle development, and how a more immersive evaluation model can help teams align more clearly before major design directions are carried forward. The Mixed Reality Buck, developed in-house by Envisage, is designed to support that need through motorized adjustment, repeatable configuration changes, live positional feedback, and compatibility with virtual review environments.



# THE REALITIES

Across North America, vehicle teams consistently face the same evaluation challenges:

Layouts that look resolved digitally, but still raise questions in physical review

Difficulty judging reach, posture, visibility, and spatial balance

Static setups that limit meaningful comparison between configurations

Different teams interpreting the same concept in different ways

These challenges are usually caused by the review environment. When spatial decisions cannot be experienced and compared clearly, alignment becomes harder to build and confidence becomes harder to defend.

# THE LIMITS OF STATIC REVIEW

Digital tools and static review methods remain essential, but they do not always answer the questions that matter most in spatial and ergonomic evaluation.

In vehicle programs, this often results in:

**Approval without full confidence**

**Limited configuration comparison**

**Subjective ergonomic judgment**

**Cross-team misalignment**

These challenges often reflect the limits of the evaluation environment itself.

A better approach is not simply to review more. It is to create a setting in which concepts can be adjusted, experienced, and compared more clearly before commitment is made.

# MIXED-REALITY BUCK

A MORE IMMERSIVE  
EVALUATION MODEL

The Mixed Reality Buck is built on a simple principle:

When teams can adjust, experience, and compare a concept properly, decisions become easier to align around and easier to stand behind. Rather than adding more opinion to the process, this model creates a more credible basis for evaluation, helping teams move forward with greater clarity and confidence.

## 1 CONFIGURABLE PHYSICAL REVIEW

The Mixed Reality Buck gives teams the ability to physically interrogate a concept, not just look at it. Motorized adjustment across key vehicle elements allows layouts to be experienced dynamically, helping stakeholders understand spatial relationships in a more direct and meaningful way.

## 2 REPEATABLE COMPARISON

When multiple concepts or configurations need to be reviewed, consistency matters. The Mixed Reality Buck allows full positions to be saved and recalled through preset functionality, making comparison faster, clearer, and more defensible across design reviews.

## 3 PHYSICAL + VIRTUAL ALIGNMENT

With live positional feedback and compatibility with VR environments, the Mixed Reality Buck helps close the gap between digital review and physical experience. This creates a stronger foundation for alignment across engineering, design, ergonomics, and leadership teams.

# THE BENEFIT

When applied effectively, the Mixed Reality Buck delivers practical advantages across vehicle development:

## **Stronger Decision Confidence**

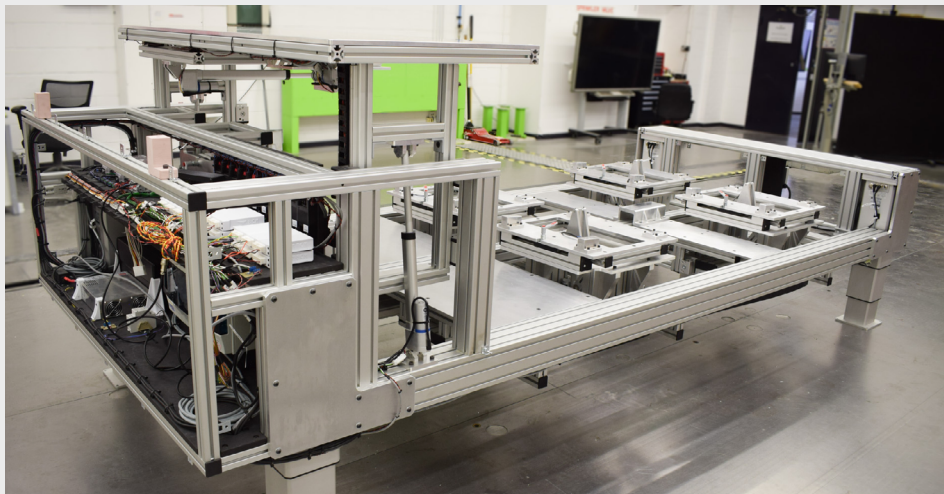
Teams can assess visibility, seating position, posture, and layout relationships in a more immersive and intuitive environment, improving confidence in design decisions.

## **Reduced Prototype Dependency**

Issues can be identified and resolved in CAD and virtual review before they progress into costly physical builds, reducing reliance on traditional prototype stages.

## **Higher-Quality Review Experience**

Physical touchpoints such as the seat, wheel, and armrest make virtual sessions more intuitive and engaging. The Mixed-Reality component reduces issues with VR-only review.



# SELF-ASSESSMENT

How confident is your review process?

If these outcomes matter to your program, the next step is to assess how confidently concepts are being evaluated today. Consider these:

Can your team assess spatial and ergonomic decisions beyond the screen with confidence?

Are multiple layout options easy to compare in a consistent, repeatable way?

Do design, engineering, and ergonomics teams leave reviews with the same understanding?

Can physical evaluation align closely with your virtual review environment?

Are key decisions being experienced directly, or mainly interpreted through static review?

If uncertainty exists in any of these areas, confidence gaps may already be influencing decision-making and it may be worth exploring a more immersive evaluation model.

# MOVING FORWARD

Better evaluation is not about adding more reviews. It is about creating the conditions for clearer understanding.

A more immersive evaluation model helps vehicle teams to:

**Build confidence  
before investing**

**Review concepts in a  
repeatable way**

**Protect program  
timelines**

**Connect digital intent with the  
human experience**

The result is a more credible basis for decision-making and a stronger path from concept review to program confidence.

**Confidence before commitment.  
Evaluate earlier. Align faster. Build smarter.**

*For organizations looking to assess how this approach could support current or future programs, a structured conversation can help identify where more immersive evaluation may add the greatest value.*



# ABOUT ENVISAGE

Envisage Group Developments Inc is an engineering and product development consultancy delivering OEM-level outcomes across complex global programs. The organization specializes in problem-led consulting: focusing on root-cause analysis, structured technical investigation, and permanent resolution of engineering constraints.

With experience supporting major US OEMs alongside globally recognized luxury OEMs in the UK and Europe, Envisage Group Ltd operates to the rigor, governance, and standards required for high-performance product development. Our teams integrate seamlessly with client organizations, working collaboratively to reduce risk, accelerate decision-making, and strengthen long-term support capability.



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