

# The Digital Sandbox

## Overview

Product liability litigation frequently involves events that are unreliably witnessed. Despite this, today's data-capture technologies including laser scanning, drone photogrammetry, video analysis, and simulation allow experts to recreate events with accuracy. Reconstructions, built on a scientific foundation, enhance early case evaluation, support decision-making, and can become admissible demonstratives. This workflow can be thought of as a digital sandbox: a real-time, interactive environment where evidence is aggregated, tested, and ultimately rendered into visual tools for negotiation or trial.

## Phase 1: Data Gathering—Establishing Accuracy and Relevance

Reconstruction begins by capturing scene geometry and object geometry. When scenes have been altered, investigators rely on first-responder photos, bystander images, surveillance video, dashcams, and other sources to accurately place object in the sandbox.

Key legal implications include:

- **Relevance & Accuracy:** Visual evidence must meet threshold relevance and reliability standards.
- **Early Expert Involvement:** Early data capture ensures factual precision, reduces admissibility challenges, and informs discovery strategy.
- **Affirmative Discovery Tools:** FOIA/public records requests, mandatory disclosures, and video access can be informed by early work in the digital sandbox.

## Phase 2: Analysis—Insight & Strategy

In this phase, attorneys and experts explore scenarios from multiple viewpoints. They test witness statements, evaluate feasibility of claims, and identify gaps or inconsistencies.

Analytical tools include:

- **Videogrammetry** for motion analysis.
- **Simulation Tools** (HVE, PC Crash, MADYMO) to supplement and extract value from video.
- **Digital Surrogates** to evaluate reach, posture, visibility, or biomechanics.

Strategic benefits:

- **Early Clarity:** Teams can rapidly rule out implausible theories.
- **Decision-making:** Stakeholders experience the case in an intuitive form, informing next steps.
- **Evidentiary Foresight:** Teams assess authentication, judicial notice opportunities, hearsay issues, and whether a visualization should ultimately be admitted.

## Phase 3: Demonstratives—Transforming Findings into Persuasion

If litigation proceeds, insights developed in the digital sandbox are converted into portable, polished visual demonstratives. This includes carefully curated animations, still images, and VR presentations.

Making early work trial-ready can be time consuming:

- **Model Cleanup:** Authenticating and optimizing models for demonstrative purposes.
- **Visual Accuracy:** Critical in cases involving issues of conspicuity, requiring detailed treatment of light levels, reflectivity, and atmospheric conditions.

## Conclusion

Effective visuals evolve from accurate data, early expert involvement, and strategic integration of legal and technical workflows. The digital sandbox provides a powerful, cost-effective method to reduce uncertainty, guide discovery, evaluate settlement, and produce admissible visuals grounded in reliable evidence. For litigators, leveraging these tools early not only strengthens outcomes, but also transforms complex technical matters into clear, compelling narratives that inform fact finders.