

Why your customer should have an immersive experience of your manufacturing plant

Synopsis: CDMOs rely on slide decks, brochures, CAD drawings and brief site visits to explain highly sophisticated manufacturing environments to distributed sponsor teams. As a result, buyers often struggle to fully understand facility design, operational excellence and manufacturing capabilities, making it difficult to distinguish providers beyond price and reputation.

Extended reality changes this by turning facilities and processes into explorable digital twins where sponsors can virtually walk batches, inspect systems, and see SOPs in context, reducing information asymmetry, perceived risk, and decision time while boosting engagement, recall, and differentiation. HakoBio enables CDMOs to turn their manufacturing plants into reusable commercial assets that support the entire customer journey, from immersive trade show demonstrations and remote multi-stakeholder workshops to technology transfer discussions and customer onboarding. By making manufacturing capabilities tangible rather than descriptive, CDMOs can better differentiate their offering, increase customer engagement, shorten sales cycles, and communicate the true value of their operational excellence. The question is no longer whether immersive technology is possible, but which CDMO will make its manufacturing environment the easiest to understand and experience.

If only the manufacturing plant was next door...

CDMOs service offering might be simple, yet service manufacturing is complex. Trust with sponsors is built, demonstrating that CDMOs master the complex operations and that they are on top of procedures and regulations. This information is relayed with slide decks, brochures, static CAD drawings, and short site tours to explain facilities and processes to distributed sponsor teams. This makes it difficult for customers to truly understand plant layouts, segregation strategies, closed handling, automation depth, scalability, and training practices, which slows comprehension, reinforces information asymmetry, and sustains high perceived risk in CDMO selection and tech transfer. At the same time, because most CDMOs present themselves using similar materials and narratives, sponsors struggle to meaningfully distinguish one provider from another beyond price and brand, further complicating confident decision-making. As a result, sales cycles are long, stakeholder alignment is fragile, and critical decisions about capacity, quality, and risk are being made based on partial, non-differentiating insight into the manufacturing environment.

Experiencing the plant and seeing operation as if one was there

The way we communicate complex manufacturing environments has changed very little over the past two decades. While the facilities themselves have evolved dramatically, the way we present them has not. Extended Reality changes this.

Instead of asking sponsors to imagine how a manufacturing process operates, XR allows them to explore it directly. Virtual facility twins and process walkthroughs enable customers to “stand inside” cleanrooms, follow material and personnel flows, inspect closed systems, and even allow them to see how automation layers and control strategies work in practice. This significantly reduces the time needed to achieve shared understanding of layouts and process design.



By presenting facility capabilities, SOP execution, and operator training modules in immersive and interactive formats, XR directly reduces information asymmetry and perceived risk: sponsors can virtually follow a manufacturing workflow, see how deviations are managed, and experience standardized training content rather than relying solely on documents and brief site visits. Although published evidence specific to CDMO commercial processes remains limited, results from adjacent industries consistently show that immersive experiences increase up to 3 times customer engagement¹, improve information retention, decrease support costs while accelerating decision making.

Remote XR access also addresses geographic and time constraints by enabling broader stakeholder participation. CMC, QA, clinical, finance, and executives can all explore the same digital facility without requiring travel, creating a shared reference point across functions. Evidence from other sectors suggests that immersive experiences extend dwell time by factors of 5-10² and can increase views and inquiries by 80–95%³, with some reporting around 27–36% higher conversion rates⁴ and roughly 30% shorter time-to-decision compared with non-immersive content⁵. In the CDMO context, these findings suggest that XR can help sponsors move from reviewing static representations of a facility, such as CAD drawings, PDFs, and slide decks, to developing a more complete understanding of how the operation works in practice. This, in turn, can accelerate technical alignment and reduce friction throughout the evaluation process.

XR experiences also create a stronger engagement and differentiation effect than conventional sales materials in markets where many providers appear technically similar on paper. Immersive demos of facility twins, digital workflows, and training programs provide a distinctive experiential anchor that improves recall and preference, and AR/VR marketing campaigns have been associated with 70%+ increases in brand awareness and substantial uplift in information recall compared with standard video or web content ⁵.



Reusing the digital assets for daily operations, creates compelling oversight

Beyond commercial engagement, XR can also strengthen training and knowledge transfer. Guided procedures, onboarding pathways, digital work instructions, and operational analytics can be integrated into realistic scenarios that demonstrate how the CDMO develops its workforce, improves operations, and reinforces GMP standards.

XR can also provide greater context around operational performance by connecting analytics and quality metrics directly to the equipment, processes, and workflows they represent. Instead of viewing KPIs as isolated data points, sponsors can develop a clearer understanding of how the CDMO monitors, controls, and continuously improves its manufacturing operations.

Together, these capabilities position XR as more than a demonstration tool. It becomes a commercially relevant solution for simplifying complex technical discussions, improving stakeholder alignment, strengthening differentiation, and helping sponsors make better-informed decisions throughout the CDMO selection process.

HakoBio: Turning Manufacturing Excellence into a Commercial Advantage

Manufacturing facilities are among a CDMO's greatest competitive assets, yet they are often underutilized throughout the commercial journey. Once a customer visit ends, the facility is reduced to photos, presentations, and technical documents that struggle to convey the expertise, quality systems, and operational excellence behind every process.

HakoBio enables CDMOs to transform their manufacturing environment into a reusable digital asset that can support every stage of the customer journey. By creating an immersive virtual representation of the facility, sponsors can explore manufacturing suites at life size, inspect equipment, understand process and personnel flows, and experience manufacturing operations as if they were physically on site.

Rather than replacing physical visits, HakoBio extends their impact. Prospective customers can discover a facility long before their first visit, arrive better prepared for technical discussions, revisit key manufacturing areas after meetings, and involve stakeholders who would otherwise never have the opportunity to experience the site. The result is a shared understanding across commercial, technical, quality, engineering, procurement, and executive teams, regardless of their location.

Traditional approach	Experience with XR
Plant layout or video walkthrough	Immersive plant walkthrough
Static images	Interactive experience
One stakeholder	Entire team
Brief plant visit	Visit everywhere, any time

The same digital twin can serve as a reusable commercial asset throughout the entire sales process. It can attract visitors at trade shows, support remote business development meetings, facilitate engineering and technology transfer discussions, showcase manufacturing capabilities during proposal development, and accelerate customer onboarding after contract signature. Instead of creating different materials for different audiences, CDMOs can build a single immersive experience that evolves with the customer relationship.

Beyond customer engagement, the digital twin also creates value internally. Engineering teams can review layouts collaboratively, manufacturing experts can validate workflows, training teams can prepare operators before facilities are operational, and marketing teams gain a distinctive way to communicate complex capabilities. A single digital asset therefore supports multiple departments while ensuring consistent messaging across the organization.

Ultimately, HakoBio is more than a visualization platform; it is a commercial enablement solution that helps CDMOs translate technical excellence into customer understanding. Rather than asking sponsors to interpret drawings, presentations, and technical specifications, it enables them to experience the manufacturing environment firsthand. This shift builds trust, strengthens differentiation, and empowers sponsors to make confident decisions more quickly.

Pilot immersive storytelling

Begin with a single, high-value commercial use case, e.g. for your modular single-use plant. Alternatively, focus on the part of your offer where conventional selling is least effective and deal value is highest.

The pilot should not be built as a one-off “wow” experience, but as a repeatable sales asset with clear commercial metrics: number of qualified sponsor leads generated, average time spent in the virtual plant per session, number and roles of stakeholders engaged per meeting (CMC, QA, clinical, finance), cross-sell conversations initiated around analytics/tech-transfer/digital services, and time from first immersive plant tour to a qualified opportunity or proposal stage.

Framed in this way, the strategic question for CDMOs is no longer whether immersive technology is technically possible. The more relevant question is which CDMO will make its manufacturing environment easiest to understand and experience for sponsor teams. In a category where facilities and platform processes are highly sophisticated but can appear similar on paper, the CDMO that best communicates the value of its capabilities can gain a meaningful advantage in sponsor engagement and decision-making. Let your story start with “Once upon a time” – OUAT!

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