# SUMMARY OF FORMNEXT 2022: SUCCESS!

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High volume, high resolution, high speed: A humble and grateful Visitech team catches their breath after finishing a highly successful four-day Formnext exhibition marathon. Superior products on a defined mission make up their success recipe, summarized here.

Several world-premiering products, such as the new 4K and 8K UV DLP projectors, inspire future AM

machine build opportunities – while Direct Image Sintering (DIS) made headlines across the globe for tearing down the limitations of legacy SLS polymer powder bed fusion.

Sensing the fast-developing additive manufacturing market trends and having the capability to develop and deliver on the optical subsystems the industry needs is a skill Visitech has honed for over 20 years – and has become good at. At Formnext, booth visitors gathered to feast their eyes on the new sixth-generation LED illumination solution, which provides superior UV projector power output and maximum 3D printing speed.

**Highlights from Visitech's Formnext booth include:**


# New laser diode light source for LRS-MCx-WX NIR

# projector

The proprietary integrated NIR laser diode light source is all-new. Visitech dubbed it “IgnitIR” due to its sovereign up to 100 W of NIR (1064 nm) power in image. Highly integrated, pre-aligned, and calibrated, the IngnitIR diode module yields maximum control in throughput while safeguarding essential system components, such as the DMD. Static and dynamic (scrolling) implementations alike can use the module.

While the IgnitIR laser diode module provides unprecedented powder-melting power, the light source is thermally managed by liquid cooling – for maximum performance. In addition, the compact, modular design is designed for easy replacement, simplifying maintenance routines in industrial settings.

## Direct Image Sintering (DIS) proves even more beneficial

Visitech’s DIS concept for polymer powder bed fusion uses DLP and powerful IR laser diode arrays to substantially increase print speed, resolution and building area over traditional PBF by SLS. Exposing the entire print layer in one shot is the critical driver of build speed. Applying Visitech’s scrolling subsystem and stacking multiple powerful IR light engines in a motion stage that scrolls them over a vast build area effectively removes established polymer-based PBF volume limitations. With the DIS concept’s ability to maintain high resolution across the build area, a world of opportunities opens for innovative system builders seeking actual mass production capabilities for their polymer powder bed fusion systems.

more about DIrect image sintering (DIS)

Meticulous testing of DIS-printed parts has yielded beneficial results. DIS achieves consistent and reproducible layer-by-layer process time, while layer time remains unaffected by the build field packaging density. Compared to legacy SLS polymer powder bed fusion printing, superior mechanical strength for advanced compound structures is the compelling conclusion.

# World premieres: High-resolution UV DLP projectors

**High volume, high resolution, and high speed are Visitech's targets.** Formnext visitors witnessed the first revelation of two additive manufacturing subsystem revolutions that make those targets achievable:

## LRS-MCx 4K

The LRS-MCx 4K is a true 4K projector for UV AM applications which boasts an unprecedented resolution and power output from a single projector. For large-area solutions, the LRS-MCx 4K system employs a native 4K DMD. Using a similarly narrow footprint as the familiar LRS-MCx-HD, multiple units can be stacked side-by-side on a motion system, creating a high-capacity production machine. Control is achieved by Visitech's LAMA STANDARD software package and API, allowing the choice of any motion controller.

View the LRS-MCx 4K product

NEW

NEW

## LRS-8KA

Further, and catching the attention of machine builders looking for super-high-resolution in huge build sizes, Visitech showed the conceptual actuator-supported 8K projector, LRS-8KA. The power-packed projector uses a customized optical actuator to shift the image of a DLP device four times per exposure, resulting in 32 million addressable pixel positions. This extended-resolution image processing allows next-generation SLA printers to expand their build areas or enhance the system resolution, providing 3D print machines with improved productivity by up to 4x.

View the LRS-8Ka product

## – Let's talk

Alfred Jacobsen, Managing Director of Visitech Engineering, looks forward to the coming weeks, following up on opportunities yielded from a successful exhibition week: “We thank our visiting customers and partners for granting us attention at this fantastic event. Your input is the most valuable asset we bring back home, and we look forward to continuing all the interesting conversations and leads initiated at Formnext!”

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