XRby and Ansys Expedite Métiers d'Art Limited Edition Luxury Wristwatch Development

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Ansys' optical design simulation software cuts design time from days to hours and eliminates physical prototype testing

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Key Highlights

- **XRby is using Ansys' cutting-edge optical design simulation software to innovate métiers d'art limited edition luxury wristwatches that are engineered with tremendous speed and affordability**
- **With Ansys, XRby is radically simplifying the development and enhancing the aesthetics of wristwatches by eliminating physical prototype testing**

XRby is leveraging Ansys' (NASDAQ: ANSS) cutting-edge optical design simulation software to innovate métiers d'art limited edition luxury wristwatches that are engineered with tremendous speed and affordability. Using Ansys software, XRby is radically simplifying the development and enhancing the aesthetics of the wristwatches by eliminating physical prototype testing.

Jura Mountains watchmaker XRby is producing a limited edition of high-end métiers d'art mechanical wristwatches, which will incorporate costly materials such as organic fibers and precious stones. Historically, these customized watches would require at least one physical prototype to attract customers. Facing extremely high production costs and stringent sustainability goals, XRby pivoted to produce virtual protypes using Ansys® SPEOS ™, through the Ansys Startup Program. Adopting this Industry 4.0 vision equipped engineers with a numerical optical simulation approach, helping them innovate watch concepts, analyze light reflection and rapidly test numerous aesthetic options to achieve their optimum design.

Using Ansys SPEOS, XRby selected sapphire thickness and edge angles to improve watch aesthetics, tested several watch assemblies and evaluated more than 100 materials and elements. Additionally, SPEOS generated physics-based, true-to-life images of digital prototypes throughout the development process. This empowered XRby to not only understand how watch designs would appear in real-world lighting and usage conditions, but also make design choices more quickly — substantially reducing development time and cost.

"Adopting an Industry 4.0 approach and using SPEOS helped our engineers design a beautiful canvas less than two inches wide, conserve natural resources and introduce a new luxury brand to targeted elite clientele in a purely virtual manner," said Xavier Rousset, founder at XRby. "With SPEOS, our engineers selected the optimal materials, shapes and decorations for the watch's designs in mere hours, compared to traditional simulations, which may require days to deliver the same results."

XRby utilizes SPEOS texture mapping early in the development cycle to forecast how watch materials will behave in different lighting conditions.

"SPEOS helps XRby perform accurate texture mapping to create next-generation optical simulations that demonstrate how their material choices will behave across numerous environments," said Yvain Ballini, CEO at CADFEM France, XRby's dedicated Ansys channel partner. "This helps them perfect the physical appearance of their extremely unique watch under practically any possible lighting scenario."

Prospective customers are able to view SPEOS' high-definition simulations of the watch design and place orders on XRby's website.

"Using SPEOS through the Ansys Startup Program equips XRby with a state-of-the-art, Industry 4.0 method for simulating photons' path across physical matter and creating an image just as it would be perceived by the human eye," said Shane Emswiler, senior vice president at Ansys. "This helps slash development time, drives enhanced decision-making during the design phase and delivers unique product customizations for a highly discerning market."

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/ Contacts

Media Mary Kate Joyce

724.820.4368
marykate.joyce@ansys.com

Investors Annette N. Arribas, IRC
724.820.3700
annette.arribas@ansys.com

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