

QuesTek Announces Niobium Suite in ICMD® Platform, Expanding Advanced Materials Capability with Collaboration from CBMM

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QuesTek Innovations, a leader in computational materials engineering, today announced the upcoming release of its Niobium Suite within the ICMD® materials design and engineering platform. The new capability builds on a series of successful client engagements involving Niobium containing materials, with additional collaboration with [CBMM](#), a global leader in Niobium production and technology.

The Niobium Suite expands ICMD®'s capabilities by incorporating advanced models and data specific to Niobium-based alloy systems. This allows engineers and materials scientists to more efficiently evaluate performance trade-offs, predict behavior in extreme environments, and design materials tailored to specific applications, significantly reducing development timelines and reliance on expensive trial-and-error experimentation.

Accelerating Innovation Across Industries

Niobium plays a key role in enhancing strength, durability, and high-temperature performance in advanced materials. With the introduction of the Niobium Suite, QuesTek is enabling customers to unlock new applications and optimize existing systems across industries including aerospace, energy, and additive manufacturing. Collaboration with CBMM has further accelerated the practical deployment of Niobium-enabled materials across industries.

"At CBMM, we believe that innovation in materials is essential to address global challenges. By combining our expertise in Niobium with QuesTek's advanced computational design capabilities, we are enabling the accelerated development of high-performance materials that can meet the



demands of the energy transition and next-generation industrial applications”, said Adam Young, Global Business Development Manager, Superalloys & Metals at CBMM.

By leveraging ICMD®, organizations can rapidly simulate how Niobium-based materials influence microstructure and performance, enabling faster iteration and more confident decision-making early in the development process. This capability is particularly valuable for industries facing increasing demands for efficiency and performance under extreme conditions.

Built on Proven Industry Engagements

The development of the Niobium Suite is grounded in QuesTek’s hands-on work with clients tackling complex materials challenges. QuesTek has worked with CBMM to expand understanding of niobium's role in advanced materials such as nickel-based superalloys, while collaborating with government agencies and industry to advance computational materials design for extreme-environment applications.

In collaboration with ARPA-E, QuesTek created a state-of-the-art CALPHAD database and modeling suite for Nb-based alloys, validated against a novel Nb-superalloy on the ULTIMATE program. This capability enables aerospace and space companies to more accurately model and optimize both established alloys like C-103 and next-generation Nb-superalloys for high-temperature applications, including jet engines and in-space thrusters.

"The Niobium Suite reflects QuesTek's commitment to helping customers solve complex materials challenges faster and more predictably. By enabling better decisions earlier in development, we're helping organizations reduce risk, shorten development cycles, and bring advanced materials to market more efficiently." – Bill Mahoney, Chief Operating Officer, QuesTek Innovations.

Expanding the Frontier of Materials Design

With the addition of the Niobium Suite, QuesTek continues to expand the ICMD® platform as a comprehensive solution for designing advanced materials faster and with greater precision. The release opens new opportunities for engineers to explore niobium’s full potential, from high-temperature alloys and structural components to emerging applications in energy systems and advanced manufacturing.

As industries continue to evolve, QuesTek remains committed to delivering tools that bridge the gap between materials science and real-world performance empowering organizations to innovate with confidence and speed.

Want to explore Niobium-enabled materials further? [Try the Niobium & IN718 Calculator.](#)

About QuesTek

QuesTek’s Materials by Design® technology and [ICMD® software platform](#) are proven to reduce the development time and cost and increase the performance of novel materials. In its market space, QuesTek is the first provider to execute the full cycle from novel design to production,

certification, and flight operations with proprietary materials, in a fraction of the time and cost of traditional, or purely algorithmic methods. Fast Company named QuesTek a 2025 Most Innovative Company.

For more information, visit questek.com or contact Andrea Metzler, Marketing Director at ametzler@questek.com.

About CBMM

A global leader in the production and commercialization of Niobium products, CBMM serves more than 500 customers in 50 countries. Headquartered in Brazil, with regional offices in the Netherlands, Singapore, Switzerland, and the United States, the company provides technology to the infrastructure, mobility, aerospace, healthcare, and energy sectors. Since its founding more than seven decades ago, CBMM has developed projects in Brazil and in several countries around the world to foster the adoption of Niobium technology by various industries. To support its growth plans through diversification, the company focuses on research and the development of new applications, whether in steelmaking or in new materials, working through partnerships with customers, research institutions, and strategic investments in companies and startups. Learn more about CBMM | Niobium at www.cbmm.com and visit www.niobium.tech to learn more about Niobium technology and its various applications.

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