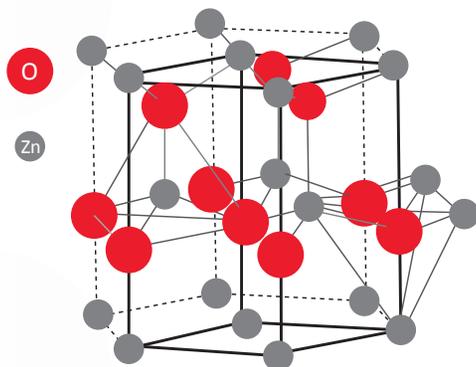
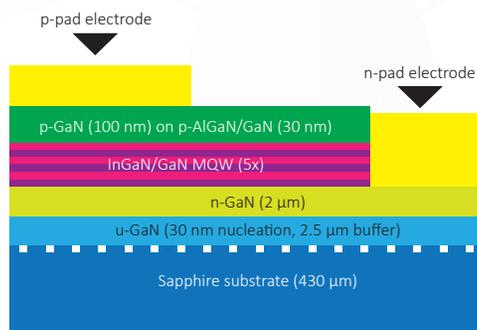


Metal organic chemical vapor deposition (MOCVD) is a process used for creating high-purity crystalline compound semiconducting thin films and micro/nano structures.



ZnO crystal structure



GaN LED structure



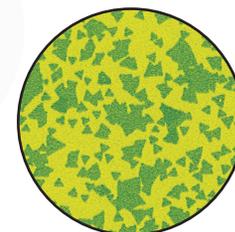
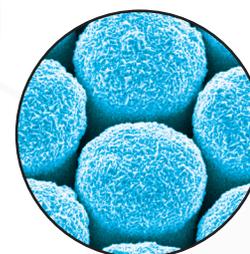
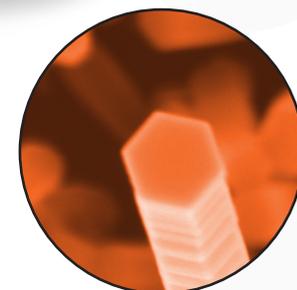
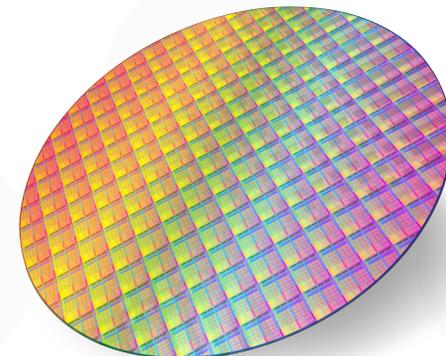
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CVD
Equipment
Corporation

CVD Equipment Corporation
355 South Technology Drive, Central Islip, NY 11722
Tel: +1 631-981-7081 | Fax: +1 631-981-7095
E-mail: sales@cvdequipment.com
www.cvdequipment.com

MOCVD Capabilities

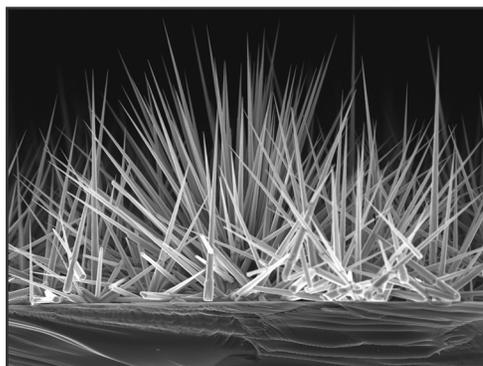
Metal Organic Chemical Vapor Deposition



n
firstnano



EasyTube® 3000EXT with glovebox configured for MOCVD



ZnO nanowire forest

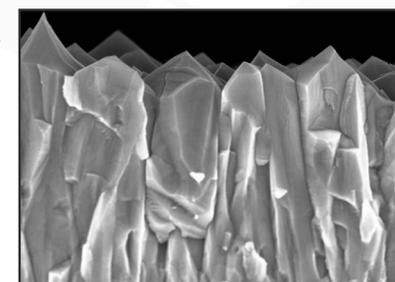
Precision fine tuning, abrupt interfaces, epitaxial deposition, and a high level of dopant control can be readily achieved with MOCVD technology. It is widely adopted in the R&D and industrial sectors for advanced optoelectronics, high power, and high speed electronics applications.

CVD Equipment Corporation understands the stringent demands on processing tools that are required for MOCVD. It is with our 30+ years of experience that we have developed a modular platform for MOCVD that is tried and tested, with multiple systems in operation worldwide.

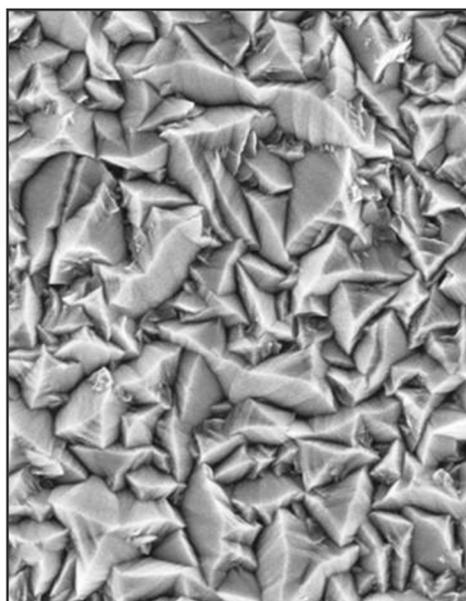
MOCVD is sensitive to air, moisture, and other contaminants. We manufacture ultra-high-purity gas handling lines, fittings and fixtures in-house through Stainless Design Concepts, a division of CVD Equipment Corporation. Our competency with manufacturing ultra-high-purity gas delivery systems for the semiconductor industry is confirmed by our extensive worldwide customer base. For more information, visit www.stainlessdesign.com.

Our systems ensure safety, repeatability, and traceability. Our CVDWinPrC™ system control software provides industry-proven, realtime process control, data logging and display, recipe generation, and recipe editing. CVDWinPrC™ is integrated into all our systems, from our FirstNano® R&D product range

through our industrial production equipment. Whether you are considering entry-level R&D deposition equipment or large production-enabled tools, the same advanced system control software platform will be provided. High-performance uniform deposition is enabled by our engineering portfolio of advanced components, most of which are manufactured in-house. Our MOCVD products include the option for a temperature-controlled showerhead gas injector with adjustable height for uniform and controlled gas delivery across the substrate, as well as wafer rotation for enhanced process uniformity. The FirstNano® EasyTube® platform of fully configurable R&D and pilot production tools are built with a modular approach to system design. We optimize our product configurations to meet our customer's requirements. Examples of components and features include, but are not limited to, coldwall or hotwall reactor, ultra-high vacuum loadlock chamber, inert glovebox, gas purifiers, residual gas analyzer, low pressure and/or atmospheric operation, wide temperature range from room temperature up to > 1500 °C, amongst others. For a selected list of available features, and for contact information should you have any questions regarding our FirstNano® EasyTube® product range, please visit www.firstnano.com. The FirstNano® product line offers gas handling and exhaust gas treatment



Thin Film ZnO:B (side view)



Thin Film ZnO:B (top view)

solutions, as standalone units or fully integrated with our EasyTube® deposition equipment. We incorporate advanced features to improve the usability and performance of our products. For example, our EasyGas™ hazardous gas cabinets include self-contained vacuum pump purge capability for automated reconditioning after a bottle exchange. Also available are the EasyExhaust™ range of hazardous gas abatement tools, which include pyrolyzers, wet scrubbers, and neutralizers. All components are integrated with our CVDWinPrC™ system control software in order to provide our customers with a complete turnkey process solution.

CVD Equipment Corporation's ultra-high-purity components, advanced control software, uniform and repeatable deposition, flexible modular design, safe operation, and turnkey integration, result in a high performance MOCVD process platform which we are proud to offer our customers.

Call us at +1 631-981-7081 to discuss a product solution for your project. We can also be reached at sales@firstnano.com.