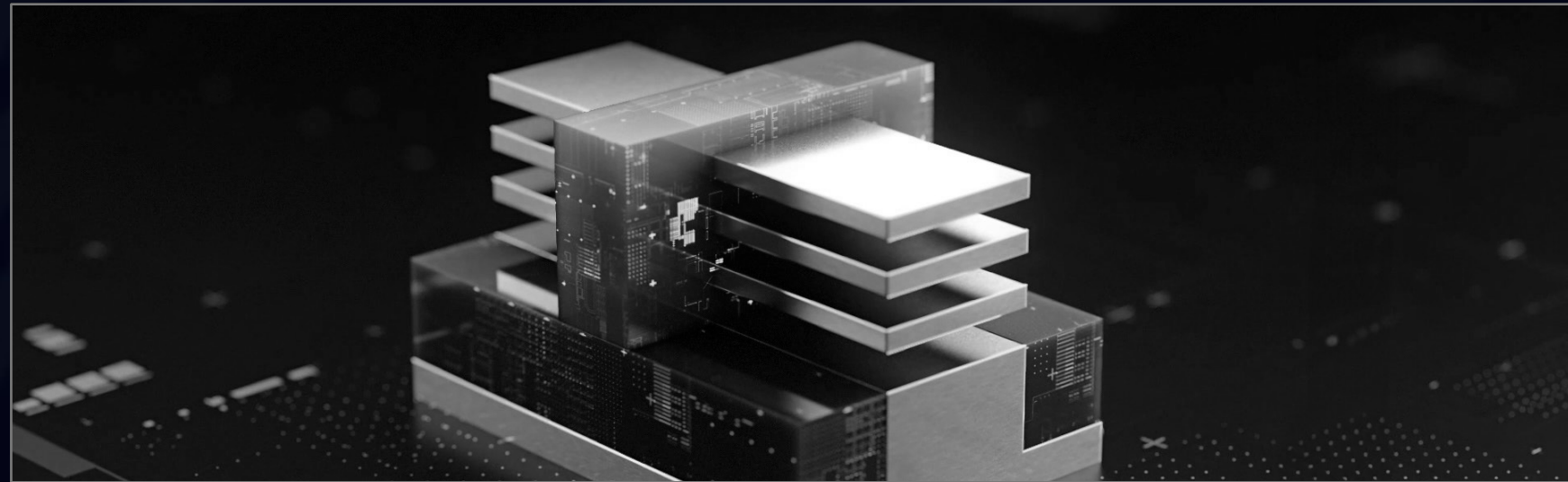


Choosing a Helios instrument for your workflow

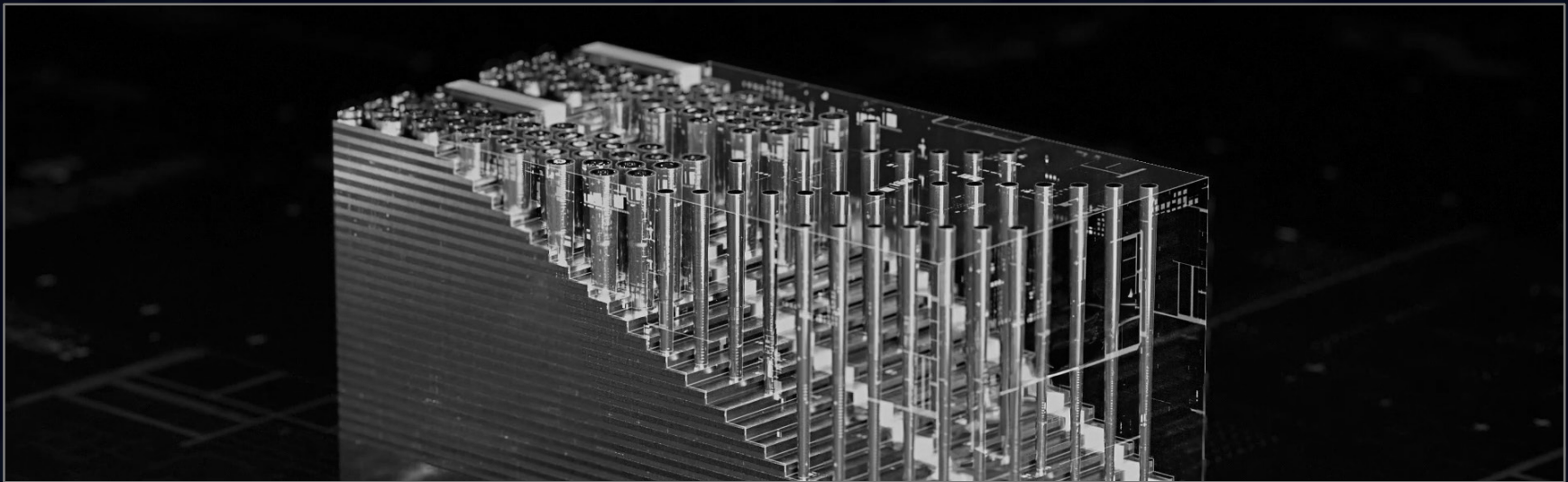
Select your
semiconductor
technology
to start

Logic



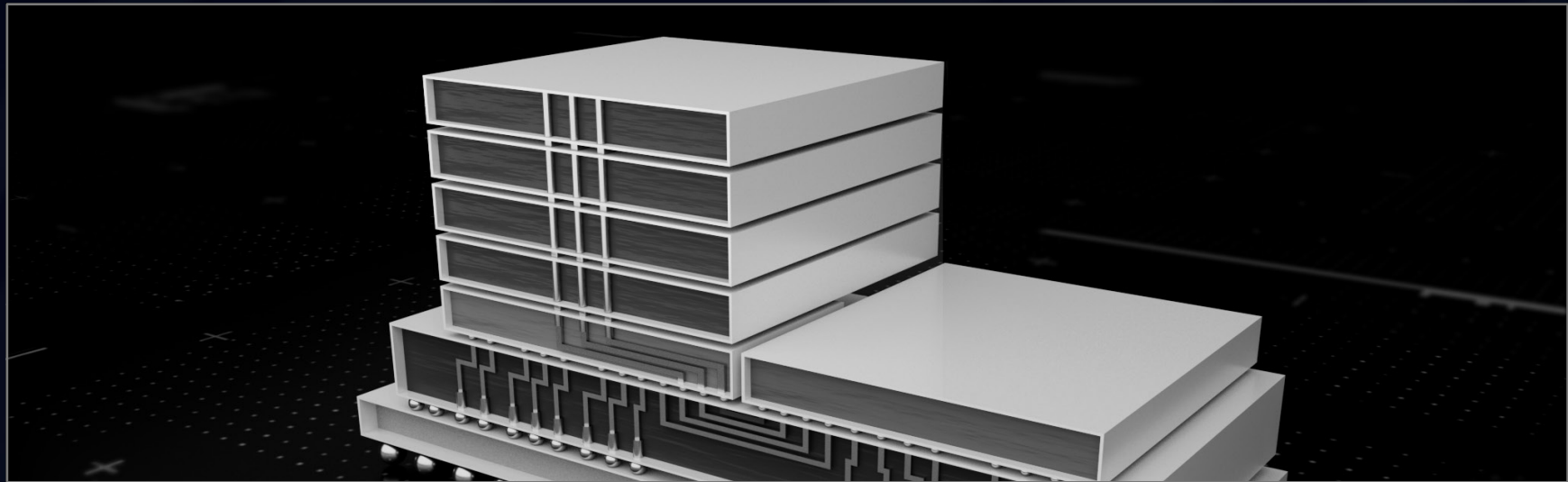
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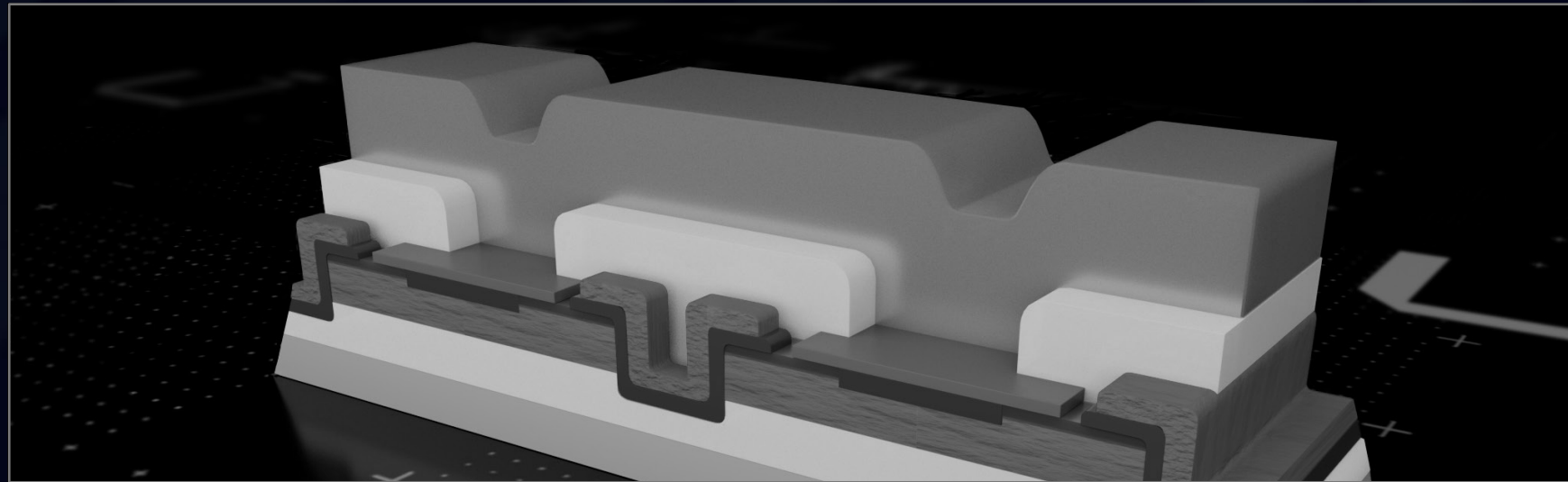
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Advanced packaging



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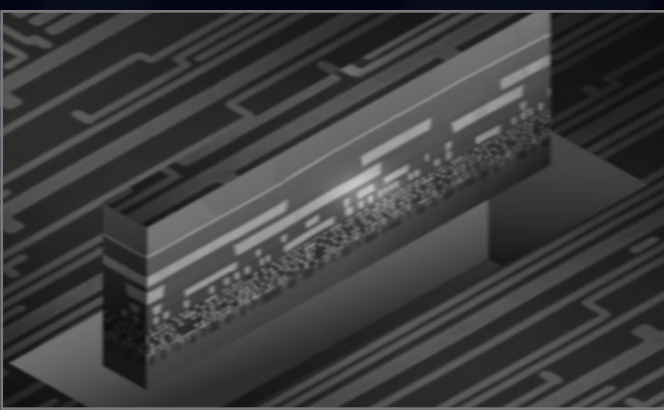
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Compound semiconductor defectivity impacts performance

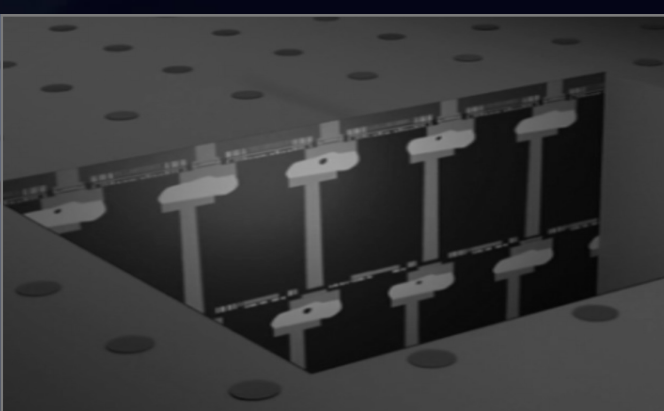
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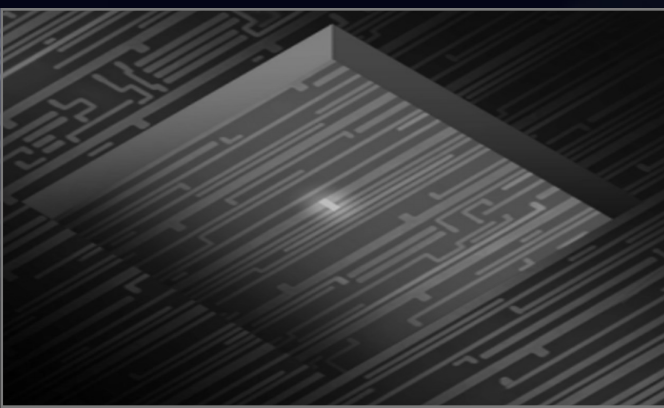
Cross-section & 3D

Expose buried devices for SEM analysis and process monitoring



Delayering

Layer-by-layer removal for fault isolation and characterization



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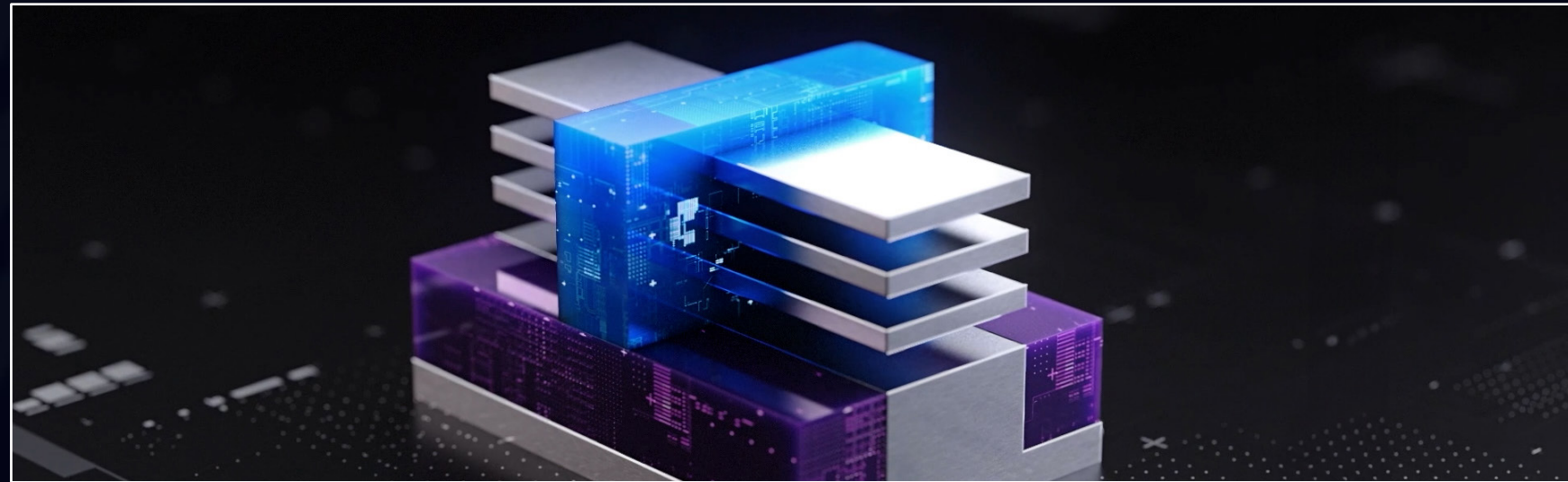
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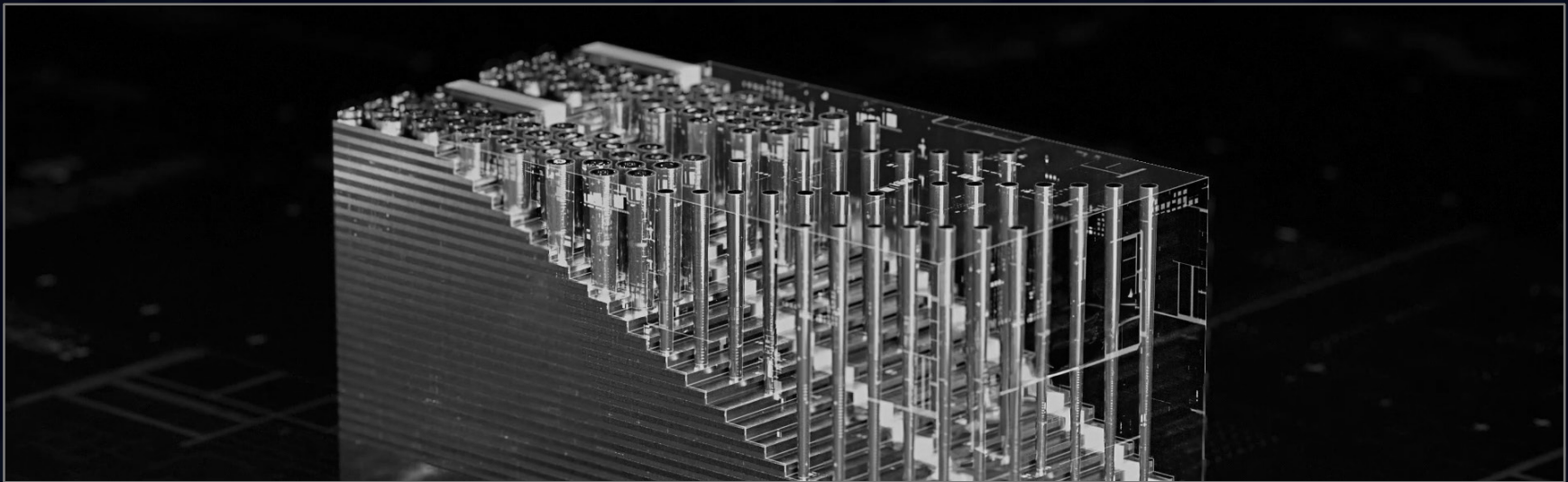
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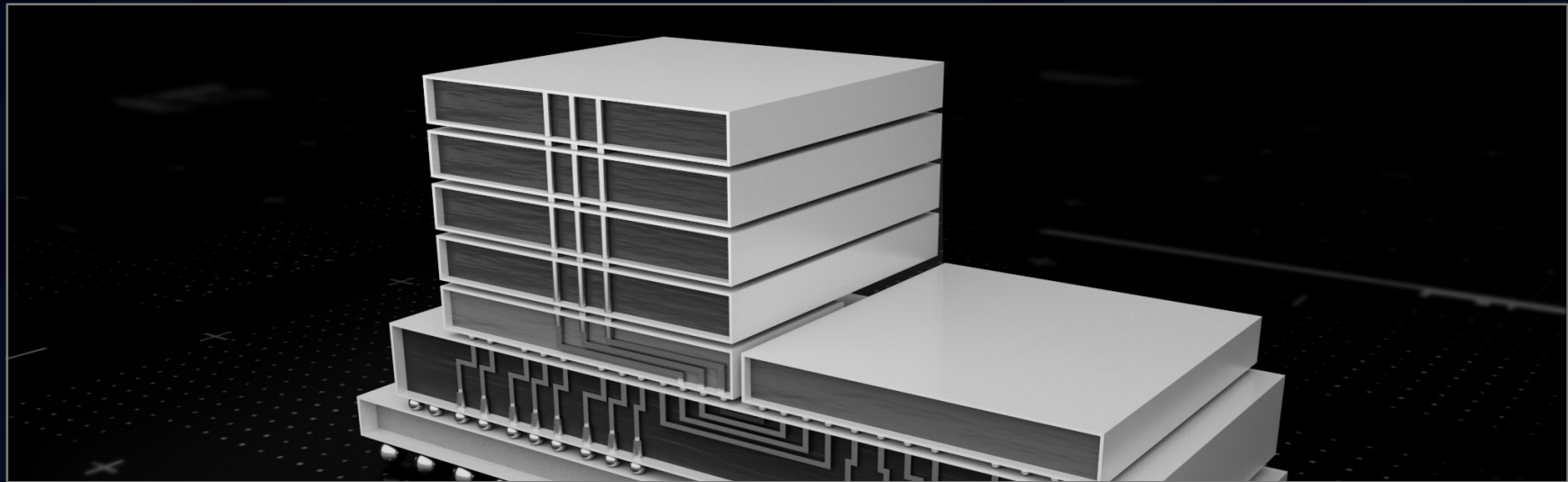
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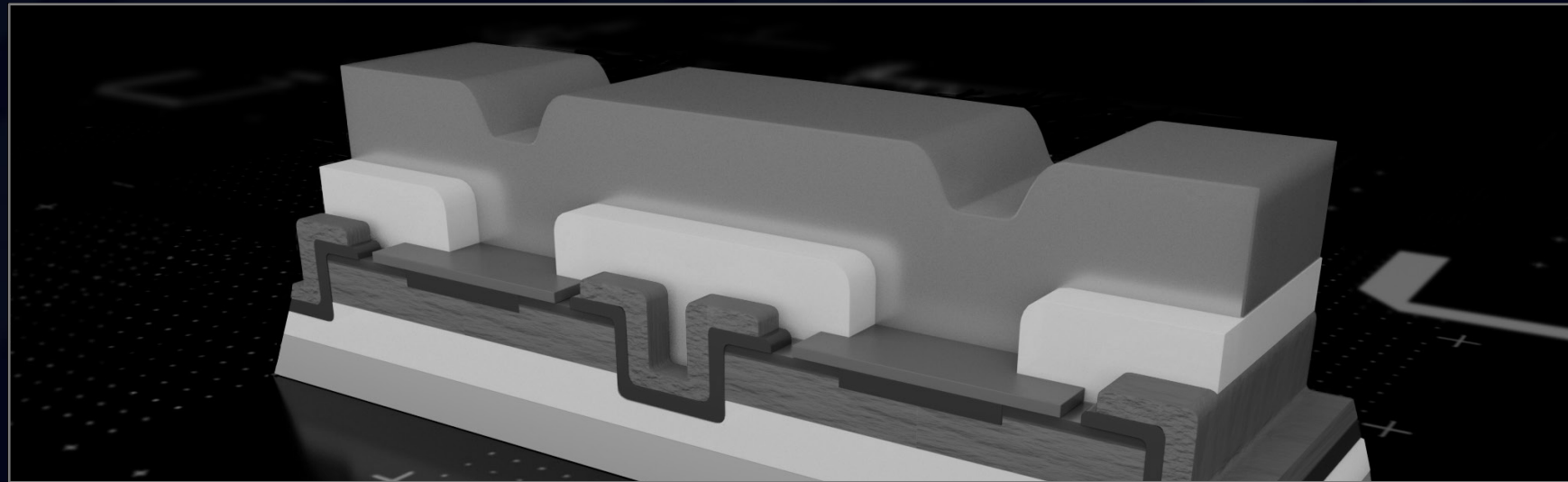
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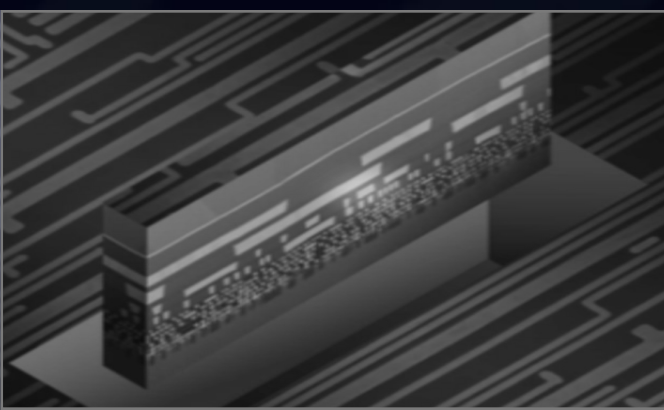
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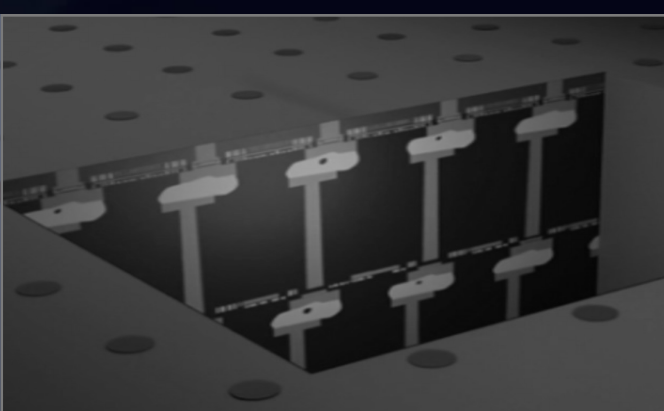
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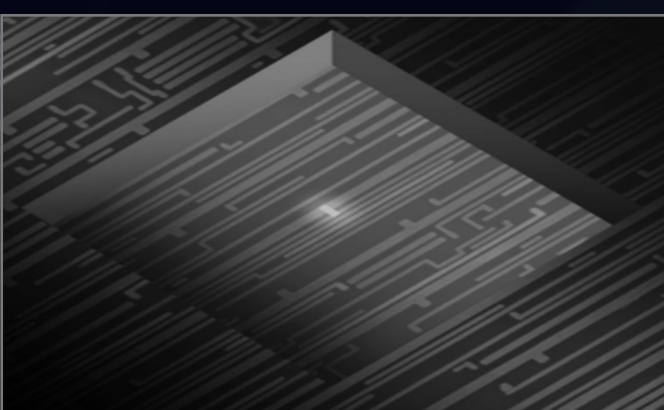
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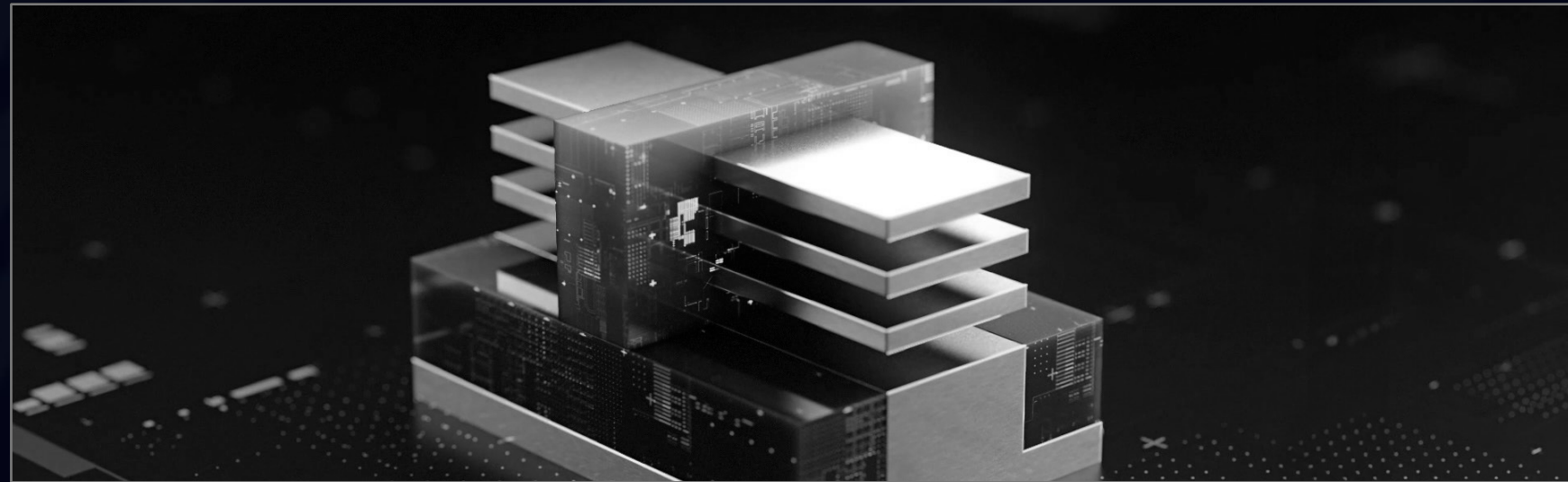
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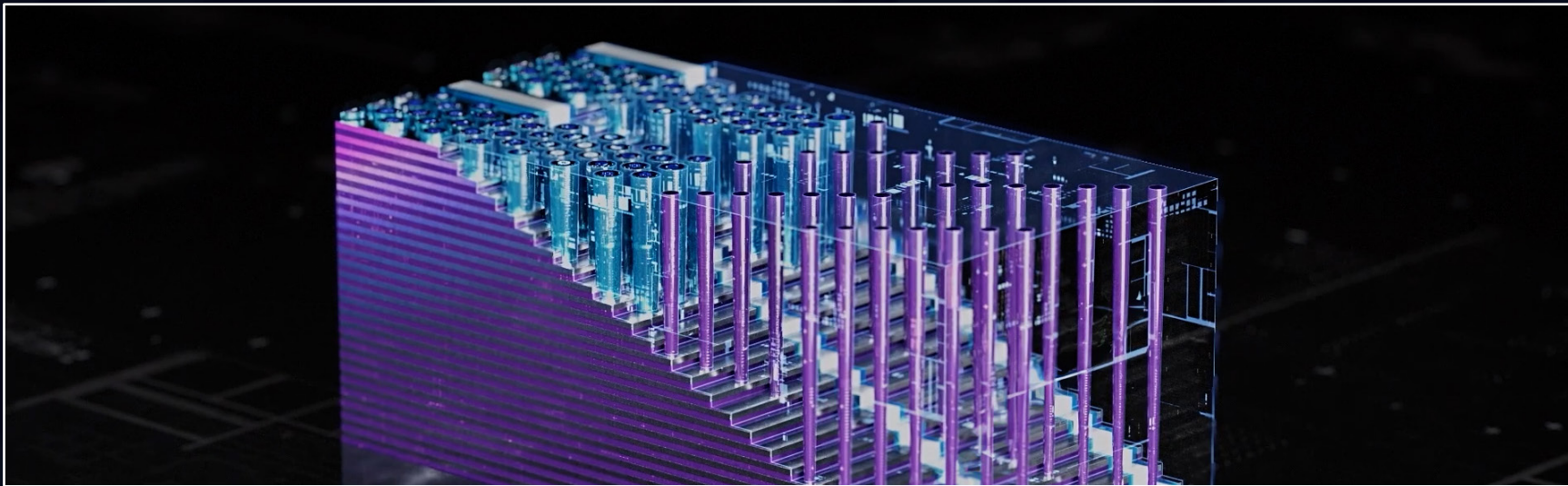
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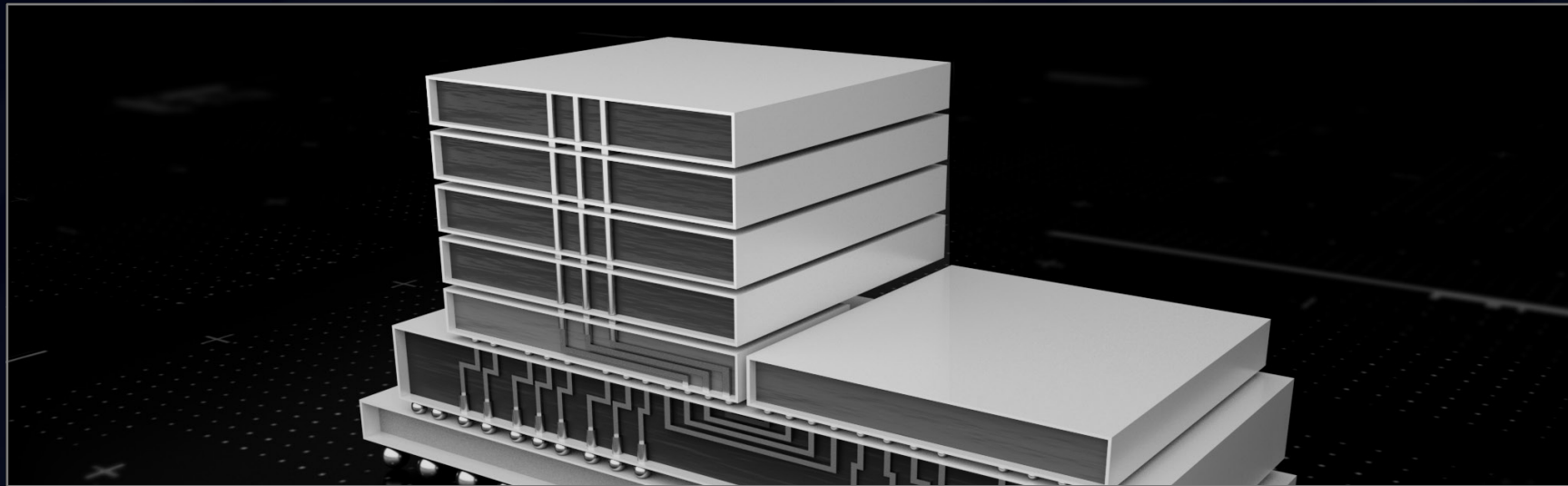
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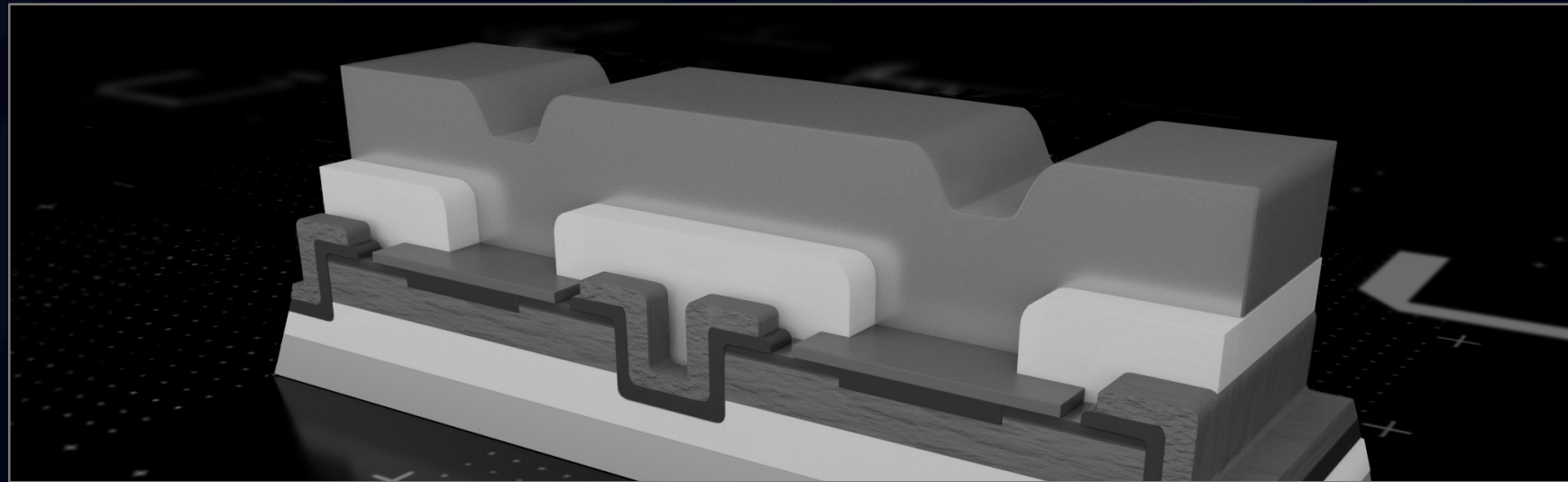
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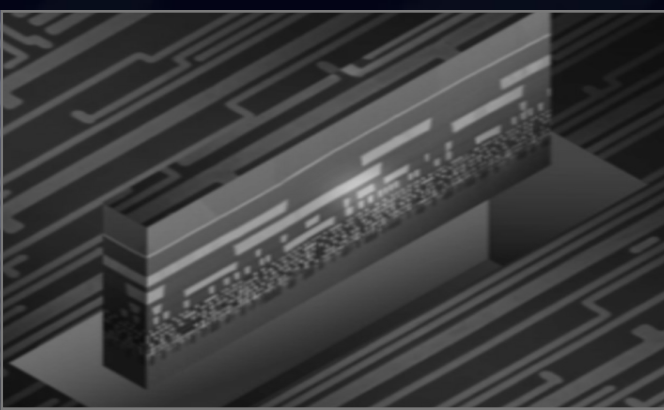
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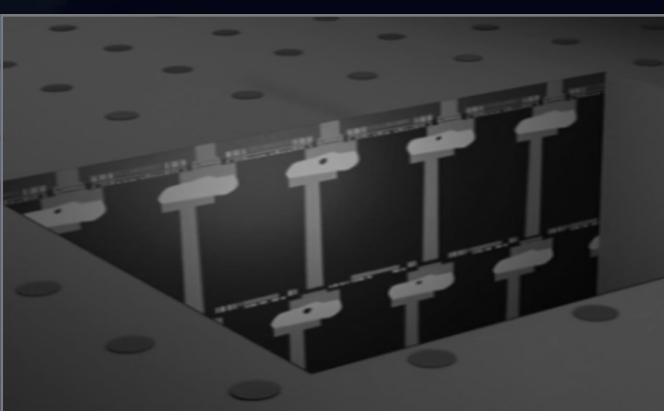
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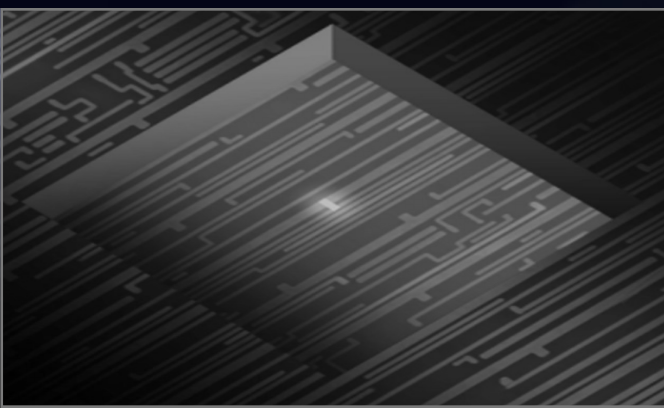
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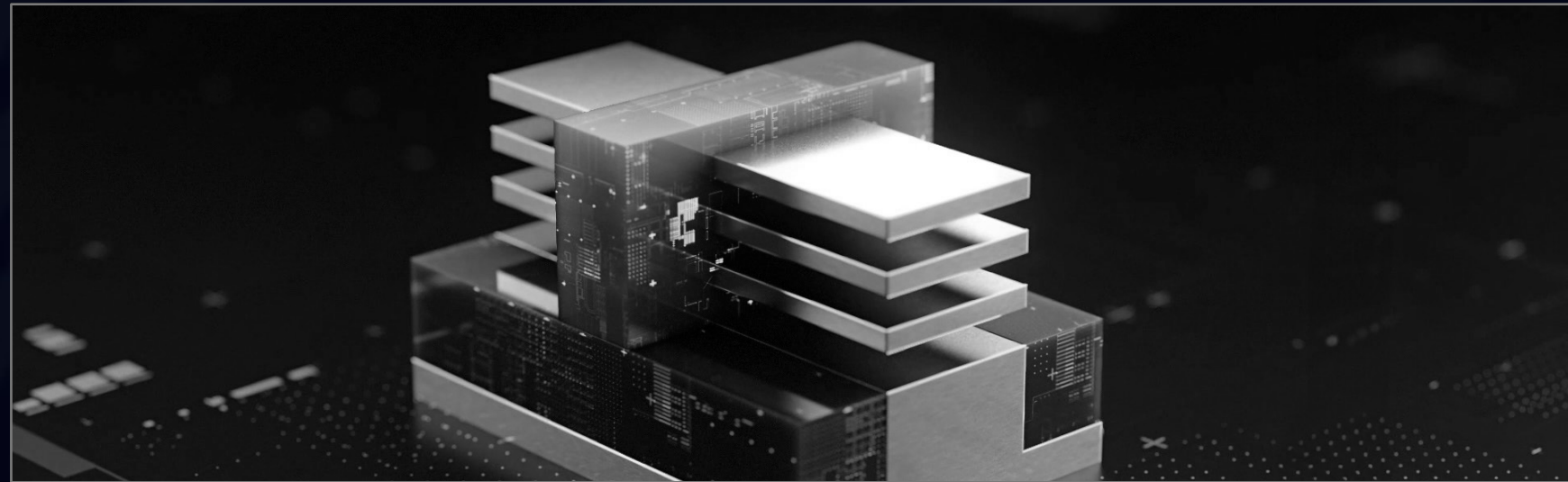
thermo scientific

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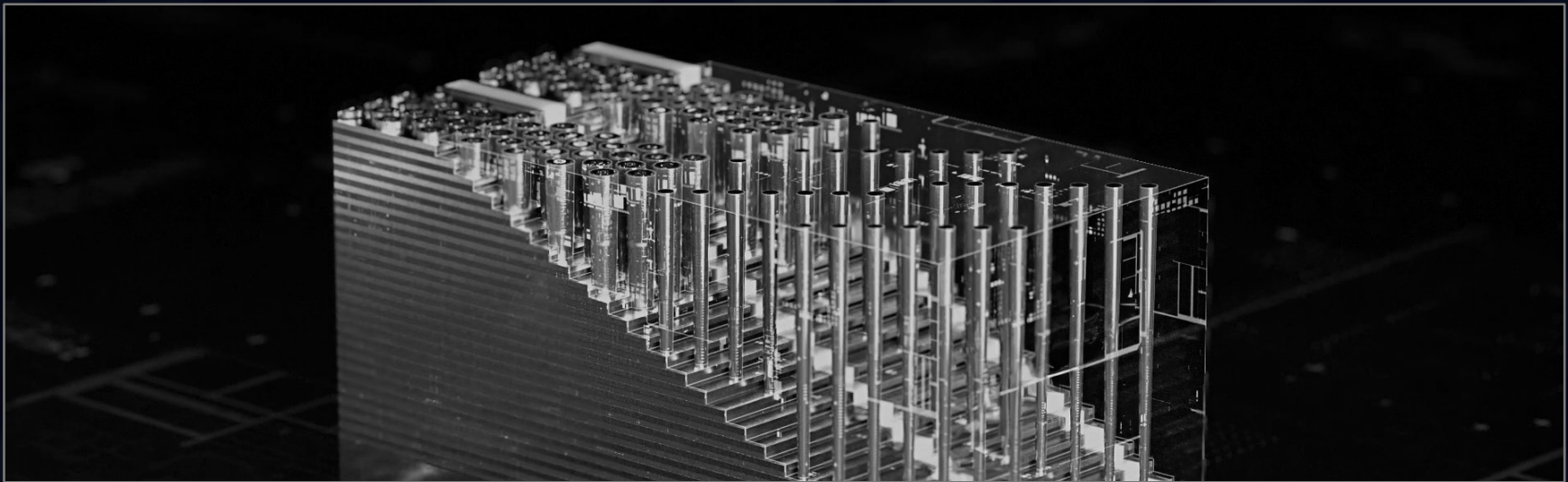
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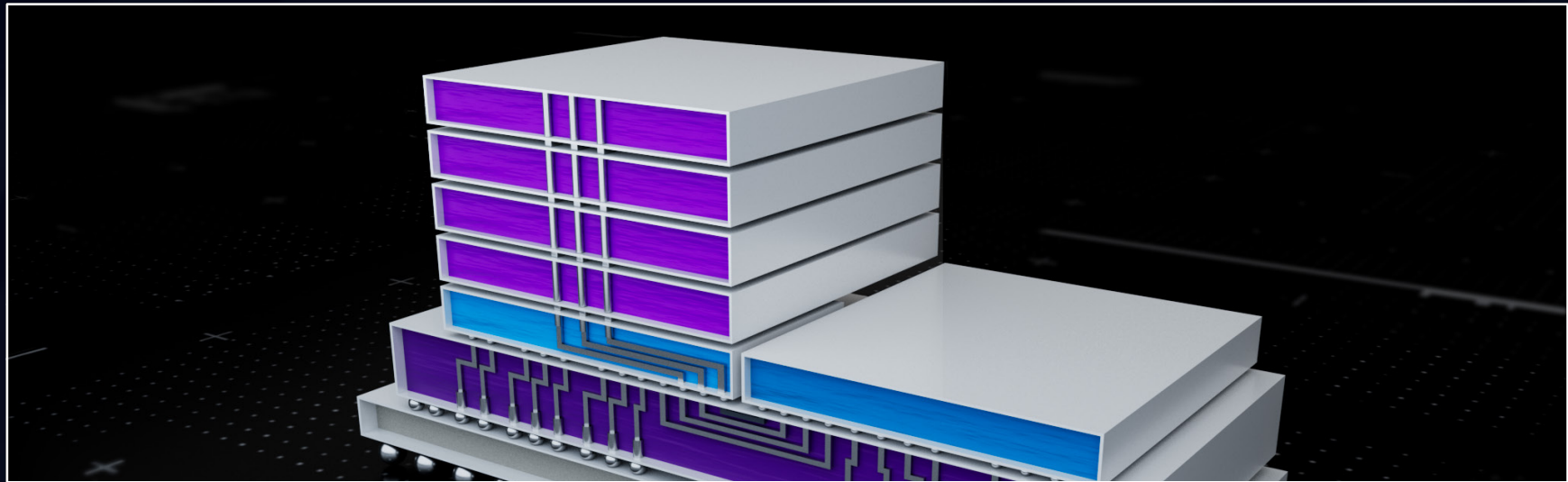
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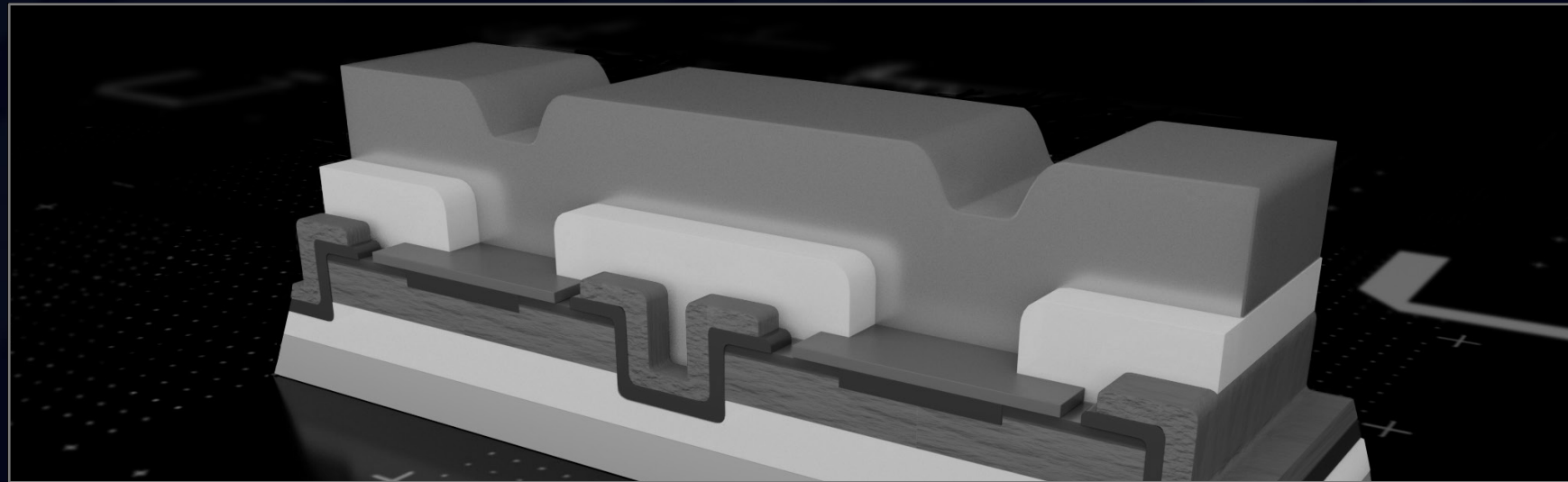
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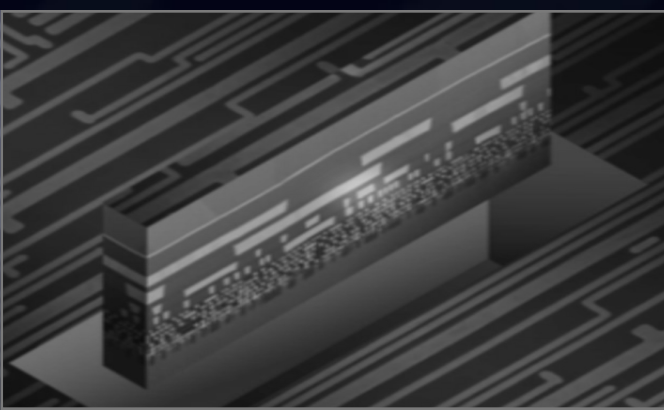
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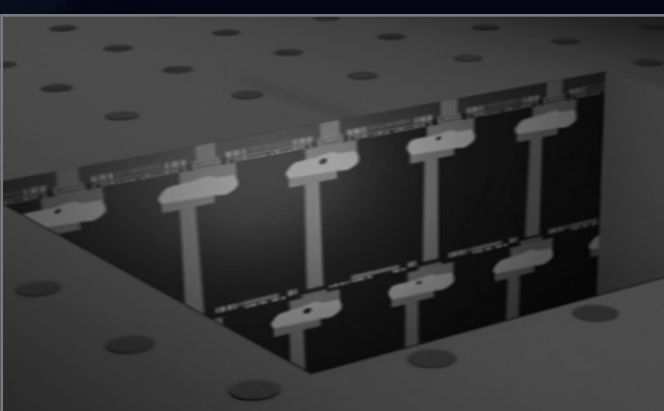
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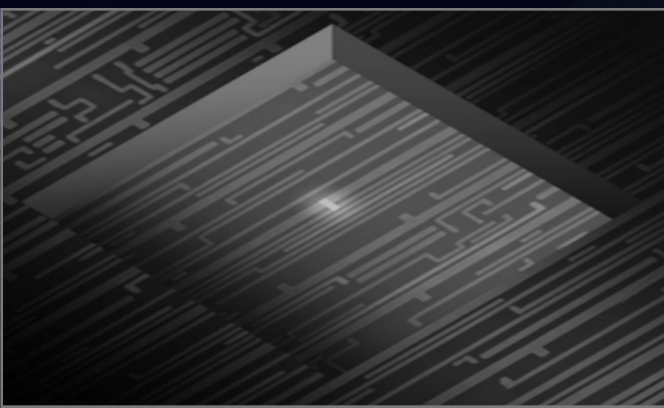
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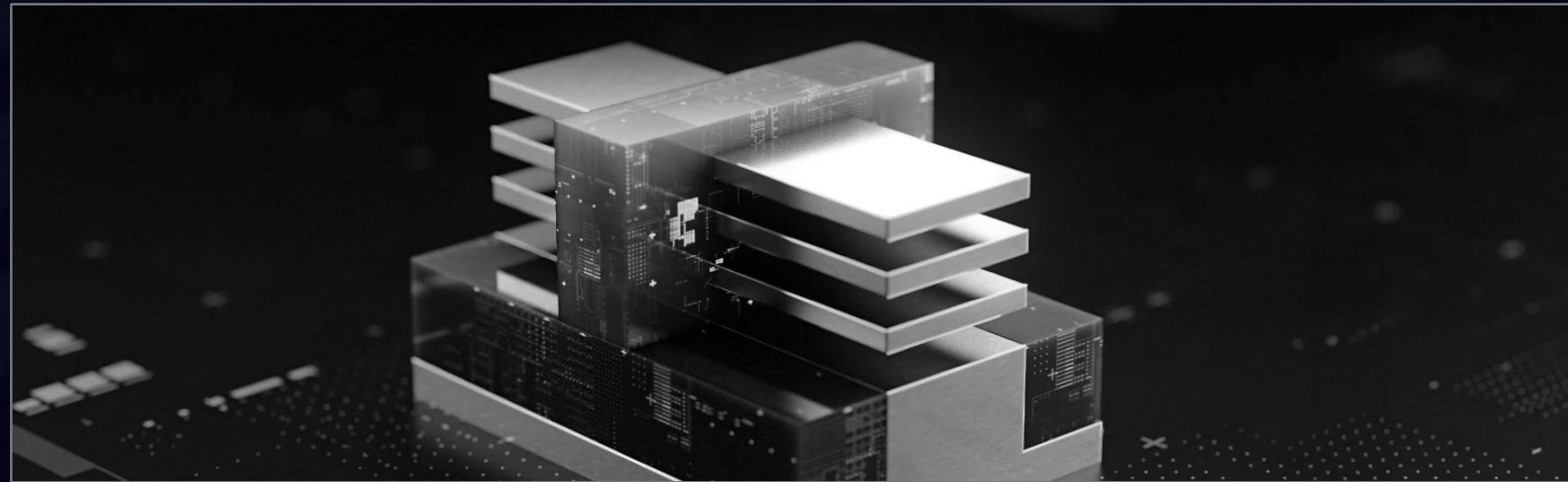
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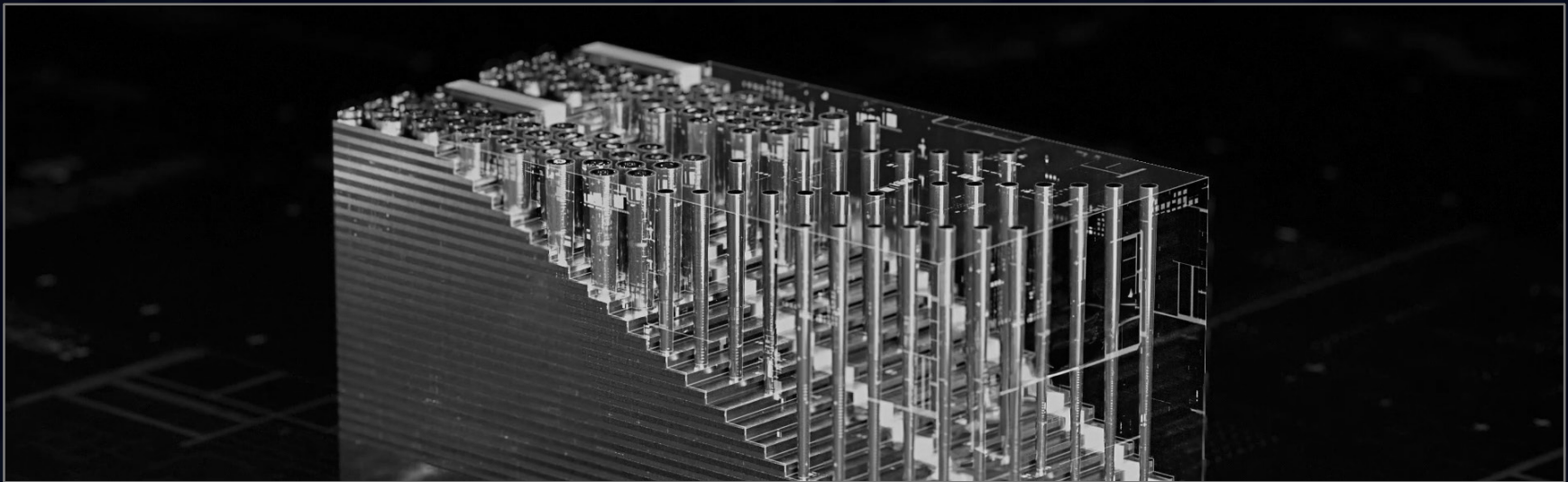
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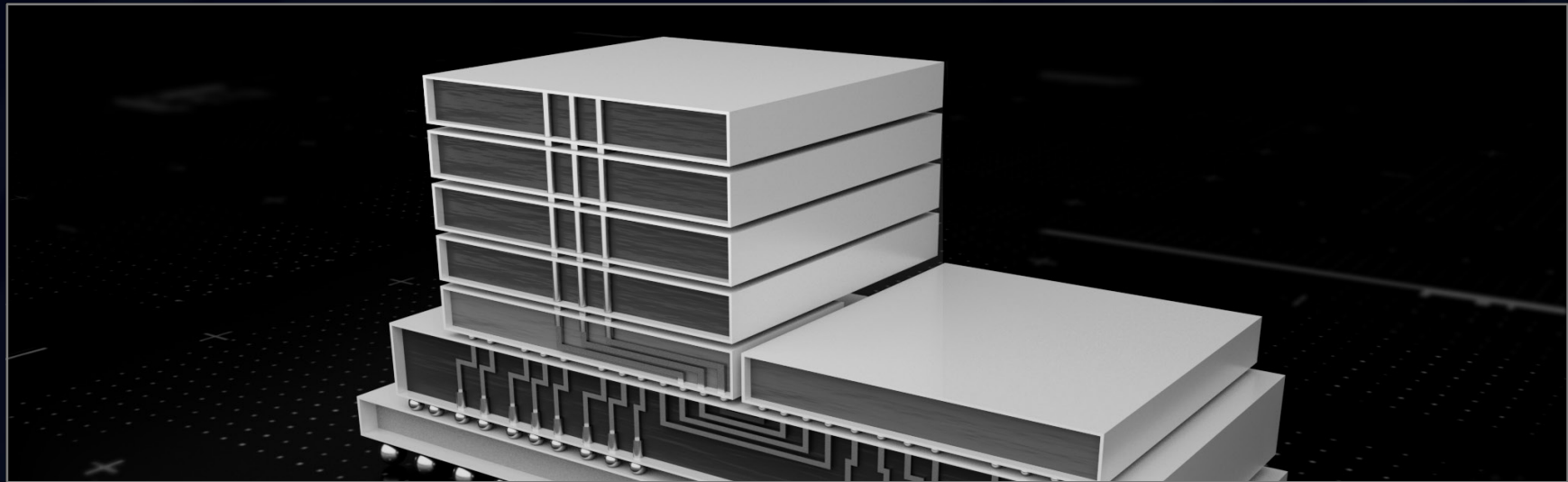
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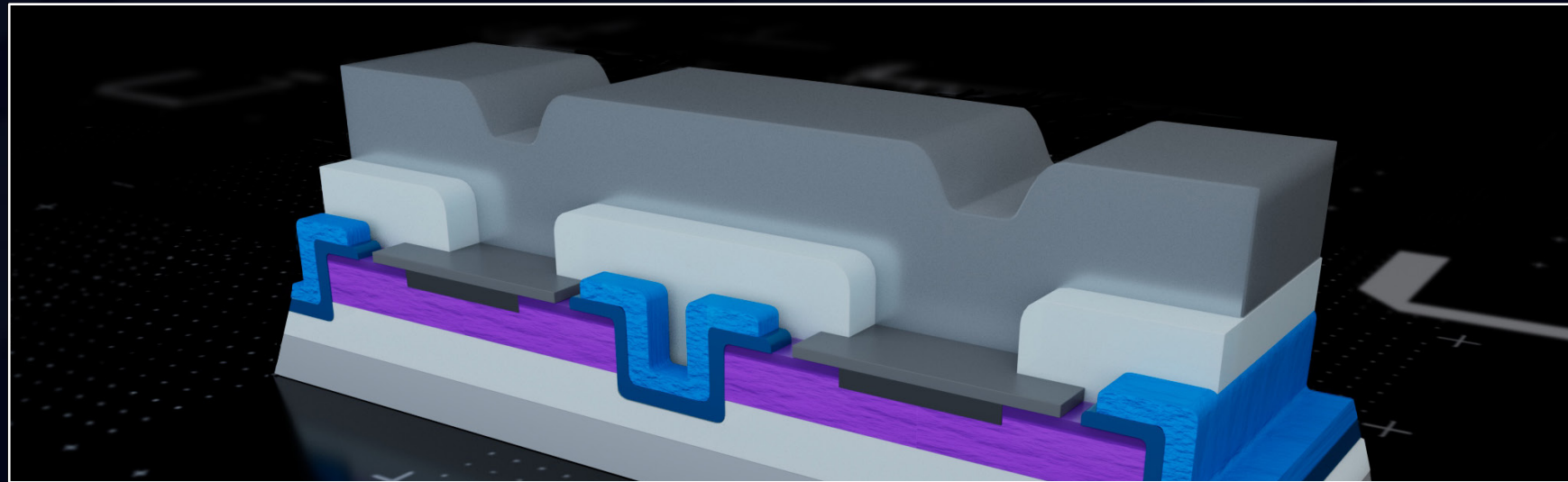
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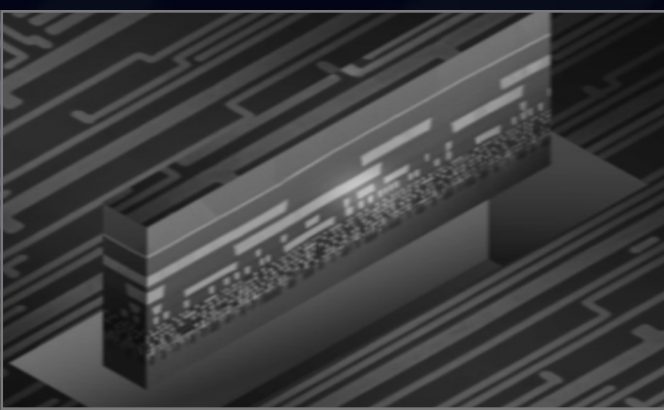
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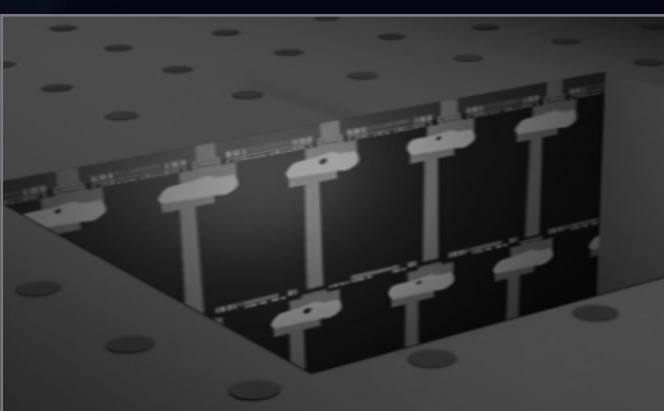
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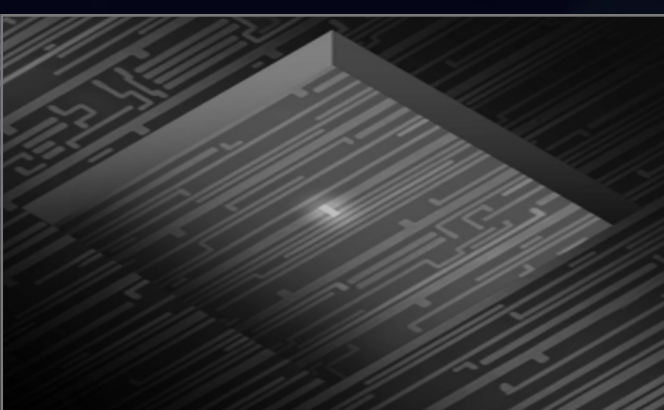
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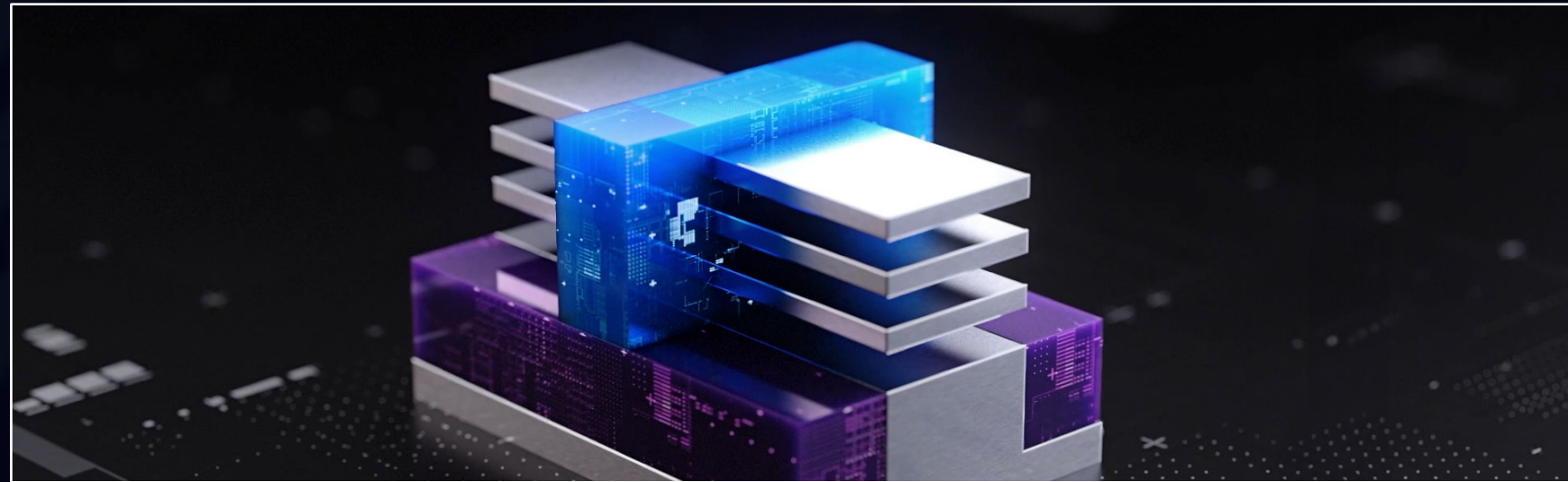
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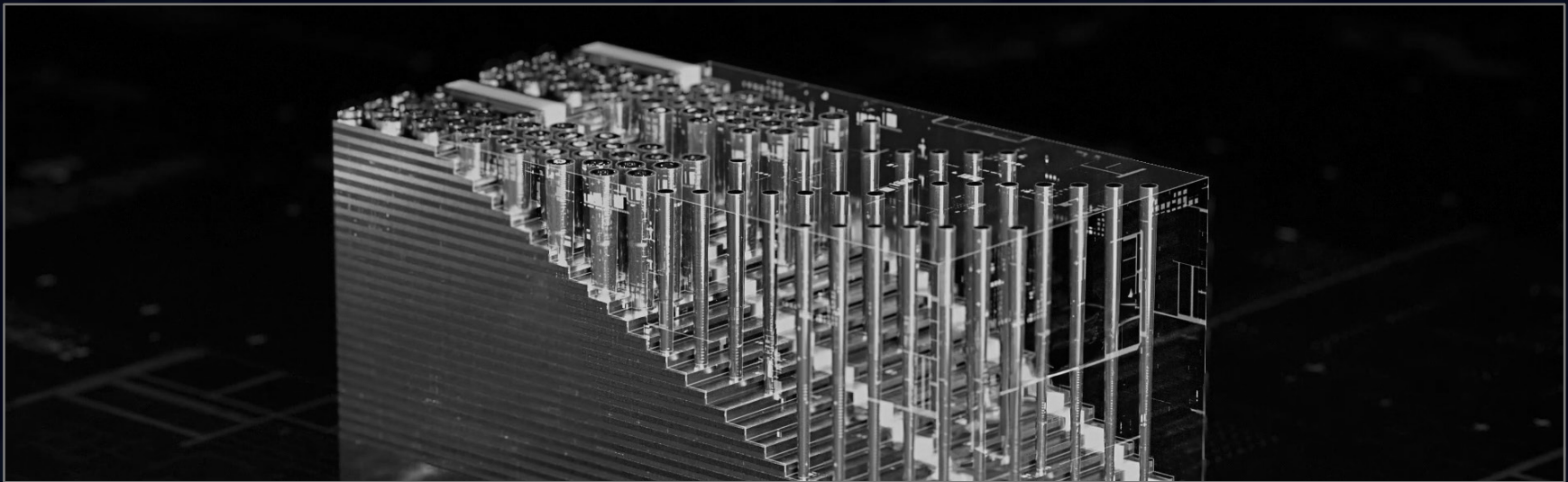
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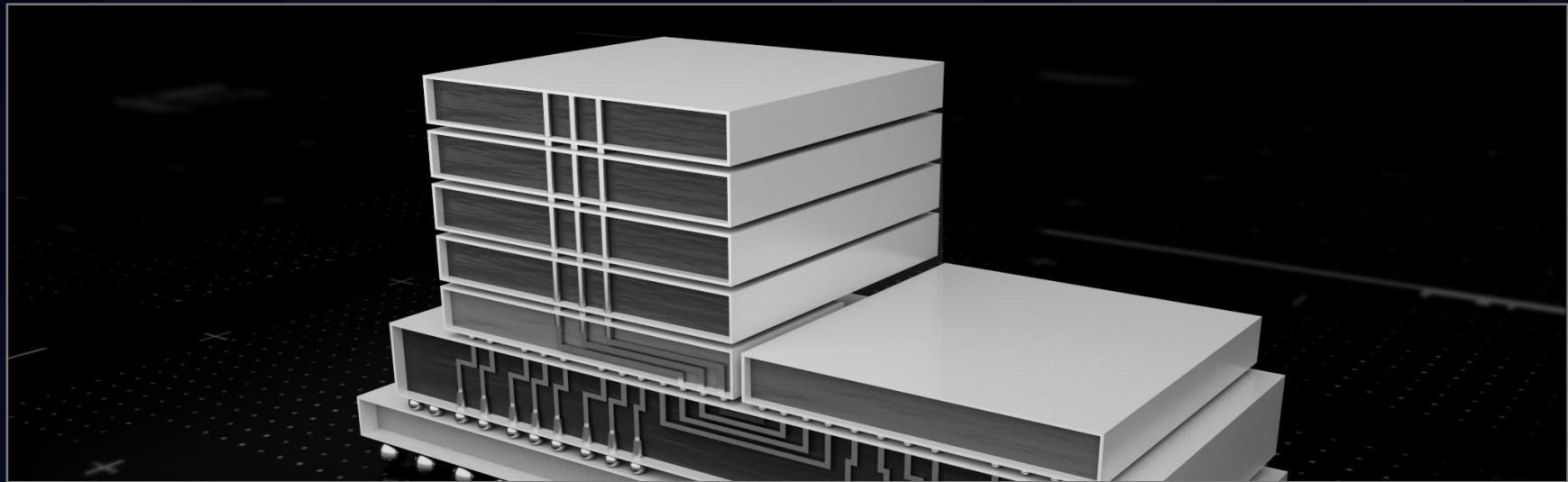
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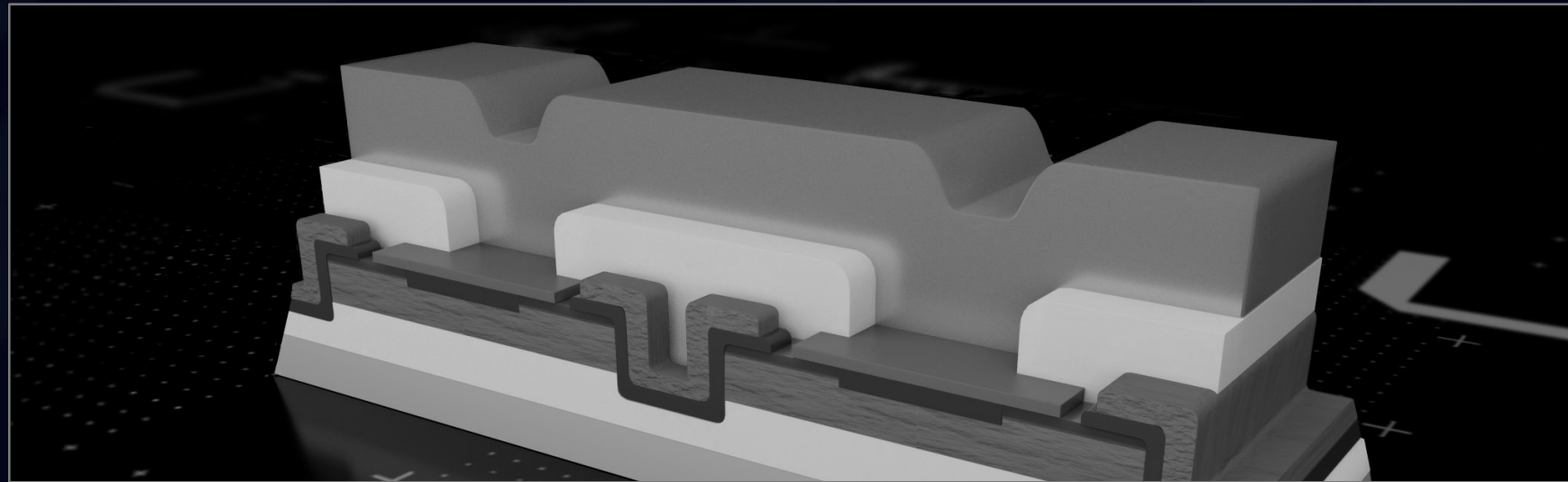
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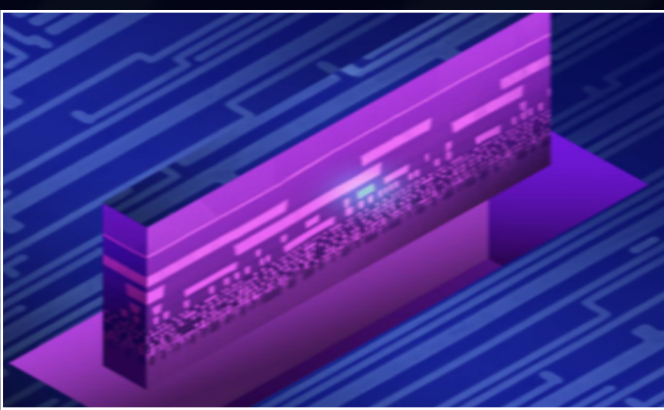
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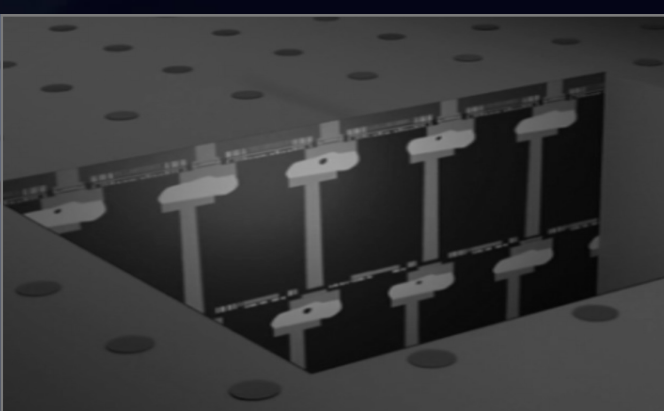
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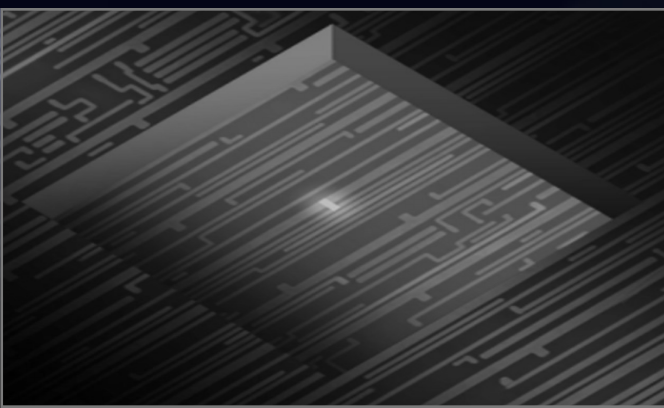
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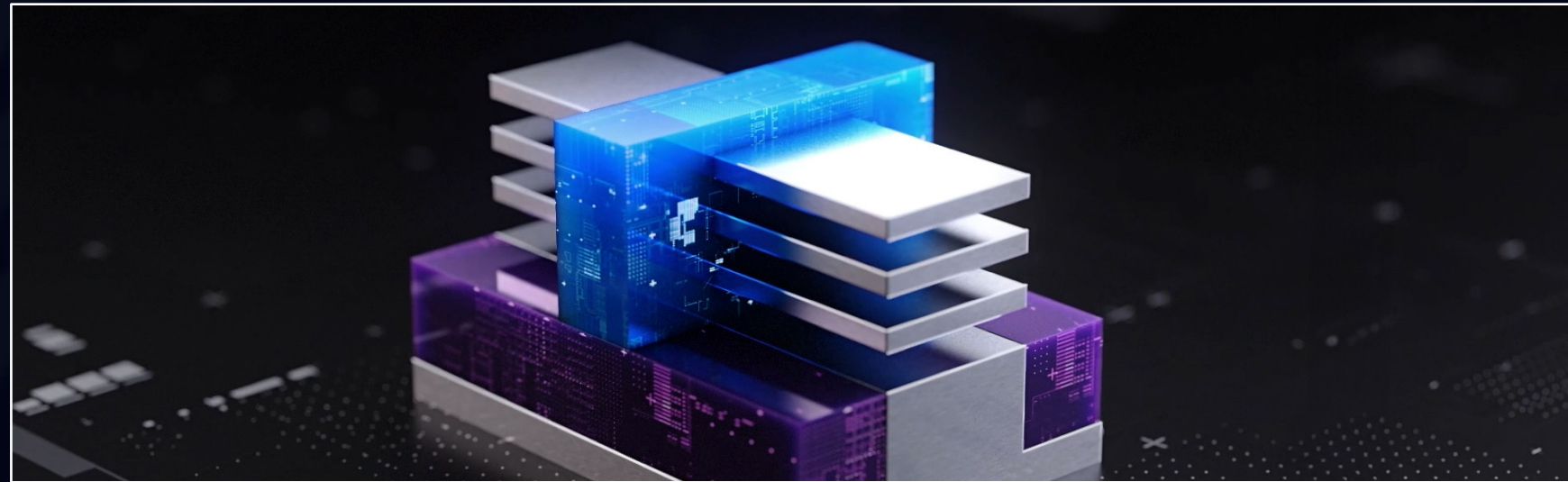
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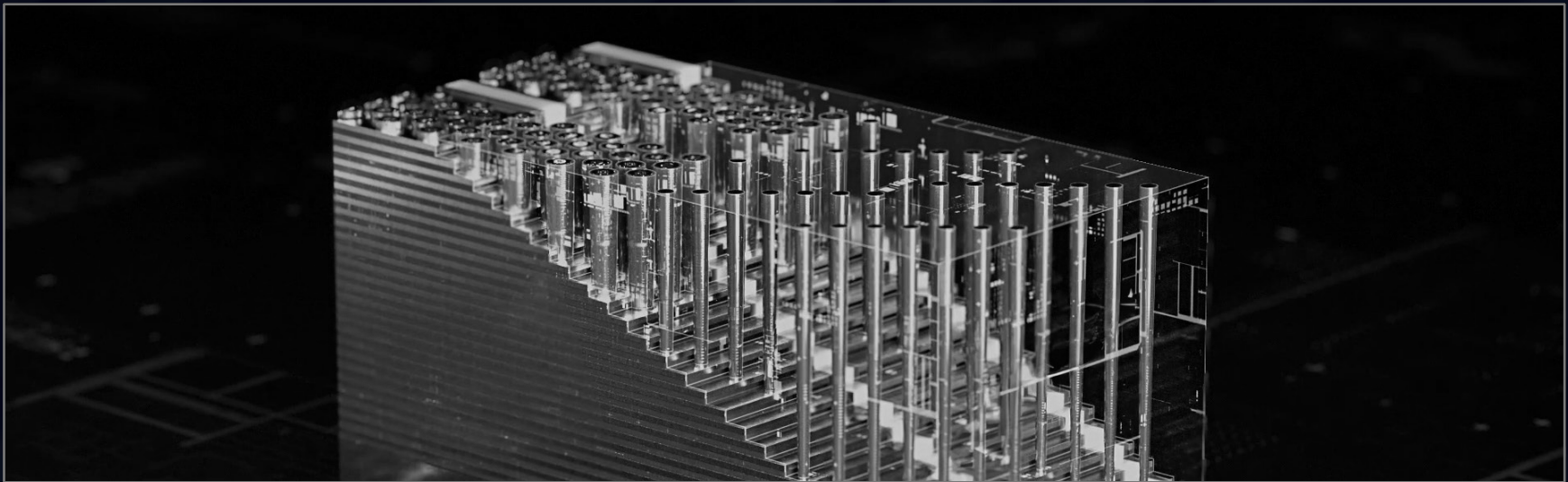
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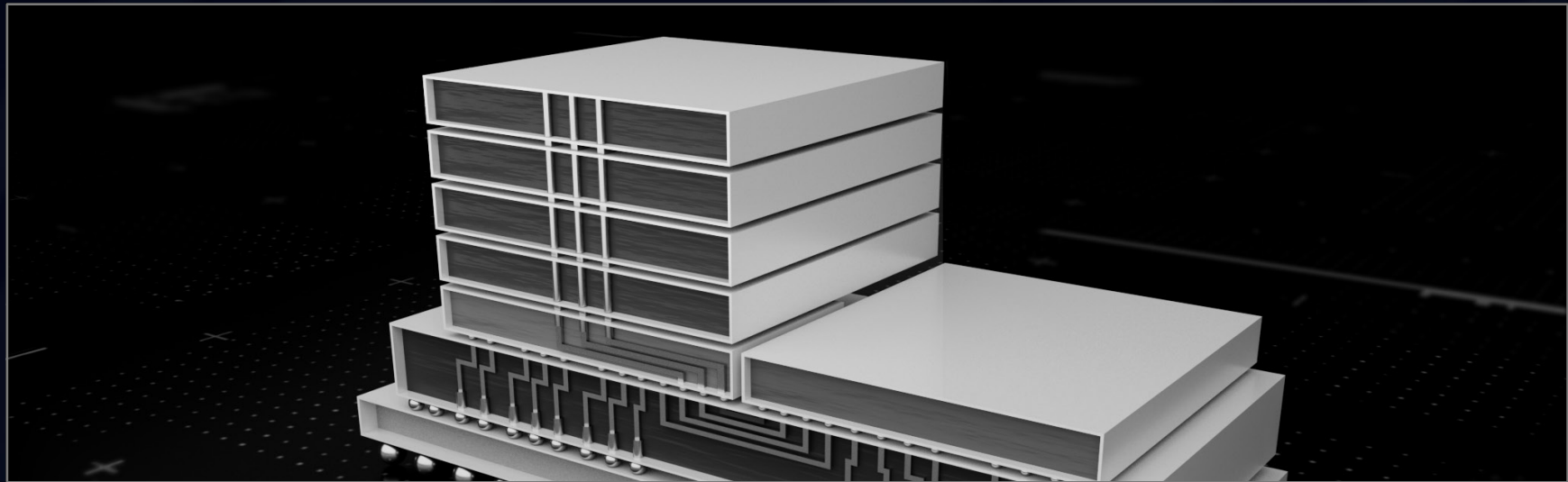
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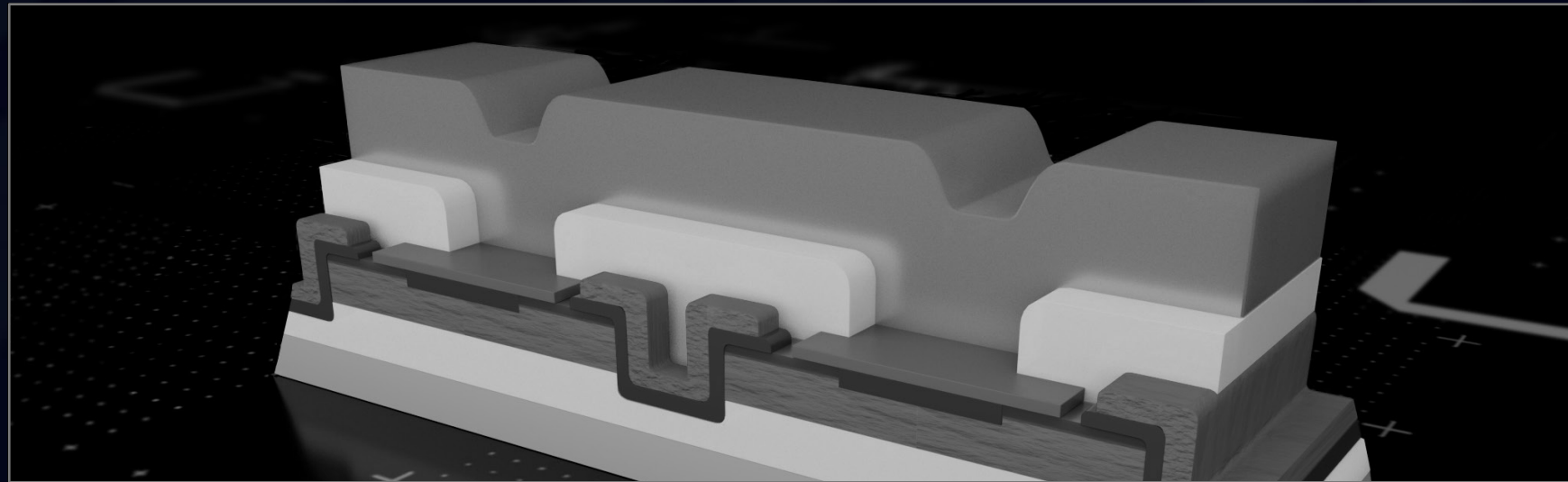
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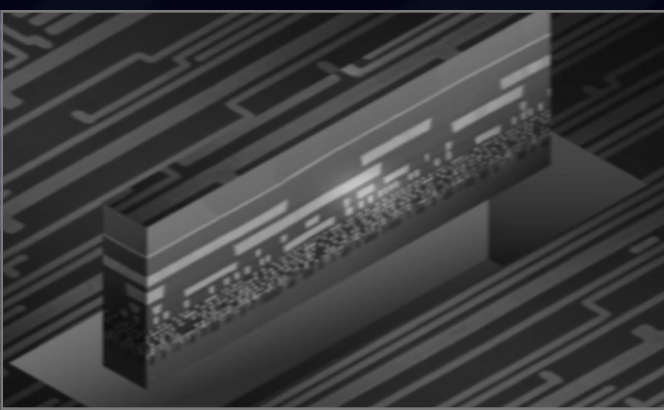
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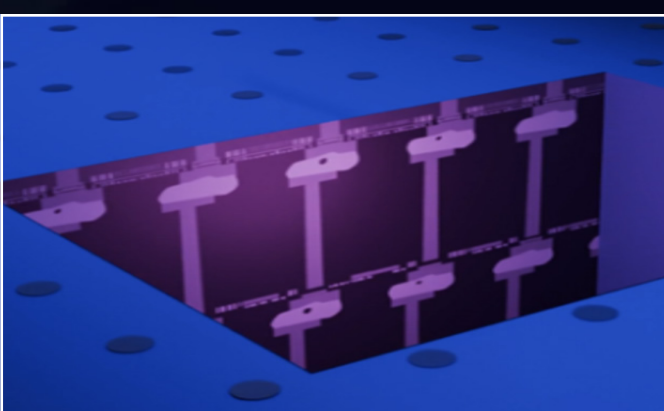
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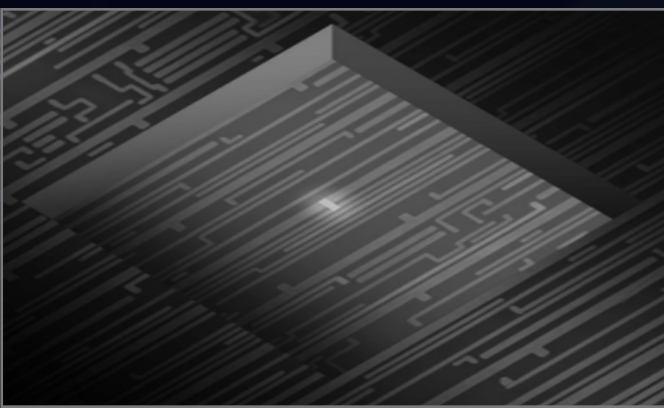
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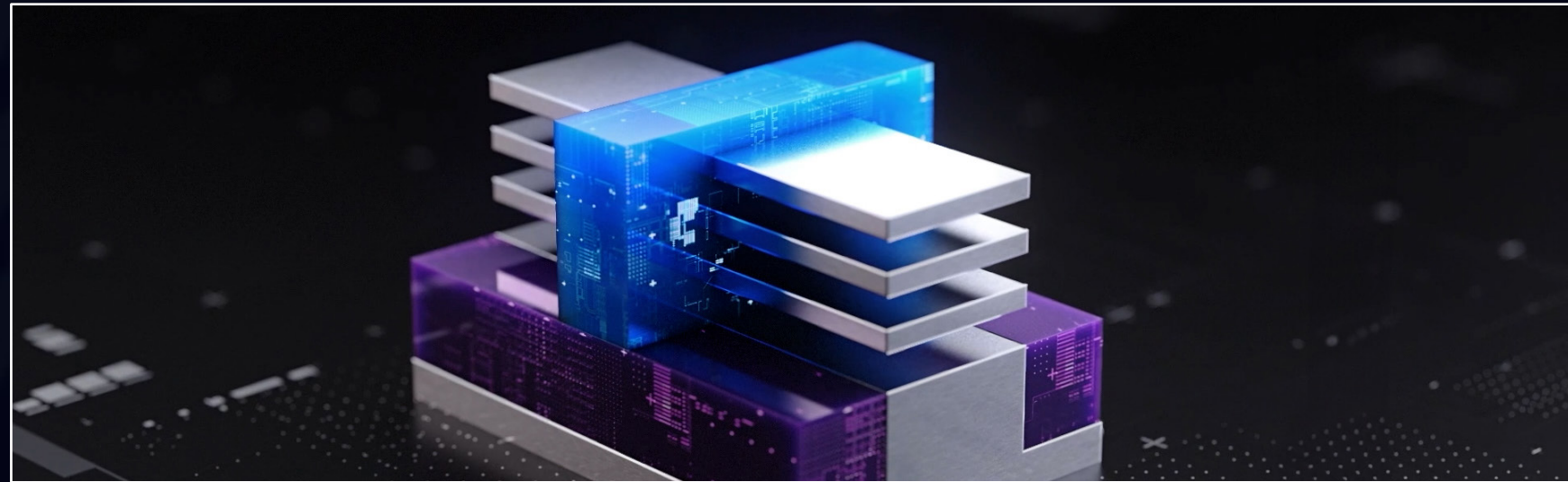
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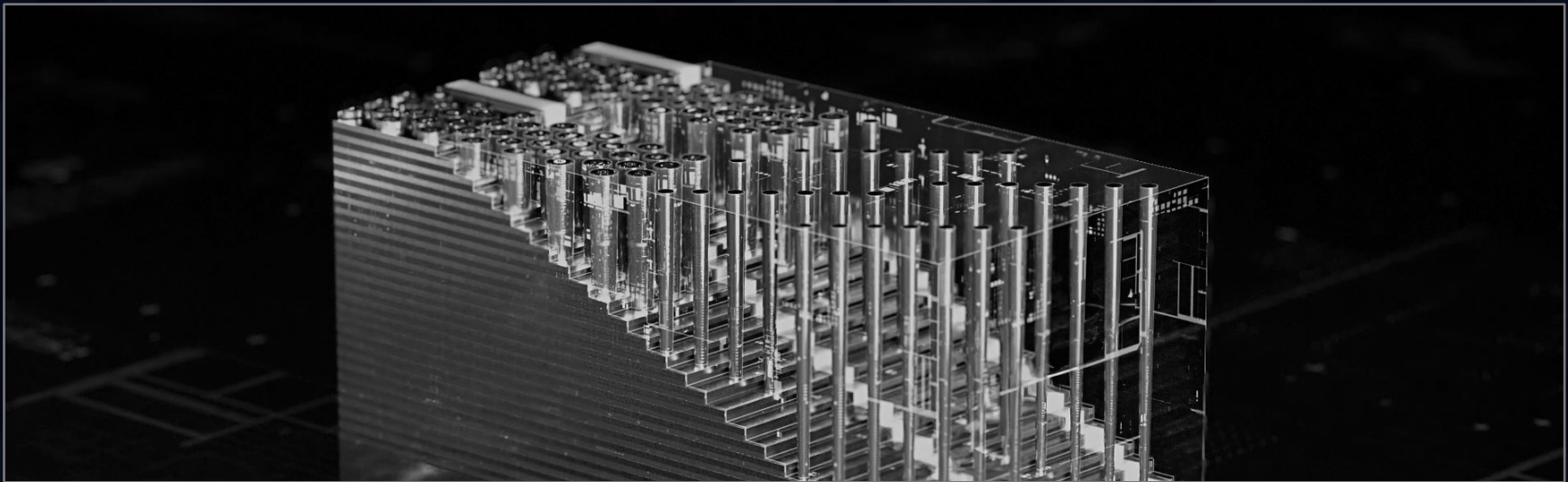
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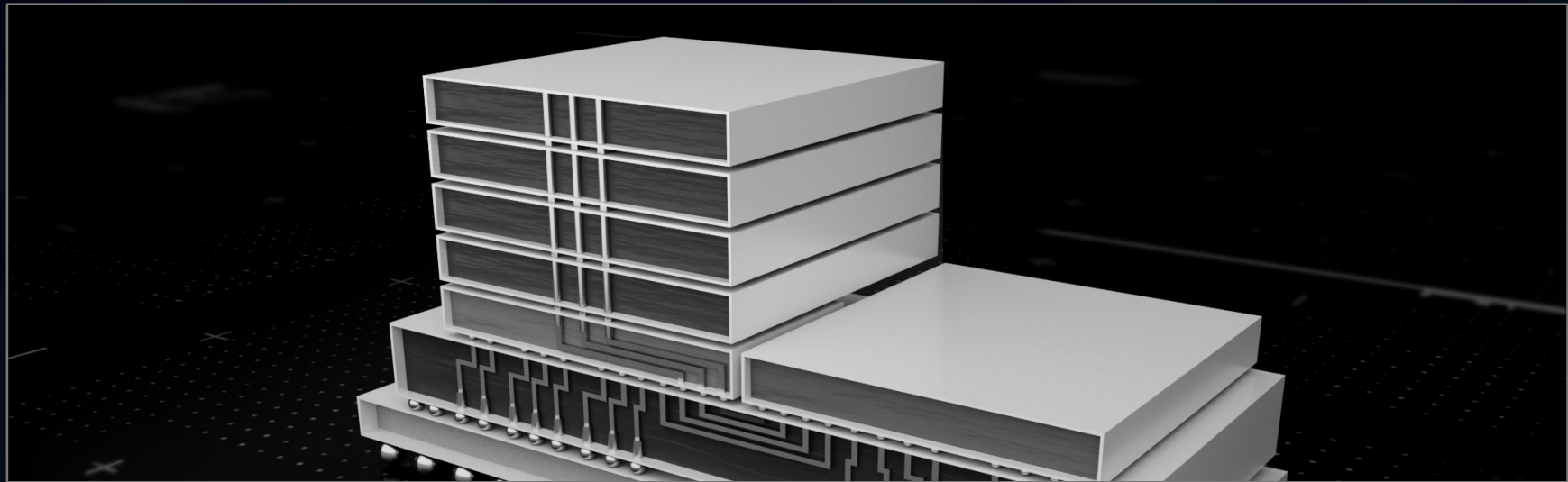
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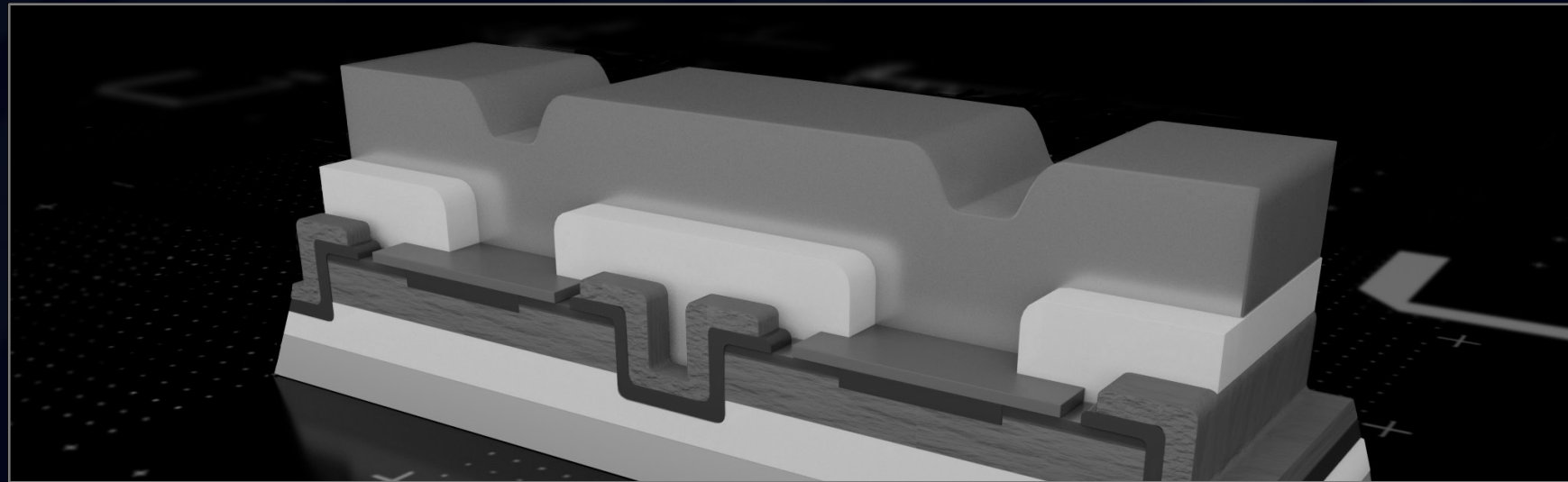
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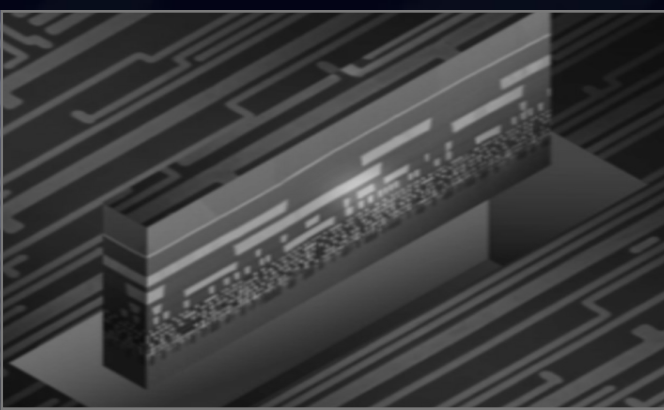
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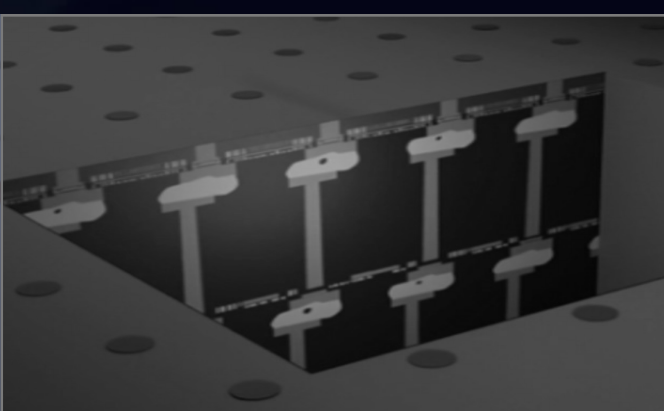
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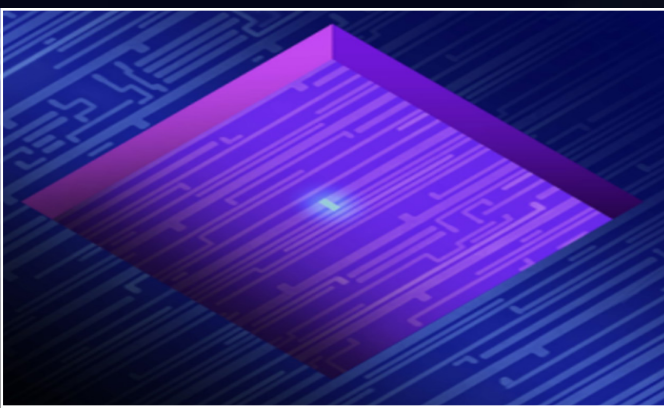
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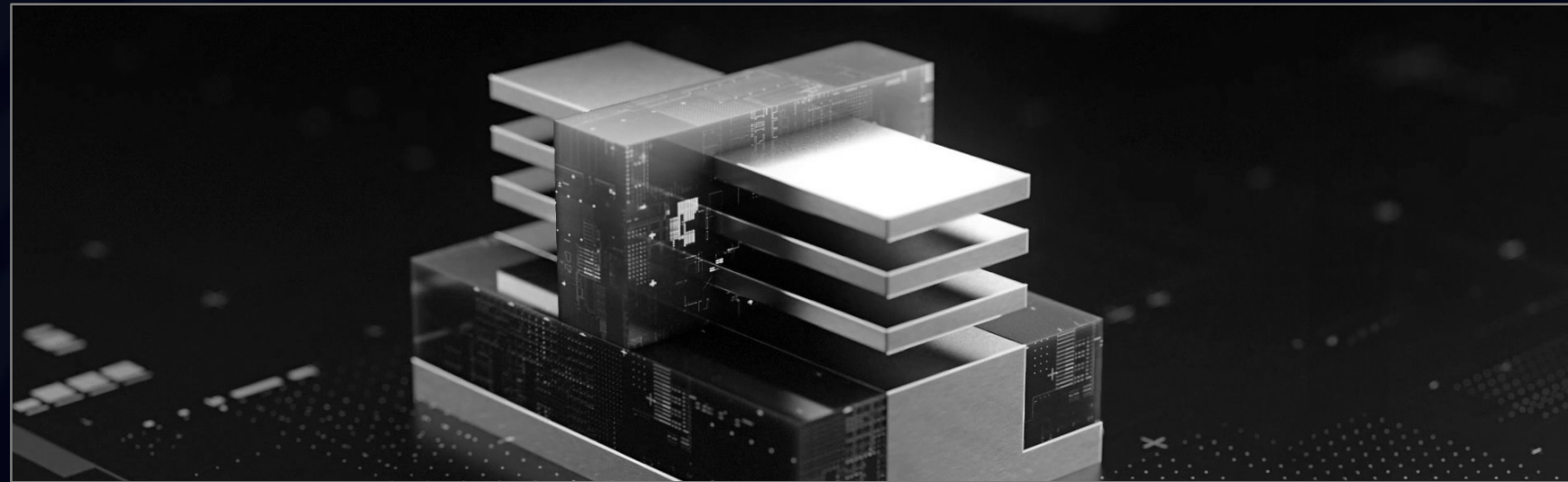
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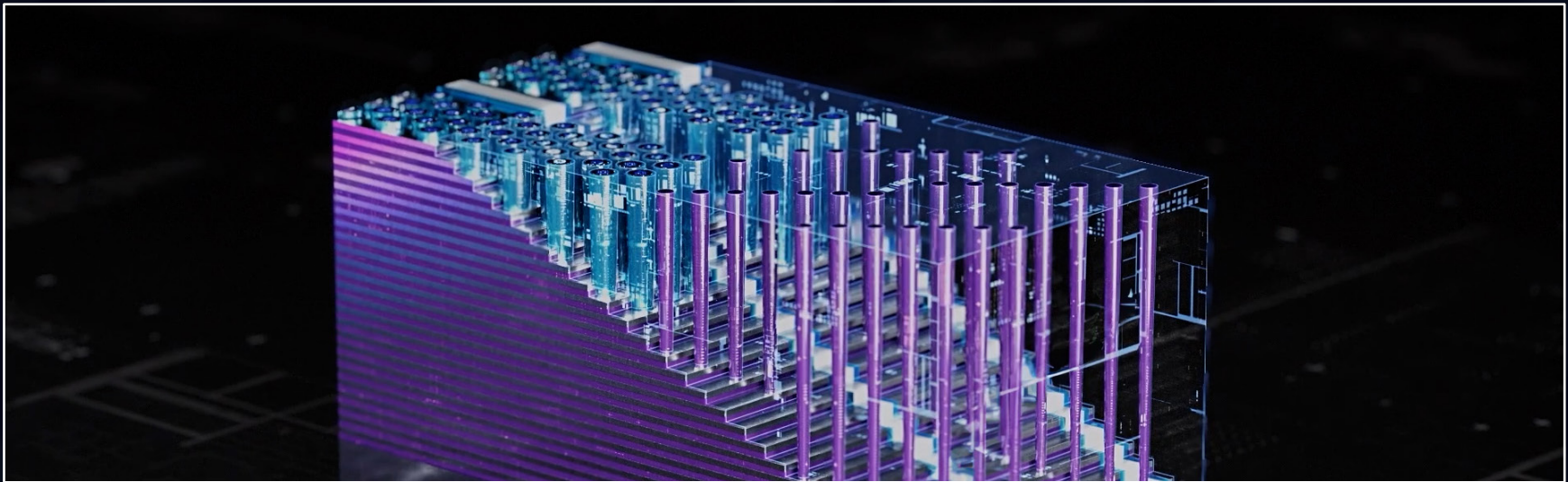
Select a use case
to see all
capabilities

Logic



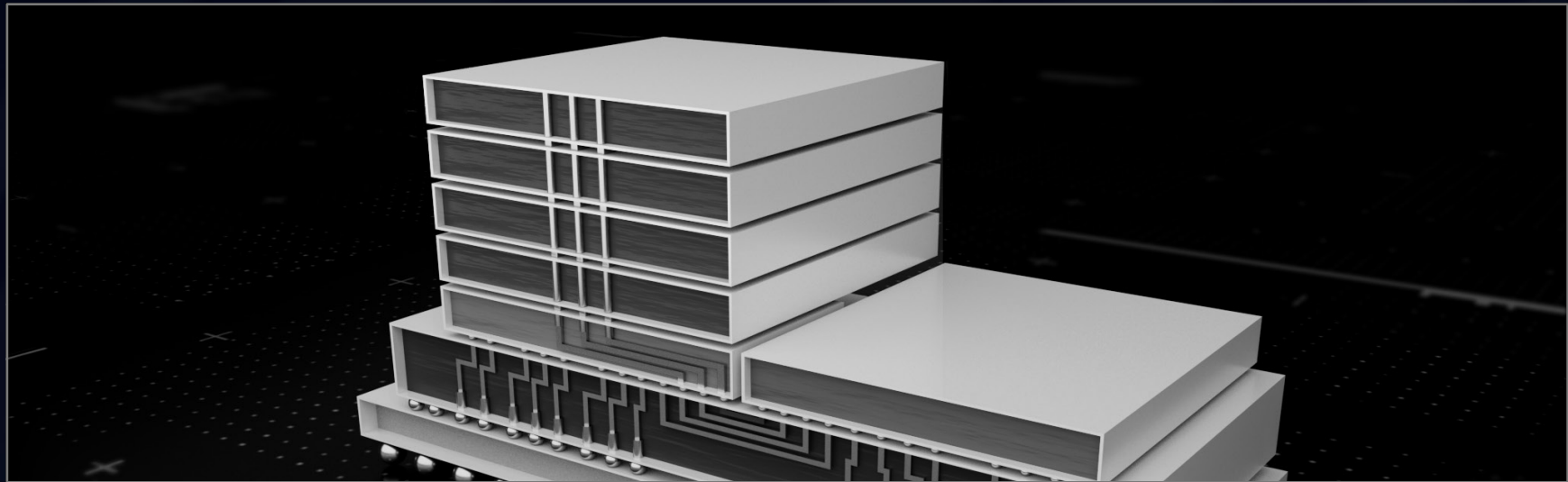
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Memory



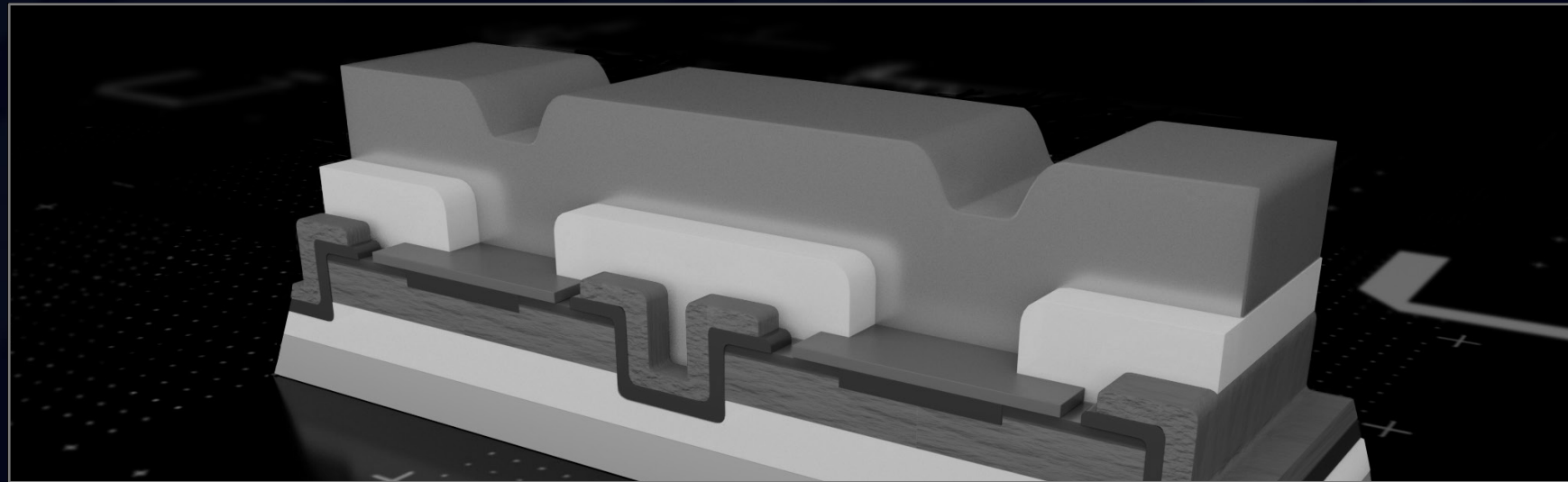
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Advanced packaging



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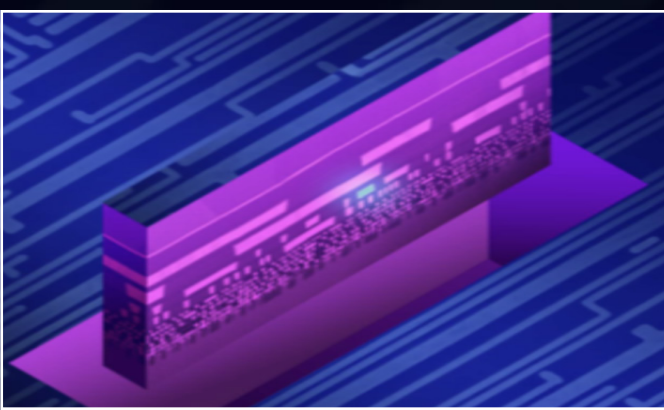
Power



Compound semiconductor defectivity impacts performance

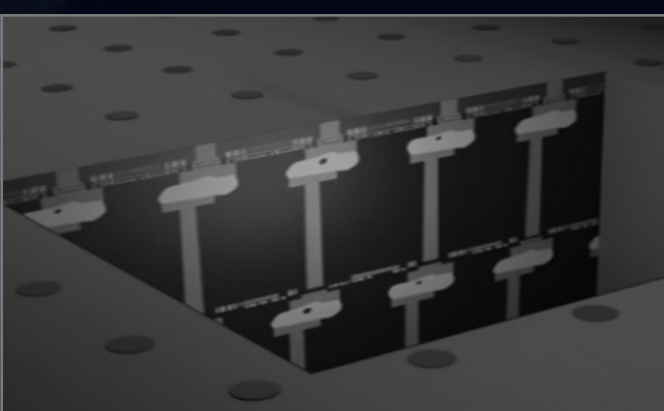
TEM preparation

Create ultra-thin samples for atomic-scale TEM analysis



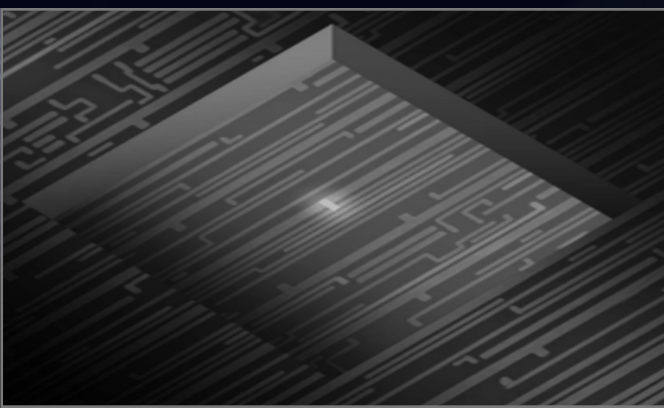
Cross-section & 3D

Expose buried devices for SEM analysis and process monitoring



Delayering

Layer-by-layer removal for fault isolation and characterization



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Contact us

Best fit

Better fit

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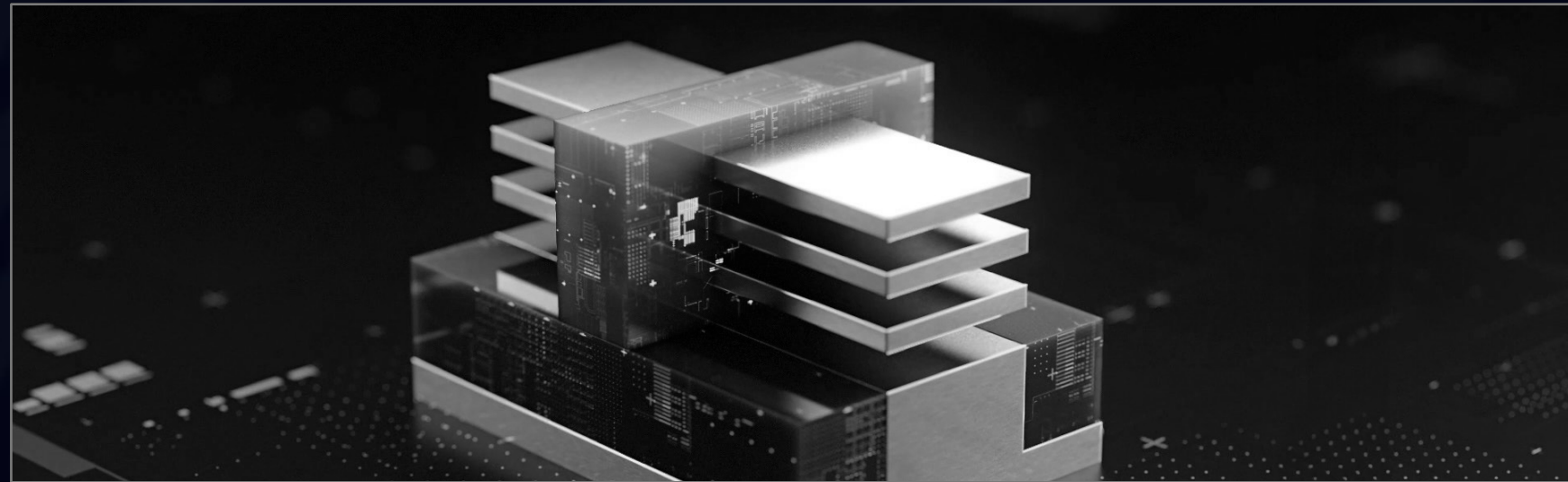
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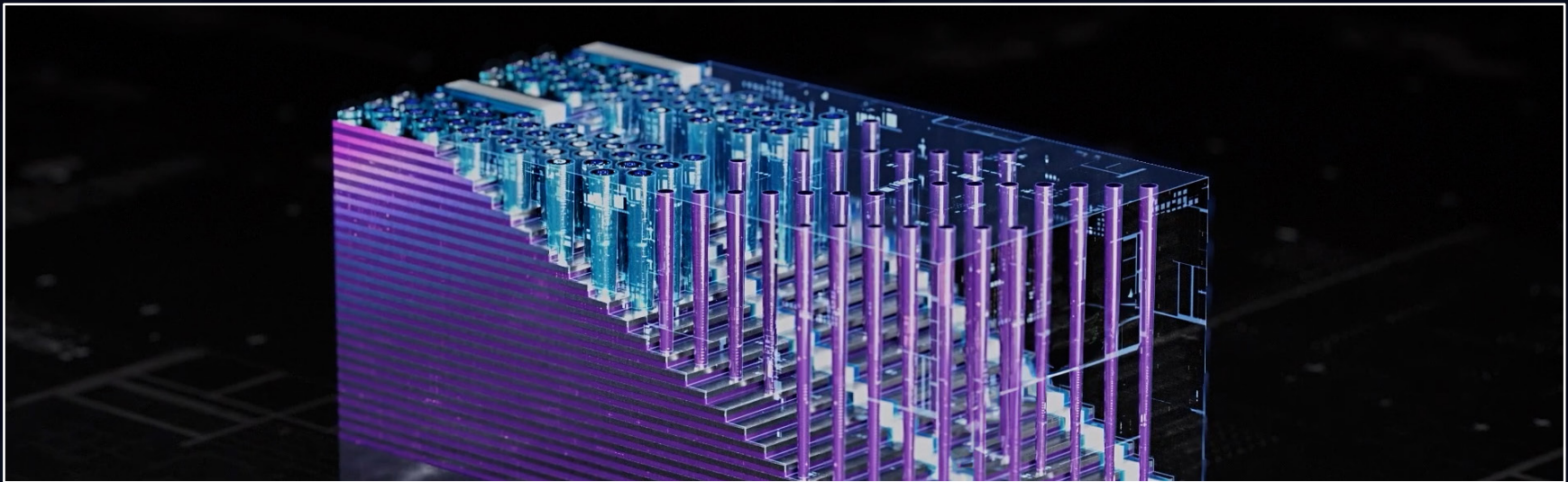
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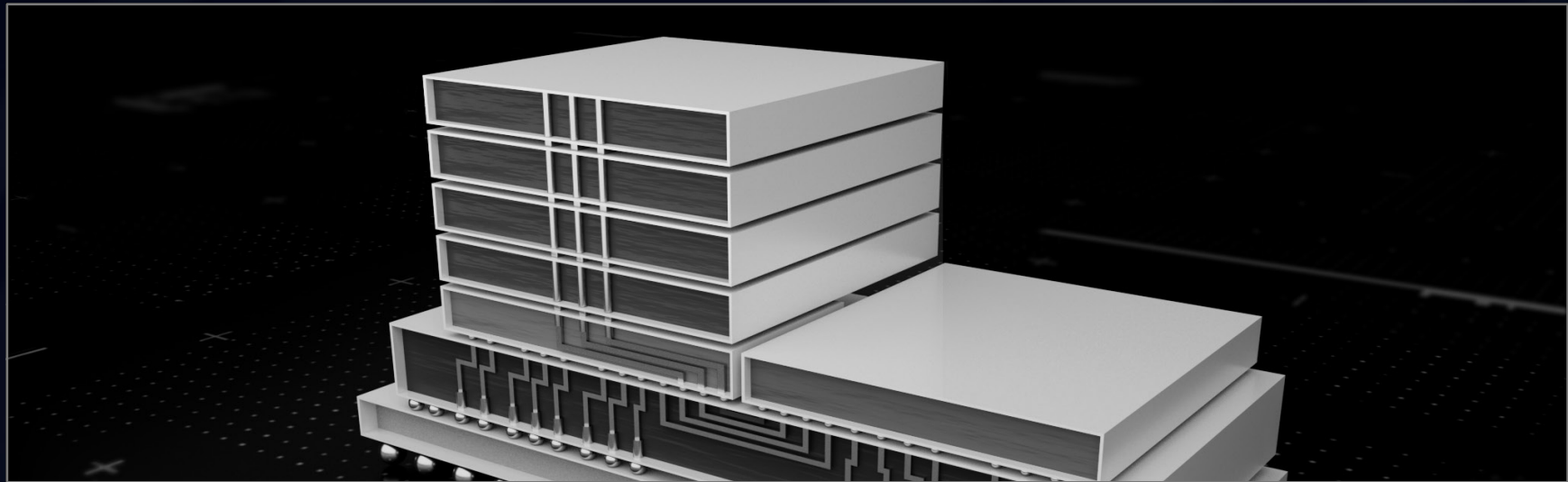
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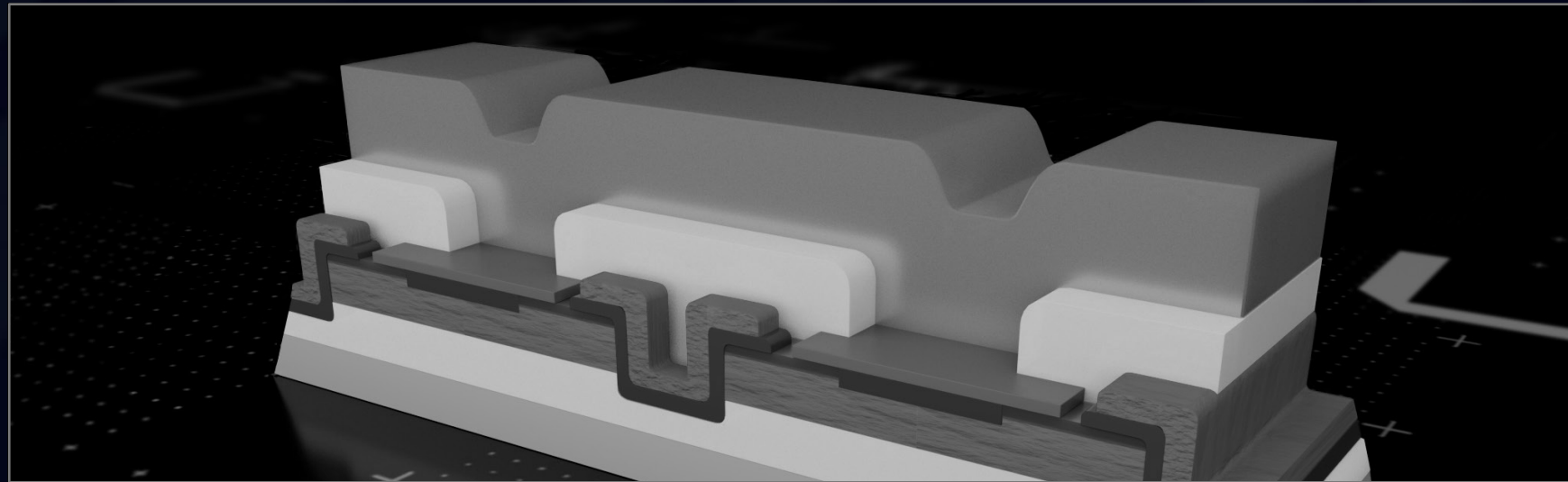
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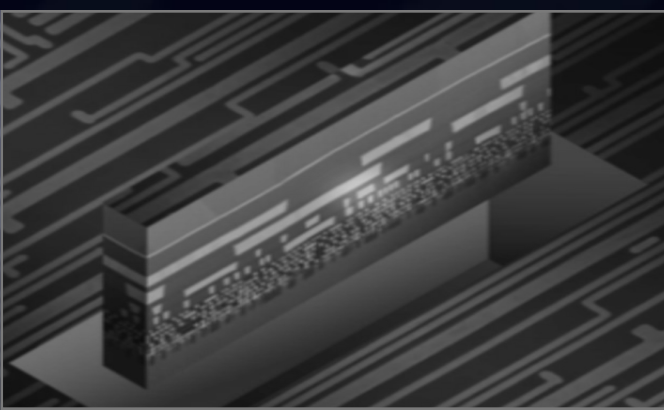
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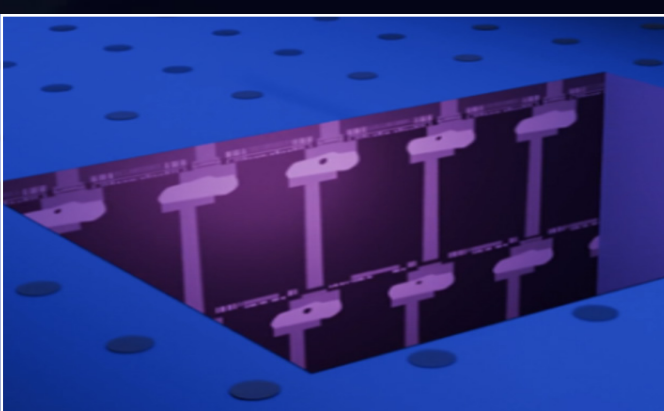
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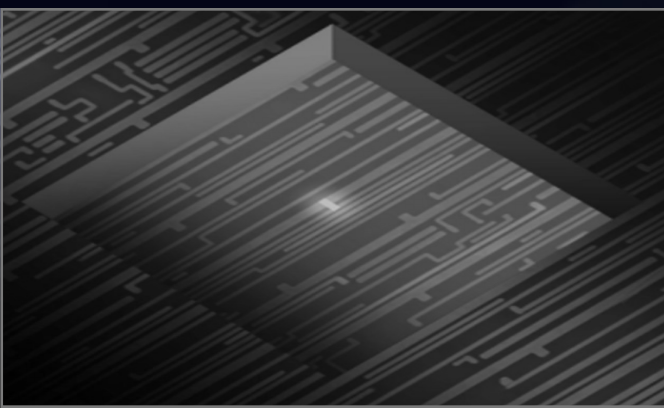
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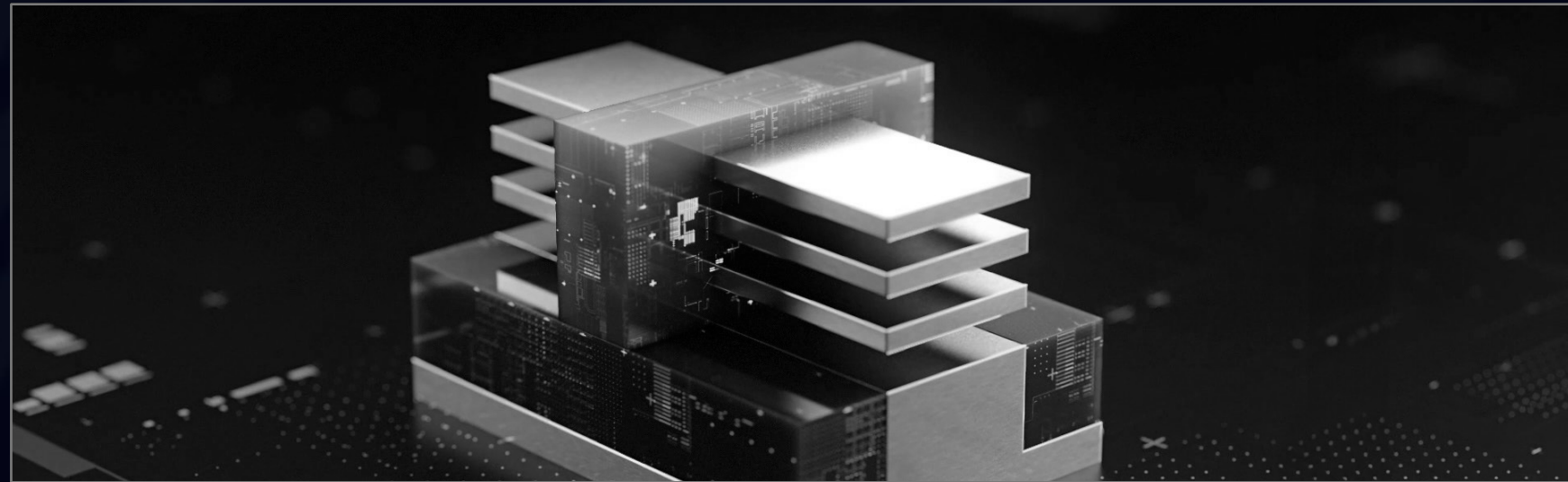
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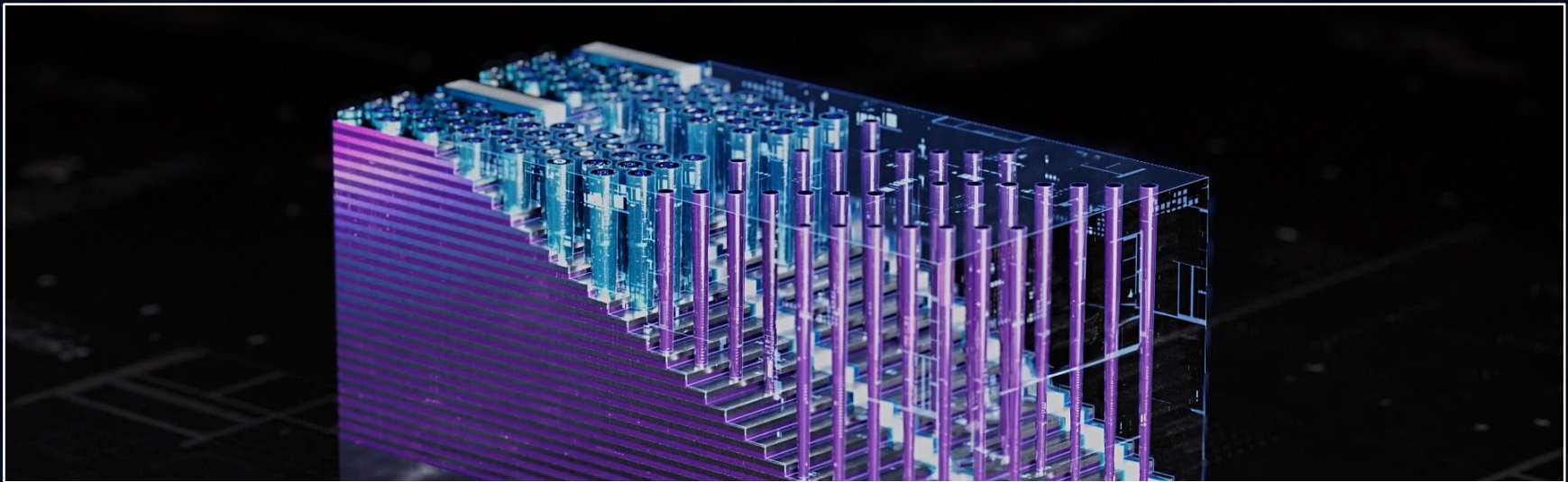
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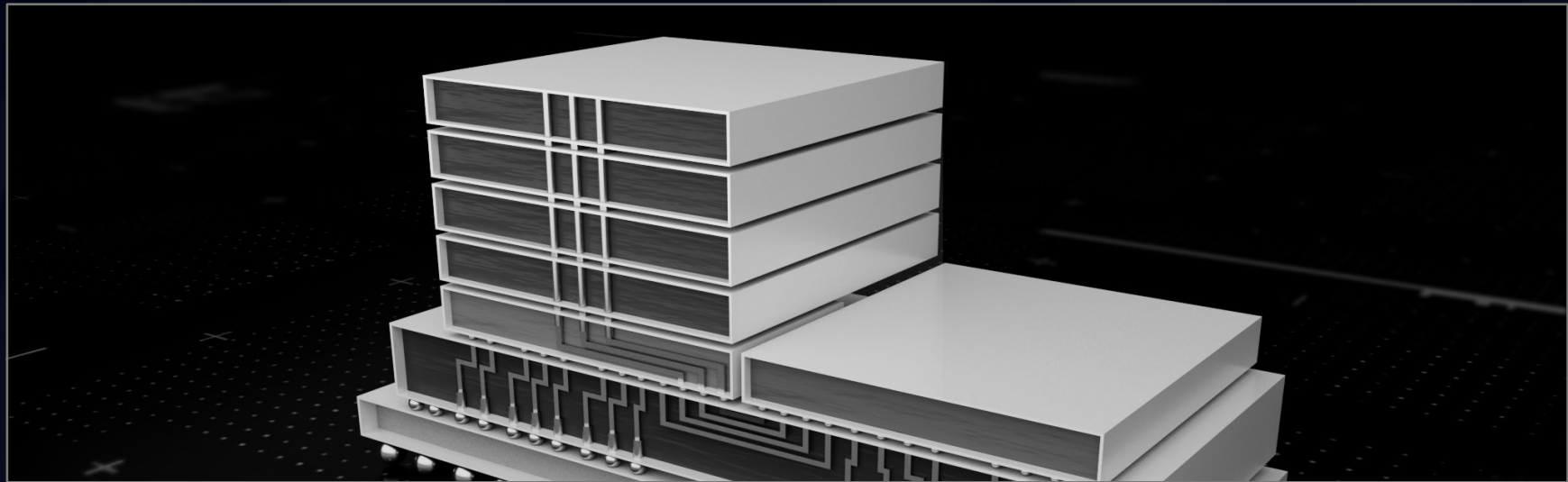
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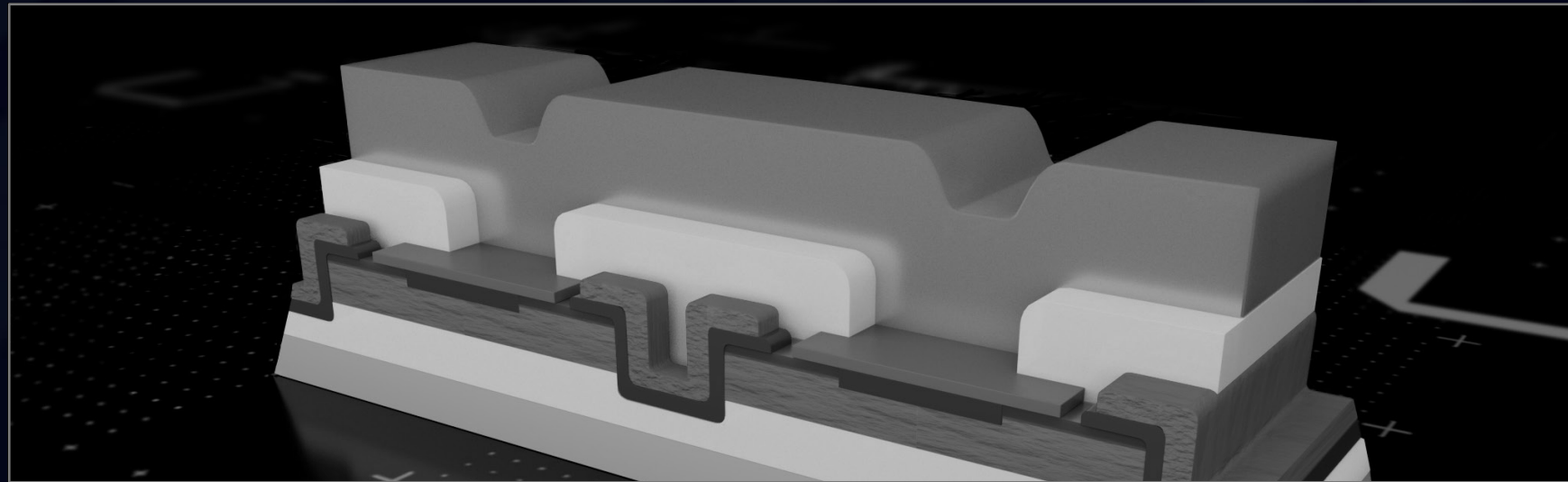
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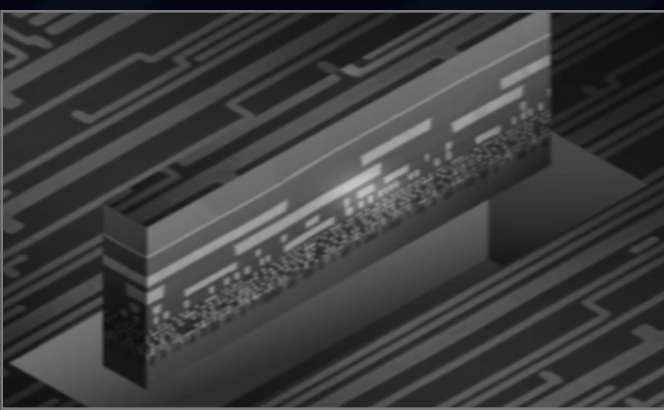
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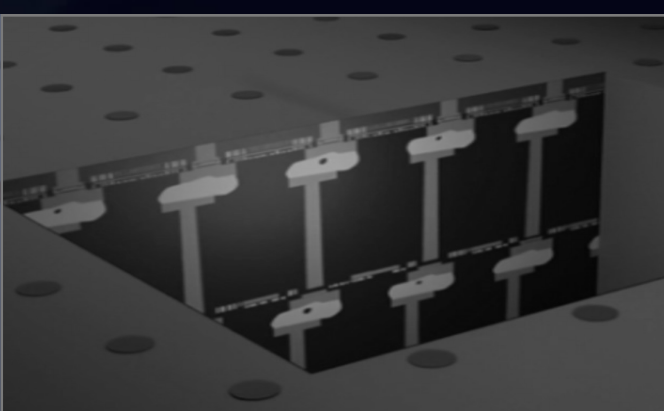
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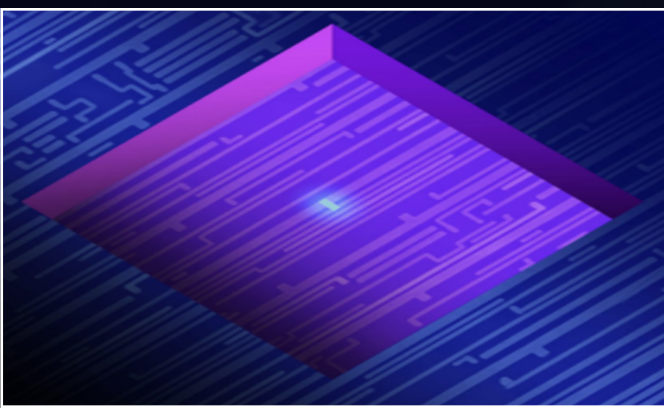
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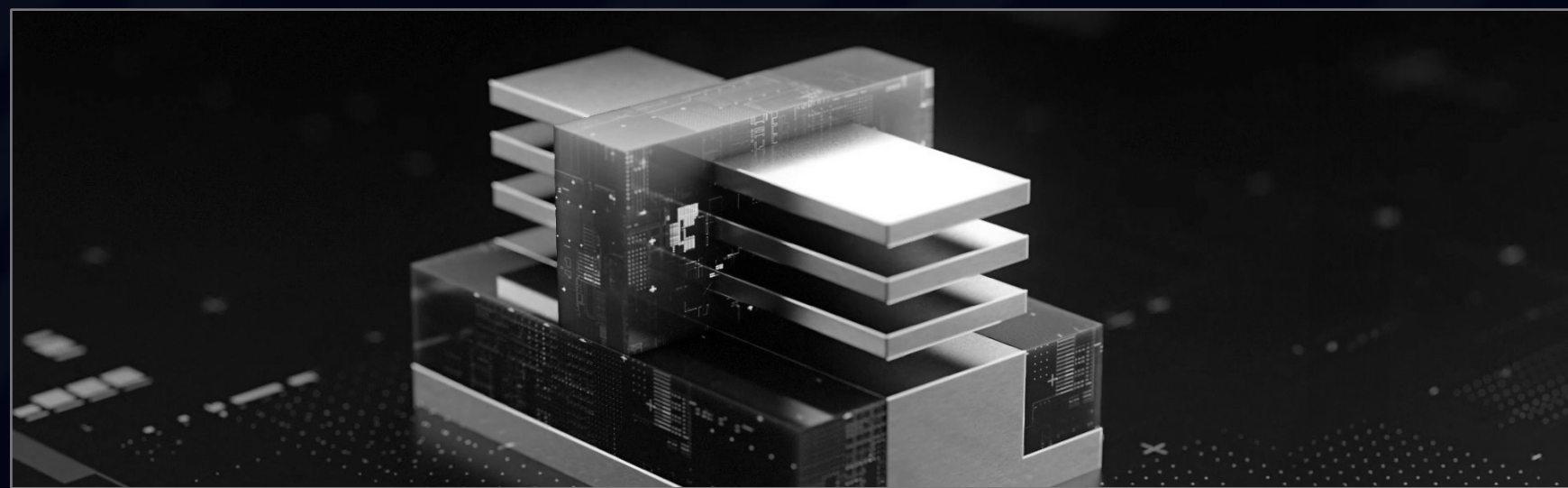
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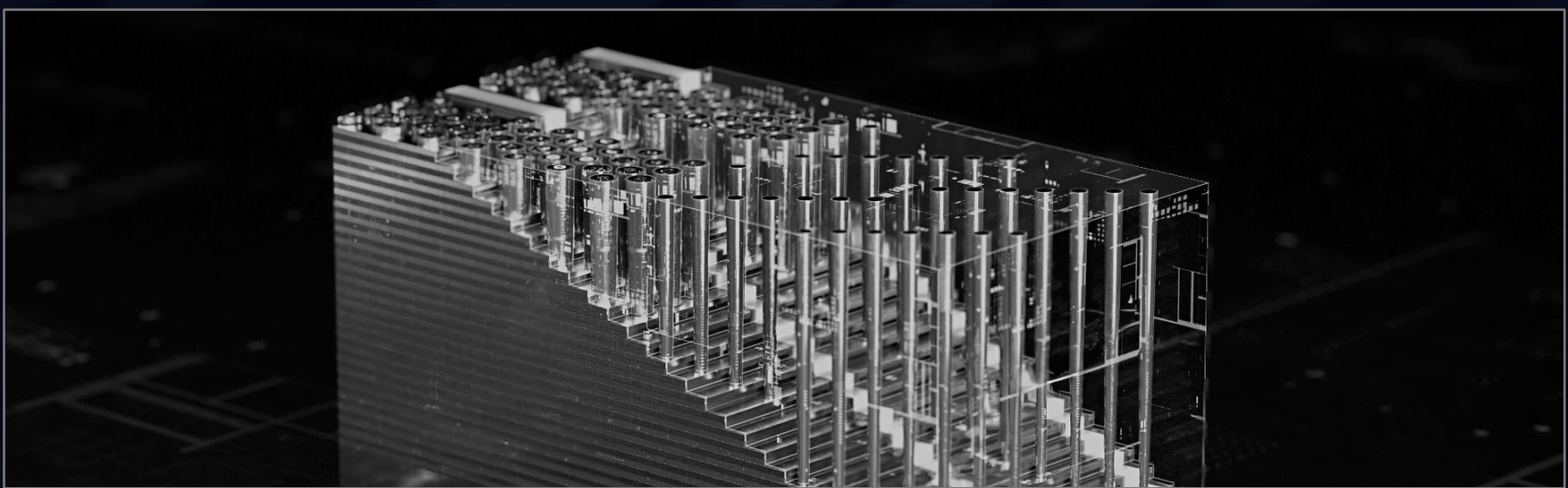
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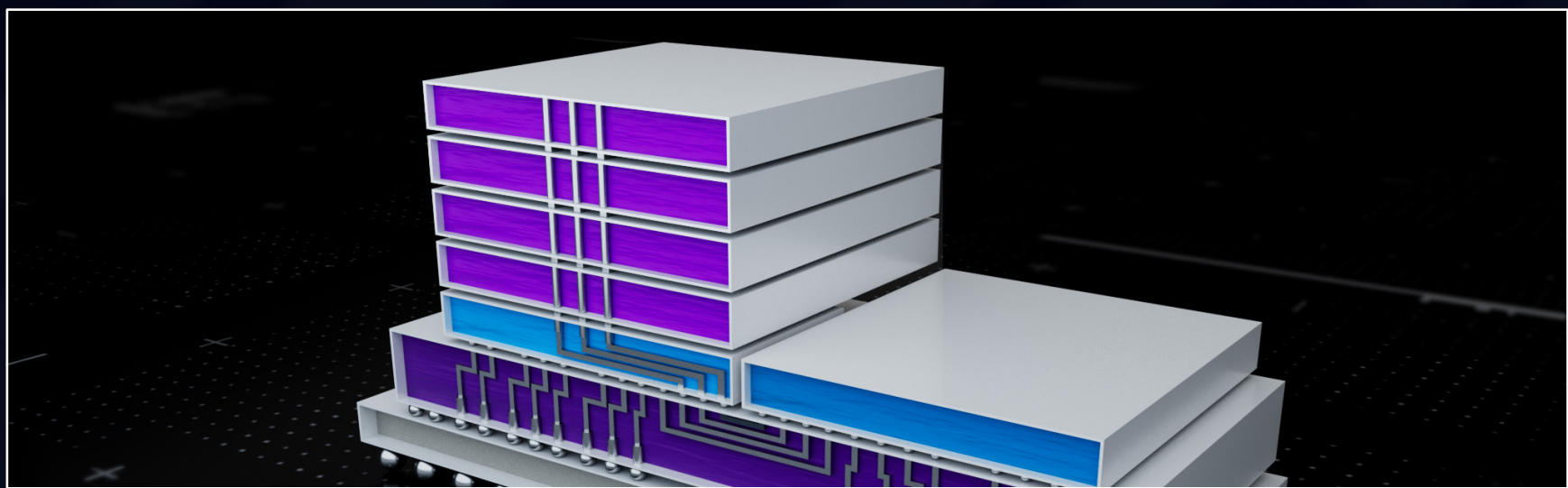
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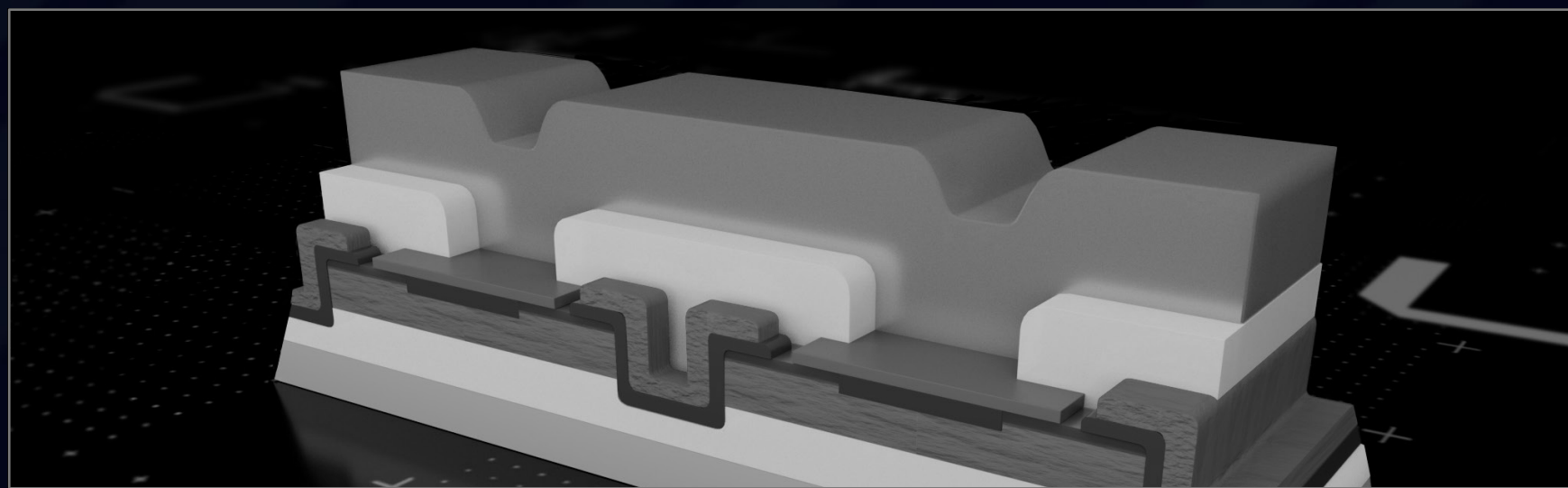
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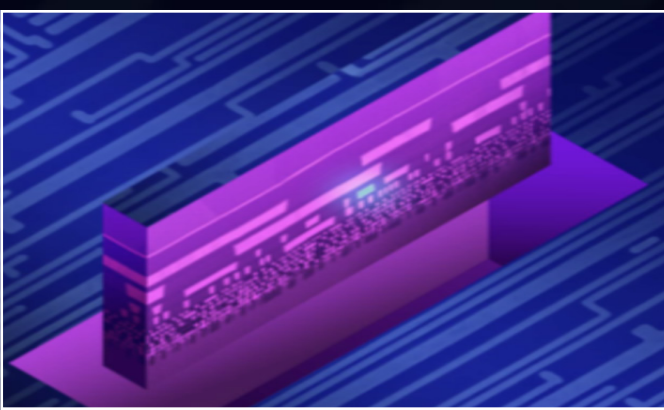
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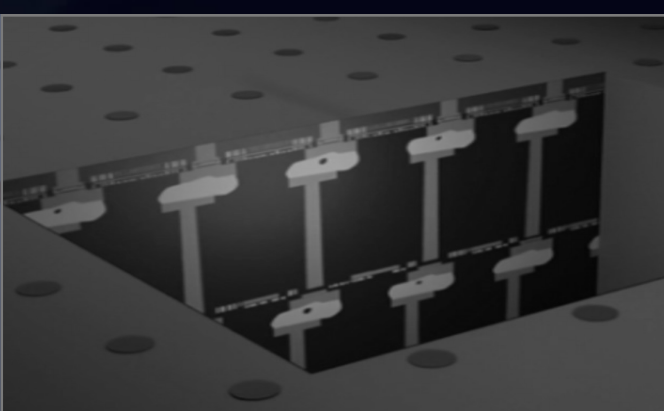
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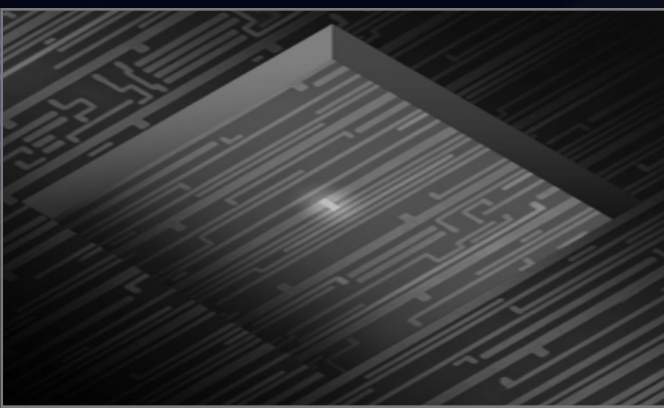
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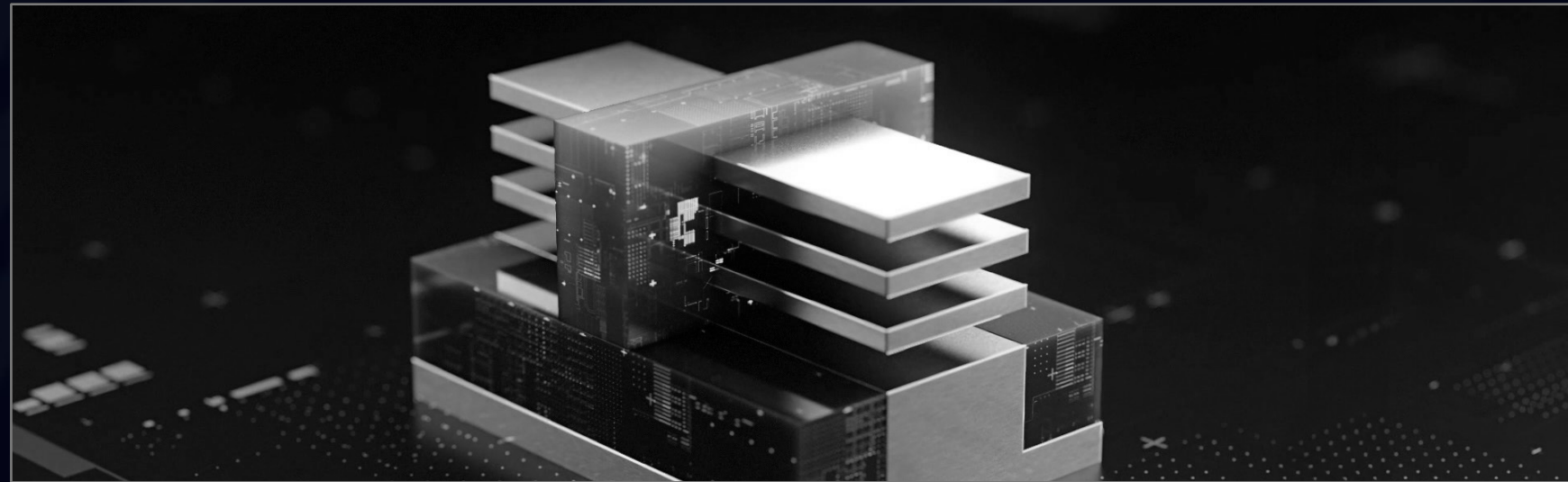
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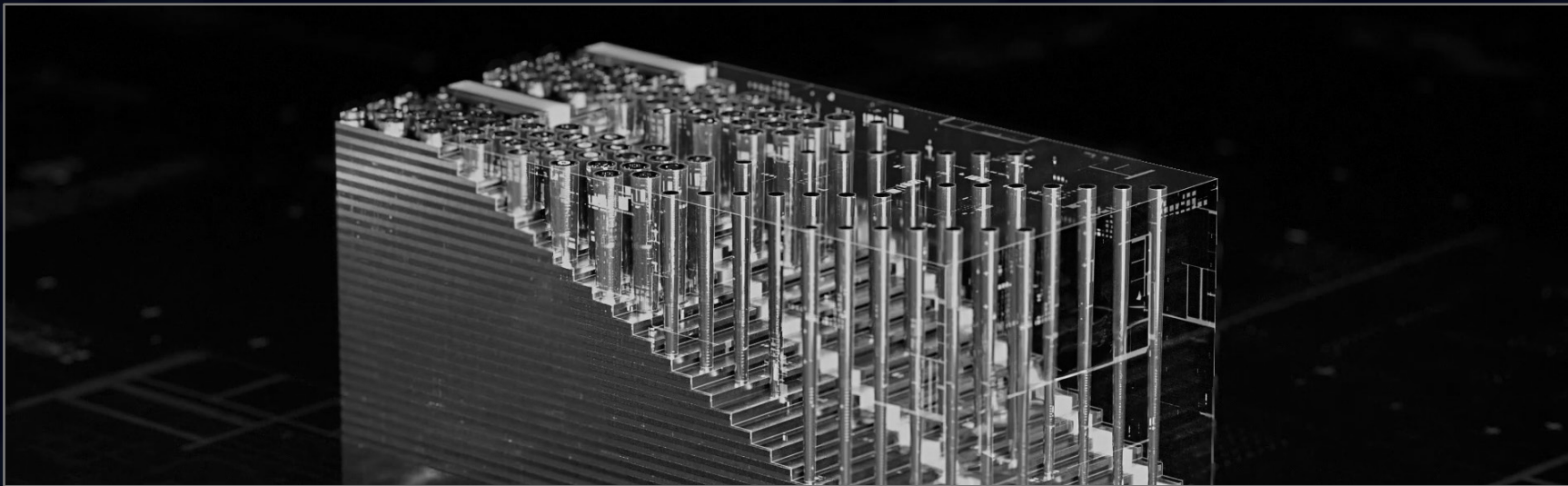
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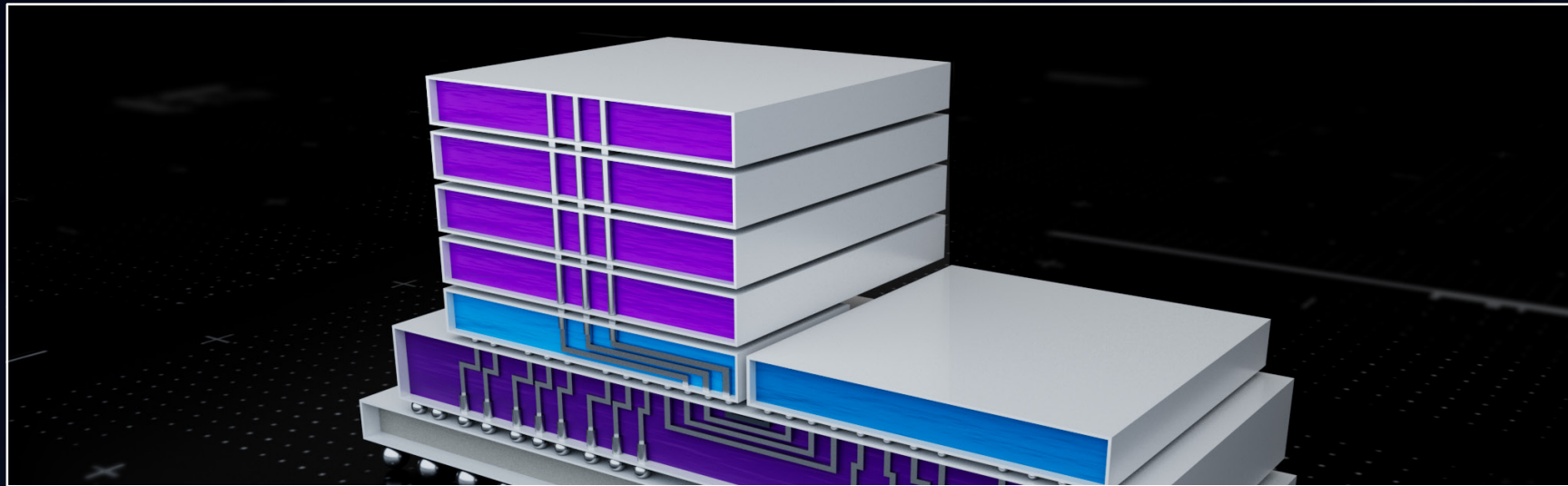
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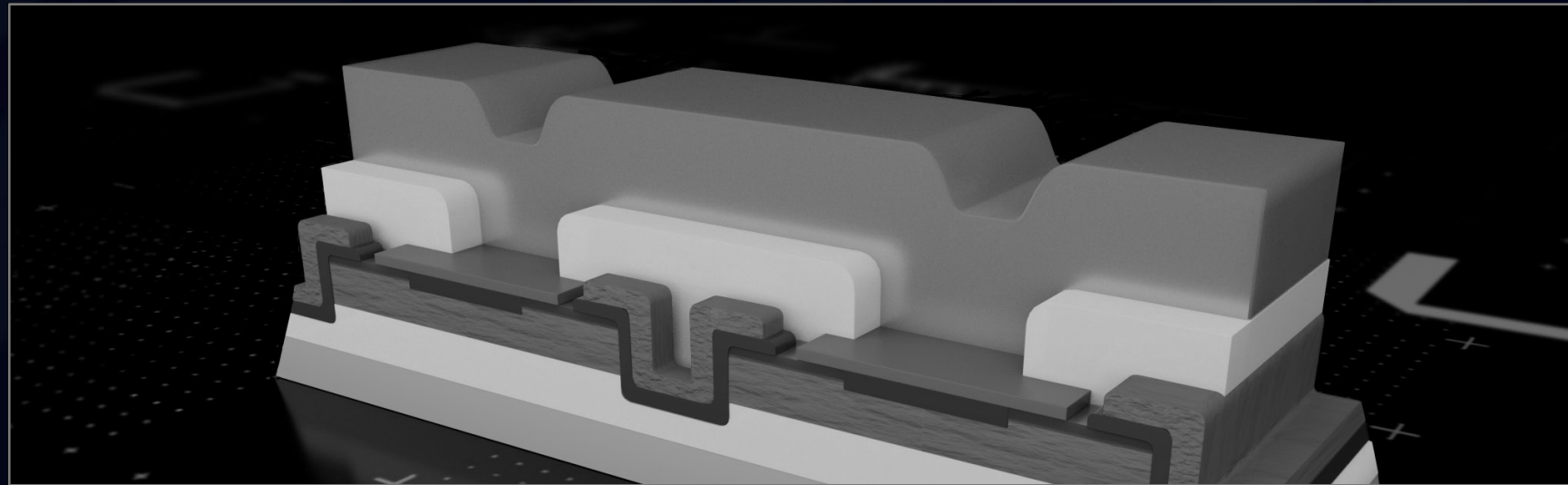
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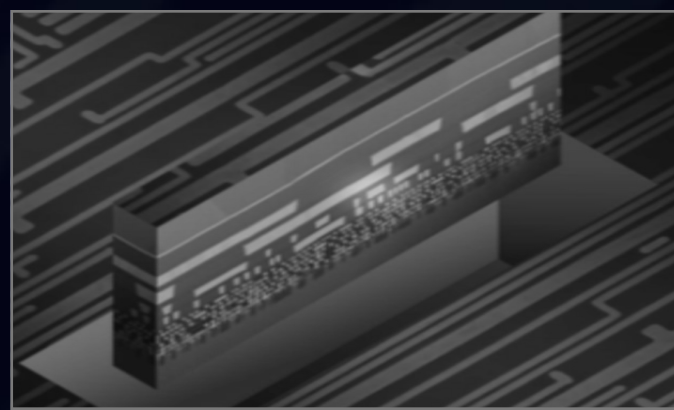
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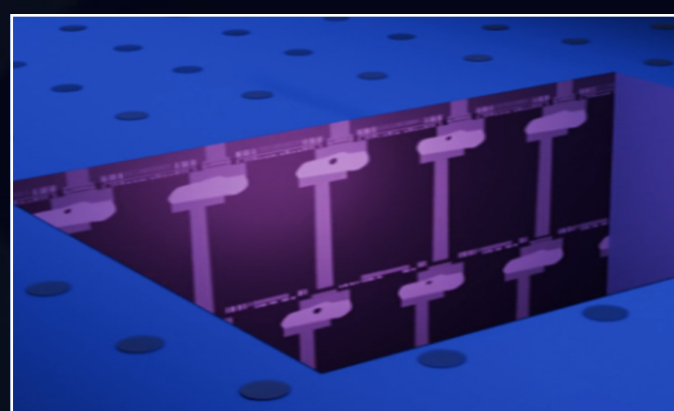
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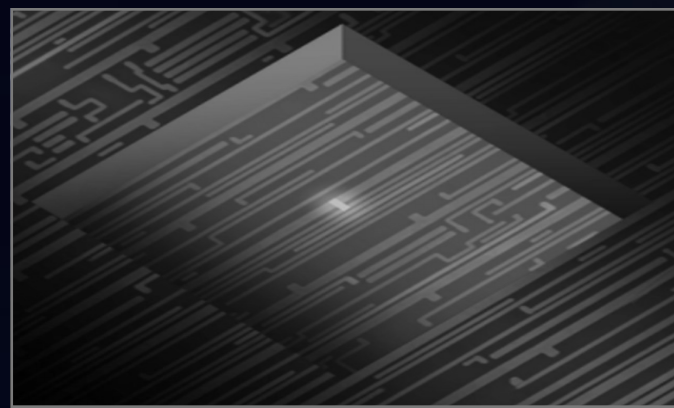
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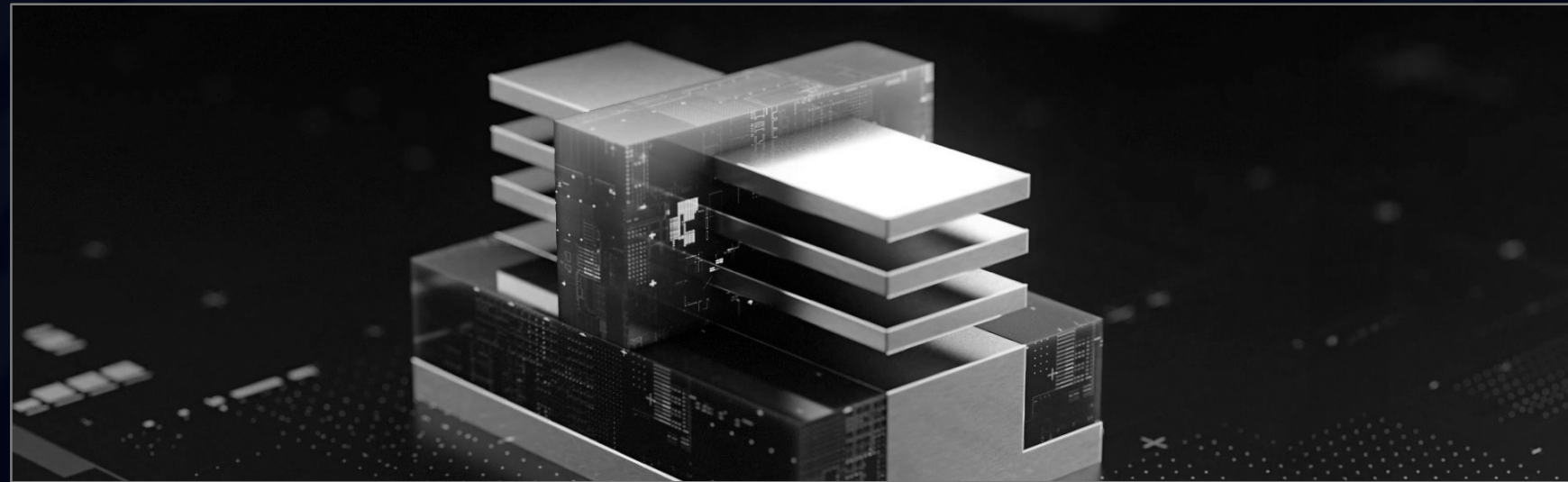
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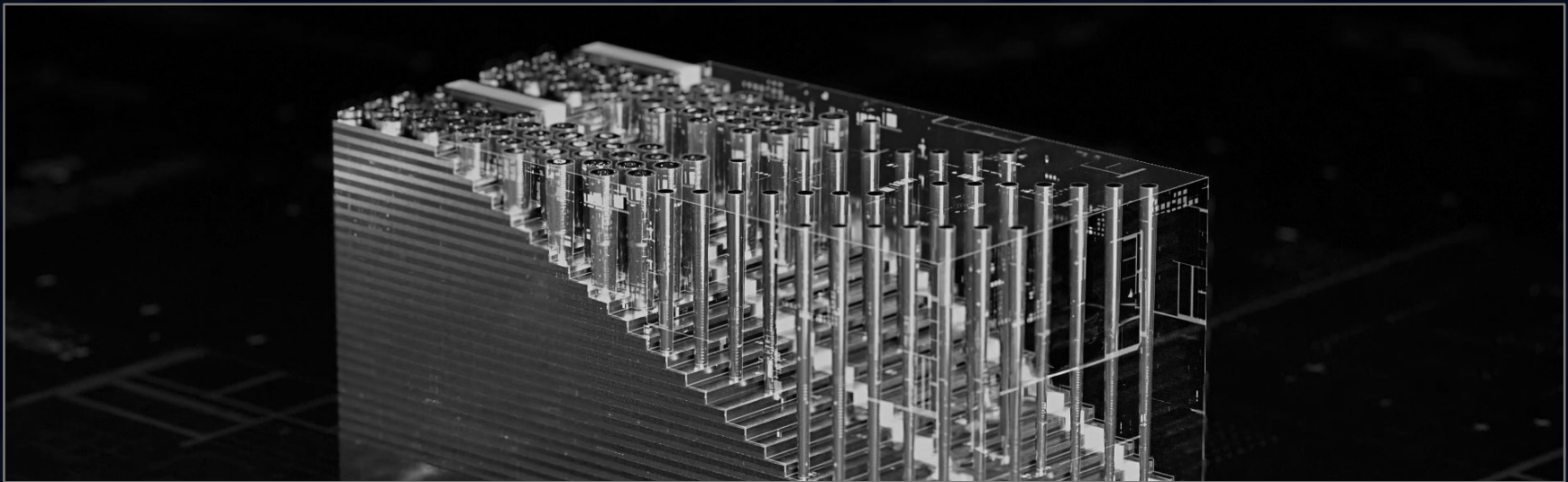
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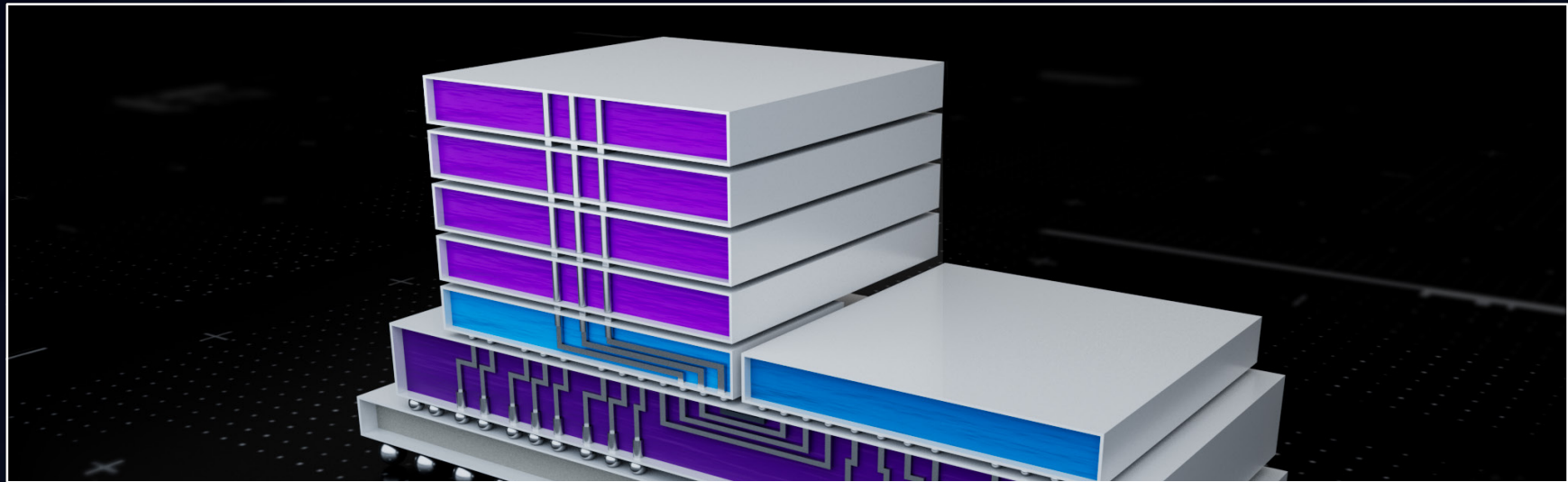
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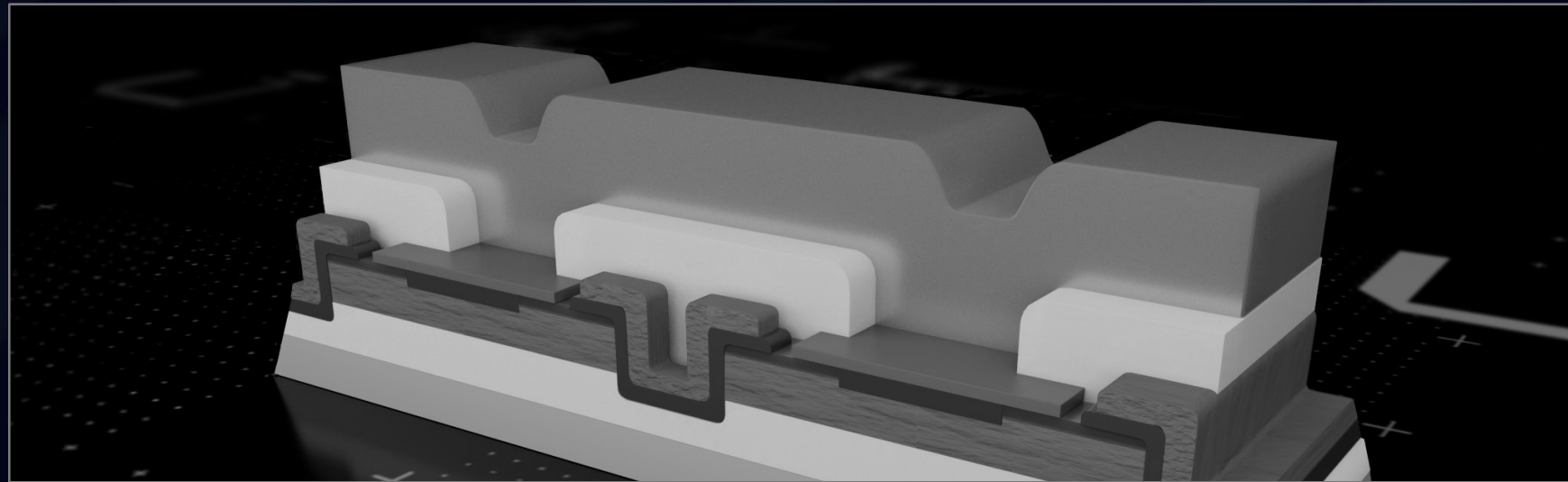
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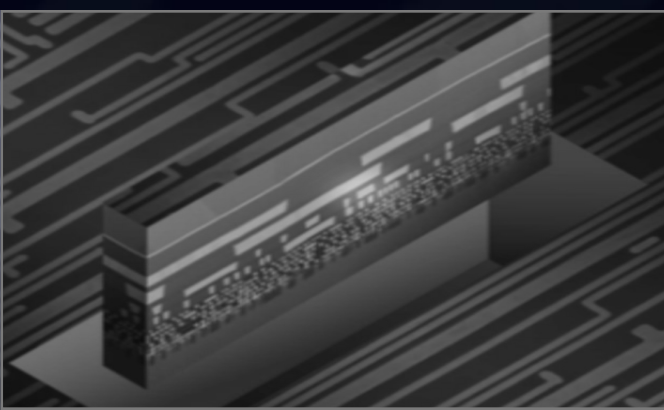
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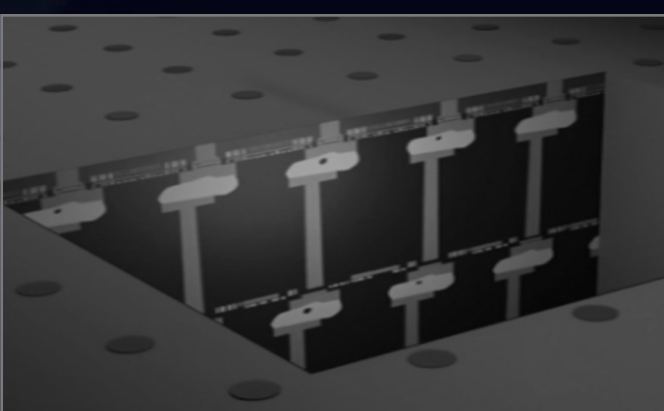
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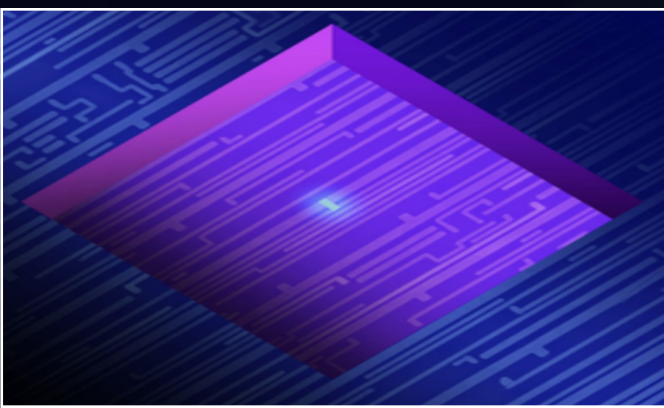
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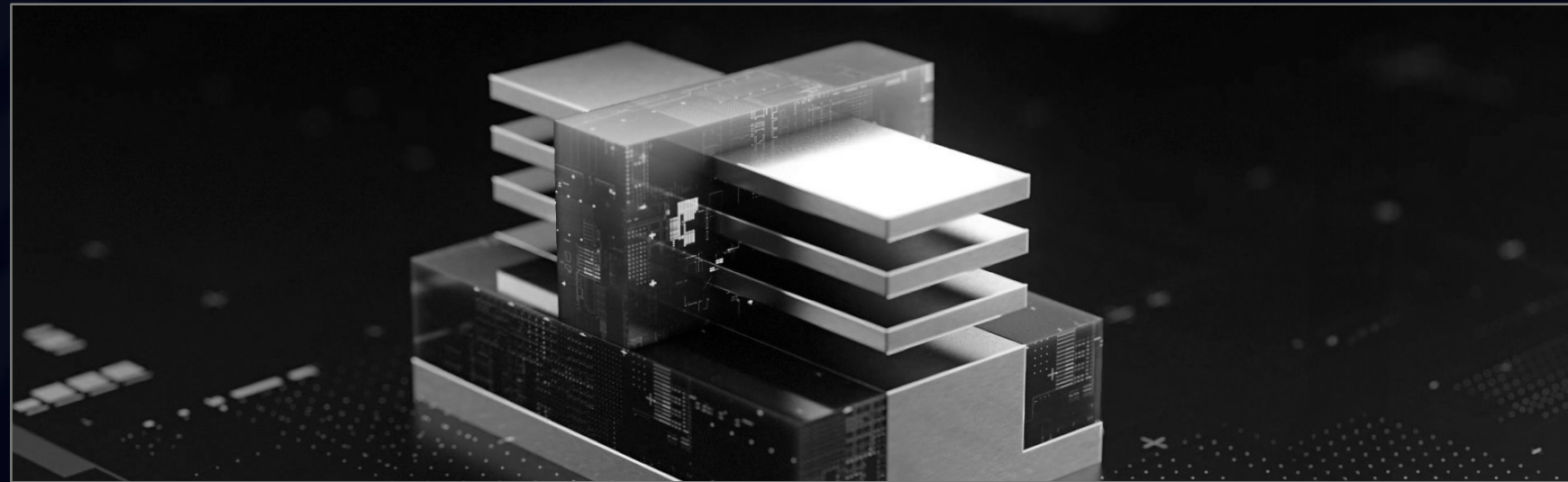
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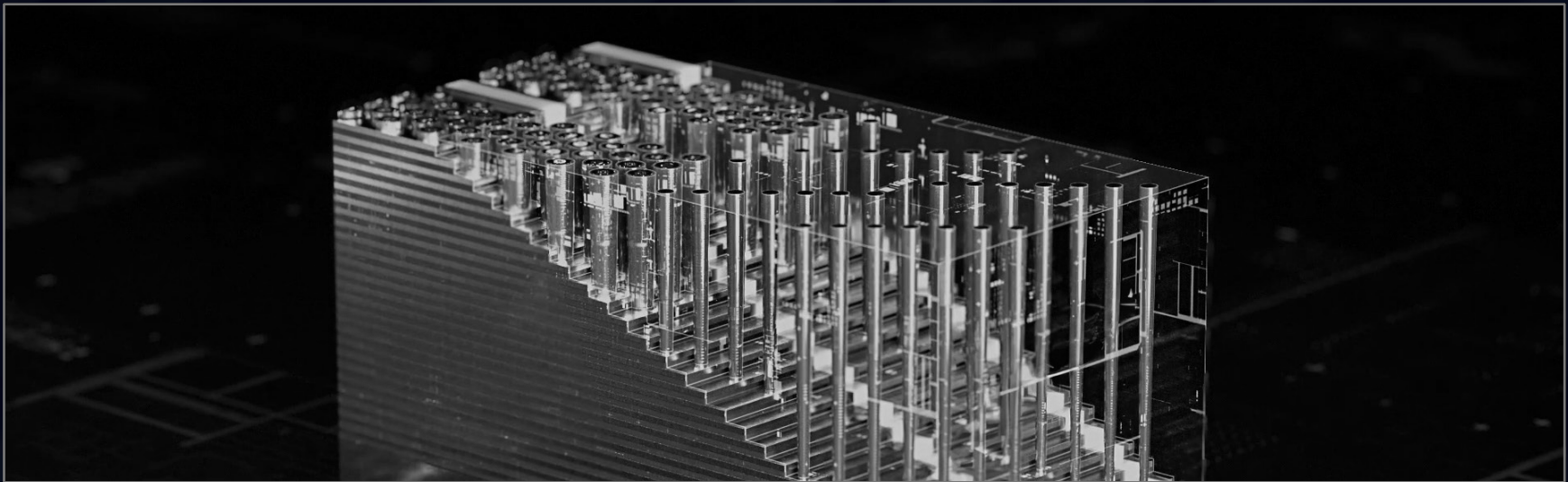
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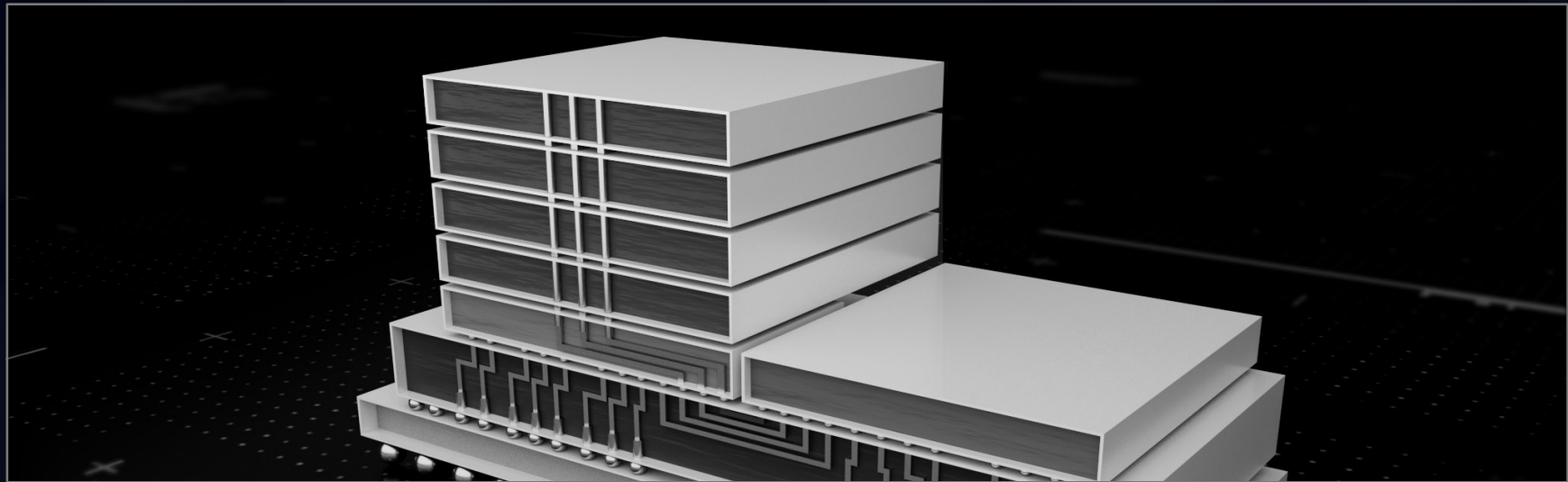
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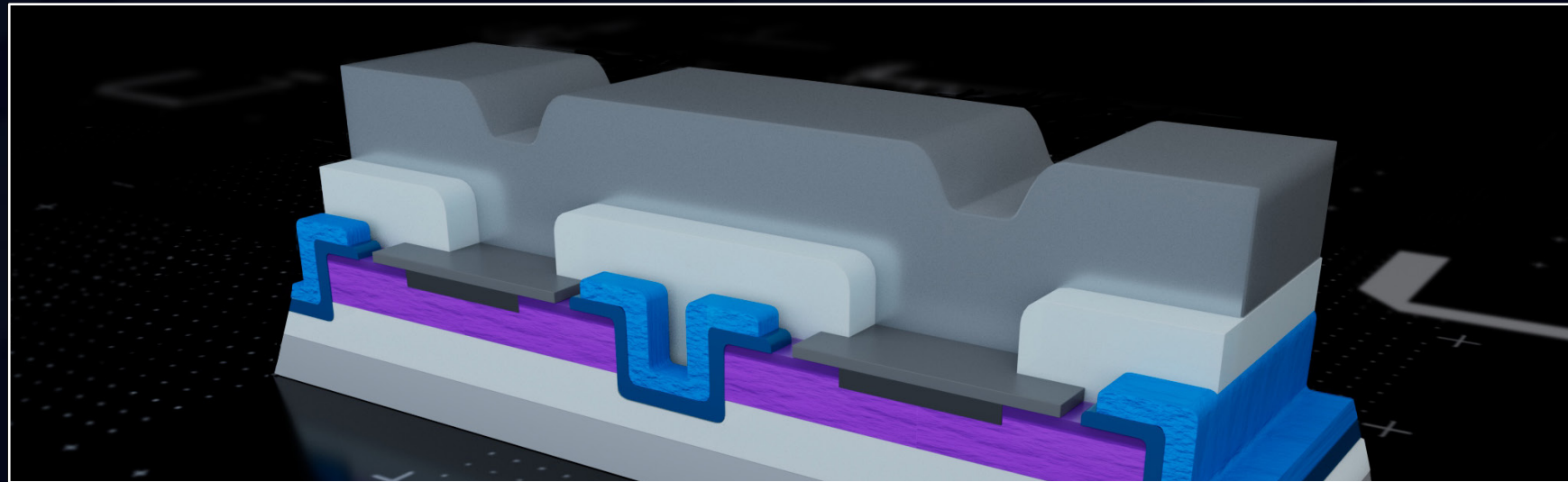
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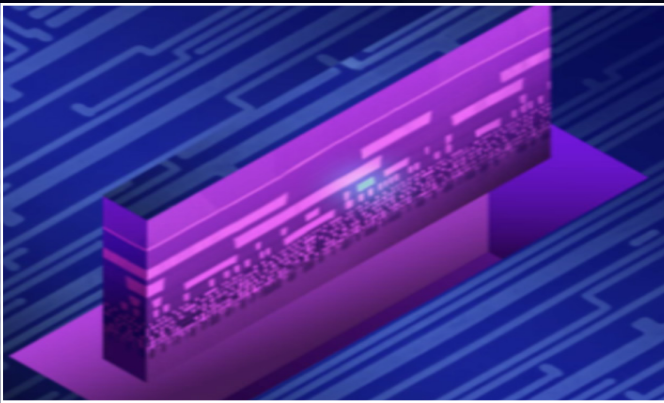
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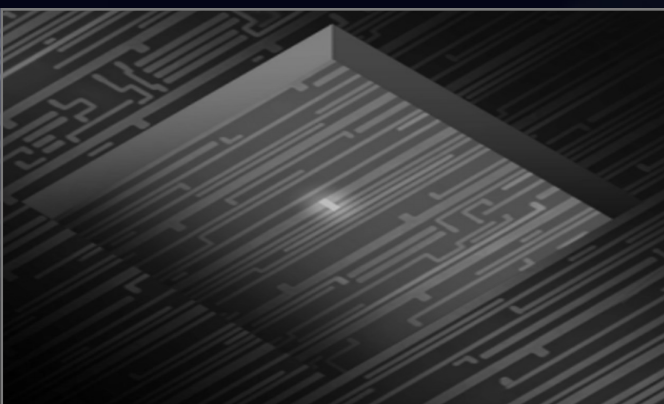
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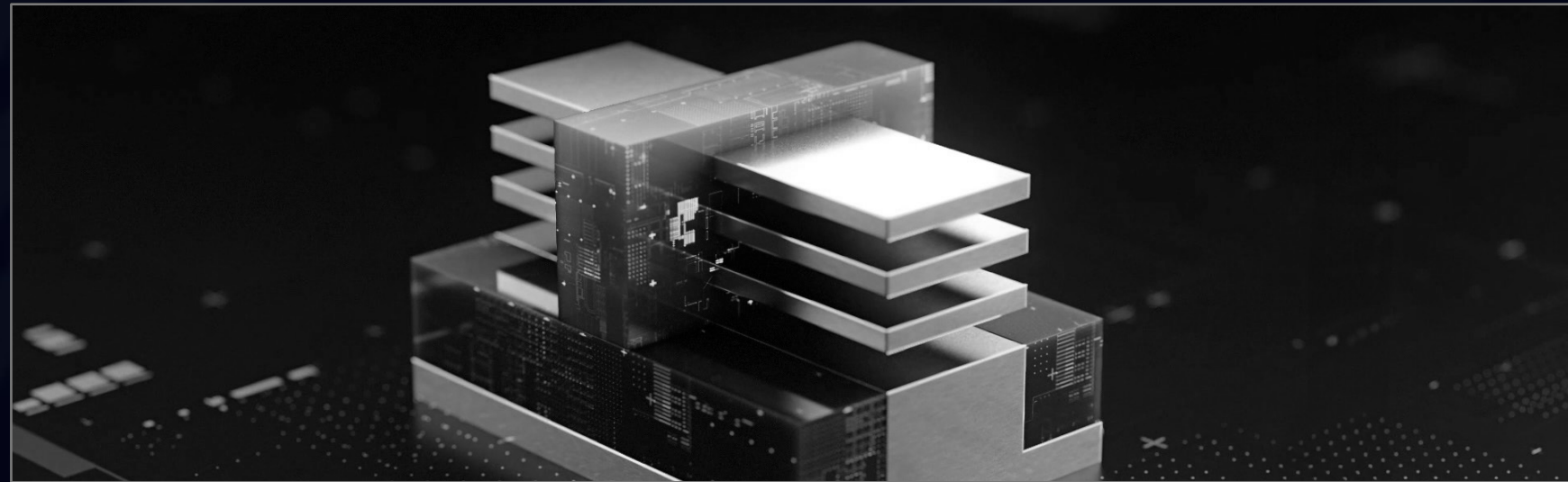
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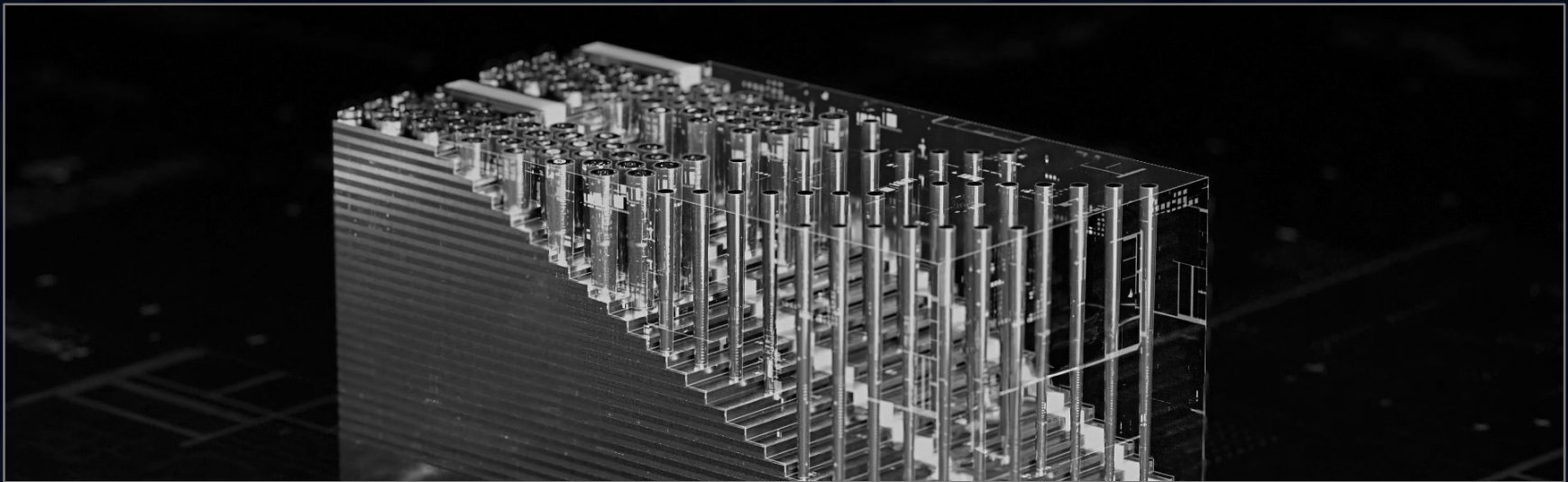
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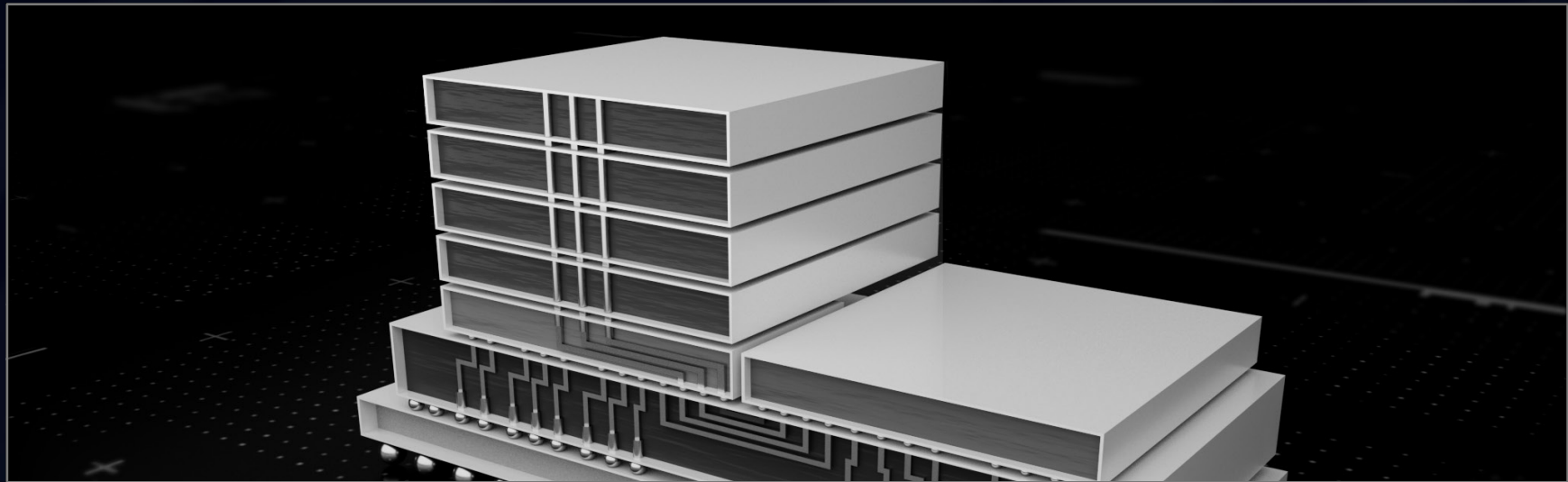
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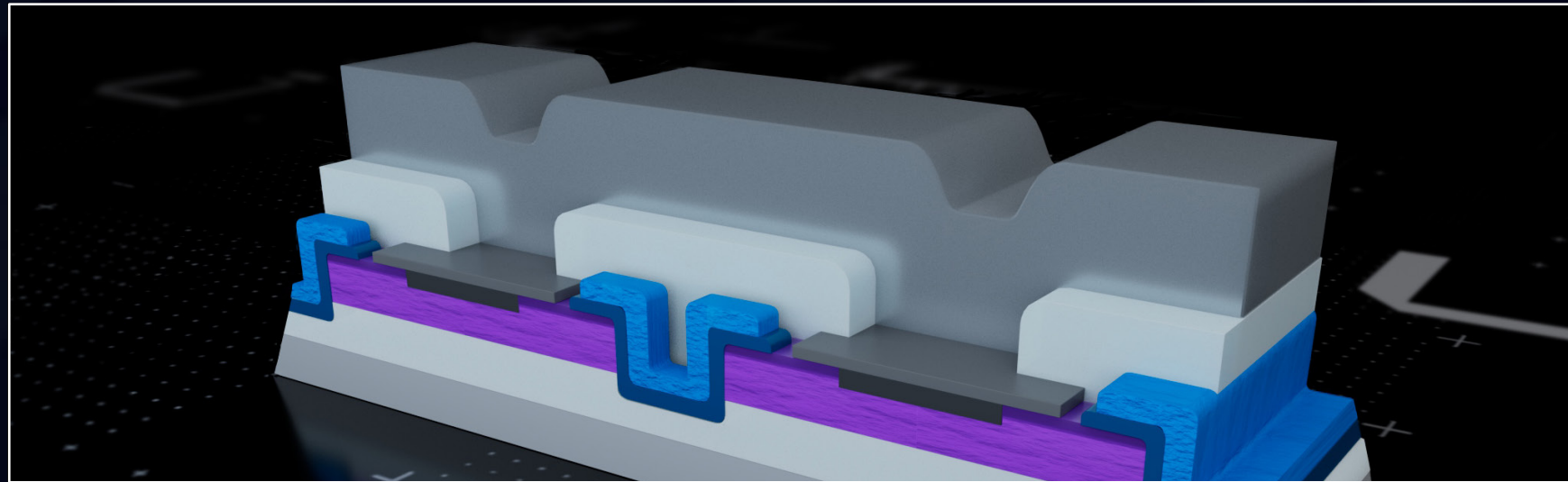
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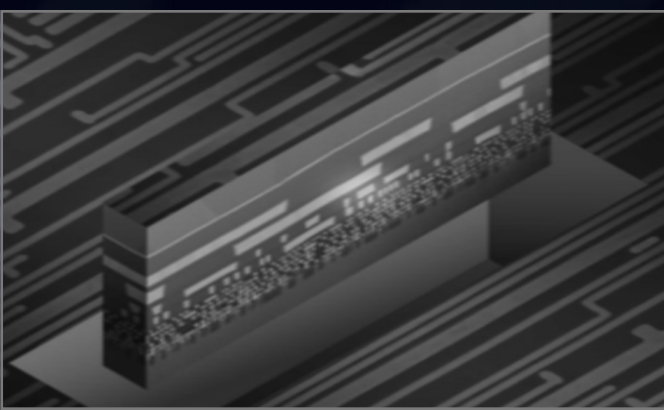
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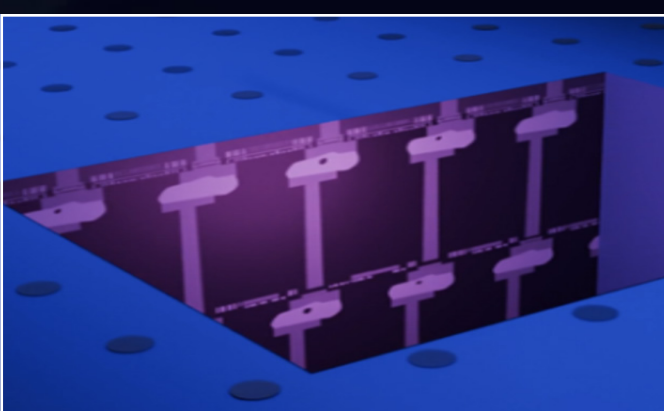
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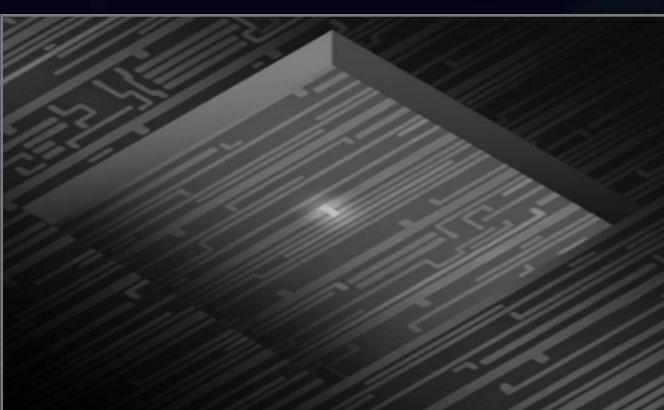
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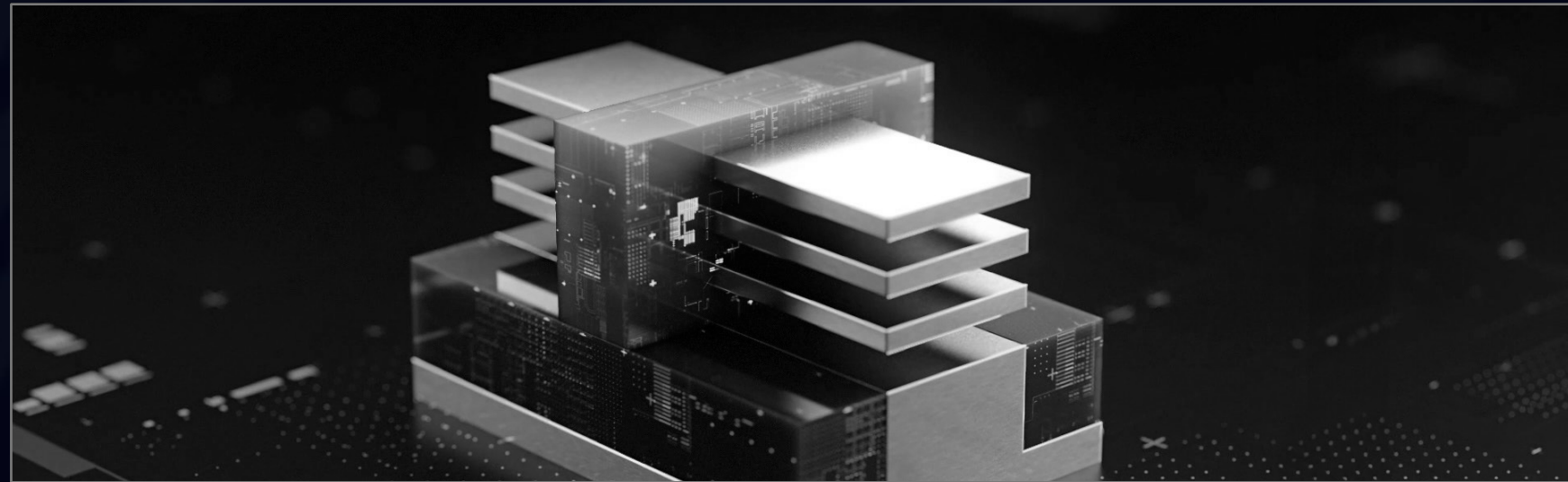
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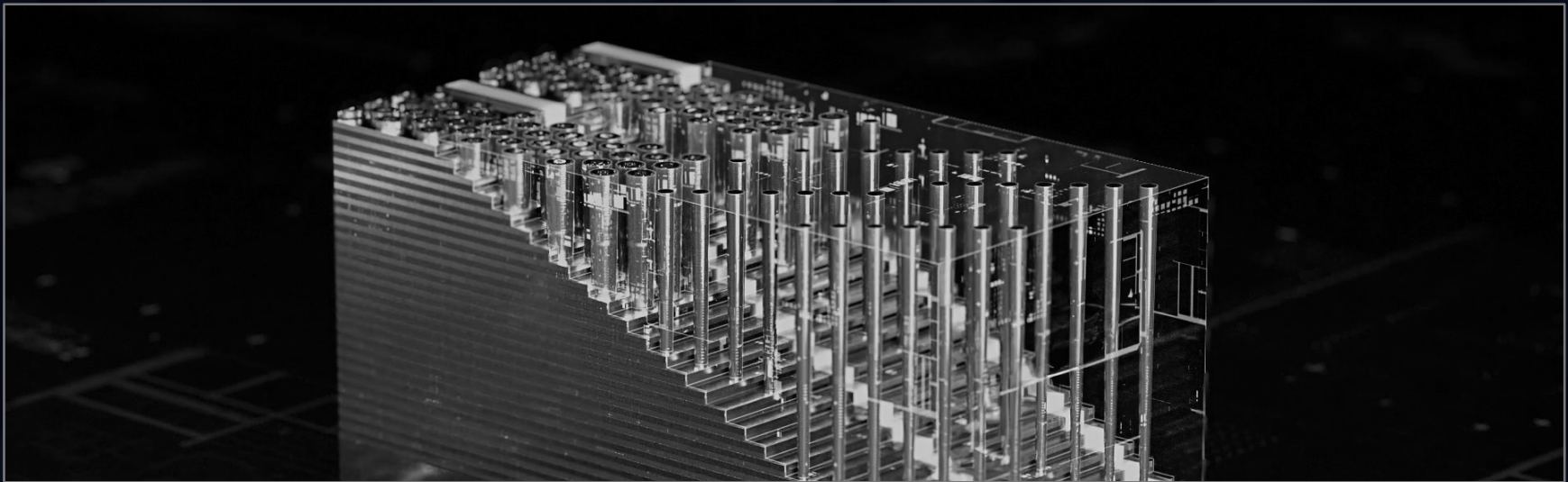
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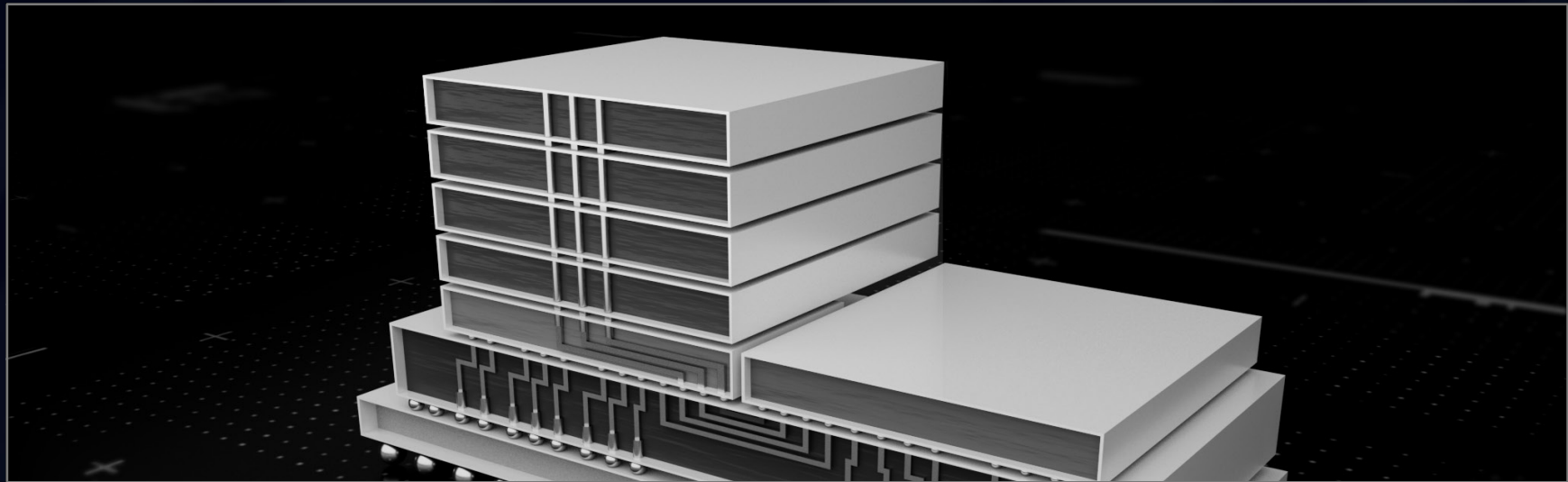
Production delays come from minute faults in shrinking devices.

Memory



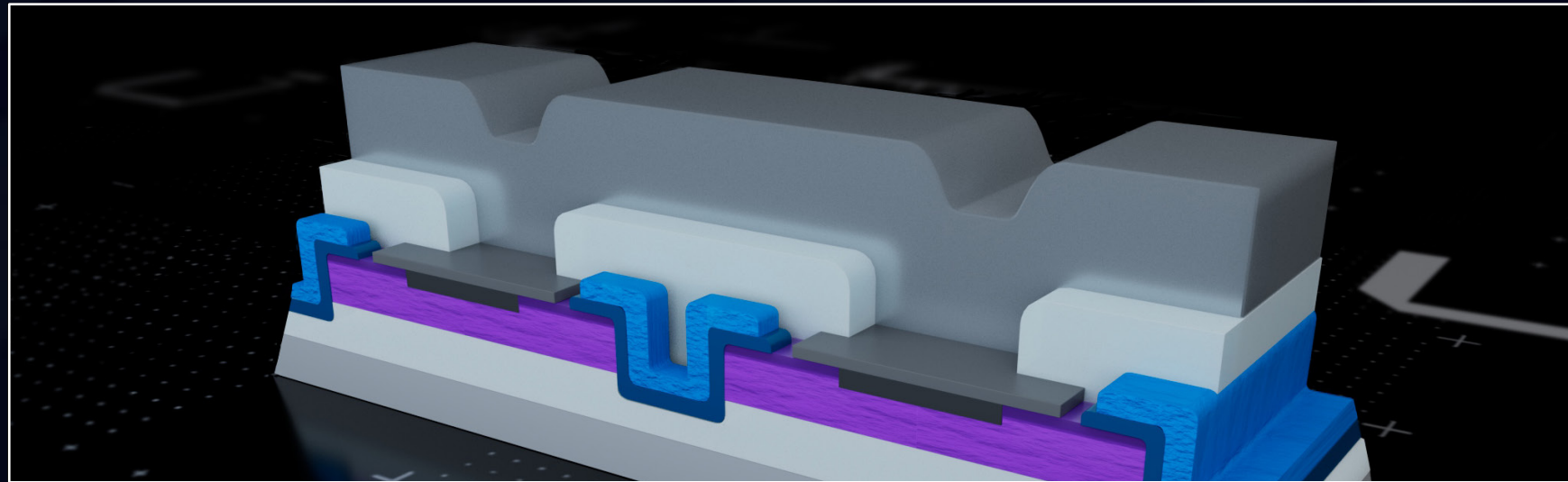
Yield losses are driven by 3D stacking and materials complexity.

Advanced packaging



Reliability decreases with interconnect pitch scaling

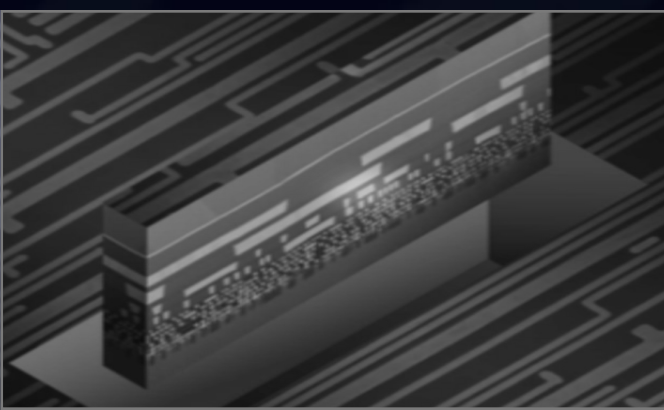
Power



Compound semiconductor defectivity impacts performance

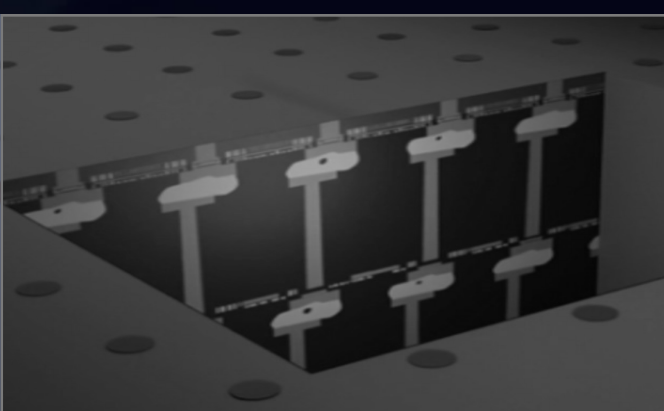
TEM preparation

Create ultra-thin samples for atomic-scale TEM analysis



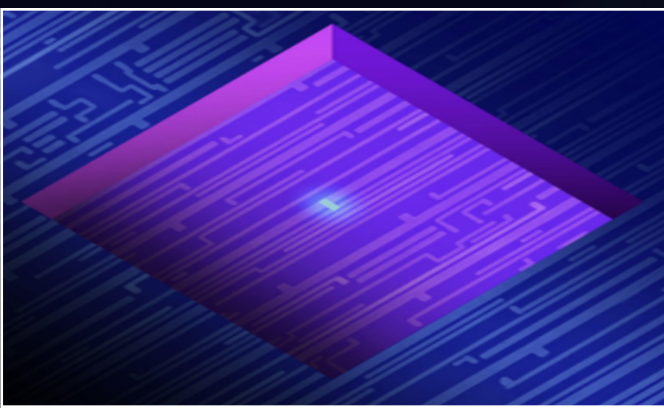
Cross-section & 3D

Expose buried devices for SEM analysis and process monitoring



Delayering

Layer-by-layer removal for fault isolation and characterization



	5 CX	5 UC	5 UX	5 FX	6 HD	6 HX	PFIB	Hydra
<i>In situ</i> STEM	STEM in SEM	STEM in SEM	STEM in SEM	3A STEM			STEM in SEM	STEM in SEM
High-volume automation					Thinning	Thinning		
Tech node capability optimization	>28 nm	>14 nm	>5 nm	>5 nm	≤5 nm	≤5 nm	Ga-free	Ga-free
Gallium-free processing							Xe ⁺	Xe ⁺ and Ar ⁺
Integrated analysis (EBSD, EDS)	Yes	Yes	Yes				Yes	Yes
Routine cross-section width	<75 μm	<75 μm	<50 μm	<50 μm	<50 μm	<50 μm	>50 μm	>100 μm
Multi-material cut quality	Good	Good	Good	Good	Good	Good	Better	Best
Gas-assisted deprocessing							Yes	Yes

Contact us

Best fit

Better fit

Good fit

thermo scientific