

Compound Semiconductors

The foundation of advanced technology

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Architects
of tomorrow

Our world relies on semiconductors



An aerial night view of a city intersection, overlaid with a complex network of glowing blue energy lines that radiate from a central point, symbolizing advanced technology and connectivity.

Compound Semiconductors



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Connect



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Sense



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A person wearing a VR headset is shown from the chest up. Their hand is reaching out and touching a glowing, digital globe. The globe is surrounded by various white icons on a blue background, including gears, a document, a cloud with arrows, a lightbulb, a shopping cart, a bar chart, a computer monitor, a person with a globe, a person with a dollar sign, and a person with a gear. The word "Display" is written in white, sans-serif font across the center of the image.

Display



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Power



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Enabling an intelligently connected, immersive, low carbon world



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Compound Semiconductors

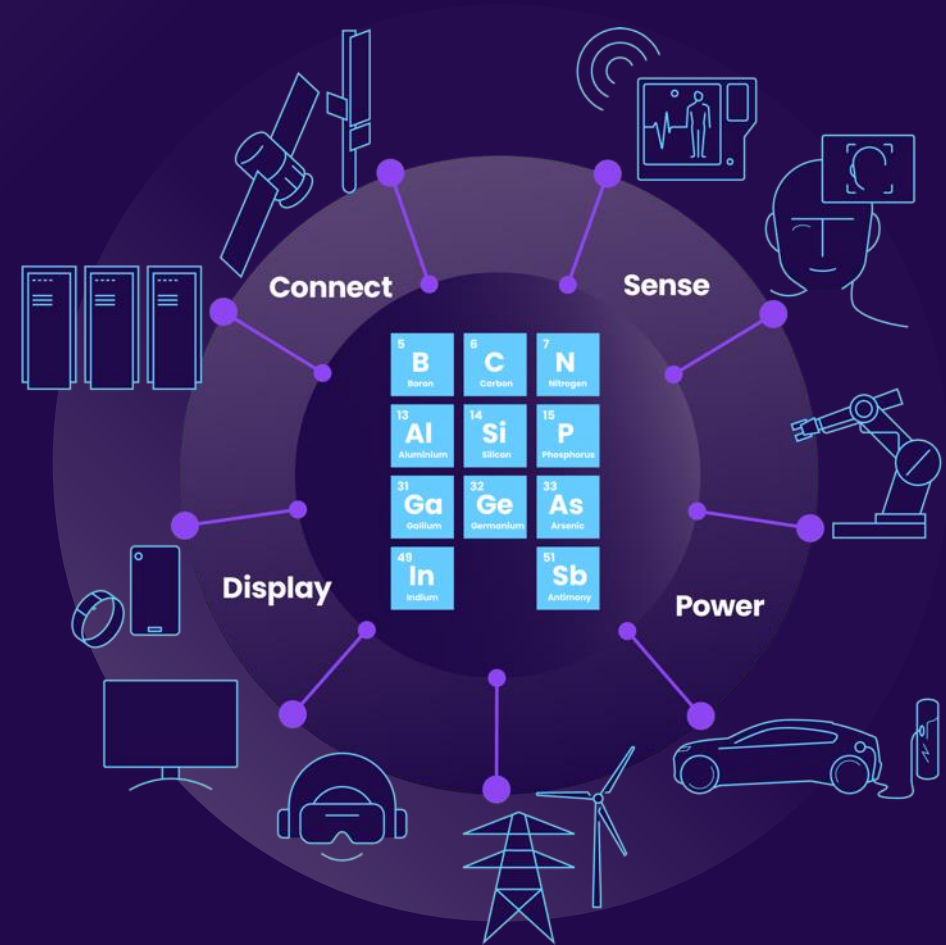
Silicon technology is reaching its limits

Compound Semiconductors (CS) are required

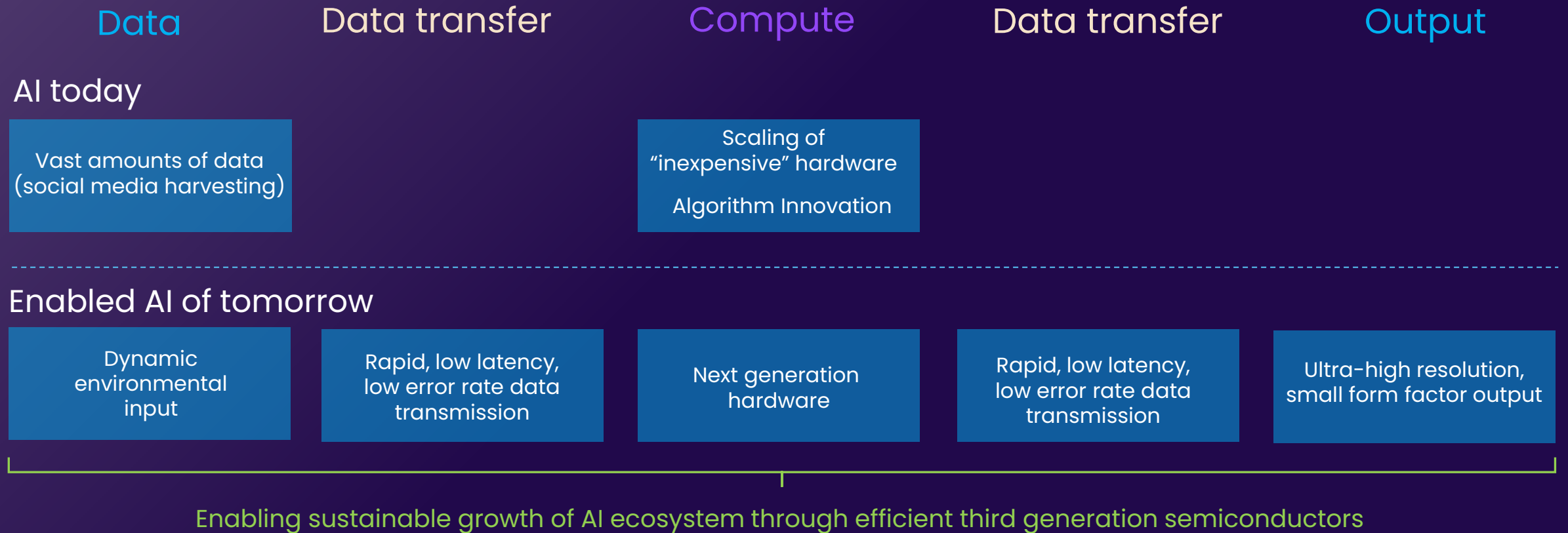
- Paired with leading edge CMOS
- The cornerstone of key emerging technologies

Three pillars of CS innovation

- Speed
- Optically active, can emit and detect light
- Efficient power



AI enabled by convergence with compound semiconductors



Epitaxy is the lithography of compound semiconductors

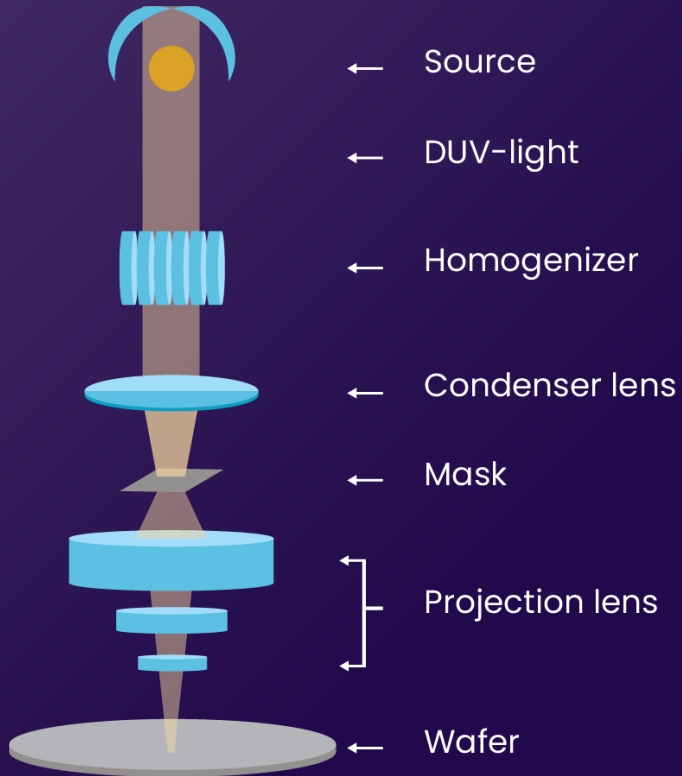
Lithography

↓

Silicon chips
scaled down in size

↓

Unlocks full
potential
of silicon



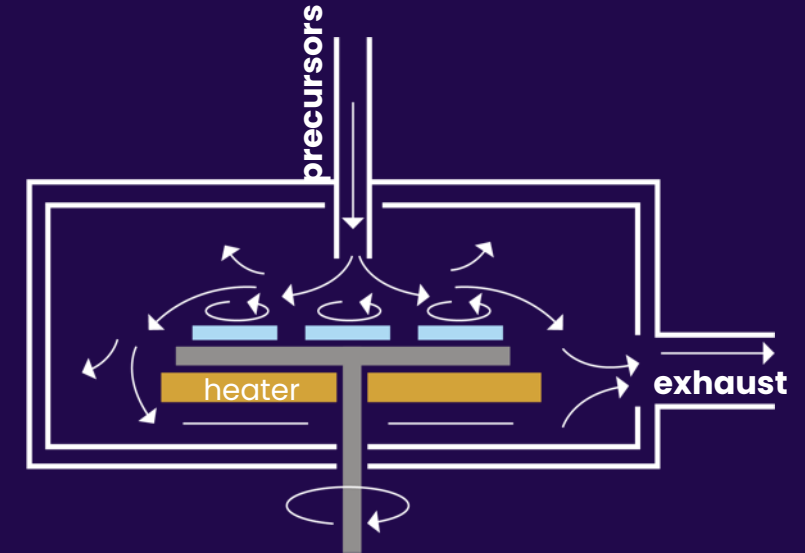
Epitaxy

↓

Atomic level
control

↓

Unlocks full
potential of
compound
semiconductors





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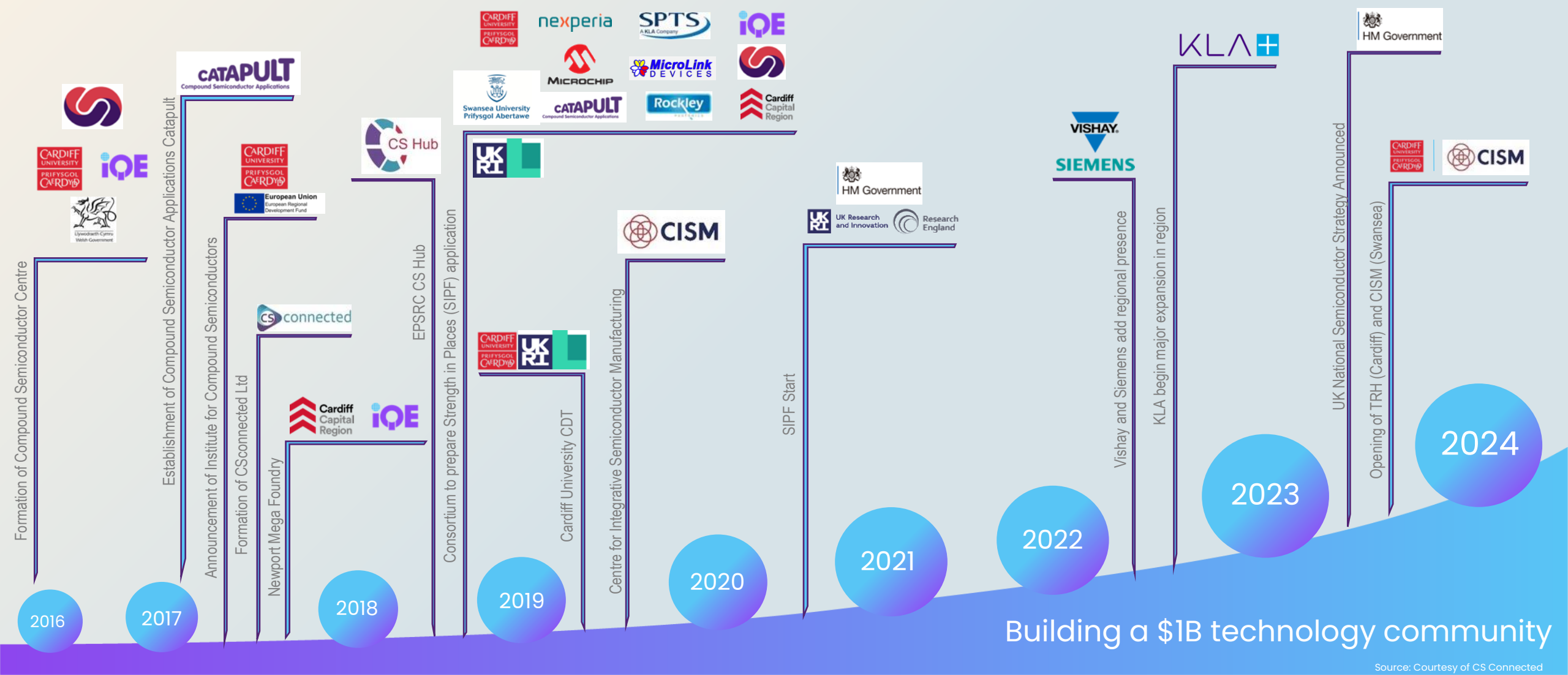


World's most advanced epitaxy facility



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Evolution of the South Wales Cluster

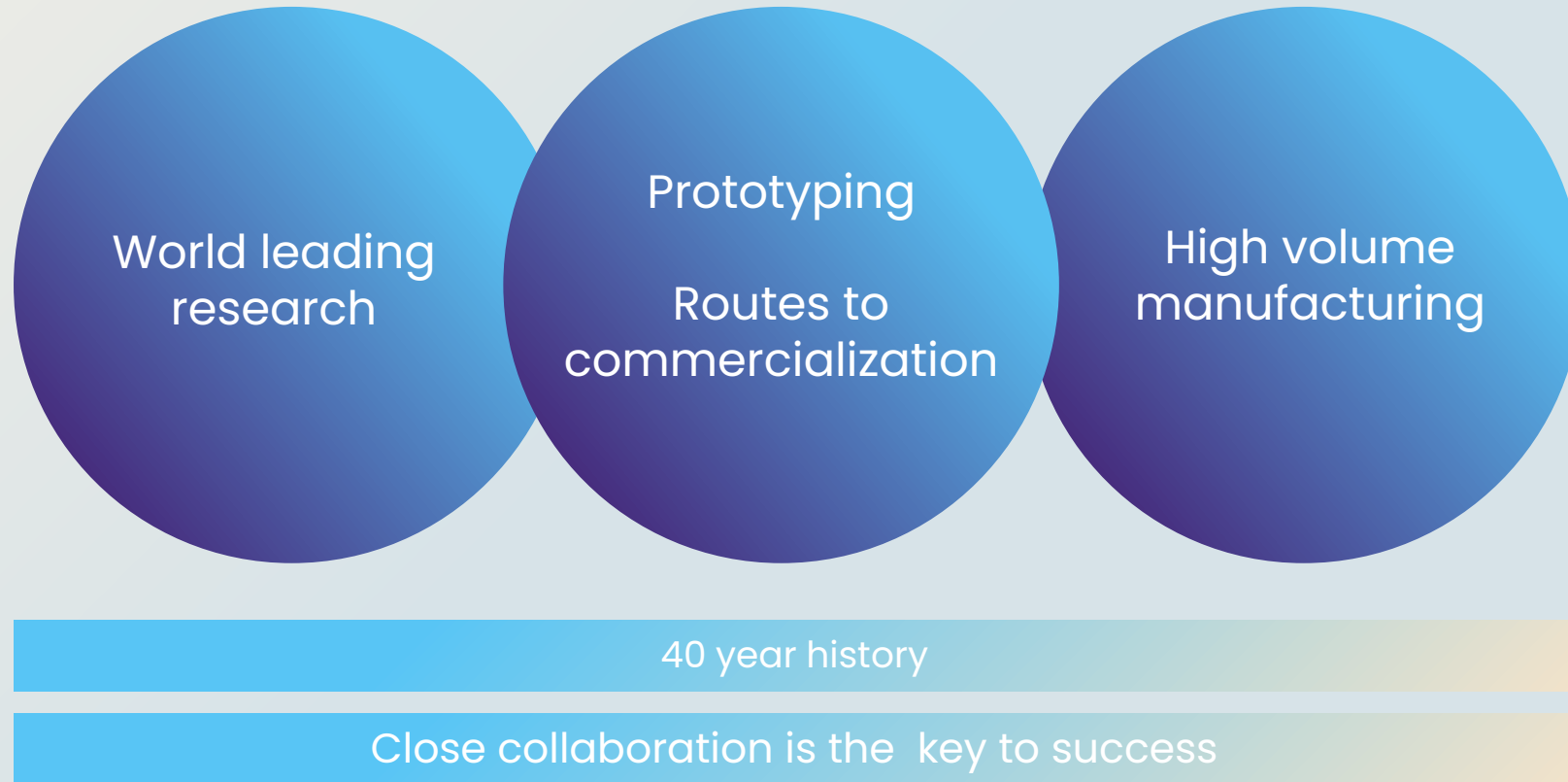


Building a \$1B technology community

Source: Courtesy of CS Connected



South Wales: Home to the largest Compound Semiconductor Cluster



Thank you



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