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Blossoming future



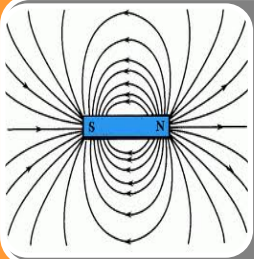
***MLU***  
***Magnetic Logic Unit***

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Chief Marketing Officer  
Crocus Technology  
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# Overview



## Pioneered Magnetic Logic Unit (MLU™) Technology

- Based on unique Thermally Assisted Switching™ (TAS)
- 100+ patents



IBM Joint  
Development/License



Market Focus: Secure  
Microcontrollers and  
Smartcards



Established joint venture  
to build advanced  
magnetics fab in Russia



\$100M+ Investment to  
date



50+ Employees with  
operations in Silicon  
Valley & France



MLU is a magnetically enhanced semiconductor technology that implements both memory and logic functions

## MLU Features

Highly Scalable

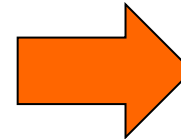
High Density

Easy to Integrate into SOC  
Low incremental mfg. cost, 2 masks

Match-In-Place™ for secure memory  
and hardware search

High Temperature Operation (250 °C)

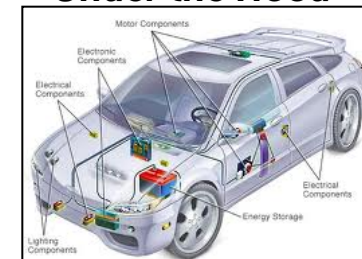
Key  
Applications



Smartcard  
Secure  $\mu$ Controller



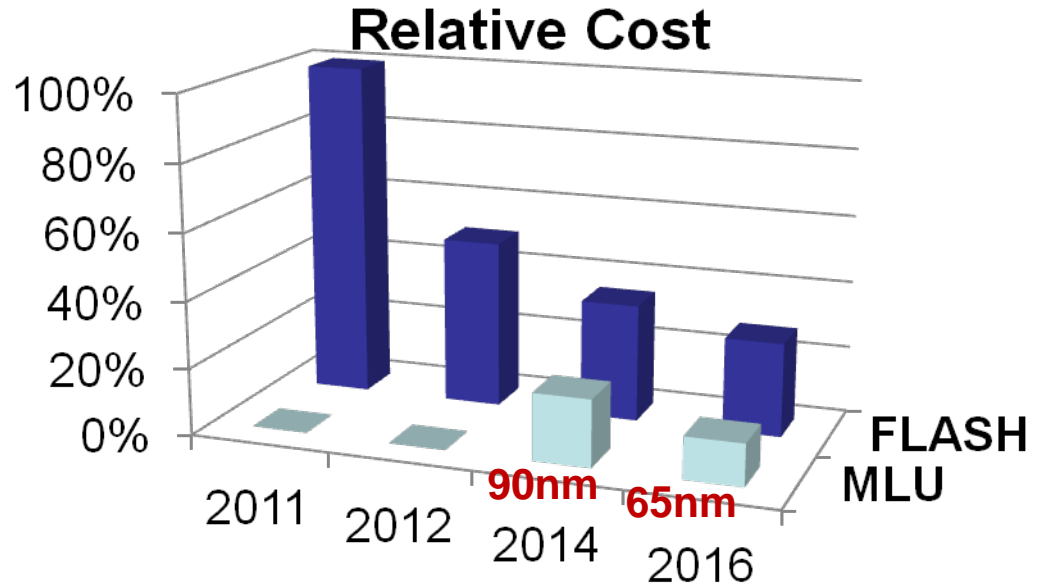
Automotive  
"Under the Hood"





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# MLU Application: Smartcard



## MLU Advantages:

- Sustainable Lower Cost .....2 Masks, Low Voltage, Faster Test
- Advanced Security Features.....Tamper Resistance, “Zero Knowledge Proof”
- Streamlined Process Integration....Backend Wafer Process, Standard CMOS

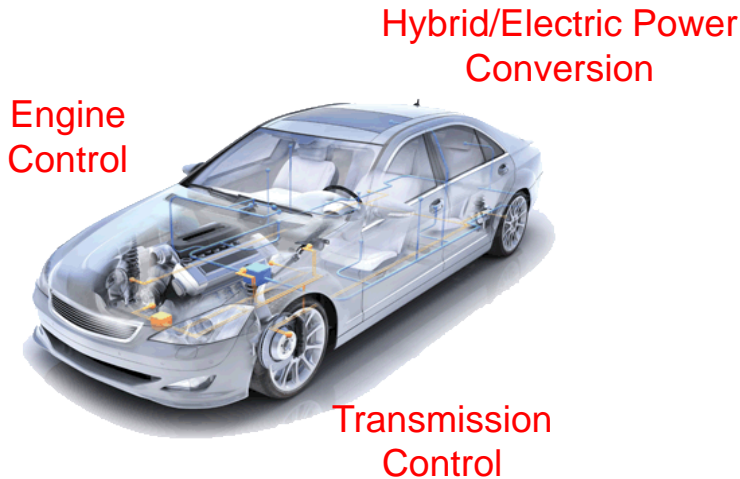


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# MLU Application: High Temperature

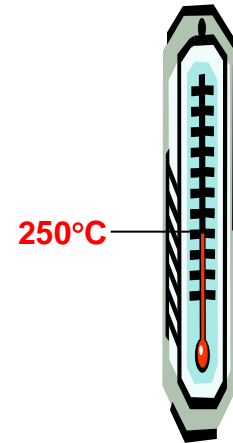


## Automotive "Under the Hood"



Automotive is one of the fastest growing segments of the semiconductor market

**\$23B in 2011**



### MLU Advantages:

- Capable of 250°C operation.....MLU data storage stable at very high temperatures
- Sustainable Lower Cost .....2 Masks, Low Voltage, Faster Test



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# MLU Application: SOC Embedded Memory



## MLU Advantages:

- Simple CMOS Process Integration .... Hi Temp Compatible, 2 Masks Backend vs. Frontend
- Sustainable Lower Cost ..... Low Voltage, Faster Test
- RAM or NVM footprint ..... High Endurance, High Speed



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# MLU Summary



	Crocus MLU	Other Magnetic Semiconductors
High Density – 1TmJ, MLC	Yes	No
Ease of SOC Integration	Yes	No
Secure Memory and Hardware Search	Yes	No
High Temperature Operation (250 °C)	Yes	No
Simplified Manufacturing	Yes	No
High Yield Architecture	Yes	No