



Stichting Business  
Generator Groningen



rijksuniversiteit  
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# Licensing Opportunity

## Ferroelectric semiconductor

### Technology

The invention relates to a novel, non-volatile two-terminal memory device, based on a blend of organic ferroelectric and organic semiconductor material. The blend is sandwiched between two electrodes to make the memory device. The memory property is achieved by tuning the barrier for charge injection at the metal electrode. The device combines rewritability and low read-out voltages with non-destructive read-out, long data retention times, short switching times and high programming-cycle endurance.

### Business Opportunity

The simplicity in the fabrication of the two terminal memory device based on the modulatable injection barrier may be made suitable to low-cost, low-performance logic circuit applications on flexible substrates, in particular RFID tags. Furthermore the ferroelectric semiconductor can function as an active switch, that can be turned on and off, which may find application e.g. in displays.

### The Market

The global semiconductor market totalled about \$142 billion in 2002.

The Non-Volatile Memory (NVM) devices sector is the fastest growing sector of the semiconductor market. According to market estimates the NVM market accounted for sales of \$26 billion in 2006 and that is expected to grow to \$64 billion by 2011.

### Investment Opportunity

SBGG and RUG now seeking partners to discuss to develop and eventually market the technology.

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### Company information:

SBGG is the technology transfer office of University of Groningen / University Medical Centre (the Netherlands)

### Patent information:

The technology is protected through international patent application and was published as:

Kamla Asadi, Dago M. de Leeuw, Bert de Boer and Paul W.M. Blom. (2008) Nature Materials, 7, pp 547-550.

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### Development Status:

Technology has to be developed into a prototype.

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