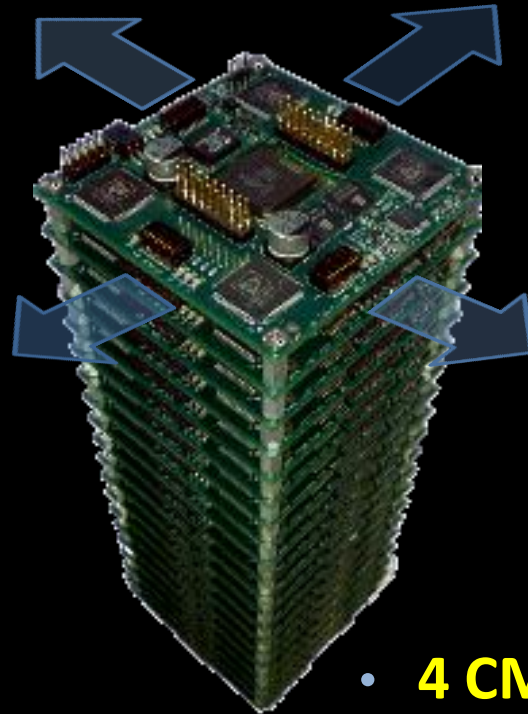
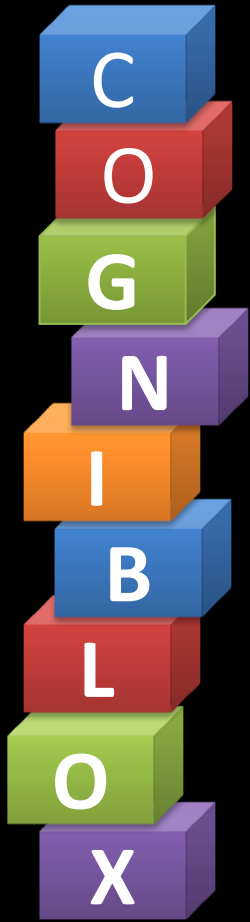


Identify one *important* pattern (up to 256 bytes) among  
1K, 10K, 100K, 1,000K, or more

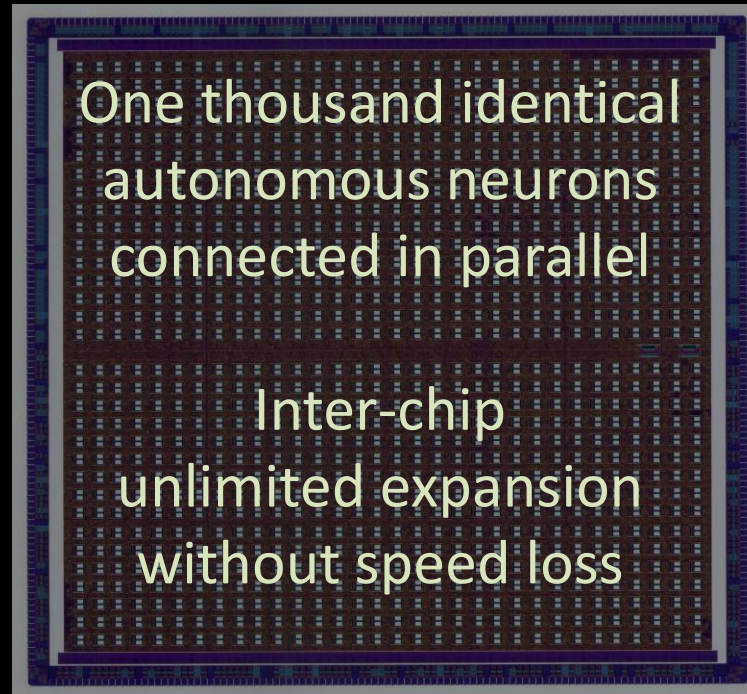


CogniBlox will do it  
in **10 $\mu$ sec**  
with 250 mW per  
1,000 patterns

- **4 CM1K chips** or 4096 neurons per board
  - Stackable vertically
  - Expandable horizontally

# *Beyond Von Neumann...The CM1K chip*

Find one  
pattern  
among one  
million  
in 10 $\mu$ S



The most practical approach to real time pattern recognition !

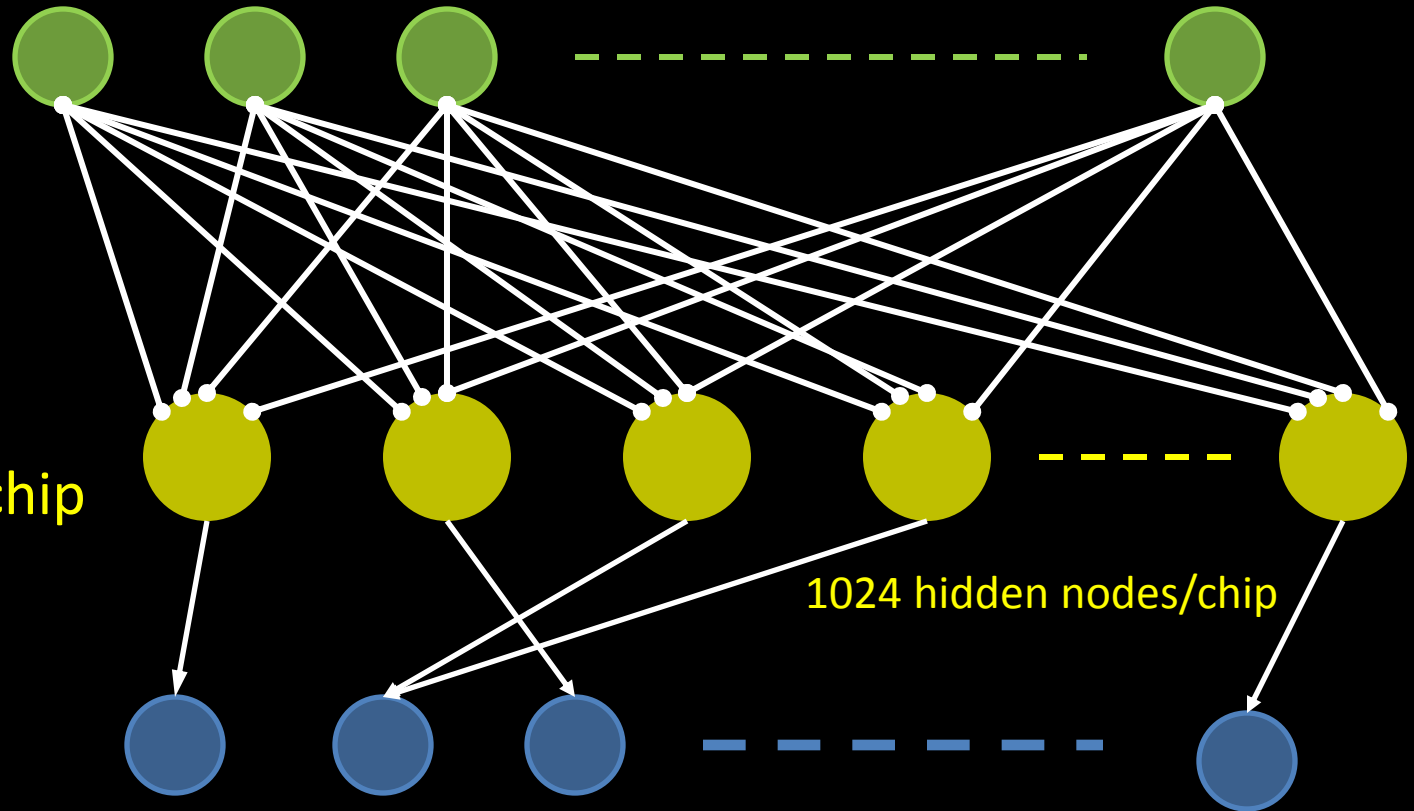
*Data Mining • Image Recognition  
Signal Recognition • Video Analytics • More*

# The CM1K Chip...available now!

256  
inputs  
of 8-bit

262,144  
Synapses/chip

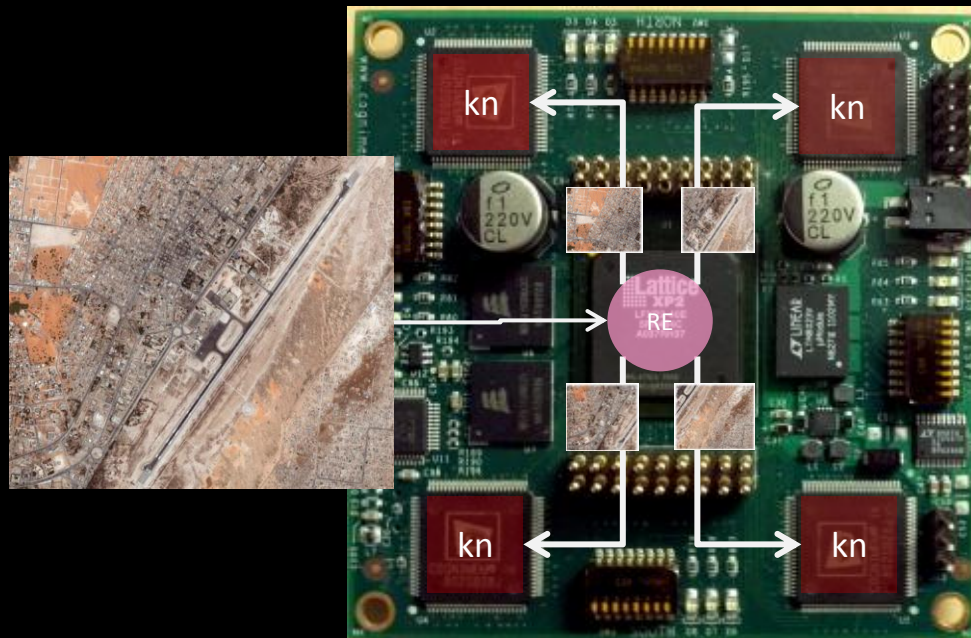
16,392  
outputs



*26 Billion connections updated per second @ 500 mW / 27 MHz*

# CogniBlox ...for High-Speed Video Analytics

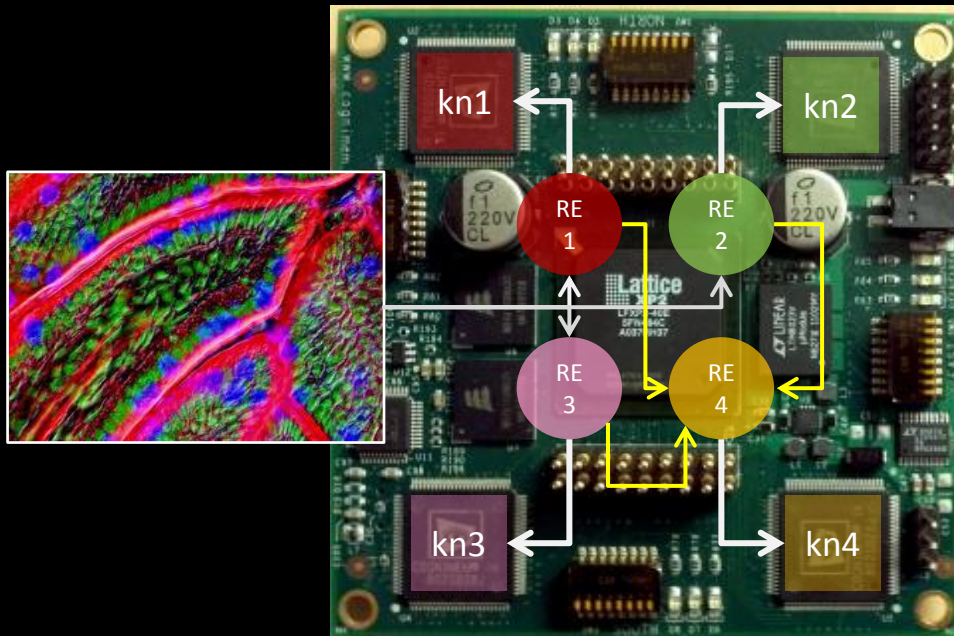
Process images N times faster by distributing the recognition to multiple CM1K chips



Example:  
The four quadrants of the image are recognized in parallel. The same knowledge is loaded in the four CM1Ks.

# CogniBlox ...for Complex Image Recognition

Build robust diagnostics using multiple recognition engines in parallel

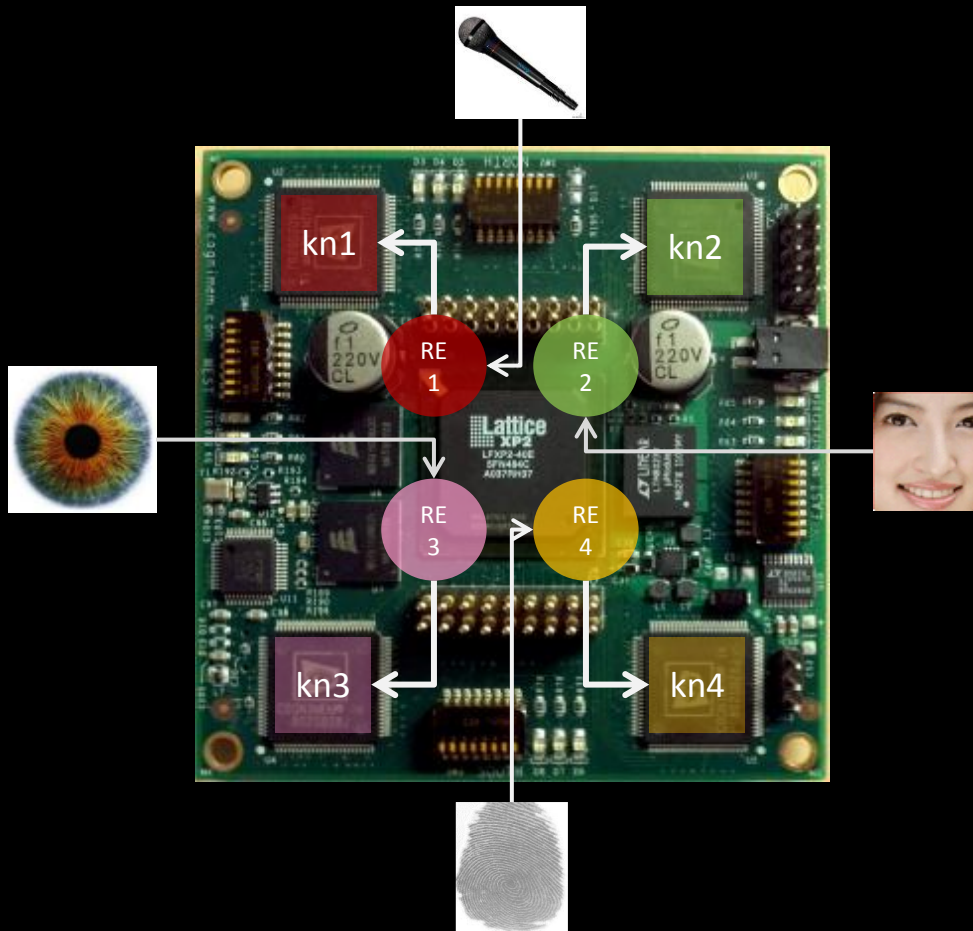


## Example:

- Expert in color (RE1+kn1)
- Expert in texture (RE2+kn2)
- Expert in shapes (RE3+kn3)
- Expert in cell biology (RE4+kn4)

# CogniBlox ...for Sensor Fusion

Multiple sensor inputs for composite recognition



Example:

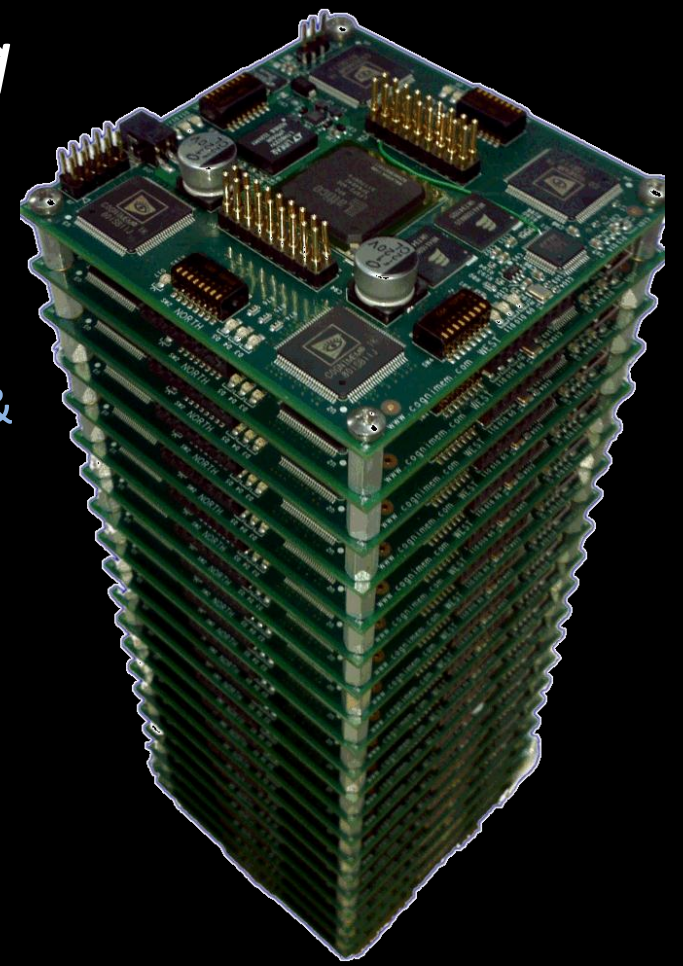
- Expert in voice (RE1+kn1)
- Expert in face (RE2+kn2)
- Expert in fingerprint (RE3+kn3)
- Expert in iris (RE4+kn4)

# CogniBlox ...for Data Mining

Find one pattern  
among one million  
in 10 $\mu$ S



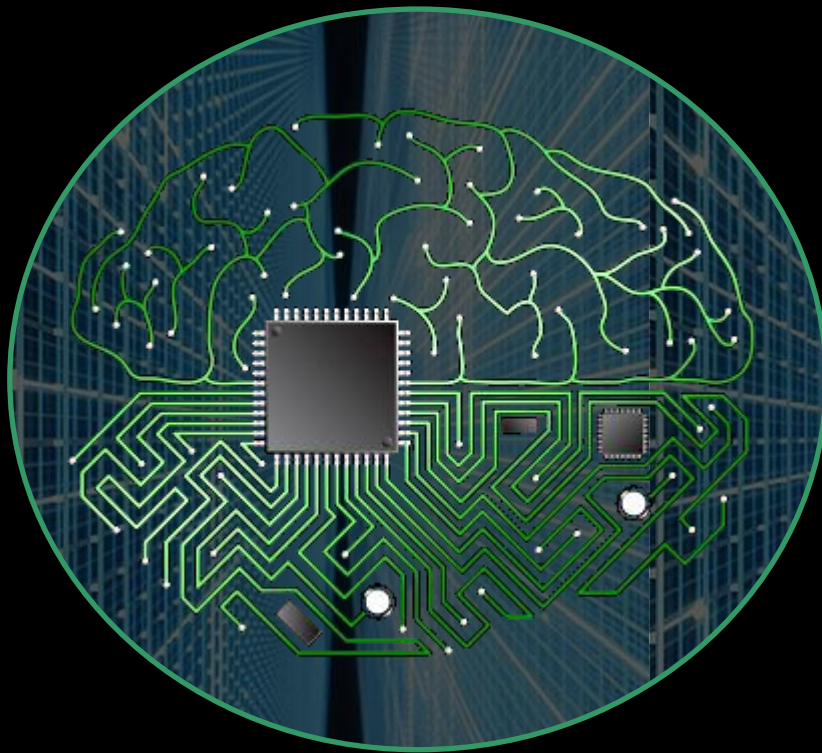
Horizontal &  
vertical  
expansion  
up to  
millions of  
parallel  
neurons



100,000 searches per second  
among one million references

*CogniBlox ...*

*for the Big Artificial Brain (BAB) Project*



The BAB project is  
funded in part by  
French/German  
Defense Research



Toward one million neurons in parallel  
> .13 Peta operations per second equivalent