



Point-One

Pole of innovative technology on nanoelectronics and embedded systems

MEMSLand

Cost Effective MEMS to Develop a Sustainable High Tech Business

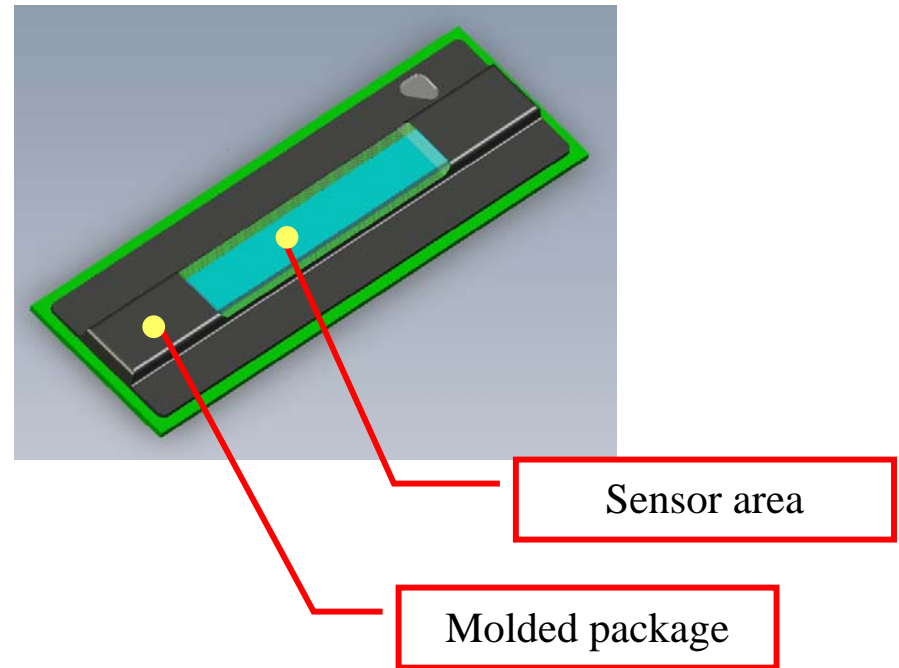
Demonstrator 9a

Boschman Finger Print Sensor

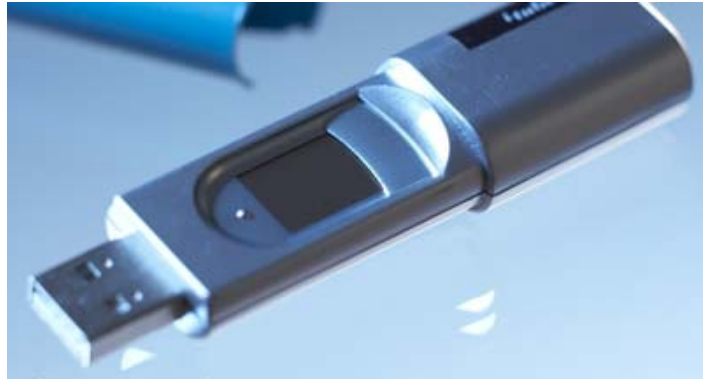
A.Bos

Demonstrator 9a

BOSCHMAN FILM ASSISTED MOLDING PROCESS FOR BIOMETRIC FINGER PRINT SCANNER



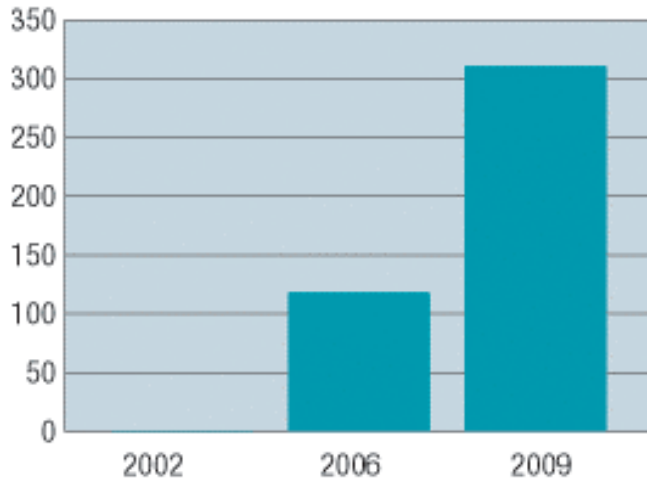
Demonstrator 9a Applications



Demonstrator 9a Economic perspective

WORLDWIDE SILICON FINGERPRINT SHIPMENTS

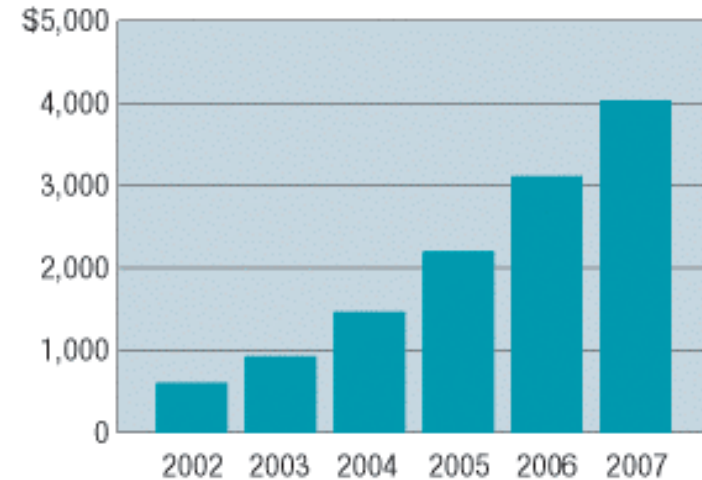
in millions of units



SOURCE: FROST & SULLIVAN

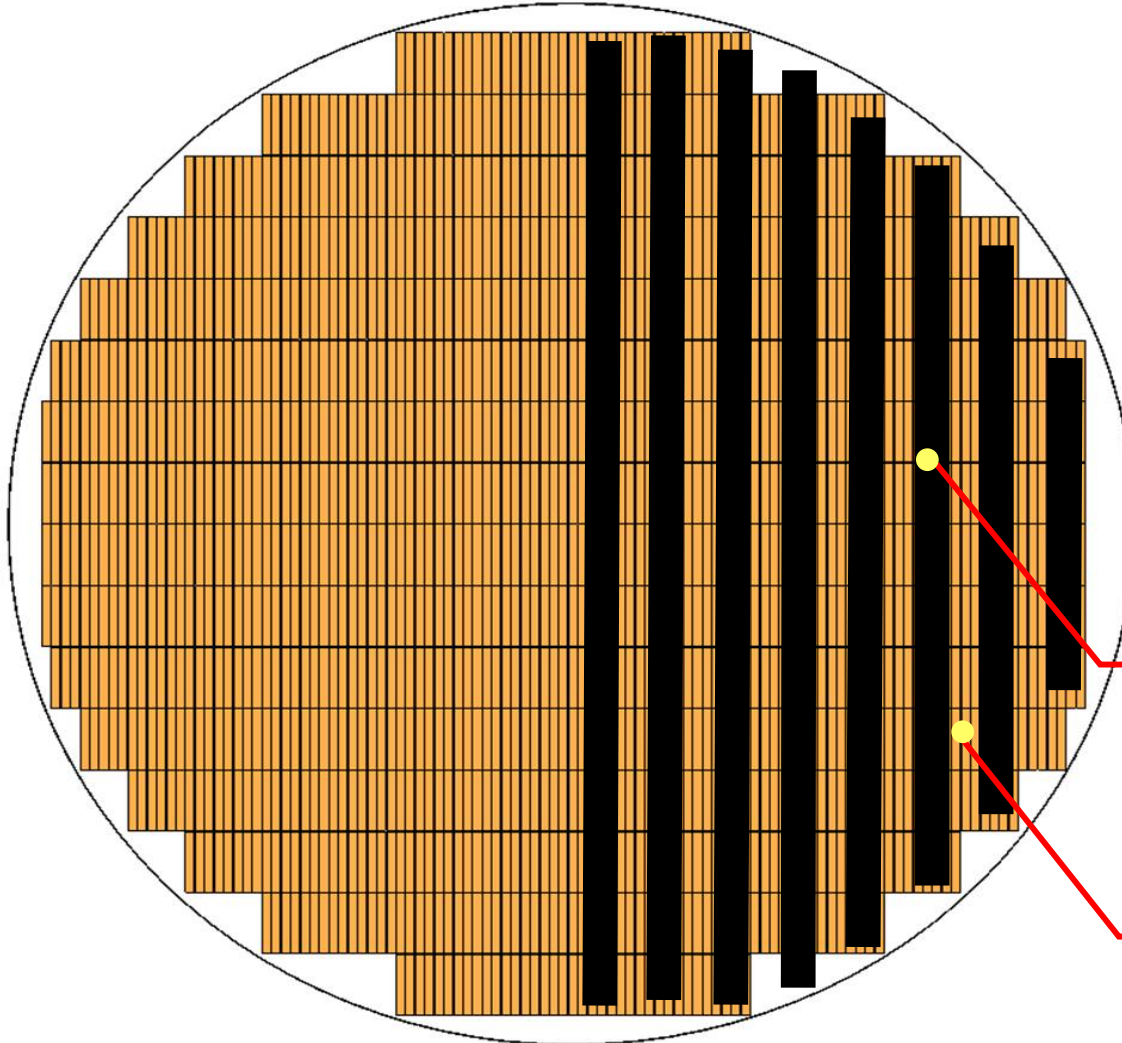
WORLDWIDE BIOMETRIC REVENUES FORECAST

hardware and software, in millions of \$



SOURCE: INTERNATIONAL BIOMETRIC GROUP

Demonstrator 9a Technology explanation



Technology :

- 1. Selective thin layer molding
- 2. Film Assisted Molding

Purpose :

Sensor protection

Protective compound layer on sensor areas

Exposed wafer area

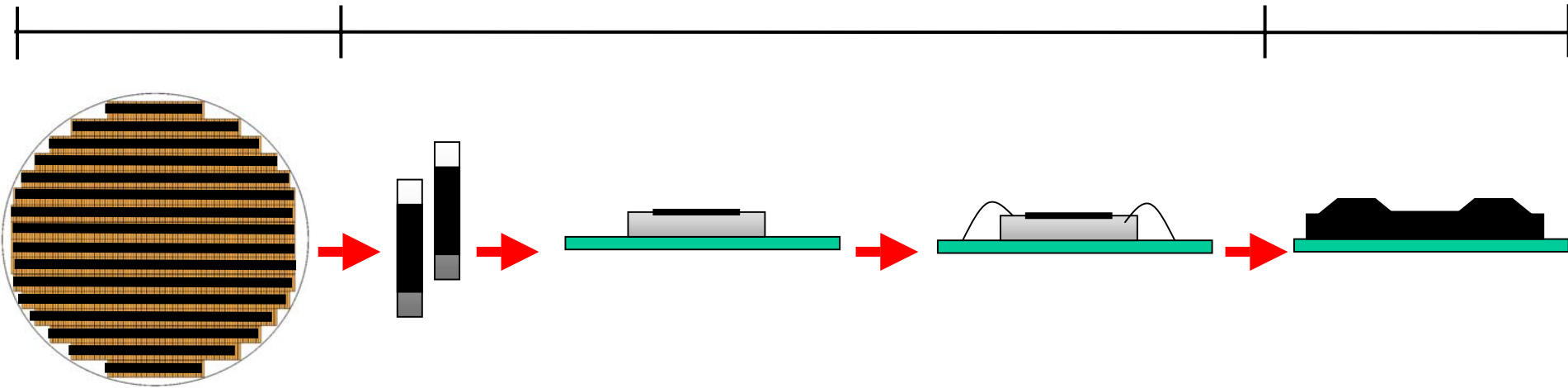
Demonstrator 9a Technology explanation

PROCESS FLOW 2 STEP MOLDING

Wafer protective layer molding

Wafer saw / die bond / wire bond

Package molding



Demonstrator 9a Project activities

- **Wafer transfer molding flow simulations**
- **Define minimum compound layer thickness**
- **Design and manufacture test mold**
- **Verify flow behavior**

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Project status

- **Minimum protection layer thickness with average BGA compound is 0.3 mm**
- **Two plunger transfer molding system is required to mold a 12 inch wafer within compound conversion time.**
- **Compound types with different characteristics are required for smaller layer thickness in the range of 0.03 mm.**
- **Test mold will be developed for actual molding trials.**

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END