

Wearable Electronics – Fabrics for the future

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Never stop thinking.

Microelectronics in the core of new applications

1. Microelectronics enters more and more areas of our private lives



2. Microelectronics in clothing is an important, innovative next step



3. Future applications place highest requirements on microelectronics



Infineon at a glance

- Infineon – a worldwide top ten semiconductor company
- Sales of 5.67 billion Euros in fiscal year 2001
- Focus on communications, automotive electronics and memories
- “Never stop thinking” with about 30,000 employees, among them more than 5,000 developers
- Strong technological basis with more than 31,000 patents and patents pending; 29 major research and development locations
- State-of-the-art manufacturing capabilities and world market leader for 300 mm wafers
- Excellent positioning for converging markets in the networked Internet society

Infineon's core competences – a prerequisite for the development of smart clothing

Infineon's technological core competences are driving advanced innovations:

- **Broadband communications:**
 - ➔ making communications much faster ...
- **Mobile communications:**
 - ➔ bringing people together; anytime, anywhere ...
- **Advanced security solutions:**
 - ➔ for access control and comprehensive data security ...
- **Mobility:**
 - ➔ more efficiency, convenience, safety, infotainment in traffic ...
- **Storage:**
 - ➔ Memory chips in all electronic applications ...

The semiconductors industry: 50 years of design in a flash

50 years ago - Transistor (IC)

40 years ago - Transistor radio

30 years ago - Video recorder

20 years ago - Personal computer

10 years ago - Mobile phone

5 years ago - Internet, e-mail

Today - Smart clothing!

Enormous dynamics of innovation – smaller, cheaper ...

Today, as compared to 1970, we have:

- 1 million times more memory cells per chip
- memory cells that cost 4 million times less
- 100 times smaller structures on the chips
- more than 20,000 times more transistors integrated that can switch 20,000 times faster

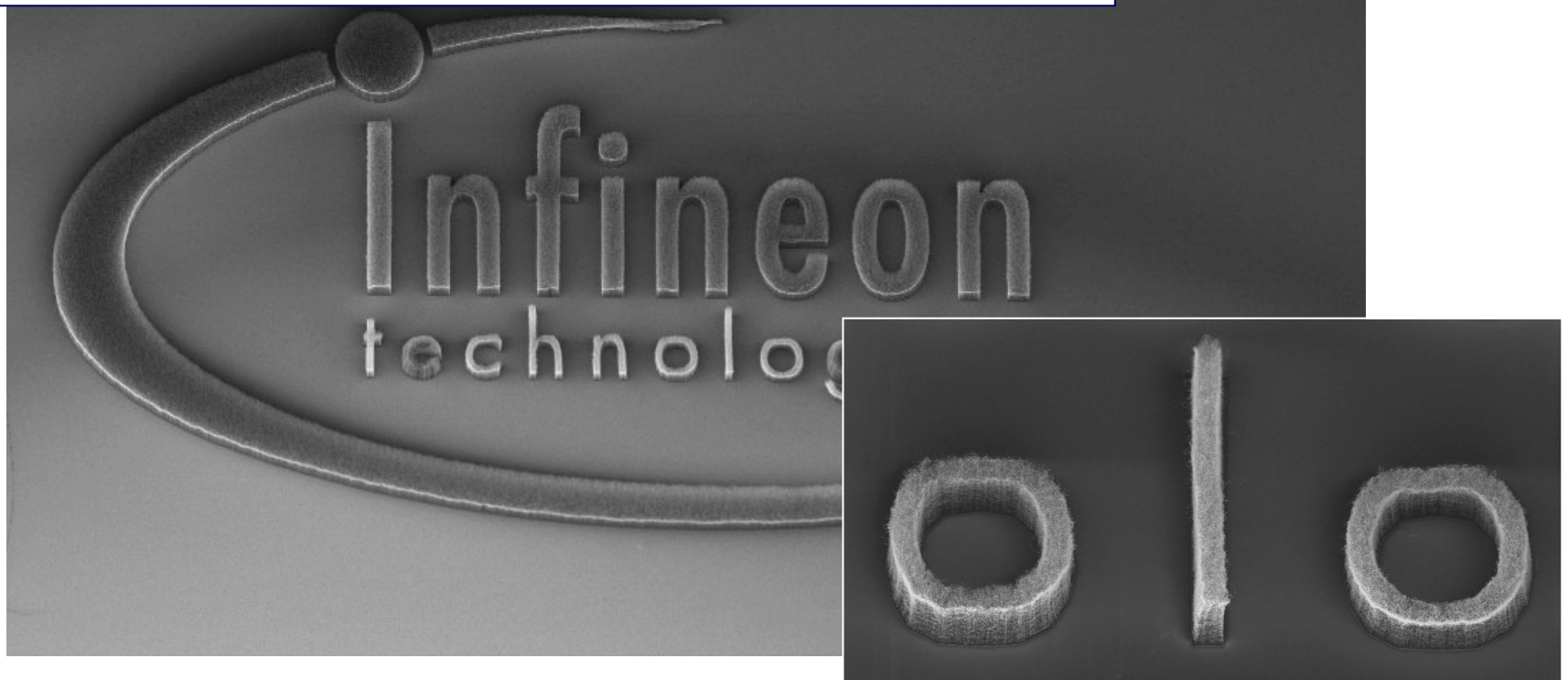
... and ever more powerful

Given the same rate of progress as with memory chips, one of today's cars would:

- weigh 50 grams,
- go 5,000,000 km/h,
- cover a distance of 500,000 km with one tank of gas,
- cost 5 € cents to buy!

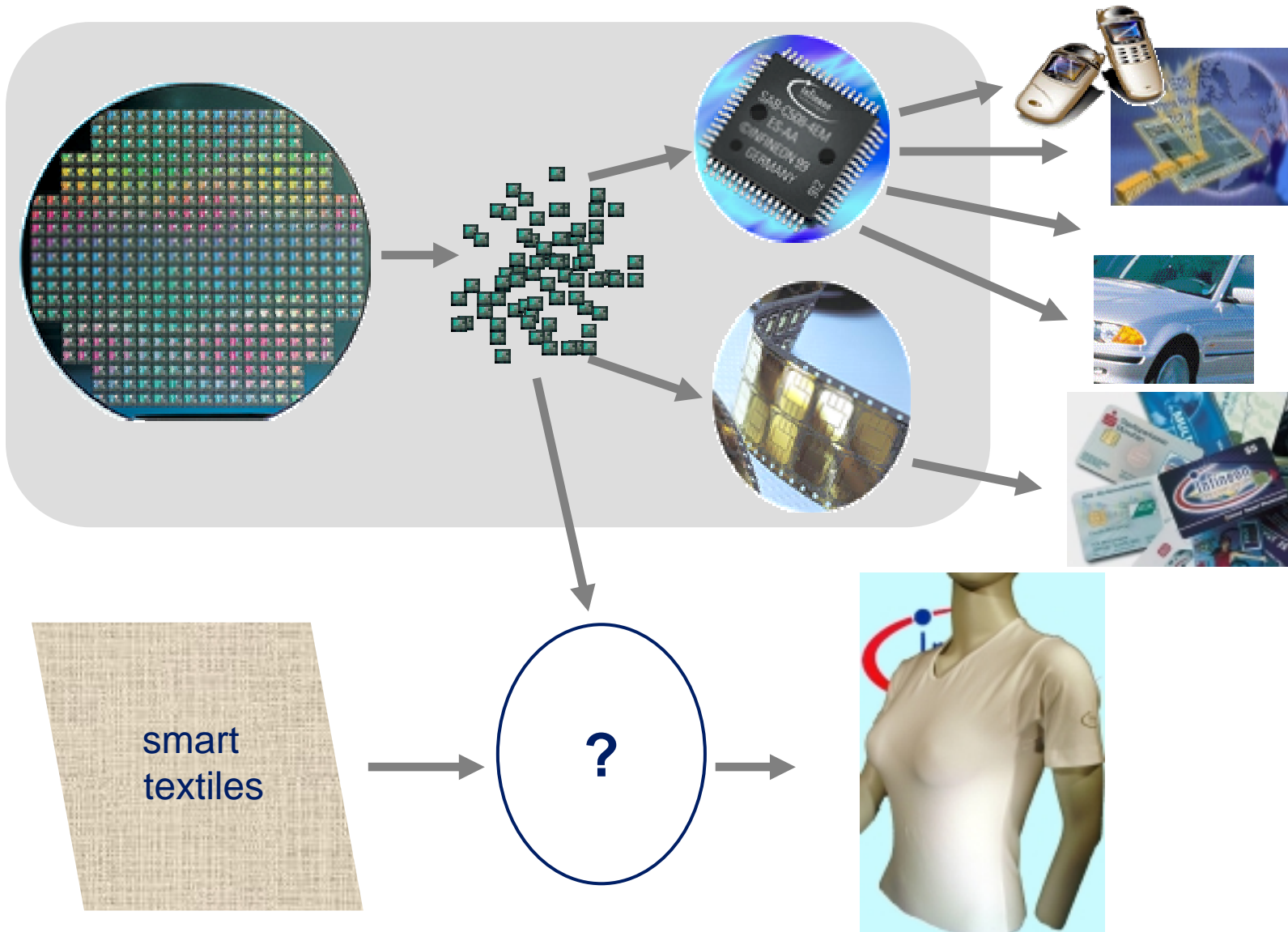
From microelectronics to nanoelectronics

Today, we are again seeing the beginning of a new era, with a million-fold increase in performance, where the focus is on single atoms ...

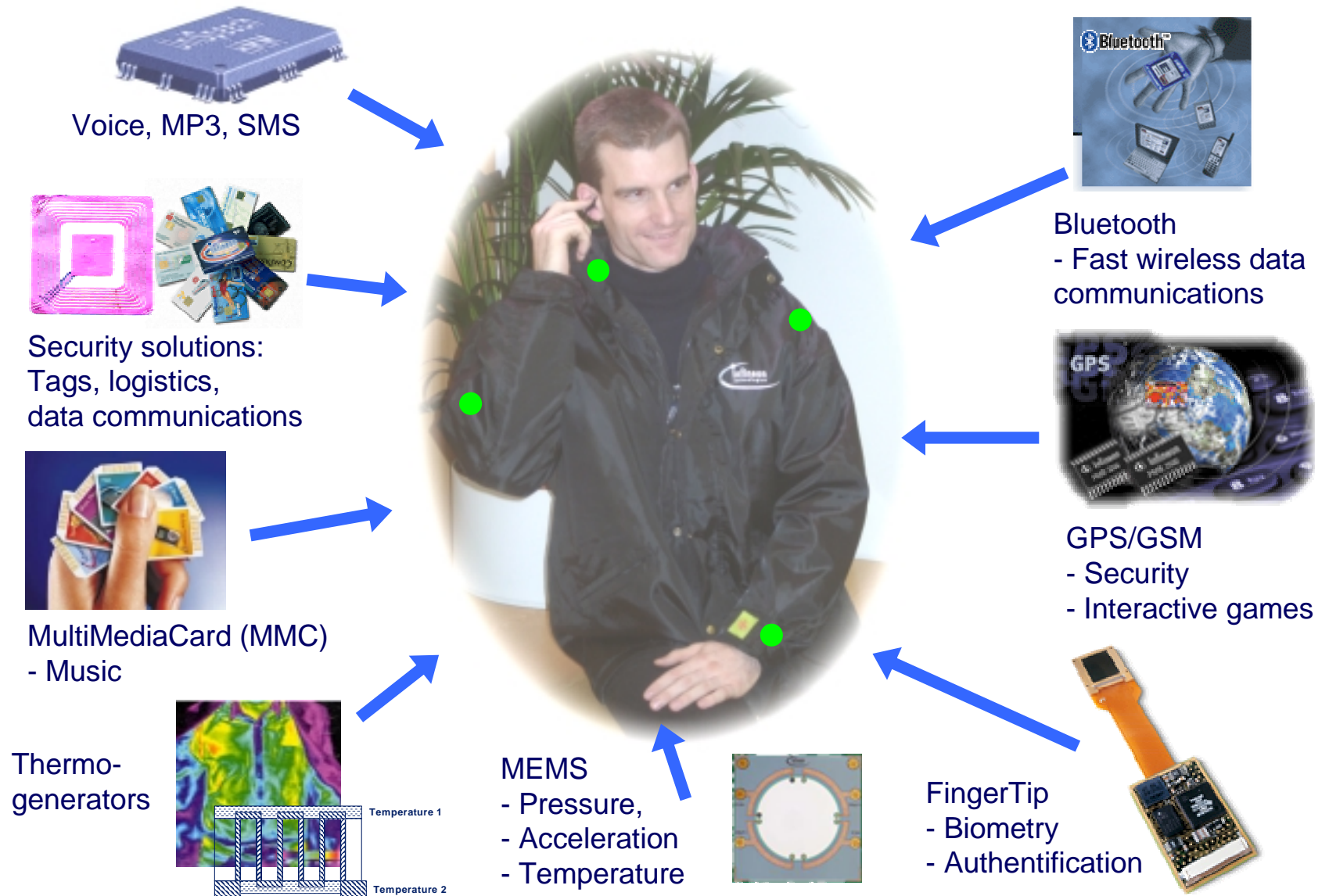


Infineon logo made of atomic structures (carbon fibers) with a thickness of only 10 atoms (tenth of a millionth millimeter)

From chips to smart fabrics



Microelectronics creates smart clothing





„Never stop thinking“