Leading-Edge Logic LSI Strategy

Construction of 300mm fab for 90nm/65nm volume production

March 19, 2004

Toshihiko Ono
Corporate Senior Vice President and
Group President, Electronic Devices Business Group
Fujitsu Limited
Concentrating our investment in a 300mm volume production fab that leverages our proven world-leading 90nm technology will enable us to be highly cost-competitive and generate profits.

- Build a 300mm line to develop our high cost/performance-competitive 90nm business
- Realize quick return on R&D investment through partnerships with customers; increase profits through ASSPs

- Location: 1500 Mizono, Tado-cho, Kuwana-gun, Mie Prefecture
- Technology: 90nm/65nm CMOS logic
- Wafer diameter: 300mm
- Clean room area: 12,000 $m^2$
- Production capacity: 13,000 wafers per month
- Production system: Small-batch control as low as single wafer, multi-part processing
- Clean room construction: Hybrid seismic isolation structure
New facility to be constructed at Mie Plant complex
Minute Vibration Control and Seismic Isolation Structure

Hybrid system provides rigidity to counteract minute vibrations and flexibility to absorb earthquake tremors. (First application in a semiconductor factory)
New Strategy for Leading-edge Logic LSIs

Prior Leading-Edge Logic Strategy

Sales

Commodity

Captive

Time

Shift to model that enables return on development costs at same time as technology development

Commodity:
Shorter product cycles \(\rightarrow\) limits on design resources / lower profitability due to rising development costs

- Structured ASICs
- Dynamic Reconfigurable Chips
- FPGA/ASIC Concurrent Design Service

New Strategy

Sales

Technology partners’ products

Commodity

Captive

Time

Fewer limitations on design resources, plus faster return on development costs and increased sales, particularly when we get partners who require leading-edge technology

Strengthen our partner strategy: Leading-edge Technology Partners

More than 10 companies have already evaluated our 90nm tech and become partners
Demand and Investment Projections

Demand from Leading-edge Tech Partners

- Overseas partners
- Domestic partners
- Internal partners

Wafer Demand (200mm/Month)

<table>
<thead>
<tr>
<th>Year</th>
<th>Overseas partners</th>
<th>Domestic partners</th>
<th>Internal partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2004</td>
<td>25.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>FY2005</td>
<td>50.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>FY2006</td>
<td>85.0</td>
<td>15.0</td>
<td>10.0</td>
</tr>
<tr>
<td>FY2007</td>
<td>120.0</td>
<td>20.0</td>
<td>15.0</td>
</tr>
</tbody>
</table>

Investment Amount (billion yen)

- 25.0
- 50.0
- 85.0
- 30.0
Logic Business Strategy Concept: New IDM

Early-stage partnerships important to deal with design difficulties as scale and complexity of 90nm technology increases.

Partnerships:
- **Internal Partners**
- **Domestic Partners**
- **Overseas Partners**

**Internal Partners**:
- Set Manufacture
- Set Design
- LSI Design/Software

**Domestic Partners**:
- Set Manufacture
- Set Design
- LSI Design/Software

**Overseas Partners**:
- Set Manufacture
- Set Design
- LSI Design/Software

Shift to Joint Creation

Development (Process / CAD) → LSI Design Software → Production (Front-end / Back-end)

Close ties in design and production

Vendors → Design Houses (IP Vendors) → Foundries (Assembly & Test Houses)
Transmeta continues to be very pleased with Fujitsu's 90nm technology and customer support," said Dr. Matthew R. Perry, president and CEO of Transmeta Corporation.

"Fujitsu's excellent support has enabled Transmeta to achieve major production milestones for our 90nm Efficeon processor, and even to tape out an advanced version of Efficeon featuring our innovative LongRun2 power management and leakage control technology. We look forward to working with Fujitsu on 90nm as well as future generation 65nm and 45nm process technologies."
THE POSSIBILITIES ARE INFINITE