GLOBALIZATION AND THE NEW WORLD ORDER

1st Silicon (Malaysia) Sdn. Bhd.

Malaysia’s entry to the 21st Century Economy
Semiconductor’s Growing Percentage of Electronics

<table>
<thead>
<tr>
<th>Computer Type</th>
<th>S/C Content ($)</th>
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<tbody>
<tr>
<td>Mainframe</td>
<td>8 – 10%</td>
</tr>
<tr>
<td>Midrange Systems</td>
<td>10 – 14%</td>
</tr>
<tr>
<td>Workstations</td>
<td>15 – 18%</td>
</tr>
<tr>
<td>Personal Computer (PC)</td>
<td>30 – 35%</td>
</tr>
<tr>
<td>Personal Digital Assistant (PDA)</td>
<td>40 – 50%</td>
</tr>
</tbody>
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Source: Integrated Circuit Engineering Corp. & SIA 2000

Semiconductor Growth Projection

CAGR '99-04: 13.6%

Dataquest James Hines August 2000, “The Industry Soars Once Again!”
**Current Industry Environment**

**Strengthening Demand**

- Increasingly positive macro-economic climate
- Electronic goods consumption gaining momentum
- Semiconductor market enters further growth cycle
- Semiconductor capital spending accelerating

**Industry Drivers**

- Communication tools have overtaken computing products as the main drivers for the increased demand for semiconductors
- Demand for cellular phones has grown 2 times faster than demand for personal computers

![Graph showing demand for cellular handsets and PCs](Source: Dataquest)
Fab Projects Built and Announced for 2000 - 2002: Tally As of April 1, 2000

More Fabs Needed to Support Semiconductor Industry Growth
Source: Dataquest August 2000

2000 Capital Spending Increased by US$9 Billion Since Early January

<table>
<thead>
<tr>
<th>Cap Ex</th>
<th>2000E</th>
<th>% Growth</th>
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<tbody>
<tr>
<td>Current</td>
<td>$44.6B</td>
<td>43.6%</td>
</tr>
<tr>
<td>Previous</td>
<td>$35.7B</td>
<td>18.8%</td>
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<tbody>
<tr>
<td>1</td>
<td>TSMC</td>
<td>4,693</td>
<td>106%</td>
</tr>
<tr>
<td>2</td>
<td>Intel</td>
<td>4,500</td>
<td>50%</td>
</tr>
<tr>
<td>3</td>
<td>Motorola</td>
<td>2,600</td>
<td>73%</td>
</tr>
<tr>
<td>4</td>
<td>UMC Group</td>
<td>2,375</td>
<td>54%</td>
</tr>
<tr>
<td>5</td>
<td>Samsung</td>
<td>2,350</td>
<td>32%</td>
</tr>
<tr>
<td>6</td>
<td>Hyundai</td>
<td>2,200</td>
<td>175%</td>
</tr>
<tr>
<td>7</td>
<td>TI</td>
<td>2,000</td>
<td>40%</td>
</tr>
<tr>
<td>8</td>
<td>STM</td>
<td>1,800</td>
<td>34%</td>
</tr>
<tr>
<td>9</td>
<td>NEC</td>
<td>1,587</td>
<td>21%</td>
</tr>
<tr>
<td>10</td>
<td>Micron</td>
<td>1,400</td>
<td>40%</td>
</tr>
</tbody>
</table>

Sources: Company Reports, Morgan Stanley/DW, Applied Materials Corporate Marketing est.
The Foundry Business

- Benefits of Foundry to Fabless Companies
  - Lower Wafer Cost
  - Reliable Supply
  - Assurance over Time
  - Shorter Cycle Time
  - Minimize Risk Involved in Building and Operating a Fab
  - Low Process Technology Development
  - Significant Tax Incentives

- Advantages of “Pure-Play Foundries” over Integrated Device Manufacturing (IDM)
  - Lower R & D Investment
  - Lower Overhead
  - Focus on Manufacturing.

Foundry Growth Drivers

- Time-to-market & increasing fab capital costs
- Lower-risk way to enter IC industry
- Customers’ focus on core competency
- Foundries expertise in meeting customers’ needs
**Foundry Supply Tight Through 2002**

- 1999-2004 CAGR = 25.4%
- Forecast over 50% growth in 2000
- Demand from fabless and growing IDM outsourcing trend
- Oversupply and price pressure returns in 2003

**Source:** Dataquest August 2000

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**Semiconductor Demand**

- Semiconductor demand has grown significantly
- World growth of electronic products looks good for next 5 years
- Communication tools have overtaken computing products as the main drivers for the increased demand for semiconductors

**Worldwide Semiconductor Forecast**

- Regional Totals

**Source:** SIA June 2000 Forecast
Malaysia’s Economy

- 52% of Malaysia’s total exports consist of electrical and electronic products, which is equivalent to approximately US$90 billion a year.

Malaysia’s Export by Product 1999 - 2000

Source: Department of Statistics, Malaysia

Malaysia’s Electronic Infrastructure

- Silicon Wafer: MEMC, SEH
- Assembly & Packaging: Unisem (M) Berhad, Carsem Semiconductor, ASE Electronics, HP, Motorola, AMD, NSC, ST
- Printed Circuit Board: Renesas, Intel
- Electronic Components: TDKO Electronics, Taiyo Yuden
- Consumer Electronics: SHARP, National, Toshiba
- Disk Media: Seagate, Western Digital

- Operating in Sama Jaya Free Industrial Zone
Foundry Service Overview

One-stop solution for fabless design houses and IDMs

Support Functions
- Sales & Marketing
- Engineering Support
- Production Planning
- Delivery Management
- Quality Assurance
- CIM Support

1st Silicon Services
- Design Support Center
- Photomask
- Wafer Fabrication
- Wafer Sort
- Wafer Back Grind
- Assembly
- Final Test
- Drop Ship

Total Customer Satisfaction

Services Provided
- Optional Services

1st Silicon in Sama Jaya Free Industrial Zone
Key Characteristics of the Project

- Project has government support
  - Malaysian Federal and State Government guarantee worth US$300M
- Abundant natural resources to support facility
- Good time to market
- Capital structure and loan financing in place
- SHARP Corporation as technology partner
- Equipment from world class, equipment manufacturers

- Skilled workforce
  - Current headcount currently stands at more than 300 employees, 70% of which are engineers
- Geo-political stability
  - Located outside the Pacific Ring of Fire
- Good infrastructure
  - Stable electrical and water supply

Fab Overview

- Date of Incorporation: 13 January 1998
- Location: Sama Jaya Free Industrial Zone, Kuching, Sarawak, Malaysia
  - 97 acres of industrial land (can accommodate 3 wafer fabs)
- Project Size: USD$ 1 billion
  - First deep sub micron wafer fab in Malaysia
- Type of business: "Pure Play" Foundry
- Output: 30,000 wafers/month
- Product Type: 0.25µm 5LM and 0.18µm CMOS Logic
- Turnkey Contractor: Meissner + Wurst Zander (Germany)
- Project Manager: Turner & Townsend (UK)
- Construction: Q1/1999
- Water Tight Building: 12/1999
- Production: Q4/2000
- Technology Partner: SHARP
- Customer base: SHARP
- Other customers comprising of FSAs (fabless), IDMs (integrated device manufacturers) and OEMs (original equipment manufacturers)
- Human Resources: An international core team of over 120 people is already in place. Key executives have extensive experience with renowned semiconductor companies.
Project Achievements

Q1, 1999
- Appointed M+W ZANDER as turnkey contractor (30/3/99)
- Signed and concluded technology and wafer supply agreement with SHARP (30/3/99)
- Obtained Malaysian Federal and State government guarantee (30/3/99)
- Obtained loan from European Consortium of Banks (30/3/99)

Q1, 2000
- Fab certified as watertight (17/1/00)
- US Subsidiary established in Silicon Valley (24/1/00)

Q2, 2000
- Administration building completed and handed over by M+W ZANDER to 1st Silicon (18/4/00)
- Staff moved into new admin building (20/4/00)
- The first 747 cargo jet lands in Kuching International Airport, signaling the beginning and installation of the first batch of equipment, (3/5/00)

Q2, 2000
- Applied Materials CEO visits 1st Silicon fab in conjunction with US$100 Million equipment purchase (4/5/00)
- Financial foundation worth over US$600 Million including loans from US EXIM Bank (15/5/00)
- SHARP technology support team arrives in Kuching (23/5/00)
- SHARP and 1st Silicon agree to expand relationship by including wafer shipments worth US$300 Million over next few years (30/6/00)

Q3, 2000
- 1st Silicon elects IBM to implement CIM and e-business systems (7/7/00)
- Nomura provides funding of US$180 Million (18/7/00)
- Japan Bank for International Cooperation (JIBC) signs financing agreement for a loan worth US$59.5 Million (14/08/00)
Capacity Timeline

The equipment purchased will support the capacity timeline as shown below.

200mm Wafers

- 200mm wafers are expected to remain as high demand products until the year 2005.

Source: Dataquest
Excellent Partnerships in Technology and Business

- Exceptional technology partnership – SHARP
- Dedicated SHARP experts on site for technology transfer, qualification and production ramp
- Strong volume business commitment from day one of operation
- 2 Major US fabless customers, 1 tapeout targeted by end of September 2000, 1 tapeout Q1 2001
- Non-volatile memory technology and business partnership secured for Q3 2000 technology transfer-qual start
- Several equity and business partnerships in negotiation

Photolithography Equipment Move-In May 2000
Foundry Technology Roadmap

- Minimum Feature Size of Production
  - 1994-2002
  - Intel, TSMC/UMC, SIA, 1Si

The Employees

- Current headcount is >360 employees
- 23% of employees have received their education at recognized international universities
- 50% hold degrees or higher
- 81% are local Sarawakians, 5% are Malaysian, 14% are from other nationalities

Expected Headcount for the Year 2000
Challenges and Issues
- 11 new 300mm fabs announced for 2002 a major supply factor
- IDMs outsourcing momentum a major demand factor
- IDMs and traditional ASICs turn foundry a possible supply swing
- Oversupply and price pressure projected to return 2003
- Greater automation and flexibility in production
- Supply chain infrastructure lacks industry standards
- Global competition for engineering talent and resources
- Competing in the new foundry economy requires system-level integration manufacturing solutions

Opportunities
- Business: Increasing semiconductor content and accelerating global foundry industry growth
- Market: Supply diversification a business imperative
- Capacity: Entering demand cycle with ready capacity, greenfield fabs’ impact not ready until ~18 months later
- Technology: Sweet spot of mainstream volume production at 0.25um
- Financial: Rising ASP trends
Preparing for Next Generation

- 0.18um Technology options close to finalization for 2001 implementation
- Facility expansion plan for Fab2 - 3
- IPO plan

1st Silicon – The Malaysian Advantage

- Viable supply source in geo-politically stable region
- Abundant natural resources critical to ensure supply integrity and continuity
- Well educated, English speaking, multi-cultural multi-lingual workforce
- Well established electronic manufacturing infrastructure and foundry support infrastructure in Malaysia and Singapore
- Strong government incentive program for technology ventures
- Quality of life parallel to developed regions in convenience and safety, but without the pollution and congestion