

Worldwide Microcontroller Analysis

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Worldwide Microcontroller Analysis

Table 1

**Estimated Microcontroller
Unit Shipments by Word Length
1975-1986
(Thousands of Units)**

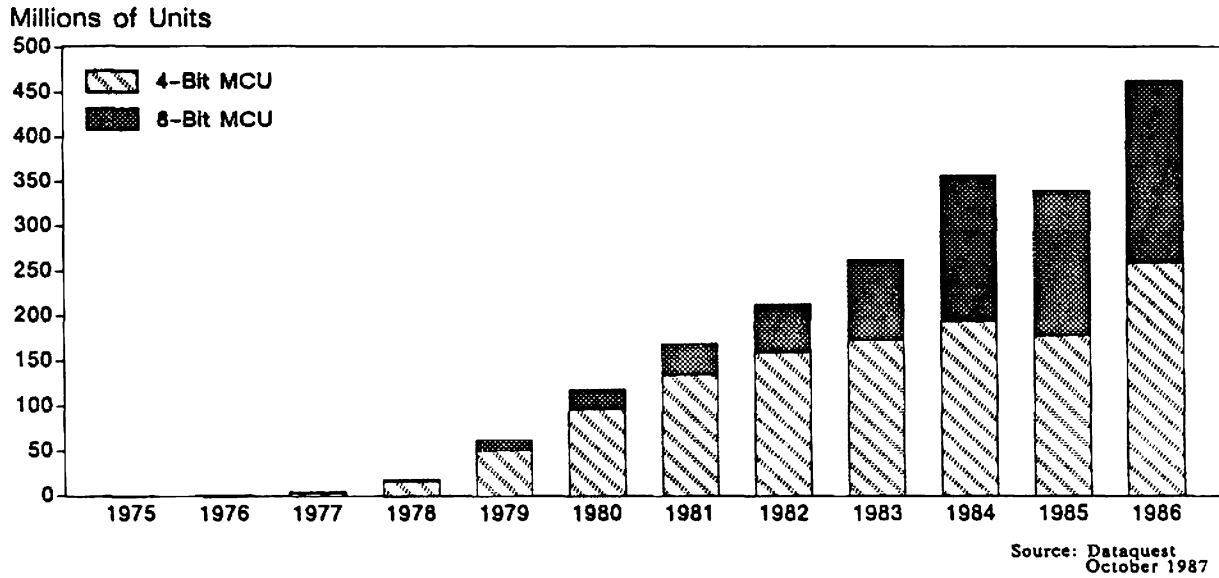
| | <u>1975</u> | <u>1976</u> | <u>1977</u> | <u>1978</u> | <u>1979</u> | <u>1980</u> |
|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 4-Bit | | | | | | |
| Shipments | 500 | 760 | 3,400 | 15,959 | 50,525 | 96,080 |
| Percent | 93.98% | 75.17% | 79.35% | 87.80% | 81.33% | 81.54% |
| 8-Bit | | | | | | |
| Shipments | 32 | 251 | 885 | 2,218 | 11,592 | 21,740 |
| Percent | 6.02% | 24.83% | 20.65% | 12.20% | 18.66% | 18.45% |
| 16-Bit | | | | | | |
| Shipments | | | | | 5 | 8 |
| Percent | | | | | 0.01% | 0.01% |
| Total Shipments | 532 | 1,011 | 4,285 | 18,177 | 62,122 | 117,828 |
| Percent | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| | <u>1981</u> | <u>1982</u> | <u>1983</u> | <u>1984</u> | <u>1985</u> | <u>1986</u> |
| 4-Bit | | | | | | |
| Shipments | 133,549 | 158,183 | 171,945 | 193,435 | 177,038 | 259,171 |
| Percent | 79.25% | 74.49% | 65.47% | 54.17% | 52.02% | 55.90% |
| 8-Bit | | | | | | |
| Shipments | 34,931 | 54,114 | 90,615 | 163,510 | 163,067 | 204,084 |
| Percent | 20.73% | 25.48% | 34.50% | 45.79% | 47.91% | 44.02% |
| 16-Bit | | | | | | |
| Shipments | 36 | 50 | 89 | 123 | 232 | 399 |
| Percent | 0.02% | 0.03% | 0.03% | 0.03% | 0.07% | 0.09% |
| Total Shipments | 168,516 | 212,347 | 262,649 | 357,068 | 340,337 | 463,654 |
| Percent | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |

Source: Dataquest
October 1987

Worldwide Microcontroller Analysis

Figure 1

Estimated Microcontroller Unit Shipments by Word Length
1975-1986



Worldwide Microcontroller Analysis

Table 2

Estimated Market Share by Manufacturer
for all Microcontrollers
1975-1980

| | <u>1975</u> | <u>1976</u> | <u>1977</u> | <u>1978</u> | <u>1979</u> | <u>1980</u> |
|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| NEC | | | | 8.33% | 14.14% | 15.04% |
| Mitsubishi | | | | | | |
| Matsushita | | | | | 7.08 | 8.76 |
| Toshiba | | | | | | |
| National | | | | 12.79 | 9.03 | 10.02 |
| Hitachi | | | | 2.26 | 1.05 | 1.21 |
| Motorola | | | | 0.50 | 1.29 | 1.30 |
| Texas Instruments | 9.40% | 30.66% | 65.93% | 51.71 | 42.02 | 37.35 |
| Philips | | | | | | 0.02 |
| Intel | | | 2.45 | 2.86 | 4.22 | 5.03 |
| Oki | | | | | | 0.08 |
| Sharp | | | | | 0.58 | 5.60 |
| Thomson | | | | | | |
| Fujitsu | | | | | | 0.54 |
| Signetics | | | | | 0.29 | 0.11 |
| SGS | | | | | | |
| General Instrument | | | | 2.48 | 6.60 | 4.75 |
| Siemens | | | | | | 0.02 |
| Others | <u>90.60</u> | <u>69.34</u> | <u>31.62</u> | <u>19.07</u> | <u>13.70</u> | <u>10.17</u> |
| Total | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |

(Continued)

Worldwide Microcontroller Analysis

Table 2 (Continued)

**Estimated Market Share by Manufacturer
for all Microcontrollers
1981-1986**

| | <u>1981</u> | <u>1982</u> | <u>1983</u> | <u>1984</u> | <u>1985</u> | <u>1986</u> |
|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| NEC | 16.53% | 20.49% | 20.39% | 23.75% | 21.34% | 19.22% |
| Mitsubishi | | | | | 4.44 | 12.46 |
| Matsushita | 7.42 | 7.64 | 9.54 | 8.10 | 9.41 | 9.81 |
| Toshiba | 0.21 | 7.73 | 11.11 | 9.29 | 10.31 | 8.98 |
| National | 7.80 | 9.10 | 9.64 | 9.40 | 8.55 | 7.46 |
| Motorola | 2.99 | 4.52 | 6.53 | 6.41 | 7.81 | 7.26 |
| Hitachi | 11.57 | 10.55 | 9.26 | 8.23 | 8.86 | 7.01 |
| Texas Instruments | 23.47 | 12.39 | 4.84 | 2.63 | 1.58 | 4.01 |
| Philips | 0.22 | 0.60 | 1.37 | 2.89 | 3.52 | 3.96 |
| Intel | 4.96 | 5.48 | 6.18 | 7.60 | 4.43 | 3.87 |
| Oki | 0.33 | 1.23 | 2.48 | 2.46 | 2.67 | 2.66 |
| Sharp | 7.84 | 5.89 | 5.30 | 4.68 | 3.17 | 2.12 |
| Thomson | | | 0.06 | 0.99 | 1.97 | 1.82 |
| Fujitsu | 7.46 | 6.81 | 4.68 | 3.00 | * | * |
| Signetics | 0.00 | 0.08 | 0.81 | 2.15 | 1.91 | 1.30 |
| SGS | | | | | ** | 1.17 |
| General Instrument | 2.45 | 1.98 | 2.52 | 2.65 | 2.19 | 1.15 |
| Siemens | 0.50 | 1.03 | 1.08 | 1.09 | 1.28 | 1.04 |
| Others | <u>6.25</u> | <u>4.48</u> | <u>4.30</u> | <u>4.68</u> | <u>6.56</u> | <u>4.70</u> |
| Total | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |

*Consolidated with Others due to insufficient data.

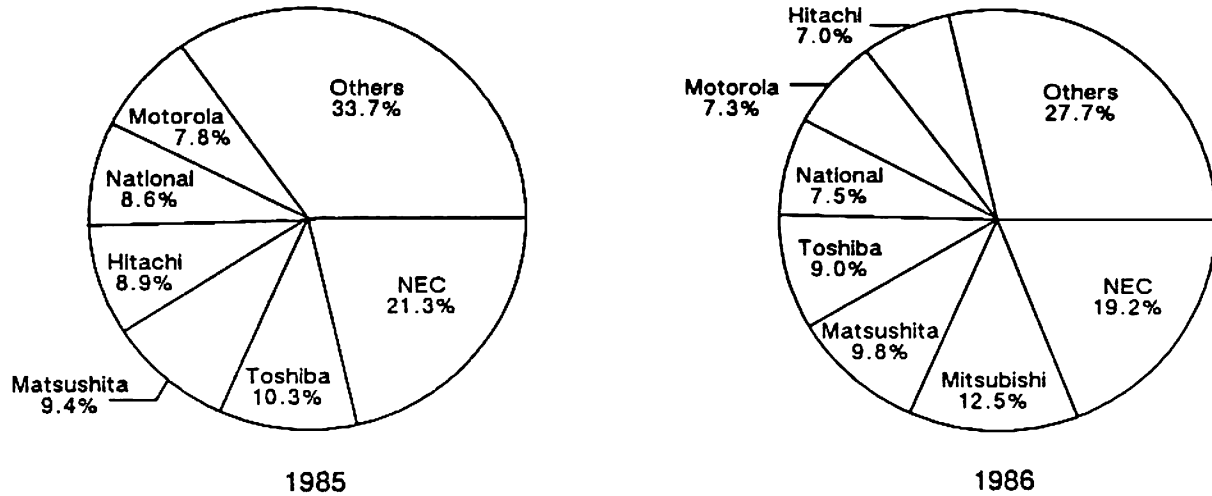
**Less than 1 percent in previous years and consolidated with Others.

Source: Dataquest
October 1987

Worldwide Microcontroller Analysis

Figure 2

Estimated Market Share by Manufacturer for all Microcontrollers
1985 and 1986



Source: Dataquest
October 1987

Worldwide Microcontroller Analysis

Table 3

Estimated Market Share by Region for all Microcontrollers
1981-1986
(Thousands of Units)

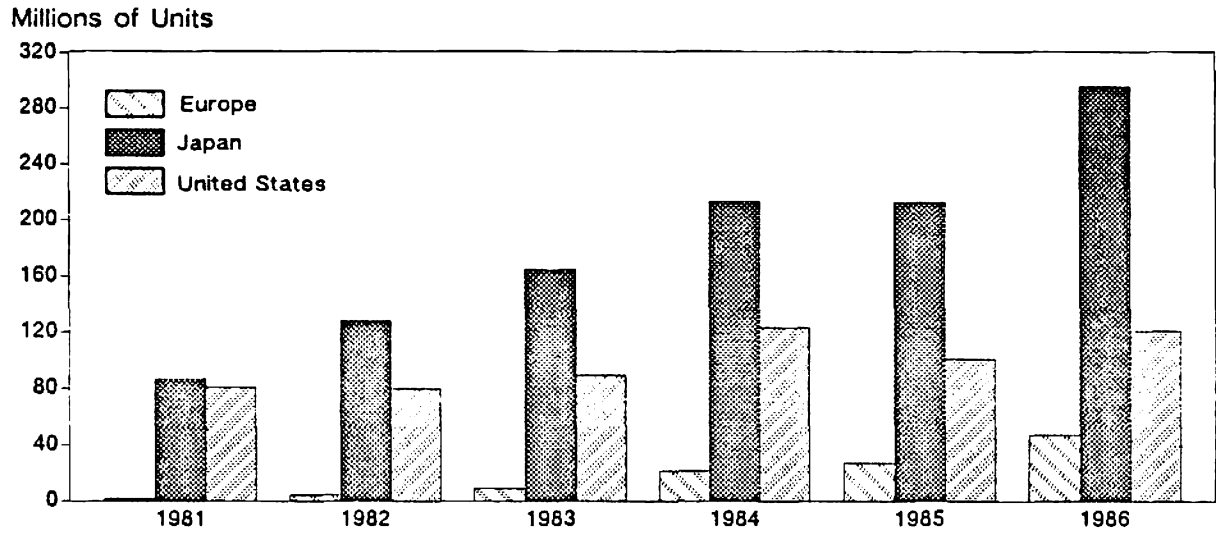
| | <u>1981</u> | <u>1982</u> | <u>1983</u> | <u>1984</u> | <u>1985</u> | <u>1986</u> |
|------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Europe | | | | | | |
| Shipments | 1,475 | 4,517 | 8,978 | 21,500 | 26,944 | 46,721 |
| Percent | 0.88% | 2.13% | 3.42% | 6.00% | 7.92% | 10.08% |
| Japan | | | | | | |
| Shipments | 86,524 | 128,129 | 164,560 | 213,265 | 212,718 | 295,953 |
| Percent | 51.34% | 60.34% | 62.65% | 59.52% | 62.50% | 63.83% |
| United States | | | | | | |
| Shipments | 80,517 | 79,701 | 89,111 | 123,545 | 100,675 | 120,980 |
| Percent | <u>47.78%</u> | <u>37.53%</u> | <u>33.93%</u> | <u>34.48%</u> | <u>29.58%</u> | <u>26.09%</u> |
| Total Shipments | 168,516 | 212,347 | 262,649 | 358,310 | 340,337 | 463,654 |
| Percent | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |

Source: Dataquest
October 1987

Worldwide Microcontroller Analysis

Figure 3

Estimated Market Share by Region for all Microcontrollers
1981-1986



Source: Dataquest
October 1987