

Microcontroller Market Analysis

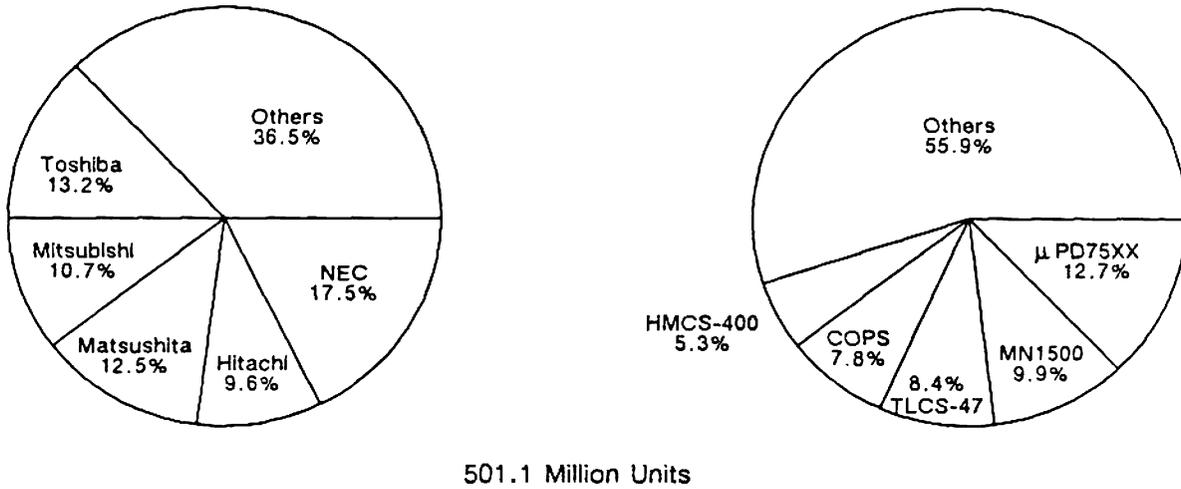
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- Figure 2 Estimated Market Shares of Leading Manufacturers and Products for 8-Bit Microcontrollers, 1988
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Figure 1

**Estimated Market Shares of Leading Manufacturers
and Products for 4-Bit Microcontrollers
1988**

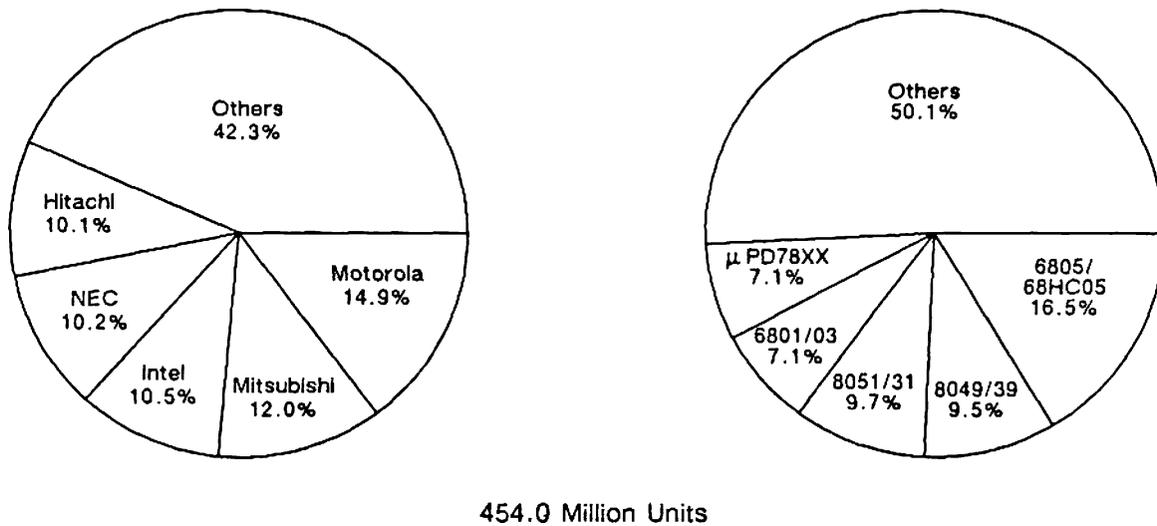


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Source: Dataquest
September 1989

Figure 2

**Estimated Market Shares of Leading Manufacturers
and Products for 8-Bit Microcontrollers
1988**



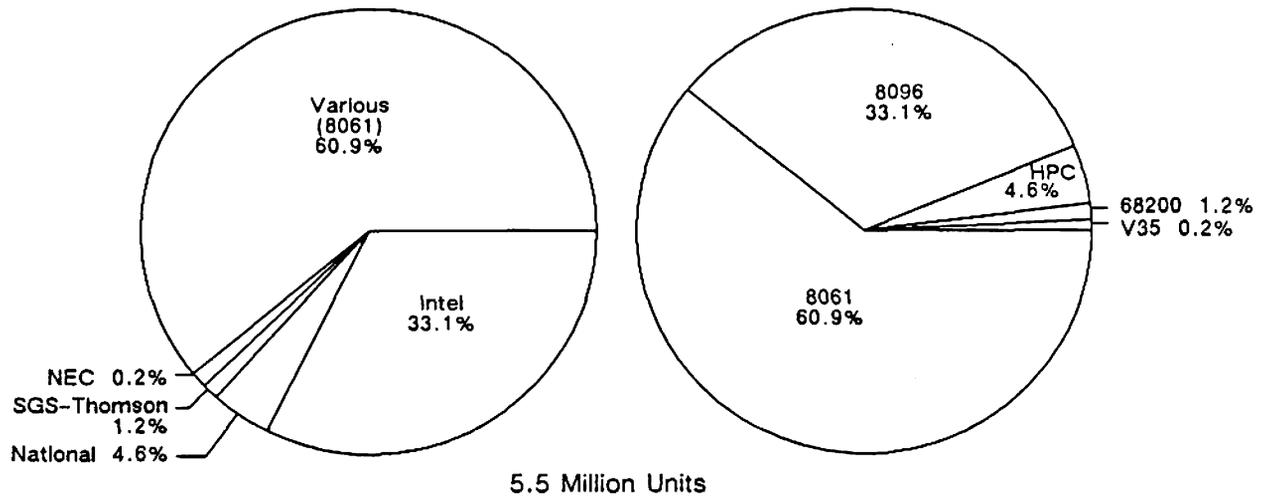
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Source: Dataquest
September 1989

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Figure 3

Estimated Market Shares of Leading Manufacturers and Products for 16-Bit Microcontrollers
1988



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Source: Dataquest
September 1989

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Table 1

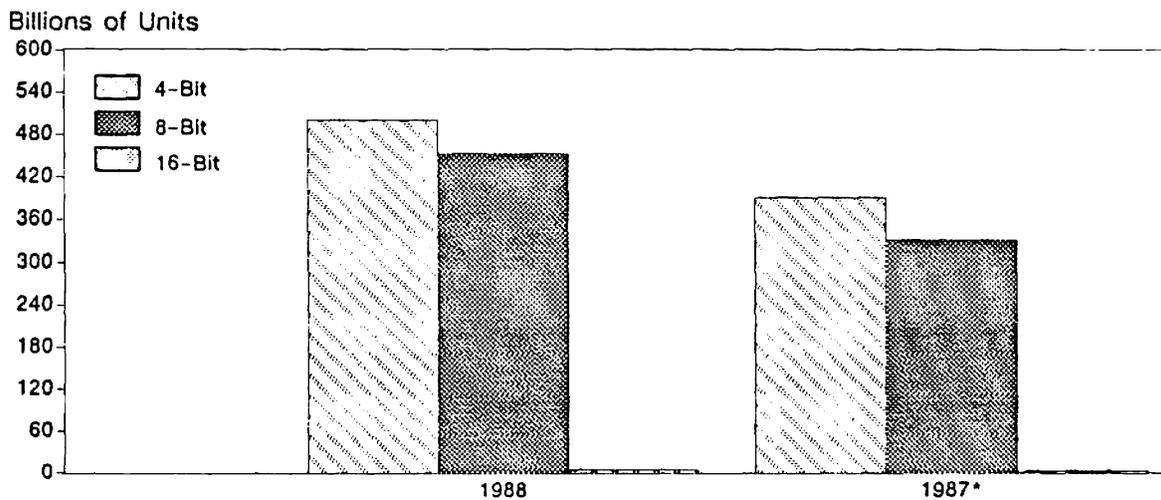
**Estimated Market Share by Word Length
for Microcontrollers
1985-1988
(Thousands of Units)**

	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
4-Bit				
Shipments	177,038	271,883	392,332	501,075
Percent	51.9%	54.8%	53.8%	51.9%
8-Bit				
Shipments	163,599	224,001	333,362	454,022
Percent	48.0%	45.1%	45.7%	47.0%
16-Bit				
Shipments	232	399	3,311	5,461
Percent	0.1%	0.1%	0.5%	0.6%
Total Shipments	340,869	496,283	729,005	966,019

Source: Dataquest
September 1989

Figure 4

**Estimated Market Share by Word Length
for Microcontrollers
1985-1988**



*Revised Data
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Source: Dataquest
September 1989

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Table 2

**Estimated Market Share by Region
for 4-, 8-, and 16-Bit Microcontrollers
1985-1988
(Thousands of Units)**

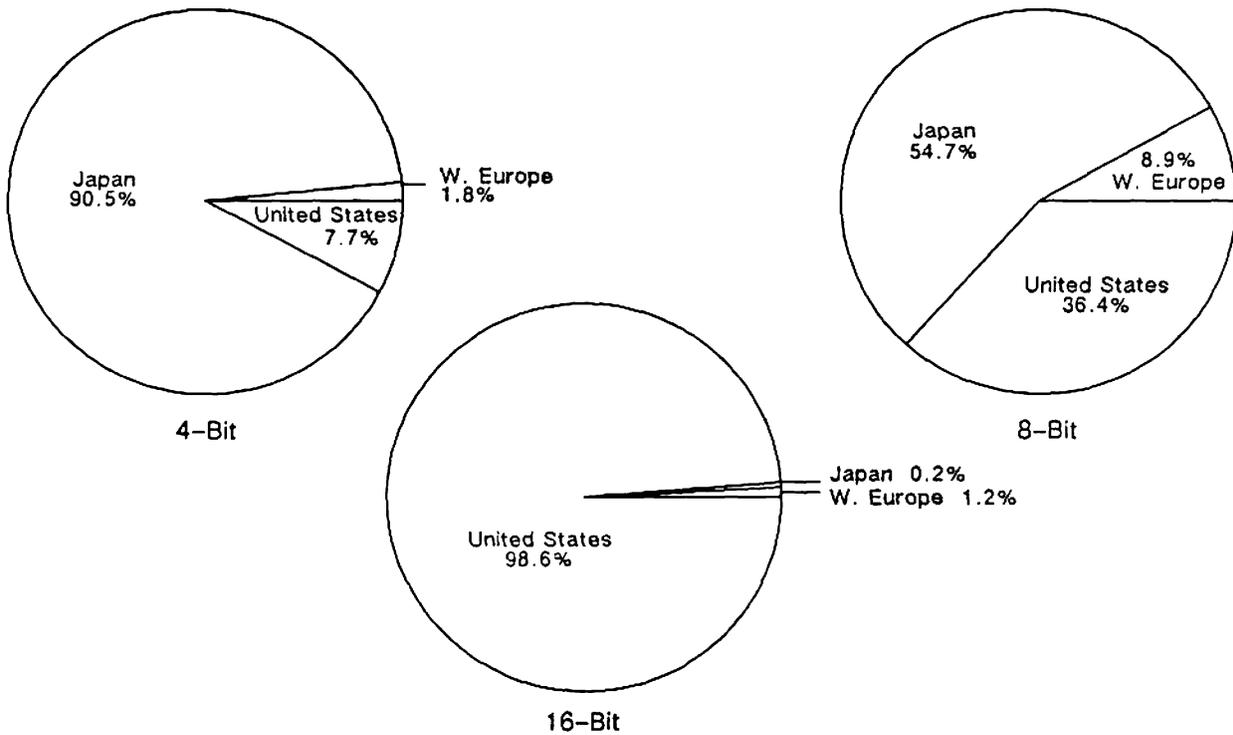
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
4-Bit Shipments	177,038	271,883	392,332	501,075
U.S. Companies (%)	16.3%	17.8%	11.8%	7.7%
Japanese Companies (%)	80.8%	79.8%	86.3%	90.5%
European Companies (%)	3.0%	2.3%	1.9%	1.8%
8-Bit Shipments	163,599	224,001	333,362	454,022
U.S. Companies (%)	42.7%	34.8%	35.3%	36.4%
Japanese Companies (%)	43.2%	50.0%	53.1%	54.7%
European Companies (%)	14.1%	15.2%	11.6%	8.9%
16-Bit Shipments	232	399	3,311	5,461
U.S. Companies (%)	94.8%	67.7%	96.6%	98.7%
Japanese Companies (%)	0	0	0.1%	0.2%
European Companies (%)	5.2%	32.3%	3.3%	1.2%
Total Shipments	340,869	496,283	729,005	960,558
U.S. Companies (%)	29.0%	25.5%	22.9%	38.4%
Japanese Companies (%)	62.7%	66.3%	70.7%	73.1%
European Companies (%)	8.3%	8.2%	6.4%	5.1%

Source: Dataquest
September 1989

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Figure 5

Estimated Market Share by Region
for 4-, 8-, and 16-Bit Microcontrollers
1988



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Source: Dataquest
September 1989

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Table 3

**Estimated Market Share by Process Technology
for 4-, 8-, and 16-Bit Microcontrollers
1985-1988
(Thousands of Units)**

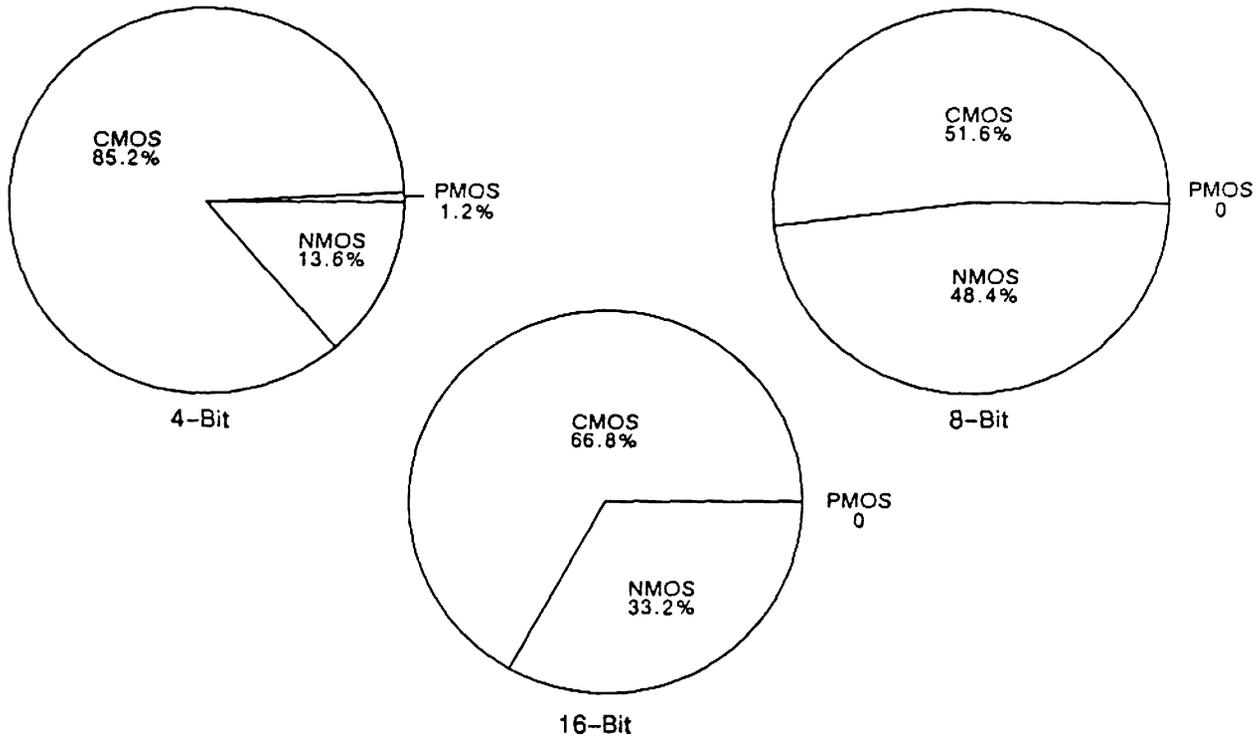
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
4-Bit Shipments	177,038	271,883	392,332	501,075
Percent PMOS	10.0%	4.9%	2.5%	1.2%
Percent NMOS	34.8%	29.8%	24.3%	13.6%
Percent CMOS	55.2%	65.2%	73.2%	85.2%
8-Bit Shipments	163,599	224,001	333,362	454,022
Percent NMOS	79.5%	67.8%	59.2%	48.4%
Percent CMOS	20.5%	32.2%	40.8%	51.6%
16-Bit Shipments	232	399	3,311	5,461
Percent NMOS	100.0%	100.0%	19.9%	33.2%
Percent CMOS	0	0	80.1%	66.8%
 Total Shipments	 340,869	 496,283	 729,005	 960,558
Percent PMOS	5.2%	2.7%	1.3%	0.6%
Percent NMOS	56.3%	47.0%	40.2%	30.1%
Percent CMOS	38.5%	50.3%	58.4%	69.2%

Source: Dataquest
September 1989

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Figure 6

Estimated Market Share by Process Technology
for 4-, 8-, and 16-Bit Microcontrollers
1988



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Source: Dataquest
September 1989