

C. Software

1. Software Design

The packaged software industry serves a wide range of markets, including business enterprise software, office software, educational software, and entertainment software.

a) Representative Operation – Advanced Software Development

Software business operations typically range in size from hundreds of programmers providing sophisticated new products, to very small groups serving niche customer markets.

The representative operation performs original technology development for packaged or “shrink-wrapped” software applications.

Examples would include the design of new digital imaging and animation techniques for the video game and movie production industries. As illustrated in Exhibit 3.58, this operation is characterized by:

- Leased office space
- A workforce consisting mostly of very highly skilled product development staff, with heavy sales and administration support

The business is assumed to operate as a stand-alone profit center.

b) International Results

International results are illustrated in Exhibit 3.59. These results reflect the combined impact of 27 location-sensitive cost components applied to the modeled operation. Detailed results, by key cost component, are presented in Exhibit 3.60.

c) Selected Cities

Exhibit 3.61 profiles results for selected cities, by country, from among the 102 cities featured in this report. Results for all other featured cities can be found in Chapter 4, Exhibit 4.10.

EXHIBIT 3.58 – SOFTWARE DESIGN

Advanced Software Development – Summary of Operating Parameters

Facilities Requirements

Class A office space leased	22,500 ft ² (2,090 m ²)
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Other Initial Investment Requirements

Machinery and equipment – US \$'000	–
Office equipment – US \$'000	\$1,350
R&D equipment – US \$'000	\$150
Inventory – US \$'000	\$500
Equity financing - % of project costs	67%

Workforce

Management	13
Sales and administration	33
Dedicated product development	52
Customer support	12
Total employees	110

Energy Requirements

Electricity monthly consumption/peak demand	120,000 kWh and 410 kW
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Other Annual Operating Characteristics

Sales at full production – US \$'000	\$18,000
Operating costs - % of sales	8%
Investment in tax-eligible R&D - % of sales	4.7%

EXHIBIT 3.59 – SOFTWARE DESIGN

Advanced Software Development – International Results (US = 100.0)

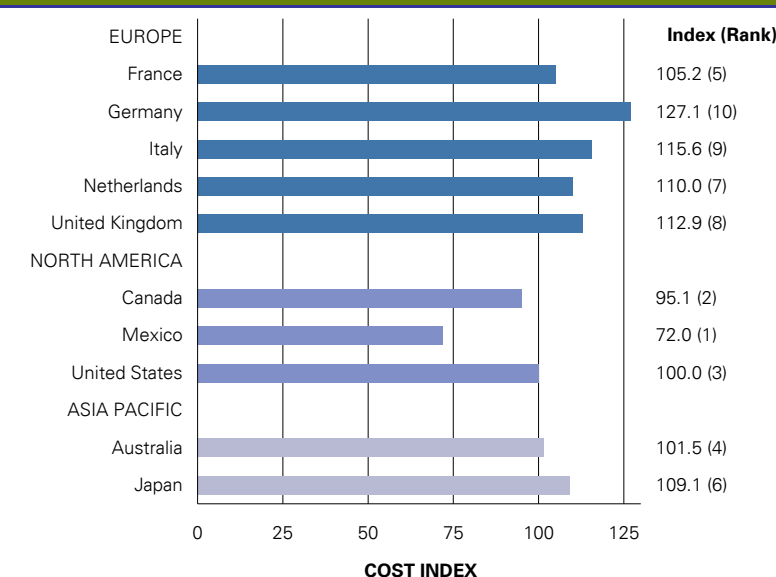


EXHIBIT 3.60 – SOFTWARE DESIGN

Advanced Software Development – Costs, by Major Component, US \$'000

	Europe					North America			Asia Pacific	
	France	Germany	Italy	Netherlands	UK	Canada	Mexico	US	Australia	Japan
Revenues	16,975	16,975	16,975	16,975	16,975	16,975	16,975	16,975	16,975	16,975
Costs										
- Salaries & Wages	7,594	11,456	8,438	9,223	9,635	8,781	5,362	8,461	8,611	8,845
- Statutory Plans	3,332	1,539	2,623	939	1,122	488	637	686	1,121	845
- Other Benefits	1,597	2,579	2,671	3,689	2,947	1,669	1,153	1,893	2,018	2,533
- Total Labor & Benefits	12,523	15,573	13,732	13,851	13,705	10,939	7,152	11,041	11,749	12,224
- Facility Lease	635	437	264	430	713	634	346	496	767	841
- Transportation	125	123	142	122	146	128	147	124	119	171
- Utilities	195	249	335	216	194	153	380	138	232	368
- Interest & Depreciation	35	844	286	143	289	(217)	(1,398)	(81)	(226)	243
- Non-income Taxes	54	-	97	7	-	90	60	153	-	61
- Location-insensitive Costs	1,273	1,273	1,273	1,273	1,273	1,273	1,273	1,273	1,273	1,273
Profit Before Income Tax	2,135	(1,524)	845	1,292	655	3,977	9,016	3,832	3,062	1,795
- Income Taxes ¹	478	-	692	(35)	115	850	2,527	1,409	864	702
Effective Rate	22.4%	n/a	81.9%	25.1%	17.5%	21.4%	28.0%	36.8%	28.2%	39.1%
After-tax Profit	1,657	(1,524)	153	968	541	3,127	6,490	2,421	2,198	1,093
Total Annual Costs	15,318	18,499	16,822	16,007	16,434	13,848	10,485	14,554	14,777	15,882
Index (US=100.0)	105.2	127.1	115.6	110.0	112.9	95.1	72.0	100.0	101.5	109.1
Rank	5	10	9	7	8	2	1	3	4	6

¹ Income taxes may be either positive or negative, irrespective of whether profit before income tax is positive or negative, due to the impact of specific expense deduction rules, minimum taxes, and refundable income tax credits. Effective tax rates are not shown where results are not meaningful because of low profitability.

EXHIBIT 3.61 – SOFTWARE DESIGN

Advanced Software Development – Results for Selected Cities, by Country

Country	City	Index	Rank Among 102 Cities	Country	City	Index	Rank Among 102 Cities
France	Paris	111.2	92	Canada	Montreal	94.8	23
	Toulouse	101.9	64		Ottawa	96.8	34
Germany	Erlangen	125.2	99	Toronto	99.0	46	
	Frankfurt	136.6	101	Vancouver	99.2	48	
Italy	Vicenza	116.9	97	Mexico	Guadalajara	76.5	5
Netherlands	Utrecht	110.0	91		Monterrey	80.4	6
United Kingdom	London	158.4	102	United States	Boston	108.1	84
	Plymouth	108.0	83		Dallas-Fort Worth	96.7	33
Australia	Melbourne	102.0	65		Denver	106.1	79
	Sydney	106.2	80		New York City	112.5	94
Japan	Fukuoka	109.0	86		North Virginia (Metro DC)	101.9	61
	Yokohama	109.6	89		Phoenix	101.9	62
					Portland	101.2	58
			San Jose		111.6	93	
			Seattle		105.7	77	