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## Precise Software

Yossi Sela, the Vice President of Gemini Israel Venture Capital Funds, got into his car so he could have a few minutes of silence. He had just left a disappointing board of directors meeting for one of his portfolio companies, Precise Software Solutions. Sela was frustrated because “the technology and market need were clearly there, but the company was getting nowhere.”

It was May 1997 and Precise’s revenue continued to be weak, despite management assurances that the tide would change. Financially, the company owed the bank \$2 million and had run out of cash. To make matters worse, company in-fighting between the American-based head office and the Israeli-based technology founders was becoming unbearable with trust among the investors, the company, and the founders at an all-time low.

To survive, Precise needed a \$750,000 bridge loan. Gemini had already invested \$1.24 million in the company (see **Exhibit 1**). Sela had to determine if he would continue funding the company or let it die. As he said, “only 50% of our portfolio companies survive and part of my job is to decide when to not throw good time and money after bad.” Sela asked if it was “best to cut your losses or was it worth trying to do something to save it?” Even if he decided to support the loan, he was unsure if he could get the funds and build the right team with the structure needed to make the company viable.

Sela pulled into his parking spot at his office. He needed to decide on the recommendation that he would give to Ed Mlavsky, the President of Gemini. As he weighed the pros and cons, he kept coming back to the same question, “what do you do with an A idea and a C team?”

### *The Emergence of “Silicon Wadi”*

Since Israel declared independence in 1948, it confronted political and economic crises. Israel faced five wars with its neighbors<sup>1</sup> and the Palestinian Intifada in 1987. Within a landmass slightly smaller than New Jersey, there were almost no natural resources. Israel’s centralized and protectionist economy plunged into a severe depression during 1973 to 1984 when it experienced hyperinflation<sup>2</sup> currency volatility, negligible foreign investment, and a major stock market crash.

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<sup>1</sup> Israel has fought wars with its neighbors in 1948, 1956, 1967, 1973, and 1982.

<sup>2</sup> Hyperinflation reached 300% in 1984 and 400% in 1985.

Despite these challenges, Israel emerged in the 1990s as a high technology powerhouse, becoming known as “Silicon Wadi.”<sup>3</sup> Between 1993 and 1997, Israeli companies, chiefly in the high-tech sector, raised \$3.5 billion through IPOs on Wall Street (see **Exhibit 2**). In 1996, Israeli firms provided the largest number of IPOs on the NASDAQ in New York, after the United States and Canada and the second largest number of IPOs on London’s Alternative Investment market after the U.K.<sup>4</sup>

Several factors converged to create innovation in Israel leading to the technology boom. The Israeli government invested billions of dollars in military R&D to achieve independent military technological supremacy. Following the economic crises in the 1980s, Israel reduced inflation to low double-digits by moving towards a market-based economy through privatization and deregulation. Government made education a priority, creating one of the most educated countries with a university system closely linked to industry, and developing industrial parks adjacent to campuses (see **Exhibit 3**).

To promote and accelerate Israel’s economic shift, the government nurtured innovative companies by engaging in capital risk sharing (funding of up to 85% of R&D costs) and promoting cooperation between military, academia, and industry. International programs encouraged other countries to participate in Israel’s technology revolution through contributions of funds and/or research. Multinationals were supplied incentives (e.g., tax and customs benefits) to encourage foreign direct investment and knowledge transfer from conglomerates to Israeli nascent industry.<sup>5</sup> National programs supported Israeli ventures from incubation to exit stages of development.

Israel stimulated the birth of professionally managed local private venture capital (see **Exhibit 4**). In 1992, Yozma Venture Capital was established as a \$100 million venture capital fund wholly owned by the Israeli government. Yozma provided investments of \$80 million to ten private funds and direct investments to start-up companies of \$20 million. Among the conditions required by Yozma was that the fund establish an independent Israeli management company with a majority of Israeli managers. Additionally, the fund needed to engage a reputable foreign financial institution, as well as a reputable Israeli one. A major feature of the Yozma Program was the upside incentive of the program—a call option open to partners to purchase the 40% Israeli government stake in the venture capital fund at cost plus an interest rate of five to seven percent for a period of five years. Total capital raised by the program was \$250 million, which was invested in over 200 start-up companies.

Socio-cultural factors were also important aspects in the growth of a high tech sector. Post-Cold War military cutbacks, along with the influx of 750,000 Russian immigrants, many of which were educated in the sciences, pushed the government to focus on the technology sector to create jobs and harness the talents of this new labor market. Israelis were also fast adopters of new technology. For example, there was a personal computer in nearly one out of every two households, a ratio similar to that of the United States, Canada and a very few European and Far Eastern countries.<sup>6</sup> Compulsory military service for men and women fostered skills in teamwork, risk-taking and creative problem solving. It also provided a way for high tech people to meet and share ideas that they later implemented in the civilian market.

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<sup>3</sup> “Wadi” refers to a gully or dry riverbed in Arabic and Hebrew.

<sup>4</sup> [www.israel.org/mf/go.asp?MFAHO1vuO](http://www.israel.org/mf/go.asp?MFAHO1vuO).

<sup>5</sup> Companies like Intel (1974), IBM (1972), and Microsoft (1991) set up subsidiaries, research centers, invested in Israeli companies, and formed strategic partnerships.

<sup>6</sup> [www.israel.org/mf/go.asp?MFAHO1vuO](http://www.israel.org/mf/go.asp?MFAHO1vuO).

Israel's high tech core was highly concentrated, located in five cities (Haifa, Herzliya, Jerusalem, Rehovot, and Tel Aviv) whose area was not larger than 6,000 square kilometers, half the geographic size of Silicon Valley. Social mobility and advancement within Israel also influenced Israeli opinions towards risk-taking and entrepreneurial ventures. Israel was a young country and almost all of its citizens were immigrants. This sense of starting anew and coping with change, in both military and civilian ranks, enabled social mobility and advancement through the military and civilian markets. Together, these cultural influences created what some referred to as an Israeli "psyche" described as a mix of entrepreneurial spirit, team work, calculated risk-taking and creative adaptation, that all formed the ingredients necessary to succeed in entrepreneurial environments.

### *History of the Database Market*

In the late 1980s, companies were amassing greater amounts of data, requiring larger databases or electronic filing systems. Database Management Systems (DBMS) were software systems that managed data in a structured framework, enabling data to be entered, organized and retrieved. Throughout the 1970s, competing theorists debated how to structure and retrieve data in DBMS—hierarchically designed, network-based, or related tables. Relational database management systems (RDBMS) stored data in sets of tables. It could be accessed or reassembled in different ways without having to completely reorganize the data.

RDBMS were dramatically easier in terms of modeling and application. RDBMS needed a language to interface with the data. During the 1970's a common language was developed, called Standard Query Language (SQL), in which SQL statements acted as instructions to the database so data could be processed as groups not individual units. This allowed automatic navigation through a myriad of data points.

By the early 1980s, the RDBMS model and the SQL language dominated the field, becoming standards in the industry. Commercialization of software by companies of their own database software products began. The key manufacturers were Oracle, Sybase, Microsoft, Ingress and IBM, with no company taking the clear leadership position, even by the late 1980s.

### *Identifying an Opportunity*

In the late 1980s, Yoram Kariv and Moshe Levin were running SCP, a consulting company that offered solutions to database problems. Yoram knew his true passion lay elsewhere, "we offered a (consulting) service but we were all software people and dreamed of going back into software development." They were continually looking for a market need they could develop with their in-house expertise.

Such an opportunity presented itself when Motorola Israel hired SCP to help solve the inefficiency of its database management systems. Motorola complained that their systems were moving too slowly. SCP agreed there was an issue with the database, but they knew of no current software solution that could even identify where the bottlenecks in the system were located.

Kariv and Levin realized that this was the opportunity they were waiting for. "This was the first time we had a customer who asked for a solution. We knew we could develop this based on our experience and now knew that a specific customer would buy it." They also knew that the market would expand. As companies added new users, equipment and applications to company databases, performance problems would arise, creating difficulties in maintaining high levels of performance and reliability with company systems.

Ed Mlavksy, President of Gemini Venture Capital, described the major problem facing RDBMS: “although DBMSs identify what data is needed they do not state how to get the data efficiently. The speed of the convoy is the speed of the slowest ship. Processing depends on the slowest step.”

There were only two ways to improve RDBMS efficiency. First, database administrators could manually examine each and every SQL query within thousands of lines of SQL statements to ensure they were correct, logical, and the most efficient form of access to the data. This was a prohibitively long process, demanding company time, technology resources and potential human error. Second, the company could examine symptoms of the problem, for example by looking at capacity utilization of different elements of the technology system. The weakness in this approach was that it failed to isolate the cause of the problem.

Research showed that 60% of all performance problems were caused by applications and their response times, not database resource capacity. Haim Kopans, head of the Relational Database Department at SCP, created a software solution based on a prototype he developed while trying to solve similar performance issues in his military unit. The software solution was intuitive. The program identified which actions were taking longer than others, narrowing in on the SQL statements that were leading to bottlenecks in the system. The company then created a suite of programs that pinpointed SQL problems in performance and provided recommendations to detect, analyze and resolve problems as they arose.

In beta tests, the product offered clear customer benefits. Response times for companies using the software were greatly decreased from hours to minutes. For example, Pete Roberts, an information engineering specialist at Motorola Inc., described the impact on his systems when he ran the software weekly, “I had queries that never came and [and others] that ran for 3 hours. And by using this tool, I was able to get three hour response times down to fifteen minutes.”<sup>7</sup> Michael Abbey, an Ottawa-based database consultant, estimated that the product should pay for itself in a single four-month period.<sup>8</sup> The product solution optimized the utilization of large capital investments in database server infrastructures by cutting development time, improving performance, reducing hardware spending, and reducing labor costs by leveraging information technology staff.

### *Precise Founded and Basic Management Infrastructure Formed*

The founders needed money to prove out the technology and people to develop the product. In November 1990, GeneSoft, later rechristened Precise Software Solutions, was founded to pursue the software idea. The initial \$1 million seed money was raised by two equal investor groups. The first investor group was SCP Israel, which included the founders (Yoram Kariv and Moshe Levin) along with some South American investors who originally invested in SCP.

The second group of investors was General Software, a company that included Ron Zuckerman and Yossi Bolles. Zuckerman and Bolles brought money, experience and connections to Precise. Bolles initially became friends with Kariv when he hired SCP to do work for Sapiens Israel, an Israeli company where Bolles and Zuckerman both worked prior to going public in 1992. In 1989 Kariv showed Bolles the initial application program and their investment in Precise began. Additional money, beyond the \$1 million, for approximately 50% of the R&D expenditures was received from a grant provided by Israel’s Office of the Chief Scientist.

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<sup>7</sup> Shimmin, Bradley F. “Precise Gives SQL a Tuneup”, LAN Times, March 18, 1996.

<sup>8</sup> Hayes, Frank, “Agents of Change”, Computerworld, December 26, 1996.

In 1991, the company released its first product for IBM software. From 1991 to 1993 the company formed the basic infrastructure necessary to pursue their idea. Precise had very limited funds to hire professional management, so management was comprised of the original founders and investors, focusing more on immediate organizational necessity. Their main goal was to prove the concept technically so they could attract venture capital financing. By 1992, the basic organizational team was beginning to take shape, with some roles being filled on an “as needed basis”.

By 1993 the founders and original investors realized that they needed to find more funding and support. None of the people in Precise had any experience in how to scale the product or in how to market and sell it in the most important market, the United States. As Kariv noted:

“You can make a fortune or lose one very easily. We knew we couldn’t do it alone. We needed a partner and we knew we would take one as soon as we could. Up to now we avoided moving into the US. We felt we had to be ready with our marketing network. America is a big country and in order not to fail, we needed support. We knew we needed serious money, but did not know how to raise money and the VC industry in Israel did not have that much experience either. All we knew was that there was a technical problem that we knew how to fix. We did not know how to structure a company or how to value our invention.”

### *Gemini Decides to Invest*

On February 1, 1993, Ed Mlavsky and Yossi Sela founded Gemini Capital Fund Management Ltd. A pioneer in Israel's venture capital industry, Gemini provided start-up financing and expert guidance to help early stage companies. Gemini focused on software and electronics, medical technology, communications, semiconductors and industrial equipment. Gemini had a close partnership with Advent International, one of the world's largest global private equity firms. Dan Haley, an Advent Vice-President/General Partner, introduced Precise to Gemini. Haley had become aware of Precise while conducting due diligence on a merger between Sapiens and SmartStar.

From Precise's perspective, Zuckerman felt that Gemini met their needs perfectly. Although “Gemini was one of the first venture capitalists that they visited, the chemistry with Mlavsky and Sela was good from the start. Both made the decision quickly.”

The Board of Directors was put together fairly quickly. Haley, representing Advent, was asked to be on Precise's board because he was the only person with experience in corporate America. The other members were Mlavsky, Zuckerman, Kariv, and Bolles. Sela was an observer.

The investors recognized that at this early stage, hiring a professional senior management team would be too expensive. Sela explained: “We could not have drawn an organizational chart when we made the investment. People filled functional roles as needs arose. We just did not know what we needed because it was too early.”

Together, with the board, the company made the strategic decisions necessary to prepare the company for a major launch. The company developed its product lines into three separate products (Inspect, Analyze, and Improve) that could each be sold separately to customers. Precise also continued to push development for other platforms in addition to IBM, such as Ingress and Oracle. Precise opened up subsidiaries in the US and Germany to begin selling its products. Indirect sales in Europe continued to be conducted through distributors in each country.

The company operated without a full-time CEO until April 1994 when the board decided that the product was ready to expand into the U.S. At that time, everyone felt it was necessary to find and hire a permanent CEO. Mlavsky talked about the decision:

“It was obvious that the product had to be sold in the US, since there was no market in Israel. All of the people in Israel were “techies”; there was no one who knew how to operate a company since no one had operational experience. Precise was a service company and it had to move to become a product company. We all decided we needed to bring in a CEO.”

The Board hired an executive search firm, but they failed to find a suitable candidate. Mlavsky felt that search firms, in general, had difficulty finding suitable CEOs for startups:

“The problem with search firms is that you have to write a job description that ends up being long-winded. The kind of CEO that is going to be effective is not easily described on one page. The description is ‘he/she runs everything’. Specifying someone, in terms of a set of standard search criteria is not an adequate way to choose someone to run a start-up.”

Precise interviewed ten candidates, but was unable to hire any of them. The board was getting frustrated and impatient. The company needed to expand in the U.S. and Bolles, acting CEO, had to leave the position to move on to another start-up that needed his attention. It was at this point that Haley’s name came forward for the CEO position.

Sela felt that Haley was a good candidate:

“Haley was a decent guy. He was not a stranger to Israel – he had been here many times for Board meetings. He was not a stranger to the company – he was on the Board of Precise and brought them to Advent and Gemini. He was not a stranger to the people. We’d been to his house; he’d been to our houses. He was a friend. He had personal relationships. He had operational experience – he had 600 people who worked for him at Digital Equipment Company, a major technology leader in Corporate America. He worked in VC, on the other side, for years.”

There were some concerns about Haley. As the original backer he was a mixture of investor and manager, a potentially delicate relationship. These reservations did not outweigh the benefits of having Haley as CEO as the Board of Directors unanimously approved Haley’s nomination. The board offered Haley an attractive package that included options that represented eight percent of Precise’s equity after the April 1995 financing round. This represented nearly as much ownership as Kariv and Levin, both of whom had ownership of ten percent after the April 1995 financing round. After being hired in April 1995, Haley made some strategic decisions for Precise:

**Shift in strategy** In 1995, Haley was convinced that Oracle would become the leader in the RDBMS space (see **Exhibit 5**). R&D shifted focus to products suitable for Oracle and dropped its focus on other manufacturers. In the fall of 1995, Precise launched its suite of Oracle products. The company obtained close to 1200 qualified leads at their launch compared to an anticipated 300. Computerworld magazine included Precise as one of the top 9 companies that they expect to do exciting things in 1996.

**Precise acquires SCP Belgium** In September 1995, Precise acquired SCP Belgium, the developer of CPE, a middleware connectivity product connecting legacy information systems to corporate business applications on more than forty different platforms. CPE represented a revenue generation opportunity since it had sold a \$4 million contract to State Farm Insurance in 1995. Through SCP connections, Precise had previously been marketing the CPE product to its customers.

By joining the two firms, the company could continue to develop and sell the product with less duplication of internal resources.

**Focus on Sales and Marketing** By October 1995, sales were 40% below expectations. This shortfall was due to poor performance by European distributors (15% vs. plan), longer sales times than expected for CPE and Oracle products, and poor results from the UK (74% of plan) and Germany (62% of plan). Haley took corrective action and focused his efforts on building a better sales infrastructure. In 1995, the head office was moved to the United States from Israel. Sales and marketing were consolidated in Boston with sales offices being closed in Los Angeles and Denver. In addition, the German and UK subsidiaries were shut down. [See **Exhibit 6** for Precise Software Financial Performance information.]

### *Huge Opportunities, Precise Challenges*

Throughout 1997 Precise faced several severe challenges that threatened its survival. Sela and Mlavsky were frustrated with the company's continued challenges in sales, R&D, funding and management. In May 1997 things came to a head when the bank loan of \$2 million was due, there was no cash, and the bank reduced their credit line from \$500K to \$400K.

The focus on creating a large U.S. sales organization and new marketing materials had been costly and execution in 1996 and 1997 was weak. Delays in releasing the next series of products, poor performance by distributors and weak sales in Europe and US, all negatively affected performance. The cash generated from the \$4 million State Farm deal had run out. Finally, in the first quarter of 1997, lengthy and tense negotiations broke down with a potential OEM/reseller company, Pure/Atria. This deal would have resulted in \$1 million in prepaid royalties and was a potential test period for an acquisition by Pure. The collapse of the deal required Precise to re-state their end of quarter revenue to \$992K instead of their target of \$2.2 million.

Bolles felt that Haley's expenses in trying to build up the organization had ballooned out of control. Haley's attempt to put business processes in place was also being resisted from those in the Israeli organization who maintained their start-up and collegial mentality. Haley was very structured because of his background at Advent and DEC, causing a clash of styles. Kaiv felt that Haley hired too many people too quickly and spent too much money trying to set up the sales organization. The SCP Belgium acquisition was being questioned. Precise now had to develop and market two completely separate products. CPE was not bringing in significant revenue, but was consuming a large portion of resources.

The South American investors who were tied to SCP Israel were problematic because getting them to contribute future capital to Precise was challenging.

Mlavksy explained:

"The original investment syndicate was a disaster. The mixed syndicate was a warning signal that a more sophisticated VC would have seen. It created issues with re-financing and dilution. In those days, you needed an average of seven rounds of financing before an IPO. These were non-professional investors and at every round of re-financing, they would not want to invest more money. They also would not sign off on other people investing because this would dilute their shares."

Cultural clashes between the American-based head office, where sales and marketing were controlled and the R&D group based in Israel surfaced. The need to sell outside of Israel meant that virtually all Israeli companies needed to have a cross-cultural element. Israeli companies not only

needed to become focused, but also needed to expand internationally immediately. The U.S. and Israel organizations needed to work together.

Mlavsky discussed the huge cultural gap between the two countries:

“The cultural differences between the U.S. and Israel were often disguised because so many Israelis spoke English. Even people who have been to Israel many times don’t get it. The strength of Israeli technologists was that they could improvise and creatively find solutions to problems. Their weakness was that they lacked order and organization. Finishing the job was an issue. Americans, on the other hand, had experience in being able to create organizations with the ability to scale by defining specific processes. The right CEO had to manage to fuse the best of both worlds—the best of American management discipline and the best of the Israeli creativity.”

Instead of Haley creating a bridge, the U.S. and Israeli organizations remained split geographically and emotionally on separate sides of the ocean. There were no Israelis in the U.S. operation and no Americans in the Israeli operation. Functional silos also became evident. There was a question as to who was defining the vision—the American sales and marketing organization or the Israeli R&D group. Worsening the situation, each country blamed the other for poor sales results.

Others argued that Haley was not the issue. There was a lifecycle to start-ups. The first professional manager always failed because of the tension between the new CEO and their processes, the founders and the start-up culture. Mlavsky explained:

“Even if Haley had a chance to be effective, he could not have done it. The people who founded the company were not psychologically adjusted to the concept that someone could come in and override their decisions. When founders think of getting a professional manager, they think they are getting an office manager, someone to keep the rent paid and make sure payroll happens, not someone who will have decision-making authority on R&D and had the final decision on everything. “

Interpersonal clashes became intense among reporting relationships. For example, Kariv was VP of R&D and reported to Haley in this capacity. Kariv was also a board member. Bolles felt that it was awkward to have Kariv in both these positions at the same time, because “if Kariv did not meet his goals, he could take it personally to the board meetings. You had Kariv reporting to Haley on a functional level and then Haley reporting to Kariv as a director”.

A strong rivalry developed specifically between Kariv, the R&D visionary, and Haley, the CEO. It culminated in a double ultimatum at the May 1997 board meeting. Haley would only stay if Kariv left and Kariv wanted to get rid of Haley. The situation became tense as each party attempted to get people on their side.

Finally, competition was always potentially looming, so Precise had to move quickly. The market for infrastructure performance management software was rapidly evolving as industry standards and customer requirements changed continually. Low barriers to entry in the software market, meant competition could always emerge from established large firms (e.g., BMC, Computer Associates and IBM), smaller niche players (e.g., QWest Software and Embarcadero), current customers who created in-house solutions, or new firms. Many of these potential competitors had greater name recognition and experience, a larger installed customer base and significantly greater financial, technical, marketing and other resources.

### *Gemini's Options*

Back at the office in Tel Aviv, Sela sat down by his computer to think about his options. He needed to prepare his recommendation for the partners. The time had come to either close the company or put serious money into it and roll up their sleeves to make it really work.

Sela needed to decide if he was going to support finding a bridge loan of \$750K to keep Precise going. He still fundamentally believed in the strength of the technology. There was an obvious market need and the future potential could be enormous.

Even if Sela supported the bridge loan, he knew it would be difficult to raise the funding. Gemini was a small company and needed to get more VCs into the mix. To get the new investors, the CEO and/or founders would have to be replaced to instill confidence that management had the trust of the investors and the ability to move the company to the next level. There was a risk that they would never find the right people with the skills needed to give the company a chance to succeed.

The decision to potentially fire Haley weighed heavily on Sela. Haley was a friend and Advent was Gemini's partner. Additionally, Gemini didn't have anyone to replace Haley. Sela was also unsure if this was the right time to let Haley go. Could he change some of the other senior management while keeping Haley in place? Could Haley take the company to the next level?

Furthermore, he had to convince the board members to unanimously support the deal. There was no coherent agreement between the founders and among the investors as to which direction the company needed to go. Potential restructuring of the investors might be necessary to get approval of the deal.

If Sela decided not to seek funding the company there were some options. With a harvest strategy, he could seek a merger or acquisition from a stronger company. However, with weak sales and company debt, he would get a low valuation and lose control. There were also no guarantees that a potential buyer could be found and it would require a lot of effort to pull together a viable proposal. [See **Exhibit 7** for comparable company information and **Exhibit 8** for macroeconomic data.]

The second option was to let the company die. Sela knew from experience that 50% of portfolio companies failed and the last thing he wanted to do was throw good money after bad. However, Sela felt that sometimes it was best to cut one's losses when there was an A idea but a C team.

As he stared at the screen, Sela knew that a lot more than just the fate of Precise Software hung in the balance. Precise had been one of Gemini's first investments and he felt that they needed to be concerned about gaining a bad reputation with entrepreneurs and potential investors. He knew that this situation called for tough action. The only question was, what was the tough action?

**Exhibit 1** Precise Software Solutions Investment History

Date of Financing Round		11/1/93	4/1/95	8/1/95	2/1/96	5/1/96
Total \$ Invested in Round		2,355,970	999,990	499,908	431,025	2,515,999
Total # Shares		1,037,872	440,524	220,224	189,879	1,108,370
Pre-Money Valuation		4,546,000	10,776,000	12,110,000	12,610,000	13,491,000
Post-Money Valuation		6,901,970	11,776,990	12,609,908	13,041,025	16,006,999
Price per Share		\$2.27	\$2.27	\$2.27	\$2.27	\$2.27
<b>Investors</b>						
Gemini	\$ Invested	\$800,014	\$173,607	\$121,871	\$147,663	\$0
	Total # Shares	352,429	76,479	53,688	65,050	0
Advent	\$ Invested	\$1,555,956	\$260,136	\$186,244	\$221,067	\$0
	Total # Shares	685,443	114,597	82,046	97,386	0
Others	\$ Invested		\$566,247	\$191,793	\$62,295	\$16,000
	Total # Shares		249,448	84,490	27,443	7,048
Jerusalem Pacific	\$ Invested					\$1,000,000
	Total # Shares					440,529
Star	\$ Invested					\$1,000,000
	Total # Shares					440,529
Mofet	\$ Invested					\$499,999
	Total # Shares					220,264
Shares added to option pool			1,706,621	146,700	41	198,227

Source: Company documents.

**Exhibit 2** Number of IPOs of Israeli Companies in U.S. and EU Capital Markets

	All Public Offerings			VC Backed Public Offerings		
	# of Offerings <sup>a</sup>	Capital Raised (\$M) <sup>b</sup>	# of IPOs	# of Offerings	Capital Raised (\$M) <sup>b</sup>	# of IPOs
Before 1993	~ 30	~ 1,000	~ 25	4	~ 60	3
1993	18	529	16	7	103	6
1994	10	336	8	5	25	4
1995	16	608	12	7	210	5
1996	31	1,037	24	13	535	12
1997	24	1,074	16	8	175	5

Source: Compiled by casewriter

<sup>a</sup>Including IPOs, secondary and debt offering of all Israeli and Israeli related companies (high tech and non-high tech) that are traded or were traded in NASDAQ

<sup>b</sup>U.S. capital markets only

## Exhibit 3 Economic Data on Selected Countries, 1997

	Israel	USA	Canada	Germany	Japan	The Netherlands	Sweden
<b>Economic Indicators</b>							
Population, in millions <sup>a</sup>	5.5	267.9	30.3	82.1	125.7	15.7	8.7
GDP, PPP in US\$ billions	97	8,083	658	1,740	3,080	344	176
GDP, per capita in US\$ 000s	17.5	30.2	21.7	20.8	24.5	22.0	19.7
GDP, real growth rate	1.9%	3.8%	3.5%	2.4%	0.9%	3.3%	2.1%
Unemployment, %	7.7%	4.9%	8.6%	12.0%	3.4%	6.9%	6.6%
Inflation, %	9.0%	2.0%	1.8%	1.8%	1.7%	2.0%	2.0%
<b>Social Indicators</b>							
Infant Mortality, per 1,000 births	8.3	6.6	5.7	5.3	4.0	5.2	3.9
Life Expectancy at Birth, years	78.2	76.0	79.0	76.8	80.5	77.9	79.1
Concentration of scientists & engineers, per 10K members of labor force	136	80	45	55	75	60	52
<b>Government Finance</b>							
National Expenditure on Education, % of GDP	8.9	6.4	6.2	5.6	4.7	4.6	6.8
National Expenditure on Civilian R&D, per capita	533	645	373	486	705	433	736
National Expenditure on Civilian R&D, % of GDP	2.9	2.2	1.6	2.2	2.9	2.1	3.6
<b>Balance of Payments</b>							
Exports of Goods and Services, US\$ billions	20.7	6,251.1	208.6	521.1	421.0	203.1	84.5
Imports of Goods and Services, US\$ billions	28.6	822.0	194.4	455.7	339.0	1,791.0	66.6
High technology exports, % of manufactured exports in 1998	19.5	32.9	14.1	14.8	25.6	29.2	19.2
Foreign Direct Investment, net inflows in reporting country, current US\$, Bn in 1998	1.7	179.0	22.7	23.6	3.3	37.6	19.4

Source: Compiled by casewriter

<sup>a</sup>Includes 136,000 Israeli settlers in the West Bank, 15,000 in the Israeli-occupied Golan Heights, 5,000 in the Gaza Strip, and 156,000 in East Jerusalem (8/96 est.)

**Exhibit 4** Total Net Venture Capital Raised by Israeli VC Funds

	<b>\$ Millions</b>
1992	81
1993	204
1994	113
1995	145
1996	264
1997	630

Source: Compiled from IVC Research Report, 2002

**Exhibit 5** Market Size Opportunity<sup>9</sup>**1993 Worldwide UNIX RDBMS Sales**

	<b>\$ millions</b>
Oracle	588
Informix	278
Sybase	229
115	115
Other	356

**1993 Oracle Market**

Total Licenses	66,000
USA	26,400
Europe	26,400
UK	10,560
Germany	7,920
Other	7,920
Other	13,200

Source: Compiled from IDC

<sup>9</sup> Each license is a sales opportunity for Precise.

## Exhibit 6 Audited Consolidated Balance Sheet, Period Ending December 31 (U.S. \$)

<b>Precise Software Solutions Ltd.</b>						
<b>Audited Consolidated Balance Sheet</b>						
<b>Period Ending December 31 - U.S. Dollars</b>						
	1992	1993	1994	1995	incl. CPE 1996	excl. CPE 1996
<b>Current Assets:</b>						
Cash & cash equivalents		328,975	17,309	176,409	1,560,994	1,560,994
Trade and accounts receivable	2,629	212,789	696,794	569,621	596,855	596,855
Receivables under government grants			227,513	226,776		
Foreign currency deposits		509,284	78,020	82,435	562,042	562,042
Other receivables and prepaid expenses	66,601	242,117	65,431	478,860	189,525	510,191
	<u>69,230</u>	<u>1,293,165</u>	<u>1,085,067</u>	<u>1,534,101</u>	<u>2,909,416</u>	<u>3,230,082</u>
<b>Long-term Assets:</b>						
Foreign currency deposits		600,000				
Fixed asset costs, including PPE	86,879	104,418	256,199	399,907	684,000	684,000
Capitalized software	10,115	28,052		75,417	263,776	263,776
	<u>76,764</u>	<u>676,366</u>	<u>256,199</u>	<u>475,324</u>	<u>947,776</u>	<u>947,776</u>
<b>TOTAL Current Assets</b>	<b><u>145,994</u></b>	<b><u>1,969,531</u></b>	<b><u>1,341,266</u></b>	<b><u>2,009,425</u></b>	<b><u>3,857,192</u></b>	<b><u>4,177,858</u></b>
<b>Current Liabilities:</b>						
Associated companies and due to affiliates	161,758	101,851	334,654	113,899		
Loans payable to banks	86,675	8,928	308,597	15,698		
Trade accounts payable	85,021	105,162	139,281	298,990	517,362	517,362
Other payables			228,939	485,164	444,945	572,941
Accrued expenses			142,326	172,301	342,460	397,129
Current portion of long-term debt			20,327	46,670	33,188	33,188
Current portion of amounts payable under gov't grants					310,317	
Convertible shareholder loans				441,922		
Deferred revenue			138,514	255,486	1,122,070	1,122,070
	<u>333,454</u>	<u>215,941</u>	<u>1,312,638</u>	<u>1,830,130</u>	<u>2,770,342</u>	<u>2,642,690</u>
<b>Long-Term Liabilities:</b>						
Long-term debt, less current portion	43,316	26,127	12,662	38,154	29,521	29,521
Owners loans or loans payable to shareholders	169,376	166,655	188,745	196,386	209,453	209,453
Liabilities for severance pay, net	21,604	40,349	56,917	101,486	172,004	172,004
Payables under government grants, less current portion					1,388,109	
	<u>234,296</u>	<u>233,131</u>	<u>258,324</u>	<u>336,026</u>	<u>1,799,087</u>	<u>410,978</u>
<b>Equity Capital:</b>						
Preferred A stock	49	19,344	6,154	10,772	20,190	20,190
Common Stock			14,000	20,507	18,922	18,922
Additional paid-in capital		2,059,284	2,096,390	3,978,228	6,855,307	6,855,307
Accumulated deficit	(424,434)	(770,958)	(2,063,994)	(4,013,944)	(7,393,320)	(5,606,893)
Less Foreign currency translation adjustment			53,307	(152,330)	(213,337)	(163,336)
	<u>(424,385)</u>	<u>1,307,670</u>	<u>(757)</u>	<u>(156,767)</u>	<u>(712,238)</u>	<u>1,124,190</u>
<b>TOTAL Current Liabilities and Equity Capital</b>	<b><u>143,365</u></b>	<b><u>1,756,742</u></b>	<b><u>1,570,205</u></b>	<b><u>2,009,389</u></b>	<b><u>3,857,191</u></b>	<b><u>4,177,858</u></b>
Note: 1992, 1993 - was just share capital, not preferred or common						

## Exhibit 6 (Continued)

<b>Precise Software Solutions Ltd.</b>						
<b>Audited Consolidated Income Statement</b>						
<b>Preiod Ending December 31 - U.S. Dollars</b>						
	1992	1993	1994	1995	incl. CPE 1996	excl. CPE 1996
Revenue	84,379	268,192	875,425	1,743,918	5,316,882	1,225,698
Cost of Revenues	229,474	278,325	114,761	27,433	150,913	184,020
<b>Gross Profit</b>	<b>(145,095)</b>	<b>(10,133)</b>	<b>760,664</b>	<b>1,716,485</b>	<b>5,165,969</b>	<b>1,041,678</b>
Expenses and (reimbursements):						
Research & development			683,078	1,085,033	1,847,939	601,684
Sales and marketing	53,442	241,933	1,341,311	2,330,183	4,063,423	2,498,239
Credits & government grants			(458,392)	(713,071)		
SG&A	74,764	101,553	403,839	978,073	1,263,546	1,263,546
	128,206	343,486	1,969,836	3,680,218	7,174,908	4,363,469
<b>Loss from Operations</b>	<b>(273,301)</b>	<b>(353,619)</b>	<b>(1,209,172)</b>	<b>(1,963,733)</b>	<b>(2,008,939)</b>	<b>(3,321,791)</b>
Other income (expense):						
Financing income (expense), net	(17,500)	7,095	(8,179)	13,782	185,207	135,207
Other expense, net			(800)		(75,908)	(75,908)
	(17,500)	7,095	(8,979)	13,782	109,299	59,299
Income (loss) from discontinued operations &/or cumulative effect of change in accounting policy and gov't grants					(1,479,736)	1,669,543
<b>Income (loss) for year</b>	<b>(290,801)</b>	<b>(346,524)</b>	<b>(1,218,151)</b>	<b>(1,949,951)</b>	<b>(3,379,376)</b>	<b>(1,592,949)</b>
* the Company has signed agreements to market software produced by other manufacturers, pursuant to which it will pay them royalty rates from 12.5%-37.5%						
	1992	1993				
Sales income	96,658	516,758				
Commission form sales	12,279	248,566				

## Exhibit 6 (Continued)

<b>Precise Software Solutions Ltd.</b>						
<b>Audited Consolidated Income Statement</b>						
<b>Preiod Ending December 31 - U.S. Dollars</b>						
	1992	1993	1994	1995	incl. CPE 1996	excl. CPE 1996
<b>Cash flows from operating activity:</b>						
Net loss for the year	(290,801)	(346,524)	(1,218,151)	(1,949,950)	(3,379,376)	(1,592,949)
Adjustments to reconcile net loss to net cash used in operating activities:						
Depreciation and amortization	10,115	17,937	42,061	90,673	198,107	198,107
Provisions for severance pay, net	21,603	18,745	16,930	48,637	70,518	70,518
Cumulative effect of change in accounting for gov't grants					1,479,736	
Others	11,979	(4,649)			30,129	(31,674)
Changes in operating assets and liabilities:						
Trade accounts receivable	(47,772)	(175,516)	(537,880)	127,173	(62,235)	(28,056)
Receivable under government grants			(227,513)	737		
Other receivables			(24,470)	(219,671)	(444,658)	191,472
Prepaid expenses			(10,933)	407	(23,537)	
Trade accounts payable	73,523	(190,635)	130,281	159,709	218,372	231,830
Other payables	138,661	(59,907)	131,693	264,409	(154,118)	
Due to affiliates			1,430	8,184	(113,899)	1,074,352
Deferred revenue			138,514	116,972	866,584	
Net cash used in operating activities	(82,692)	(740,549)	(1,558,038)	(1,352,720)	(1,314,377)	113,600
<b>Cash flows from investing activity:</b>						
Long-term investing		(600,000)	(231,122)	(173,410)	(459,883)	(459,883)
Capitalized software				(75,417)	(247,991)	(247,991)
Proceeds from sale on fixed assets					42,187	42,187
Changes in deposits in foreign currencies	(69,827)	(17,539)	1,057,776	(4,415)	(479,607)	(479,607)
Net cash used in investing activities	(69,827)	(617,539)	826,654	(253,242)	(1,145,294)	(1,145,294)
<b>Cash flows from financing activities:</b>						
Cash in Belgian subsidiary at date of acquisition				138,957		
Receipts (repayment) of short-term credit	77,500	(77,500)				
Net proceeds from loans	69,925	236,888	319,987	511,986	(24,746)	13,067
Payment on loans	(4,906)	(104,838)	(15,831)	(316,064)	(10,891)	(48,704)
Net proceeds from governmental grants - current year					445,466	
Proceeds from shares issuance		1,931,637		1,494,686	2,453,880	2,453,880
Net cash from financing activity	142,519	1,986,187	304,156	1,829,565	2,863,709	2,418,243
Effect of exchange rate changes on cash & cash equivalents			(33,197)	(86,294)	(61,005)	(1,964)
Increase (decrease) in cash & cash equivalents	(10,000)	628,099	(460,425)	137,309	343,033	1,384,585
Balance of cash & cash equivalents at beginning of year	10,000	0	336,838	(123,587)	13,722	13,722
Balance of cash & cash equivalents at year end	0	628,099	(123,587)	13,722	356,755	1,398,307

\* Note: In 1995, the company acquired an affiliated company in exchange for common stock valued at approximately \$398,000

Source: Company documents.

**Exhibit 7 Industry Comparables**

Business Description	Precise		Mercury IPO = 1993		Select IPO = 1996		SQA IPO = 1995		Segue = 1995	
	1996 Incl. CPE	1996 Excl. CPE	8 Months	Year Prior to IPO	6 Months	Year Prior to IPO	IPO Year	Year Prior to IPO	IPO Year	Year Prior to IPO
Revenues	5.3	1.2	8.89	4.3	5.91	5.73	12.85	4.45	11.07	6.36
Gross Profit	5.1	1.0	7.53	3.62	4.83	4.5	10.73	3.47	9.53	5.43
R&D	1.8	0.6	1.79	2.28	0.77	0.99	2.37	1.73	2.27	1.57
Mkt/Sales/G&A	5.3	2.5	5.45	5.31	3.64	6.15	8.18	4.25	7.08	3.82
\$ Raised Prior to IPO	6.8	6.8	12.7		6.18		12.38			
Last Round Prior to IPO	2.5	2.5	5.9		2.5		4.46			

Source: Compiled by casewriter.

**Exhibit 8** Capital Market Return Data (Historical and Current)

## Prevailing Yields on U.S. Government Securities (August 31, 1997)

<b>Annualized Yield to Maturity</b>	
3-Month T-Bills	5.24%
1-Year Bonds	5.59%
5-Year Bonds	6.22%
10-Year Bonds	6.34%
20-Year Bonds	6.69%
30-Year Bonds	6.61%

## Historic Average Total Annual Returns on U.S. Government Securities and Common Stocks (1950-1996)

	<b>Average Annual Return</b>	<b>Standard Deviation</b>
T-Bills	5.2%	3.0%
Intermediate Bonds <sup>a</sup>	6.4%	6.6%
Long-term Bonds <sup>b</sup>	6.0%	10.8%
Large Company Stocks <sup>c</sup>	14.0%	16.8%
Small Company Stocks <sup>d</sup>	17.8%	25.6%

## Historic Average Total Annual Returns on U.S. Government Securities and Common Stocks (1929-1996)

	<b>Average Annual Return</b>	<b>Standard Deviation</b>
T-Bills	3.8%	3.3%
Intermediate Bonds <sup>a</sup>	5.4%	5.8%
Long-term Bonds <sup>b</sup>	5.5%	9.2%
Large Company Stocks <sup>c</sup>	12.7%	20.3%
Small Company Stocks <sup>d</sup>	17.7%	34.1%

<sup>a</sup>Portfolio of U.S. Government bonds with maturity near 5 years.

<sup>b</sup>Portfolio of U.S. Government bonds with maturity near 20 years.

<sup>c</sup>Standard & Poor's 500 Stock Price Index.

<sup>d</sup>A subset of small cap stocks traded on the NYSE (1926-1981); Dimensional Fund Advisors.

Source: Compiled from Datastream and Ibbotson Associates, SBBIO 2000 Yearbook.