

The IBM logo, consisting of the letters 'I', 'B', and 'M' in a bold, serif font. Each letter is filled with horizontal black lines, creating a striped effect.

International Business Machines, Corp.

The Strategy that Overcame and Exploited its Substantial Size

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— ANECDOTE —

The unbelievable happened on May 11, 1997—Garry Kasparov, considered by many to be one of the greatest chess players of all time, was beaten by the IBM computer Deep Blue. This tournament put IBM in the spotlight after many years of disarray and disorganization. IBM wanted to show the world that it was back and ready to stay at the forefront of technology. IBM, also known as Big Blue, suffered from endemic profit loss and bad decisions from its executive management in the late 1980s and early 1990s. The decline of IBM is said to have been combated by its former CEO Louis Gerstner, who specialized in corporate turnarounds.

— INTRODUCTION —

During IBM's profitability decline in the 1990s, the company had a loss of nearly \$14 billion. In 1993 IBM announced a loss of \$8.1 billion—the largest corporate loss of its time.¹ This loss explains the decision to replace its CEO at the time with Lou Gerstner in April of 1993. Some of the problems IBM was facing when Gerstner arrived were:

- bad decisions in terms of industry focus
- too much reliance on brand name
- poor decisions dealing with outsourcing technology
- a bad focus on market position, and
- high costs

See Appendix A for more detail on these problems. Gerstner began to turn the company around by restructuring inter-corporate relations and by manipulating the competitive direction of the company. Gerstner had the foresight to realize the importance of the mainframe due to the onslaught of corporate internetworking while competitors declared the mainframe “dead.” Gerstner knew that internetworking pointed to increased demand for central processing, big databases, larger storage units, and different types of servers. Gerstner succeeded in returning the computer giant to a profitable state.²

How did IBM overcome its large size and use its size to become more competitive? This analysis will explain how IBM has been implementing strategies to overcome problems related to size while using its massive size to proceed to the forefront of technology and implement strategies to remain there. It has overcome problems with its size through strategies to create more productive employees and with strategies to harmonize the company. Moreover, IBM uses its large size as a central resource for research and development as well as competitive strategy.

— OVERCOMING PROBLEMS WITH SIZE —

Many analysts criticized IBM for its extremely large size and thought that the company was becoming more and more lethargic. In the early 1990s, a majority of IBM shareholders wanted the company to break up into fourteen smaller companies called the *Baby Blues*. However, after Lou Gerstner took charge as Chief Executive, he decided that the company would be more competitive in the future if it remained one of the largest in the country. He reduced the size of the bureaucracy in order to refocus on the needs of the customer.

THE PEOPLE

One of the first steps in overcoming the difficulties of a large company is adjusting the workforce's attitude. IBM had a strongly-ingrained sense of corporate culture that allowed marginal performers to continue employment without fear of termination. Lou Gerstner felt that this unwritten law that employment was guaranteed needed to be broken. In addition, in order to achieve success, he aimed at creating a new culture that encouraged sharing across divisions and openness.

¹ “Follow That.”

² Steinert-Threlkeld. “Corporate Savior?”

Furthermore, Gerstner felt that management needed to be given additional incentives to implement this change in culture and to allow Big Blue to have big successes. Many initiatives were used to motivate upper management including bonuses based on total performance and the creation of several cross-functional committees. These incentives strived at designing a management team that worked together for the overall good of IBM.

There were two main topics that helped IBM turn a disadvantaged, large company with a mediocre workforce into a powerhouse of excellent employees:

- changes in corporate culture and
- creating new corporate initiatives

Changes in Corporate Culture

A Need for Urgency

Gerstner needed to make IBM an aggressive technology company in order to get to the forefront of technology. He needed the employees to value winning and realize that the industry they were failing to compete in was based on quick-changes and rapid advances. Gerstner used decreased job security as a strategy to force employees to realize the importance of urgency. Managers who embraced Gerstner's aggressive movement were kept; those who did not were replaced.

Motivating Workers

Gerstner cut 35,000 jobs in 1993 breaking the unofficial law that employment at IBM was for a lifetime. This strategy intended to cut cost but also motivated the workers to do more than their very best. Since jobs were no longer guaranteed because the company was losing money, the complacent mindset was disturbed and employees were motivated to work harder, do better than their best, and most importantly, produce results for the company.

Dressing Down

Gerstner believed that employees should not have to worry about their wardrobe. He implemented the strategy of allowing employees to dress more casual so that they could focus on reviving the company. In addition, by relaxing the dress code, IBM was following the lead of the rest of the industry. “[In] California they were not dressing up.”³

Rewarding Risk

Many employees avoided risk now that employment was no longer guaranteed. Gerstner did not want fear of being laid-off to hinder the company. The strategy and company policy for rewarding risk and making entrepreneurial efforts was implemented to demonstrate to employees that ideas and developments that could lead to profitability were valued. Gerstner “made heroes of people who did it right” by giving awards and holding ceremonies.⁴

³ Slater. *Saving Big Blue*. p. 106.

⁴ Worth. “What Lou Gerstner Could Teach Bill Clinton.”

Signaling Change

IBM built a new corporate headquarters in New York as a strategy to increase efficiency and signal a change to the world. While the previous building was out-of-date, the new one brought in the latest technology and made the common space more open and people-friendly. This new headquarters allowed workers to be more efficient with their time by incorporating an internal network (intranet) while also creating a more hospitable environment for IBM customers. Furthermore, the new building signaled that IBM was utilizing available technology, was willing to make large investments to have its staff use the most current technology, and was going to be in the industry for the long haul.⁵

Creating New Corporate Initiatives

Changing Executive Pay

As a strategy to unite the executives within IBM, Gerstner changed the way executives were paid in terms of their bonuses and stock options. Management bonuses were tied to business unit performance prior to the change in strategy. By tying bonuses to total performance of Big Blue, managers were motivated to ensure the success of the company as a whole. Additionally, management was required to own a certain share of IBM stock. The Corporate Executive Committee had to own three times their salary and bonuses, the Worldwide Management Committee had to own two times their salary, and senior managers had to own stock equivalent to their yearly salary.⁶ This new pay scale encouraged management to take interest in IBM as a whole and to share information across divisions that eliminated duplication of work and excess redundancy.

Leaders, Not Managers

Gerstner wanted to sculpt a management team that did more than tell employees what to do. He wanted an unmatched team that could inspire employees to work hard by giving them a goal and helping them reach that goal. Managers informed their employees of the broad goal to show them where their work fit as a strategy to motivate them to reach the goal.

Corporate Communications

Numerous committees, such as the Corporate Executive and Worldwide Management Committees, brought top level executives from different divisions into contact with each other. These committees focused on keeping all managers informed on corporate initiatives and projects while allowing them to work together to improve projects. Committees would meet several times a year as well as take part in online chats and forums.⁷

HARMONY

It is often thought that a company loses focus when it becomes too large. Individual units within the whole have their own goals and business missions. IBM is made up of several smaller companies that deal in various aspects of technology, including hardware and software.⁸ After

⁵ Slater. *Saving Big Blue*. p. 106.

⁶ Slater. *Saving Big Blue*. p. 100.

⁷ Tischler. "IBM: Manager Jam."

⁸ Popovich. "Palmisano Gets the IBM Puzzle."

these companies were bought by IBM, they added to the revenue, profit, and overall worth of the company, but there was no overall goal for which they worked toward.

Harmonizing a company is essential if it expects long-term profitability. Through strategies dealing with corporate culture and corporate initiatives, IBM was able to unite and change the corporate culture so that it was focused on the overall success of Big Blue.

There were two foci that aided Big Blue in turning a chaotic company with business in many industries, into a well-focused, harmonized machine:

- overcoming individuality and
- reorganization

Overcoming Individuality

Solutions Driven

Although initially against a central company focus, one of the primary strategies that Gerstner is recognized for implementing at IBM is his establishment of a new company focus. He met with several customers of IBM to see what they wanted, and discovered that the future of Big Blue was not in either software or hardware alone, but in the unification of the two in a solutions driven business.⁹ Big Blue had the advantage of owning all the parts necessary to build a firm that could provide competitive solutions. The company had the ability to exploit synergies. All it had to do was get them to work together in harmony.¹⁰

Existing Business Units

A majority of the business units that make up IBM were at one time individual companies. These companies had their own customers and their own way of running a business. The units would blindly create products that would benefit their individual goals, but not the goals central to IBM. Some units even had the ability to compete against each other. The change in focus noted above helped the individual units to see where they fit in the greater picture.

IBM created a new order of importance within the company. The customer was first, IBM as a whole was second, and the individual business unit was last. This new order helped unite the company so that the business units were working toward similar goals. This change ultimately led to a more profitable company that did not have overlap in work within its subsidiary units.¹¹

Reorganization

IBM's executive team needed to reorganize the company in order to deliver solutions and to force business units to work harmoniously. They categorized the businesses into either the front or back, and these areas were coordinated by a strong center. See Appendix B for more information on this new setup.

⁹ Lundquist. "Gerstner's Vision Got IBM on Course."

¹⁰ Musich. "Big Blue's Big Bet: Services."

¹¹ Hill. "The New Face of IBM."

The Front

The front was to develop and deliver the solutions to IBM's customers. These solutions included product recommendations, a broad range of staff, and teams that consistently reconfigured customer solutions to deliver the best results.

As a part of the front solution, there were no product loyalties in recommendations. Staff consultants would recommend only the best products for a company's needs. This aspect of IBM's business kept customers loyal because the customers knew that IBM had their best interests at hand. IBM was not trying to force only their products, such as hardware and software, on to the customers. In addition, this strategy kept the other business units in line because it meant that their products were not guaranteed to sell in the development of a customized solution. They had to compete for the business just as IBM's rivals did.¹²

The Back

The back was to support the front by providing the hardware and software that would be necessary in a solution. This business was not guaranteed so it forced the back-end business units to make two vital changes. They had to become open and flexible to respond quickly to the demands of the front, and they had to compete against outsiders and create demand for their products so that the front would use them.

In terms of flexibility, the back had to lose some control of its product development in order to accommodate the front. Also, their duties expanded to giving product advice, testing the products for the customers, and helping the front to win customers which included customer contact. This strategy still allowed business units in the back to market directly to their own customers that were not found in the front.¹³

The Center

The center focused on resource allocation and mediation between the front and the back. This unit existed to make sure that front and back units were communicating and that needs of the front were being communicated to the back. In addition, the center provided leadership and management while also coordinating prices and financing across all the business units.

— HARNASING POSITIVE ASPECTS OF SIZE —

IBM is the largest information technology company in the world. Instead of IBM reacting slowly to technological innovation, it leads the industry. This is due to the organization of its research and development projects and its strategic focus on satisfying customer needs.

RESEARCH AND DEVELOPMENT

IBM divides its research and development projects into two categories: customer-oriented and industry-oriented. If a project begins to digress from the requirements of either category then the project is discontinued and the existing research on the project is sold to companies interested or

¹² Foote. "Making Solutions the Answer."

¹³ Foote. "Making Solutions the Answer."

specialized in it. IBM leads the competition because of its organization, resources, and market focuses. These advantages are a direct result of Big Blue being such a large company.

In addition to IBM's strategic customer- and industry-oriented organization, they break the focus of their research and development into four categories: autonomic computing, eBusiness, pervasive computing, and deep computing. These categories keep IBM as a large company centered on the types of research and development where they feel the most competitive. IBM researches areas that no other company has. As a result, they led the technological world in R&D. Maintaining focus in these areas provides IBM with the ability to research projects extensively in order to develop solutions for customers.¹⁴

There are three topics of R&D that help IBM exploit the advantages of being a large company:

- types of research and development
- positioning with research and development, and
- research and development advantages

Types of Research and Development

Customer-Oriented

IBM has implemented the First of a Kind (FOAK) strategy in conducting research and development. The FOAK strategy allows IBM and their customers to work together to design and create market ready projects. These joint projects use IBM's vast resources to directly connect R&D to development of market ready products for customers. The collaboration of IBM and its customers with whom they work for effectively cuts costs in production. Additionally, these ventures create customer loyalty to IBM.

Industry-Oriented

The other half of IBM's research and development strategy is a focus on creating a synergy between products of the future and the current, up-and-coming technologies. Industry Solution Labs (ISL) is the name IBM calls its industry-oriented research and development. Around the world, IBM operates eight research facilities. Each has a specific function as well as the central goal to achieve state of the art technology and marketable products for its customers. The importance of this strategy is to keep IBM on the forefront of technological innovation and to organize similar technology in the same facility. This allows each research facility to operate at lower costs and prevents the facilities from becoming overwhelmed with too many projects.¹⁵ See Appendix C for a detailed list of the facilities.

Positioning with Research and Development

Autonomic Computing

Autonomic Computing is Big Blue's most important R&D focus. This research explores the idea that technology can continue to operate even when a part of it has failed. The process is called *Simple, Many, Self-Healing* (SMASH) and is based on the anatomy of the human body

¹⁴ www.research.ibm.com

¹⁵ www.research.ibm.com

where one part does not shut down when another has failed or is not functioning properly.¹⁶ IBM is positioned as the global leader in this area, and the successful development of this process will revolutionize the technological industry.¹⁷

eBusiness

eBusiness takes a look into the financial side of IBM's operations. The goal is to move financial markets on-line and to develop technology where financial markets will be more accessible and able to operate more smoothly while still maintaining security.

Pervasive and Deep Computing

Pervasive computing is the idea that the world will be networked in the future since all means of life are integrated. Deep Computing is the focus on solving complex problems.¹⁸ Deep computing builds on Deep Blue, the computer that defeated Garry Kasparov, and uses high powered supercomputers to solve real world problems.

Research and Development Advantages

IBM's most fundamental advantage over its competition is its huge size. IBM has many resources that are extremely well organized and harmonized. Being large allows IBM to research many areas of technology while their competitors must concentrate on more specific areas. This is exemplified by the number of patents IBM accumulates on a yearly basis. Big Blue has led the United States in patents for the past nine years. IBM patents amounted to more than the twelve largest U.S. information technology companies combined. Additionally, as IBM researches more areas, it comes up with projects that do not meet its focus. These patents are licensed to other companies and bring in additional revenue.

First Mover Advantage

Fifteen percent of IBM's research is long-term in order to constantly evaluate future needs and to remain at the forefront of technology. As a result, IBM usually has the first mover advantage and can become the leader in its fields of innovation. This advantage can be seen in the 1960s with the mainframe, in the 1980s with the PC, and hopefully in the future with the supercomputer. Successful introduction of innovative products gives IBM instant recognition and can lead to IBM being a brand recognized for its superior quality. The direct investment in R&D allows IBM to be a market leader.

Resources

The size of IBM gives them a competitive advantage in the area of human and physical capital. In the eight research facilities listed in Appendix C, there are 3,440 researchers including 5 Nobel Prize winners. The extensive amount of human capital allows researchers to spend 25% of their time working with customers. This is up from the 3–4% that researchers spent with customers six years prior. Spending time with customers keeps them loyal and keeps their business with IBM. In 2000 IBM spent \$5.15 billion in R&D and

¹⁶ Fishman. "How to SMASH Your Strategy."

¹⁷ Scannell, Ed. "Paul Horn Directs IBM Research into Autonomic Computing Development."

¹⁸ www.research.ibm.com

related engineering.¹⁹ The vast amount of financial resources is just something in which other companies cannot compete.

IBM'S COMPETITIVE STRATEGY

IBM had the foresight to recognize growing market changes and the tenacity to act upon this knowledge. Lou Gerstner stepped down as CEO in March of 2002 and handed the company over to Sam Palmisano, a man who “bleeds blue.” Palmisano enacted several changes necessary for IBM’s continued dominance in the computer world.²⁰

Co-Opetition

Under the leadership of Gerstner, IBM began the practice of licensing technology on unused ideas generated in its R&D sectors as discussed above. This was formerly unheard of in Big Blue’s history. Gerstner began a new policy of working with competition when it was mutually beneficial to both parties, which Palmisano continues to embrace as well. Palmisano feels that many of IBM’s competitors should be viewed as compliments to IBM products which could increase revenue. For example, Palmisano embraced the free, open-source operating system Linux which is maintained by a collective of programmers who continuously collaborate online. Linux is adaptable, works with a variety of systems, and prevents lockup between systems that communicate with different operating systems. IBM invested more than \$1 billion in 2001 promoting the use of Linux and claims that it has seen a greater return in its revenue.²¹

Product Differentiation

All of the large producers of servers, including IBM, HP, and Sun, recognize the dwindling profits in this commodity market and are all attempting to differentiate their product lines from each other. IBM’s current strategy relies heavily on the belief that companies will face daunting challenges in the application and business integration fields. IBM hopes to supply these struggling companies with a one-stop technology shop through its huge Global Services division.²²

Lessened Focus on Mainframe Sales

Palmisano recognizes that the growing commoditization of IBM’s primary sales market spells disaster in terms of maintaining profitability. He is currently promoting the diversification of IBM, and focuses heavily on services, as discussed earlier, and in software. In 2001, software revenues generated \$13 billion at a profit margin of 82.5%. The area of service steadily yields profit margins around 30–40%. IBM continues to encourage market dominance by strategic acquisitions into its already vast collection of resources that comprises IBM’s Global Services.²³

Company/Product Life Cycle

IBM as a whole, as well as its products, entered into the decline phase of the product life cycle in the early 1990s. After a new focus was derived and IBM entered into the new solutions business,

¹⁹ www.research.ibm.com

²⁰ “Follow That.”

²¹ “Follow That.”

²² Vijayan. “Thinking Outside the Box.”

²³ Vijayan. “Thinking Outside the Box.”

IBM experienced extremely rapid growth. As of now, its solutions product is maturing, and the management needs to develop Big Blues next big item.

Porter's Forces

IBM's areas of business are extremely diverse. Each sector differs with respect to Porter's Forces. As discussed in this paper, IBM considers solutions its primary focus and product

Threat of Entrants: *Low*

Very few companies can enter into the solutions business for the following reasons:

- high brand recognition of IBM (*decreases threat*)
- one-stop shopping for IBM products (*decreases threat*)
- diverse divisions within IBM allow breadth of product (*decreases threat*)
- high start-up and research and development cost (*decreases threat*)

Threat of Substitutes: *Moderate*

There is room for substitutes in the solutions business for the following reasons:

- IBM has strong customer loyalty (*decreases threat*)
- differentiated competition is unwilling to enter one-stop shopping market (*decreases threat*)
- open-source software and hardware (*increases threat*)
- some customers do not need one-stop shopping (*increases threat*)

Supplier Power: *Low*

The suppliers in the industry have very little power for the following reasons:

- the ability to provide all the parts of a solution (*decreases power*)
- production of software and hardware (*decreases power*)

Buyer Power: *Moderate*

The buyer has limited power for the following reasons:

- most firms cannot demand price discounts (*decreases power*)
- customers demand customized products (*increases power*)
- extreme downward movement of technology prices (*increases power*)
- commoditization of mainframes (*increases power*)

Rivalry: *Moderate*

Rivalry in this market remains moderate for the following reasons:²⁴

- slowed growth of IT solutions market (*decreases rivalry*)
- other companies offer limited solutions (*increases rivalry*)

Use of Complimentary Goods: *High*

Synergies with hardware and software increase the value of solutions for the following reasons:

- a constant need for hardware (*increases use*)
- a constant need for software (*increases use*)

²⁴ Worth. "What Lou Gerstner Could Teach Bill Clinton."

— CONCLUSION —

This paper analyzed IBM's ongoing strategies to overcome its large size and its strategies to exploit its vast resources. It has overcome its size by transforming its corporate culture and by implementing strategies to harmonize the company. The change in culture created risk-taking, motivated workers that produce top-notch products and services. Management created a front, back, and center that unified IBM's different business units in a way that creates competitive solutions for its customers.

IBM's research and development sector benefits from IBM's size by utilizing its vast resources. Continued focus on R&D allows Big Blue to meet future market demand and positions IBM at the forefront of technology while locking itself in as the market leader.

IBM's current CEO, Sam Palmisano, decided that in addition to working with its competitors, IBM needed to continue to differentiate its products. IBM offers a one-stop technology shop where a company can solve all its technology needs including the purchase of mainframes, software, and information services. This differentiation allows IBM to maintain profitability.

Appendix A: Problems That Afflicted IBM

Bad Decisions

IBM continued to focus on the mainframe industry and ignored the emerging personal computer. Executives failed to realize that fast-paced computer industry, and they remained complacent.

Too Much Arrogance

IBM was considered unbeatable in the 1960s and 1970s. IBM believed that its name would be enough to sell computers even when it was not positioned correctly in the market.

Outsourcing to Competitors

IBM panicked when it realize that it was behind in the PC market. Instead of producing the parts of the computer itself, IBM outsourced production to Microsoft and Intel. Microsoft and Intel were small companies and could have been purchased by IBM.²⁵ Executives were unable to correct this horrific mistake.

Bad Focus

IBM was unable to pick a market in which they wanted to compete. Customers were becoming more and more fragmented, and IBM wanted to provide for everyone. However, in trying to accommodate everyone, IBM accommodated no one.

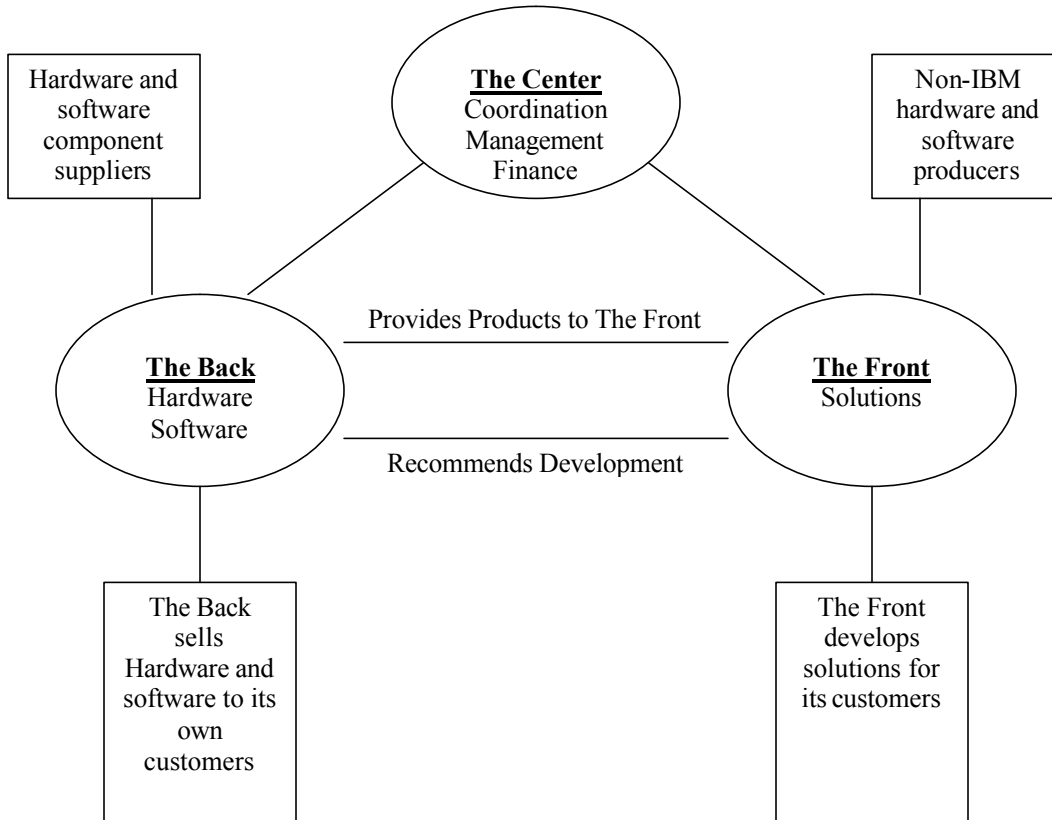
High Costs

IBM was recognized as an employer for life. The founder of IBM engrained that a job with IBM was a life-long job. This idea led to high-costs because employees were never laid off, even in non-profitable times.²⁶

²⁵ Slater. Saving Big Blue. 21.

²⁶ Slater. Saving Big Blue. 36.

Appendix B: The Front, The Back, and The Center²⁷



²⁷ Foote. "Making Solutions the Answer."

Appendix C: Research Labs and Duties

Thomas J. Watson Research Center

NY and MA, U.S.A.

Established: 1961; Employees: 1,750

Focus: semiconductors, physical & life Science, computer science, and mathematics

Almaden Research Center

San Jose, Ca, U.S.A

Established: 1955; Employees: 500

Focus: computer science, storage systems & technology, and physical science

Austin Research Laboratory

Austin, TX, U.S.A.

Established: 1995; Employees: 40

Focus: power-efficient system design and prototyping, advanced circuits, CAD tools for design and verification, and system software for multiprocessors.

China research Laboratory

Beijing, China

Established: 1995; Employees: 90

Focus: language processing, speech & handwriting recognition, pervasive computing, mobile computing, multimedia, and eBusiness technologies & solutions

Haifa Research Laboratory

Haifa, Israel

Established: 1972; Employees: Over 500

Focus: VLSI design, verification technology, storage subsystems, eBusiness & security, computer systems, programming languages & environments, advanced applications, applied mathematics, multimedia, and service technologies.

Tokyo Research Laboratory

Yamato, Japan

Established: 1982; Employees: 200

Focus: software technology, systems technology, pervasive computing, and Internet technology & applications

Zurich Research Laboratory

Rueschlikon, Switzerland

Established: 1956; Employees: 300

Focus: communication systems, computer science, selected science & technology projects, and industry solutions & services

India Research Laboratory

Delhi, India

Established: 1998; Employees: 60

Focus: electronic commerce, media mining, fingerprint matching, speech recognition, weather forecasting, and wireless networks

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