The Changing Face of the Global High-Tech Industry

Contents
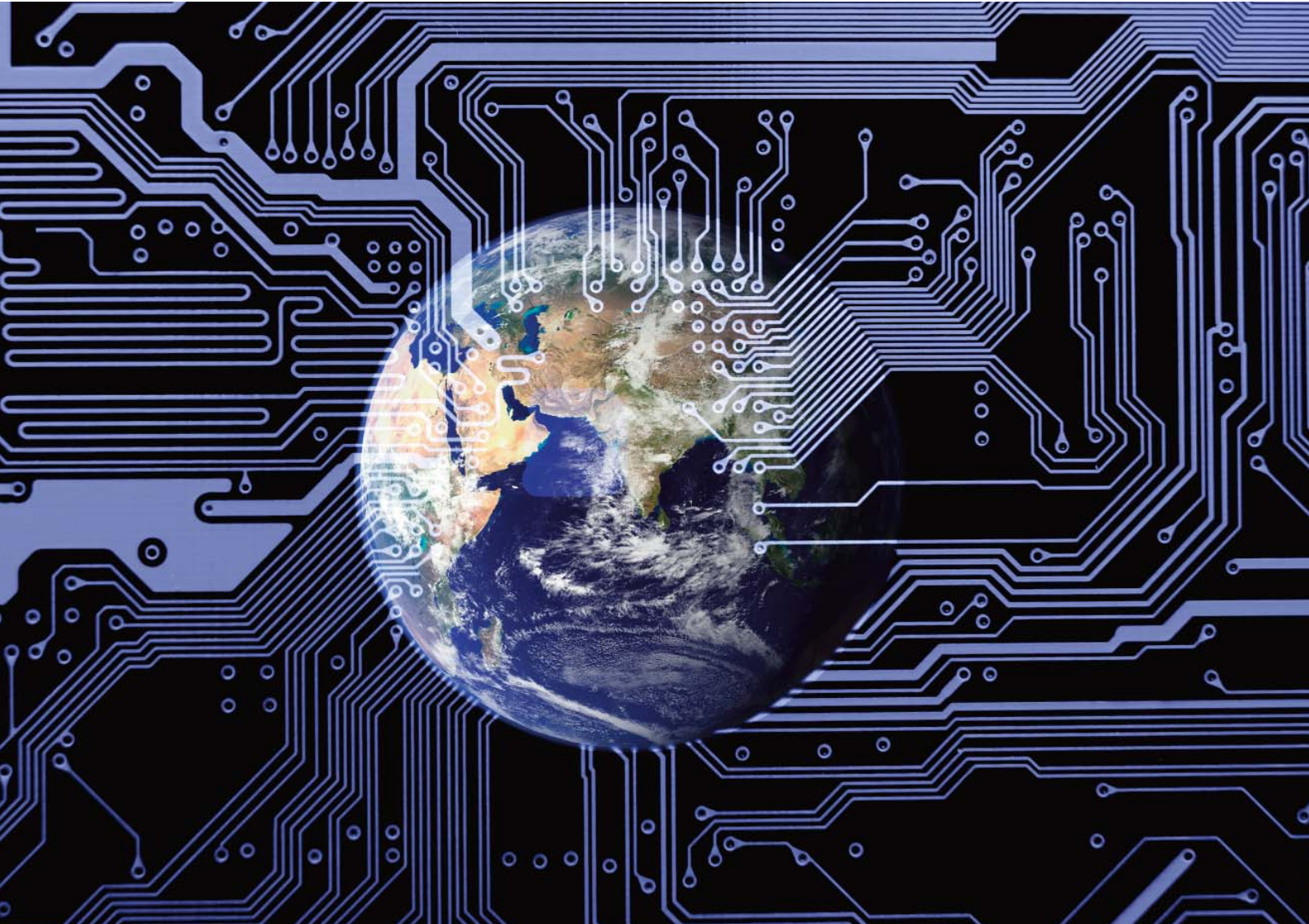
The Global High-Tech Industry

In the high-stakes quest for leadership, companies in the global High-Tech industry are in a constant contest, jockeying for market position. Innovation is at the heart of numerous strategic initiatives to develop competitive and first-mover advantage - breaking new ground in product and service offerings, forging cross-boundary partnerships, sometimes even with former competitors, and bringing on-stream, new capabilities through mergers, acquisitions and joint ventures.

The global High-Tech industry has a broad reach, so it can be defined in a number of ways. Capgemini's definition of the industry comprises Consumer Electronics, Computer & Peripherals, Print/Imaging, Telecom Equipment, Medical Equipment, Semiconductors and Software. All of these industries are shaped and defined by the advances in technology that are themselves defining the emerging business, economic and social landscape.

While the shape of the industry may be constantly shifting, analysts have predicted that the sector is poised to grow to over a trillion Euros by 2012, with a continuing growth rate of 6.2% over the period 2009-2012[1]. Factors driving demand will include spikes in medical and pharmaceutical technology, mobile devices, virtual security applications and consumers' attachment to laptops, iPods and cell phones, together with the speed of technology investment and new product launches.

Capgemini's High-Tech Practice helps companies to respond rapidly and intuitively to changing market demands. Based on our experience of working in collaboration with the largest manufacturers and suppliers in the High-Tech industry, and supplemented by our analysis of the specific challenges of this highly competitive market, our solutions help companies to develop successful leadership strategies and optimize operations to sustain strong earnings and a competitive positioning.

[1] Source: CC India Analysis, Datamonitor 2008, Gartner 2008-2009.

Challenges Facing the High-Tech Industry

The fast-paced global High-Tech industry is not without its own distinct and complex challenges. Every player in the industry is striving to gain and maintain competitive differentiation by adopting new approaches or by realizing latent sources of success in existing operations.

However, while each of the sub-segments face specific challenges, the High-Tech industry is being shaped by three shared, fundamental and pervasive trends:

- **Increasing globalization:** more and more, High-Tech firms are moving towards a 'buy anywhere, make anywhere and sell anywhere' concept;
- **Rapid product innovation:** companies are continually and rapidly upgrading their product portfolios to meet ever more demanding customer and regulatory requirements;
- **Increasing revenue and margin pressures:** manufacturers are resorting to production cuts and restructuring initiatives as demand in certain areas falls and inventory levels increase.

While these industry trends are not new or unique, the combination of these challenges and the opportunities they potentially offer means that organizations cannot be complacent; they need to be particularly attentive to market dynamics if they are to continue to generate the level of shareholder return that the market has come to expect.

Increasing globalization

The 'buy anywhere, make anywhere and sell anywhere' concept is most aptly demonstrated in the increasing globalization of R&D and manufacturing functions. The strategy of migrating these key facilities to low-cost offshore countries, ranging from Russia and Mexico, to India and China, is now well-established as a necessary, rather than optional, element of operations.

Together with a rise in sub-contract manufacturing, this situation is generating significant reductions in labor costs, as well as leveraging the benefits of proximity to raw materials and a better

understanding of local market buying preferences. However, this is not without its own complications; highly complex supply chains, extended management of dispersed operations and quality and counterfeiting issues all contribute to the need for proactive and fast-moving operations.

With traditional markets slowing down, emerging markets in Asia, Eastern Europe and Latin America are driving High-Tech sales growth. But indigenous players, particularly from China, are starting to pose their own serious competitive threat both at home and in western markets, which is leading to the erosion of the multinationals' share in developed and even developing markets.

Accessing these emerging markets and segments has meant adopting a multi-channel strategy to reach end customers more effectively. One channel is no longer enough. Embracing retail outlets, own company retail stores and other direct-to-customer channels, companies are exploring every option, adapting to changing customer buying trends and ensuring maximum sales penetration.

Rapid Product Innovation

A constant stream of new products and faster obsolescence of the existing manufacturing pipeline is the reality of commoditization and standardization of today's markets. This situation is also subject to the impact of rapid technological modifications. The impact of shrinking product lifecycles, is increased pressure to gain 'first to market' advantage and leverage this myriad of technological advances.

And the days of a simple product portfolio have gone forever. The bundling of content, services and applications with their device offerings has added an additional layer of complexity. For High-Tech businesses, it means constant innovation and diversification of the product portfolio, keeping a focus on convergence opportunities and threats and managing a network of content and application partnerships across multiple markets.

Product proliferation and mass communication channels give rise to more knowledgeable and demanding customers. And as the cost of buying replacements outweighs the cost of repair, customers are more likely to switch brands to benefit from new features.

Retaining consumers requires more and more investment, as does meeting the increasing regulatory requirements for greener products. Environmental regulations, such as the Kyoto protocol, REACH directives and other governmental requirements, oblige manufacturers to comply and look for new materials and design techniques to deliver greener products.

The economic downturn has intensified the focus on additional revenue generation through the provision of managed and maintenance services as the demand for a company's core products falls. For many, this means channeling management attention to increase the efficiency and capability of these ancillary managed services.

Increasing Revenue and Margin Pressures

The economic slowdown has inevitably put a sharper focus on protecting margins, managing positive cash flows and maintaining revenue levels, as its impact on certain sub-sectors makes itself felt. Demand for consumer products in the retail segment has fallen, due to a reduction in disposable incomes, corporate client delays and the cancellation of new projects, leading to lower demand for capital-intensive products, such as mobile and enterprise infrastructure and medical equipment. The result? Unrelenting pressure on cost reduction to keep profitability levels stable.

As distributors and retailers throughout the supply chain respond to the credit squeeze by cutting back on inventory, manufacturers are making similar moves, by cutting production to avoid a pile up of inventory that could become outdated within months.

Finally, management has to consider operational restructuring to sustain growth amid the challenging market environment. Measures include reductions in capital spending, general overheads and overall headcount, as well as the restructuring of business units and a withdrawal from non-core business areas. Restructuring initiatives require significant management attention if they are to be effective.

Key Levers to Manage the Challenges

To address these challenges, there are six key management levers that High-Tech companies can use – separately or together – in the short-, medium- and long-term.

The key levers are:
- **Product innovation:** Bundle product offerings with value-added services, leverage technology partner relationships and build close collaborative ties with both customers and suppliers earlier in the product lifecycle and across the value chain;
- **Cost reduction:** Establish or increase the outsourcing and/or offshoring of manufacturing, and undertake restructuring initiatives;
- **Sales growth:** Reassess market entry and go-to-market strategies and develop multi-channel sales and distribution plans;
- **Operational excellence:** Optimize the supply chain, rationalize the supplier base and undertake integrated business and inventory planning;
- **Customer centricity:** Provide highly efficient after-sales service and collaborate with customers and suppliers to better understand buying behavior;
- **Green initiatives:** Devise and deploy sustainable products and implement a green IT strategy.

Leading High-Tech companies are already using a combination of these levers with significant success. For example, some have acquired additional R&D and software development capabilities, while others have set up discrete joint ventures to distribute devices in emerging markets. Green modes of transport are being adopted, and online customer communities developed to encourage user feedback.

The options are almost limitless, which means that recognizing which levers will be the most effective for any given market context, business model or product portfolio is a complex decision. Also relying on just one lever is unsustainable or suboptimal, and therefore, a non-competitive response.

# Solutions that Meet these Changing Business Needs

Capgemini offers a number of tailored solutions for the High-Tech industry, based on the expertise of both our specialist sector teams and the wider Capgemini organization. We have developed these innovative solutions, often in close collaboration with our High-Tech clients, to ensure that results are delivered quickly and cost effectively.

Our services are grouped around six key levers for short, medium- and long-term change, and these are always customized to meet the specific industry context or company needs.

1. Product Innovation

Product innovation is the lifeblood of the industry, demanding a continual well-managed product funnel of concepts and products in development. Therefore, selecting the right projects at the right time presents a huge challenge for firms operating in such difficult-to-predict markets. Two recurring questions are: How to undertake better portfolio management in uncertain markets? And what is the best way to manage investment resource allocation?

Capgemini's High-Tech solutions aligned to the six key levers for short-, medium- and long-term change
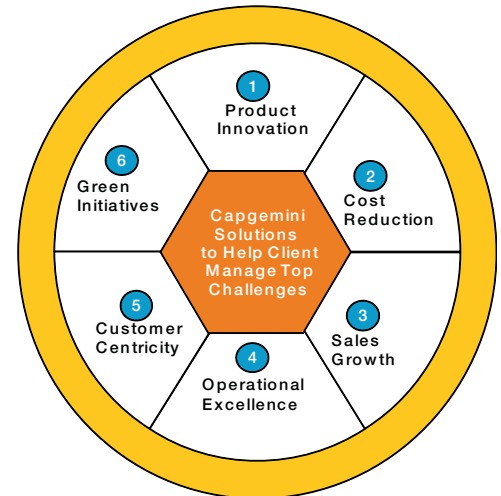
Our PLM services encompass a variety of techniques for creating and managing products and services throughout their lifecycle, including: Innovation & Lifecycle Management, TechnoVision Mapping, Accelerated Solutions Environment®, scenario-based RAIN[2] centers, and M&A strategy and integration.

We have successfully conducted ASE sessions with over 600 international clients, including over 50% of the Fortune 100 and 44% of *Business Week's* Top 100 Global Brands. Capgemini's ASE combines a patented methodology with a unique, open work environment to deliver large scale facilitated sessions geared at accelerating timelines, gaining alignment and mitigating risks. We have also helped clients evaluate and visualize the commercial possibilities of their pipeline through a variety of insightful scenario techniques.

2. Cost Reduction

With significant investment in product innovation, High-Tech companies need to manage their operational and investment expenditure very closely. Preserving margins and lowering the cost of production are critical to ensuring the final product is competitively priced. In many instances this means adopting a different manufacturing model or re-evaluating support services.

Capgemini's cost reduction solutions include: Outsourcing and offshoring strategy, Capgemini's Rightshore® managed services; Business Transformation; shared services and Business Process Outsourcing (BPO); and cost reduction planning.

3. Sales Growth

Optimizing customer interactions across multiple channels, departments, business lines and regions results in measurable improvements to sales revenues, yielding increased cash flow and higher earnings per share. The key foundations for sales growth include successful channel management and selective investment in sales initiatives that deliver the most user value, drive customer acquisition and build retention.

Multi-channel Optimization strategy, Sales and Marketing roadmap development, Price and Revenue Optimization, and Sales Effectiveness programs are some of the solutions that we can deliver to improve market penetration for maximizing profit margins and improving asset utilization.

---

[2] Short for RApid INnovation, RAIN is a physical and virtual environment dedicated to transforming organizations into Service-Oriented Enterprises (SOEs). The RAIN centers are operated by Capgemini and Intel.

Using segmentation analysis and realistic cost/benefit assessments, we have helped clients both rationalize and expand their global channel structures particularly in developing markets, and focused clients' initiatives on adding value throughout the sales lifecycle.

4. Operational Excellence

In a culture dominated by R&D and marketing and sales, High-Tech operations has never had the prominence it deserves and has been taken for granted. Yet this is an essential component for competitive success, especially now, with such extended supply chains and distribution networks across the world.

Capgemini solutions help organizations to improve the performance of their processes and achieve greater efficiency, agility and control through Inventory and Supply Chain Optimization and Transformation, Sales and Operations planning, specialist operational excellence techniques and ERP/IT solution deployment.

Collaborating with clients to develop a highly tailored, integrated end-to-end approach, we have been able to enhance value chain effectiveness, achieving benchmark inventory levels, greater category domination and increased financial predictability.

5. Customer Centricity

Understanding the essentials of the customer experience and their impact on purchaser satisfaction and retention is critical in such a dynamic market when 'second chances' are rare. More than just the smooth functionality of a service or product purchased, it is the consistent user experience at each point of contact in the customer experience chain that is important.

In today's environment, customers have abundant opportunities to switch, and brand loyalty is transitory. Capgemini's solutions address these challenges with services including CRM selection and optimization, call-center strategy and sourcing, service and parts management strategy, and business intelligence.

We have helped clients to bridge the gap between marketing, sales and service functions, accelerate their return on CRM investment, introduced device-led self-diagnostics and repair, and have developed outsourcing call-center strategies.

6. Green Initiatives

High-Tech companies are increasingly aware of their corporate responsibilities to the wider environment and sustainability in general, with the need to reduce waste, conserve energy, encourage recycling or reuse, and improve raw materials management. Fortunately, improvements in green technologies often equate to improvements in efficiency.

Capgemini has developed specialist services such as carbon-neutral IT solutions, particularly green data centers and desktop strategies, as well as sustainable product development. We also collaborate with specialists on solutions to reduce the impact of IT on the environment through energy efficiency, virtualization of data centers and IT asset reuse and disposal.

We have worked with expert suppliers to develop state-of-the-art data centers that reuse waste heat, procure energy-efficient product replacements and that both virtualize and consolidate infrastructure. Using ASE facilitation, we have also helped clients to prioritize technological developments for greener products.

Helping High-Tech Companies Respond More Rapidly and Intuitively to Changing Market Demands

Capgemini works for:
- 90% of the largest manufacturers and suppliers in the High-Tech industry
- 8 of the 10 largest networking and telecom equipment manufacturers in the world
- 8 of the top 10 consumer electronics manufacturers.

Our suite of solutions is geared toward developing successful leadership strategies, optimizing operations and growing revenue in this highly competitive market.

We are aligned with many service providers that are at the leading edge of technology. Working together as an integrated team, we can deliver a collaborative and tailored, best-in-class, business solution for the benefit of the client.

Our 16,000+ strong practice delivers solutions to High-Tech companies around the world, with experts drawn from the industry sector, with specialist technology expertise. We continue to contribute significantly to industry thought leadership and technology advancement, including research and studies.

The High-Tech division of our sister company, Sogeti, is among the top five market leaders in Engineering and Technology Consulting Services. With over 20 years of expertise, Sogeti undertakes major technical and engineering innovation projects for the R&D departments of global industrial firms. Their expertise includes Research and Development, requirements, design, development, testing, integration and operational maintenance of complex systems, focused on three business lines:
- Systems and Software Engineering (SSE)
- Physics Engineering and Testing (PET)
- Industrial Engineering (under the brand name 'Sinfor Automation').

Select Case Studies

Accelerating Global Integration for a Division of a Global Manufacturer

The Situation

The semiconductors market is truly global. Product development and manufacturing span all continents, and relocating labor-intensive manufacturing activities to Asian countries is an economic imperative. Flexibility in working with third-party suppliers and joint ventures are key. The client's semiconductor division had a diverse systems architecture in place to support its classic ERP functionality. To regain a top 10 position in the industry, it needed to pursue a strategy of growth and cost reduction. An integrated system for the client's manufacturing environment on a global basis was seen as a prerequisite for the execution of this strategy.

The Solution

The client decided to phase-in an SAP system for all of its worldwide manufacturing sites. The implementation program included ADEXA, SAP-Business Warehouse, SAP Plant Maintenance and Enterprise Buyer Professional standard applications - all highly integrated, and supporting manufacturing business processes. The program was rolled out site by site across the world, with a set of common interfaces enabling each site to communicate effectively with the rest of the client's network. On completion, all remaining legacy ERP systems were taken out of service.

The Result

The SAP implementation has achieved a number of benefits, most notably the establishment of a single global Business Control Model for manufacturing sites, together with standard systems, procedures, processes and documentation. This has resulted in improved delivery reliability and speed at the manufacturing sites. And with more accurate demand planning techniques, there is now better scheduling, reduced cycle times and inventory levels, as well as accurate, timely and complete management information.

With the replacement of a multitude of 'end-of-life' local legacy environments, the total cost of ownership has fallen, and efficiency and data quality have increased by minimizing multiple keyboarding. Overall, business control has increased due to more transparent, fully integrated processes and management information.

Analyzing and Mitigating Product Failure for a Manufacturer of Precision Products

The Situation

The client wanted to understand the rate and timing of end-of-life product failures for several of its key products as its own historical analysis was not robust enough to predict the rate and timing of future failures. Faced with revenue challenges, the client planned a marketing campaign focused on promoting the replacement of equipment, predicted for end-of-life failure in the near term.

The Solution

Capgemini assessed the client's data systems to identify the necessary customer purchase and equipment failure data required to perform detailed analysis. A predictive model was built based on historical data and statistical techniques that examined patterns in the data. The statistical results were analyzed to develop recommendations for key products and customers that could be the focus of near-term marketing initiatives.

The Result

The Capgemini team identified primary sales opportunities based on marketing equipment that needed to be replaced at key customer sites. It also provided a data infrastructure and statistical methodology that could be leveraged to perform periodic analysis for future marketing campaigns. Finally, the team identified products with a high failure rate during the first few years following product launch, and developed recommendations for the New Product Introduction process to address this issue.

Transforming a Supply Chain Strategy for a Global Solutions Leader

The Situation

This global solution provider's huge product scope has created one of the largest and most diverse supply chains in the world. The existing supply chain portfolio of programs was developed as a result of 'adopt and go' strategies, pursued as a result of a merger. The portfolio needed to be refined as its markets had changed and greater opportunities for increased leverage had emerged. The company needed to redefine its next-generation supply chain strategies and portfolio.

The Solution

Capgemini worked with the company to realign its desired supply chain capabilities with the strategic needs and direction of its various businesses. Capgemini, through its Accelerated Solutions Environment® methodology (ASE), initially helped define the company's next-generation supply chain vision and a set of key capabilities, together with a governance model. The team then worked to define two further key capability areas, end-to-end visibility and sourcing collaboration, as well as to define areas of commonality in terms of process and capabilities. In addition, Capgemini helped to implement a dashboard capability in measuring and managing key supply chain fulfillment metrics. A major supply chain transformation allows the technology company to better leverage its businesses, reduce costs and enhance its competitive positioning.

The Result

The new direction – vision, set of capabilities and commonality definition – has helped the client achieve a higher degree of cross-functional leverage and energy across its various business units and geographies. The ASE workshop helped the company bring its supply chain leadership together, from various business divisions and geographies, to develop a common direction. Capgemini's intervention has helped the client to define strategies, as well as rationalize its budget and saving the company millions of dollars.

The Collaborative Business Experience™

Capgemini works differently from other consultancies. Rather than coming in to implement a solution that has already been agreed, we aim to get involved at an earlier stage, helping clients to explore the problem and shape its solution. We share our ideas, suggest objectives, pool our resources and concentrate on getting stakeholders to a point where they are aligned and committed to a course of action that they feel they own themselves. In short, we believe that effective and durable change comes from teams that are supported, not led, by their consultants.

Capgemini's overall approach, the Collaborative Business Experience™, is faster and more productive than conventional consulting, is particularly suited to the High-Tech industry.

To support our approach, we maintain a range of traditional consulting capabilities spanning strategy, demand generation, operations, supply chain and the principal back-office functions. In addition, we draw on our own experience and that of our counterparts in Capgemini's Technology and Outsourcing Services divisions. With years of experience behind them, our people have a deep understanding of what makes a course of action both feasible and beneficial.
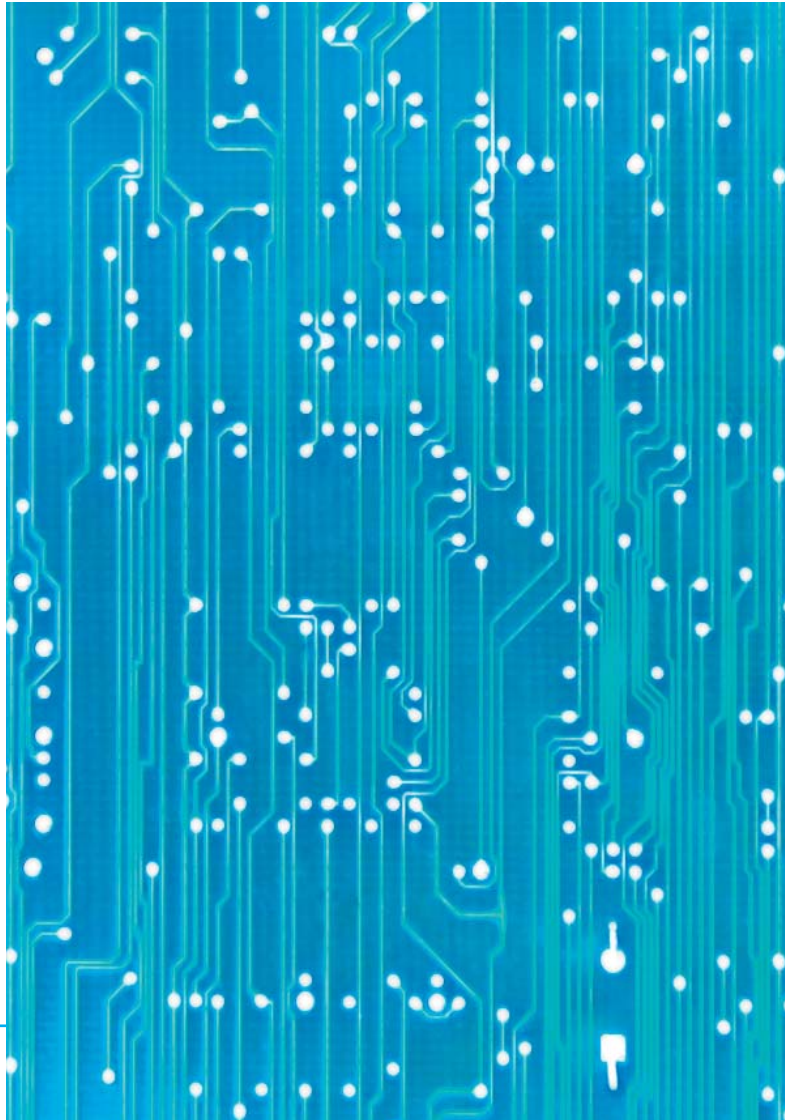
About Capgemini

Capgemini, one of the world's foremost providers of consulting, technology and outsourcing services, enables its clients to transform and perform through technologies. Capgemini provides its clients with insights and capabilities that boost their freedom to achieve superior results through a unique way of working, the Collaborative Business Experience™. The Group relies on its global delivery model called Rightshore®, which aims to get the right balance of the best talent from multiple locations, working as one team to create and deliver the optimum solution for clients. Present in more than 30 countries, Capgemini reported 2008 global revenues of EUR 8.7 billion and employs 90,000 people worldwide.
More information is available at www.capgemini.com.

Rightshore® is a trademark belonging to Capgemini

www.capgemini.com

Contact Capgemini's Global High-Tech Practice

Floyd D'Costa
+91 22 6755 7000
floyd.dcosta@capgemini.com

Gary Baldwin
+1 404 806 5920
gary.baldwin@capgemini.com

Guido Kamann
+41 44 5602 400
guido.kamann@capgemini.com

Kevin Poole
+1 415 738 1350
kevin.poole@capgemini.com

Nick Gill
+44 870 904 5699
nick.gill@capgemini.com