

## BENCHMARKING A GLOBAL BUSINESS: SEMICONDUCTOR MANUFACTURER INFINEON LEVERAGES CISCO'S EXPERIENCE

### EXECUTIVE SUMMARY

Semiconductor manufacturer Infineon, the sixth largest in the world, weathered the global technology downturn in the early years of this decade through a resolute, centrally driven cost reduction programme. Now it is turning that experience to its advantage through a clear corporate strategy aimed at achieving operational excellence. Benchmarking against the world's most successful companies – and adopting the 'best of best practices' – is at the centre of its drive for optimal efficiency and effectiveness.

Cisco System's Internet Business Solutions Group is lending strong support in that undertaking, and powerful and significant effects have already been achieved in the areas of alliance management, IT and HR. In fact, \$100 million of potential cost savings from benchmarking activities with various companies have been identified and are being implemented. Ongoing areas for review include supply chain management, customer relationship management and manufacturing optimisation.

A solid network foundation underlies Infineon's success and – as well as Cisco local and wide area infrastructures – Cisco advanced technologies such as security, wireless, and storage area networking are being employed to secure Infineon's business and assure the company's competitive advantage.

### STRATEGIC INTENT

**"INFINEON IS INVESTING IN SOFTWARE AS A VALUE DRIVER. TODAY, CISCO IS A TRUSTED INTERNET ADVISOR TO INFINEON"**

Andreas von Zitzewitz, Chief Operating Officer  
Infineon

#### Freedom to prosper

Originally a business unit generating some six per cent of Siemens' revenues, semiconductor manufacturer Infineon was created in 1999. Siemens still holds around 19 per cent of the Infineon share capital, but the IPO in 2000 gave Infineon the newfound latitude to:

- target new business
- attract better people
- and enjoy increased commercial flexibility.

Infineon has about 32,300 employees worldwide, and in fiscal year 2003 the company achieved sales of €6.15 billion.

#### Impactful programmes

When the tech bubble burst in 2000, the semiconductor market was badly affected. For example the 2001 world market size, originally projected at \$240 billion, turned out to be only \$160 billion. Against that wintry background, Infineon achieved rapid savings of \$3.4 billion through its centrally driven 'IMPACT' programme.

In 2002, Infineon launched the IMPACT<sup>2</sup> programme – aiming to strengthen its competitiveness and drive operational excellence. IMPACT<sup>2</sup> is designed to improve Infineon's business processes using so-called  $\pi$ -Teams; each addressing a specific Infineon enterprise area.

Under a 'central co-ordination, local implementation' policy a 'Centre of Excellence' organisation has been set up to improve efficiency and effectiveness across the whole Infineon organisation.

## INTERNET BUSINESS SOLUTIONS

**“EXEMPLARY ACTION, ESPECIALLY AT AN INTERNATIONAL LEVEL, DOES NOT JUST HAPPEN. BENCHMARKING IS ESSENTIAL FOR EVERY COMPANY. AT INFINEON, WE COMPARE OURSELVES AGAINST THE BEST COMPANIES IN EACH SPECIFIC AREA TO FIND OUT WHERE WE STAND, AND THEN WE EMPLOY THE BEST OF THE BEST PRACTICES WE DISCOVER.”**

Jochen Hanebeck, Vice President, Centre of Excellence  
Infineon

### Considerable experience

As well as being a long-standing partner and supplier to Infineon, Cisco Systems is one of Infineon's important customers too. As such, Infineon is part of Cisco's supply chain. It was natural therefore that, in 2002, Cisco was asked to bring its considerable experience of managing partner and supplier relationships to bear in helping Infineon with an alliance management benchmarking exercise .

The assistance of Cisco's Internet Business Solutions Group (IBSG) was enlisted in that task. The IBSG alliance management benchmarking efforts focused on three major areas – partnership strategies, organisational issues, and management and execution – and Cisco's Global VP for Strategic Alliances was invited by the IBSG team to participate and also became involved in best practice sharing activities.

### Supporting business transformation

Following that initial engagement, IBSG supported the implementation of business process improvement through conducting further external benchmarking studies, exchanging ideas, and best practice sharing. This activity has seen operational excellence achieved through the business transformation and web enablement of several areas of Infineon's business including HR, e-learning strategy and processes, and IT efficiency and strategy.

Jochen Hanebeck, Vice President in charge of the Centre of Excellence, says: “Exemplary action, especially at an international level, does not just happen. Benchmarking is essential for every company. With it, we compare ourselves against the best companies in each specific area to find out where we stand, and then we employ the best of the best practices we discover.”

An HR benchmarking exercise was conducted, with the assistance of Cisco's Global SVP for HR. It focused on organisational structure, HR cost structure, employee self-service and the introduction of HR process key performance indicators. Jochen Hanebeck continues: “Cisco gave us particularly practical insights into how we could better use database and self-service techniques in the HR sphere.”

### Lean and efficient

Another major topic for benchmarking and best practice sharing between Cisco and Infineon was IT efficiency and strategy. The IBSG team helped to conduct a benchmarking exercise against Cisco's IT organisation and organised several senior level workshops around Infineon's structure and capabilities in the areas of:

- governance, and cost metrics and measurement
- analysis of Infineon's IT capabilities, benchmarking of infrastructure costs, and architectural roadmap
- people management and development
- project management and change management.

Infineon also has an 'e-tools' project with the objective of creating lean and efficient business processes by using e-technology to harmonise and improve its processes and interfaces towards customers and suppliers. In pursuit of this goal, the IBSG team has conducted a Net Readiness analysis and is currently planning an Internet Capabilities Assessment (ICAT) for selected functions.

Cisco's senior management team right up to its President, John Chambers, has been involved with the IBSG-facilitated discussions with Infineon. In addition to the above areas, discussions are ranging over other such topics as virtual organisations, e-CRM and the networked supply chain. All existing and new web enablement activities are discussed at a joint Infineon/Cisco quarterly steering committee. Andreas von Zitzewitz, Chief Operating Officer, Infineon, says: “Infineon is investing in software as a value driver. Today, Cisco is a Trusted Internet Advisor to Infineon.”

## RESULTS

**“\$100 MILLION OF OUR IDENTIFIED POTENTIAL SAVINGS AREAS THAT ARE CURRENTLY IMPLEMENTED ARE A DIRECT RESULT OF OUR ENGAGEMENT WITH CISCO AND OTHER BEST IN CLASS COMPANIES. THE MAJORITY HAS BEEN REALISED IN THE HR AND IT ORGANISATIONAL AREAS.”**

Jochen Hanebeck, Vice President, Centre of Excellence  
Infineon

### Significant returns

There are strong indicators that Infineon's overall strategy is working, with a revenue increase of 30 per cent in the first half of 2003 (the largest revenue growth of all global semiconductor manufacturers in that period) and a nearly 20 per cent increase in market share in the whole of 2003.

Further improvements are already targeted through:

- continued benchmarking activity to develop externally derived best practice targets for sustainable gains
- identification and implementation of urgent, high impact process enhancements
- structural changes including relocation of activities, focusing on core competences, and selective outsourcing of support functions.

Jochen Hanebeck says: “\$100 million of our identified potential savings areas that are currently implemented are a direct result of our engagement with Cisco and other best in class companies. The majority has been realised in the HR and IT organisational areas.”

Every benchmarking project is conducted against a detailed business case, which is signed off by the functional head of the department involved, and the metrics associated with that project are built into the annual process of setting management objectives and targets.

### Matching the best

The initial engagement around alliance management has enabled Infineon to develop partnership principles and processes, and a new organisational structure for alliance management has been established.

In addition, the IBSG input has encouraged Infineon to ask questions about how Cisco organises its supply chain activities and learn from that, for example with respect to managing outsourcing.

As a direct result of the HR benchmarking exercise, Infineon has now redefined its HR processes and organisation and has introduced state-of-the-art IT support for HR. Jochen Hanebeck says: “We will bring our HR performance up to the same levels as the very best in the benchmarking survey. Through the judicious use of IT and self-service we will reduce the amount of transactional traffic that our HR people have to deal with, releasing them to concentrate upon consultancy and value added tasks.”

### A source of competitive advantage

The lessons learned from the IT benchmarking exercise have been integrated into Infineon's transformation of its IT organisation and processes.

Jochen Hanebeck says: “We learned a lot from Cisco in terms of outsourcing versus in-house operations, and when to consider each option. Cisco helped us to divide our IT activities into core versus non-core and mission critical versus non-mission critical. That has given us a more focused and considered basis for IT transformation rather than a risky big bang approach.” Andreas von Zitzewitz adds: “IBSG has helped to change Infineon's board level mindset from thinking about IT as a central service provider to regarding it as a source of competitive advantage.”

Working together on the e-tools initiative has provided the raw data for Cisco and Infineon to discuss how the use of e-technologies could further develop Infineon's customer satisfaction processes and leverage business opportunities in the following areas:

- process, methods and budgets (operational model)
- awareness, and roles and responsibilities (ownership model)
- evaluation tools
- deployment of a harmonised customer satisfaction approach.

## TECHNOLOGY BLUEPRINT

"THE MANUFACTURE OF TODAY'S ADVANCED MICROCHIPS IS VERY COMMERCIALY SENSITIVE, NEEDING A HIGH SECURITY ENVIRONMENT. ALL INFINEON MANUFACTURING SITES WILL BE SECURED USING CISCO VPN TECHNOLOGY AND WILL HAVE CISCO SELF-DEFENDING NETWORKS USING CISCO'S INTRUSION DETECTION SOLUTION. CISCO SECURITY TECHNOLOGY WILL BE USED FOR WAN ENCRYPTION AT ALL INFINEON SITES."

Karl Pomschar, Chief Information Officer  
Infineon

### The highest levels of security

In parallel with the operational excellence initiatives that are progressing at Infineon, the company has adopted Cisco advanced technologies to optimise and protect its business and data worldwide. Cisco networking hardware and software is the de facto infrastructure standard for the whole company. A technology blueprint has adopted Cisco technology for wireless, security and storage area networking (SAN). That blueprint is being rolled-out to all factories, including existing Asian plants and several new factories that are being constructed in China.

Karl Pomschar, Chief Information Officer at Infineon, says: "The manufacture of today's advanced microchips is very commercially sensitive, needing a high security environment. All Infineon manufacturing sites will be secured using Cisco VPN technology and will have Cisco self-defending networks using Cisco's Intrusion Detection solution. Cisco security technology will be used for WAN encryption at all Infineon sites."

In fact, Infineon is a technology leader in the production of DRAM chips on 300mm wafers, and the Infineon semiconductor factory in Dresden deployed that 300mm technology for the first time anywhere in the world. A \$1 billion expansion project at its manufacturing plant in Richmond VA will enable Infineon to quickly bring 300mm capacity on line. With operations scheduled to begin in early 2005, the site will ultimately be capable of producing 25,000 wafers per month.

### Network-centric storage and advanced technology

Infineon has around 120 sites worldwide, including around 20 factories, each of which has its own data centre. Cisco is providing Infineon with the opportunity to increase global manufacturing efficiency through advanced technology. At present the factories have separate data storage facilities and it is difficult for management to 'look across' this data and establish a group-wide view of what is going on.

Virtual network-centric SAN data storage will enable Infineon to rationalise that situation and leverage its data to greater competitive advantage. In addition this SAN technology will enable Infineon to virtualise its data centres, enhancing business continuity through redundancy across two mirrored data centres.

Cisco wireless technology is standard within all Infineon offices worldwide, and this approach is being adopted in Infineon's manufacturing plants too, with marked effects on workforce flexibility and process optimisation. Infineon's new headquarter – planned for 6,000 employees in Germany – will use Cisco advanced technology. Not only will it use wireless throughout the campus, but a multi-company VPN network solution will allow access for different companies with tiered security levels and Cisco storage switching will offer new levels of data optimisation.



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