Keep a Low Profile
and Stay Focused
for Extra Mileage

Focus on most investment-efficient projects to create tangible revenues

Macronix has learned from its past mistakes that staying focused is the key to winning. Therefore, Macronix has transformed non-core businesses into core businesses of new focused enterprises, concentrating resources on the most investment-efficient projects. Now Macronix focuses on technology and process enhancement to improve its cost structure and strengthen its competitiveness. Locking onto the mobile platform products that integrate audio-visual functions, and with the series of refocusing efforts, Macronix is accumulating momentum for another cresting success.

Focus on NVM Products; Unlock Logic Chip Operation

Most of Macronix's revenue comes from nonvolatile memory (NVM) products. Macronix's NOR flash memories and Mask ROM, with great innovation and outstanding quality, contribute to 84% of the company's total revenue. Logic chips, on the other hand, contribute only 6% of the revenues despite their higher profit margin. Therefore, even the most brilliant success in logic chips cannot make a substantial impact on the financial performance of the whole company and logic operation remains a non-core business at Macronix.

To optimize the use of assets and to focus on core products, the non-core businesses in Macronix should be reorganized into new enterprises. These non-core businesses now become the "core business" of the new enterprises within the Macronix group, and both efficiency and competitiveness are preserved. Thus Macronix persistently pursues the group reengineering, and is considering making the Fab I (a 6-inch fab) of its manufacturing center an independent subsidiary dedicated to logic chip production.

Current Macronix NVM products have all been transferred to the Fab-2 (an 8-inch fab) of the manufacturing center so that they can take advantage of advanced 0.15-micron and 0.13-micron technologies. This allows Macronix's NOR flash products to compete with the best companies in the world. Moreover, through business group reorganization and reengineering, Macronix is able to streamline its business and deploy new operational modes that produce results.

Focus on the Most Investment-efficient Projects to Generate Revenue Effectively

Design of a new chip product requires six to nine months, and it takes two to three years for further development prior to quantity production. If a product cannot be introduced into the market timely, even the best R&D efforts are useless. Therefore, the refocused Macronix has become market-driven; it identifies the market needs first, and then focuses its talents and resources on the 30 most investment-efficient projects. This strategy accelerates the completion of the projects, and brings both revenue and profit for Macronix.

In 2004 Macronix completed 20 such projects, and in 2005, 29. The percentage of projects completed on or ahead of schedule sharply increased from 15% in 2004 to 34% in 2005 because of significantly enhanced R&D effectiveness and project management efficiency.

Focus on Technology Enhancement to Better Respond to Market Demands

In addition to significant improvement in project management, Macronix's refocus on process and technology enhancement has cut losses considerably and has turned some operations profitable. Macronix's timely completion of the R&D and production of Xtra ROM^{TM} to replace the previous mainstay Mask ROM product has further strengthened competitiveness with 2bits/cell technology and shorter TAT (turnaround time).

In the past, the design of Mask ROM products required a turnaround time of 12 to 17 days and it can no longer cope with escalating competition in today's market. Now Macronix uses the NBit^{TM} technology and develops the Xtra ROM^{TM} products, shortening the turnaround time to 2 – 5 days. Because of the prompt production and delivery capabilities, Macronix enables customer products to not only rapidly enter the market but also eliminate inventory issues.

Flexible Market Competitiveness through Expanded Memory Product Lines

In June 2005, Macronix launched 32 Mb, 64 Mb, and 128 Mb flash memories developed with its most advanced NBit^{TM} 2bits/cell technology. The demand for this series of flash memories is expected to grow 110% in the next five years, and they will become the most sought after, highest quality and most cost competitive memories for system houses.

In July 2005, Macronix further launched 512 Kb to 128 Mb serial flash memories. The design of these economical and highly reliable products is compatible with industry-standard serial flash memories, but they offer flexibility and functionality not found in similar products. The demand for serial flash memories is expected to grow from US$500 million in 2005 to US$1.6 billion in 2009, and Macronix is well positioned to benefit from this amazing growth.

Compared to industry-standard parallel flash memories, serial flash memories feature a much smaller size thus provide cost saving to customers. These memories provide a wide range of applications for PC motherboards, computer peripherals, graphics cards, hard disks, CD and DVD players, PDA, electronic dictionaries, digital cameras, PDA, modems, and so forth.

After two years of hard work, Macronix has strengthened the flash technology, developed products of a wide range of capacity and reduced the manufacturing cost. Consequently, the once a business burden flash product line turned profitable beginning August 2005. The cost of NOR flash memories has dropped to only half of that in 2004. With a cost structure equal to international industrial leaders, Macronix now holds a competitive edge. Moreover, a complete memory

product line with capacity from 64 Mb, 128 Mb, to as high as 256Mb provides comprehensive product choices in addition to price competitiveness.

Focus on Mobile Platform Products Showcasing Abundant R&D Achievements

In 2003, Macronix commenced platform-based product planning and focused on mobile platform and related products. After two years of focused R&D, Macronix launched a variety of audio-visual chips for mobile phones as well as the world's first ever multimedia audio-visual chip that supports HDTV resolution (1,080 dpi) for portable devices.

Macronix also launched 1.3 megapixel and 2.0 megapixel CMOS sensors and camera modules to provide better imaging quality to camera phones. The 2.0 megapixel product supports JPEG formats to factor in both high visual quality and transmission efficiency. Macronix's multimedia SoC for mobile phones not only features 3.0 megapixel resolution but also is the world's first to support MPEG-4 formats up to 30 frames/sec and multi-tasking. The SoC contains a de-blocking filter that saves video file storage space greatly on mobile phone platforms and effectively enhances video quality.

Audio-Visual Integration Creates Innovative Mobile Phone Functions

Optimistic about the MP3 phone market, Macronix has developed a mobile audio platform based on brand new thinking. The low power, high sound quality MP3 SoC integrates peripherals to provide high quality ring tones and long-time MP3 listening. Moreover, the SoC provides advanced functions such as background sound mixing, voice answering and recording, language learning, etc., that are not available in the current mobile phones.

A new comer to the mobile phone chip market in 2004, Macronix is already able to show more than 10 different types of new phone products to customers in 2005. This satisfies customers' needs for function differentiation and optimization, and they are willing to work and grow with Macronix to develop new mobile phones that pleasantly surprise consumers.

Currently Macronix provides greater than 60% of the total value of semiconductor-related services to its mobile phone customers, and the percentage would increase to higher than 80% if the flash memories from the company's memory business unit is also included. With the increasing demand for camera phone and music download functions, sales of mobile phones are expected to break the 1 billion units mark by 2009. Macronix's advanced mobile platform design provides mobile audio-visual integration and helps customers accelerate their quantity production and become more competitive in winning consumer preference.