

Annual Report 2004
SINGULUS TECHNOLOGIES

Focus on New Technologies



SINGULUS 

A photograph of two businesswomen walking in a modern office building. The woman in the foreground is wearing a light-colored, long-sleeved top and a matching skirt, carrying a blue folder. The woman behind her is wearing a dark blue blazer and a skirt, carrying a black briefcase. They are both smiling and looking towards the right. The background shows a large glass and metal structure, likely a staircase or a modern office entrance.

Those who rest will not advance.

We view ourselves as a growth company and “idea factory” for new technologies in vacuum thin film technology.

Corporate Goals and Strategy

Strategic Approach

Optical storage media (optical disc), i.e. CD and DVD, are undoubtedly included among the most important inventions of the 20th century. The audio CD began its global conquest in 1982 with CD-ROM for PC applications demonstrating very strong growth by the end of the eighties. The once-recordable CD (CD-R, "R" signifies recordable) introduced in the early nineties is used by consumers for home recording. More than 10 billion CD-Rs are now produced annually and used as a cost-effective storage medium around the world.

The 1996 introduction of the DVD for video applications paved the way for a second generation of optical discs. With dimensions identical to the CD, it provides room for

9.4 Gigabytes of information on two storage layers, a capacity expansion 14.5 times that of the CD. This permits the storage and playback of images with much higher resolution than those of the VHS and the video CD.

The triumph of the DVD in global markets was attained much faster than that of the CD and now demonstrates growth rates of 30 % in 2004. Meanwhile, studio earnings from DVD sales have surpassed movie theatre earnings. Aside from TV, the DVD has become the dominant medium in film entertainment and is likely to expand this position in the years ahead.

However, a new era is fast approaching: high definition digital television, or HDTV, has already been launched in Japan. All Japanese television stations are scheduled to convert to this new technology by 2007. Similar plans exist in the USA where the switch to HDTV is also scheduled for 2007.

In Germany preparations are now being made for the transition to digital television. In November 2004, the



German TV station SAT 1 broadcast its first digital pilot program, "The Nibelungen". The pay-TV channel Premiere will begin broadcasting a high definition program on November 1, 2005. The European Broadcast Union, representing 51 European stations, currently defines, and will shortly publish, production standards.

Due to its higher image resolution, anyone wishing to record HDTV broadcasts must be able to store significantly more data than the capacity available on the DVD recordable format currently in use. This represents another quantum leap: a 2-hour HDTV-format movie needs a storage capacity of approx. 25 Gigabytes as opposed to the 4-5 gigabytes currently available on the conventional DVD format.

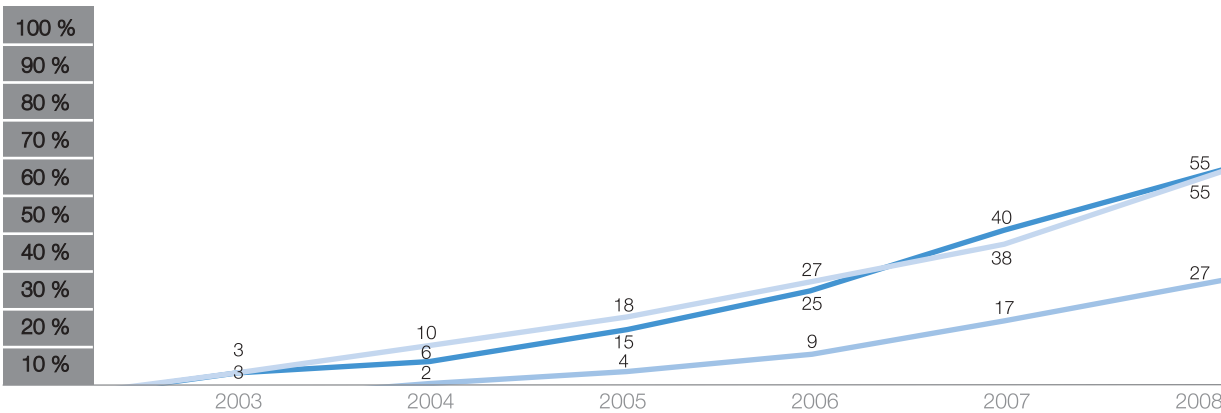
Our Goals Remain Constant

In recent years SINGULUS TECHNOLOGIES has positioned itself as a technology leader in its industry. The synergy created by integrating all the process steps into a comprehensive system has achieved not just technologic but market leadership for the company. No other manufacturer in the optical disc systems market can match the depth and breadth of the SINGULUS organization.

The „best of class“ concept, i.e., our claim to be the best in our industry, is the leitmotif for our actions. The timing advantages available to a "first mover" allow us not just to repeatedly achieve good margins in fledging markets but to establish very close contact with customers and provide extremely high standards of quality.

The success of our strategy also becomes apparent in the build-up of the third generation of optical storage media. SINGULUS TECHNOLOGIES took the first steps toward

Penetration of HDTV-units



Source: Understanding & Solutions, Feb. 2005

■ USA ■ Japan ■ Western Europe

acquiring the new format technology through the acquisition of the ODME mastering business and of the MoldPro patents from OTB, Netherlands. The cooperation agreements struck in late 2004 with the drivers of the competing HD DVD and Blu-ray formats were additional important milestones in our market penetration strategy. Development of the new HD DVD and Blu-ray formats are underway with the introduction of the systems scheduled for the 2nd quarter in 2005. The company will strive to achieve the best position possible in the emerging market for third generation data storage.

Diversification and Penetration of New Growth Markets

The optical disc market is dynamic. As market leader, SINGULUS TECHNOLOGIES stands an excellent chance to continue to profit from this vitality. However, SINGULUS is also dependent on the development of these markets whose growth potential is not without limits.

We view ourselves as a growth company and “idea factory” for new technologies in vacuum thin film technology. As a result, the strategic expansion of our business model began three years ago. The search for new business opportunities outside the sphere of our core operations was intensified. Our long-term plans call for the generation of strong growth extending beyond the optical data storage market.

Strict technology and acquisition search criteria have been established:

- New business sectors must be in line with SINGULUS’ existing management, market, and engineering knowledge base.
- The level of technology and innovation in the targeted business arena must be high and the fundamental technology must be distinctive. Only then will SINGULUS’ unique “time-to-market” and “first mover” qualities be effective. High market entry barriers can only be established for these types of businesses.
- The technology must be young, preferably new. Like DVD, it must have the potential to become “game changing technology” once the product has matured.
- It must be a system business that lends itself to highly standardized manufacturing. Components business, custom-tailored manufacturing of one-of-a-kind products, or pure service businesses do not fit in with our previous activities and experiences.
- The existing worldwide marketing & sales and service network should be useful to the new organization. It must have at least a long-term “global business” potential.
- Following integration in the SINGULUS world, the level of profitability must be similar to that of our intrinsic core business.

All these criteria suggest a close relationship between new options and SINGULUS’ exceptional core competence: specialized machine manufacturing in the field of vacuum thin film technology. This path has led to initial results in the form of TMR (MRAM and thin film heads) and the OPTICUS thin film coating system.

