Foreword for Special Issue on Printing Solutions

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The remarkable technological innovations and popularization of broadband networks, along with the accelerated merger of communications with media, completes the process of creating a ubiquitous society, wherein desired information can be obtained in any form at any time, instantaneously. The three-fold services of voice (telephone), video (broadcasting) and data communications have brought the global society much closer to home, shrinking distances to make our world a significantly smaller one.

Furthermore, miniaturization, accelerated speeds and the expansion in capacity of hardware technologies, as well as accelerated speeds of wireless communications, have dramatically improved the mobile environment, bringing about great reforms in various aspects within the structure of businesses as well as to personal lives. For this reason the information that surrounds us has diversified and is increasing exponentially. On the other hand, it is a fact that the human brain, used for processing information, has evolved little over the past several thousand years. The inability to process information in an appropriate manner has triggered various problems in our society and the negative impact of such developments to our humanity has become a serious concern. Furthermore, the widening disparity arising from the digital divide is also becoming a problem.

As society undergoes such changes the importance of printers becomes more significant. The trend of the printer markets is expected to be one of growth over the next three years, with demands increasing in the European market as the European Union expands, the US market grows steadily with the progressing incorporation of IT, the Japanese market recovers from an economic slump and the Asia-Pacific market continues to show sustained growth.

The favorable growth of the markets naturally triggers severe price cutting competitions, prompting all participants in the market to strive for survival, to engage fiercely in technological developments, compete with cost reductions, while enhancing their innovative efforts for improving their profit structures. The differentiating competition relating to the level of photographic printing quality, high-speed printing, space-saving miniaturization , while reducing the weight of products, has become such an intense affair with the timely provision of "printing solutions" in order to maximize customer value as very essential as well.

Last of all, as well as having great technology, we need to ensure our channel partners and customers are clear about its benefits. To accomplish this, we have developed a global communications campaign for the first time using the umbrella message of "High Definition Color" which will clarify the core elements of our technological expertise and their associated benefits to our customers. There are 4 core components of High Definition Color: First and most fundamental, the **High Definition LED Printheads** which deliver a wide color gamut, broad color depth and smooth color transitions. Second; our **Single-pass Flat Paper Path** which offers best in class print speed combined with the ultimate media flexibility and reliability. Third; **microfine High Definition Toner** delivering high definition print quality on ordinary office paper. Finally inside every printer is a **Printer Management System** which ensures every component is working together to ensure printing is simple and error free.

In this issue we would like to introduce to you the future technological trends with the principal focus on products and solutions based on customer concerns, in order to help you to be aware of our advanced printer technologies and printing solutions.

Business Strategy

An overview of the printer market reveals to us that dot impact printers continue to shrink in scale due to technological shifts taking place in the markets of more advanced nations. A much slower declining trend is seen for impact printers, with the features provided by these products continuing to sustain a firm foundation of demand, combined with a steady demand by the regional taxation market in China and the BRICs market.

Monochrome page printers are showing growth in new emerging nations and also in the SOHO markets of Europe and the United States, however, the fierceness of the price competition is becoming significant.

The color printer market is growing rapidly, due to innovative new technologies and reduced product costs. Inkjet multi-functional devices are showing an increased number of sales in terms of units, but are showing a reduction in revenue. Increasing trends in the demand for low-end products can be expected for color page printers, also, demand for tandem-type color printers are increasing and we expect them to move towards multi-functional devices.

As a one-stop supplier of office printers Oki Data puts in the forefront our brand of **OKI Printing Solutions** offering an abundant lineup of products, ranging from dot impact printers, monochrome and high definition LED color printers to multi-functional devices.

Dot impact printers continue to secure our position as the top supplier in the market, with their high performance, high quality and high reliability. We intend
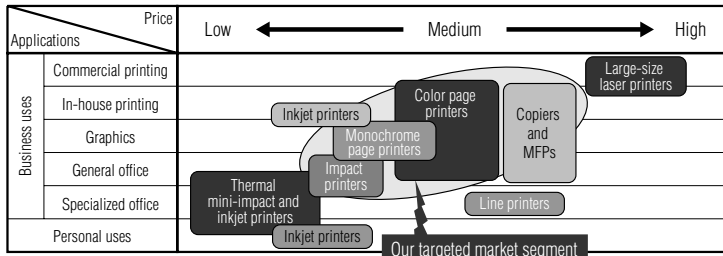
Fig. 1   Market segment targeted by Oki Data

to build on our position in the future and plan to offer a lineup of low-cost products to promote sales aggressively to the ends of the earth. We will also aim to expand the market of printers for POS.

Printers incorporating the LED system, which is technologically vastly superior to the laser system, are our core page printers featuring compact, high-speed and superior printing quality. Through the utilization of the compact high definition LED printheads with monochrome page printers we are able to continue our participation in markets for ultra-compact models.

A high resolution of 1,200 dpi, as well as high-speed printing with 36 ppm (page per minute), was realized for our color page printers by utilizing the single-pass flat paper path technology with the LED system, resulting in truly professional business printers. Furthermore, the ProQ feature makes it possible to control the light intensity of each individual dot to reproduce smooth coloration with a maximum of 32 gradation levels.

The **OKI Printing Solutions** brand is highly appreciated by customers for the products we have introduced and through our pursuit of photographic quality and miniaturization we aim to make them the best in the world.

The ProQ technology is detailed in other articles in this issue.

Our business domain, shown in **Fig. 1**, is comprised of activities concerned primarily with general office to corporate in-house printing applications, which use medium to high-speed printers. This domain offers an extremely large market on one hand, but it is also where the fiercest competition is taking place. Oki Data established the "One Spin" development process as a concept, promoting digital processes that aim to eliminate prototyping and make overwhelming reductions in development periods.

Printing Solutions

Oki Data, a comprehensive specialized manufacturer, handles the development, production and sale of printers. We are a company engaged in business activities for "printing" with more clout than anyone else. In order to provide a convenient and pleasant printing environment in a shape and form desired by our customers, while matching their diverse range of needs, we launched our activities for proposing new concepts based on the printing solutions model shown in **Fig. 2**.

At Oki Data printing solutions are categorized into the following four classifications.

(1) Security solutions

We will devise mechanisms that respond to the social demand for protecting personal information by providing
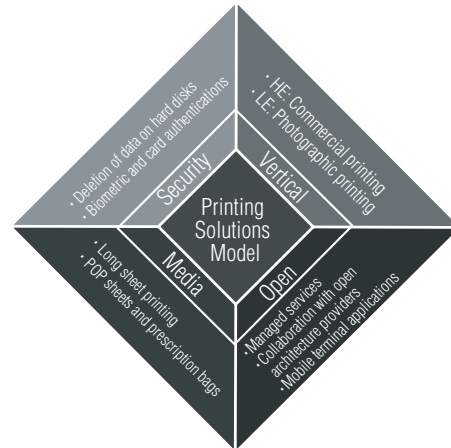

Fig. 2   Printing Solutions

an assured delivery of printing results to users who have initiated printing, ensuring that the printing archives are not stolen by unauthorized persons.

(2) Media solutions

This classification is the area of solutions in which we have the largest amount of experience. We will accommodate various demands of our customers by making it possible to print on a diverse range of specialized media, such as long to super-long sheets, as well as POP sheets and prescription drug dispensing bags.

(3) Vertical solutions

Through the proposal of printing environments that are best suited to the business operations of our customers and by having our printers recognized as a component of their business work flow, we intend to support the business operations of our customers, thereby maximizing their value.

(4) Open solutions

We will take over all management tasks relating to the printing environment being used for business operations by our customers and provide services that resolve any and all issues relating to printing. Furthermore, we will propose strategies to resolve the burden on our customers relating to printing by collaborating with open architecture providers.

Conclusion

It has been a long time since the words of realizing a paper-less society were uttered. In reality, however, we have been going down a path that leads to the consumption of even more paper. We, at Oki Data, have been emphasizing our efforts to increase the use of recycled media, improving the recycling rates of products, while providing products that can save energy. These were considered our missions as a printer manufacturer, from the perspective of environmental protection and conservation of global resources. Furthermore, we will continue with our corporate management that invests management resources in the development of advanced technologies and solutions for the purpose of improving the business efficiency of our customers by providing on-demand high-quality efficient printing with no waste.